# Parallel grippers HGPT-B, heavy-duty

FESTO

# Key features

**Advantages compared with the parallel gripper HGPT**

- Space-optimised:
  Choice of shorter housing without gripping force retention or longer housing with gripping force retention
- Increased gripping force/ high-force variant:
  Gripping force increased by 30% by means of oval piston.
  High-force variant also available: half the stroke, twice the force
- Reduced weight:
  Systematic use of lighter and higher performance materials
- 4 sensor slots:
  Proximity sensors no longer project past the bottom of the housing. Up to 4 positions can be sensed using the proximity sensors

**At a glance**

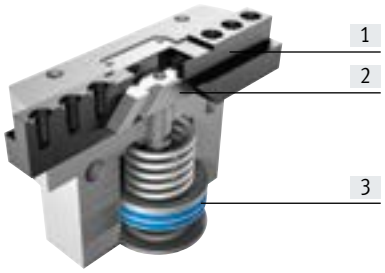
General information

Sturdy and precise kinematics for maximum torque resistance and long service life.
The force generated by the linear motion is translated into the gripper jaw movement via a wedge mechanism with force-guided motion sequence. This also guarantees synchronous movement of the gripper jaws.
The virtually backlash-free plain-bearing guide is realised using ground-in gripper jaws.

Flexible range of applications

- Can be used as a double-acting and single-acting gripper
- Compression spring for supplementing or retaining the gripping forces
- Suitable for external and internal gripping
- Centring either via centring pins or centring sleeves

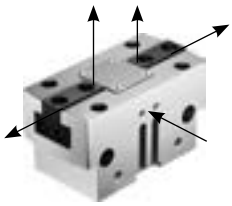
The technology in detail




[1] Gripper jaw
[2] Wedge with forced guidance
[3] Piston with magnet

Other connections

For sealing air



Compressed air flows past the gripper jaws when sealing air (max. 0.5 bar) is connected.
This prevents, for example, dust particles from entering the gripper jaw guide.

For lubrication nipples

The connections can also be used to re-lubricate the guide.

**Position sensing/force control**

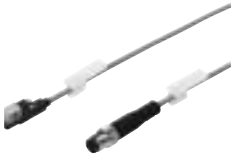
With position transmitter SMAT-8M, SDAT

Analogue position feedback possible
- Analogue output
  – 0 ... 10 V
  – 4 ... 20 mA

With proportional-pressure regulator VPPM

Infinite adjustment of the gripping force possible
- Setpoint input
  – 0 ... 10 V
  – 4 ... 20 mA

With proximity sensor SMT-8G/-10G

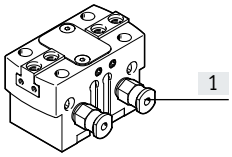


Multiple positions can be sensed:
- Open
- Closed
- Workpiece gripped

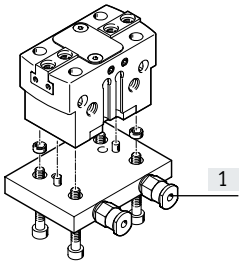
# Key features

**Wide range of compressed air supply ports**

Directly
from the front



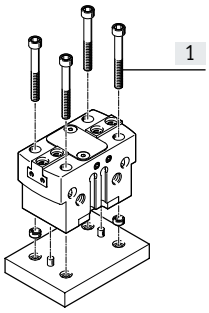

Via adapter plate
from underneath



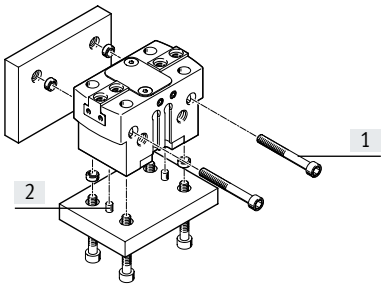

[1] Compressed air supply ports

**Mounting options**

Direct mounting
from above




From underneath or from the side

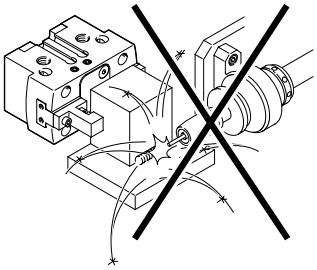



[1] Mounting screws
[2] Centring pins, centring sleeves

**Note**

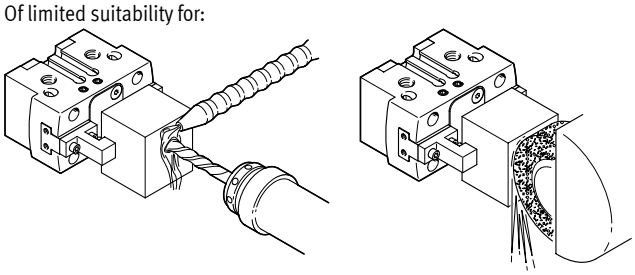
These grippers are not suitable or are of limited suitability for the following application examples

Not suitable for:



- Welding spatter

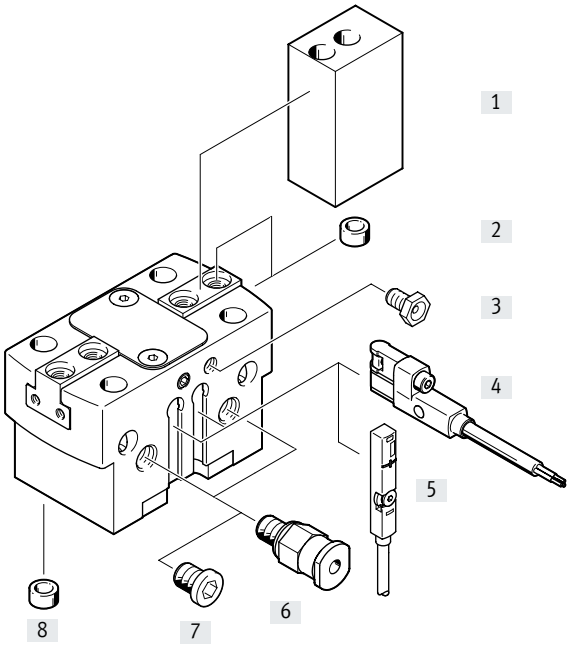
Of limited suitability for:



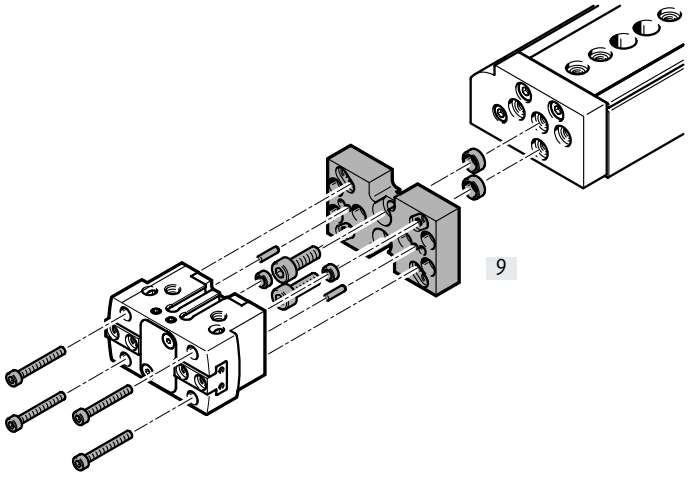
- Machining possible with sealing air
- Aggressive media only possible after consultation with Festo

# Peripherals overview

**Peripherals overview**




**System product for handling and assembly technology**



# Peripherals overview

**Accessories**

| | Type | Size | Description | → Page/Internet |
|---|---|---|---|---|
| [1] | Gripper jaw blank<br>BUB-HGPT | 16 ... 80 | Blanks specially matched to the gripper jaws for custom production of gripper fingers | 23 |
| [2] | Centring sleeve<br>ZBH | 16 ... 80 | • For centring the gripper jaw blanks/gripper fingers on the gripper jaws<br>• Centring sleeves are included in the scope of delivery of the gripper | 24 |
| [3] | Lubrication nipple | 16 ... 80 | Included in the scope of delivery of the gripper | – |
| [4] | Proximity sensor<br>SMT-8G/-10G | 16 ... 80 | • For sensing the piston position<br>• Proximity sensor ends flush with the bottom of the housing | 25 |
| [5] | Position transmitter<br>SMAT-8M | 40 ... 80 | • Continuously senses the position of the piston. It has an analogue output with an output signal relative to the piston position. | 25 |
| | Position transmitter<br>SDAT | 63, 80 | | |
| [6] | Push-in fitting<br>QS | 16 ... 80 | For connecting compressed air tubing with standard O.D. | qs |
| [7] | Blanking plug<br>B | 16 ... 80 | For sealing the compressed air supply ports when using the lower compressed air supply ports | 24 |
| [8] | Centring sleeve<br>ZBH | 16 ... 80 | For centring the gripper during mounting | 24 |
| [9] | Adapter kit<br>DHAA, HAPG | 16 ... 80 | Drive/gripper connections | 19 |

# Type codes

| 001 | Series | |
|---|---|---|
| **HGPT** | Parallel gripper, sturdy | |

| 002 | Size | |
|---|---|---|
| **16** | 16 | |
| **20** | 20 | |
| **25** | 25 | |
| **35** | 35 | |
| **40** | 40 | |
| **50** | 50 | |
| **63** | 63 | |
| **80** | 80 | |

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

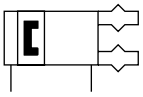
| 004 | Generation | |
|---|---|---|
| **B** | Series B | |

| 005 | Gripping force | |
|---|---|---|
| | Standard | |
| **F** | High | |

| 006 | Gripping force backup | |
|---|---|---|
| | None | |
| **G1** | Opening | |
| **G2** | N/O contact | |

# Data sheet

Function
Double-acting
HGPT-...



Size
16 ... 80 mm

Total stroke
6 ... 50 mm

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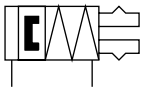
Function – Variant
Single-acting or with gripping force retention
Opening: HGPT-...-G1



Closing: HGPT-...-G2

**General technical data**

| Size | | 16 | 20 | 25 | 35 | 40 | 50 | 63 | 80 |
|---|---|---|---|---|---|---|---|---|---|
| Design | | Wedge mechanism | | | | | | | |
| | | Force-guided motion sequence | | | | | | | |
| Mode of operation | | Double-acting | | | | | | | |
| Gripper function | | Parallel | | | | | | | |
| Number of gripper jaws | | 2 | | | | | | | |
| Max. load per gripper finger[1] | [g] | 40 | 50 | 110 | 180 | 310 | 640 | 1260 | 1830 |
| Stroke per gripper jaw | | | | | | | | | |
| HGPT-...-A-B | [mm] | 3 | 4 | 6 | 8 | 10 | 12 | 16 | 25 |
| HGPT-...-A-B-F | [mm] | 1.5 | 2 | 3 | 4 | 5 | 6 | 8 | 12.5 |
| Pneumatic connection | | M5 | M5 | M5 | M5 | M5 | G1/8 | G1/8 | G1/4 |
| Pneumatic connection, sealing air | | M3 | M3 | M5 | M5 | M5 | M5 | M5 | M5 |
| Repetition accuracy[2] | [mm] | ±0.01 | ±0.02 | | ±0.025 | | | | |
| Max. interchangeability | [mm] | 0.2 | | | | | | | |
| Max. operating frequency | [Hz] | 3 | | | | 2 | | | |
| Rotational symmetry | [mm] | < ⌀ 0.2 | | | | | | | |
| Position sensing | | Via proximity sensor, position transmitter | | | | | | | |
| Type of mounting | | Via through-hole and dowel pin/centring sleeve | | | | | | | |
| | | Via female thread and dowel pin/centring sleeve | | | | | | | |
| Mounting position | | Optional | | | | | | | |

1) Applies to unthrottled operation
2) End-position drift under constant operating conditions with 100 consecutive strokes in the direction of movement of the gripper jaws

**Operating and environmental conditions**

| | | |
|---|---|---|
| Min. operating pressure | | |
| HGPT-...-A-B | [bar] | 3 |
| HGPT-...-A-B-G | [bar] | 4 |
| Max. operating pressure | [bar] | 8 |
| Operating pressure for sealing air | [bar] | 0 ... 0.5 |
| Operating medium | | Compressed air to ISO 8573-1:2010 [7:4:4] |
| Note on the operating/pilot medium | | Lubricated operation possible (in which case lubricated operation will always be required) |
| Ambient temperature[1] | [°C] | +5 ... +60 |
| Degree of protection | | IP40 |
| Corrosion resistance class CRC[2] | | 2 |

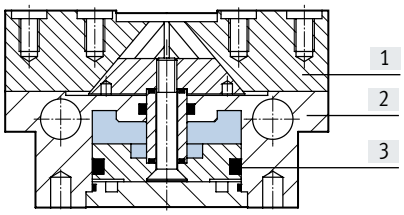
1) Note operating range of proximity sensors
2) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal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

# Data sheet

| **Weight [g]** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Size | 16 | 20 | 25 | 35 | 40 | 50 | 63 | 80 |
| HGPT-...-A-B | 85 | 135 | 266 | 490 | 821 | 1400 | 2712 | 4745 |
| HGPT-...-A-B-F | 85 | 135 | 266 | 490 | 821 | 1400 | 2712 | 4745 |
| HGPT-...-A-B-G | 100 | 155 | 353 | 567 | 1075 | 1832 | 3562 | 6287 |

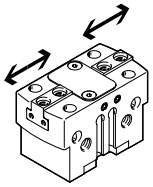
## Materials

Sectional view




| Parallel gripper | | |
|---|---|---|
| [1] | Gripper jaws | Hardened steel |
| [2] | Housing | Hard anodised wrought aluminium alloy |
| [3] | Piston | Hard anodised aluminium |
| – | Seals | NBR |
| – | Note on materials | Free of copper and PTFE |
| | | RoHS-compliant |

## Gripping force [N] at 6 bar



**Note**

Engineering software for gripper selection

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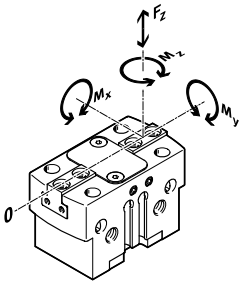
| Size | | 16 | 20 | 25 | 35 | 40 | 50 | 63 | 80 |
|---|---|---|---|---|---|---|---|---|---|
| **Gripping force per gripper jaw** | | | | | | | | | |
| HGPT-...-A-B | Opening | 60 | 82 | 133 | 245 | 355 | 570 | 896 | 1613 |
| | Closing | 53 | 77 | 124 | 229 | 331 | 535 | 851 | 1551 |
| HGPT-...-A-B-F | Opening | 108 | 172 | 238 | 500 | 723 | 1185 | 1885 | 3275 |
| | Closing | 96 | 161 | 221 | 467 | 674 | 1113 | 1791 | 3150 |
| **Total gripping force** | | | | | | | | | |
| HGPT-...-A-B | Opening | 120 | 162 | 266 | 490 | 710 | 1140 | 1792 | 3226 |
| | Closing | 106 | 154 | 248 | 458 | 662 | 1070 | 1702 | 3102 |
| HGPT-...-A-B-F | Opening | 216 | 344 | 476 | 1000 | 1446 | 2370 | 3770 | 6550 |
| | Closing | 192 | 322 | 442 | 934 | 1328 | 2226 | 3522 | 6300 |

# Data sheet

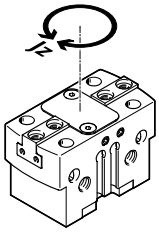
## Characteristic load values at the gripper jaws




The indicated permissible forces and torques apply to a single gripper jaw. They include the lever arm, additional weight forces created by the workpiece or external gripper fingers and acceleration forces occurring during movement. The zero coordinate line (gripper jaw guide) must be taken into consideration when calculating torques.

| Size | | 16 | 20 | 25 | 35 | 40 | 50 | 63 | 80 |
|---|---|---|---|---|---|---|---|---|---|
| Max. permissible force $F_z$ | [N] | 200 | 700 | 1200 | 1800 | 2500 | 3200 | 5000 | 7000 |
| Max. permissible torque $M_x$ | [Nm] | 10 | 15 | 50 | 80 | 100 | 120 | 160 | 180 |
| Max. permissible torque $M_y$ | [Nm] | 12 | 15 | 45 | 60 | 90 | 120 | 180 | 220 |
| Max. permissible torque $M_z$ | [Nm] | 6 | 8 | 35 | 50 | 75 | 100 | 140 | 170 |

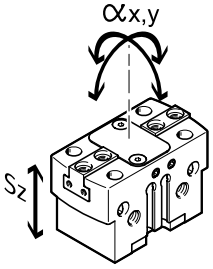
## Mass moments of inertia [$kgm^2x10^{-4}$]




Mass moment of inertia of the parallel gripper in relation to the central axis, without external gripper fingers, without load.

| Size | 16 | 20 | 25 | 35 | 40 | 50 | 63 | 80 |
|---|---|---|---|---|---|---|---|---|
| HGPT-...-A-B | 0.141 | 0.344 | 0.983 | 2.807 | 7.277 | 19.488 | 60.903 | 150.515 |
| HGPT-...-A-B-G | 0.163 | 0.445 | 1.479 | 3.974 | 10.990 | 29.423 | 93.034 | 238.336 |

## Gripper jaw backlash



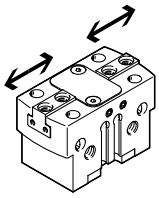

The plain-bearing guide used in the grippers means that there is backlash between the gripper jaws and the housing. The backlash values listed in the table have been calculated based on the traditional accumulative tolerance method.

| Size | | 16 | 20 | 25 | 35 | 40 | 50 | 63 | 80 |
|---|---|---|---|---|---|---|---|---|---|
| Max. gripper jaw backlash Sz | [mm] | 0.02 | | | | | | | |
| Max. gripper jaw angular backlash ax, ay | [°] | 0.1 | | | | | | | |

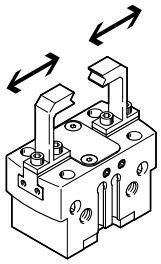
# Data sheet

**Opening and closing times [ms] at 6 bar**

Without external gripper fingers



With external gripper fingers



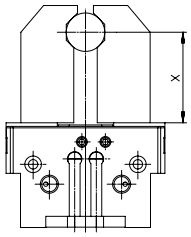
The indicated opening and closing times [ms] were measured at room temperature at an operating pressure of 6 bar with a horizontally mounted gripper without additional gripper fingers. The grippers must be throttled for larger loads [g]. Opening and closing times must then be adjusted accordingly.

| Size | | | 16 | 20 | 25 | 35 | 40 | 50 | 63 | 80 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Without external gripper fingers** | | | | | | | | | | |
| Standard | HGPT-...-A-B | Opening | 9 | 22 | 26 | 36 | 56 | 80 | 150 | 214 |
| | | Closing | 11 | 30 | 32 | 67 | 60 | 85 | 156 | 213 |
| | HGPT-...-A-B-G1 | Opening | 13 | 13 | 24 | 37 | 67 | 70 | 146 | 182 |
| | | Closing | 31 | 25 | 48 | 114 | 135 | 153 | 328 | 353 |
| | HGPT-...-A-B-G2 | Opening | 22 | 35 | 40 | 69 | 122 | 151 | 294 | 379 |
| | | Closing | 15 | 18 | 28 | 87 | 71 | 77 | 185 | 176 |
| High force | HGPT-...-A-B-F | Opening | 8 | 28 | 25 | 33 | 60 | 83 | 143 | 212 |
| | | Closing | 10 | 31 | 32 | 70 | 64 | 82 | 152 | 211 |
| | HGPT-...-A-B-F-G1 | Opening | 19 | 13 | 24 | 35 | 71 | 70 | 145 | 180 |
| | | Closing | 30 | 25 | 45 | 115 | 143 | 143 | 315 | 340 |
| | HGPT-...-A-B-F-G2 | Opening | 33 | 38 | 36 | 63 | 120 | 137 | 308 | 362 |
| | | Closing | 17 | 14 | 28 | 72 | 72 | 80 | 154 | 178 |
| **With external gripper fingers (as a function of the load per gripper finger)** | | | | | | | | | | |
| HGPT-... | | 50 g | 10 | – | – | – | – | – | – | – |
| | | 100 g | 15 | 30 | – | – | – | – | – | – |
| | | 200 g | 21 | 42 | 35 | – | – | – | – | – |
| | | 300 g | – | 52 | 42 | 42 | – | – | – | – |
| | | 400 g | – | – | 49 | 49 | 63 | – | – | – |
| | | 500 g | – | – | – | 55 | 71 | – | – | – |
| | | 600 g | – | – | – | – | 78 | – | – | – |
| | | 800 g | – | – | – | – | 90 | 90 | – | – |
| | | 1000 g | – | – | – | – | – | 95 | – | – |
| | | 1200 g | – | – | – | – | – | 100 | – | – |
| | | 1500 g | – | – | – | – | – | – | 164 | – |
| | | 1800 g | – | – | – | – | – | – | 179 | – |
| | | 2000 g | – | – | – | – | – | – | 189 | 223 |
| | | 2200 g | – | – | – | – | – | – | – | 234 |
| | | 2400 g | – | – | – | – | – | – | – | 244 |

# Data sheet

## Gripping force $F_H$ per gripper jaw as a function of operating pressure and lever arm x

The gripping forces as a function of the operating pressure and lever arm can be determined from the following graphs.




3 bar
6 bar
8 bar

**Note**

Engineering software for gripper selection
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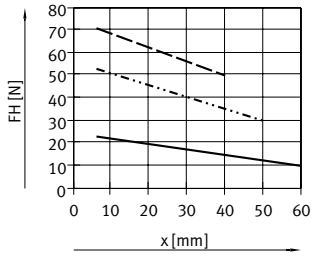
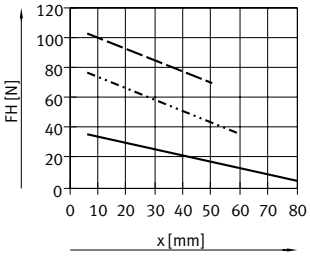
### External gripping (closing)

Standard

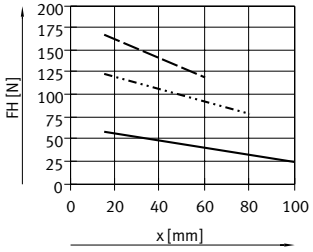
HGPT-16-A-B



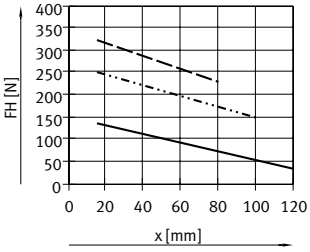

HGPT-20-A-B



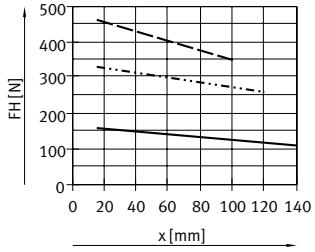

HGPT-25-A-B



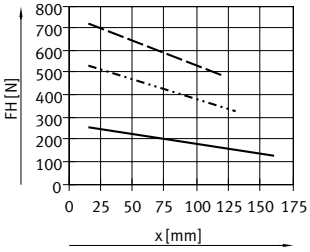

HGPT-35-A-B



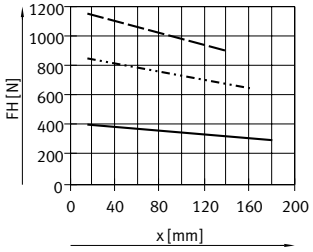

HGPT-40-A-B



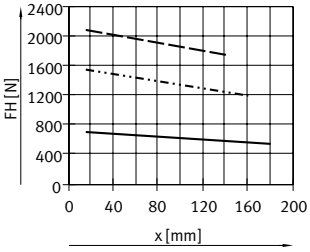

HGPT-50-A-B




HGPT-63-A-B

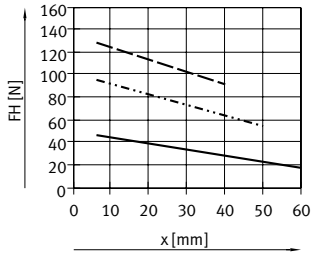



HGPT-80-A-B

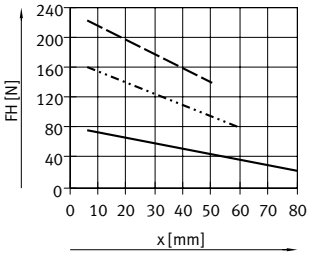



High force

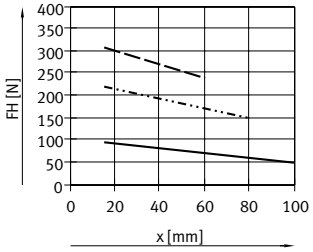
HGPT-16-A-B-F



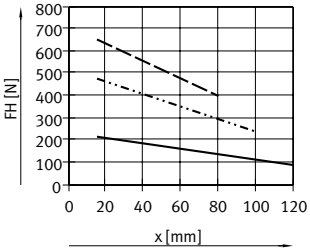

HGPT-20-A-B-F



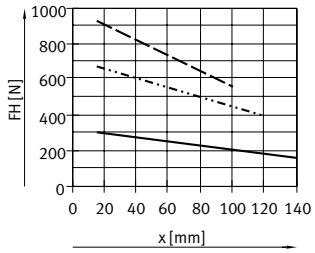

HGPT-25-A-B-F



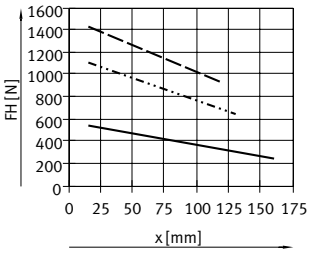

HGPT-35-A-B-F



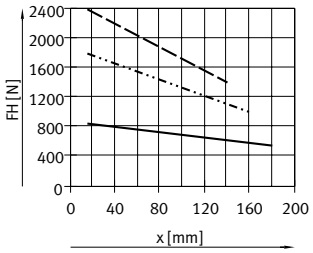

HGPT-40-A-B-F



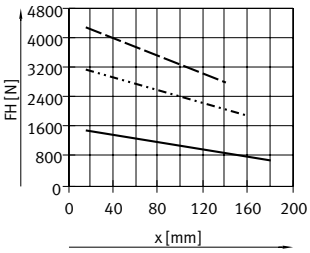

HGPT-50-A-B-F




HGPT-63-A-B-F



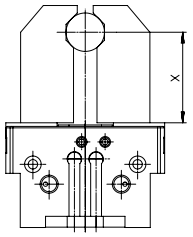

HGPT-80-A-B-F



# Data sheet

## Gripping force $F_H$ per gripper jaw as a function of operating pressure and lever arm x

The gripping forces as a function of the operating pressure and lever arm can be determined from the following graphs.




3 bar
6 bar
8 bar

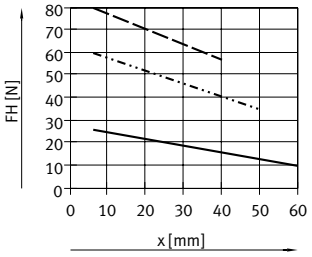
**Note**

Engineering software for gripper selection
➔ www.festo.com

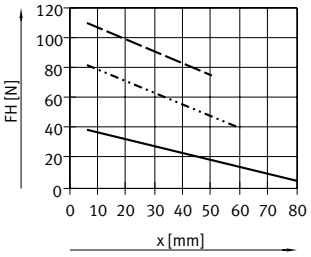
### External gripping (opening)

Standard

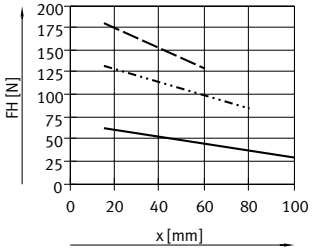
HGPT-16-A-B



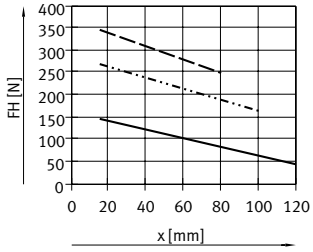

HGPT-20-A-B



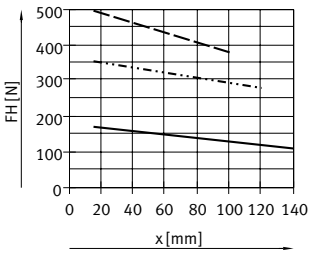

HGPT-25-A-B



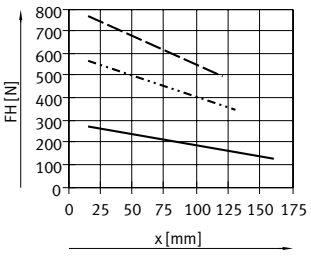

HGPT-35-A-B



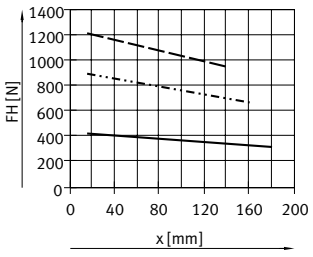

HGPT-40-A-B



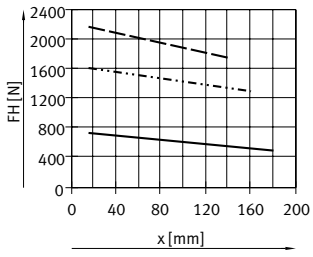

HGPT-50-A-B




HGPT-63-A-B

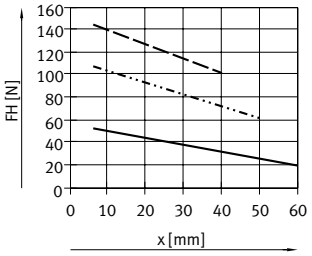



HGPT-80-A-B

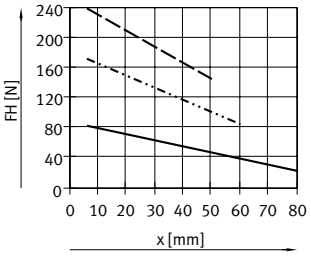



High force

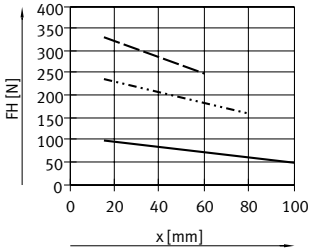
HGPT-16-A-B-F



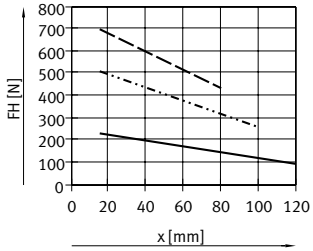

HGPT-20-A-B-F



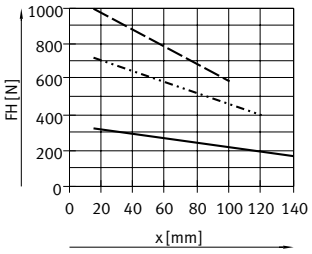

HGPT-25-A-B-F



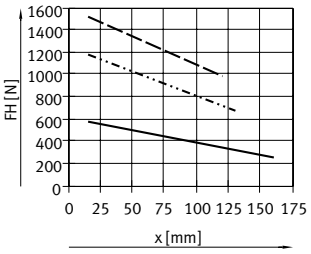

HGPT-35-A-B-F



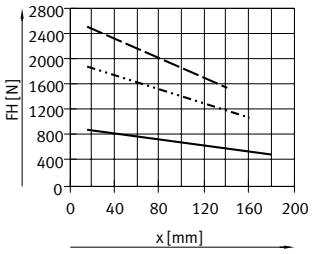

HGPT-40-A-B-F



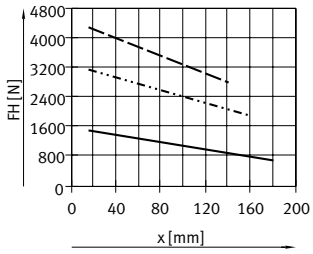

HGPT-50-A-B-F




HGPT-63-A-B-F




HGPT-80-A-B-F



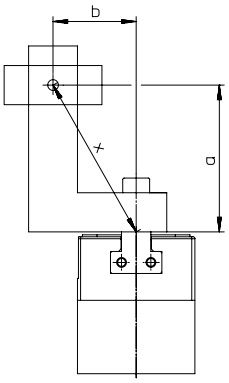
# Data sheet

**Gripping force $F_H$ per gripper jaw at 6 bar 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 11) using the calculated value x.




Calculation example

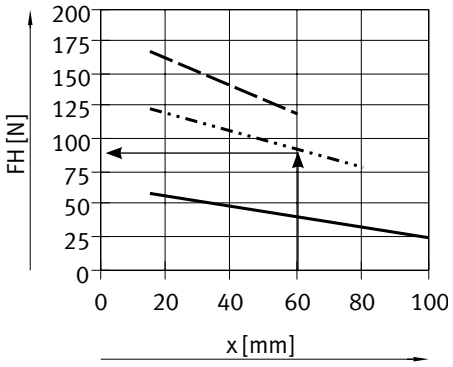
Assuming:
Distance a = 45 mm
Distance b = 40 mm
To be calculated:
The gripping force at 6 bar
with an HGPT-25,
used as an external gripper

Procedure: calculating the lever arm x

$x = \sqrt{45^2 + 40^2}$

x = 60 mm

The graph (➔ page 11) gives a value of $F_H$ = 89 N for the gripping force.

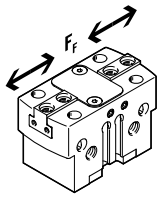


# Data sheet

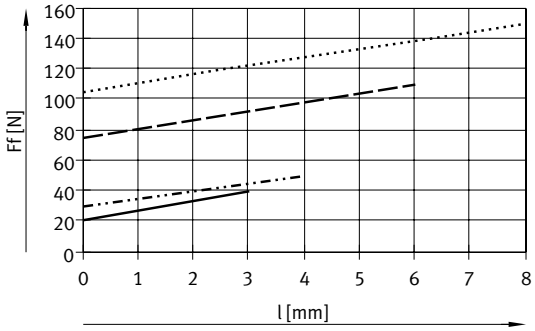
**Spring force $F_F$ as a function of size and gripper jaw stroke l**

Gripping force retention for HGPT-...-G...

The spring forces $F_F$ as a function of gripper jaw stroke l can be determined from the following graph.

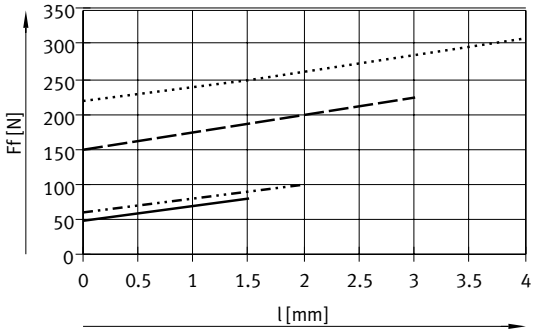



Standard
HGPT-...-A-B-G
Size 16 ... 35



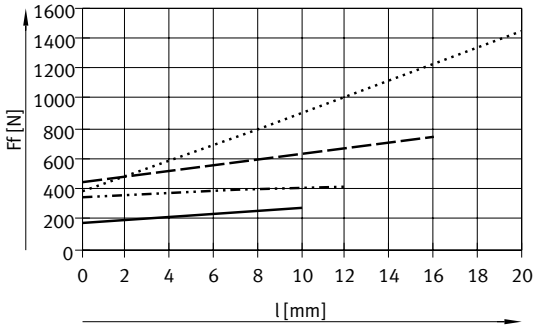

HGPT-16-A-B-G
HGPT-20-A-B-G
HGPT-25-A-B-G
HGPT-35-A-B-G

High force
HGPT-...-A-B-F-G
Size 16 ... 35



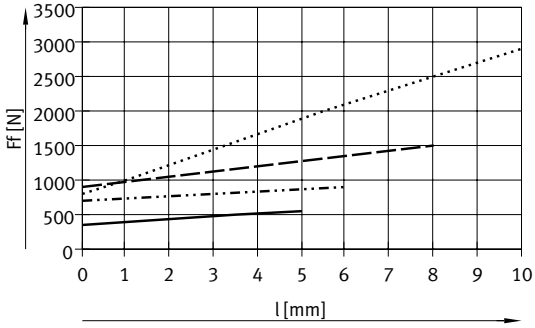

HGPT-16-A-B-F-G
HGPT-20-A-B-F-G
HGPT-25-A-B-F-G
HGPT-35-A-B-F-G

Size 40 ... 80




HGPT-40-A-B-G
HGPT-50-A-B-G
HGPT-63-A-B-G
HGPT-80-A-B-G

Size 40 ... 80




HGPT-40-A-B-F-G
HGPT-50-A-B-F-G
HGPT-63-A-B-F-G
HGPT-80-A-B-F-G

# Data sheet

## Spring force $F_F$ as a function of size, gripper jaw stroke l and lever arm x per gripper finger

The lever arm x must be taken into consideration when determining the actual spring force $F_{Ftotal}$.
The formulae for calculating the spring force are provided in the table below.

### Standard – HGPT-...-A-B-G

| Gripping force retention | Size | $F_{Ftotal}$ = |
|---|---|---|
| G1 | 16 | $-0.1 * x+0.7 * F_F$ |
| | 20 | $-0.05 * x+0.9 * F_F$ |
| | 25 | $-0.7 * x+0.7 * F_F$ |
| | 35 | $-0.65 * x+0.7 * F_F$ |
| | 40 | $-1.05 * x+0.8 * F_F$ |
| | 50 | $-0.75 * x+0.8 * F_F$ |
| | 63 | $-2 * x+0.8 * F_F$ |
| | 80 | $-1.4 * x+0.6 * F_F$ |

| Gripping force retention | Size | $F_{Ftotal}$ = |
|---|---|---|
| G2 | 16 | $-0.2 * x+0.7 * F_F$ |
| | 20 | $-0.65 * x+0.9 * F_F$ |
| | 25 | $-0.55 * x+0.7 * F_F$ |
| | 35 | $-0.05 * x+0.7 * F_F$ |
| | 40 | $-1.05 * x+0.8 * F_F$ |
| | 50 | $-1.4 * x+0.8 * F_F$ |
| | 63 | $-1.2 * x+0.8 * F_F$ |
| | 80 | $-0.6 * x+0.6 * F_F$ |

### High force – HGPT-...-A-B-F-G

| Gripping force retention | Size | $F_{Ftotal}$ = |
|---|---|---|
| G1 | 16 | $-0.6 * x+0.6 * F_F$ |
| | 20 | $-0.7 * x+0.75 * F_F$ |
| | 25 | $-0.85 * x+0.9 * F_F$ |
| | 35 | $-0.4 * x+0.55 * F_F$ |
| | 40 | $-1.9 * x+0.75 * F_F$ |
| | 50 | $-2.5 * x+0.7 * F_F$ |
| | 63 | $-5.5 * x+0.7 * F_F$ |
| | 80 | $-5.65 * x+0.8 * F_F$ |

| Gripping force retention | Size | $F_{Ftotal}$ = |
|---|---|---|
| G2 | 16 | $-0.4 * x+0.6 * F_F$ |
| | 20 | $-0.95 * x+0.75 * F_F$ |
| | 25 | $-0.5 * x+0.9 * F_F$ |
| | 35 | $-0.4 * x+0.55 * F_F$ |
| | 40 | $-2.3 * x+0.75 * F_F$ |
| | 50 | $-1 * x+0.7 * F_F$ |
| | 63 | $-1 * x+0.7 * F_F$ |
| | 80 | $-0.5 * x+0.8 * F_F$ |

## Determination of the actual gripping forces $F_{Gr}$ for HGPT-...-G1 and HGPT-...-G2 as a function of the application

The parallel grippers with integrated spring type HGPT-...-G1 (opening gripping force retention) and HGPT-...-G2 (closing gripping force retention) can be used as:

- single-acting grippers
- grippers with supplementary gripping force and
- grippers with gripping force retention

depending on requirements.

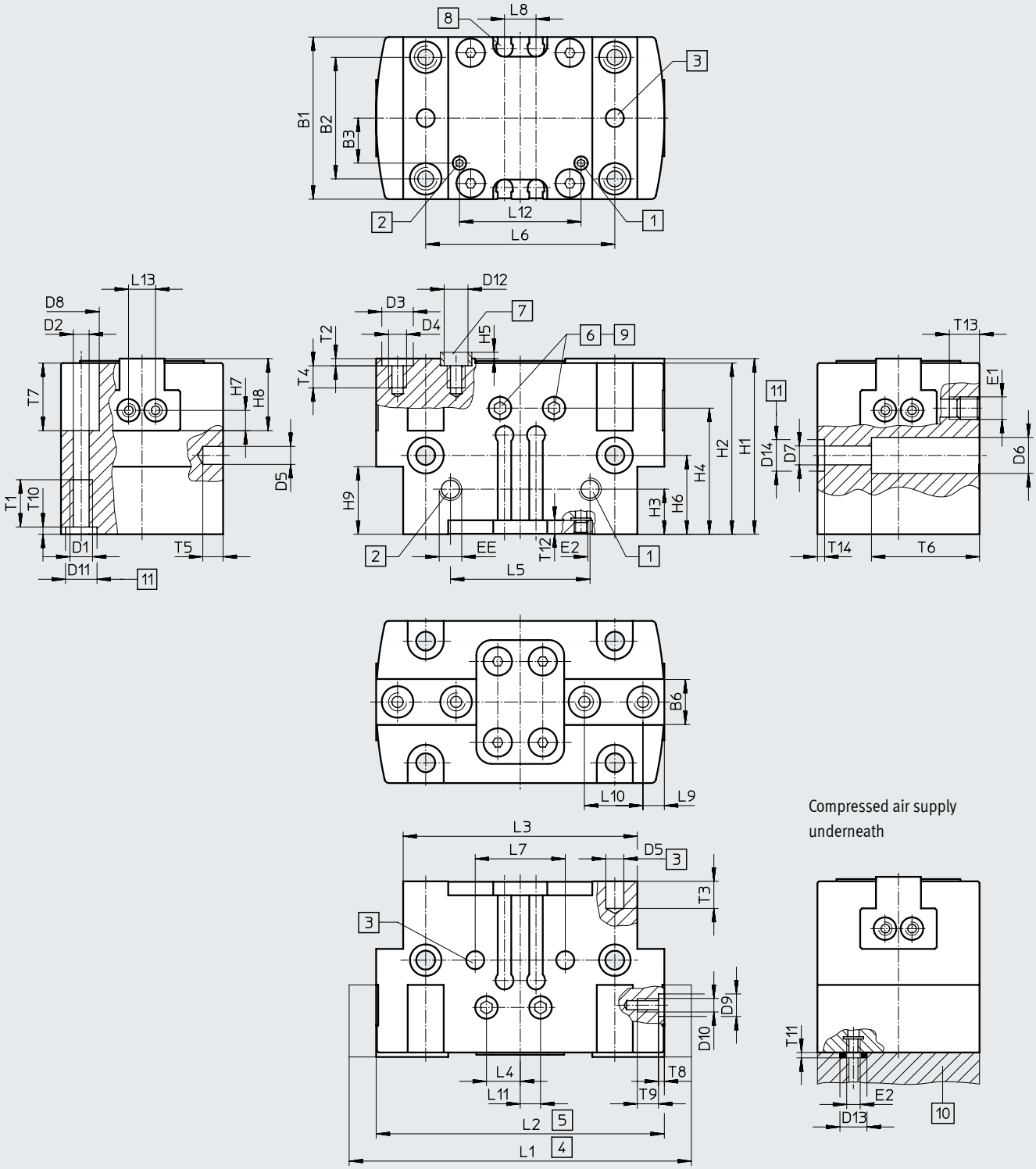
In order to calculate the available gripping forces $F_{Gr}$ (per gripper jaw), the gripping force $F_H$ and spring force $F_{Ftotal}$ must be combined accordingly.

## Application

| Single-acting | Supplementary gripping force | Gripping force retention |
|---|---|---|
| • Gripping with spring force: $F_{Gr} = F_{Ftotal}$<br>• Gripping with pressure force: $F_{Gr} = F_H - F_{Ftotal}$ | • Gripping with pressure and spring force: $F_{Gr} = F_H + F_{Ftotal}$ | • Gripping with spring force: $F_{Gr} = F_{Ftotal}$ |

# Data sheet

**Dimensions** Download CAD data ➔ www.festo.com




[1] Compressed air supply port, opening, either on the side or underneath (bottom port sealed on delivery)
[2] Compressed air supply port, closing, either on the side or underneath (bottom port sealed on delivery)
[3] Drilled hole for dowel pin (not included in the scope of delivery)
[4] Gripper jaws open
[5] Gripper jaws closed
[6] Sealing air connection (sealed on delivery)
[7] Centring sleeves ZBH (4 included in the scope of delivery)
[8] Slot for proximity sensor
[9] Lubrication nipple (sealed on delivery)
[10] O-ring for parallel gripper
HGPT-16 ... 40: Ø 3x1.5
HGPT-50 ... 80: Ø 5x1.5
[11] Drilled hole for centring sleeve ZBH

# Data sheet

| Size | B1 | B2[1] | B3 | B6 | D1 | D2 | D3 | D4 | D5 | D6 | D7 | D8 | D9 | D10 | D11 | D12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | –0.05 | | Ø | Ø | | Ø | Ø | Ø | Ø | Ø | | Ø | Ø |
| [mm] | ±0.05 | | ±0.1 | –0.1 | | | H8/h7 | | H8 | ±0.1 | | +0.3 | H8 | | H8 | |
| 16 | 24 | 17 | 4 | 6 | M3 | 2.6 | 5 | M3 | 2 | 4.6 | 2.6 | 4.6 | – | M2 | 5 | 3.2 |
| 20[2] | 28 | 22 | 8.7 | 6.5 | M4 | 3.3 | 5 | M3 | 3 | 6 | 3.2 | 6 | 5 | M3 | 5 | 3.2 |
| 25 | 36 | 27 | 11 | 10 | M5 | 4.2 | 7 | M4 | 4 | 8 | 4.2 | 8 | 5 | M3 | 7 | 5.3 |
| 35 | 42 | 32 | 13 | 12 | M5 | 4.2 | 9 | M5 | 4 | 9.2 | 5.3 | 8 | 7 | M5 | 7 | 6.4 |
| 40 | 50 | 38 | 17 | 14 | M6 | 5.1 | 9 | M6 | 5 | 11 | 6.4 | 9 | 7 | M5 | 9 | 6.4 |
| 50 | 60 | 45 | 20 | 15.5 | M8 | 6.8 | 9 | M6 | 6 | 13.5 | 8.4 | 11 | 7 | M5 | 12 | 6.4 |
| 63 | 72 | 56 | 24.5 | 20 | M8 | 6.8 | 12 | M10 | 6 | 13.5 | 8.4 | 11 | 7 | M5 | 12 | 10.3 |
| 80 | 100 | 70 | 39.5 | 22 | M10 | 8.5 | 15 | M12 | 8 | 16.5 | 10.2 | 13.5 | 9 | M6 | 12 | 12.4 |

| Size | D13 | D14 | EE | E1 | E2 | H1 | | H2 | | H3 | | H4 | | H5 | H6[1] | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Ø | Ø | | | | | -G | | -G | | -G | | -G | | | -G |
| [mm] | | H8/h7 | | | | ±0.05 | ±0.05 | ±0.05 | ±0.05 | ±0.1 | ±0.1 | | | –0.3 | | |
| 16 | 6 | – | M5 | M3 | M3 | 29 | 37 | 28 | 36 | 12 | 12 | 23.7 | 31.7 | 1.2 | 17.5 | 25.5 |
| 20 | 6 | – | M5 | M3 | M3 | 31 | 38 | 30 | 37 | 10 | 15 | 23 | 30 | 1.2 | 14.5 | 21.5 |
| 25 | 6 | 7 | M5 | M5 | M3 | 39 | 57 | 38 | 56 | 10 | 20 | 28 | 46 | 1.4 | 17.5 | 35.5 |
| 35 | 6 | 7 | M5 | M5 | M3 | 49 | 67 | 48 | 66 | 12 | 30 | 36 | 54 | 1.9 | 20 | 38 |
| 40 | 6 | 9 | M5 | M5 | M3 | 55 | 81 | 54 | 80 | 15 | 36 | 41 | 67 | 1.9 | 25 | 51 |
| 50 | 8 | 12 | G1/8 | M5 | M5 | 63 | 93 | 62 | 92 | 15 | 30 | 47 | 77 | 1.9 | 30 | 60 |
| 63 | 8 | 12 | G1/8 | M5 | M5 | 77 | 117 | 76 | 116 | 18 | 26 | 56 | 96 | 2.4 | 28 | 68 |
| 80 | 8 | 12 | G1/4 | M5 | M5 | 91 | 133 | 90 | 132 | 22 | 33 | 65 | 107 | 2.9 | 34 | 76 |

| Size | H7[1] | H8 | H9 | | L1 | | L2 | L3 | L4 | L5 | L6[1] | L7[1] | L8 | L9[1] | L10[1] | L11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | -G | | -F | | | | | | | | | | |
| [mm] | | –0.02 | ±0.1 | ±0.1 | ±0.5 | ±0.5 | ±0.5 | ±0.1 | ±0.5 | ±0.1 | | | +0.1 | | | ±0.5 |
| 16 | 2.25 | 8.5 | 15 | 23 | 50 | 47 | 44 | 36 | 5.5 | 20 | 29 | 20 | 6 | 3 | 8 | 1 |
| 20 | 3 | 12 | 15 | 22 | 64 | 60 | 56 | 44 | 5 | 24 | 35 | 24 | 6 | 3.25 | 12 | 2.5 |
| 25 | 4.5 | 16 | 15 | 33 | 76 | 70 | 64 | 52 | 5.5 | 31 | 42 | 20 | 7 | 4.75 | 13 | 5.5 |
| 35 | 5.5 | 19 | 20 | 38 | 96 | 88 | 80 | 64 | 5.5 | 40 | 52 | 40 | 7 | 5.5 | 16 | 5.5 |
| 40 | 5.5 | 22 | 24 | 50 | 120 | 110 | 100 | 80 | 5.5 | 49 | 66 | 50 | 10 | 6.5 | 20 | 5.5 |
| 50 | 7.5 | 25.5 | 26 | 56 | 149 | 137 | 125 | 100 | 5.5 | 63 | 82 | 60 | 10 | 8 | 24 | 5.5 |
| 63 | 9 | 32 | 32 | 72 | 192 | 176 | 160 | 125 | 5.5 | 74 | 100 | 76 | 10 | 9.5 | 32 | 5.5 |
| 80 | 11 | 39 | 34 | 77 | 230 | 205 | 180 | 154 | 5.5 | 82 | 130 | 100 | 10 | 12 | 40 | 5.5 |

| Size | L12 | L13[1] | T1 | T2 | T3 | T4 | T5 | T6 | T7 | | T8 | T9 | T10 | T11 | T12 | T13 | T14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | -G | | | | | | | |
| [mm] | ±0.1 | | min. | +0.1 | min. | min. | min. | | +0.2 | +0.2 | +0.1 | | +0.1 | | min. | min. | +0.1 |
| 16 | 22 | 6 | 5.5 | 1.3 | 4 | 5 | 4 | 15 | 14 | 22 | – | 3 | 1.3 | 1.2 | 3 | 5.5 | – |
| 20 | 22.6 | 6 | 6.5 | 1.3 | 5 | 5.5 | 4 | 19 | 11 | 11 | 1.3 | 6 | 1.3 | 1.2 | 3 | 5.5 | – |
| 25 | 29 | 6 | 8.5 | 1.6 | 6 | 6.5 | 4.5 | 24 | 15 | 15 | 1.3 | 6 | 1.6 | 1.2 | 3 | 6.7 | 1.6 |
| 35 | 39 | 13 | 8.5 | 2.1 | 6 | 8.5 | 4.5 | 16 | 19 | 19 | 1.6 | 9 | 1.6 | 1.2 | 3 | 6.5 | 1.6 |
| 40 | 47.4 | 13 | 10.5 | 2.1 | 6 | 10.5 | 6 | 33 | 20 | 20 | 1.6 | 9 | 2.1 | 1.2 | 4 | 6.5 | 2.1 |
| 50 | 61 | 13 | 12.5 | 2.1 | 8 | 10.5 | 6 | 43 | 23 | 23 | 1.6 | 9 | 2.6 | 1.2 | 4 | 6.5 | 2.6 |
| 63 | 75 | 13 | 12.5 | 2.6 | 8 | 15.5 | 7 | 55 | 35 | 35 | 1.6 | 9 | 2.6 | 1.2 | 5 | 6.5 | 2.6 |
| 80 | 82 | 20 | 15 | 3.1 | 10 | 20 | 10 | 70 | 44 | 44 | 2.1 | 10 | 2.6 | 1.2 | 5.5 | 5 | 2.6 |

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

2) Dowel pins [3] must be used when mounted from below.

# Data sheet

**Ordering data**

| Size | Double-acting without compression spring | | Single-acting or with gripping force retention | | | |
|---|---|---|---|---|---|---|
| | | | Opening | | Closing | |
| [mm] | Part no. | Type | Part no. | Type | Part no. | Type |
| **Standard** | | | | | | |
| 16 | **560192** | **HGPT-16-A-B** | **560193** | **HGPT-16-A-B-G1** | **560194** | **HGPT-16-A-B-G2** |
| 20 | **560198** | **HGPT-20-A-B** | **560199** | **HGPT-20-A-B-G1** | **560200** | **HGPT-20-A-B-G2** |
| 25 | **560204** | **HGPT-25-A-B** | **560205** | **HGPT-25-A-B-G1** | **560206** | **HGPT-25-A-B-G2** |
| 35 | **560210** | **HGPT-35-A-B** | **560211** | **HGPT-35-A-B-G1** | **560212** | **HGPT-35-A-B-G2** |
| 40 | **560216** | **HGPT-40-A-B** | **560217** | **HGPT-40-A-B-G1** | **560218** | **HGPT-40-A-B-G2** |
| 50 | **560222** | **HGPT-50-A-B** | **560223** | **HGPT-50-A-B-G1** | **560224** | **HGPT-50-A-B-G2** |
| 63 | **560228** | **HGPT-63-A-B** | **560229** | **HGPT-63-A-B-G1** | **560230** | **HGPT-63-A-B-G2** |
| 80 | **560234** | **HGPT-80-A-B** | **560235** | **HGPT-80-A-B-G1** | **560236** | **HGPT-80-A-B-G2** |
| **High force** | | | | | | |
| 16 | **560195** | **HGPT-16-A-B-F** | **560196** | **HGPT-16-A-B-F-G1** | **560197** | **HGPT-16-A-B-F-G2** |
| 20 | **560201** | **HGPT-20-A-B-F** | **560202** | **HGPT-20-A-B-F-G1** | **560203** | **HGPT-20-A-B-F-G2** |
| 25 | **560207** | **HGPT-25-A-B-F** | **560208** | **HGPT-25-A-B-F-G1** | **560209** | **HGPT-25-A-B-F-G2** |
| 35 | **560213** | **HGPT-35-A-B-F** | **560214** | **HGPT-35-A-B-F-G1** | **560215** | **HGPT-35-A-B-F-G2** |
| 40 | **560219** | **HGPT-40-A-B-F** | **560220** | **HGPT-40-A-B-F-G1** | **560221** | **HGPT-40-A-B-F-G2** |
| 50 | **560225** | **HGPT-50-A-B-F** | **560226** | **HGPT-50-A-B-F-G1** | **560227** | **HGPT-50-A-B-F-G2** |
| 63 | **560231** | **HGPT-63-A-B-F** | **560232** | **HGPT-63-A-B-F-G1** | **560233** | **HGPT-63-A-B-F-G2** |
| 80 | **560237** | **HGPT-80-A-B-F** | **560238** | **HGPT-80-A-B-F-G1** | **560239** | **HGPT-80-A-B-F-G2** |

# Accessories

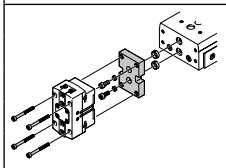
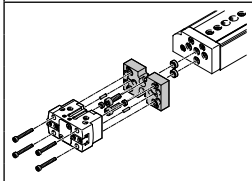
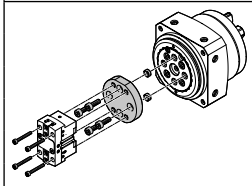
**Adapter kit**
**DHAA, HAPG**

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 |
|---|---|---|---|---|---|---|---|
| **DGST/HGPT-B** | **DGST** | **HGPT-B** | | | **DHAA** | | |
|  | 10 | 16 | – | ■ | 2 | **8163575** | **DHAA-G-G8-10-B8-16** |
| | 12 | 20 | – | ■ | | **8163574** | **DHAA-G-G8-12-B8-20** |
| | 16 | 25 | – | ■ | | **8163577** | **DHAA-G-G8-16-B8-25** |
| | 20 | 35 | – | ■ | | **8163576** | **DHAA-G-G8-20-B8-35** |
| | 25 | 40 | – | ■ | | **8163573** | **DHAA-G-G8-25-B8-40** |
| | **DGST** | **HGPT-B-...-G1/G2** | | | **DHAA** | | |
| | 10 | 16 | – | ■ | 2 | **8163580** | **DHAA-G-G8-10-B8G-16** |
| | 12 | 20 | – | ■ | | **8163582** | **DHAA-G-G8-12-B8G-20** |
| | 16 | 25 | – | ■ | | **8163579** | **DHAA-G-G8-16-B8G-25** |
| | 20 | 35 | – | ■ | | **8163581** | **DHAA-G-G8-20-B8G-35** |
| | 25 | 40 | – | ■ | | **8163578** | **DHAA-G-G8-25-B8G-40** |
| **DGSL/HGPT-B** | **DGSL** | **HGPT-B** | | | **DHAA, HAPG** | | |
|  | 8, 10 | 16, 20 | ■ | ■ | 2 | **564957** | **DHAA-G-G6-8-B8-16** |
| | 12, 16 | 16, 20 | ■ | ■ | | **564954** | **DHAA-G-G6-16-B8-16** |
| | 12, 16 | 25 | ■ | ■ | | **564952** | **DHAA-G-G6-16-B8-25** |
| | 20, 25 | 25, 35 | ■ | ■ | | **537175** | **HAPG-79** |
| | 20, 25 | 40 | ■ | ■ | | **564951** | **DHAA-G-G6-20-B8-40** |
| **DSM-...-HD/HGPT-B** | **DSM-...-HD** | **HGPT-B** | | | **DHAA** | | |
|  | 12 | 16 | ■ | ■ | 2 | **8079169** | **DHAA-G-R3-12-B8-16** |
| | 12 | 20 | ■ | ■ | | **8079170** | **DHAA-G-R3-12-B8-20** |
| | 16 | 16 | ■ | ■ | | **8079193** | **DHAA-G-R3-16-B8-16** |
| | 16 | 20 | ■ | ■ | | **8079195** | **DHAA-G-R3-16-B8-20** |
| | 25 | 16 | ■ | ■ | | **8079202** | **DHAA-G-R3-25-B8-16** |
| | 25 | 20 | ■ | ■ | | **8079205** | **DHAA-G-R3-25-B8-20** |
| | 25 | 25 | ■ | ■ | | **8079207** | **DHAA-G-R3-25-B8-25** |
| | 32 | 20 | ■ | ■ | | **8079217** | **DHAA-G-R3-32-B8-20** |
| | 32 | 25 | ■ | ■ | | **8079218** | **DHAA-G-R3-32-B8-25** |
| | 32 | 35 | ■ | ■ | | **8079221** | **DHAA-G-R3-32-B8-35** |

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

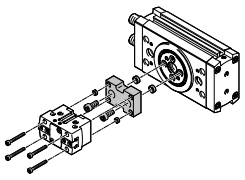
**Adapter kit**
**DHAA**

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 | Gripper | | | Adapter kit | | |
|---|---|---|---|---|---|---|---|
| | Size | Size | Mounting option | | CRC[1] | Part no. | Type |
| **DRRD/HGPT-B** | **DRRD** | **HGPT-B** | | | **DHAA** | | |
|  | 12 | 16 | ■ | ■ | 2 | **2449927** | **DHAA-G-Q11-12-B8/B8G-16** |
| | 12 | 20 | ■ | ■ | | **2449921** | **DHAA-G-Q11-12-B8-20** |
| | 16 | 16 | ■ | ■ | | **2091740** | **DHAA-G-Q11-16-B8/B8G-16** |
| | 16 | 20 | ■ | ■ | | **2091577** | **DHAA-G-Q11-16-B8-20** |
| | 16 | 25 | ■ | ■ | | **2090543** | **DHAA-G-Q11-16-B8-25** |
| | 20 | 25 | ■ | ■ | | **2088114** | **DHAA-G-Q11-20-B8-25** |
| | 20 | 35 | ■ | ■ | | **2087524** | **DHAA-G-Q11-20-B8-35** |
| | 25 | 35 | ■ | ■ | | **1731604** | **DHAA-G-Q11-25-B8-35** |
| | 25 | 40 | ■ | ■ | | **1731735** | **DHAA-G-Q11-25-B8-40** |
| | 32 | 40 | ■ | ■ | | **2092070** | **DHAA-G-Q11-32-B8-40** |
| | 35 | 40 | ■ | ■ | | **2114241** | **DHAA-G-Q11-35-B8-40** |
| | 32 | 50 | ■ | ■ | | **2118750** | **DHAA-G-Q11-32-B8-50** |
| | 35, 40 | 50 | ■ | ■ | | **2124990** | **DHAA-G-Q11-3 5/40-B8-50** |
| | 40 | 63 | ■ | ■ | | **2125264** | **DHAA-G-Q11-40-B8-63** |
| | 50 | 63 | ■ | ■ | | **2424526** | **DHAA-G-Q11-50-B8-63** |
| | 50 | 80 | ■ | ■ | | **2424527** | **DHAA-G-Q11-50-B8-80** |
| | **DRRD** | **HGPT-B-G** | | | **DHAA** | | |
| | 12 | 16 | ■ | ■ | 2 | **2449927** | **DHAA-G-Q11-12-B8/B8G-16** |
| | 12 | 20 | ■ | ■ | | **2800827** | **DHAA-G-Q11-12-B8G-20** |
| | 16 | 16 | ■ | ■ | | **2091740** | **DHAA-G-Q11-16-B8/B8G-16** |
| | 16 | 20 | ■ | ■ | | **2595935** | **DHAA-G-Q11-16-B8G-20** |
| | 16 | 25 | ■ | ■ | | **2596187** | **DHAA-G-Q11-16-B8G-25** |
| | 20 | 25 | ■ | ■ | | **2596248** | **DHAA-G-Q11-20-B8G-25** |
| | 20 | 35 | ■ | ■ | | **2596517** | **DHAA-G-Q11-20-B8G-35** |
| | 25 | 35 | ■ | ■ | | **2597040** | **DHAA-G-Q11-25-B8G-35** |
| | 25 | 40 | ■ | ■ | | **2597322** | **DHAA-G-Q11-25-B8G-40** |
| | 32 | 40 | ■ | ■ | | **2597387** | **DHAA-G-Q11-32-B8G-40** |
| | 35 | 40 | ■ | ■ | | **2597928** | **DHAA-G-Q11-35-B8G-40** |
| | 32 | 50 | ■ | ■ | | **2597428** | **DHAA-G-Q11-32-B8G-50** |
| | 35, 40 | 50 | ■ | ■ | | **2604977** | **DHAA-G-Q11-3 5/40-B8G-50** |
| | 40 | 63 | ■ | ■ | | **2604813** | **DHAA-G-Q11-40-B8G-63** |
| | 50 | 63 | ■ | ■ | | **2604845** | **DHAA-G-Q11-50-B8G-63** |
| | 50 | 80 | ■ | ■ | | **2604887** | **DHAA-G-Q11-50-B8G-80** |

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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

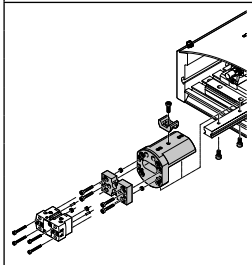
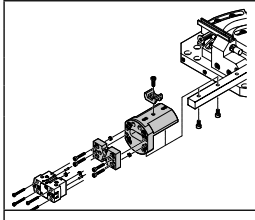
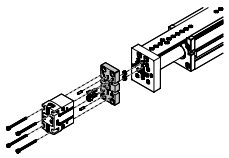
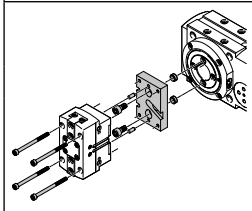
**Adapter kit**
**DHAA, HAPG**

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 | Gripper | | | Adapter kit | | |
|---|---|---|---|---|---|---|---|
| | Size | Size | Mounting option | | CRC[1] | Part no. | Type |
| **HSP/HGPT-B** | **HSP** | **HGPT-B** | | | **DHAA, HAPG** | | |
|  | 12 | 16 | ■ | – | 2 | **564957** | **DHAA-G-G6-8-B8-16** |
| | | | | | | **540881** | **HAPG-70-B** |
| | 16 | 16, 20 | ■ | – | | **564957** | **DHAA-G-G6-8-B8-16** |
| | | | | | | **540882** | **HAPG-71-B** |
| | 25 | 16, 20 | ■ | – | | **564957** | **DHAA-G-G6-8-B8-16** |
| | | | | | | **540883** | **HAPG-72-B** |
| **HSW/HGPT-B** | **HSW** | **HGPT-B** | | | **DHAA, HAPG** | | |
|  | 12 | 16 | ■ | – | 2 | **564957** | **DHAA-G-G6-8-B8-16** |
| | | | | | | **540882** | **HAPG-71-B** |
| | 16 | 16, 20 | ■ | – | | **564957** | **DHAA-G-G6-8-B8-16** |
| | | | | | | **540882** | **HAPG-71-B** |
| **EGSL/HGPT-B** | **EGSL** | **HGPT-B** | | | **DHAA, HAPG** | | |
|  | 45, 55 | 25 | ■ | ■ | 2 | **564952** | **DHAA-G-G6-16-B8-25** |
| | 75 | 40 | ■ | ■ | | **564951** | **DHAA-G-G6-20-B8-40** |
| | 75 | 25, 35 | ■ | ■ | | **537175** | **HAPG-79** |
| **ERMB/HGPT-B** | **ERMB** | **HGPT-B** | | | **DHAA, HAPG** | | |
|  | 20 | 25 | ■ | ■ | 2 | **537181** | **HAPG-SD2-25** |
| | 20, 25 | 35 | ■ | ■ | | **537173** | **HAPG-SD2-23** |
| | 25, 32 | 40 | ■ | ■ | | **537184** | **HAPG-SD2-26** |
| | 32 | 50 | ■ | ■ | | **564956** | **DHAA-G-Q5-32-B8-50** |

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

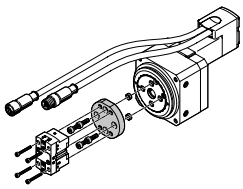
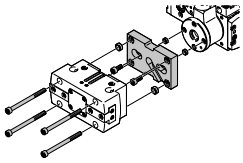
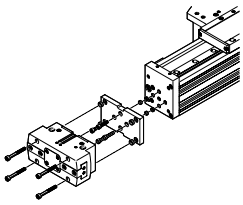
**Adapter kit**
**DHAA, HAPG**

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 | Gripper | | | Adapter kit | | |
|---|---|---|---|---|---|---|---|
| | Size | Size | Mounting option | | CRC[1] | Part no. | Type |
| **ERMO/HGPT-B** | **ERMO** | **HGPT-B** | | | **DHAA** | | |
|  | 12 | 16 | ■ | ■ | 2 | **8079169** | **DHAA-G-R3-12-B8-16** |
| | 12 | 20 | ■ | ■ | | **8079170** | **DHAA-G-R3-12-B8-20** |
| | 16 | 16 | ■ | ■ | | **8079193** | **DHAA-G-R3-16-B8-16** |
| | 16 | 20 | ■ | ■ | | **8079195** | **DHAA-G-R3-16-B8-20** |
| | 25 | 16 | ■ | ■ | | **8079202** | **DHAA-G-R3-25-B8-16** |
| | 25 | 20 | ■ | ■ | | **8079205** | **DHAA-G-R3-25-B8-20** |
| | 25 | 25 | ■ | ■ | | **8079207** | **DHAA-G-R3-25-B8-25** |
| | 32 | 20 | ■ | ■ | | **8079217** | **DHAA-G-R3-32-B8-20** |
| | 32 | 25 | ■ | ■ | | **8079218** | **DHAA-G-R3-32-B8-25** |
| | 32 | 35 | ■ | ■ | | **8079221** | **DHAA-G-R3-32-B8-35** |
| **EHMB/HGPT-B** | **EHMB** | **HGPT-B** | | | **DHAA, HAPG** | | |
|  | 20 | 40 | ■ | ■ | 2 | **537184** | **HAPG-SD2-26** |
| | 20, 25, 32 | 50 | ■ | ■ | | **564956** | **DHAA-G-Q5-32-B8-50** |
| | 25, 32 | 63 | ■ | ■ | | **537188** | **HAPG-SD2-28** |
| **ELCC/HGPT-B** | **ELCC** | **HGPT-B** | | | **DHAA** | | |
|  | 60 | 35 | ■ | ■ | 2 | **5162493** | **DHAA-G-E21-60-B8-35** |
| | 60 | 40 | ■ | ■ | | **5162495** | **DHAA-G-E21-60-B8-40** |
| | 60 | 50 | ■ | ■ | | **5162497** | **DHAA-G-E21-60-B8-50** |
| | 70 | 40 | ■ | ■ | | **2092070** | **DHAA-G-Q11-32-B8-40** |
| | 70, 90 | 50 | ■ | ■ | | **2118750** | **DHAA-G-Q11-32-B8-50** |
| | 70, 90, 110 | 63 | ■ | ■ | | **5162500** | **DHAA-G-E21-70...110-B8-63** |
| | 90, 110 | 80 | ■ | ■ | | **5162502** | **DHAA-G-E21-70...110-B8-80** |
| | **ELCC** | **HGPT-B-G** | | | **DHAA** | | |
| | 60 | 35 | ■ | ■ | 2 | **5162494** | **DHAA-G-E21-60-B8G-35** |
| | 60 | 40 | ■ | ■ | | **5162496** | **DHAA-G-E21-60-B8G-40** |
| | 60 | 50 | ■ | ■ | | **5162498** | **DHAA-G-E21-60-B8G-50** |
| | 70 | 40 | ■ | ■ | | **2597387** | **DHAA-G-Q11-32-B8G-40** |
| | 70, 90 | 50 | ■ | ■ | | **2597428** | **DHAA-G-Q11-32-B8G-50** |
| | 70, 90, 110 | 63 | ■ | ■ | | **5162501** | **DHAA-G-E21-70...110-B8G-63** |
| | 90, 110 | 80 | ■ | ■ | | **5162503** | **DHAA-G-E21-70...110-B8G-80** |

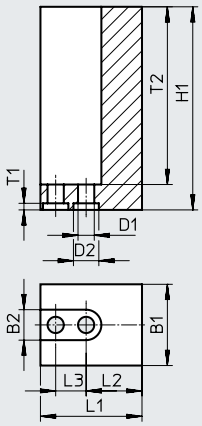
1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

# Accessories

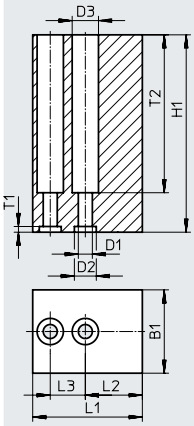
**Gripper jaw blank BUB-HGPT**
(2 included in the scope of delivery)

Material:
Aluminium

For size 16 ... 40




For size 50 ... 80




**Dimensions and ordering data**

| For size | B1 | B2 | D1 | D2 | D3 | H1 | L1 |
|---|---|---|---|---|---|---|---|
| | | | ø | ø | ø | | |
| [mm] | ±0.05 | H13 | H13 | H8 | H13 | ±0.05 | ±0.05 |
| 16 | 16 | 6 | 3.2 | 5 | – | 40 | 21 |
| 20 | 19 | 6 | 3.2 | 5 | – | 45 | 27 |
| 25 | 24 | 8 | 4.3 | 7 | – | 60 | 31 |
| 35 | 28 | 10 | 5.3 | 9 | – | 70 | 39 |
| 40 | 34 | 11 | 6.4 | 9 | – | 75 | 49 |
| 50 | 40 | – | 6.4 | 9 | 11 | 100 | 61 |
| 63 | 50 | – | 10.3 | 12 | 17 | 120 | 79 |
| 80 | 58 | – | 12.4 | 15 | 20 | 140 | 88 |

| For size | L2[1)] | L3[1)] | T1 | T2 | Weight per blank | Part no. | Type |
|---|---|---|---|---|---|---|---|
| [mm] | | | +0.1 | | [g] | | |
| 16 | 10 | 8 | 1.3 | 35 | 29 | **560244** | **BUB-HGPT-16-B** |
| 20 | 11.75 | 12 | 1.3 | 36 | 53 | **560245** | **BUB-HGPT-20-B** |
| 25 | 13.25 | 13 | 1.6 | 51 | 98 | **560246** | **BUB-HGPT-25-B** |
| 35 | 17.5 | 16 | 2.1 | 61 | 161 | **560247** | **BUB-HGPT-35-B** |
| 40 | 22.5 | 20 | 2.1 | 66.5 | 280 | **560248** | **BUB-HGPT-40-B** |
| 50 | 29 | 24 | 2.1 | 91 | 622 | **560249** | **BUB-HGPT-50-B** |
| 63 | 37.5 | 32 | 2.6 | 110 | 1213 | **560250** | **BUB-HGPT-63-B** |
| 80 | 36 | 40 | 3.1 | 125 | 1738 | **560251** | **BUB-HGPT-80-B** |

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

# Accessories

**Ordering data**

| | For size [mm] | Description | Weight [g] | Part no. | Type | PU[1] |
|---|---|---|---|---|---|---|
| Centring sleeve ZBH | | | | | | Data sheets → Internet: zbh |
|  | 16, 20 | For centring the gripper jaw blanks/gripper fingers on the gripper jaws | 1 | **8146543** | **ZBH-5-B** | 10 |
| | 25 | | 1 | **8146544** | **ZBH-7-B** | |
| | 35, 40, 50 | | 1 | **150927** | **ZBH-9** | |
| | 63 | | 1 | **189653** | **ZBH-12** | |
| | 80 | | 3 | **191409** | **ZBH-15** | |
| | 20, 25 | For lateral centring of gripper fingers on the gripper jaws | 1 | **8146543** | **ZBH-5-B** | |
| | 35, 40, 50, 63 | | 1 | **8146544** | **ZBH-7-B** | |
| | 80 | | 1 | **150927** | **ZBH-9** | |
| | 16, 20 | For centring the gripper during mounting | 1 | **8146543** | **ZBH-5-B** | |
| | 25, 35 | | 1 | **8146544** | **ZBH-7-B** | |
| | 40 | | 1 | **150927** | **ZBH-9** | |
| | 50, 63, 80 | | 1 | **189653** | **ZBH-12** | |
| Connector sleeve ZBV | | | | | | Data sheets → Internet: zbv |
|  | – | For compensating for different centring diameters | 1 | **571033** | **ZBV-6-5** | 1 |
| | | | 1 | **571034** | **ZBV-8-7** | |
| | | | 1 | **560253** | **ZBV-9-8** | |
| | | | 2 | **571035** | **ZBV-12-10** | |
| | | | 2 | **560255** | **ZBV-14-12** | |
| Blanking plug B | | | | | | Data sheets → Internet: blanking plug |
|  | 16, 20 | For sealing the compressed air supply ports | 1 | **30979** | **B-M3-S9** | 10 |
| | 25, 35, 40 | | 1 | **174308** | **B-M5-B** | |
| | 50, 63 | | 5 | **3568** | **B-1/8** | |
| | 80 | | 15 | **3569** | **B-1/4** | |

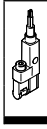
1) Packaging unit

# Accessories

**Proximity sensor for size 16 ... 35**

**Ordering data – Proximity sensor for C-slot, magneto-resistive**

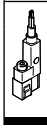
Data sheets → Internet: smt

| | Type of mounting | Electrical connection, outlet direction of connection | Switching output | Cable length [m] | Part no. | Type |
|---|---|---|---|---|---|---|
| **N/O contact** | | | | | | |
|  | Insertable in the slot lengthwise | Cable, 3-wire, lateral | PNP | 2.5 | **547862** | **SMT-10G-PS-24V-E-2.5Q-OE** |
| | | Plug M8x1, 3-pin, lateral | | 0.3 | **547863** | **SMT-10G-PS-24V-E-0.3Q-M8D** |
| | | Cable, 3-wire, lateral | NPN | 2.5 | **8065030** | **SMT-10G-NS-24V-E-2.5Q-OE** |
| | | Plug M8x1, 3-pin, lateral | | 0.3 | **8065029** | **SMT-10G-NS-24V-E-0.3Q-M8D** |

**Proximity sensor for size 40 ... 80**

**Ordering data – Proximity sensor for T-slot, magneto-resistive**

Data sheets → Internet: smt

| | Type of mounting | Electrical connection, outlet direction of connection | Switching output | Cable length [m] | Part no. | Type |
|---|---|---|---|---|---|---|
| **N/O contact** | | | | | | |
|  | Insertable in the slot lengthwise | Cable, 3-wire, lateral | PNP | 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** |
| | | Cable, 3-wire, lateral | NPN | 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**

Data sheets → Internet: nebu

| | Electrical connection, left | Electrical connection, right | Cable length [m] | Part no. | Type |
|---|---|---|---|---|---|
|  | 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** |

## Position transmitter

**Function area:**
The position transmitter continuously senses the position of the piston.
It has an analogue output with an output signal relative to the piston position.

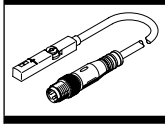
**Measuring range:**
The entire stroke can be measured with sizes 40 and 50.
A stroke of 13 mm (with the high-force variant 6.5 mm) can be measured with sizes 63 and 80.

Two position transmitters are required for sensing longer strokes.

**Projection:**
The position transmitter projects past the housing at the back with sizes 40 and 50.

**Ordering data – Position transmitter 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 |
|---|---|---|---|---|---|---|---|---|
|  | 40 ... 80 | 0 ... 40 | 0 ... 10 | Insertable in the slot from above | Plug M8x1, 4-pin, in-line | 0.3 | **553744** | **SMAT-8M-U-E-0.3-M8D** |

# Accessories

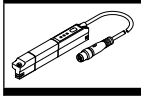
## Position transmitter

The position transmitter continuously senses the position of the piston.

It has an analogue output with an output signal relative to the piston position.

**Ordering data – Position transmitter for T-slot**

Data sheets ➔ Internet: position transmitter

| | For diam. | Position measuring range | Analogue output [mA] | Type of mounting | Electrical connection | Cable length [m] | Part no. | Type |
|---|---|---|---|---|---|---|---|---|
|  | 63, 80 | 0 ... 50 | 4 ... 20 | Insertable in the slot from above | Plug M8x1, 4-pin, in-line | 0.3 | **1531265** | **SDAT-MHS-M50-1L-SA-E-0.3-M8** |

**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** |