

- Sturdy
- Gripping forces of up to 825 N
- Reliable thanks to gripping force retention
- Splash-proof through use of sealing air

# Parallel grippers HGPT, robust

Key features



## At a glance

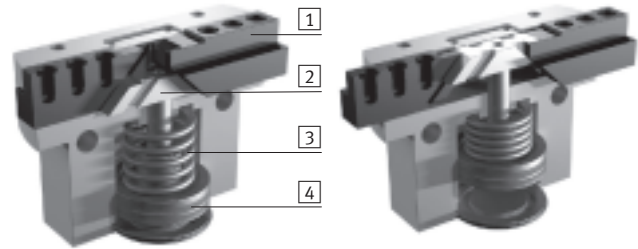
The force generated by the linear motion is translated into the gripper jaw movement via a wedge mechanism with guided motion sequence. This also guarantees synchronous movement of the gripper jaw. The virtually backlash-free slideway is realised using ground-in gripper jaws.

Flexible range of applications

- Double-acting gripper
- Compression spring for supplementary or retaining gripping forces
- For use as a single-acting gripper with only one compressed air connection
- Suitable for external and internal gripping

Gripper closed

Gripper open



- 1 Gripper jaw
- 2 Wedge with restricted guidance
- 3 Spring
- 4 Piston with magnet

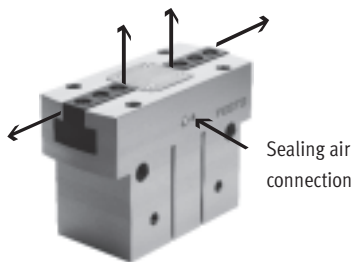


Gripper selection software  
[www.festo.com/en/engineering](http://www.festo.com/en/engineering)

## Sealing air connection

Compressed air flows past the gripper jaw when sealing air (max. 0.5 bar) is connected.

This prevents, for example, particles and soluble cutting oil from entering the gripper jaw guides.



## Versatile compressed air connections

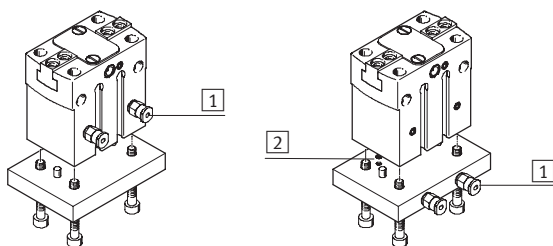
Direct from the front

Via adapter plate from underneath

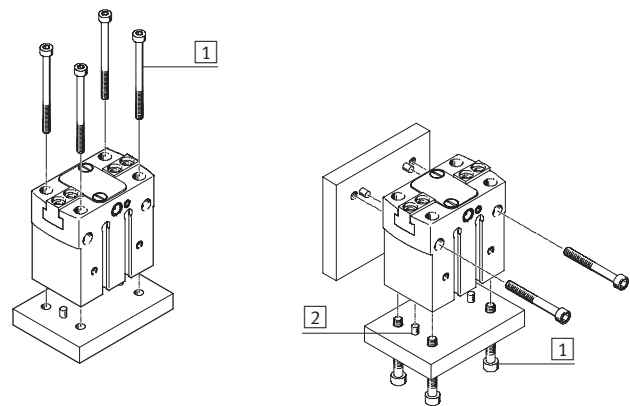
## Mounting options

Direct mounting from above

from underneath and from the side



- 1 Compressed air connections
- 2 O-rings

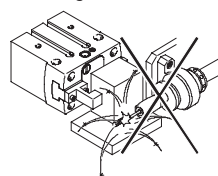


- 1 Mounting screws
- 2 Centring pins

- - Note

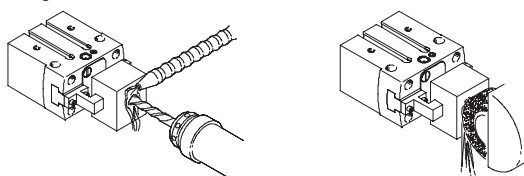
These grippers are not designed for the following application examples or only under limited conditions:

Not designed for



- Welding spatter

Designed for but under limited conditions

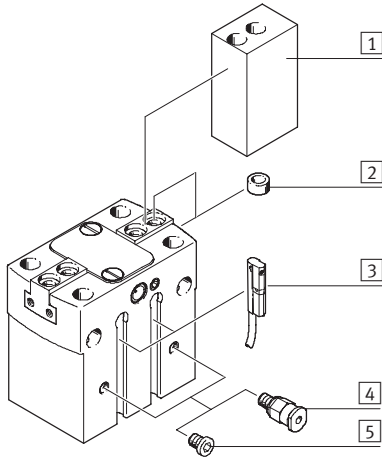


- Machining with sealing air possible
- Aggressive media only possible after consulting Festo

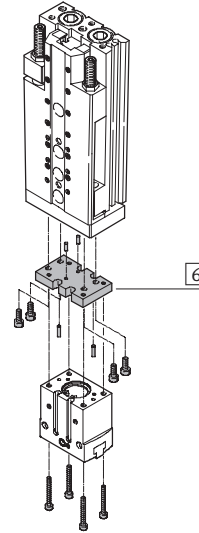
# Parallel grippers HGPT, robust

Peripherals overview and type codes

## Peripherals overview



## System product for handling and assembly technology



| Accessories |                                       |  |            |
|-------------|---------------------------------------|--|------------|
| Type        | Brief description                     | → Page   |            |
| 1           | Unmachined gripper finger<br>BUB-HGPT | Unmachined part specially matched to the gripper jaws for custom building of gripper fingers | 1 / 7.7-14 |
| 2           | Centring sleeve<br>ZBH                | For centring when attaching gripper fingers  | 1 / 7.7-15 |
| 3           | Proximity sensor<br>SME/SMT-10        | For sensing the piston position  | 1 / 7.7-15 |
| 4           | Push-in fitting<br>QS                 | For connecting compressed air tubing with standard external diameters                        | Volume 3   |
| 5           | Blanking plug<br>B                    | For sealing compressed air connections when using air connections at the front               | 1 / 7.7-15 |
| 6           | -                                     | Drive/gripper connections  | Volume 5   |

## Type codes

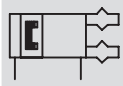
|                                 |                       |   |    |   |   |   |    |
|---------------------------------|-----------------------|---|----|---|---|---|----|
| HGPT                            |                       | - | 16 | - | A | - | G1 |
| <b>Type</b>                     |                       |   |    |   |   |   |    |
| HGPT                            | Parallel gripper      |   |    |   |   |   |    |
| <b>Size</b>                     |                       |   |    |   |   |   |    |
| <b>Position sensing</b>         |                       |   |    |   |   |   |    |
| A                               | For proximity sensing |   |    |   |   |   |    |
| <b>Gripping force retention</b> |                       |   |    |   |   |   |    |
| G1                              | Open                  |   |    |   |   |   |    |
| G2                              | Closed                |   |    |   |   |   |    |



# Parallel grippers HGPT, robust

Technical data

FESTO

Function  
Double-acting  
HGPT-...-A



 Size  
16 ... 63 mm  
 Stroke  
6 ... 32 mm



Single-acting or  
with gripping force retention ...  
... open HGPT-...-G1



... closed HGPT-...-G2



| General technical data  |   |        |        |    |     |                 |                 |
|---|---|--------|--------|----|-----|-----------------|-----------------|
| Size  | 16  | 20     | 25     | 35 | 40  | 50              | 63              |
| Design  | Wedge mechanism<br>Guided motion sequence                         |        |        |    |     |                 |                 |
| Mode of operation   | Double-acting   |        |        |    |     |                 |                 |
| Gripper function  | Parallel  |        |        |    |     |                 |                 |
| Number of gripper jaws  | 2   |        |        |    |     |                 |                 |
| Max. applied load per external gripper finger <sup>1)</sup> [N] | 0.5   | 1      | 1.5    | 2  | 2.5 | 3               | 4               |
| Stroke per gripper jaw [mm]                                     | 3   | 4      | 6      | 8  | 10  | 12              | 16              |
| Pneumatic connection  | M3  | M3     | M5     | M5 | M5  | G $\frac{3}{8}$ | G $\frac{3}{8}$ |
| Pneumatic connection<br>Sealing air                             | M3  | M3     | M5     | M5 | M5  | M5              | M5              |
| Repetition accuracy <sup>2)</sup> [mm]                          | < 0.03  | < 0.04 | < 0.05 |    |     |                 |                 |
| Max. interchangeability [mm]                                    | 0.2   |        |        |    |     |                 |                 |
| Max. gripper jaw backlash <sup>3)</sup> [mm]                    | 0.02  |        |        |    |     |                 |                 |
| Max. gripper jaw angular backlash [°]                           | 0.1   |        |        |    |     |                 |                 |
| Max. operating frequency [Hz]                                   | 3   |        |        |    |     | 2               |                 |
| Rotational symmetry [mm]  | < $\varnothing$ 0.2   |        |        |    |     |                 |                 |
| Position sensing  | For proximity sensing   |        |        |    |     |                 |                 |
| Type of mounting  | Via through-hole and dowel pin<br>Via female thread and dowel pin |        |        |    |     |                 |                 |
| Fitting position  | Any   |        |        |    |     |                 |                 |

- 1) Valid for unthrottled operation  
 2) End-position drift under constant conditions of use with 100 consecutive strokes in the direction of movement of the gripper jaws  
 3) In the direction of the gripper jaw movement  
 -  $\varnothing$  Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

| Operating and environmental conditions       |   |       |            |
|--|---|-------|------------|
| Min. operating pressure                      | HGPT-...-A  | [bar] | 3          |
|  | HGPT-...-G...                                       | [bar] | 5          |
| Max. operating pressure                      |   | [bar] | 8          |
| Operating medium                             | Filtered compressed air, lubricated or unlubricated |       |            |
| Ambient temperature <sup>1)</sup>            |   | [°C]  | +5 ... +60 |
| Corrosion resistance class CRC <sup>2)</sup> | 2   |       |            |

- 1) Note operating range of proximity sensors  
 2) Corrosion resistance class 2 according to Festo standard 940 070  
 Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents

# Parallel grippers HGPT, robust

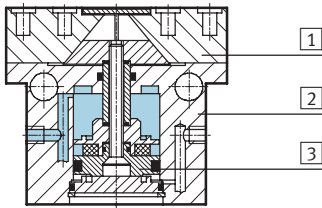
Technical data



| Weight [g]  |     |     |     |     |      |      |      |
|-------------|-----|-----|-----|-----|------|------|------|
| Size        | 16  | 20  | 25  | 35  | 40   | 50   | 63   |
| HGPT-...-A  | 102 | 183 | 361 | 625 | 1209 | 1984 | 3633 |
| HGPT-...-G1 | 104 | 186 | 371 | 645 | 1252 | 2102 | 3763 |
| HGPT-...-G2 | 104 | 186 | 371 | 645 | 1252 | 2102 | 3763 |

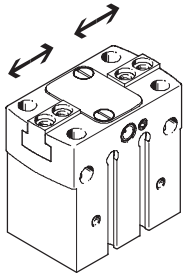
## Materials

Sectional view



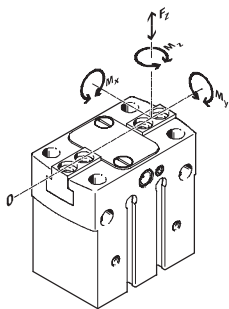
| Parallel gripper  |             |                                   |
|-------------------|-------------|-----------------------------------|
| 1                 | Gripper jaw | Hardened steel                    |
| 2                 | Housing     | Aluminium, coated with CompCote   |
| 3                 | Piston      | Gunmetal (red brass)              |
| -                 | Seals       | Nitrile rubber                    |
| Note on materials |             | Free of copper, PTFE and silicone |

## Gripping force [N] at 6 bar



| Size                           | 16 | 20  | 25  | 35  | 40  | 50  | 63   |
|--------------------------------|----|-----|-----|-----|-----|-----|------|
| Gripping force per gripper jaw |    |     |     |     |     |     |      |
| Opening                        | 42 | 75  | 110 | 250 | 300 | 480 | 825  |
| Closing                        | 36 | 70  | 100 | 230 | 270 | 440 | 770  |
| Total gripping force           |    |     |     |     |     |     |      |
| Opening                        | 84 | 150 | 220 | 500 | 600 | 960 | 1650 |
| Closing                        | 72 | 140 | 200 | 460 | 540 | 880 | 1540 |

## Characteristic load values at the gripper jaws



The indicated permissible forces and torques refer to a single gripper jaw. The indicated values include the lever arm, additional applied loads caused by the workpiece or external gripper

fingers, as well as forces which occur during movement. The zero coordinate line (gripper finger guide) must be taken into consideration for the calculation of torques.

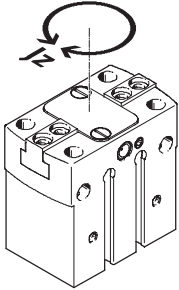
| Size                          | 16   | 20  | 25  | 35  | 40  | 50   | 63   |      |
|-------------------------------|------|-----|-----|-----|-----|------|------|------|
| Max. permissible force $F_z$  | [N]  | 200 | 300 | 500 | 900 | 1500 | 2500 | 4000 |
| Max. permissible torque $M_x$ | [Nm] | 10  | 15  | 30  | 50  | 80   | 100  | 140  |
| Max. permissible torque $M_y$ | [Nm] | 7   | 10  | 25  | 40  | 60   | 90   | 120  |
| Max. permissible torque $M_z$ | [Nm] | 5   | 8   | 15  | 30  | 40   | 60   | 80   |

# Parallel grippers HGPT, robust

Technical data



## Mass moment of inertia [kgm<sup>2</sup>x10<sup>-4</sup>]



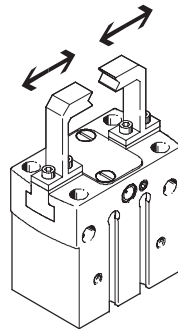
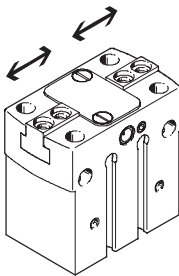
Mass moment of inertia [kgm<sup>2</sup>x10<sup>-4</sup>]  
for parallel grippers in relation to the  
central axis with no load.

| Size        | 16    | 20    | 25    | 35    | 40    | 50     | 63     |
|-------------|-------|-------|-------|-------|-------|--------|--------|
| HGPT-...-A  | 0.177 | 0.391 | 1.263 | 3.383 | 9.673 | 25.147 | 74.991 |
| HGPT-...-G1 | 0.178 | 0.392 | 1.272 | 3.411 | 9.786 | 25.460 | 75.409 |
| HGPT-...-G2 | 0.178 | 0.392 | 1.272 | 3.411 | 9.786 | 25.460 | 75.409 |

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

without external gripper fingers

with external gripper fingers



The indicated opening and closing times [ms] have been measured at room temperature and at 6 bar operating pressure with horizontally mounted gripper without external

gripper fingers. The grippers must be throttled for greater applied loads. Opening and closing times must then be adjusted correspondingly.

| Size  |         | 16  | 20  | 25  | 35  | 40  | 50  | 63  |
|---|---------|-----|-----|-----|-----|-----|-----|-----|
| without external gripper fingers                            |         |     |     |     |     |     |     |     |
| HGPT-...-A  | Opening | 20  | 31  | 30  | 40  | 66  | 85  | 150 |
|   | Closing | 21  | 31  | 33  | 40  | 61  | 76  | 135 |
| HGPT-...-G1   | Opening | 10  | 26  | 30  | 39  | 57  | 65  | 123 |
|   | Closing | 44  | 51  | 64  | 92  | 130 | 150 | 282 |
| HGPT-...-G2   | Opening | 41  | 52  | 50  | 78  | 100 | 130 | 260 |
|   | Closing | 21  | 31  | 30  | 39  | 61  | 70  | 130 |
| with external gripper fingers as a function of applied load |         |     |     |     |     |     |     |     |
| HGPT-...  | 1 N     | 100 | -   | -   | -   | -   | -   | -   |
|   | 2 N     | 200 | 150 | 100 | -   | -   | -   | -   |
|   | 3 N     | 300 | 250 | 200 | 150 | 100 | -   | -   |
|   | 4 N     | -   | 350 | 300 | 250 | 200 | 150 | -   |
|   | 5 N     | -   | -   | 400 | 350 | 300 | 250 | 200 |
|   | 6 N     | -   | -   | -   | 450 | 400 | 300 | 250 |
|   | 8 N     | -   | -   | -   | -   | -   | 450 | 400 |
|   | 10 N    | -   | -   | -   | -   | -   | -   | 500 |

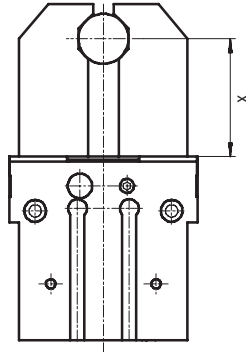
# Parallel grippers HGPT, robust

Technical data



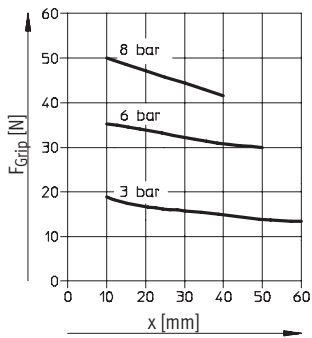
## Gripping force $F_{Grip}$ per gripper jaw as a function of operating pressure and lever arm $x$

Gripping forces related to operating pressure and lever arm can be determined for the various sizes using the following graphs.

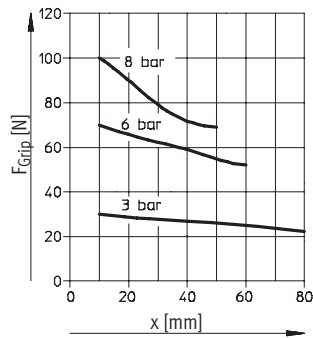


### As external gripper: Closing operation

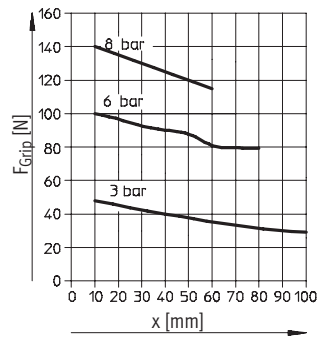
HGPT-16-A



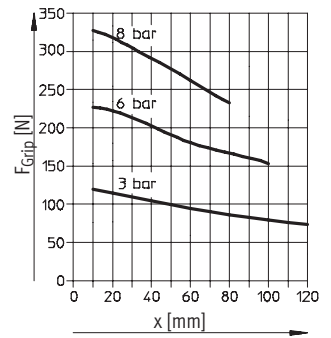
HGPT-20-A



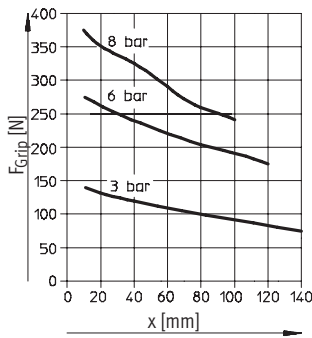
HGPT-25-A



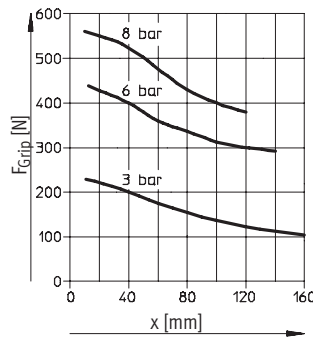
HGPT-35-A



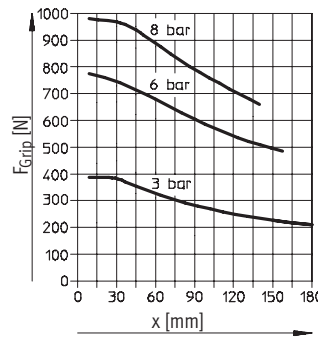
HGPT-40-A



HGPT-50-A



HGPT-63-A



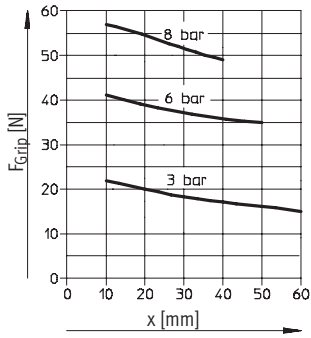
# Parallel grippers HGPT, robust

Technical data

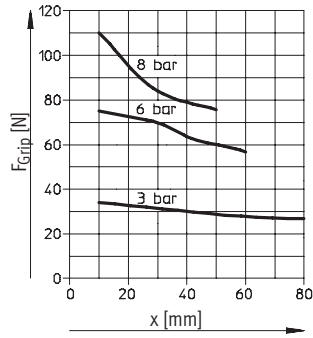


Gripping force  $F_{Grip}$  per gripper jaw as a function of operating pressure and lever arm  $x$   
As internal gripper: Opening operation

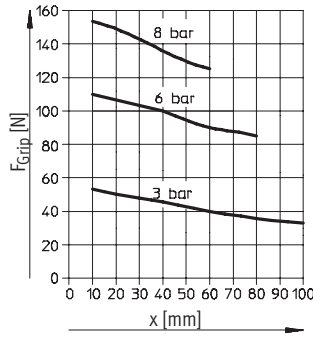
HGPT-16-A



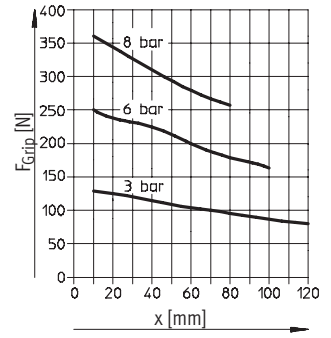
HGPT-20-A



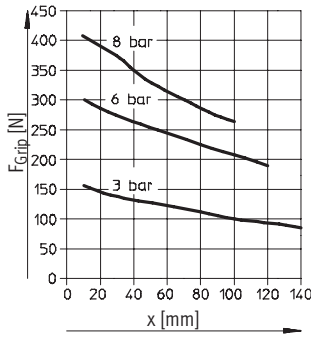
HGPT-25-A



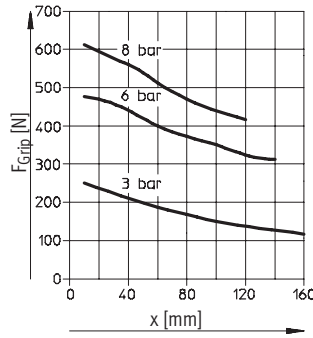
HGPT-35-A



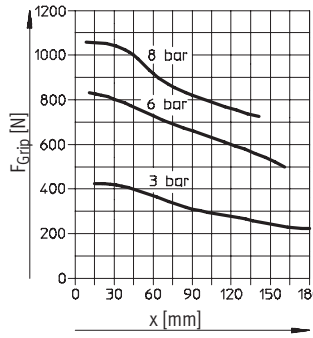
HGPT-40-A



HGPT-50-A



HGPT-63-A





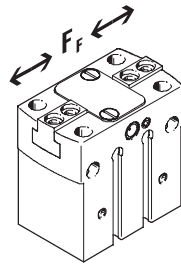
# Parallel grippers HGPT, robust

Technical data

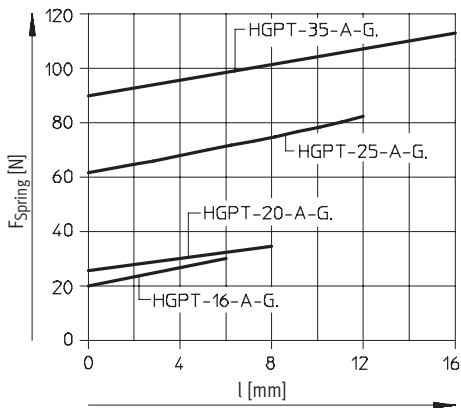
## Spring force $F_{Spring}$ as a function of gripper size and overall stroke $l$

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

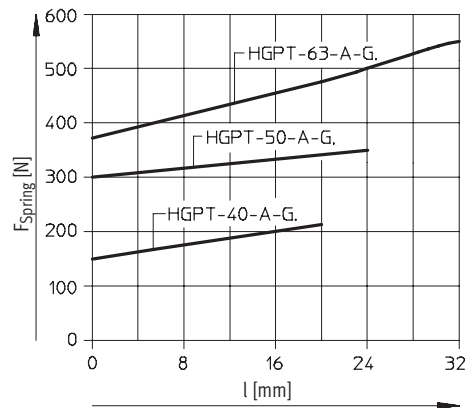
Spring forces  $F_{Spring}$  as a function of gripper size and overall stroke  $l$  can be determined for the various gripper types (HGPT-...-G...) using the following graphs.



### Size 16 ... 35



### Size 40 ... 63



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

| Size | $F_{Stotal} =$                  |
|------|---------------------------------|
| 16   | $-0.2 * x + 0.8 * F_{Spring}$   |
| 20   | $-0.375 * x + 0.8 * F_{Spring}$ |
| 25   | $-0.25 * x + 0.8 * F_{Spring}$  |
| 35   | $-1 * x + 0.8 * F_{Spring}$     |
| 40   | $-0.9 * x + 0.8 * F_{Spring}$   |
| 50   | $-1.36 * x + 0.8 * F_{Spring}$  |
| 63   | $-2.2 * x + 0.8 * F_{Spring}$   |

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

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 available gripping forces  $F_{Gr}$  (per gripper jaw), the gripping force ( $F_{Grip}$ ) and spring

force ( $F_{Stotal}$ ) must be combined accordingly.

### Application

#### Single-acting

- Gripping with spring force:  
 $F_{Gr} = F_{Stotal}$
- Gripping with pressure force:  
 $F_{Gr} = F_{Grip} - F_{Stotal}$

#### Supplementary gripping force

- Gripping with pressure and spring force:  
 $F_{Gr} = F_{Grip} + F_{Stotal}$

#### Gripping force retention

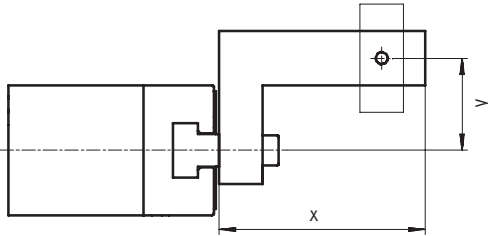
- Gripping with spring force:  
 $F_{Gr} = F_{Stotal}$

# Parallel grippers HGPT, robust

Technical data



## Gripping force $F_H$ per gripper jaw at 6 bar as a function of lever arm $x$ and eccentricity $y$



Gripping forces at 6 bar dependent upon eccentric application of force and the maximum permissible off-centre point of force application can be determined for the various sizes using the following graphs.

### Calculation example

Given:

Lever arm  $x = 40$  mm

Eccentricity  $y = 45$  mm

To be found:

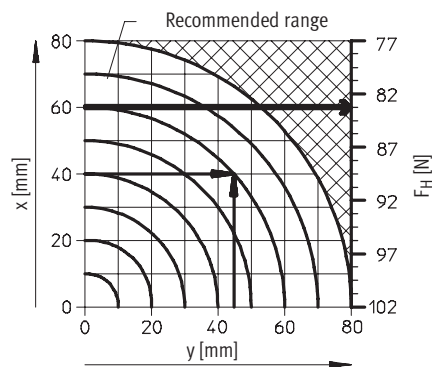
Gripping force at 6 bar

Procedure:

- Determine the intersection  $xy$  between lever arm  $x$  and eccentricity  $y$  in the graph for HGPT-25-A-...
- Draw an arc (with centre at origin) through intersection  $xy$
- Determine the intersection between the arc and the X axis
- Read the gripping force

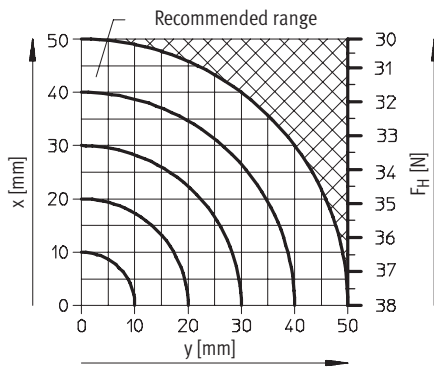
Result:

Gripping force = approx. 83 N

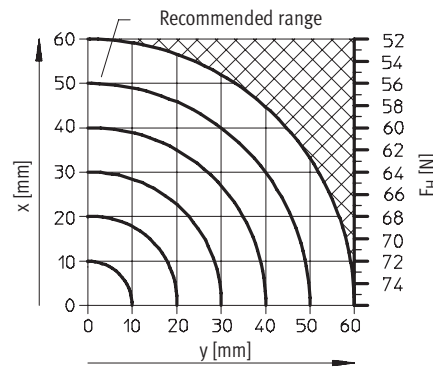


### As external gripper: Closing operation

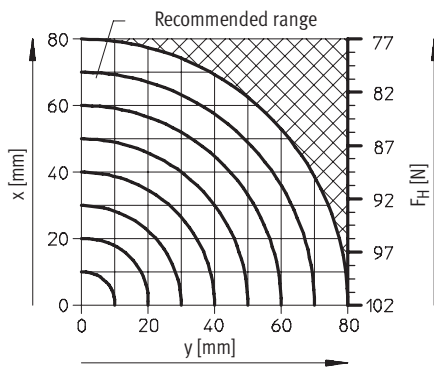
HGPT-16-A



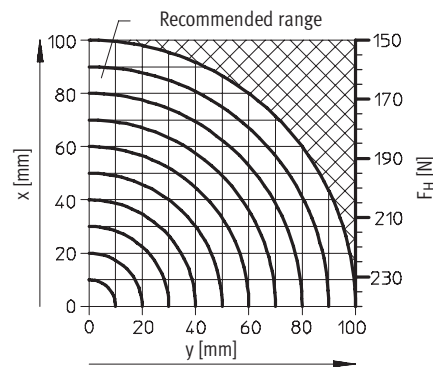
HGPT-20-A



HGPT-25-A



HGPT-35-A

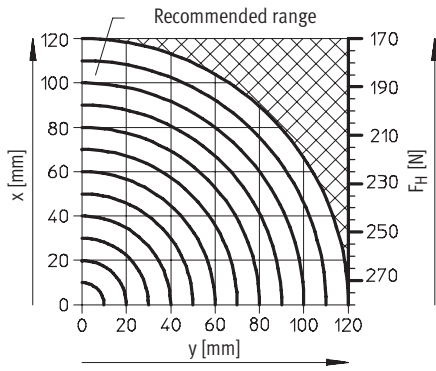


# Parallel grippers HGPT, robust

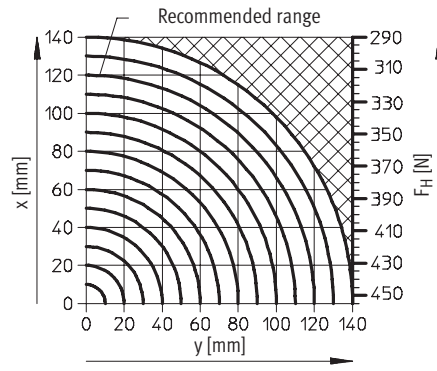
Technical data

## Gripping force $F_H$ per gripper jaw at 6 bar as a function of lever arm $x$ and eccentricity $y$

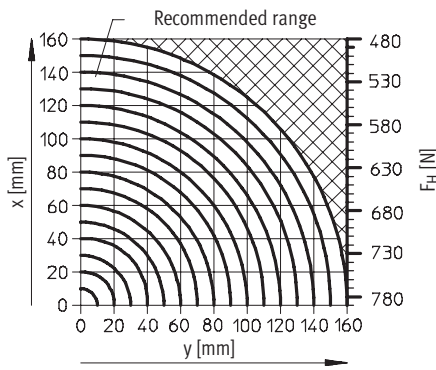
HGPT-40-A



HGPT-50-A

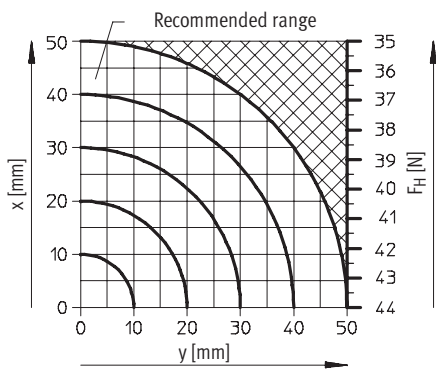


HGPT-63-A

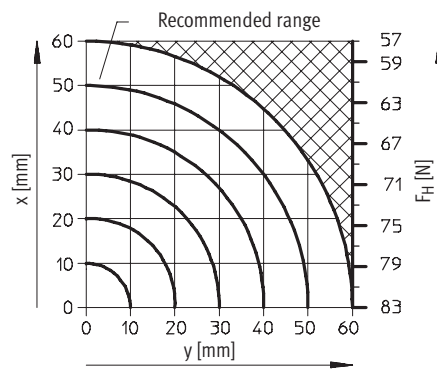


## As internal gripper: Opening operation

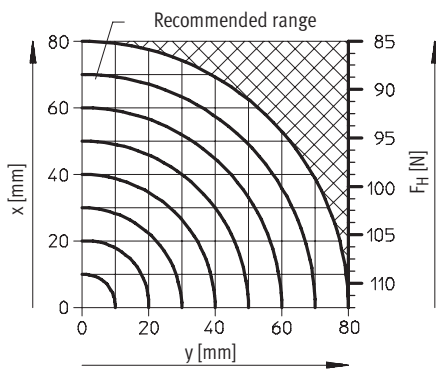
HGPT-16-A



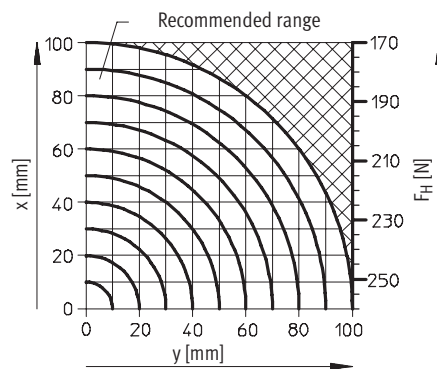
HGPT-20-A



HGPT-25-A



HGPT-35-A



# Parallel grippers HGPT, robust

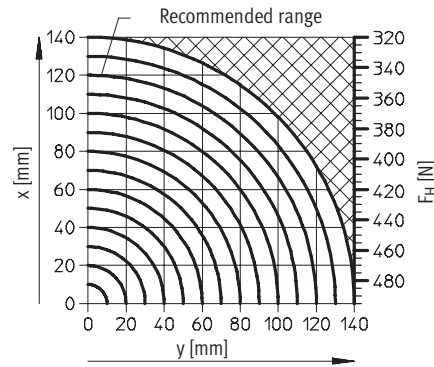
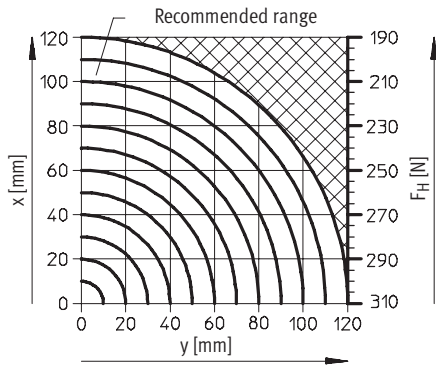
Technical data



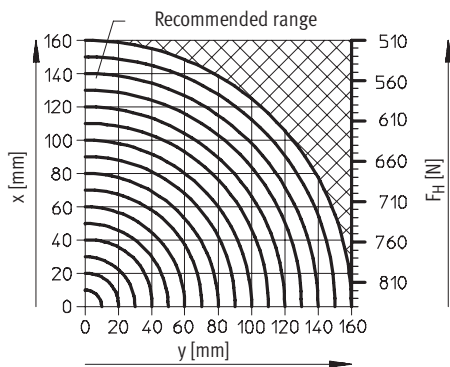
## Gripping force $F_H$ per gripper jaw at 6 bar as a function of lever arm $x$ and eccentricity $y$

HGPT-40-A

HGPT-50-A

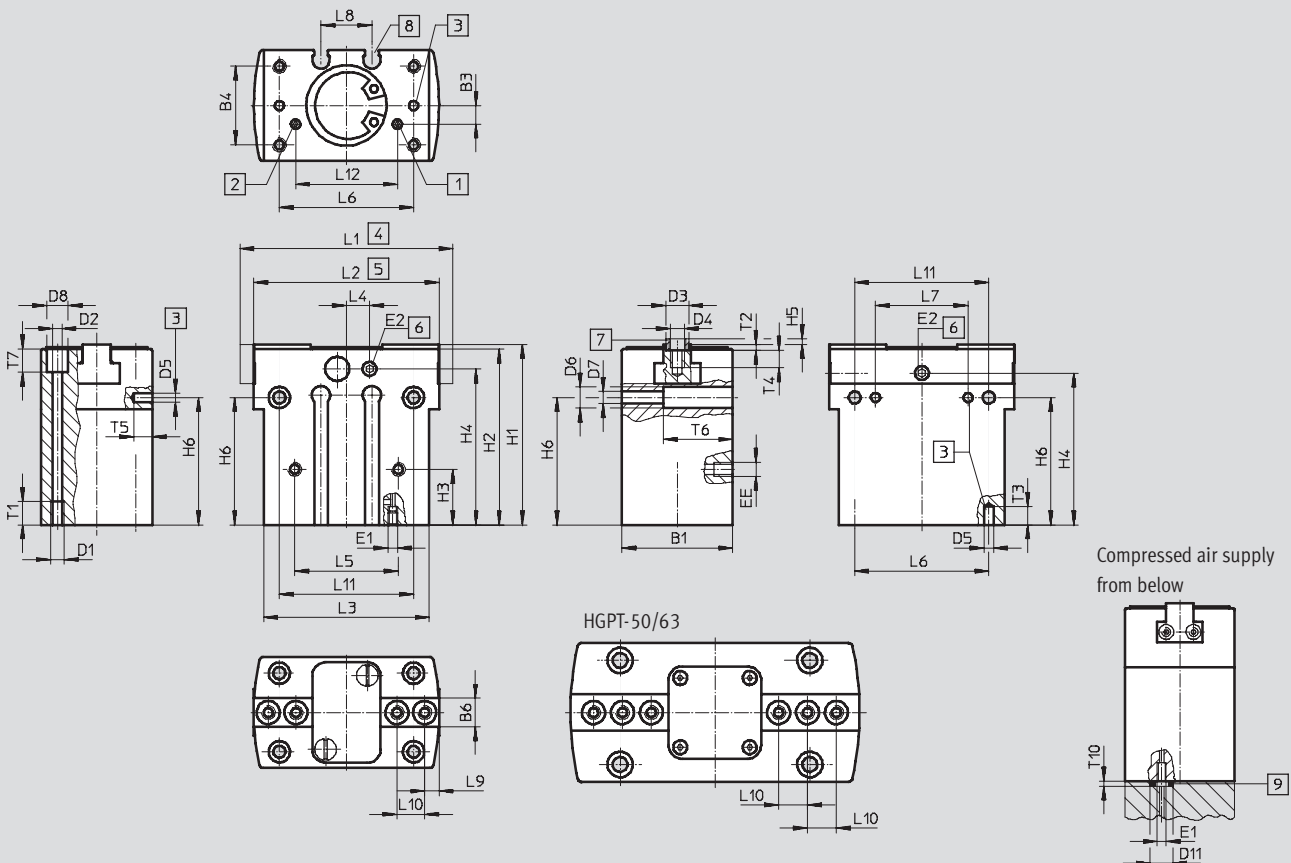


HGPT-63-A



## Dimensions

Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)



7.7  
Handling units  
Parallel grippers

# Parallel grippers HGPT, robust

Technical data

FESTO

|   |   |   |   |
|---|---|---|---|
| 1) Compressed air connection opening, either on the side or bottom (bottom connection sealed on delivery) | 3) Hole for dowel pin (not included in scope of delivery) | 7) Centring sleeves ZBH (4 included in scope of delivery) | 9) O-ring for parallel grippers<br>HGPT-16: Ø 2x1.5<br>HGPT-20: Ø 3x1.5<br>HGPT-25: Ø 3x1.5<br>HGPT-35: Ø 4x1.5<br>HGPT-40: Ø 5x1.5<br>HGPT-50: Ø 5x1.5<br>HGPT-63: Ø 5x1.5 |
| 2) Compressed air connection closing, either on the side or bottom (bottom connection sealed on delivery) | 4) Gripper jaw open                                       | 8) Slot for proximity sensor                              |   |
|   | 5) Gripper jaw closed                                     |   |   |
|   | 6) Sealing air connection (sealed on delivery)            |   |   |

| Size | B1    | B3   | B4   | B6<br>-0.05<br>-0.1 | D1 | D2<br>Ø | D3<br>Ø<br>H8/h7 | D4 | D5<br>Ø<br>H7 | D6<br>Ø  | D7<br>Ø |
|------|-------|------|------|---------------------|----|---------|------------------|----|---------------|----------|---------|
| [mm] | ±0.05 | ±0.1 | ±0.1 |                     |    |         |                  |    |               |          |         |
| 16   | 24    | 4    | 17   | 6                   | M3 | 2.6     | 5                | M3 | 2             | 4.6+0.1  | 2.6     |
| 20   | 28    | 7    | 22   | 6.5                 | M4 | 3.2     | 5                | M3 | 3             | 6+0.2    | 3.2     |
| 25   | 36    | 10   | 27   | 10                  | M5 | 4.2     | 7                | M4 | 4             | 8+0.3    | 4.2     |
| 35   | 42    | 9    | 32   | 12                  | M5 | 4.2     | 9                | M6 | 4             | 10+0.3   | 5.3     |
| 40   | 50    | 13   | 38   | 14                  | M6 | 5.1     | 9                | M6 | 5             | 11+0.3   | 6.4     |
| 50   | 60    | 14   | 45   | 15.5                | M8 | 6.4     | 9                | M6 | 6             | 13.5+0.3 | 8.4     |
| 63   | 72    | 12   | 56   | 20                  | M8 | 6.4     | 12               | M8 | 6             | 13.5+0.3 | 8.4     |

| Size | D8<br>Ø | D11 | EE   | E1 | E2 | H1<br>±0.05 | H2<br>±0.05 | H3<br>±0.1 | H4   | H5<br>-0.3 | H6<br>±0.02 <sup>1)</sup><br>±0.1 <sup>2)</sup> |
|------|---------|-----|------|----|----|-------------|-------------|------------|------|------------|---|
| [mm] |         |     |      |    |    |             |             |            |      |            |   |
| 16   | 4.6+0.1 | 5   | M3   | M2 | M3 | 39          | 38          | 12         | 33.7 | 1.2        | 27.5  |
| 20   | 6+0.2   | 6   | M3   | M3 | M3 | 46          | 45          | 15         | 37   | 1.2        | 24  |
| 25   | 8+0.3   | 6   | M5   | M3 | M5 | 57          | 56          | 20         | 46   | 1.4        | 34  |
| 35   | 8+0.3   | 7   | M5   | M4 | M5 | 67          | 66          | 28         | 53   | 1.9        | 38  |
| 40   | 9+0.3   | 8   | M5   | M5 | M5 | 83          | 82          | 36         | 68   | 1.9        | 53  |
| 50   | 11+0.3  | 8   | G1/8 | M5 | M5 | 97          | 96          | 30         | 78   | 1.9        | 61  |
| 63   | 11+0.3  | 8   | G1/8 | M5 | M5 | 117         | 116         | 26         | 92   | 2.4        | 67  |

| Size | L1   | L2   | L3   | L4  | L5   | L6<br>±0.02 <sup>1)</sup><br>±0.1 <sup>2)</sup> | L7    | L8   | L9<br>±0.02 <sup>1)</sup><br>±0.1 <sup>2)</sup> | L10<br>±0.02 <sup>1)</sup><br>±0.1 <sup>2)</sup> |
|------|------|------|------|-----|------|---|-------|------|---|--|
| [mm] | ±0.5 | ±0.5 | ±0.1 |     | ±0.1 |   | ±0.02 | +0.1 |   |  |
| 16   | 46   | 40   | 35.8 | 3.8 | 22.4 | 29  | 20    | 11   | 3   | 6  |
| 20   | 58   | 50   | 44   | 0   | 28   | 35  | 24    | 18   | 4   | 8  |
| 25   | 76   | 64   | 52   | 0   | 28   | 42  | 20    | 17   | 5   | 12   |
| 35   | 96   | 80   | 64   | 0   | 40   | 52  | 40    | 24   | 6   | 15   |
| 40   | 120  | 100  | 80   | 0   | 48   | 66  | 50    | 32   | 10  | 18   |
| 50   | 149  | 125  | 100  | 0   | 56   | 82  | 60    | 32   | 10  | 12.5   |
| 63   | 192  | 160  | 125  | 0   | 74   | 100   | 76    | 34   | 10  | 18   |

| Size | L11  | L12  | T1   | T2   | T3   | T4   | T5   | T6 | T7   | T10 |
|------|------|------|------|------|------|------|------|----|------|-----|
| [mm] | ±0.1 | ±0.1 | min. | +0.1 | min. | min. | min. |    | +0.2 |     |
| 16   | 29   | 22   | 5    | 1.3  | 4    | 5    | 4    | 15 | 24   | 1.2 |
| 20   | 35   | 24   | 6    | 1.3  | 4    | 5    | 4    | 19 | 11   | 1.2 |
| 25   | 42   | 28   | 10   | 1.6  | 4    | 5    | 4    | 24 | 16   | 1.2 |
| 35   | 52   | 40   | 10   | 2.1  | 6    | 10   | 4    | 27 | 19   | 1.2 |
| 40   | 66   | 44   | 12   | 2.1  | 6    | 10   | 6    | 33 | 20   | 1.2 |
| 50   | 82   | 56   | 12   | 2.1  | 8    | 10   | 8    | 43 | 23   | 1.2 |
| 63   | 100  | 70   | 12   | 2.6  | 10   | 12   | 10   | 55 | 35   | 1.2 |

1) For centring

2) For through-and threaded hole

- | - Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

# Parallel grippers HGPT, robust

Technical data and accessories



| Ordering data |   |           |  |              |                    |              |
|---------------|---|-----------|--|--------------|--------------------|--------------|
| Size<br>[mm]  | Double-acting<br>without compression spring |           | Single-acting or with gripping force retention |              |                    |              |
|               | Part No.                                    | Type      | open<br>Part No.                               | Type         | closed<br>Part No. | Type         |
| 16            | 535 858                                     | HGPT-16-A | 535 859  | HGPT-16-A-G1 | 535 860            | HGPT-16-A-G2 |
| 20            | 535 861                                     | HGPT-20-A | 535 862  | HGPT-20-A-G1 | 535 863            | HGPT-20-A-G2 |
| 25            | 535 864                                     | HGPT-25-A | 535 865  | HGPT-25-A-G1 | 535 866            | HGPT-25-A-G2 |
| 35            | 535 867                                     | HGPT-35-A | 535 868  | HGPT-35-A-G1 | 535 869            | HGPT-35-A-G2 |
| 40            | 535 870                                     | HGPT-40-A | 535 871  | HGPT-40-A-G1 | 535 872            | HGPT-40-A-G2 |
| 50            | 535 873                                     | HGPT-50-A | 535 874  | HGPT-50-A-G1 | 535 875            | HGPT-50-A-G2 |
| 63            | 535 876                                     | HGPT-63-A | 535 877  | HGPT-63-A-G1 | 535 878            | HGPT-63-A-G2 |

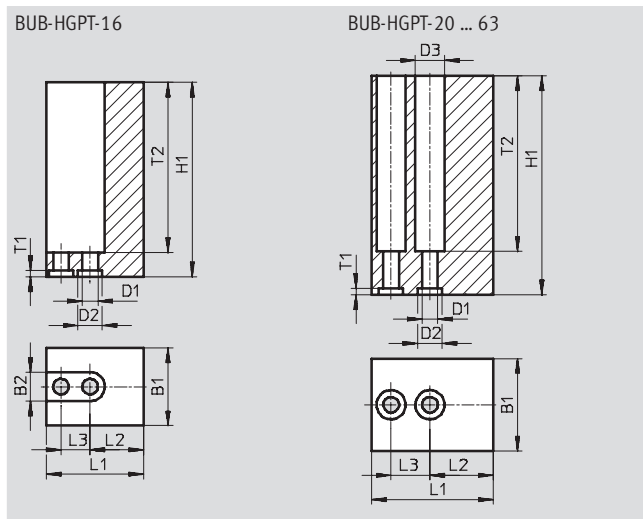
## Accessories

### Unmachined gripper finger

#### BUB-HGPT

(Scope of delivery: 2 pcs.)

Material:  
Aluminium



## Dimensions and ordering data

| For size | B1    | B2    | D1       | D2      | D3         | H1    | L1    |
|----------|-------|-------|----------|---------|------------|-------|-------|
| [mm]     | ±0.05 | +0.22 | ∅<br>H13 | ∅<br>H8 | ∅<br>+0.22 | ±0.05 | ±0.05 |
| 16       | 16    | 6     | 3.2      | 5       | -          | 40    | 20    |
| 20       | 19    | -     | 3.2      | 5       | 6          | 45    | 25    |
| 25       | 24    | -     | 4.3      | 7       | 8          | 60    | 32    |
| 35       | 28    | -     | 6.4      | 9       | 11         | 70    | 40    |
| 40       | 34    | -     | 6.4      | 9       | 11         | 75    | 50    |
| 50       | 40    | -     | 6.4      | 9       | 11         | 100   | 62.5  |
| 63       | 50    | -     | 8.4      | 12      | 13.5       | 120   | 80    |



| For size | L2  | L3  | T1   | T2  | Weight<br>per unmachined<br>gripper finger<br>[g] | Part No. | Type        |
|----------|---|---|------|-----|---|----------|-------------|
| [mm]     | ±0.02 <sup>1)</sup><br>±0.1 <sup>2)</sup> | ±0.01 <sup>1)</sup><br>±0.1 <sup>1)</sup> | +0.1 |     |   |          |             |
| 16       | 11  | 6   | 1.3  | 35  | 28  | 537 198  | BUB-HGPT-16 |
| 20       | 13  | 8   | 1.3  | 36  | 53  | 537 199  | BUB-HGPT-20 |
| 25       | 15  | 12  | 1.6  | 51  | 112   | 537 200  | BUB-HGPT-25 |
| 35       | 19  | 15  | 2.1  | 61  | 182   | 537 201  | BUB-HGPT-35 |
| 40       | 22  | 18  | 2.1  | 71  | 312   | 537 202  | BUB-HGPT-40 |
| 50       | 27.5                                      | 25  | 2.1  | 91  | 638   | 537 203  | BUB-HGPT-50 |
| 63       | 34  | 36  | 2.6  | 110 | 1 230   | 537 204  | BUB-HGPT-63 |

1) For centring  
2) For through-hole



# Parallel grippers HGPT, robust



Accessories



FESTO

| Ordering data   |                |  |                             |                |                |                  |
|---|----------------|--|-----------------------------|----------------|----------------|------------------|
|   | For size [mm]  | Remarks  | Weight [g]                  | Part No.       | Type           | PU <sup>1)</sup> |
| Centring sleeve ZBH   |                |  | Technical data → 1 / 10.1-3 |                |                |                  |
|  | 16, 20         | For centring unmachined gripper jaws/gripper fingers on the gripper jaws | 1                           | <b>189 652</b> | <b>ZBH-5</b>   | 10               |
|   | 25             |  | 1                           | <b>186 717</b> | <b>ZBH-7</b>   | 10               |
|   | 35, 40, 50     |  | 1                           | <b>150 927</b> | <b>ZBH-9</b>   | 10               |
|   | 63             |  | 1                           | <b>189 653</b> | <b>ZBH-12</b>  | 10               |
|   | 20, 25         | For lateral centring of gripper fingers on the gripper jaws              | 1                           | <b>189 652</b> | <b>ZBH-5</b>   | 10               |
|   | 35, 40, 50, 63 |  | 1                           | <b>186 717</b> | <b>ZBH-7</b>   | 10               |
| Blanking plug B   |                |  | Technical data → Volume 4   |                |                |                  |
|  | 16, 20         | For sealing the compressed air connections                               | 0.6                         | <b>30 979</b>  | <b>B-M3-S9</b> | 10               |
|   | 25, 35, 40     |  | 1                           | <b>174 308</b> | <b>B-M5-B</b>  | 10               |
|   | 50, 63         |  | 5                           | <b>3 568</b>   | <b>B-1/8</b>   | 10               |

1) Packaging unit quantity

| Ordering data – Proximity switches for C-slot, magneto-resistive                    |  |               |   |                  | Technical data → <a href="http://www.festo.com/catalogue/sm">www.festo.com/catalogue/sm</a> |                                 |
|---|--|---------------|---|------------------|---|---------------------------------|
|   | Type of mounting   | Switch output | Electrical connection, connection direction | Cable length [m] | Part No.  | Type                            |
| N/O contact   |  |               |   |                  |   |                                 |
|  | Insertable in the slot from above, flush with cylinder profile | PNP           | Cable, 3-wire, in-line                      | 2,5              | <b>525 915</b>  | <b>SMT-10F-PS-24V-K2,5L-OE</b>  |
|   |  |               | Plug M8x1, 3-pin, in-line                   | 0,3              | <b>525 916</b>  | <b>SMT-10F-PS-24V-K0,3L-M8D</b> |
|   |  |               | Cable, 3-wire, lateral                      | 2,5              | <b>526 674</b>  | <b>SMT-10F-PS-24V-K2,5Q-OE</b>  |
|   |  |               | Plug M8x1, 3-pin, lateral                   | 0,3              | <b>526 675</b>  | <b>SMT-10F-PS-24V-K0,3Q-M8D</b> |
|  | Insertable in the slot lengthwise                              | PNP           | Plug M8x1, 3-pin, in-line                   | 0,3              | <b>173 220</b>  | <b>SMT-10-PS-SL-LED-24</b>      |
|   |  |               | Cable, 3-wire, in-line                      | 2,5              | <b>173 218</b>  | <b>SMT-10-PS-KL-LED-24</b>      |

| Ordering data – Proximity switches for C-slot, magnetic reed                        |  |               |   |                  | Technical data → <a href="http://www.festo.com/catalogue/sm">www.festo.com/catalogue/sm</a> |                                 |
|---|--|---------------|---|------------------|---|---------------------------------|
|   | Type of mounting   | Switch output | Electrical connection, connection direction | Cable length [m] | Part No.  | Type                            |
| N/O contact   |  |               |   |                  |   |                                 |
|  | Insertable in the slot from above, flush with cylinder profile | Contacting    | Plug M8x1, 3-pin, in-line                   | 0,3              | <b>525 914</b>  | <b>SME-10F-DS-24V-K0,3L-M8D</b> |
|   |  |               | Cable, 3-wire, in-line                      | 2,5              | <b>525 913</b>  | <b>SME-10F-DS-24V-K2,5L-OE</b>  |
|   |  |               | Plug M8x1, 3-pin, lateral                   | 0,3              | <b>526 671</b>  | <b>SME-10F-DS-24V-K0,3Q-M8D</b> |
|   |  |               | Cable, 3-wire, lateral                      | 2,5              | <b>526 670</b>  | <b>SME-10F-DS-24V-K2,5Q-OE</b>  |
|  | Insertable in the slot lengthwise                              | Contacting    | Plug M8x1, 3-pin, in-line                   | 0,3              | <b>173 212</b>  | <b>SME-10-SL-LED-24</b>         |
|   |  |               | Cable, 3-wire, in-line                      | 2,5              | <b>173 210</b>  | <b>SME-10-KL-LED-24</b>         |

| Ordering data – Connecting cable  |                              |                              |                  | Technical data → <a href="http://www.festo.com/catalogue/nebu">www.festo.com/catalogue/nebu</a> |                            |
|---|------------------------------|------------------------------|------------------|---|----------------------------|
|   | Electrical connection, left  | Electrical connection, right | Cable length [m] | Part No.  | Type                       |
|  | Straight socket, M8x1, 3-pin | Cable, open end, 3-wire      | 2,5              | <b>541 333</b>  | <b>NEBU-M8G3-K-2.5-LE3</b> |
|   |                              |                              | 5                | <b>541 334</b>  | <b>NEBU-M8G3-K-5-LE3</b>   |
|  | Angled socket, M8x1, 3-pin   | Cable, open end, 3-wire      | 2,5              | <b>541 338</b>  | <b>NEBU-M8W3-K-2.5-LE3</b> |
|   |                              |                              | 5                | <b>541 341</b>  | <b>NEBU-M8W3-K-5-LE3</b>   |

