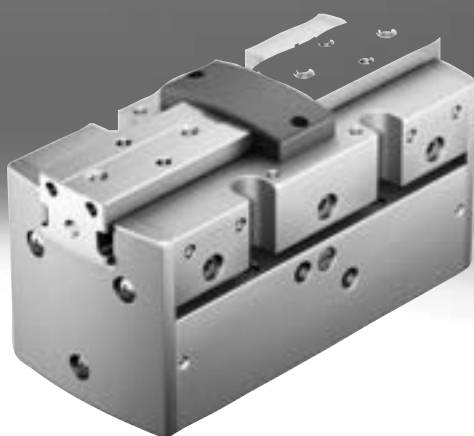


## Parallel grippers HGPP, precision

**FESTO**



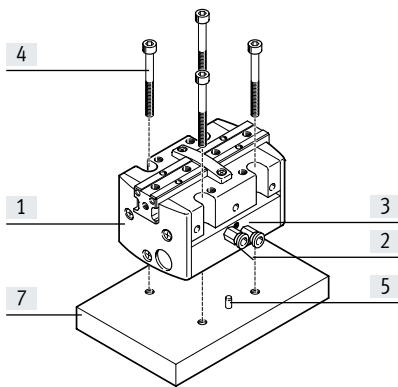
## Key features

### At a glance

- Wide range of variants for greater flexibility:
  - Double-acting piston drive HGPP-...-A
  - Compression springs for supporting or retaining gripping forces, or for use as a single-acting gripper with only one supply port
- High-precision gripper jaw guide
  - External gripping
  - Internal gripping
- Variable gripping direction
- Wide range of supply ports
- Integrated sensing electronics
- Adaptable proximity switch with switch lugs
- Very flexible thanks to versatile attachment, mounting and application options
  - Drives
  - Externally adaptable gripper fingers
  - Guiding plate

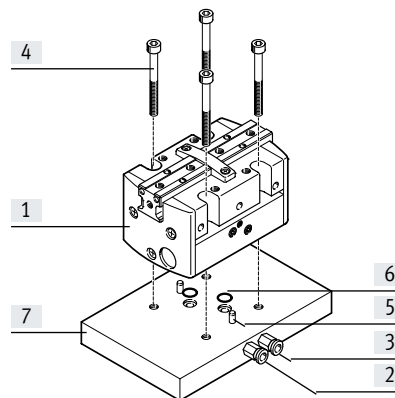
### Wide range of supply ports and mounting options

Supply port direct at the front, direct mounting from above



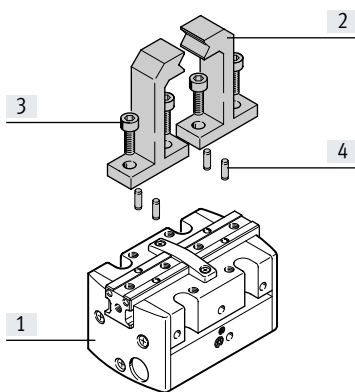
- [1] Parallel gripper
- [2] Compressed air supply port, opening
- [3] Compressed air supply port, closing
- [4] Retaining screws
- [5] Dowel pins
- [6] O-rings
- [7] Plate (user-specific)

Supply port via adapter plate from underneath, direct mounting from above



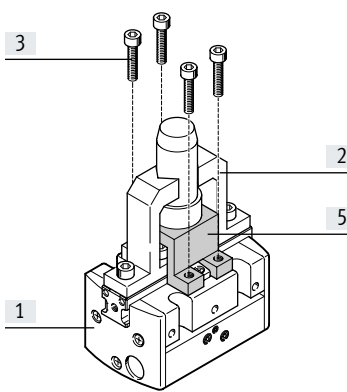
### Range of applications (user-specific)

Attachment of external gripper fingers

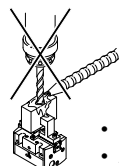


- [1] Parallel gripper
- [2] Gripper finger
- [3] Retaining screws
- [4] Dowel pins
- [5] Guiding plate

Used as guiding plate



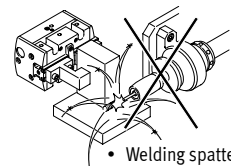
**Note**  
These grippers are not suitable for the following or similar applications:



- Machining
- Aggressive media



- Grinding dust



- Welding spatter

## Type codes

001	Series
<b>HGPP</b>	Parallel gripper, precise

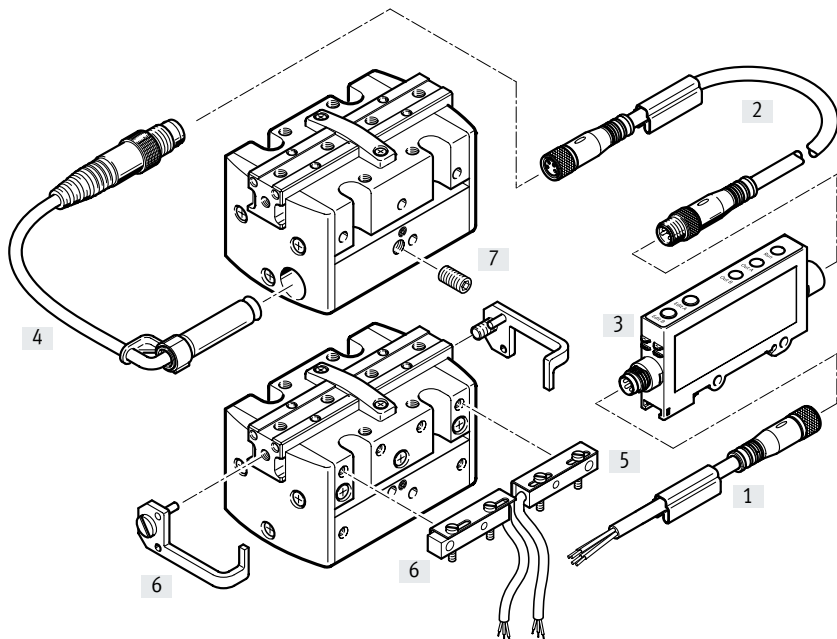
002	Size
<b>10</b>	10
<b>12</b>	12
<b>16</b>	16
<b>20</b>	20
<b>25</b>	25
<b>32</b>	32

003	Position sensing
<b>A</b>	For proximity sensor

004	Gripping force backup
	None
<b>G1</b>	Opening
<b>G2</b>	N/O contact

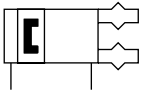
## Peripherals overview

### Peripherals overview



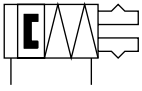
Accessories		Description	→ Page/Internet
Type			
[1]	Connecting cable NEBU	Connection between signal converter and controller	19
[2]	Connecting cable NEBU	Connection between position sensor and signal converter	19
[3]	Signal converter CVE	For evaluating signals for position sensor SMH-S1	19
[4]	Position sensor SMH-S1	Can be integrated in the gripper	19
[5]	Proximity switch SIES-Q5B	Can be assembled with mounting bracket HGPP-HWS-Q5	19
[6]	Mounting bracket HGPP-HWS-Q5	For mounting proximity switches SIES-Q5B, comprising 1 bracket and 1 switch lug with retaining screws	18
[7]	Threaded pin	For mounting proximity switch SMH-S1	-
-	Adapter kit DHAA, HAPG	Connecting plate between drive and gripper	15

## Data sheet


 Double-acting  
 HGPP-...-A



with gripping force retention

HGPP-...-G1 (opening)



HGPP-...-G2 (closing)


 Size  
 10 ... 32

 Total stroke  
 4 ... 25 mm

 [www.festo.com](http://www.festo.com)

**General technical data**

Size	10	12	16	20	25	32	
Design	Gear rack/pinion						
Mode of operation	Double-acting						
Gripper function	Parallel						
Number of gripper jaws	2						
Max. mass per gripper finger <sup>1)</sup>	[g]	< 50	< 100	< 150	< 200	< 250	< 300
Stroke per gripper jaw	[mm]	2	2.5	5	7.5	10	12.5
Pneumatic connection	M3			M5		G1/8/M5 <sup>2)</sup>	
Repetition accuracy <sup>3)</sup>	[mm]	< 0.02	< 0.015		< 0.01	< 0.02	
Max. interchangeability	[mm]	0.2					
Max. gripper jaw backlash	[mm]	0					
Max. gripper jaw angular backlash	[°]	0					
Max. operating frequency	[Hz]	4					
Centring precision	[mm]	< $\varnothing$ 0.05					
Position sensing	Via proximity switch						
Type of mounting	With through-hole and dowel pin						
	With female thread and dowel pin						

1) Applies to unthrottled operation

2) Supply port at the side G1/8; supply port in base M5

3) Under constant exposure to operating conditions, end-position drift occurs in the direction of movement of the gripper jaws, at 100 consecutive strokes

**Operating and environmental conditions**

Min. operating pressure	HGPP-...-A	[bar]	2
	HGPP-...-G...		5
Max. operating pressure	[bar]	8	
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 <sup>1)</sup>	[°C]	+5 ... +60	
Corrosion resistance class CRC <sup>2)</sup>	2		

1) Note operating range of proximity switches

2) Corrosion resistance class CRC 2 to Festo standard FN 940070

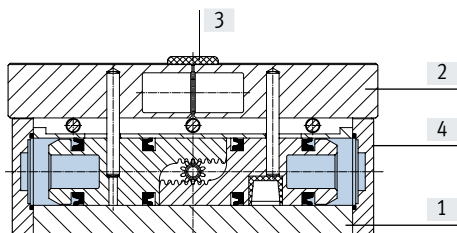
Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

Data sheet

Weight [g]						
Size	10	12	16	20	25	32
HGPP-...-A	126	172	315	604	884	1408
HGPP-...-G1	127	173	316	611	910	1438
HGPP-...-G2	127	173	317	615	898	1427

Materials

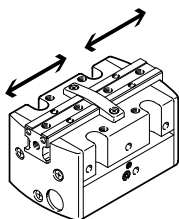
Sectional view



Parallel gripper

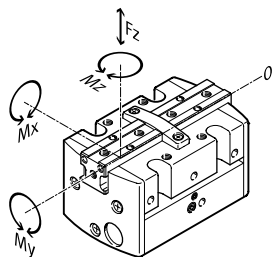
[1]	Housing	Anodised aluminium
[2]	Gripper jaw	Nickel-plated aluminium
[3]	Cover cap	Polyacetal
[4]	Cover	Anodised aluminium
-	Note on materials	Free of copper and PTFE
		RoHS-compliant

Gripping force [N] at 6 bar



Size	10	12	16	20	25	32
<b>Gripping force per gripper jaw</b>						
Opening	40	58	102	170	250	415
Closing	40	58	102	170	250	415
<b>Total gripping force</b>						
Opening	80	116	204	340	500	830
Closing	80	116	204	340	500	830

Characteristic load values per gripper jaw

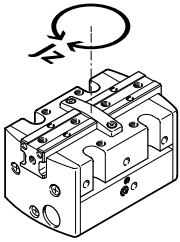


The indicated permissible forces and torques apply to a single gripper jaw. The indicated values include the lever arm, additional weight forces caused by the workpiece or external gripper fingers, as well as forces which occur during movement. The zero coordinate line (gripper jaws point of rotation) must be taken into consideration for the calculation of torques. Furthermore, the maximum permissible forces that can be transferred to the housing have been applied; for example, the forces that can be absorbed by a guiding plate during a press-fit process.

Size		10	12	16	20	25	32
Max. permissible force $F_{Z\text{gripper jaws}}$	[N]	40	70	130	220	380	720
Max. permissible force $F_{Z\text{housing}}$	[N]	200	400	600	800	1000	1200
Max. permissible torque $M_x$	[Nm]	2	4.5	9	18	32	50
Max. permissible torque $M_y$	[Nm]	2	4.5	9	18	32	50
Max. permissible torque $M_z$	[Nm]	2	4.5	9	18	32	50

Data sheet

Mass moments of inertia [ $\text{kgm}^2 \times 10^{-4}$ ]



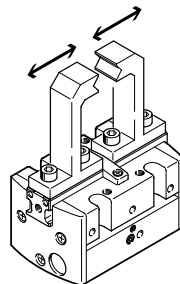
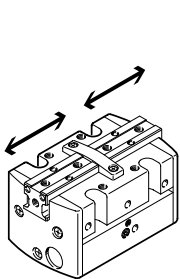
Mass moment of inertia [ $\text{kgm}^2 \times 10^{-4}$ ]  
for parallel grippers in relation to the  
central axis, without load.

Size	10	12	16	20	25	32
HGPP...-A	0.43	0.73	2.39	6.22	16.68	38.34
HGPP...-G1	0.45	0.76	2.58	6.71	17.45	39.21
HGPP...-G2	0.43	0.74	2.45	6.27	16.85	38.63

Opening and closing times [ms] at 6 bar

Without external gripper fingers

With external gripper fingers



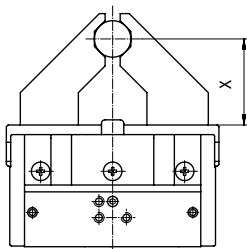
The indicated opening and closing times [ms] have been measured at room temperature and 6 bar operating pressure with a vertically mounted gripper and without additional gripper fingers. The moving mass [g] is increased if external gripper fingers are attached. This means that the kinetic energy is also increased, as this is determined by the mass of the gripper fingers and velocity. If the permissible kinetic energy is exceeded, various parts of the gripper may be damaged. This occurs when the moving mass reaches the end position and the cushioning is only able to partially convert the kinetic energy into potential energy and heat energy. It thus becomes apparent that the indicated max. permissible mass per gripper finger must be checked and complied with. The grippers must be throttled for larger masses. Opening and closing times must then be adjusted accordingly.

Size		10	12	16	20	25	32
<b>Without external gripper fingers</b>							
HGPP...-A	Opening	22	27	40	44	64	76
	Closing	34	40	53	59	92	110
HGPP...-G1	Opening	24	30	34	45	58	64
	Closing	95	70	70	92	164	173
HGPP...-G2	Opening	26	37	57	62	105	103
	Closing	32	40	46	58	90	101
<b>With external gripper fingers (as a function of the mass per gripper finger)</b>							
HGPP	100 g	100	-	-	-	-	-
	200 g	200	100	50	-	-	-
	300 g	300	200	100	50	100	-
	400 g	-	300	200	100	150	100
	500 g	-	-	300	200	200	150
	600 g	-	-	-	-	300	250

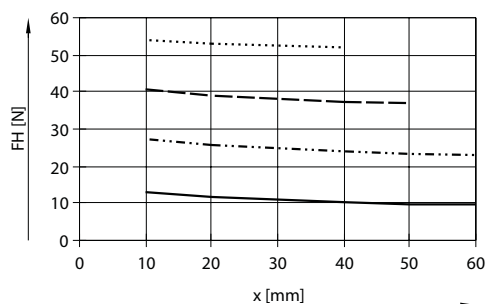
Data sheet

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

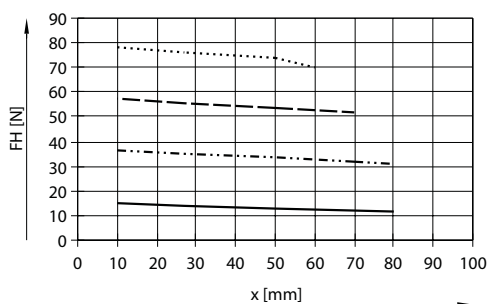
Gripping forces as a function of operating pressure and lever arm can be determined for the various sizes using the following graphs.



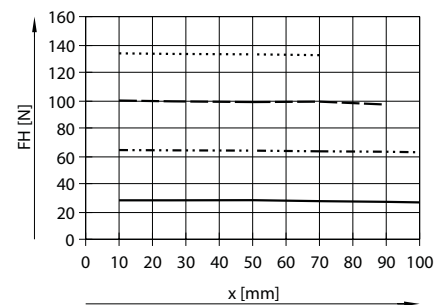
HGPP-10-A



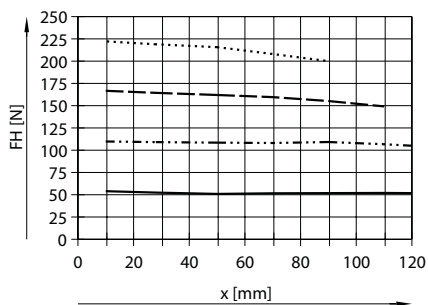
HGPP-12-A



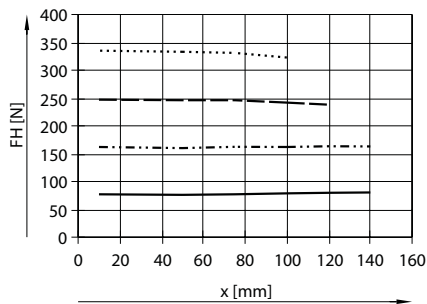
HGPP-16-A



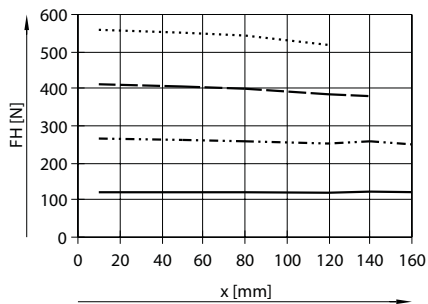
HGPP-20-A



HGPP-25-A



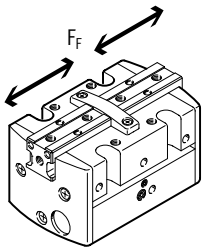
HGPP-32-A



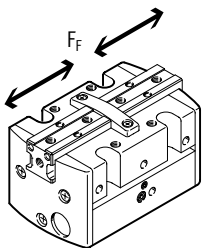
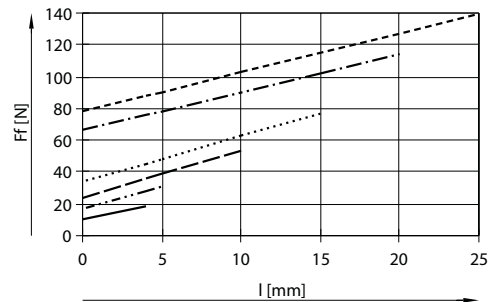


## Data sheet

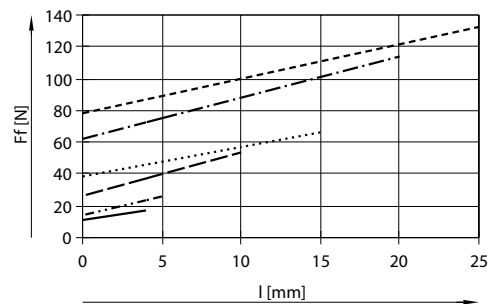
### Spring force $F_F$ as a function of gripper size and overall stroke $l$



Gripping force retention, opening: the spring forces  $F_F$  of the parallel gripper HGPP-...-G1 can be determined from the following graph.



Gripping force retention, closing: the spring forces  $F_F$  of the parallel gripper HGPP-...-G2 can be determined from the following graph.



### Determining actual gripping forces for HGPP-...-G1 and HGPP-...-G2 as a function of upon the application

The parallel grippers with integrated spring can be used as:

- Single-acting grippers
- Grippers with supplementary gripping force and
- Grippers with gripping force retention

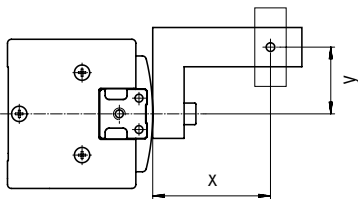
In order to calculate available gripping forces  $F_{Gr}$  (per gripper jaw), the data for gripping force ( $F_H$ ) and spring force ( $F_F$ ) must be combined accordingly.

#### Application

		Single-acting	Supplementary gripping force	Gripping force retention
The resultant gripping force $F_{Gr}$ as a function of the application depends on the gripping direction (external/internal gripping) and the gripper design (with/without return spring). The spring force is increased in accordance with the design and gripping direction.		<ul style="list-style-type: none"> <li>• Gripping with spring force: <math>F_{Gr} = F_F</math></li> <li>• Gripping with pressure force: <math>F_{Gr} = F_H - F_F</math></li> </ul>	<ul style="list-style-type: none"> <li>• Gripping with pressure and spring force: <math>F_{Gr} = F_H + F_F</math></li> </ul>	<ul style="list-style-type: none"> <li>• Gripping with spring force: <math>F_{Gr} = F_F</math></li> </ul>
		Pressurised (in the gripping direction)		Unpressurised
HGPP-...-A	Internal gripping	$F_{Gr} = F_H$		$F_{Gr} = 0$
	External gripping	$F_{Gr} = F_H$		$F_{Gr} = 0$
HGPP-...-G1	Internal gripping	$F_{Gr} = F_H + F_F$		$F_{Gr} = F_F$
	External gripping	$F_{Gr} = F_H - F_F$		$F_{Gr} = 0$
HGPP-...-G2	Internal gripping	$F_{Gr} = F_H - F_F$		$F_{Gr} = 0$
	External gripping	$F_{Gr} = F_H + F_F$		$F_{Gr} = F_F$

Data sheet

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

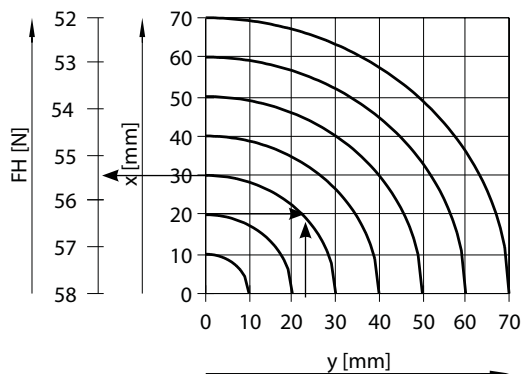


Gripping forces at 6 bar as a function of eccentric application of force and the maximum permissible off-centre point of force application can be determined for the various sizes using the following graphs.

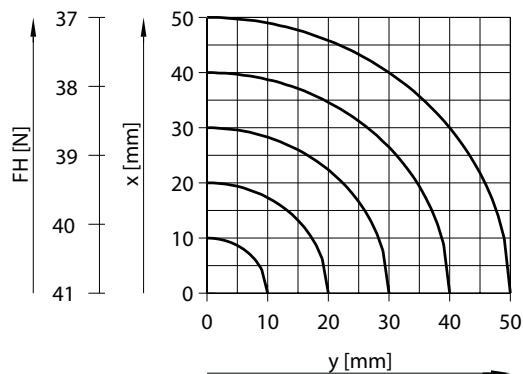
Calculation example

Assuming:  
 Gripper HGPP-12-A  
 Lever arm  $x = 20$  mm  
 Eccentricity  $y = 22$  mm  
 Required:  
 Gripping force at 6 bar

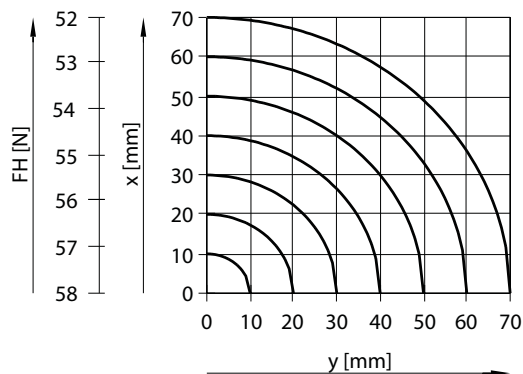
- Procedure:
- Determine the intersection  $xy$  between lever arm  $x$  and eccentricity  $y$  in the graph for HGPP-12-A
  - Draw an arc (with centre at origin) through the intersection  $xy$
  - Determine the intersection between the arc and X-axis
  - Read the gripping force
- Result:  
 gripping force = approx. 55 N



HGPP-10-A



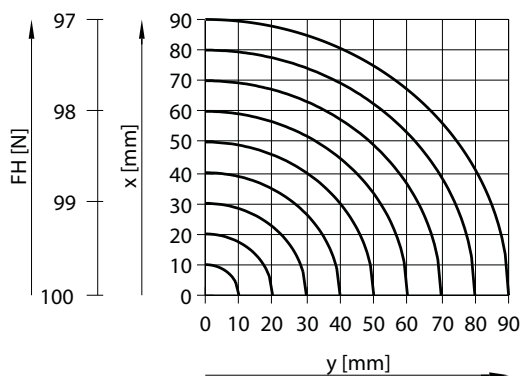
HGPP-12-A



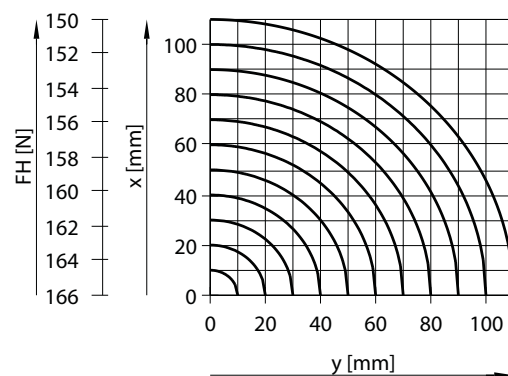
Data sheet

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

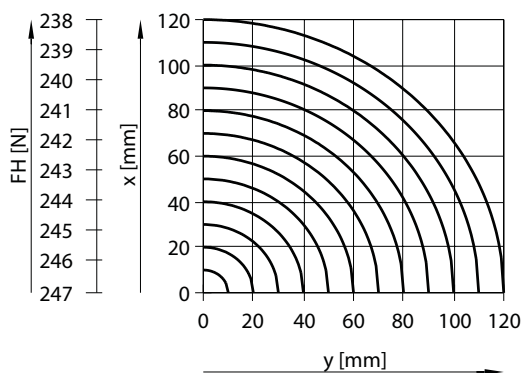
HGPP-16-A



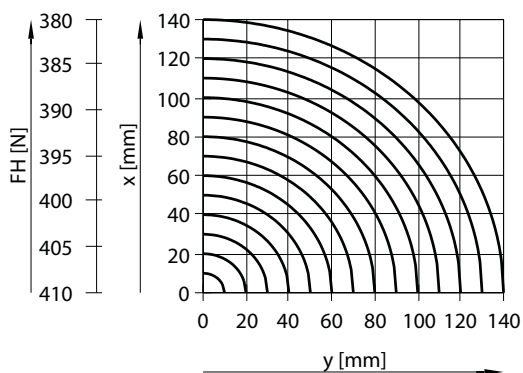
HGPP-20-A



HGPP-25-A



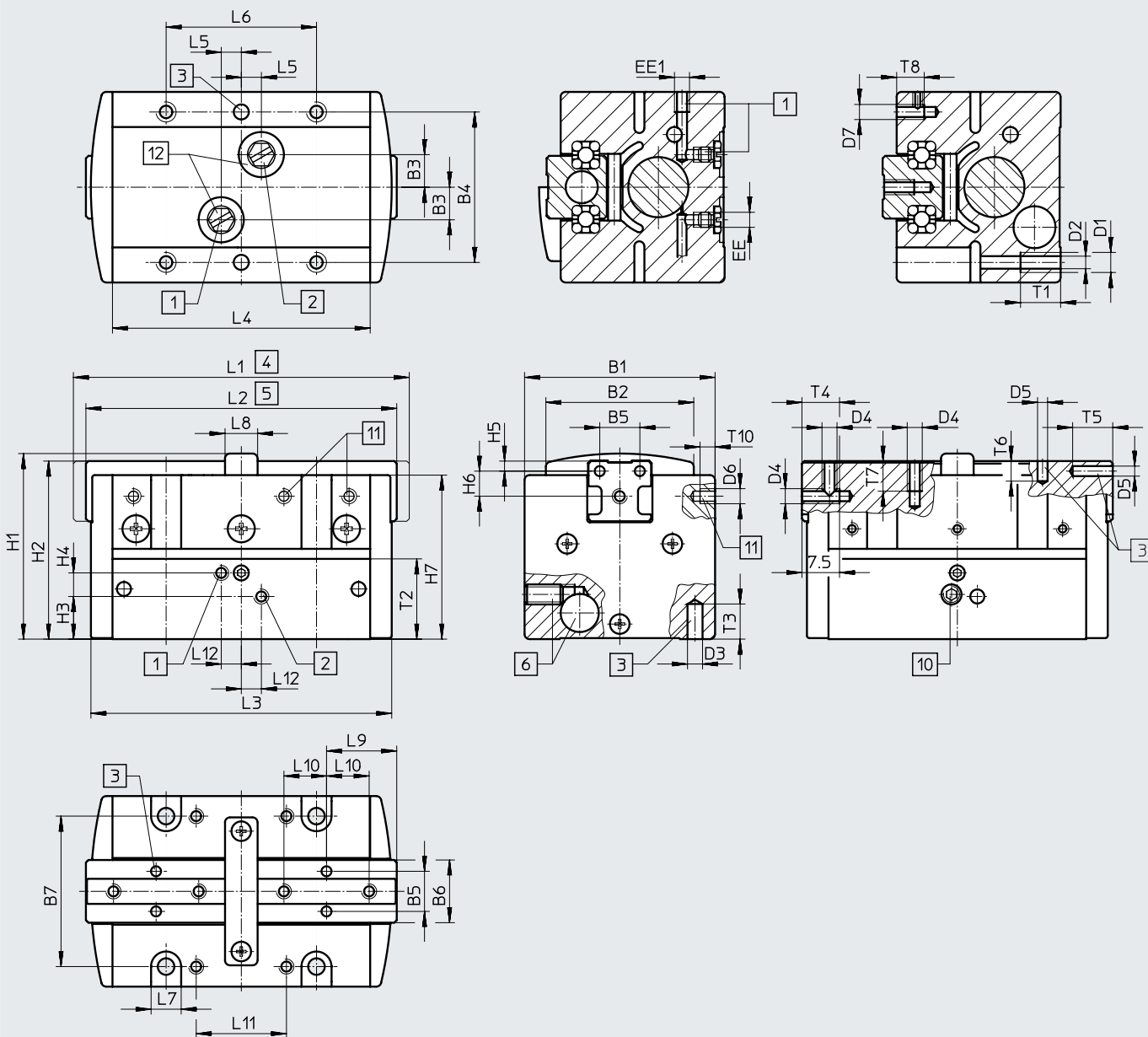
HGPP-32-A



Data sheet

Dimensions

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



- [1] Compressed air supply port, opening
- [2] Compressed air supply port, closing
- [3] Hole for dowel pin  
(dowel pins not included in the scope of delivery)
- [4] Gripper jaws open
- [5] Gripper jaws closed
- [6] Hole for position sensor SMH-S1
- [7] Parallel gripper
- [8] Adapter (e.g. customer-specific)
- [9] O-ring for parallel gripper:  
HGPP-10:  $\varnothing$  5.5x1.5  
HGPP-12:  $\varnothing$  5.5x1.5  
HGPP-16:  $\varnothing$  8.13x1.78  
HGPP-20:  $\varnothing$  8.13x1.78  
HGPP-25:  $\varnothing$  8.13x1.78  
HGPP-32:  $\varnothing$  8.13x1.78  
(not included in the scope of delivery)
- [10] Threaded pin for mounting the position sensor SMH-S1
- [11] Thread for securing mounting bracket HGPP-HWS-Q5
- [12] Supply ports on base sealed on delivery

## Data sheet

Size [mm]	B1 +0.3	B2 ±0.1	B3 ±0.05	B4 ±0.02 <sup>1)</sup> ±0.1 <sup>2)</sup>	B5 ±0.02	B6 ±0.1	B7 ±0.1	D1	D2 ∅ +0.1
10	33	26	6.5	27	8	12.5	27	M4	3.3
12	38	29.5	6.5	30	8	12.5	30	M4	3.3
16	42	30.5	8.5	32	10	16	32	M4	3.3
20	48	36.5	10	40	12	20	40	M5	4.2
25	55	42	12	45	15	25	45	M6	5.1
32	62	45	14	52	18	30	52	M6	5.1

Size [mm]	D3 ∅ H8	D4	D5 ∅ H8	D6	D7	D8 ∅ H11	EE	EE1	H1
10	3	M3	2	M2	M3	9	M3	M3	32.7 ±0.15
12	3	M3	2	M2	M3	9	M3	M3	37 +0.3/-0.1
16	3	M3	2.5	M2	M3	12.1	M5	M5	42.5 +0.4/-0.1
20	3	M4	3	M2	M3	12.1	M5	M5	55.5 +0.4/-0.1
25	5	M5	4	M2	M3	12.1	M5	M5	57.5 ±0.15
32	5	M6	5	M2	M4	12.1	M5	G1/8	68.6 ±0.15

Size [mm]	H2 ±0.1	H3	H4 ±0.1	H5 ±0.02	H6 ±0.12	H7 -0.3	L1 ±0.5	L2 ±0.5	L3 ±0.25	L4 ±0.05
10	31.4	8.9 ±0.25	3.7	2	2.6	28.7	62	58	56	47.4
12	35.5	8.5 ±0.3	4.7	2	5	32.7	67	62	60	51.4
16	40.9	8.3 ±0.2	6.8	3	5	37.1	98	88	86	76
20	53.48	15.5 ±0.2	8	3	7	48.5	120	105	103	92
25	56	12.5 ±0.25	7.5	4	8	51	163	143	139.4	127.4
32	67	12.5 ±0.25	11	5	9	60.5	197.4	172.4	169.4	155.4

Size [mm]	L5 ±0.05	L6 ±0.1	L7	L8 ±0.1	L9 ±0.02	L10 ±0.05	L11 ±0.1	L12 ±0.05	T1
10	5	27	6	6	13.5	7.5	15	4	8
12	4	30	6	6.5	14	8.5	18	4	8
16	6.5	40	6	12	17.5	11.5	24	6.5	10
20	7.5	40	8	18	21	13.5	26	7.5	12
25	12	45	9	22	29.8	17	28	12	12
32	15	52	9	27	33.5	20	35	15	12

Size [mm]	T2	T3	T4	T5	T6	T7	T8	T9 +0.1	T10
10	14.85	6	8	5	4	6	3.8	1	3
12	16	6	7.5	5	4	6	5.5	1	3
16	19.5	7	8	6	4.5	6	5	1.3	4
20	28.5	7	10	8	7	8	6	1.3	7
25	27	10	10	8	8	10	6	1.3	8
32	34.5	10	10	10	10	10	8	1.3	8

1) For locating hole

2) For thread and through-hole

## Data sheet

Ordering data						
Size [mm]	Double-acting Without compression spring		Single-acting or with gripping force retention Opening		Closing	
	Part no.	Type	Part no.	Type	Part no.	Type
10	525658	HGPP-10-A	525659	HGPP-10-A-G1	525660	HGPP-10-A-G2
12	187867	HGPP-12-A	187868	HGPP-12-A-G1	187869	HGPP-12-A-G2
16	187870	HGPP-16-A	187871	HGPP-16-A-G1	187872	HGPP-16-A-G2
20	187873	HGPP-20-A	187874	HGPP-20-A-G1	187875	HGPP-20-A-G2
25	525661	HGPP-25-A	525662	HGPP-25-A-G1	525663	HGPP-25-A-G2
32	525664	HGPP-32-A	525665	HGPP-32-A-G1	525666	HGPP-32-A-G2

## Accessories



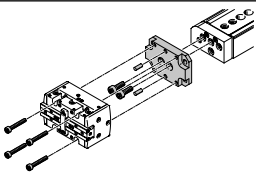
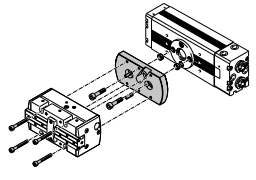
### Adapter kit HAPG

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.

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

Combination	Drive Size	Grippers Size	Mounting option		Adapter kit			
					CRC <sup>1)</sup>	Part no.	Type	
<b>DGSL/HGPP</b>	<b>DGSL</b>	<b>HGPP</b>			<b>HAPG</b>			
	8, 10	10	■	■	2	529017	HAPG-57	
	12, 16	10	■	■		529018	HAPG-58	
	12, 16	12	■	■		191266	HAPG-48	
	20, 25	12	■	■		191267	HAPG-49	
	20, 25	16	■	■		191269	HAPG-51	
	20, 25	20	■	■		191270	HAPG-52	
<b>DRRD/HGPP</b>	<b>DRRD</b>	<b>HGPP</b>			<b>DHAA</b>			
	16	10	■	■	2	2157955	DHAA-G-Q11-16-B5-10	
	16	12	■	■		2154048	DHAA-G-Q11-16-B5-12	
	20	10	■	■		2158267	DHAA-G-Q11-20-B5-10	
	20	12	■	■		2152457	DHAA-G-Q11-20-B5-12	
	20	16	■	■		2152074	DHAA-G-Q11-20-B5-16	
	25	16	■	■		1722274	DHAA-G-Q11-25-B5-16	
	25	20	■	■		1722461	DHAA-G-Q11-25-B5-20	
	32	20	■	■		2177999	DHAA-G-Q11-32-B5-20	
	32	25	■	■		2180764	DHAA-G-Q11-32-B5-25	
	35	25	■	■		2180954	DHAA-G-Q11-35-B5-25	
	35, 40	32	■	■		2181855	DHAA-G-Q11-35/40-B5-32	


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



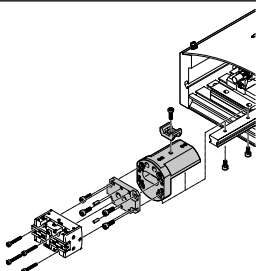
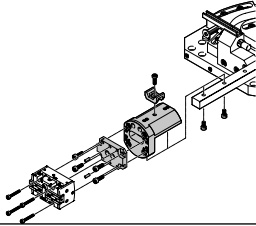
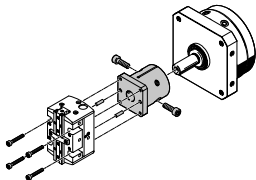
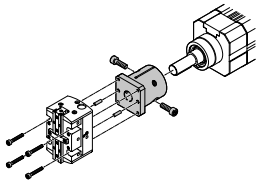
Adapter kit  
HAPG

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](http://www.festo.com)

Combination	Drive Size	Grippers Size	Mounting option		Adapter kit		
					CRC <sup>1)</sup>	Part no.	Type
	<b>HSP</b>	<b>HGPP</b>			<b>HAPG</b>		
	16	10	■	–	2	529017	HAPG-57
						540882	HAPG-71-B
	25	10	■	–		529017	HAPG-57
						540883	HAPG-72-B
	16	12	■	–		191900	HAPG-54
						540882	HAPG-71-B
	25	12	■	–		191900	HAPG-54
				540883		HAPG-72-B	
	25	16	■	–	191901	HAPG-55	
					540883	HAPG-72-B	
	<b>HSW</b>	<b>HGPP</b>			<b>HAPG</b>		
	12, 16	10	■	–	2	529017	HAPG-57
						540882	HAPG-71-B
	16	12	■	–		191900	HAPG-54
						540882	HAPG-71-B
16	16	■	–	191901		HAPG-55	
					540882	HAPG-71-B	
	<b>DSM</b>	<b>HGPP</b>			<b>HAPG</b>		
	16	12	■	■	2	191258	HAPG-40
	25	12	■	■		191259	HAPG-41
	32	16	■	■		191260	HAPG-42
	40	20	■	■		191261	HAPG-43
	<b>DSL</b>	<b>HGPP</b>			<b>HAPG</b>		
	20	12	■	■	2	191258	HAPG-40
	25	12	■	■		191259	HAPG-41
	32	16	■	■		191260	HAPG-42
	40	20	■	■		191261	HAPG-43

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.





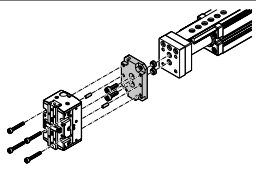
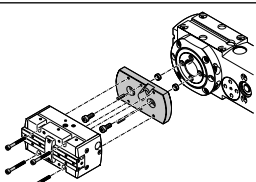
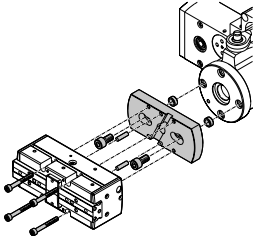
## Accessories

**Adapter kit**  
**HAPG, HMSV**

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

 **Note**

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

Permissible drive/gripper combinations with adapter kit					Download CAD data → <a href="http://www.festo.com">www.festo.com</a>		
Combination	Drive Size	Grippers Size	Mounting option		Adapter kit		
					CRC <sup>1)</sup>	Part no.	Type
<b>EGSL/HGPP</b>	<b>EGSL</b>	<b>HGPP</b>			<b>HAPG, HMSV</b>		
	35	10	■	■	2	1088262	HMSV-70
	45, 55	10	■	■		529017	HAPG-57
	45, 55	12	■	■		529018	HAPG-58
	75	12	■	■		191266	HAPG-48
	75	16	■	■		191267	HAPG-49
						191269	HAPG-51
<b>ERMB/HGPP</b>	<b>ERMB</b>	<b>HGPP</b>			<b>HAPG</b>		
	20	10	■	■	2	526023	HAPG-SD2-17
	20	12	■	■		191255	HAPG-SD2-14
	20, 25	16	■	■		191256	HAPG-SD2-15
	25, 32	20	■	■		191257	HAPG-SD2-16
	32	25	■	■		526024	HAPG-SD2-18
<b>EHMB/HGPP</b>	<b>EHMB</b>	<b>HGPP</b>			<b>HAPG</b>		
	20	20	■	■	2	191257	HAPG-SD2-16
	20, 25, 32	25	■	■		526024	HAPG-SD2-18
	25, 32	32	■	■		526025	HAPG-SD2-19

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

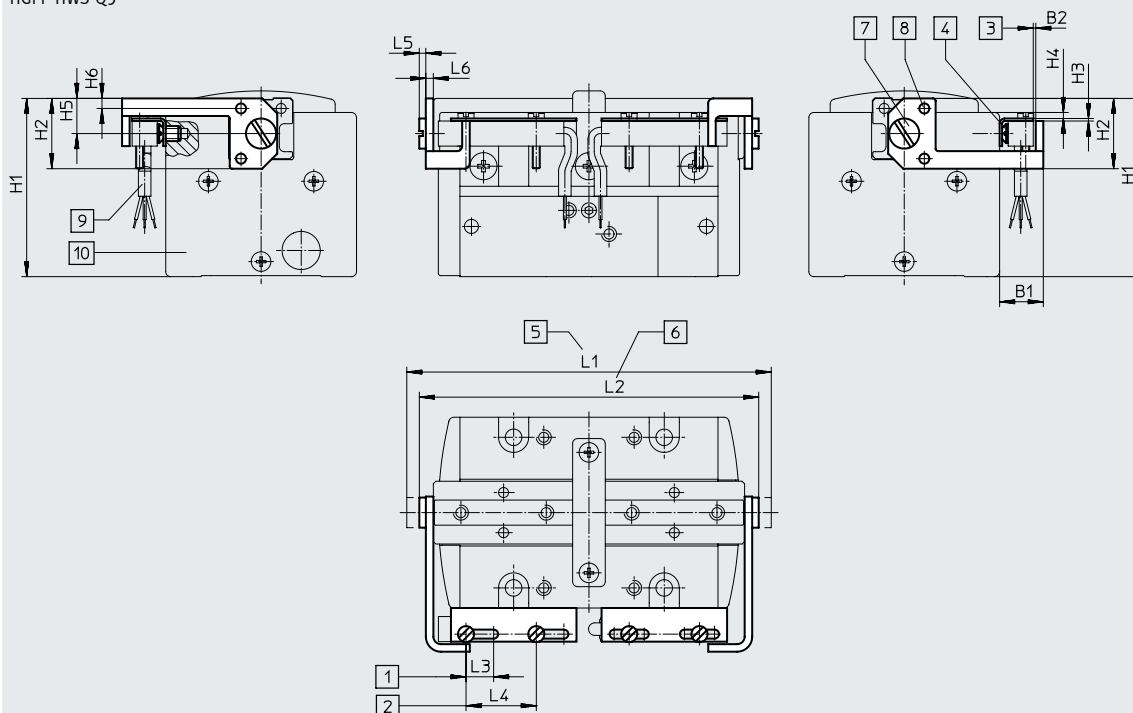
Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

## Accessories

### Dimensions – Mounting bracket

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

HGPP-HWS-Q5

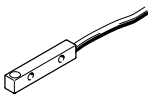



- |   |  |
|---|--|
| [1] Adjusting range for position sensing            | [6] Gripper jaws closed                                    |
| [2] Mounting distance for proximity switch SIES-Q5B | [7] Retaining screw for switch lug                         |
| [3] Switching distance                              | [8] Dowel pin  |
| [4] Mounting for sensor bracket                     | [9] Proximity switch SIES-Q5B (must be ordered separately) |
| [5] Gripper jaws open                               | [10] Parallel gripper HGPP                                 |

For size	B1	B2	H1	H2	H3	H4	H5	H6
[mm]								
10	8.7	0.5	35.5	14	0.5	1.2	7	2
12	8.7	0.5	35.5	14	0.5	1.2	7	2
16	8.5	0.5	35.4	16	0.5	1.2	8	3
20	8.5	0.5	36	20	0.5	2	10	3
25	9.5	0.55	46.3	24	1	3.7	12	4
32	9.5	0.55	55.5	28	1	4	14	5

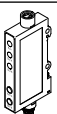
For size	L1	L2	L3	L4	L5	L6	Weight	Part no.	Type
[mm]							[g]		
10	67.6	63.6	5.5	14	1.8	1.5	4.2	532272	HGPP-HWS-Q5-1
12	73.6	68.6	5.5	14	1.8	1.5	5.6	532273	HGPP-HWS-Q5-2
16	105.6	95.6	8.5	14	1.8	2	8.3	532274	HGPP-HWS-Q5-3
20	126.8	111.8	8.5	14	2.4	2	11.4	532275	HGPP-HWS-Q5-4
25	171	151	28	14	3	2	17.6	532276	HGPP-HWS-Q5-5
32	206.6	181.6	28	14	3.6	2	24.6	532277	HGPP-HWS-Q5-6




## Accessories

Ordering data		Size [mm]	Weight [g]	Part no.	Type
<b>Proximity switch SIES-Q5B</b>					Data sheets → Internet: sies
	10 ... 32	22	<b>178291</b>	<b>SIES-Q5B-PS-K-L</b>	
		22	<b>174549</b>	<b>SIES-Q5B-PO-K-L</b>	
		22	<b>178290</b>	<b>SIES-Q5B-NS-K-L</b>	
		22	<b>174548</b>	<b>SIES-Q5B-NO-K-L</b>	
<b>Position sensor SMH-S1</b>					Data sheets → Internet: smh
	10, 12	20	<b>189040</b>	<b>SMH-S1-HGPP10/12</b>	
	16	20	<b>189041</b>	<b>SMH-S1-HGPP16</b>	
	20, 25	20	<b>189042</b>	<b>SMH-S1-HGPP20/25</b>	
	32	20	<b>526895</b>	<b>SMH-S1-HGPP32</b>	

**Signal converter SVE4 for position sensor SMH-S1**

- Converts analogue signals into switching points
- Switching function freely programmable with teach-in
- Threshold value, hysteresis or window comparator

Ordering data		Input connection	Output connection	Switching output	Weight [g]	Part no.	Type
<b>Signal converter SVE4</b>							Data sheets → Internet: sve4
	Socket M8x1, 4-pin	Plug M8x1, 4-pin	2x PNP	19	<b>544216</b>	<b>SVE4-HS-R-HM8-2P-M8</b>	
			2x NPN		<b>544219</b>	<b>SVE4-HS-R-HM8-2N-M8</b>	

Ordering data – Connecting cables		Electrical connection, left	Electrical connection, right	Cable length [m]	Part no.	Type
<b>Connection between position sensor and signal converter</b>						Data sheets → Internet: nebu
	Straight socket, M8x1, 4-pin	Straight plug M8x1, 4-pin	2.5		<b>554035</b>	<b>NEBU-M8G4-K-2.5-M8G4</b>
<b>Connection between signal converter and controller</b>						
	Straight socket, M8x1, 4-pin	Cable, open end, 4-wire	2.5	5	<b>541342</b>	<b>NEBU-M8G4-K-2.5-LE4</b>
					<b>541343</b>	<b>NEBU-M8G4-K-5-LE4</b>
	Angled socket, M8x1, 4-pin	Cable, open end, 4-wire	2.5	5	<b>541344</b>	<b>NEBU-M8W4-K-2.5-LE4</b>
					<b>541345</b>	<b>NEBU-M8W4-K-5-LE4</b>