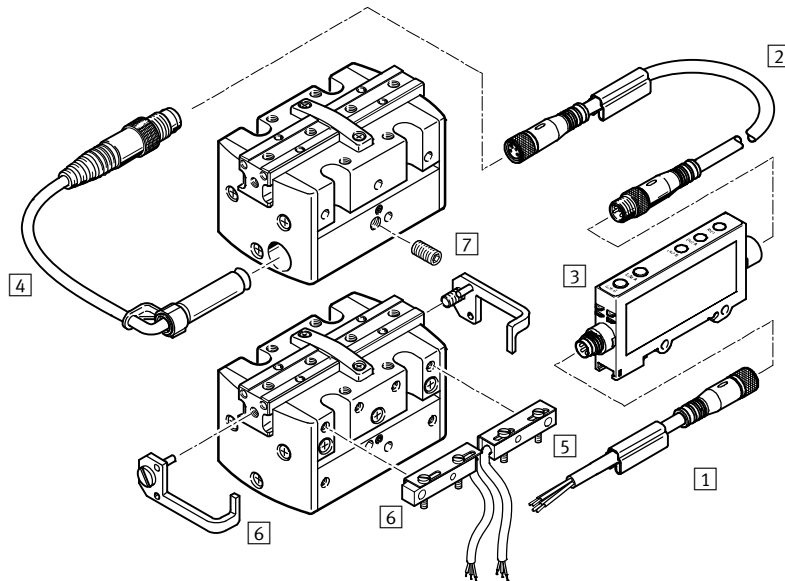


Parallel grippers HGPP, precision

Peripherals overview and type codes

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Peripherals overview



Accessories		Description	→ Page/Internet
1	Connecting cable NEBU	• Connection between signal converter and controller	20
2	Connecting cable NEBU	• Connection between position sensor and signal converter	20
3	Signal converter SVE	• For evaluating signals for position sensor SMH-S1	20
4	Position sensor SMH-S1	• Can be integrated in the gripper	20
5	Proximity sensor SIES-Q5B	• Can be assembled with mounting bracket HGPP-HWS-Q5	19
6	Mounting bracket HGPP-HWS-Q5	• For mounting proximity sensors SIES-Q5B, comprising 1 bracket and 1 switch lug with mounting screws	19
7	Threaded pin	• For mounting proximity sensors SMH-S1	–
–	Adapter kit HMSV, HMVA, HAPG, DHAA	• Drive/gripper connections	15

Type codes

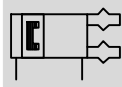
		HGPP	–	16	–	A	–	G1
Type								
HGPP	Parallel gripper							
Size								
Position sensing								
A	Via proximity sensor							
Gripping force backup								
G1	Opening							
G2	Closing							

Parallel grippers HGPP, precision

Technical data

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Function
Double-acting
HGPP-...-A



Single-acting or
with gripping force retention ...
... opening HGPP-...-G1



... closing HGPP-...-G2



Size
10 ... 32 mm

Stroke
4 ... 25 mm

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Wearing parts kits
→ page 14



General technical data							
Size		10	12	16	20	25	32
Design		Rack and pinion					
Mode of operation		Double-acting					
Gripper function		Parallel					
Number of gripper jaws		2					
Max. load per external gripper finger ¹⁾	[g]	< 50	< 100	< 150	< 200	< 250	< 300
Stroke per gripper jaws	[mm]	2	2.5	5	7.5	10	12.5
Pneumatic connection		M3			M5		G1/8/M5 ²⁾
Repetition accuracy ³⁾	[mm]	< 0.02	< 0.015			< 0.01	< 0.02
Max. interchangeability	[mm]	0.2					
Max. gripper jaw backlash	[mm]	0					
Max. gripper jaw angular lash	[°]	0					
Max. operating frequency	[Hz]	4					
Centring precision	[mm]	< Ø 0.05					
Position sensing		For proximity sensing					
Type of mounting		With through-hole and locating pin					
		With female thread and locating pin					

1) Valid for unthrottled operation

2) Supply port on side G3/8; supply port on ground M5

3) End-position drift under constant conditions of use with 100 consecutive strokes in the direction of movement of the gripper jaws

• Note: This product conforms to ISO 1179-1 and to ISO 228-1

Operating and environmental conditions			
Min. operating pressure	HGPP-...-A	[bar]	2
	HGPP-...-G...		5
Max. operating pressure		[bar]	8
Operating medium			Compressed air in accordance with ISO 8573-1:2010 [7:4:4]
Note on operating/pilot medium			Operation with lubricated medium possible (in which case lubricated operation will always be required)
Ambient temperature ¹⁾		[°C]	+5 ... +60
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 may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

Parallel grippers HGPP, precision

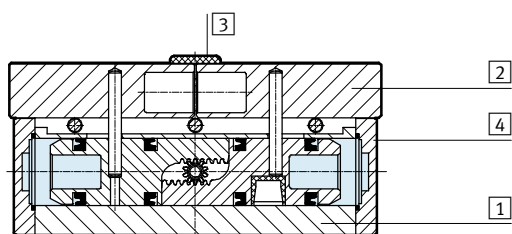
Technical data

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Weights [g]						
Size	10	12	16	20	25	32
HGPP-...-A	126	172	315	604	884	1,408
HGPP-...-G1	127	173	316	611	910	1,438
HGPP-...-G2	127	173	317	615	898	1,427

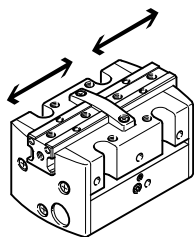
Materials

Sectional view



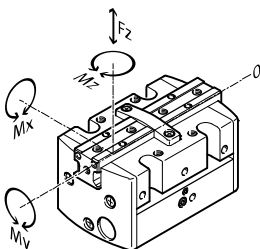
Parallel gripper	
1	Housing
2	Gripper jaw
3	Cover cap
4	Plug cap
- Note on material	
Free of copper and PTFE	
Conforms to RoHS	

Gripping force [N] at 6 bar



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

Characteristic load values at the gripper jaws



Indicated permissible forces and torques apply to a single gripper jaw. Static forces and torques relate to additional applied loads caused by the workpiece or external gripper fingers, as well as forces which occur

during handling. The zero co-ordinate line (gripper jaws point of rotation) must be taken into consideration for the calculation of torques. Additionally, max. permissible forces

which may be applied to the housing have been entered as well, which, for example, can be absorbed by a guide plate during pressing-in operations.

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 $F_{ZHousing}$ [N]	200	400	600	800	1000	1200
Max. permissible torque M_x [Nm]	1.5	3	7	14	21	30
Max. permissible torque M_y [Nm]	1.5	3	7	14	21	30
Max. permissible torque M_z [Nm]	1.5	3	7	14	21	30

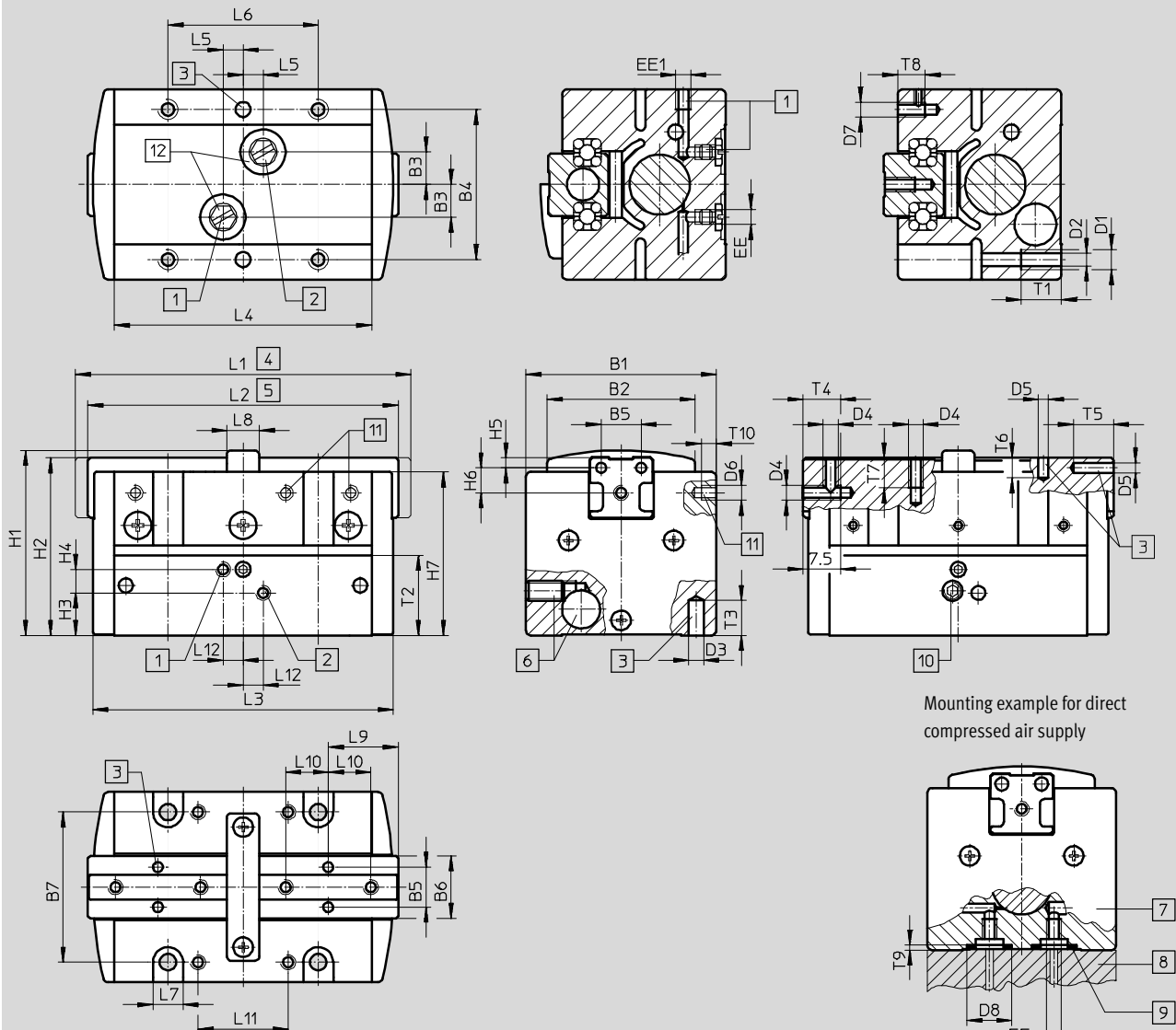
Parallel grippers HGPP, precision

Technical data

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Dimensions

Download CAD data → www.festo.com



- | | | | |
|---|-------------------------------------|--|---|
| 1 Compressed air connection, opening | 5 Gripper jaws closed | 9 O-ring for parallel grippers:
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 scope of delivery) | 10 Set screw for mounting position sensor SMH-S1 |
| 2 Compressed air connection, closing | 6 Hole for position sensor SMH-S1 | | 11 Thread for securing the mounting bracket HGPP-HWS-Q5 |
| 3 Hole for locating pin
(Locating pins are not included in scope of delivery.) | 7 Parallel gripper | | 12 Supply ports on base sealed on delivery |
| 4 Gripper jaws open | 8 Adapter (e. g. customer-specific) | | |

Parallel grippers HGPP, precision

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Size	B1	B2	B3	B4 ±0.02 ¹⁾ ±0.1 ²⁾	B5	B6	B7	D1	D2 Ø +0.1
[mm]	+0.3	±0.1	±0.05		±0.02	±0.1	±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	D3 Ø H8	D4	D5 Ø H8	D6	D7	D8 Ø H11	EE	EE1	H1
[mm]									
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	H2	H3	H4	H5	H6	H7	L1	L2	L3	L4
[mm]	±0.1		±0.1	±0.02	±0.12	-0.3	±0.5	±0.5	±0.25	±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	L5	L6	L7	L8	L9	L10	L11	L12	T1
[mm]	±0.05	±0.1		±0.1	±0.02	±0.05	±0.1	±0.05	
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	T2	T3	T4	T5	T6	T7	T8	T9	T10
[mm]								+0.1	
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-holes

· ¶ · Note: This product conforms to ISO 1179-1 and to ISO 228-1

Parallel grippers HGPP, precision

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Ordering data

Ordering data					
Size [mm]	Double-acting Without compression spring		Single-acting or with gripping force retention		
	Part No.	Type	Opening Part No.	Type	Closing 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

Ordering data – Wearing parts kits		
Size [mm]	Part No.	Type
10	673172	HGPP-10
12	673173	HGPP-12
16	673174	HGPP-16
20	673175	HGPP-20
25	673176	HGPP-25
32	673177	HGPP-32