

Parallel grippers HGPL-B, heavy-duty with long stroke



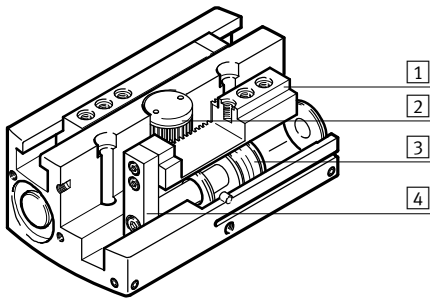
Parallel grippers HGPL-B, heavy-duty with long stroke

Key features


At a glance

- **Sturdy**
The T-slot in combination with the long guide length allows for high forces and torques
- **Space-saving**
Two parallel and opposing pistons move the gripper jaws directly and without loss of force
- **Position sensing**
Every position of the gripper jaws can be sensed in analogue using the position sensor SDAT
- **Connections for lubrication nipples** on the top and underneath of the gripper
- **Double-acting gripper** – suitable for external and internal gripping

The technology in detail



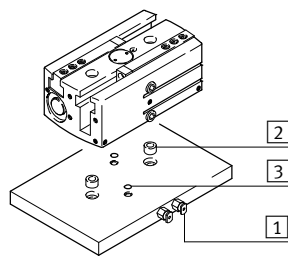
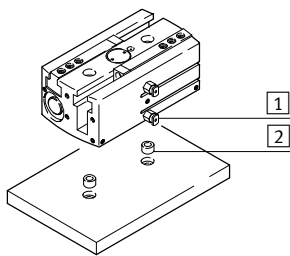
- 1 Gripper jaws
- 2 Synchronising element
- 3 Piston with magnet
- 4 Moment compensator

 **Note**
Engineering software
Gripper selection
→ www.festo.com

Wide range of supply ports

Direct
From the front

Via adapter plate
From underneath

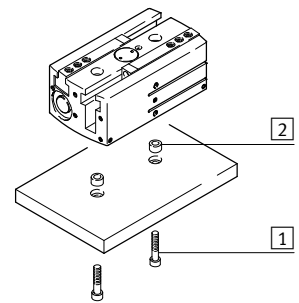
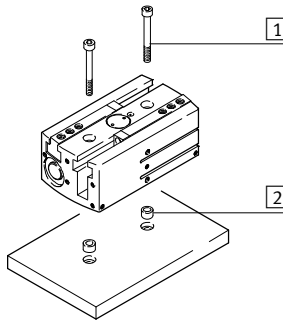


- 1 Supply ports
- 2 Centring sleeves
- 3 O-rings

Mounting options

Direct mounting
From above

From underneath



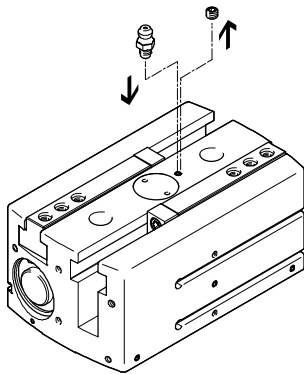
- 1 Mounting screws
- 2 Centring sleeves

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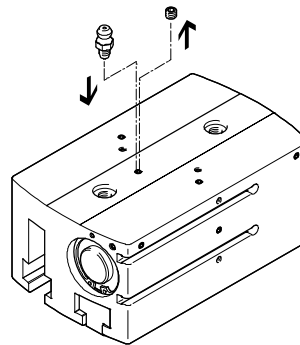
Key features and type codes


Connections for lubrication nipples

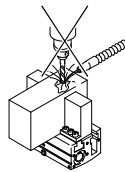
Top



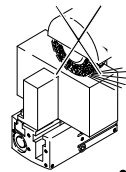
Underneath



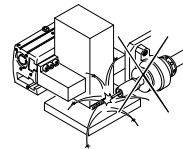
 Note
These grippers are not suitable for the following or similar applications:



- Aggressive media
- Machining



- Grinding dust



- Welding spatter

Type codes

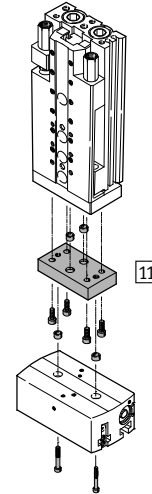
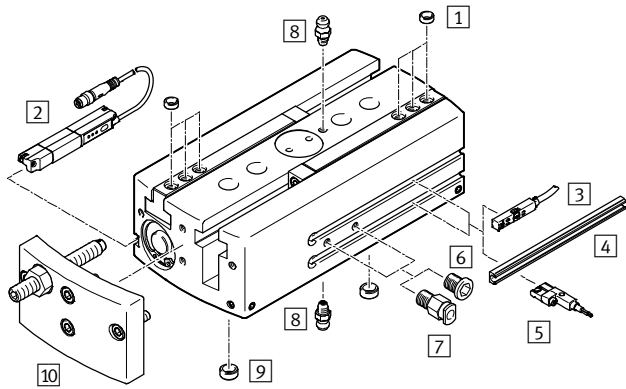
		HGPL	-	14	-	40	-	A	-	B
Type										
HGPL	Parallel gripper									
Size										
Stroke [mm]										
Position sensing										
A	Via proximity sensor									
Variant										
B	B series									

Parallel grippers HGPL-B, heavy-duty with long stroke

Peripherals overview

Peripherals overview

System product for handling and assembly technology

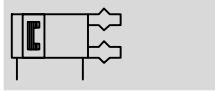




Accessories		
Type	Description	→ Page/Internet
1 Centring sleeve ZBH	<ul style="list-style-type: none"> For centring the gripper jaw blanks/gripper fingers on the gripper jaws 4 included in the scope of delivery 	19
2 Position transmitter SDAT	<ul style="list-style-type: none"> For sensing the piston position at any location The position transmitter can only be used in this slot 	22
3 Proximity sensor SME/SMT-8	For sensing the piston position in the end positions	20
4 Sensor rail DASP	Gluing this into the sensor slots allows for proximity sensors SME/SMT-10 to be used	21
5 Proximity sensor SME/SMT-10	For sensing the piston position in the end positions	21
6 Blanking plug B	For sealing the supply ports when using the ports at the front side	19
7 Push-in fitting QS	For connecting compressed air tubing with standard outside diameters	qs
8 Lubrication nipples	<ul style="list-style-type: none"> For relubricating the guide 1 included in the scope of delivery 	-
9 Centring sleeve ZBH	<ul style="list-style-type: none"> For centring the gripper during mounting 2 included in the scope of delivery 	19
10 Stroke reducing kit HGPL-HR-...	For reducing the opening stroke	18
11 Adapter kit DHAA, HMSV, HMVA, HAPG	Drive/gripper connections	15
- Gripper jaw blank BUB-HGPL	Unmachined parts specially matched to the gripper jaws for custom production of gripper fingers	19

Parallel grippers HGPL-B, heavy-duty with long stroke

Technical data

Function
Double-acting
HGPL-...



-  Size
14 ... 63
-  Total stroke
40 ... 300 mm

General technical data				
Size	14	25	40	63
Design	Rack and pinion			
	Twin piston, piston spool valve			
	T-shape			
Mode of operation	Double-acting			
Gripper function	Parallel			
Number of gripper jaws	2			
Stroke per gripper jaw [mm]	20, 40, 60, 80	20, 40, 60, 80	20, 40, 60, 80, 100	60, 100, 150
Pneumatic connection	M5			G1/8
Max. weight per gripper finger ¹⁾ [g]	80	250	420	940
Repetition accuracy ²⁾ [mm]	< 0.03			
Max. interchangeability [mm]	< 0.2			
Max. operating frequency [Hz]	< 1			
Rotational symmetry [mm]	< Ø 0.2			
Position sensing	Via proximity sensor			
Type of mounting	Via through-holes and centring sleeves			
	Via female thread and centring sleeves			
Mounting position	Any			

- 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	
Operating pressure [bar]	3 ... 8
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]
Note on operating/pilot medium	Lubricated operation 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.

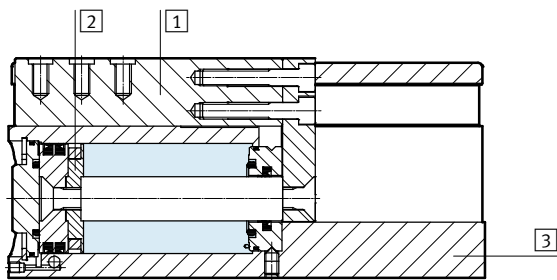
Parallel grippers HGPL-B, heavy-duty with long stroke

Technical data

Weight [g]		14	25	40	63
Size					
Stroke per gripper jaw	20 mm	305	1015	2560	–
	40 mm	440	1400	3300	–
	60 mm	595	1780	4165	10460
	80 mm	720	2200	4800	–
	100 mm	–	–	5340	13800
	150 mm	–	–	–	18100

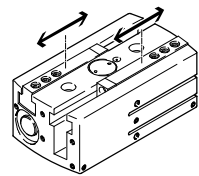
Materials

Sectional view



Parallel gripper		
1	Gripper jaw	Steel, nitrided
2	Piston	High-alloy steel
3	Housing	Wrought aluminium alloy, hard-anodised
–	Seals	NBR, polyurethane
–	Note on materials	Free of copper and PTFE RoHS compliant

Measured gripping force [N] at 6 bar (→ also see graphs starting on page 9)

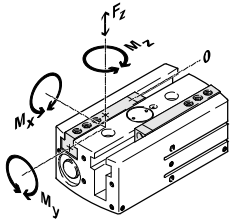


Size	14	25	40	63
Gripping force per gripper jaw				
Opening	63	206	519	1233
Closing	79	256	608	1371
Total gripping force				
Opening	126	412	1038	2466
Closing	158	512	1216	2742

Parallel grippers HGPL-B, heavy-duty with long stroke

Technical data

Characteristic load values at the gripper jaws

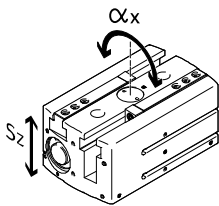


The indicated permissible forces and torques apply to a single gripper jaw. They include the lever arm, additional weight forces due to the workpiece or external gripper fingers and

acceleration forces occurring during movement. The zero co-ordinate line (gripper jaw guide groove) must be taken into consideration for the calculation of torques.

Size		14	25	40	63
Max. permissible force F_z	[N]	500	1500	2500	9000
Max. permissible torque M_x	[Nm]	35	100	125	300
Max. permissible torque M_y	[Nm]	35	60	80	200
Max. permissible torque M_z	[Nm]	35	70	100	250

Gripper jaw backlash

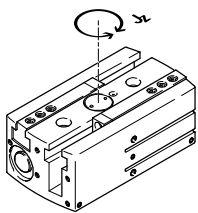


The plain-bearing guide used in the grippers means that there is backlash between the gripper jaws and the housing.

The values listed in the table apply when new

Size		14	25	40	63
Gripper jaw backlash s_z	[mm]	< 0.05			
Gripper jaw angular backlash a_x	[°]	< 0.2			

Mass moments of inertia [kgm²x10⁻⁴]



Mass moment of inertia of the parallel gripper in relation to the central axis, without external gripper fingers, with no load.

Size		14	25	40	63
Stroke per gripper jaw	20 mm	1.40	11.98	27.60	–
	40 mm	6.69	18.88	66.83	–
	60 mm	11.43	39.95	118.30	470.07
	80 mm	21.93	78.70	198.87	–
	100 mm	–	–	318.25	1018.17
	150 mm	–	–	–	2247.54

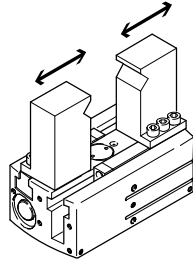
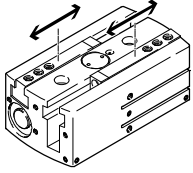
Parallel grippers HGPL-B, heavy-duty with long stroke

Technical data

Opening and closing times [ms] at 6 bar

Without external gripper fingers

With external gripper fingers



The opening and closing times [ms] were measured at room temperature at an operating pressure of 6 bar with the gripper horizontally mounted and without additional

gripper fingers. The grippers must be throttled for greater weights [g]. Opening and closing times must then be adjusted accordingly.

Size	14				25			
Stroke [mm]	20	40	60	80	20	40	60	80
Without external gripper fingers								
Opening times	120	171	270	286	170	225	370	423
Closing times	110	163	230	270	150	230	370	418
Max. permissible opening and closing times with external gripper fingers (as a function of the weight)								
Weight of gripper fingers	100 g	123	108	257	243	–	–	–
	200 g	174	136	364	343	–	–	–
	300 g	213	167	445	420	164	210	405
	400 g	246	192	514	485	190	243	468
	500 g	–	–	–	–	212	272	523

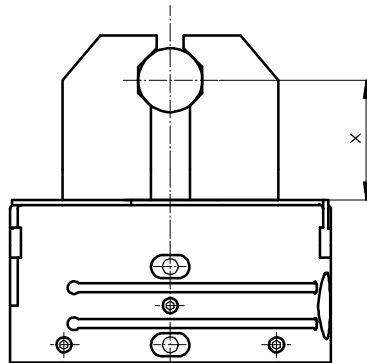
Size	40				63			
Stroke [mm]	20	40	60	80	100	60	100	150
Without external gripper fingers								
Opening times	190	238	430	414	620	410	650	1020
Closing times	180	205	430	438	690	330	600	850
Max. permissible opening and closing times with external gripper fingers (as a function of the weight)								
Weight of the gripper fingers	500 g	196	260	469	478	676	–	–
	600 g	215	284	514	524	741	–	–
	700 g	232	307	555	565	800	–	–
	800 g	248	328	593	604	856	–	–
	900 g	–	–	–	–	–	323	587
	1000 g	–	–	–	–	–	340	619
	1100 g	–	–	–	–	–	357	649
	1200 g	–	–	–	–	–	373	678

Parallel grippers HGPL-B, heavy-duty with long stroke

Technical data

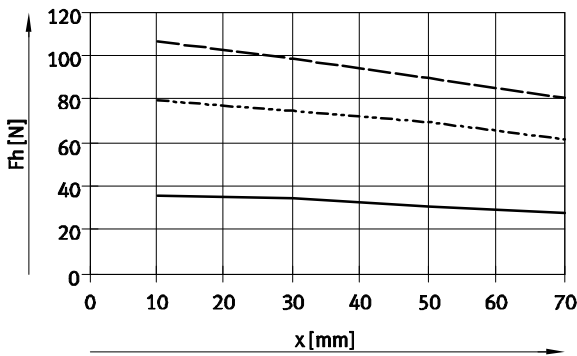
Gripping force F_h per gripper jaw as a function of operating pressure and lever arm x

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

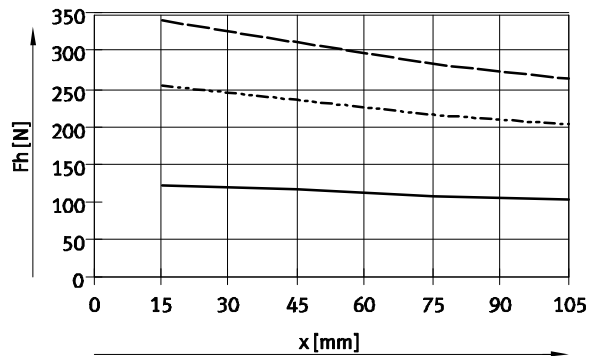


External gripping (closing)

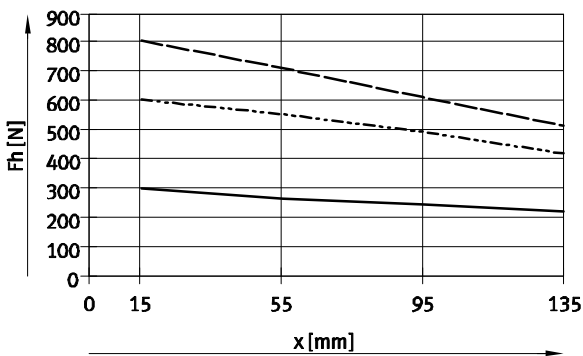
HGPL-14



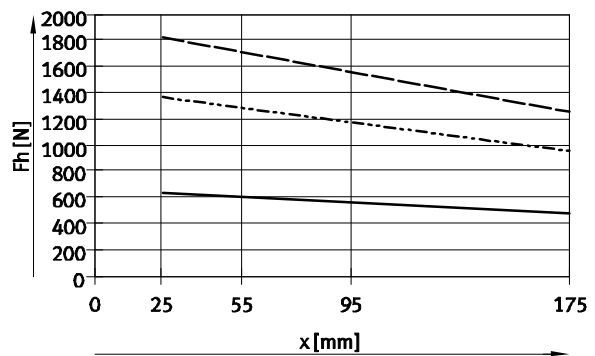
HGPL-25



HGPL-40



HGPL-63



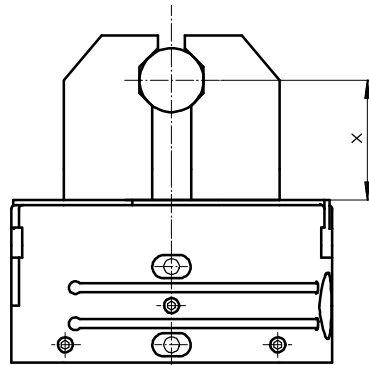
- 3 bar
- - - 6 bar
- · - 8 bar

Parallel grippers HGPL-B, heavy-duty with long stroke

Technical data

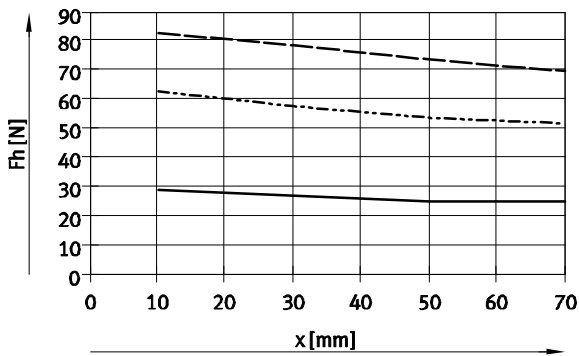
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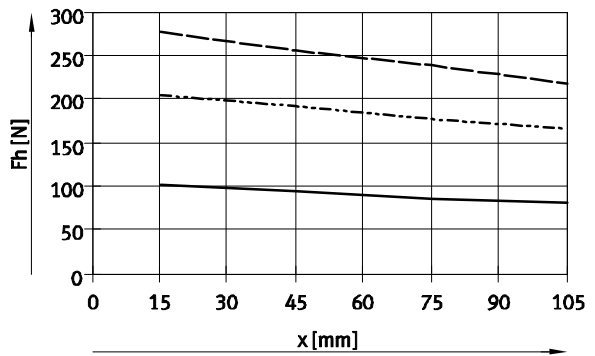


Internal gripping (opening)

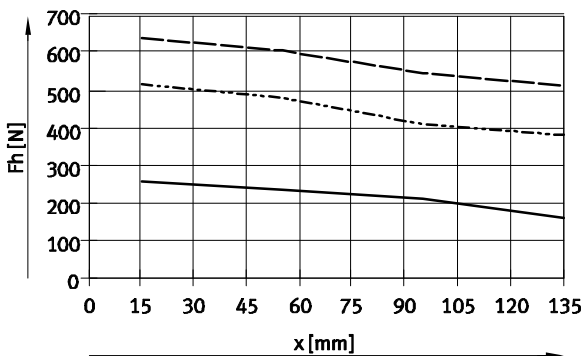
HGPL-14



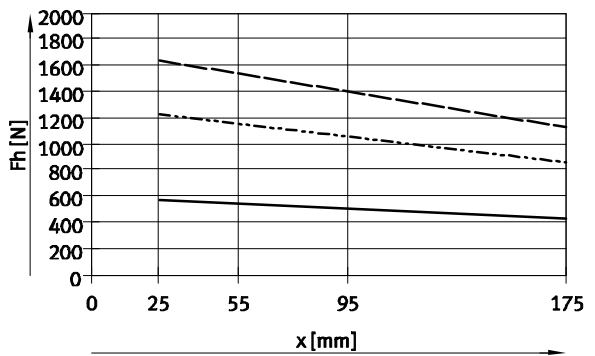
HGPL-25






HGPL-40



HGPL-63



-  3 bar
-  6 bar
-  8 bar

Parallel grippers HGPL-B, heavy-duty with long stroke

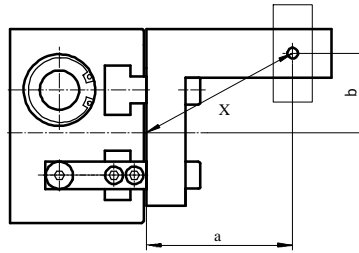
Technical data

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 then be read from the graphs (→ 9) using the calculated value x .



Calculation example

Given:

Distance $a = 45$ mm

Distance $b = 40$ mm

To be found:

The gripping force at 6 bar with an HGPL-25 used as an external gripper

Approach:

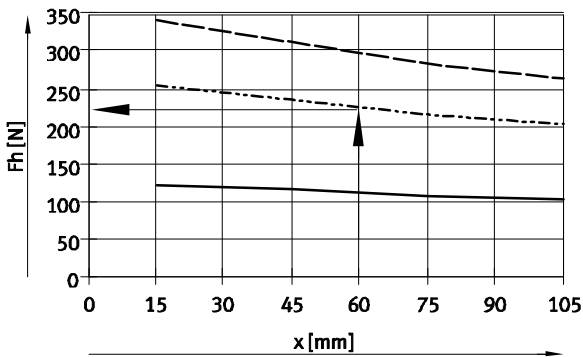
Calculating the lever arm x

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

$x = 60$ mm

The graph (→ 9) gives a value of

$F_h = 225$ N for the gripping force.

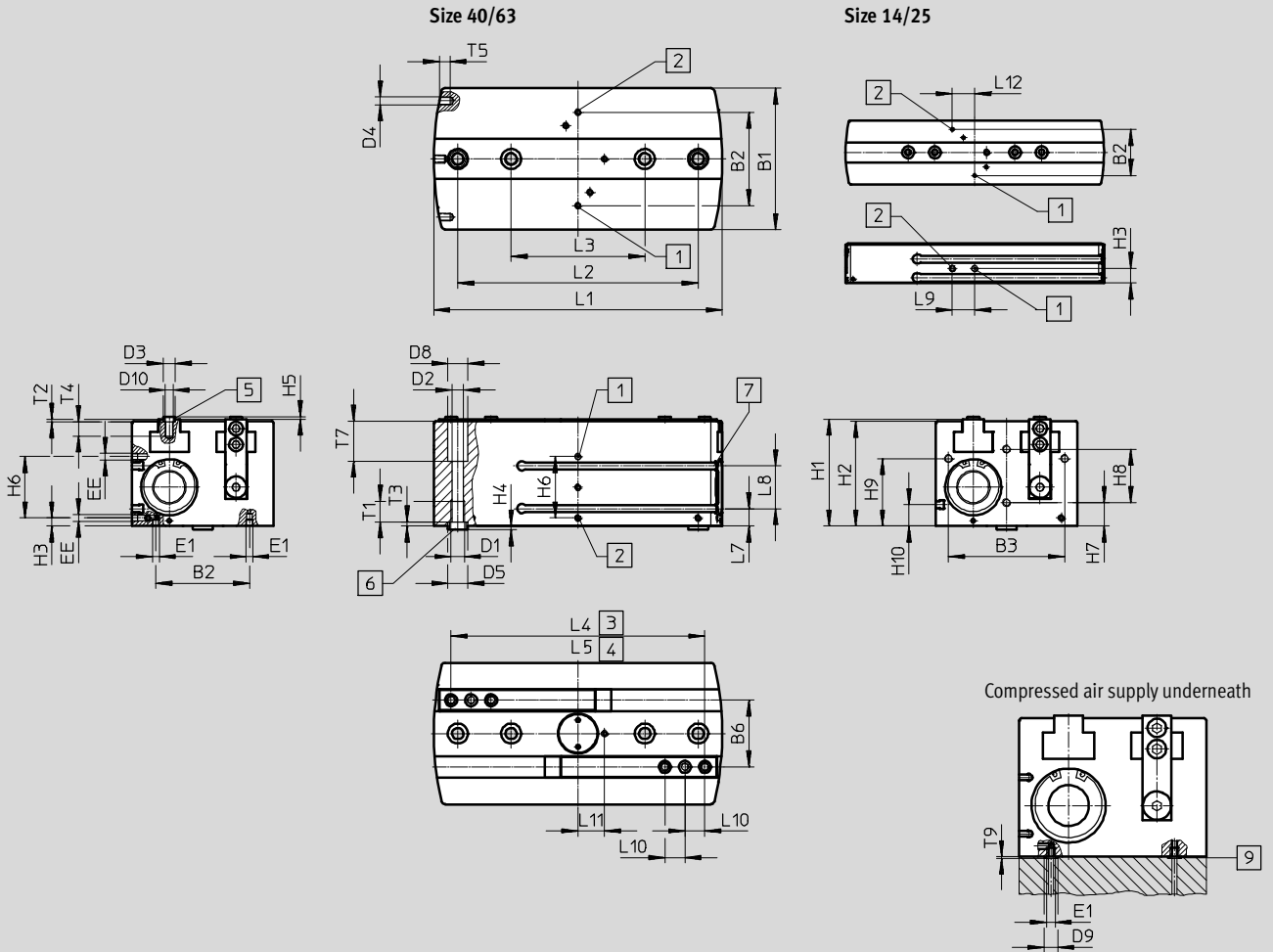


Parallel grippers HGPL-B, heavy-duty with long stroke

Technical data

Dimensions

Download CAD data → www.festo.com



- 1 Supply port, opening, either on the side or underneath (bottom connection sealed on delivery)
- 2 Supply port, closing, either on the side or underneath (bottom connection sealed on delivery)
- 3 Gripper jaw open
- 4 Gripper jaw closed
- 5 Centring sleeves ZBH (4 included in the scope of delivery)
- 6 Centring sleeves ZBH (2 included in the scope of delivery)
- 7 Slot for proximity sensor
- 9 O-ring for parallel gripper
 HGPL-14: \varnothing 3x1.5
 HGPL-25: \varnothing 5x1.5
 HGPL-40: \varnothing 5x1.5
 HGPL-63: \varnothing 12x1.5

Parallel grippers HGPL-B, heavy-duty with long stroke

Technical data

Type	B1 ±0.05	B2	B3	B6 ±0.01	D1	D2 ∅ +0.1	D3 ∅ H8/h7	D4	D5 ∅ H8/h7	D8 ∅ H13	D9	D10	EE	E1
HGPL-14	48	34.5±0.1	40±0.2	22	M5	4.2	5	M3	9	7.4	6	M3	M5	M3
HGPL-25	80	60±0.2	65±0.1	38	M6	5.1	7	M5	9	10	8	M5	M5	M5
HGPL-40	106	70±0.2	87±0.1	50	M10	8.5	9	M6	15	15	8	M6	M5	M5
HGPL-63	154	116±0.2	130±0.1	78	M12	10.4	15	M 8	15	16.5	15	M10	G½	G½

Type	H1	H2 ±0.05	H3 ±0.1	H4 -0.3	H5 -0.3	H6	H7 ±0.1	H8 ±0.1	H9 ±0.1	H10 ±0.1	L1 ±0.05	L2 ¹⁾²⁾	L3 ¹⁾²⁾	L4 ±0.5
HGPL-14-20	30	29	11	1.9	1.2	-	10	12	24.4	4	73.6	36	-	62
HGPL-14-40											113.6	60	-	102
HGPL-14-60											153.6	100	60	142
HGPL-14-80											193.6	100	60	182
HGPL-25-20	50	49	18	1.9	1.4	-	18	20	30	11	86	60	-	64
HGPL-25-40											126	60	-	104
HGPL-25-60											166	100	60	144
HGPL-25-80											206	100	60	184
HGPL-40-20	80	78.5	6	2.9	1.9	46±0.2	17.5	40	50.5	16	96	66	-	70
HGPL-40-40											136	100	-	110
HGPL-40-60											176	100	-	150
HGPL-40-80											216	180	100	190
HGPL-40-100											256	200	100	230
HGPL-63-60	121.5	120	14	2.9	2.9	60±0.1	30	58	75	28.5	190.8	100	-	160
HGPL-63-100											270	200	100	240
HGPL-63-150											370	300	100	340

Type	L5 ±0.5	L7 ±0.1	L8 ±0.1	L9	L10 ¹⁾²⁾	L11	L12 ±0.1	T1 Max.	T2 +0.1	T3 +0.1	T4 Min.	T5 Min.	T7 +0.1	T9	
HGPL-14-20	22	4.2	14	16.8±0.2	8	7.5±0.1	16.8	12.5	1.3	2.1	5.5	6.5	10	1	
HGPL-14-40						9±0.1									
HGPL-14-60						9±0.1									
HGPL-14-80						9±0.1									
HGPL-25-20	24	11	14	20±0.1	10	17±0.2	20	12.5	1.6	2.1	8.5	7.5	17	1	
HGPL-25-40															
HGPL-25-60															
HGPL-25-80															
HGPL-40-20	30	13	32	-	15	20±0.1	-	15.5	2.1	3.1	10.5	8	30	1	
HGPL-40-40											12.6				
HGPL-40-60											10.5				
HGPL-40-80											10.5				
HGPL-40-100											10.5				
HGPL-63-60	40	28.5	30	-	22	28±0.1	-	18	3.1	3.1	17.5	12	45	1	
HGPL-63-100															
HGPL-63-150															

1) ±0.02 for centring
2) ±0.1 for through-hole

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Technical data


Ordering data			
Size	Stroke [mm]	Part No.	Type
14			
	20	3361479	HGPL-14-20-A-B
	40	3361480	HGPL-14-40-A-B
	60	3361481	HGPL-14-60-A-B
	80	3361482	HGPL-14-80-A-B
25			
	20	3361483	HGPL-25-20-A-B
	40	3361484	HGPL-25-40-A-B
	60	3361485	HGPL-25-60-A-B
	80	3361486	HGPL-25-80-A-B
40			
	20	3361487	HGPL-40-20-A-B
	40	3361488	HGPL-40-40-A-B
	60	3361489	HGPL-40-60-A-B
	80	3361490	HGPL-40-80-A-B
	100	3361491	HGPL-40-100-A-B
63			
	60	3361492	HGPL-63-60-A-B
	100	3361493	HGPL-63-100-A-B
	150	3361494	HGPL-63-150-A-B

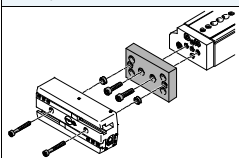
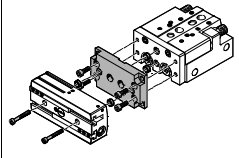
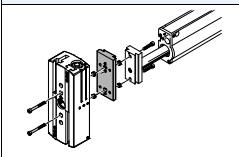
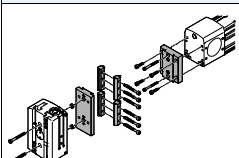
Parallel grippers HGPL-B, heavy-duty with long stroke

Accessories

Adapter kit
DHAA, HAPG, HMSV, HMVA

Materials:
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	Mounting option		Adapter kit	
			Size	Size	CRC ¹⁾	Part No. Type
	DGSL	HGPL			2	DHAA, HAPG
	16	14-20	■	■		2406159 DHAA-G-G6-16-B6-14
	20, 25	14-20	■	■		2410181 DHAA-G-G6-20-B6-14
	16	14-40, 14-60, 14-80	■	■		538055 HAPG-89
	20, 25	14-40, 14-60, 14-80	■	■		539274 HAPG-90
	25	25	■	■		539274 HAPG-90
	SLT	HGPL			2	DHAA, HAPG
	16	14-20	■	–		2404522 DHAA-G-G3-16-B6-14
	20	14-20	■	–		2406709 DHAA-G-G3-20-B6-14
	25	14-20	■	–		2408600 DHAA-G-G3-25-B6-14
	16	14-40, 14-60, 14-80	■	–		538055 HAPG-89
	20, 25	14-40, 14-60, 14-80	■	–		539274 HAPG-90
	20, 25	25	■	–		539274 HAPG-90
	HMP	HGPL			2	DHAA, HAPG
	25, 32	40-20	–	■		2436852 DHAA-G-H2-25-B6-40
	16, 20	14-40, 14-60, 14-80	–	■		– 2x M5x25 DIN 912
	20, 25	25	–	■		150927 ZBH-9
	25, 32	40-40, 40-60, 40-80, 40-100	–	■		539887 HAPG-92
	DG...	HGPL			2	HAPG, HMSV, HMVA
	40	25	■	■		196790 HMVA-DLA40
						177653 HMSV-7
						539887 HAPG-92


1) 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.



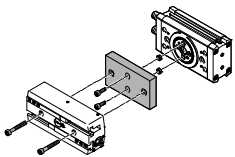
Parallel grippers HGPL-B, heavy-duty with long stroke

Accessories

**Adapter kit
DHAA**

Materials:
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
	DRRD	HGPL			DHAA		
	16	14-20	■	■	2	2019271	DHAA-G-Q11-16-B6-14-20
	16	14-40	■	■		2019618	DHAA-G-Q11-16-B6-14-40
	16	14-60, 14-80	■	■		2019640	DHAA-G-Q11-16-B6-14-60/80
	20	14-20	■	■		2018509	DHAA-G-Q11-20-B6-14-20
	20	14-40	■	■		2018553	DHAA-G-Q11-20-B6-14-40
	20	14-60, 14-80	■	■		2018986	DHAA-G-Q11-20-B6-14-60/80
	25	14-20	■	■		1813646	DHAA-G-Q11-25-B6-14-20
	25	14-40	■	■		1734087	DHAA-G-Q11-25-B6-14-40
	25	14-60, 14-80	■	■		2018453	DHAA-G-Q11-25-B6-14-60/80
	25	25-20, 25-40	■	■		1794882	DHAA-G-Q11-25-B6-25-20/40
	25	25-60, 25-80	■	■		2020149	DHAA-G-Q11-25-B6-25-60/80
	32	25-20, 25-40	■	■		2021733	DHAA-G-Q11-32-B6-25-20/40
	32	25-60, 25-80	■	■		2022377	DHAA-G-Q11-32-B6-25-60/80
	35	25-20, 25-40	■	■		2022892	DHAA-G-Q11-35-B6-25-20/40
	35	25-60, 25-80	■	■		2023095	DHAA-G-Q11-35-B6-25-60/80
	35, 40	40-20	■	■		2023665	DHAA-G-Q11-35/40-B6-40-20
	35, 40	40-40, 40-60	■	■		2024121	DHAA-G-Q11-35/40-B6-40-40/60
	35, 40	40-80, 40-100	■	■		2024947	DHAA-G-Q11-35/40-B6-40-80/100
	50	40-20	■	■		2387903	DHAA-G-Q11-50-B6-40-20
	50	40-40, 40-60, 40-80, 40-100	■	■		2431288	DHAA-G-Q11-50-B6-40-40/60/80/100
50	63-60, 63-100, 63-150	■	■	2431624		DHAA-G-Q11-50-B6-63-60/100/150	


1) 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.

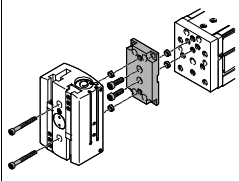
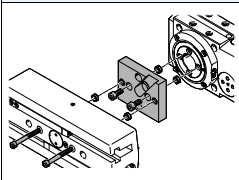
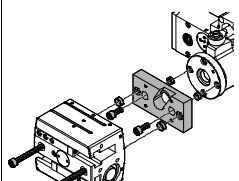
Parallel grippers HGPL-B, heavy-duty with long stroke

Accessories

Adapter kit
DHAA, HAPG

Materials:
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	Mounting option		Adapter kit	
			Size	Size	CRC ¹⁾	Part No. Type
	EGSL	HGPL			2	DHAA, HAPG
	45, 55	14-20	■	■		2406159 DHAA-G-G6-16-B6-14
	75	14-20	■	■		2410181 DHAA-G-G6-20-B6-14
	45, 55	14-40, 14-60, 14-80	■	■		538055 HAPG-89
	75	14-40, 14-60, 14-80	■	■		539274 HAPG-90
	75	25	■	■	539274 HAPG-90	
	ERMB	HGPL			2	HAPG
	20	14-40, 14-60, 14-80	■	■		537310 HAPG-SD2-31
	25, 32	25	■	■	537311 HAPG-SD2-29	
	EHMB	HGPL			2	DHAA, HAPG
	25	40-20	■	■		2436852 DHAA-G-H2-25-B6-40
	20	25	■	■		537311 HAPG-SD2-29
	25	40-40, 40-60, 40-80, 40-100	■	■	537312 HAPG-SD2-30	

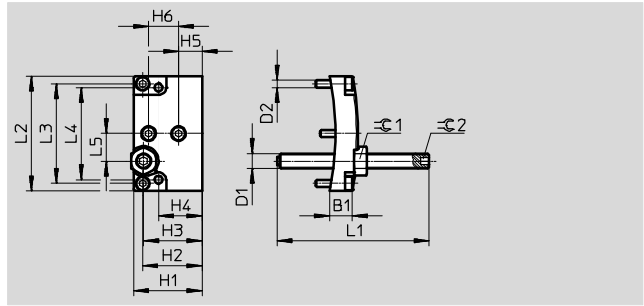
1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

Parallel grippers HGPL-B, heavy-duty with long stroke

Accessories

Stroke reducing kit HGPL-HR

Materials:
Aluminium
Free of copper and PTFE



Dimensions and ordering data									
For size	B1	D1	D2	H1	H2	H3	H4	H5	H6
	±0.1			±0.1	±0.1	±0.1	±0.1	±0.1	±0.1
14	9	M6	M3	27.5	23.9	23.5	17.5	9.5	12
25	12	M8	M5	47.5	-	37.5	29.5	17.5	20
40	18	M12	M6	77	-	63	50	17	40
63	19	M14	M8	118.5	-	94.5	74.5	29.5	58

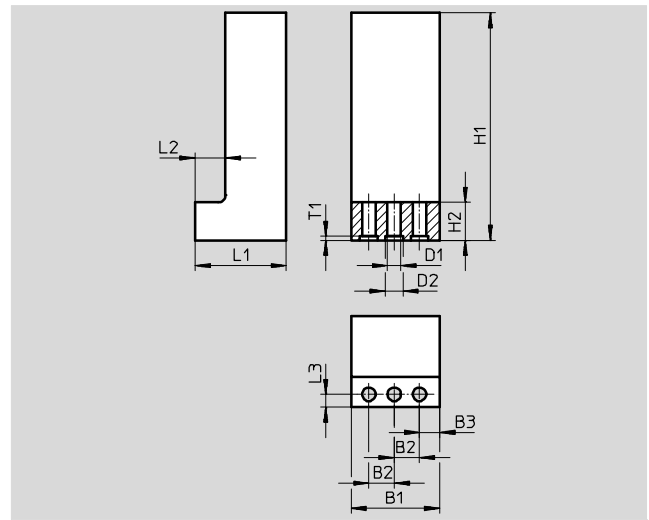
For size	L1	L2	L3	L4	L5	⌀C1	⌀C2	Weight	Part No.	Type
	±1	±0.1	±0.1	±0.1	±0.1			[g]		
14	61	46	40	37	11	10	3	45	539092	HGPL-HR-14
25	61	77	-	65	19	13	4	150	539093	HGPL-HR-25
40	61	103	-	87	25	19	6	455	539094	HGPL-HR-40
63	81	151	-	130	39	22	6	1060	567831	HGPL-HR-63

Parallel grippers HGPL-B. heavy-duty with long stroke

Accessories

Gripper jaw blank BUB-HGPL
(2 included in delivery)

Materials:
Aluminium
Free of copper and PTFE



Dimensions and ordering data							
For size	B1	B2	B3	D1	D2	H1	H2
	±0.1	+0.02		∅ +0.1	∅ H8	±0.1	
14	25	8	4	3.2	5	80	11
25	35	10	8	5.3	7	120	15
40	50	15	10	6.4	9	150	18
63	68	22	12	10.5	15	200	20

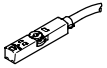
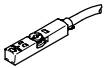
For size	L1	L2	L3	T1	Weight per blank [g]	Part No.	Type
	±0.1	+0.1	+0.1	+0.1			
14	20.5	8	3.3	1.3	75	537316	BUB-HGPL-14
25	36	12	5	1.6	295	537317	BUB-HGPL-25
40	49.5	16.5	8	2.1	720	537318	BUB-HGPL-40
63	77	27	12	3.1	1960	567830	BUB-HGPL-63

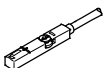
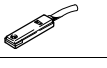
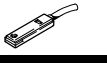
Ordering data						
	For size [mm]	Weight [g]	Part No.	Type	PU ¹⁾	
Centring sleeve for the gripper jaws ZBH			Technical data → Internet: zbh			
	14	1	189652	ZBH-5	10	
	25	1	186717	ZBH-7		
	40	1	150927	ZBH-9		
	63	3	191409	ZBH-15		
Centring sleeve for the gripper ZBH			Technical data → Internet: zbh			
	14, 25	1	150927	ZBH-9	10	
	40, 63	3	191409	ZBH-15		
Blanking plug B			Technical data → Internet: blanking plug			
	14, 25, 40	2	174308	B-M5-B	10	
	63	5	3568	B-1/8		

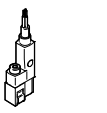
1) Packaging unit

Parallel grippers HGPL-B, heavy-duty with long stroke

Accessories

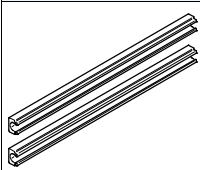
Ordering data – Proximity sensor for T-slot, magneto-resistive						Technical data → Internet: smt
	Type of mounting	Electrical connection Connection outlet direction	Switching output	Cable length [m]	Part No.	Type
N/O contact						
	Inserted in the slot from above, short design	Cable, 3-wire, in-line	PNP	2.5	574335	SMT-8M-A-PS-24V-E-2,5-OE
		Plug M8x1, 3-pin, in-line		0.3	574334	SMT-8M-A-PS-24V-E-0,3-M8D
		Plug M12x1, 3-pin, in-line		0.3	574337	SMT-8M-A-PS-24V-E-0,3-M12
		Cable, 3-wire, in-line	NPN	2.5	574338	SMT-8M-A-NS-24V-E-2,5-OE
		Plug M8x1, 3-pin, in-line		0.3	574339	SMT-8M-A-NS-24V-E-0,3-M8D
N/C contact						
	Inserted in the slot from above, short design	Cable, 3-wire, in-line	PNP	7.5	574340	SMT-8M-A-PO-24V-E-7,5-OE

Ordering data – Proximity sensors for T-slot, magnetic reed						Technical data → Internet: sme
	Type of mounting	Electrical connection Connection outlet direction	Switching output	Cable length [m]	Part No.	Type
N/O contact						
	Inserted in the slot from above	Cable, 3-wire, in-line	Contacting	2.5	543862	SME-8M-DS-24V-K-2,5-OE
		Cable, 2-wire, in-line		5.0	543863	SME-8M-DS-24V-K-5,0-OE
		Plug M8x1, 3-pin, in-line		2.5	543872	SME-8M-ZS-24V-K-2,5-OE
		Plug M8x1, 3-pin, in-line		0.3	543861	SME-8M-DS-24V-K-0,3-M8D
	Inserted into the slot lengthwise	Cable, 3-wire, in-line	2.5	150855	SME-8-K-LED-24	
		Plug M8x1, 3-pin, in-line	0.3	150857	SME-8-S-LED-24	
N/C contact						
	Inserted into the slot lengthwise	Cable, 3-wire, in-line	Contacting	7.5	160251	SME-8-O-K-LED-24


Ordering data – Proximity sensor for T-slot, magneto-resistive						Technical data → Internet: smt
	Type of mounting	Electrical connection, Connection outlet direction	Switching output	Cable length [m]	Part No.	Type
N/O contact						
	Inserted into the slot lengthwise	Cable, 3-wire, right angle	PNP	2.5	547859	SMT-8G-PS-24V-E-2,5Q-OE
		Plug M8x1, 3-pin, right angle		0.3	547860	SMT-8G-PS-24V-E-0,3Q-M8D



Parallel grippers HGPL-B, heavy-duty with long stroke

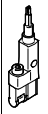
Accessories



Ordering data					
	Description	Weight [g]	Part No.	Type	PU ¹⁾
Sensor rail for using the proximity sensor SME/SMT-10					
	<ul style="list-style-type: none"> For a gripper stroke of max. 60 mm To be glued into the slot 	6	3528767	DASP-B6-60-C-SR	2
	<ul style="list-style-type: none"> For a gripper stroke of max. 80 mm To be glued into the slot 	8	3528768	DASP-B6-80-C-SR	

1) Packaging unit

Ordering data – Proximity sensors for C-slot, magneto-resistive						Technical data → Internet: smt
	Type of mounting	Electrical connection, Connection outlet direction	Switching output	Cable length [m]	Part No.	Type
N/O contact						
	Inserted in the slot from above	Cable, 3-wire, in-line	PNP	2.5	551373	SMT-10M-PS-24V-E-2,5-L-OE
		Plug M8x1, 3-pin, in-line		0.3	551375	SMT-10M-PS-24V-E-0,3-L-M8D
		Cable, 3-wire, right angle	PNP	2.5	551374	SMT-10M-PS-24V-E-2,5-Q-OE
		Plug M8x1, 3-pin, right angle		0.3	551376	SMT-10M-PS-24V-E-0,3-Q-M8D

Ordering data – Proximity sensor for C-slot, magnetic reed						Technical data → Internet: sme
	Type of mounting	Electrical connection, Connection outlet direction	Switching output	Cable length [m]	Part No.	Type
N/O contact						
	Inserted in the slot from above	Cable, 3-wire, in-line	Contacting	2.5	551365	SME-10M-DS-24V-E-2,5-L-OE
		Plug M8x1, 3-pin, in-line		0.3	551367	SME-10M-DS-24V-E-0,3-L-M8D
		Cable, 3-wire, right angle	Contacting	2.5	551366	SME-10M-DS-24V-E-2,5-Q-OE
		Plug M8x1, 3-pin, right angle		0.3	551368	SME-10M-DS-24V-E-0,3-Q-M8D
	Inserted into the slot lengthwise	Cable, 3-wire, in-line	Contacting	2.5	173210	SME-10-KL-LED-24
		Plug M8x1, 3-pin, in-line		0.3	173212	SME-10-SL-LED-24

Ordering data – Proximity sensors for C-slot, magneto-resistive						Technical data → Internet: smt
	Type of mounting	Electrical connection, Connection outlet direction	Switching output	Cable length [m]	Part No.	Type
N/O contact						
	Inserted into the slot lengthwise	Cable, 3-wire, right angle	PNP	2.5	547862	SMT-10G-PS-24V-E-2,5Q-OE
		Plug M8x1, 3-pin, right angle		0.3	547863	SMT-10G-PS-24V-E-0,3Q-M8D

Ordering data – Connecting cables						Technical data → 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	
	Straight socket, M12x1, 5-pin	Cable, open end, 3-wire	2.5	541363	NEBU-M12G5-K-2.5-LE3	
			5	541364	NEBU-M12G5-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	
	Angled socket, M12x1, 5-pin	Cable, open end, 3-wire	2.5	541367	NEBU-M12W5-K-2.5-LE3	
			5	541370	NEBU-M12W5-K-5-LE3	

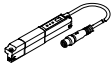
Parallel grippers HGPL-B, heavy-duty with long stroke

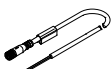

Accessories

Position transmitter

The position transmitter continuously senses the position of the piston.

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

Ordering data – Position transmitter for T-slot						Technical data → Internet: position transmitter	
Position measuring range	Analogue output		Type of mounting	Electrical connection	Cable length [m]	Part No.	Type
	[V]	[mA]					
	0 ... 50	–	Inserted in the slot from above	Plug M8x1, 4-pin, in-line	0.3	1531265	SDAT-MHS-M50-1L-SA-E-0.3-M8
	0 ... 80					1531266	SDAT-MHS-M80-1L-SA-E-0.3-M8
	0 ... 100					1531267	SDAT-MHS-M100-1L-SA-E-0.3-M8
	0 ... 125					1531268	SDAT-MHS-M125-1L-SA-E-0.3-M8
	0 ... 160					1531269	SDAT-MHS-M160-1L-SA-E-0.3-M8

Ordering data – Connecting cables				Technical data → 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