

Type code

001	Series	
DHPL	Parallel gripper	
002	Size [mm]	
10	10	
16	16	
20	20	
25	25	
32	32	
40	40	

003	Complete stroke [mm]	
20	20	
30	30	
40	40	
50	50	
60	60	
70	70	
80	80	
100	100	
120	120	
160	160	
200	200	

004	Cushioning	
P	Elastic cushioning rings/plates on both sides	

005	Position sensing	
A	For proximity sensor	

Datasheet

General technical data

Size	10		16		20		25		32		40	
Total stroke	20 mm	60 mm	30 mm	80 mm	40 mm	100 mm	50 mm	120 mm	70 mm	160 mm	100 mm	200 mm
Stroke per gripper jaws	10 mm	30 mm	15 mm	40 mm	20 mm	50 mm	25 mm	60 mm	35 mm	80 mm	50 mm	100 mm
Design	Rack and pinion											
Mode of operation	Double-acting											
Guide	Plain-bearing guide											
Gripper function	Parallel											
Cushioning	Elastic cushioning rings/plates at both ends											
Number of gripper jaws	2											
Max. mass per external gripper finger ¹⁾	54 g		93 g		170 g		305 g		498 g		801 g	
Pneumatic connection	M5								G1/8			
Repetition accuracy, gripper ²⁾	≤0.03 mm											
Rotationally symmetrical	≤0.2 mm											
Max. replacement accuracy	≤0.2 mm											
Max. operating frequency of gripper	≤2 Hz	≤1.5 Hz	≤2 Hz	≤1.5 Hz	≤2 Hz	≤1.5 Hz	≤2 Hz	≤1.5 Hz	≤1 Hz	≤0.6 Hz	≤1 Hz	≤0.6 Hz
Position detection	Via proximity switch											
Type of mounting	Either: With through-hole	Either: Direct mounting via thread With through-hole										
Mounting position	optional											

1) Applies to unthrottled operation

2) 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

Size	10	16	20	25	32	40
Operating pressure ¹⁾	0.25 ... 0.8 MPa		0.15 ... 0.8 MPa			
Operating pressure ²⁾	36.25 ... 116 psi		21.75 ... 116 psi			
Operating pressure ³⁾	2.5 ... 8 bar		1.5 ... 8 bar			
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]					
Note on operating and pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)					
Ambient temperature ⁴⁾	-10 ... 60°C					
Maintenance interval	Life-time lubrication					
Corrosion resistance class CRC ⁵⁾	1 - Low corrosion stress					

1) DHPL-10: After a longer period of downtime, the min. operating pressure 0.25 MPa (2.5 bar, 36 psi) can increase to 0.4 MPa (4 bar, 58 psi).

2) DHPL-10: After a longer period of downtime, the min. operating pressure 0.25 MPa (2.5 bar, 36 psi) can increase to 0.4 MPa (4 bar, 58 psi).

3) DHPL-10: After a longer period of downtime, the min. operating pressure 0.25 MPa (2.5 bar, 36 psi) can increase to 0.4 MPa (4 bar, 58 psi).

4) Note the operating range of the proximity switches

5) More information: www.festo.com/x/topic/crc

Weight

Size	10		16		20		25		32		40	
Total stroke	20 mm	60 mm	30 mm	80 mm	40 mm	100 mm	50 mm	120 mm	70 mm	160 mm	100 mm	200 mm
Product weight	251 g	377 g	499 g	802 g	883 g	1,407 g	1,447 g	2,297 g	2,634 g	4,154 g	4,480 g	6,480 g

Datasheet

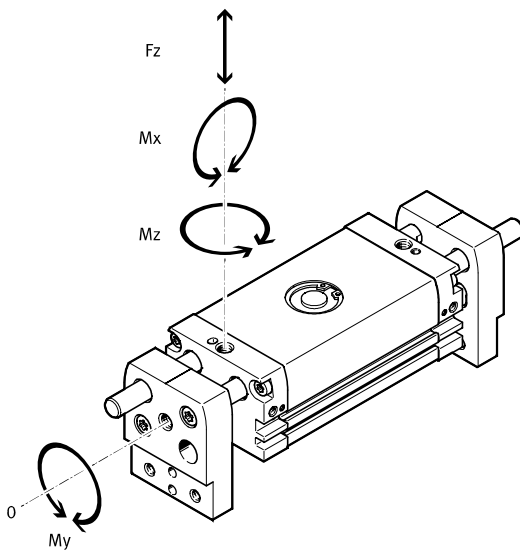
Materials

Size	10	16	20	25	32	40
Material o-ring	NBR					
Material housing	Anodised wrought aluminium alloy					
Material cover	Anodised wrought aluminium alloy					
Material cover cap	Wrought aluminium alloy, anodised					
Material end plate	Anodised wrought aluminium alloy					
Material gripper jaws	Anodised wrought aluminium alloy					
Material piston rod	High-alloy stainless steel					
Material piston seal	TPE-U(PU)					
Gear rack material	High-alloy stainless steel					
Material screws	Galvanised steel					
Note on materials	RoHS-compliant					

Measured gripping force with a lever arm of 20 mm

Size	10		16		20		25		32		40	
Total stroke	20 mm	60 mm	30 mm	80 mm	40 mm	100 mm	50 mm	120 mm	70 mm	160 mm	100 mm	200 mm
Total gripping force, closing, 0.6MPa (6bar, 87 psi)	38 N	44 N	130 N	142 N	230 N	238 N	360 N	380 N	570 N	600 N	924 N	992 N
Total gripping force, opening, 0.6MPa (6bar, 87 psi)	60 N	68 N	180 N	190 N	310 N	316 N	470 N	490 N	760 N	800 N	1,100 N	1,180 N
Gripper force per gripper jaw, closing, 0.6 MPa (6 bar, 87 psi)	19 N	22 N	65 N	71 N	115 N	119 N	180 N	190 N	285 N	300 N	462 N	496 N
Gripper force per gripper jaw, opening, 0.6 MPa (6 bar, 87 psi)	30 N	34 N	90 N	95 N	155 N	158 N	235 N	245 N	380 N	400 N	550 N	590 N

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 applied loads created by the workpiece or external gripper fingers and acceleration forces occurring during movement. The zero coordinate line (gripper jaw guide) must be taken into account when calculating torques.

Size	10	16	20	25	32	40
Max. force on gripper jaw F_z static	40 N	240 N	280 N	320 N	750 N	
Max. torque at gripper M_x static	0.5 Nm	3.5 Nm	5 Nm	6.5 Nm	18 Nm	22 Nm
Max. torque at gripper M_y static	0.5 Nm	3.5 Nm	5 Nm	6.5 Nm	18 Nm	22 Nm
Max. torque at gripper M_z static	0.5 Nm	3.5 Nm	5 Nm	6.5 Nm	18 Nm	22 Nm

Ordering data

DHPL						
	Size	Total stroke	Mode of operation	Product weight	Part no.	Type
	10	20 mm	Double-acting	251 g	8112216	DHPL-10-20-P-A
		60 mm		377 g	8112215	DHPL-10-60-P-A
	16	30 mm		499 g	8112217	DHPL-16-30-P-A
		80 mm		802 g	8112218	DHPL-16-80-P-A
	20	40 mm		883 g	8112220	DHPL-20-40-P-A
		100 mm		1,407 g	8112219	DHPL-20-100-P-A
	25	50 mm		1,447 g	8112222	DHPL-25-50-P-A
		120 mm		2,297 g	8112221	DHPL-25-120-P-A
	32	70 mm		2,634 g	8112223	DHPL-32-70-P-A
		160 mm		4,154 g	8112224	DHPL-32-160-P-A
	40	100 mm		4,480 g	8112225	DHPL-40-100-P-A
		200 mm		6,480 g	8112226	DHPL-40-200-P-A