

Hole gripper and Four-point gripper

LG15-18 up to GV50

things worth knowing

Advantages and uses

... suitable for workpieces with bores, even with complex external contours ...
... high-grip force ...

Highlight

- ▶ compact design and minimal weight
 - ▶ production of special gripper jaws becomes unnecessary
 - ▶ any desired installation position

... economic design for internal gripping!

Characteristics

Function

Drive: unsynchronized rubber membrane
Power transfer: direct

Material

Housing: hard-anodized aluminum
Rubber membrane: NBR

Maintenance: maintenance-free

Actuation: clean – filtered high-pressure air (10 µm), dry or oiled
Total power: arithmetic sum of the individual elements on the gripper jaws
Closing and opening times: required time for the gripper jaws to cover the maximum stroke length

Basic explanations

Terms and illustrations

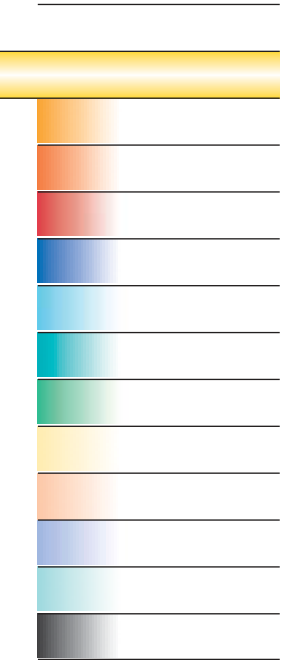
Grip force safety device: required during pressure loss for maintaining position of workpiece
– pneumatic: through pressure retention

Accessories

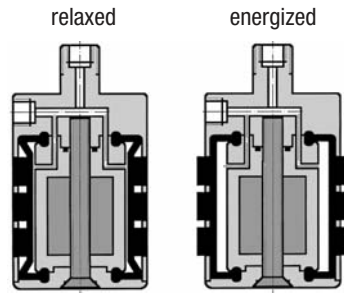
Accessory recommendation:

- ▶ Pneumatic fittings Page 442
- ▶ Tubing Page 444
- ▶ Control valves Page 445
- ▶ Pressure safety valves Page 447

Parallel gripper	Three-jaw gripper	Angle gripper	Internal-hole gripper		Other grippers	Electric gripper
LG15-18 - LG120-135	LG4-20	LG20-30	LG30-50	GV50		

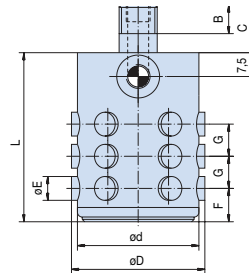
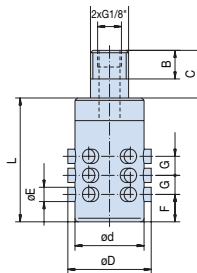


Internal-hole gripper



LG15-18 thru LG30-35

LG35-39 and up



This gripper is designed for handling parts with bores and holes of all types. The circular gripping knobs on the bladder provide a large friction force and eliminate the need for jaws. The Internal Hole Gripper can hold very heavy parts such as engine blocks, pistons and tire rims, as well as delicate objects like laboratory glassware, porcelain, sintered parts, etc. The gripper force can be regulated by adjusting the pneumatic pressure (2-6 bar).

Function:

Air pressure (2-6 bar) expands the knobbed diaphragm, which is restricted by the outer housing of the gripper. The 18 rubber knobs (12 knobs on the LG15-18 and LG18-22) are uniformly distributed around the circumference and along the length of the housing. They project outward, radially, through the cylindrical housing when air is applied, gripping the item with frictional forces. Releasing the air pressure allows the bladder to return to its original form, causing the knobs to retract into the housing.

Order no.:

LG 15-18	LG 18-22	LG 22-26	LG 26-30	LG 30-35	LG 35-39	LG 40-45	LG 46-51	LG 51-56	LG 56-62	LG 63-70	LG 71-80	LG 76-84	LG 81-90	LG 91-100	LG 100-110	LG 110-120	LG 120-135
Drive:																	
pneum.	pneum.	pneum.	pneum.	pneum.	pneum.	pneum.	pneum.	pneum.	pneum.	pneum.	pneum.	pneum.	pneum.	pneum.	pneum.	pneum.	pneum.
Stroke [mm]:																	
2,5	4	4	4	5	4,5	6,5	6	7	7,5	8	10,5	8,5	11	10	11	11	16
Min. clamping diameter [mm]:																	
15	17,5	21,5	25,5	29,5	34,5	39,5	45,5	50,5	55,5	62,5	70,5	75,5	80,5	90,5	99,5	109,5	119,5
Max. clamping diameter [mm]:																	
17,5	21,5	25,5	29,5	34,5	39	46	51,5	57,5	63	70,5	81	84	91,5	100,5	110,5	120,5	135,5
Gripping force in extraction [N]*:																	
100	100	150	150	200	300	400	500	750	900	1100	1500	1700	2000	2500	2800	3500	3500
Self-locking via:																	
DSV 1/8	DSV 1/8	DSV 1/8	DSV 1/8	DSV 1/8	DSV 1/8	DSV 1/8	DSV 1/8	DSV 1/8	DSV 1/8	DSV 1/8	DSV 1/8	DSV 1/8	DSV 1/8	DSV 1/8	DSV 1/8	DSV 1/8	DSV 1/8
Entry and departure time [s]:																	
0,2	0,2	0,2	0,2	0,2	0,2	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,4	0,4	0,4	0,4	0,4
Repeatability± [mm]:																	
0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2
Min./max. operating pressure [bar]:																	
2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6	2/6
Air volume per cycle [cm ³]:																	
1	1	1	2	3	5	8	13	17	25	33	42	53	67	117	150	200	250
Min./max. operating temperature. [°C]:																	
5/80	5/80	5/80	5/80	5/80	5/80	5/80	5/80	5/80	5/80	5/80	5/80	5/80	5/80	5/80	5/80	5/80	5/80
Dimension A [mm]:																	
M14x1	M14x1	M14x1	M16x1	M16x1	M16x1	M16x1	M16x1	M16x1	M16x1	M16x1	M20x1,5	M20x1,5	M20x1,5	M20x1,5	M20x1,5	M30x1,5	M30x1,5
Dimension B [mm]:																	
10	10	12	12	12	12	12	12	12	12	15	15	15	15	15	15	15	15
Dimension C [mm]:																	
18	18	20	20	20	20	20	20	20	20	25	25	25	25	25	30	30	30
Dimension E [mm]:																	
5	5	5	5	6	7	8	9	10	11	12,5	15	15,5	16	18	20	22	22
Dimension F [mm]:																	
10,5	10,5	11,5	10,5	11,5	11,5	14	15,5	17	19	21,5	21,5	22,7	24,5	26,5	30	31	37
Dimension G [mm]:																	
7	7	7	7	8	9	11	12	13	14,5	15,5	18	19	20	22,5	25	25	28
Dimension L [mm]:																	
42	42	50	50	52	56	62	68	74	80	86	92	96	100	110	120	130	145
Weight [kg]:																	
0,03	0,05	0,05	0,08	0,1	0,116	0,168	0,245	0,32	0,4	0,52	0,667	0,81	0,750	0,850	0,950	1,0	1,2

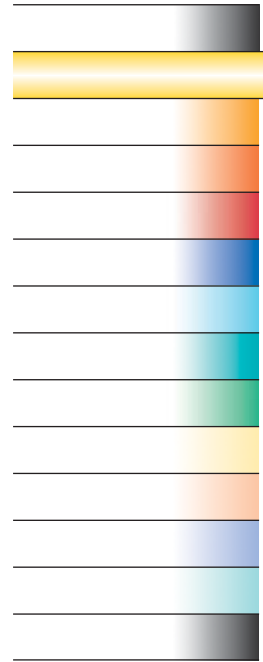
All data measured at 6 bar.

* The gripping force is the sum total of the individual forces occurring on the knobs.

Parallel gripper	Three-jaw gripper	Angle gripper	Internal-hole gripper	Other grippers	Electric gripper
LG15-18 - LG120-135	LG4-20	LG20-30	LG30-50	GV50	

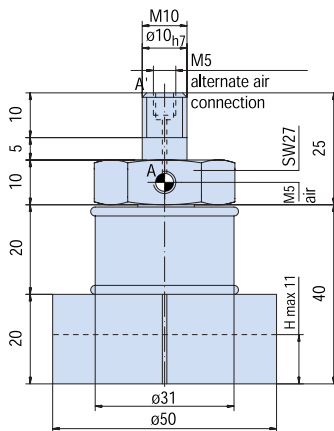
Collet gripper

Advantages, benefits, comparisons and tips!
Stacks of information all about this product are on page 165.

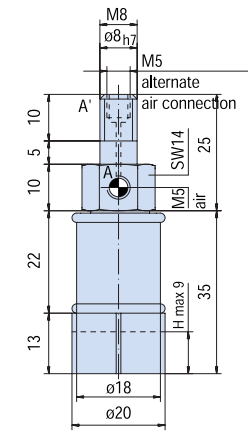


Order no.:					
LG 4-20	LG 20-30	LG 30-50	LG 4-20V	LG 20-30V	
Drive:					
pneum.	pneum.	pneum.	pneum.	pneum.	
Stroke [mm]:					
1	1	1	1	1	
Max. turn-off height [mm]:					
9	10	11	25	35	
Overall torque in opening [Nm]:					
0,5	2,0	3,0	0,5	2,0	
Opening force [N]:					
20	25	30	20	25	
Self-locking via:					
DSV 1/8	DSV 1/8	DSV 1/8	DSV 1/8	DSV 1/8	
Closing time/opening time [s]:					
0,1	0,1	0,1	0,1	0,1	
Min./max. operating pressure [bar]:					
4/6	4/6	4/6	4/6	4/6	
Air volume per cycle [cm³]:					
1	3	5	1	3	
Min./max. operating temperature [°C]:					
5/60	5/60	5/60	5/60	5/60	
Weight [kg]:					
0,06	0,14	0,45	0,08	0,17	
Dimension A [mm]:					
13	15	20	29	40	

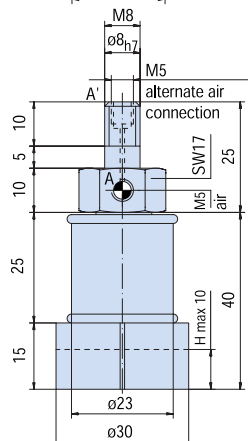
All data measured at 6 bar.



LG30-50



LG4-20



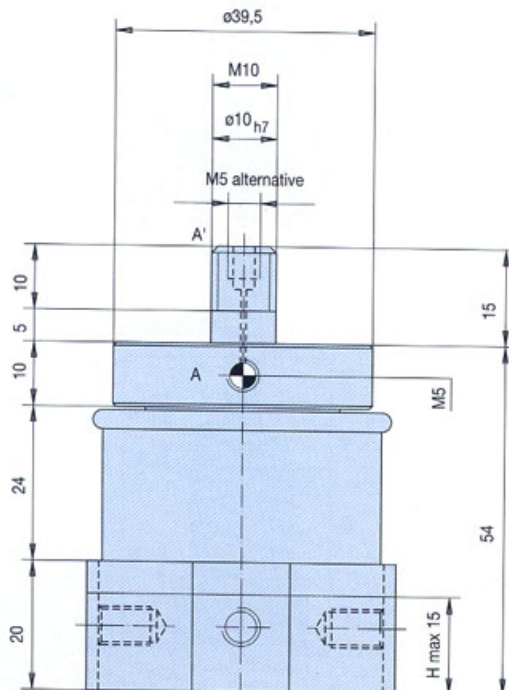
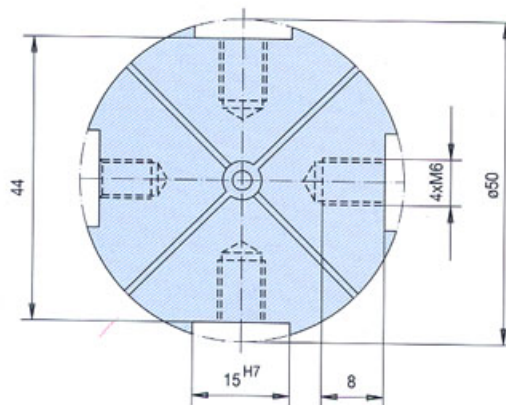
LG20-30

Parallel gripper	Three-naw gripper	Angle gripper	Internal-hole gripper	Other grippers	Elektro gripper
LG15-18 - LG120-135	LG4-20	LG20-30	LG30-50	GV50	

Four-point gripper



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on page 165.



Order no.:				
GV50				
Drive:				
pneum.				
Stroke per now [mm]:				
1				
Max. turn-off height [mm]:				
15				
Gripping force in closing [Nm]:				
4				
Self-livithation:				
DSV1/8				
Closing time/opening time [s]:				
0,05				
Repetition precision \pm [mm]:				
0,1				
Min./max. operating pressure [bar]:				
4/6				
Air volume per cycle [cm ³]:				
5				
Min./max. operating temperature [°C]:				
5/60				
Temp. resistant version up to 150° C [addition when ordering]:				
T1				
Weight [kg]:				
0,4				

All data measured at 6 bar.