Pneumatic Toggle Grippers
OG 3-Finger

OG3 is a three-finger toggle gripper with a high grip force and non-reversible mechanism, suitable for heavy industrial applications.

Advantages

- High energy density.
- Capability to grip parts in opening and closing mode.
- Driving mechanism guided along the entire stroke.
- Large surface for finger mounting to guarantee extremely safe clamping of the workpiece.
- The toggle mechanism provides non-reversible gripping in the opening and closing positions -- even without air pressure
- Air supply via screw connection.

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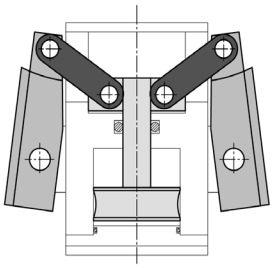
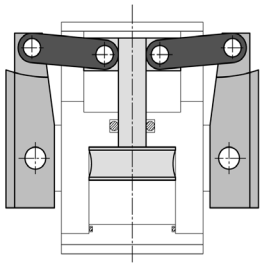
Open/Close Diagram

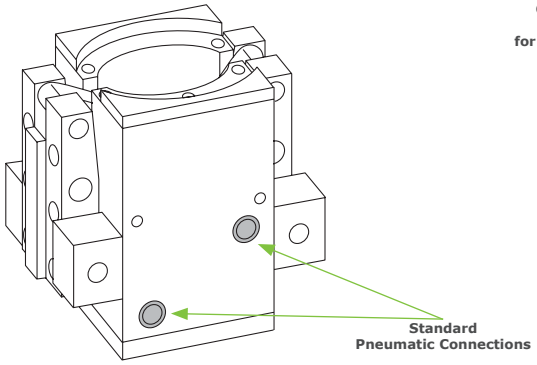


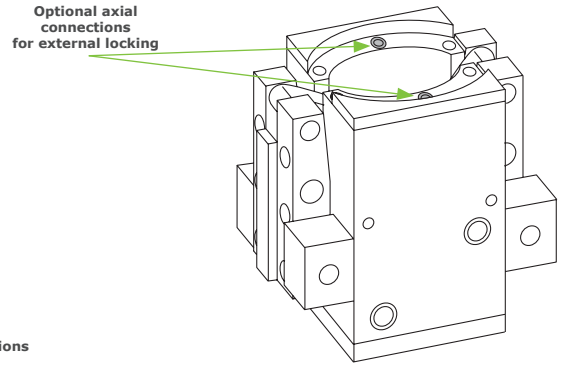
OPEN



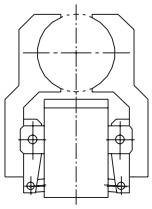
CLOSED

Pneumatic Feed

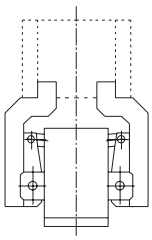




Gripping Diagram



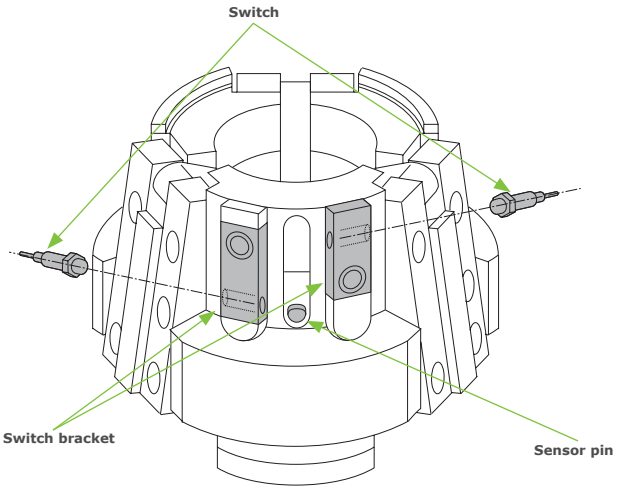
External Clamping



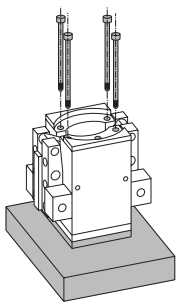
Internal Clamping

Guidelines for the selection of a gripper model
Selection of the correct gripper model depends on the workpiece's weight, the friction coefficient between the fingers and the workpiece and the required motion of the application.
Due to inertial forces associated with motion, we recommend that the holding force of the gripper model should be from 10 to 20 times the workpiece's weight.
If the application presents high acceleration/deceleration or impacts during the motion,
then a further safety margin should be considered.

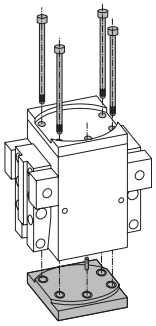
Control Diagram



Mounting

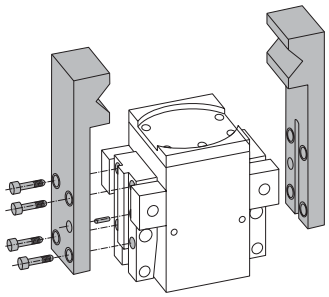


Axial Mounting
Bottom fixing

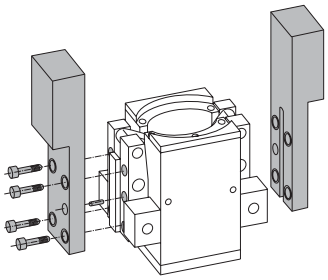


Axial Mounting
Top fixing

Fingers Mounting

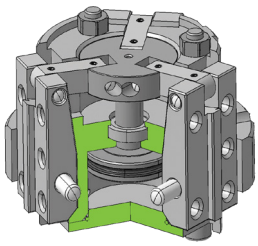


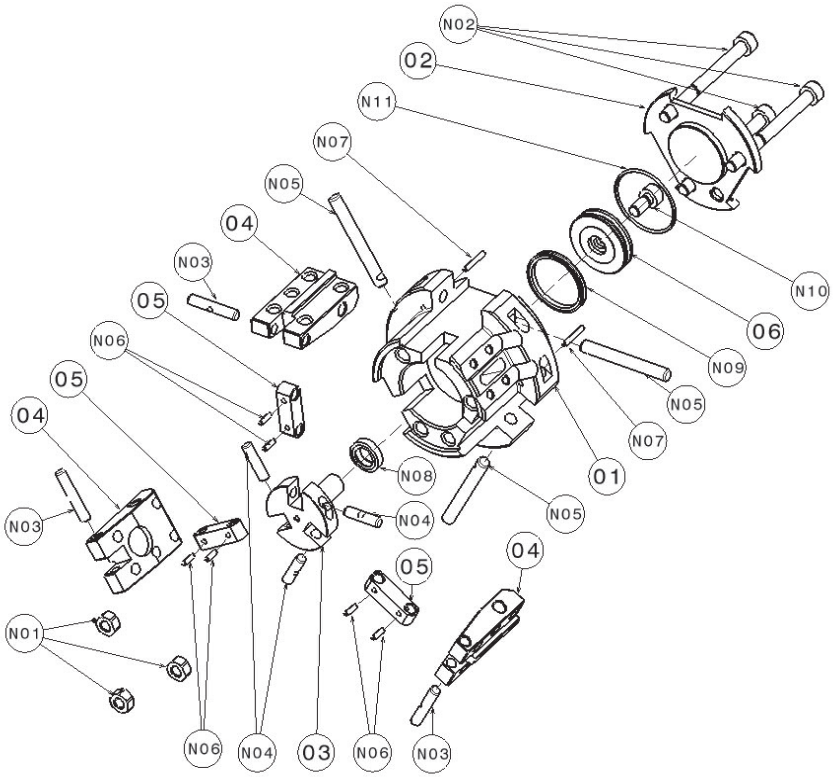
External Clamping



Internal Clamping

Construction Diagram

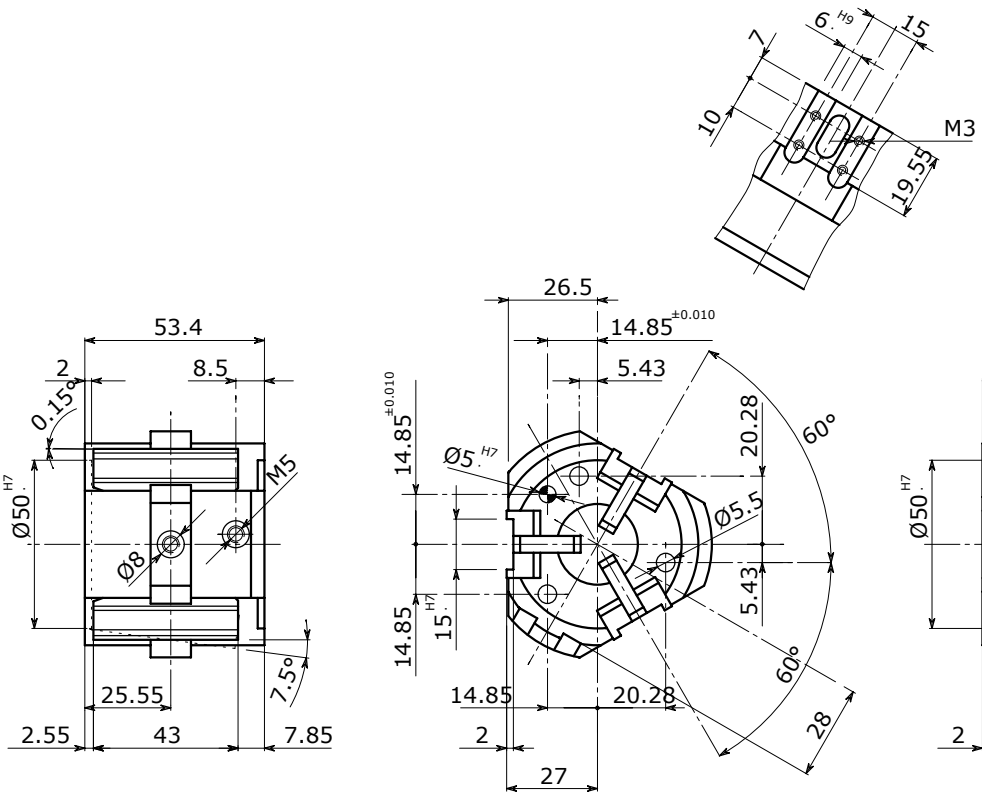




Nr.	Description	Material
01	BODY	Aluminum Alloy
02	CAP	Aluminum Alloy
03	DRIVE HUB	Chrome Molybdenum Steel
04	JAW	Chrome Molybdenum Steel
05	TOGGLE LEVER	Chrome Molybdenum Steel
06	RING	Steel
N01	NUT	Steel
N02	SCREW	Steel
N03	KNUCKLE PIN	Chrome Molybdenum Steel
N04	KNUCKLE PIN	Chrome Molybdenum Steel
N05	PIN	Chrome Molybdenum Steel
N06	SAFETY PIN	Steel
N07	SAFETY PIN	Steel
N08	SHAFT SEAL	NBR
N09	PISTON SEAL	NBR + Steel
N10	SCREW	Steel
N11	CAP SEAL	NBR

Dimensional Drawing

OG 530-3

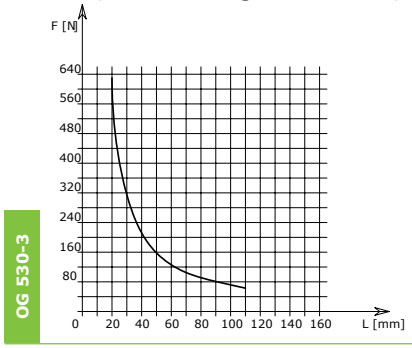


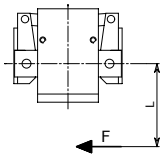
		OG 530-3
Stroke per jaw	°	7.5
Fluid consumption double stroke	cm^3 in^3	8.5 0.5
Closing moment per jaw @ 6 bar	Nm in lb	13 115
Total closing moment @ 6 bar	Nm in lb	39 345
Recommended workpiece weight	Kg lb	0.62 1.40
Weight	Kg lb	0.50 1.10
Repeat accuracy	mm in	± 0.05 ± 0.002

* Recommended workpiece weight is calculated for force-fit gripping with a coefficient of static friction of 0.15 and a safety factor of 3 against workpiece slippage.
Opening Pressure **2 - 8 bar (29 - 116 psi)**
Working Temperature **5 - 60 °C (41 - 140 °F)**
Noise Emission (Sound Pressure) **≤ 70 db(A) in any direction**

Clamping Force Diagram

Note: "**L**" value, where the diagram's line ends, represents jaws' maximum length.

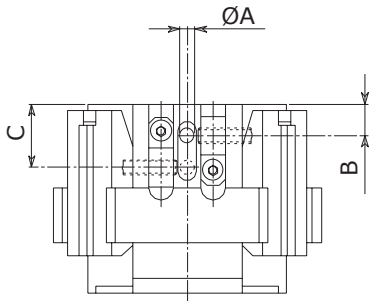




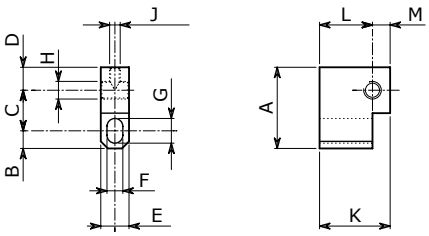
P = 6 bar

F = True clamping force per jaw - **L** = Reading distance
Values read in toggle position **(0°)**

Open-Closed Control Position with External Switches



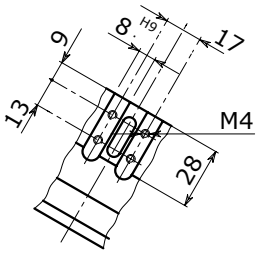
		A	B	C
OG 530-3	mm in	4 0.16	8.7 0.34	15 0.59

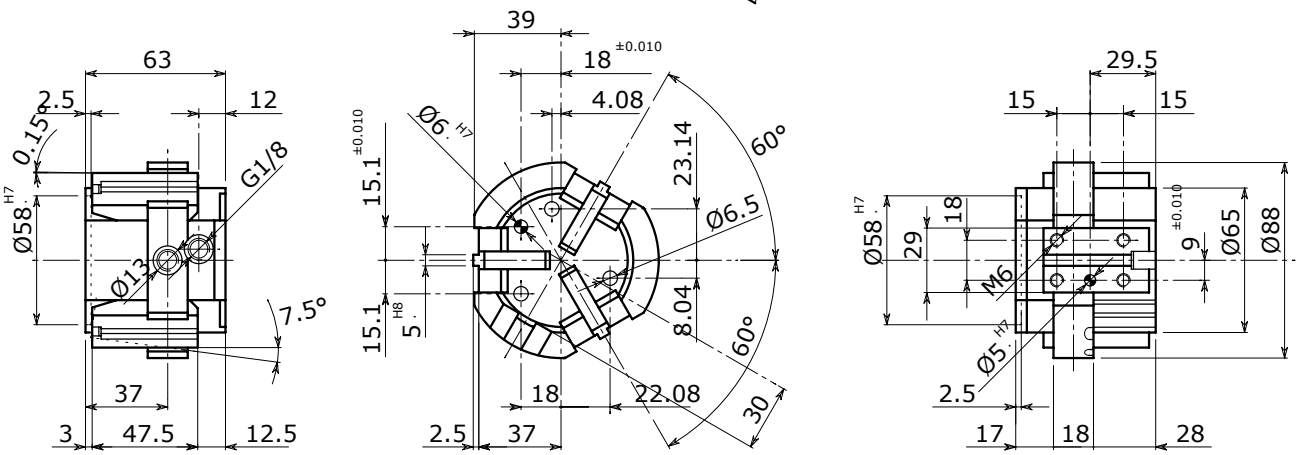


		Open/Closed control											
		A	B	C	D	E	F	G	H	J	K	L	M
OG 530-3	mm in	20 0.79	5.5 0.22	8 0.31	6.5 0.26	6 0.24	3.5 0.14	6 0.24	M5x0.5	M3	14.5 0.57	9.5 0.37	5 0.20

Dimensional Drawing

OG 550-3



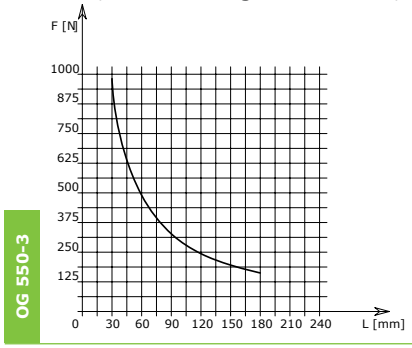


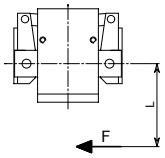
		OG 550-3
Stroke per jaw	°	7.5
Fluid consumption double stroke	cm^3 in^3	19 1.2
Closing moment per jaw @ 6 bar	Nm in lb	30 266
Total closing moment @ 6 bar	Nm in lb	90 797
Recommended workpiece weight	Kg lb	1.43 3.10
Weight	Kg lb	0.90 1.98
Repeat accuracy	mm in	± 0.05 ± 0.002

* Recommended workpiece weight is calculated for force-fit gripping with a coefficient of static friction of 0.15 and a safety factor of 3 against workpiece slippage.
Opening Pressure **2 - 8 bar (29 - 116 psi)**
Working Temperature **5 - 60 °C (41 - 140 °F)**
Noise Emission (Sound Pressure) **≤ 70 db(A) in any direction**

Clamping Force Diagram

Note: "**L**" value, where the diagram's line ends, represents jaws' maximum length.

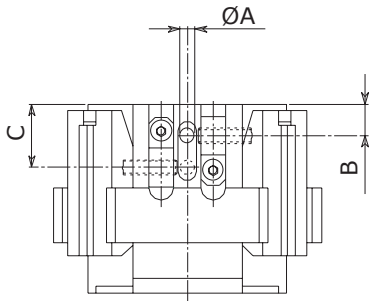




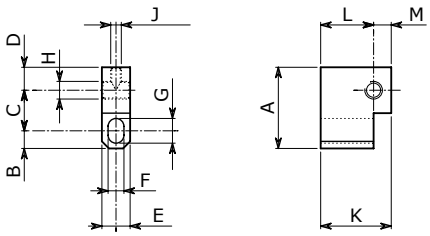
P = 6 bar

F = True clamping force per jaw - **L** = Reading distance
Values read in toggle position **(0°)**

Open-Closed Control Position with External Switches



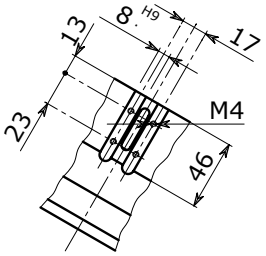
		A	B	C
OG 550-3	mm in	5 0.20	10.5 0.41	21 0.83

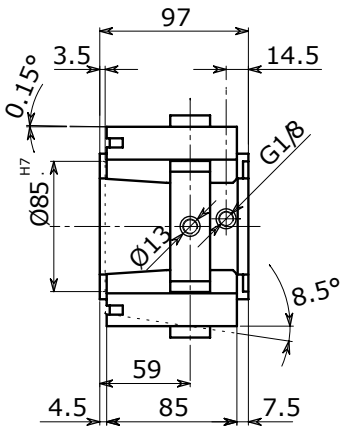


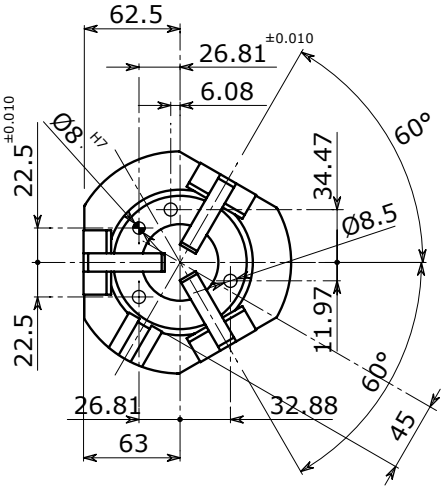
		Open/Closed control											
		A	B	C	D	E	F	G	H	J	K	L	M
OG 550-3	mm in	25 0.98	6.5 0.26	12 0.47	6.5 0.26	8 0.31	4.5 0.18	7 0.28	M5x0.5	M3	20 0.79	15 0.59	5 0.20

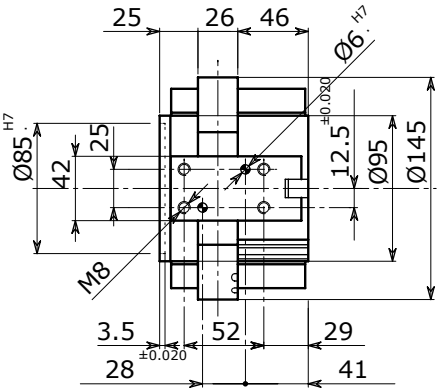
Dimensional Drawing

OG 570-3







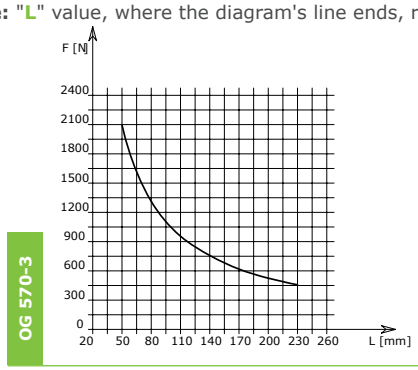


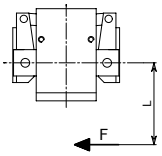
		OG 570-3
Stroke per jaw	°	8.5
Fluid consumption double stroke	cm^3 in^3	76.5 4.7
Closing moment per jaw @ 6 bar	Nm in lb	105 929
Total closing moment @ 6 bar	Nm in lb	315 2788
Recommended workpiece weight	Kg lb	5.00 11.00
Weight	Kg lb	3.80 8.36
Repeat accuracy	mm in	± 0.05 ± 0.002

* Recommended workpiece weight is calculated for force-fit gripping with a coefficient of static friction of 0.15 and a safety factor of 3 against workpiece slippage.
Opening Pressure **2 - 8 bar (29 - 116 psi)**
Working Temperature **5 - 60 °C (41 - 140 °F)**
Noise Emission (Sound Pressure) **≤ 70 db(A) in any direction**

Clamping Force Diagram

Note: "**L**" value, where the diagram's line ends, represents jaws' maximum length.

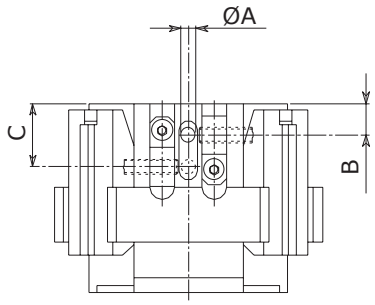




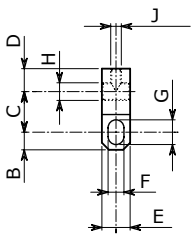
P = 6 bar

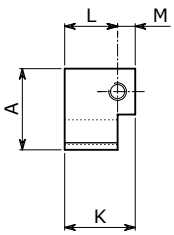
F = True clamping force per jaw - **L** = Reading distance
Values read in toggle position **(0°)**

Open-Closed Control Position with External Switches



		A	B	C
OG 570-3	mm in	5 0.20	15.5 0.61	34 1.34





		Open/Closed control											
		A	B	C	D	E	F	G	H	J	K	L	M
OG 570-3	mm in	34 1.34	6.5 0.26	21 0.83	6.5 0.26	8 0.31	4.5 0.18	7 0.28	M5x0.5	M3	25 0.98	20 0.79	5 0.20

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