

Pneumatic Toggle Grippers

OG 2-Finger

OG2 is a two-finger toggle gripper with a high grip force and non-reversible mechanism, suitable for heavy industrial applications.

Advantages

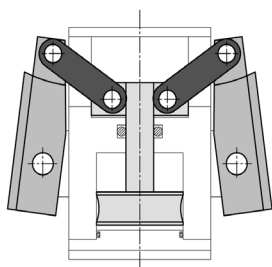
- High energy density.
- Capability to grip parts in opening and closing mode.
- Driving mechanism guided along the entire stroke giving high stability and precision.
- Large surface for finger mounting to guarantee extremely safe clamping of the workpiece.
- The toggle mechanism provides non-reversible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



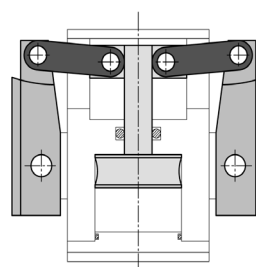
EFFECTO

GROUP

Open/Close Diagram

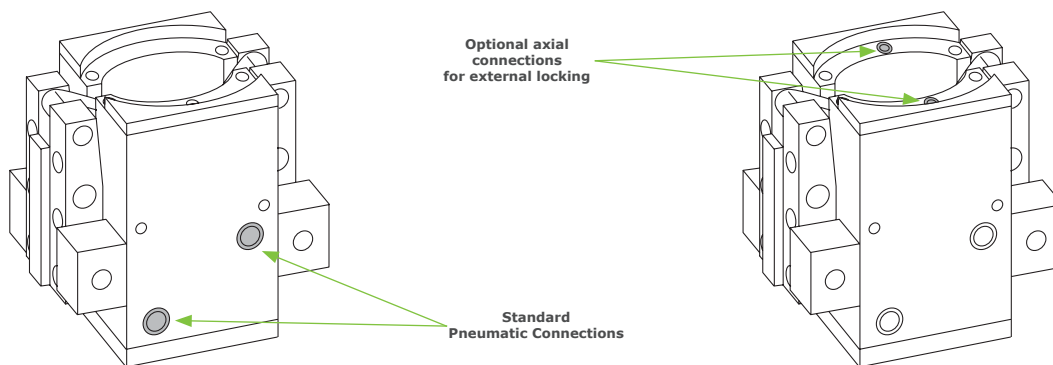


OPEN

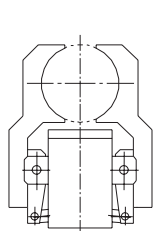


CLOSED

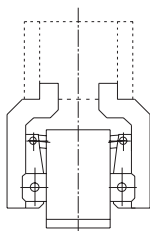
Pneumatic Feed



Gripping Diagram



External Clamping



Internal Clamping

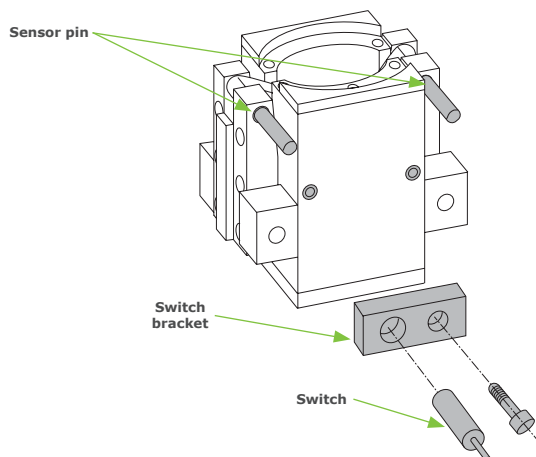
Guidelines for the selection of a gripper model

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.

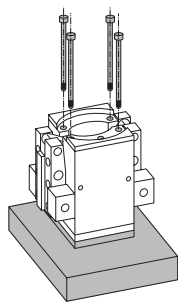
Due to inertial forces associated with motion, we recommend that the holding force of the gripper model should be from 10 to 20 times the workpiece's weight.

If the application presents high acceleration/deceleration or impacts during the motion, then a further safety margin should be considered.

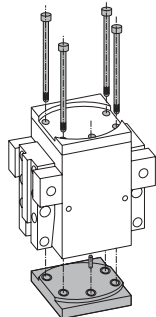
Control Diagram



Mounting

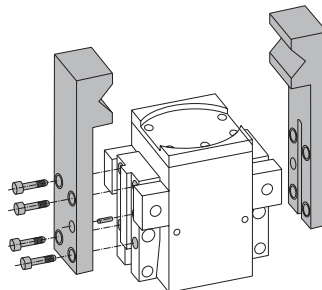


**Axial Mounting
Bottom fixing**

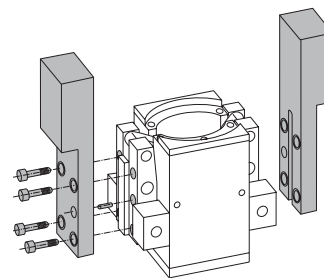


**Axial Mounting
Top fixing**

Fingers Mounting

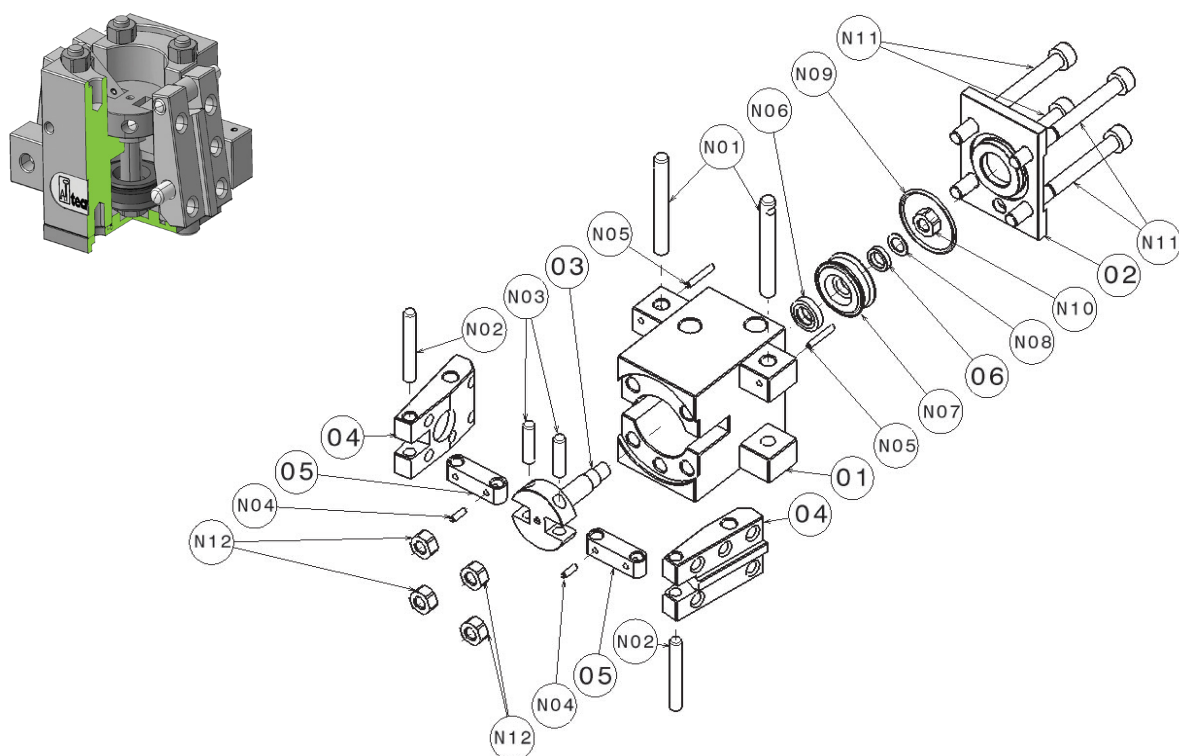


External Clamping



Internal Clamping

Construction Diagram

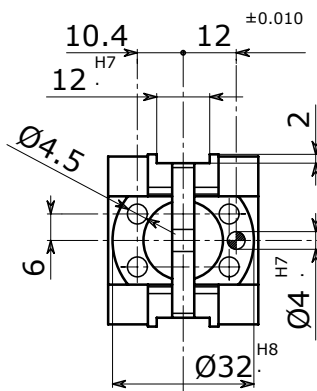
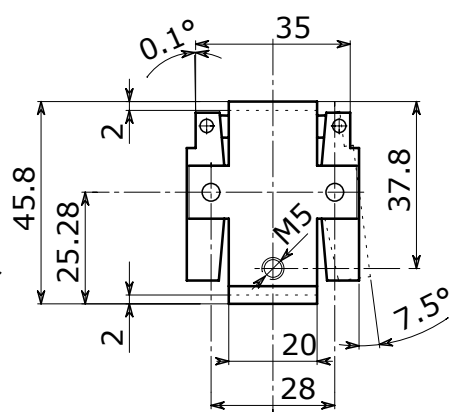
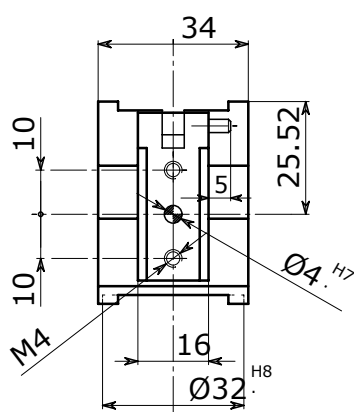
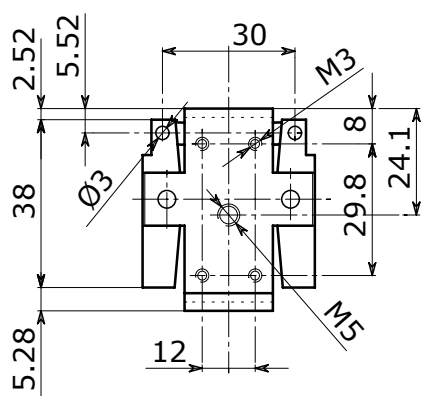


Nr.	Description	Material
01	BODY	Aluminum Alloy
02	CAP	Aluminum Alloy
03	DRIVE HUB	Chrome Molybdenum Steel
04	JAW	Chrome Molybdenum Steel
05	TOGGLE LEVER	Chrome Molybdenum Steel
06	RING	Steel
N01	PIN	Chrome Molybdenum Steel
N02	KNUCKLE PIN	Chrome Molybdenum Steel
N03	KNUCKLE PIN	Chrome Molybdenum Steel
N04	SAFETY PIN	Steel
N05	SAFETY PIN	Steel
N06	SHAFT SEAL	NBR
N07	PISTON SEAL	NBR + Steel
N08	WASHER	Steel
N09	CAP SEAL	NBR
N10	NUT	Steel
N11	SCREW	Steel
N12	NUT	Steel

Dimensional Drawing



OG S10



TECHNICAL DATA

OG 510

Stroke per jaw	°	7.5
Fluid consumption double stroke	cm ³ in ³	2.7 0.2
Closing moment per jaw @ 6 bar	Nm in lb	6.5 58
Total closing moment @ 6 bar	Nm in lb	13 115
Recommended workpiece weight	Kg lb	0.31 0.70
Weight	Kg lb	0.17 0.37
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.

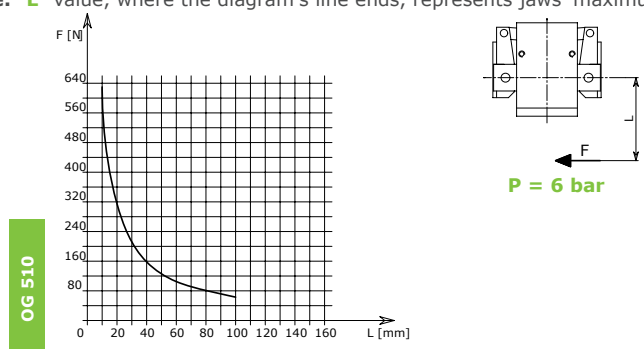
Opening Pressure **2 - 8 bar (29 - 116 psi)**

Working Temperature **5 - 60 °C (41 - 140 °F)**

Noise Emission (Sound Pressure) ≤ **70 db(A) in any direction**

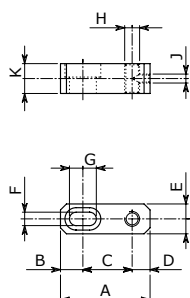
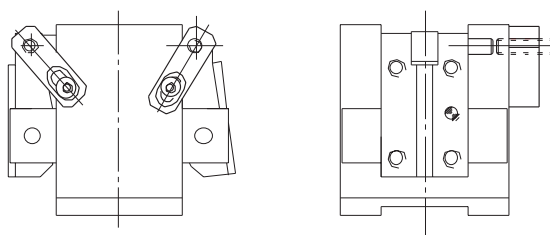
Clamping Force Diagram

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



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

Open-Closed Control Position with External Switches



OG 510

mm
in

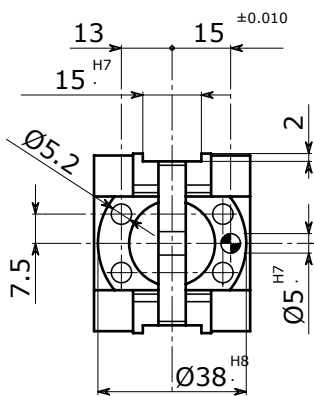
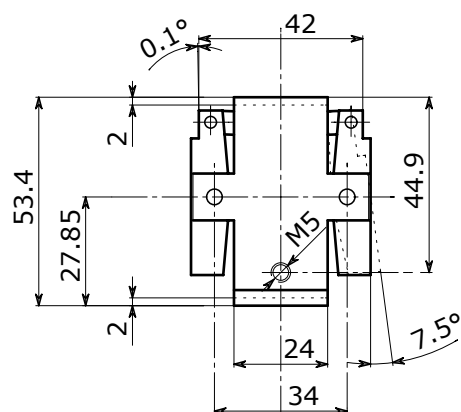
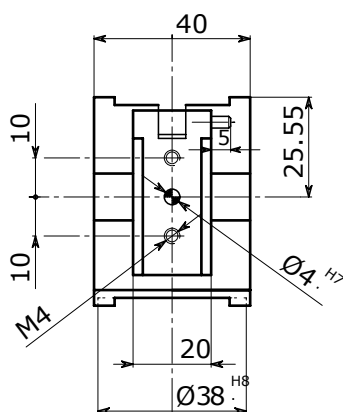
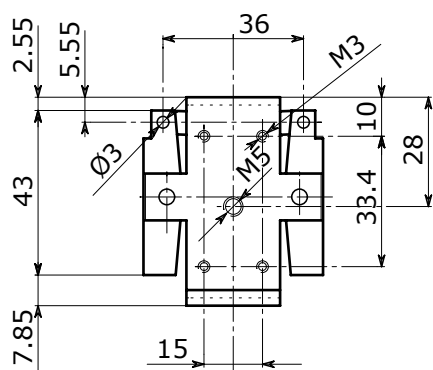
Open/Closed control

A	B	C	D	E	F	G	H	J	K
22 0.87	7 0.28	8.5 0.33	6.5 0.26	9 0.35	3.5 0.14	7 0.28	M5x0.5	M3	8 0.31

Dimensional Drawing



OG 530



TECHNICAL DATA

OG 530

Stroke per jaw	°	7.5
Fluid consumption double stroke	cm ³ in ³	5 0.3
Closing moment per jaw @ 6 bar	Nm in lb	13 115
Total closing moment @ 6 bar	Nm in lb	26 230
Recommended workpiece weight	Kg lb	0.62 1.40
Weight	Kg lb	0.28 0.62
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.

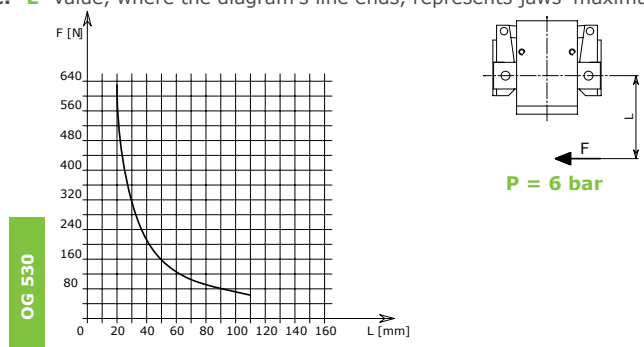
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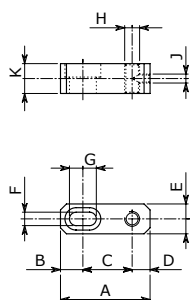
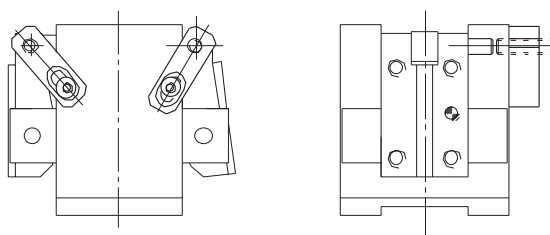
Clamping Force Diagram

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Values read in toggle position (0°)

Open-Closed Control Position with External Switches

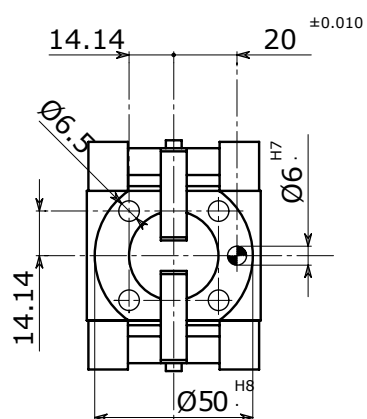
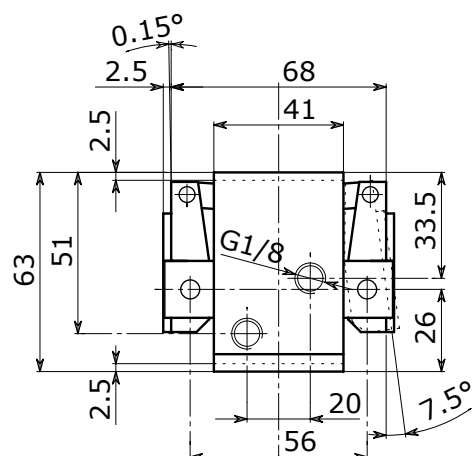
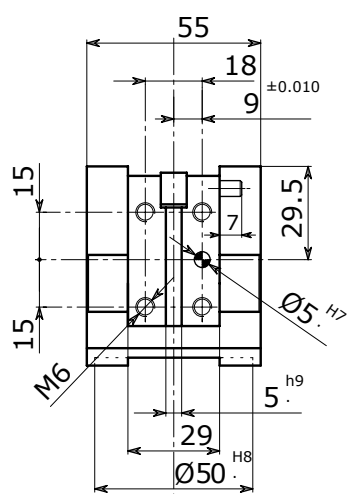


OG 530

mm
in

Open/Closed control

A	B	C	D	E	F	G	H	J	K
23.5 0.93	7 0.28	10 0.39	6.5 0.26	9 0.35	3.5 0.14	7 0.28	M5x0.5	M3	8 0.31



TECHNICAL DATA

OG 550-7.5°

Stroke per jaw	°	7.5
Fluid consumption double stroke	cm ³ in ³	11.5 0.7
Closing moment per jaw @ 6 bar	Nm in lb	30 266
Total closing moment @ 6 bar	Nm in lb	60 532
Recommended workpiece weight	Kg lb	1.43 3.10
Weight	Kg lb	0.63 1.38
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.

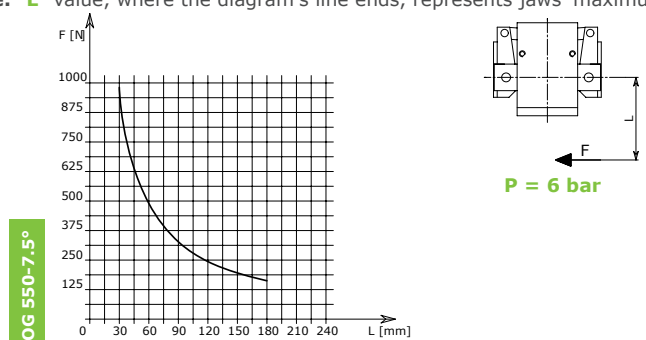
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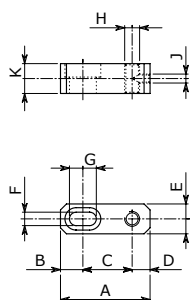
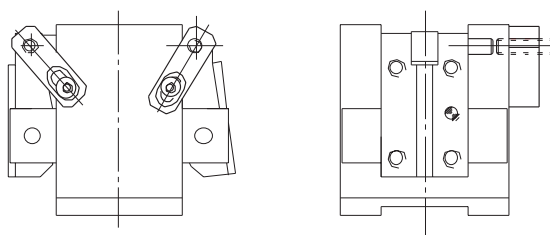
Clamping Force Diagram

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Values read in toggle position (0°)

Open-Closed Control Position with External Switches



OG 550-7.5°

mm
in

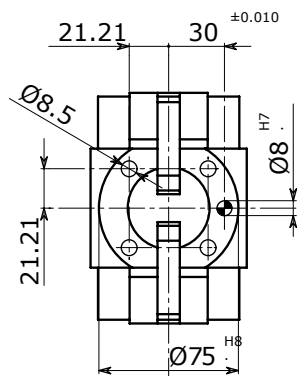
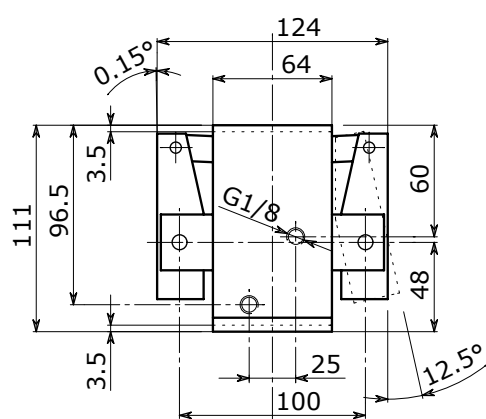
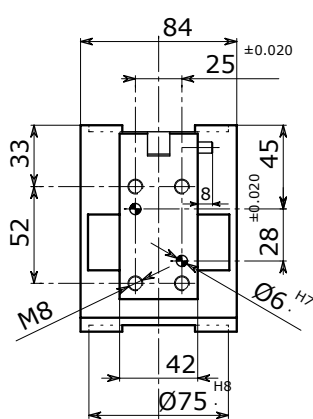
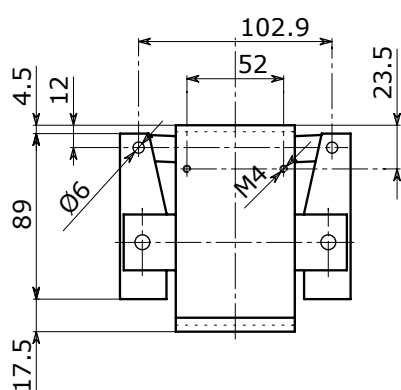
Open/Closed control

A	B	C	D	E	F	G	H	J	K
32 1.26	8.5 0.33	17 0.67	6.5 0.26	10 0.39	4.5 0.18	9 0.35	M5x0.5	M3	10 0.39

Dimensional Drawing



OG 550-12.5°



TECHNICAL DATA

OG 550-12.5°

Stroke per jaw	°	12.5
Fluid consumption double stroke	cm ³ in ³	11.5 0.7
Closing moment per jaw @ 6 bar	Nm in lb	30 266
Total closing moment @ 6 bar	Nm in lb	60 532
Recommended workpiece weight	Kg lb	1.43 3.10
Weight	Kg lb	0.72 1.58
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.

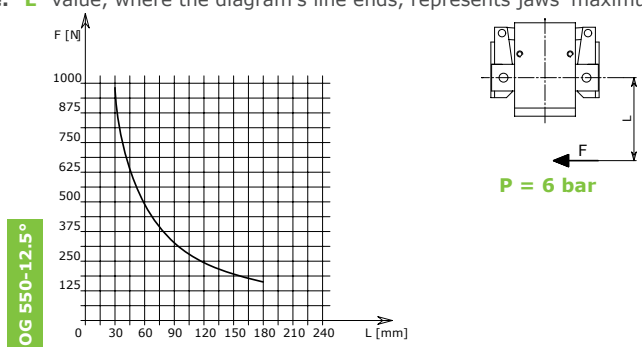
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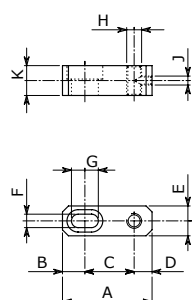
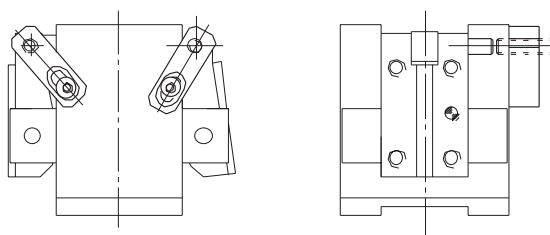
Clamping Force Diagram

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



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

Open-Closed Control Position with External Switches



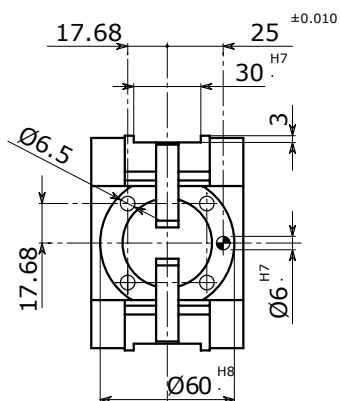
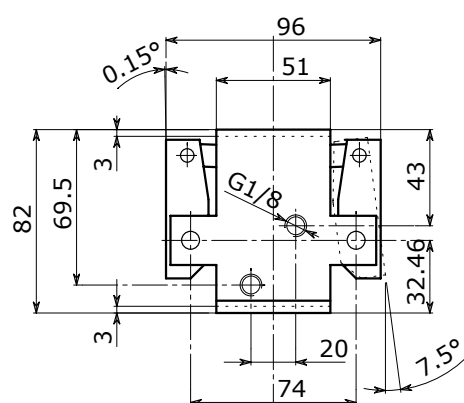
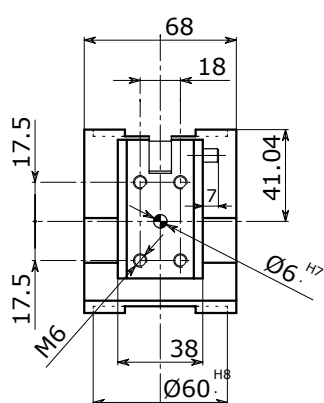
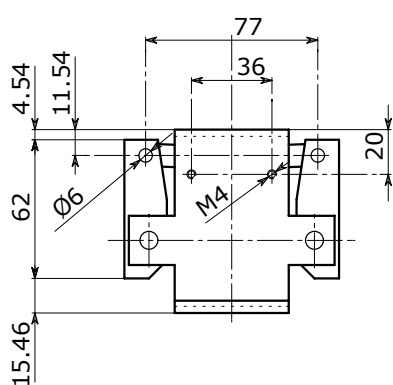
OG 550-12.5°

Open/Closed control										
	A	B	C	D	E	F	G	H	J	K
mm	33.5	8.5	18.5	6.5	10	4.5	9	M5x0.5	M3	10
in	1.32	0.33	0.73	0.26	0.39	0.18	0.35			0.39

Dimensional Drawing



OG 565



TECHNICAL DATA

OG 565

Stroke per jaw	°	7.5
Fluid consumption double stroke	cm ³ in ³	26 1.6
Closing moment per jaw @ 6 bar	Nm in lb	48 425
Total closing moment @ 6 bar	Nm in lb	96 850
Recommended workpiece weight	Kg lb	2.29 5.00
Weight	Kg lb	1.20 2.64
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.

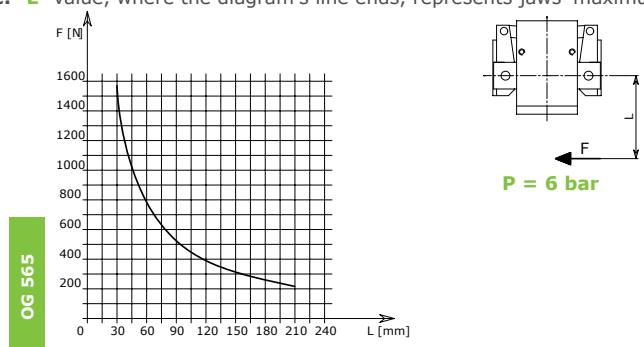
Opening Pressure **2 - 8 bar (29 - 116 psi)**

Working Temperature **5 - 60 °C (41 - 140 °F)**

Noise Emission (Sound Pressure) ≤ **70 db(A) in any direction**

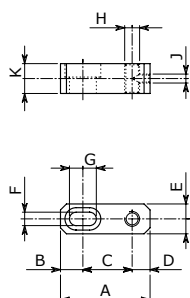
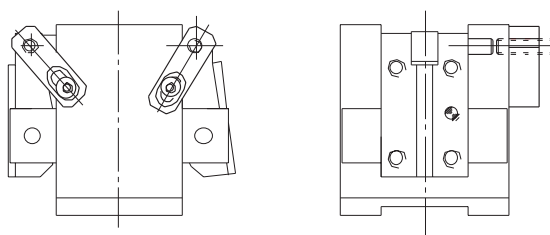
Clamping Force Diagram

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



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

Open-Closed Control Position with External Switches



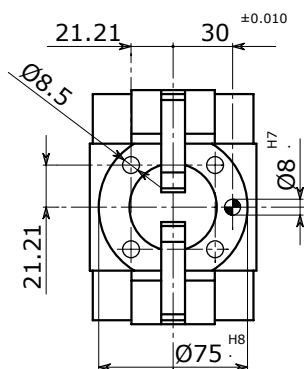
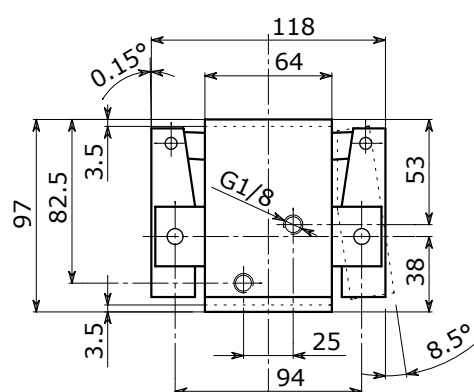
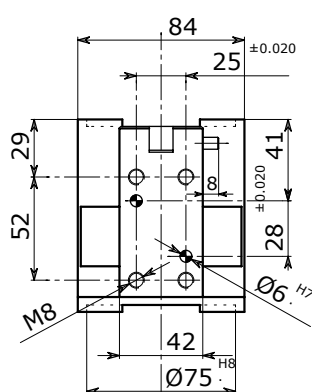
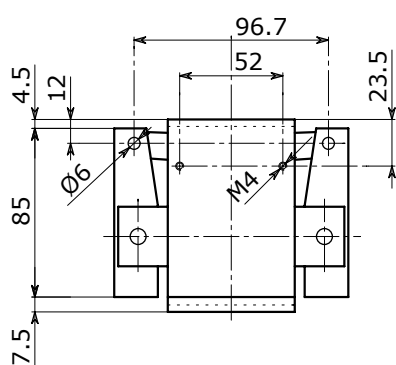
OG 565

Open/Closed control										
A	B	C	D	E	F	G	H	J	K	
35	8.5	20	6.5	10	4.5	10	M5x0.5	M3	10	
1.38	0.33	0.79	0.26	0.39	0.18	0.39			0.39	

Dimensional Drawing



OG 570-8.5°



OG 570-8.5°

TECHNICAL DATA

OG 570-8.5°

Stroke per jaw	°	8.5
Fluid consumption double stroke	cm ³ in ³	48.5 3
Closing moment per jaw @ 6 bar	Nm in lb	105 929
Total closing moment @ 6 bar	Nm in lb	210 1859
Recommended workpiece weight	Kg lb	5.00 11.00
Weight	Kg lb	2.55 5.61
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.

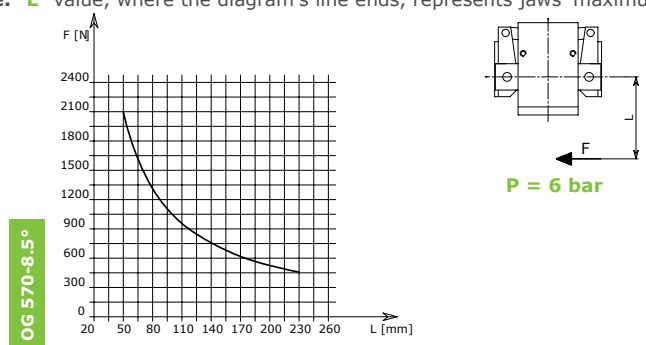
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Working Temperature **5 - 60 °C (41 - 140 °F)**

Noise Emission (Sound Pressure) ≤ **70 db(A) in any direction**

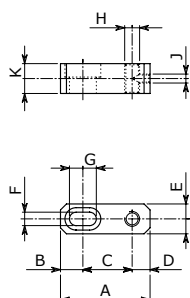
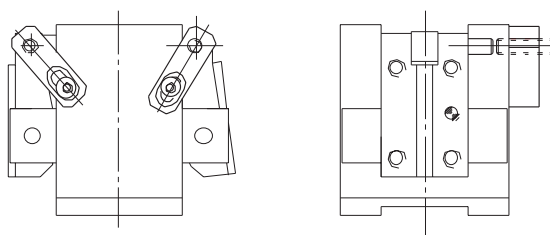
Clamping Force Diagram

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



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

Open-Closed Control Position with External Switches



OG 570-8.5°

mm
in

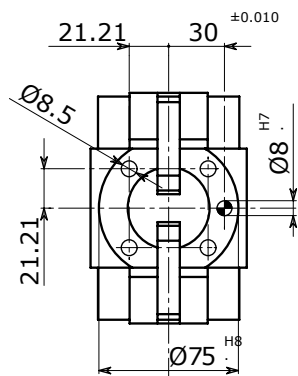
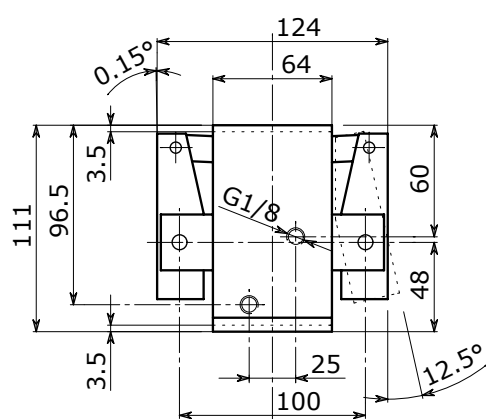
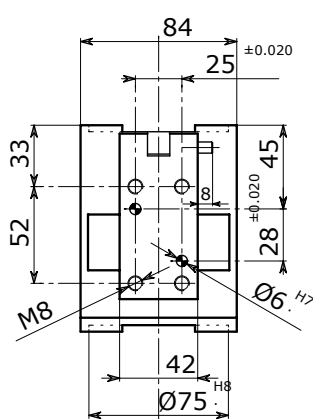
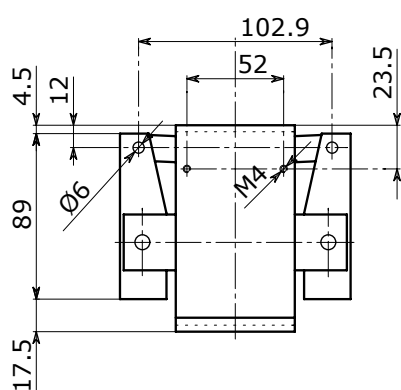
Open/Closed control

A	B	C	D	E	F	G	H	J	K
39 1.54	10 0.39	22.5 0.89	6.5 0.26	10 0.39	4.5 0.18	12 0.47	M5x0.5	M3	10 0.39

Dimensional Drawing



OG 570-12.5°



OG 570-12.5°

TECHNICAL DATA

OG 570-12.5°

Stroke per jaw	°	12.5
Fluid consumption double stroke	cm ³ in ³	65 4
Closing moment per jaw @ 6 bar	Nm in lb	105 929
Total closing moment @ 6 bar	Nm in lb	210 1859
Recommended workpiece weight	Kg lb	5.00 11.00
Weight	Kg lb	2.72 5.98
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.

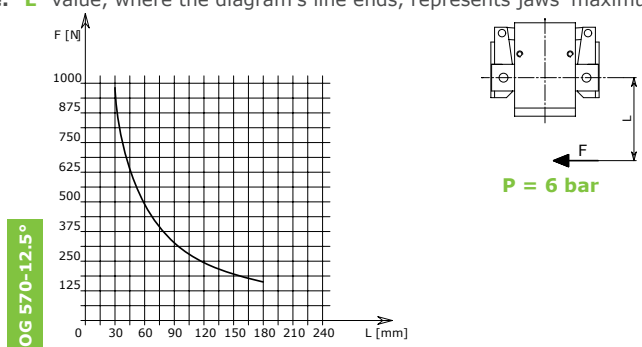
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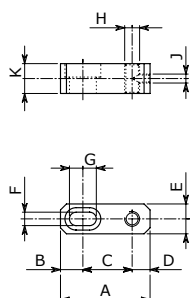
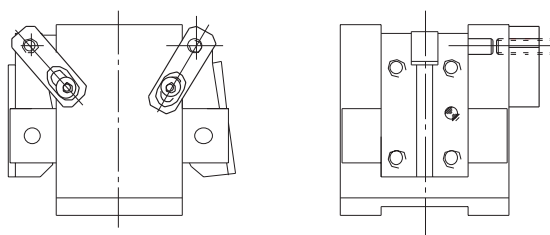
Clamping Force Diagram

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

Open-Closed Control Position with External Switches



OG 570-12.5°

mm
in

Open/Closed control

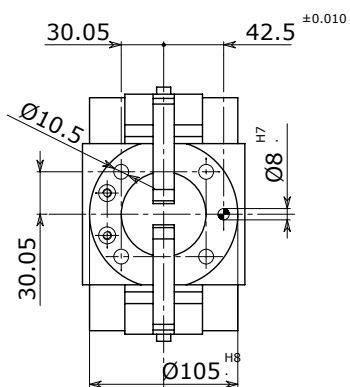
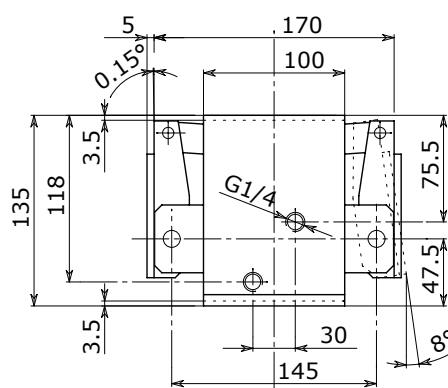
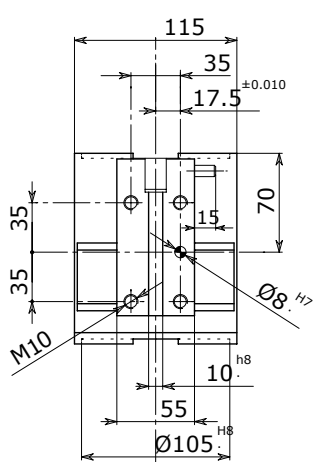
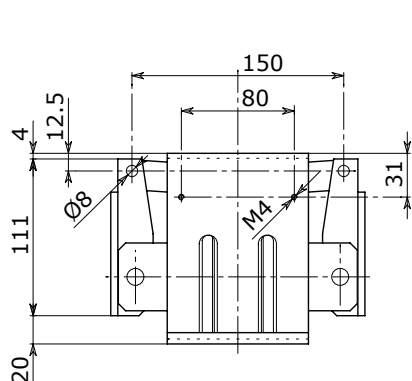
A	B	C	D	E	F	G	H	J	K
42 1.65	12 0.47	23.5 0.93	6.5 0.26	10 0.39	4.5 0.18	16 0.63	M5x0.5	M3	10 0.39

OG 570-12.5°

Dimensional Drawing



OG 575-8^o



TECHNICAL DATA

OG 575-8°

Stroke per jaw	°	8
Fluid consumption double stroke	cm ³ in ³	195 11.9
Closing moment per jaw @ 6 bar	Nm in lb	440 3894
Total closing moment @ 6 bar	Nm in lb	880 7789
Recommended workpiece weight	Kg lb	20.95 46.10
Weight	Kg lb	6.50 14.30
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.

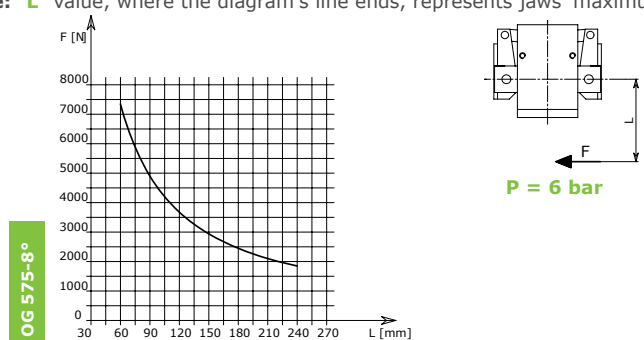
Opening Pressure **2 - 8 bar (29 - 116 psi)**

Working Temperature **5 - 60 °C (41 - 140 °F)**

Noise Emission (Sound Pressure) **≤ 70 db(A) in any direction**

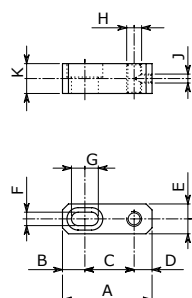
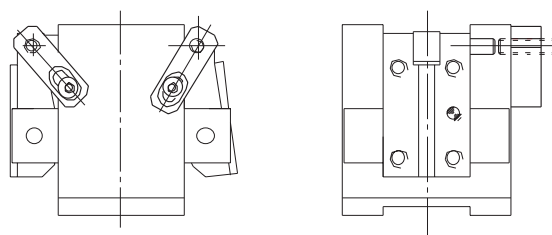
Clamping Force Diagram

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



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

Open-Closed Control Position with External Switches



OG 575-8°

mm
in

Open/Closed control

A	B	C	D	E	F	G	H	J	K
56 2.20	12 0.47	35 1.38	9 0.35	12 0.47	4.5 0.18	16 0.63	M8x1	M4	12 0.47

OG 575-8°



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