

Pneumatic Toggle Grippers

OG-A 2-Finger

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

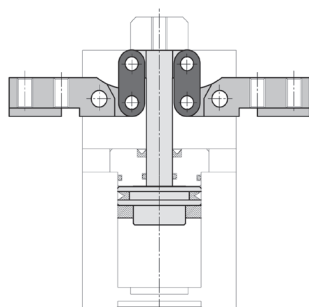
Advantages

- High energy density.
- 180° jaw opening allows for part clearance without having to back the gripper out of the workspace
- Driving mechanism guided along the entire stroke
- The toggle mechanism provides non-reversible gripping in the opening and closing positions, even without air pressure
- The opening stroke is adjustable.
- A special finger mounting system allows fine adjustment of the gripping point.
- Mounting from two sides in two screw directions for versatile and flexible integration.
- Integrated permanent magnets for direct monitoring of piston movement.
- Slots for mounting and positioning of magnetic-field sensors.
- Air supply via screw connection or hose-free direct connection.

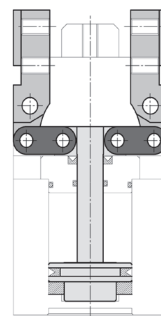


EFFECTO
GROUP

Open/Close Diagram

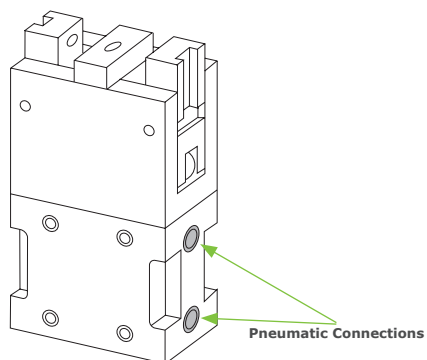


OPEN

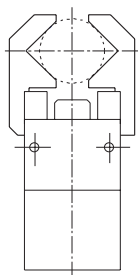


CLOSED

Pneumatic Feed



Gripping Diagram



External 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.

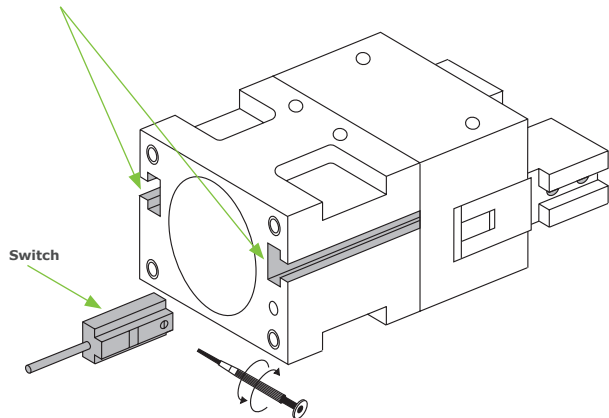
Due to inertial forces associated with motion, we recommend that the holding force of the gripper model should be from 10 to 20 times the workpiece's weight.

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

Control Diagram

Switch housing

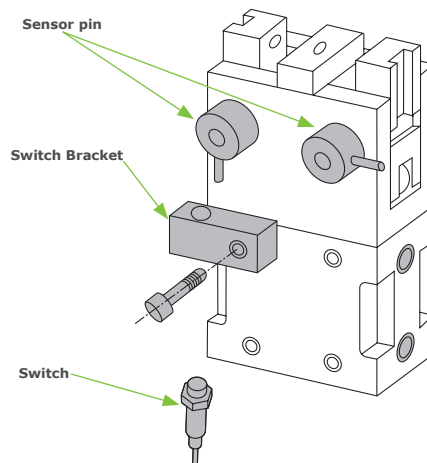
Switch



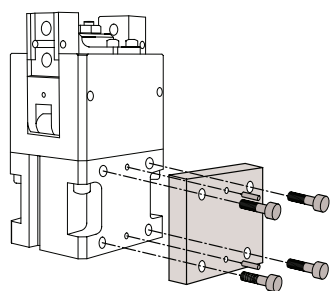
Sensor pin

Switch Bracket

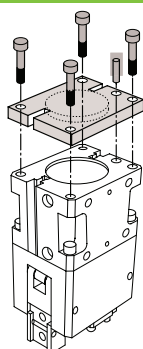
Switch



Mounting

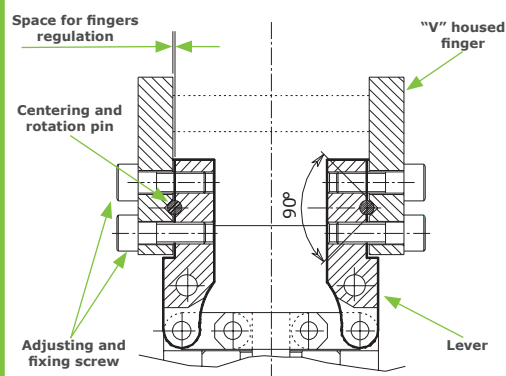


Side Mounting

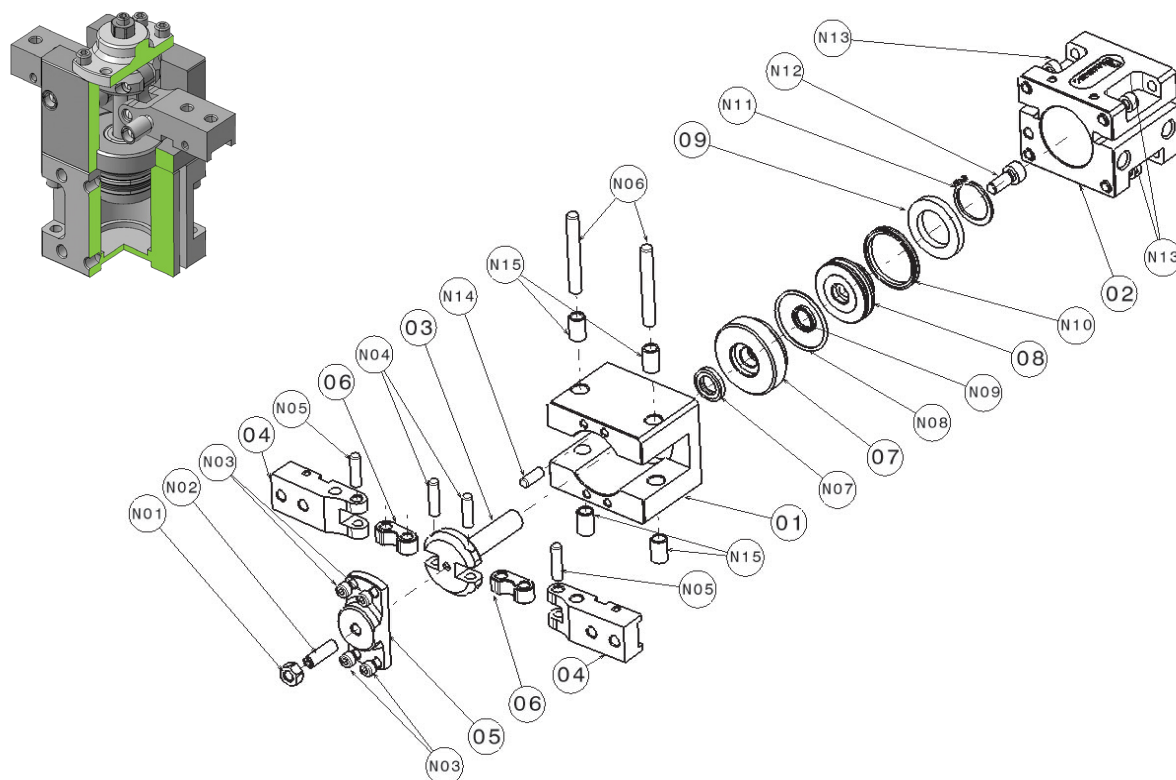


Axial Mounting
Bottom fixing

Fingers Mounting



Construction Diagram

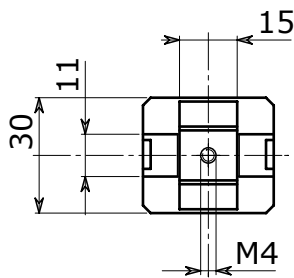
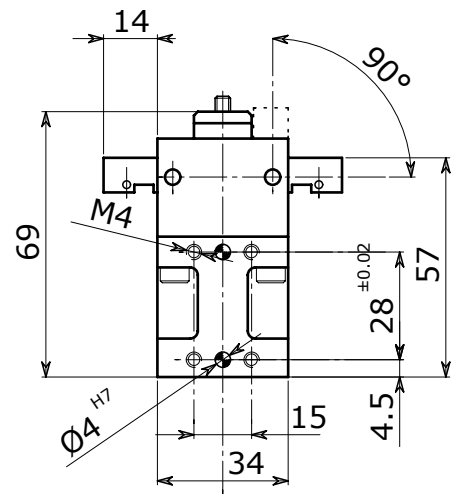
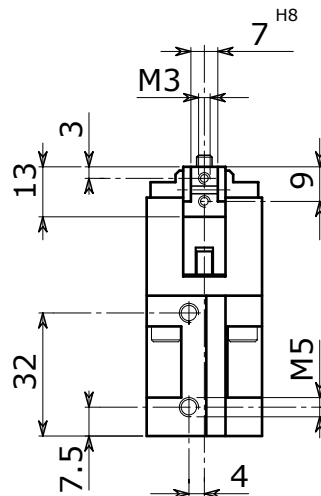
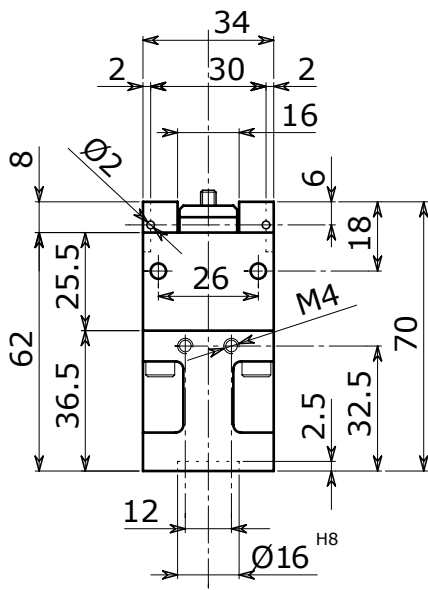


Nr.	Description	Material
01	BODY	Aluminum Alloy
02	CYLINDER	Aluminum Alloy
03	DRIVE HUB	Chrome Molybdenum Steel
04	JAW	Chrome Molybdenum Steel
05	PLATE	Steel
06	TOGGLE LEVER	Chrome Molybdenum Steel
07	PILOT BOSS	Bronze
08	PISTON	Aluminum Alloy
09	MAGNET	Rubber Magnet
N01	NUT	Steel
N02	SCREW	Steel
N03	SCREW	Steel
N04	KNUCKLE PIN	Chrome Molybdenum Steel
N05	KNUCKLE PIN	Chrome Molybdenum Steel
N06	PIN	Chrome Molybdenum Steel
N07	SHAFT SEAL	NBR
N08	CAP SEAL	NBR
N09	PISTON SEAL	NBR
N10	PISTON SEAL	NBR
N11	SEEGER	Steel
N12	SCREW	Steel
N13	SCREW	Steel
N14	PIN	Steel
N15	BUSHING	Bronze

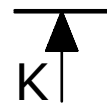
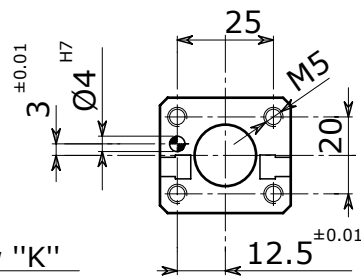
Dimensional Drawing



OC16 A



view "K"



TECHNICAL DATA

OG 16 A

Stroke per jaw	°	90
Fluid consumption double stroke	cm ³ in ³	5.5 0.3
Closing moment per jaw @ 6 bar	Nm in lb	1.4 12
Total closing moment @ 6 bar	Nm in lb	2.8 25
Recommended workpiece weight	Kg lb	0.07 0.15
Weight	Kg lb	0.20 0.44
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.

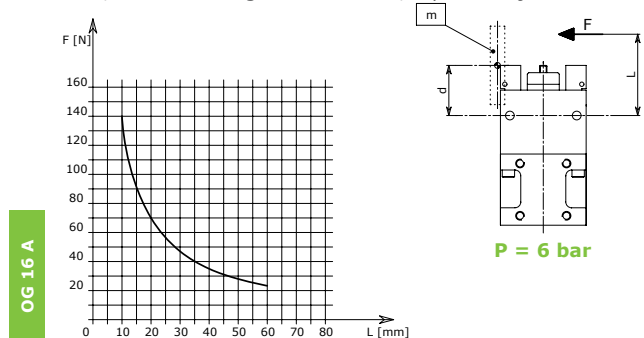
Opening Pressure **2 - 8 bar (29 - 116 psi)**

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

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

Clamping Force Diagram

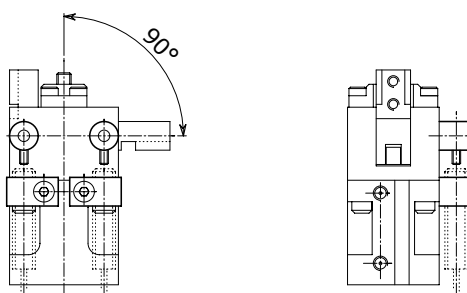
Note: "L" value, where the diagram's line ends, represents jaws' maximum length.



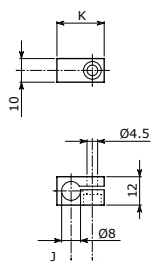
F = True clamping force per jaw - **L** = Reading distance - **d** = Distance from finger center of gravity to lever rotation fulcrum - **m** = Finger mass
Values read in toggle position (**0°**)

Open-Closed Control Position with External Switches

This accessory has to be required together with the gripper. It is not available separately.



Switch bracket



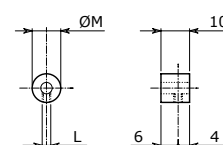
OG 16 A

mm
in

Open/Closed control

J	K	L	M
7 0.28	18 0.71	M3	10 0.40

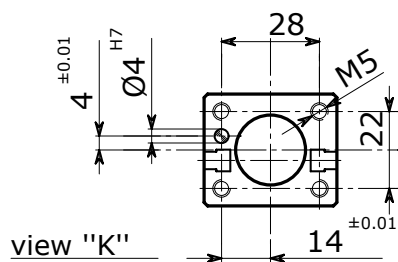
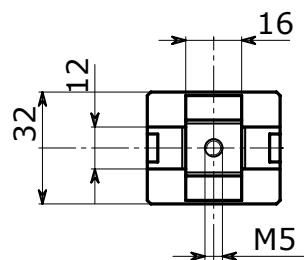
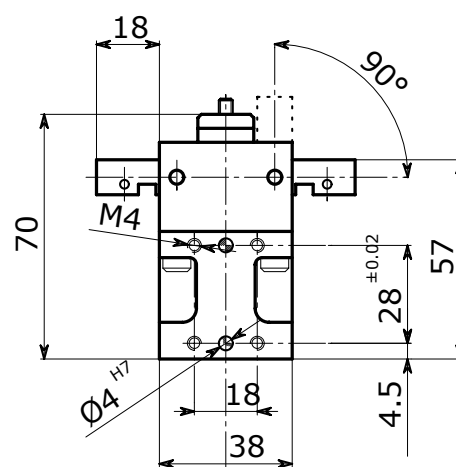
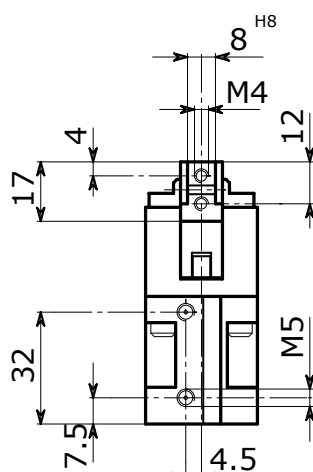
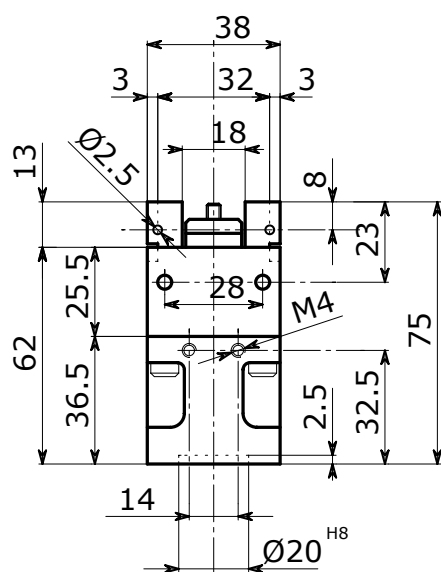
Sensor pin



Dimensional Drawing



OG20 A



TECHNICAL DATA

OG 20 A

Stroke per jaw	°	90
Fluid consumption double stroke	cm ³ in ³	8.3 0.5
Closing moment per jaw @ 6 bar	Nm in lb	2 18
Total closing moment @ 6 bar	Nm in lb	4 36
Recommended workpiece weight	Kg lb	0.10 0.21
Weight	Kg lb	0.24 0.53
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.

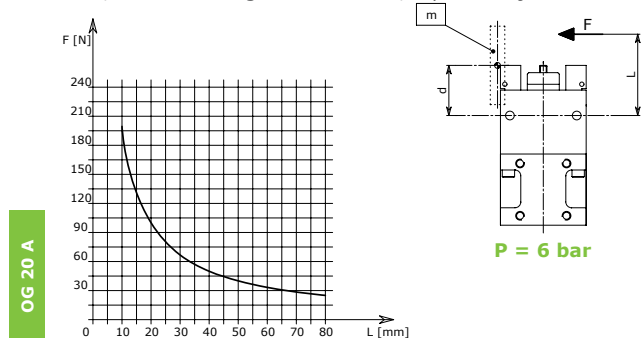
Opening Pressure **2 - 8 bar (29 - 116 psi)**

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

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

Clamping Force Diagram

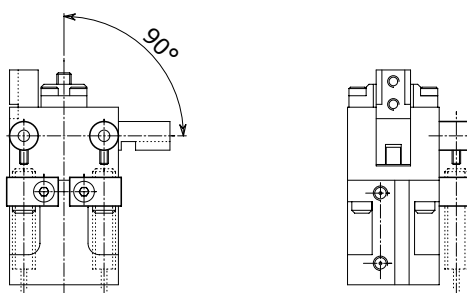
Note: "L" value, where the diagram's line ends, represents jaws' maximum length.



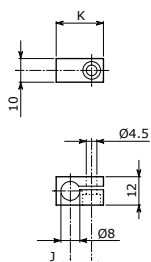
F = True clamping force per jaw - **L** = Reading distance - **d** = Distance from finger center of gravity to lever rotation fulcrum - **m** = Finger mass
Values read in toggle position (**0°**)

Open-Closed Control Position with External Switches

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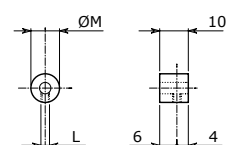
Switch bracket



Open/Closed control

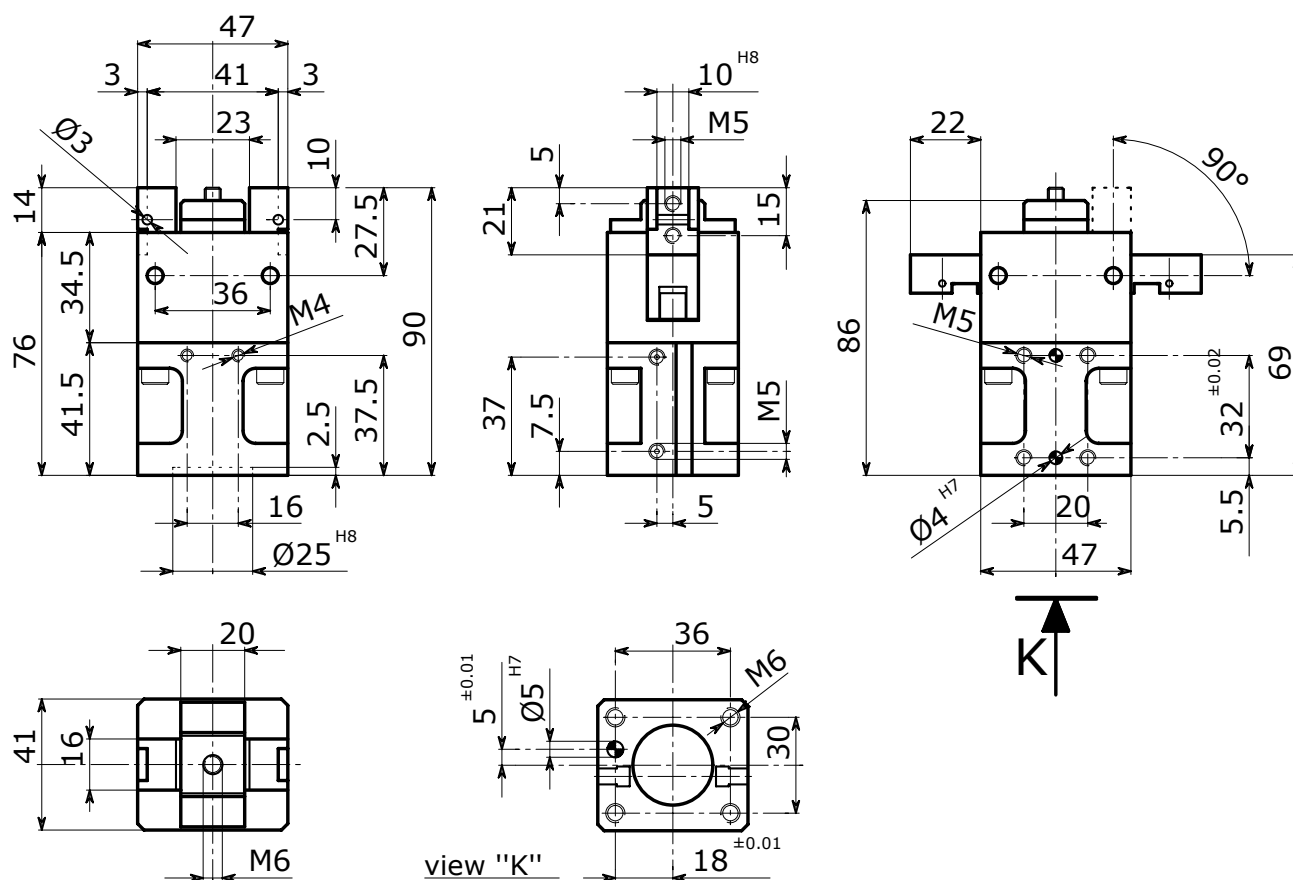
		J	K	L	M
		mm	mm	mm	mm
OG 20 A	mm	7	18	M3	10
	in	0.28	0.71		0.40

Sensor pin





OG 25 A



סמל

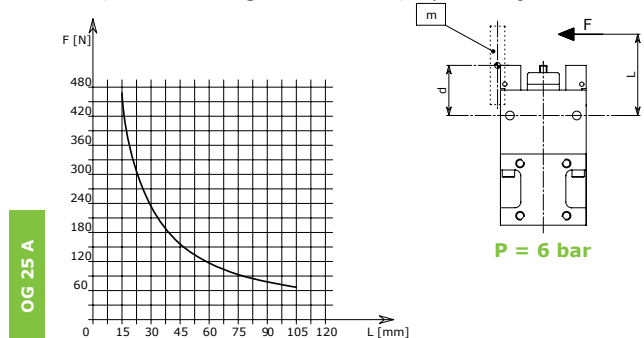
Stroke per jaw	°	90
Fluid consumption double stroke	cm ³ in ³	18 1.1
Closing moment per jaw @ 6 bar	Nm in lb	7 62
Total closing moment @ 6 bar	Nm in lb	14 124
Recommended workpiece weight	Kg lb	0.33 0.73
Weight	Kg lb	0.46 1.01
Repeat accuracy	mm in	± 0.05 ± 0.002

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

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

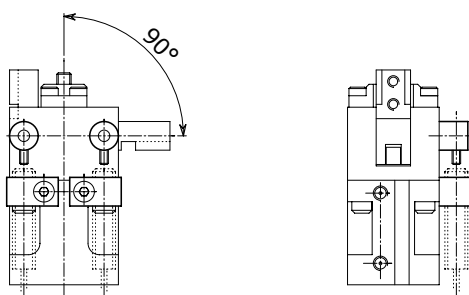
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Note: "L" value, where the diagram's line ends, represents jaws' maximum length.



F = True clamping force per jaw - **L** = Reading distance - **d** = Distance from finger center of gravity to lever rotation fulcrum - **m** = Finger mass
Values read in toggle position (**0°**)

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OG 25 A

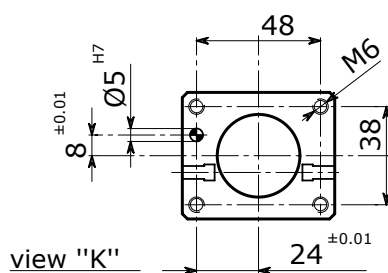
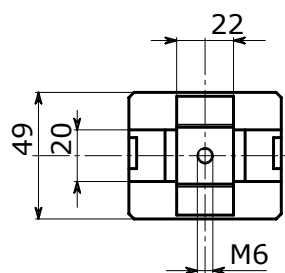
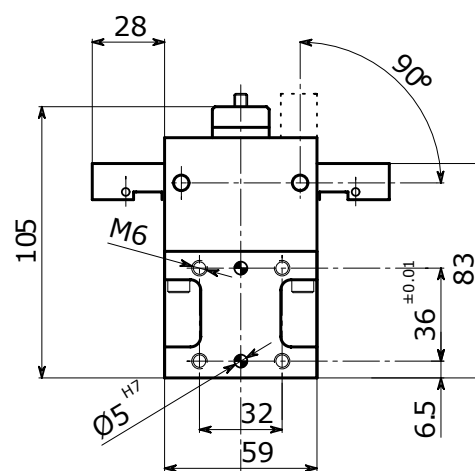
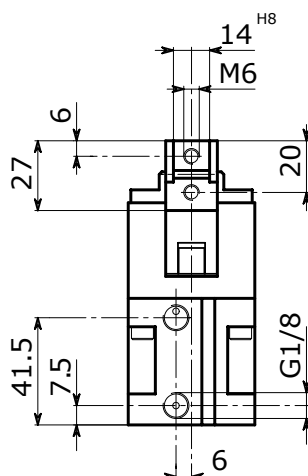
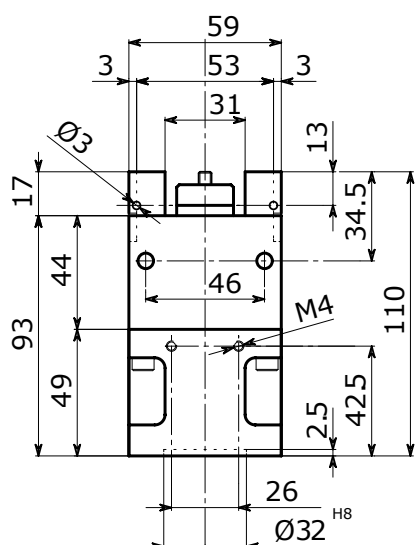
mm
in

Open/Closed control			
J	K	L	M
10 0.40	21 0.82	M4	15 0.59

Dimensional Drawing



OG 32 A



TECHNICAL DATA

OG 32 A

Stroke per jaw	°	90
Fluid consumption double stroke	cm ³ in ³	38.5 2.4
Closing moment per jaw @ 6 bar	Nm in lb	25 221
Total closing moment @ 6 bar	Nm in lb	50 443
Recommended workpiece weight	Kg lb	1.19 2.62
Weight	Kg lb	0.80 1.76
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.

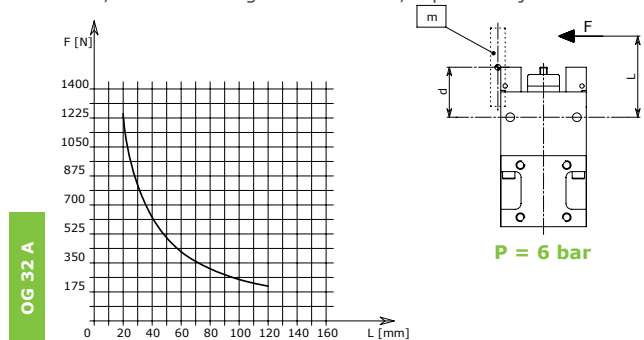
Opening Pressure **2 - 8 bar (29 - 116 psi)**

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

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

Clamping Force Diagram

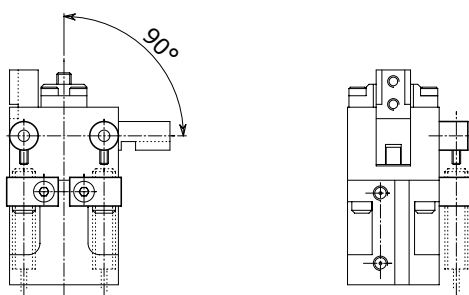
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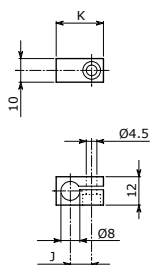
F = True clamping force per jaw - **L** = Reading distance - **d** = Distance from finger center of gravity to lever rotation fulcrum - **m** = Finger mass
Values read in toggle position (**0°**)

Open-Closed Control Position with External Switches

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Switch bracket



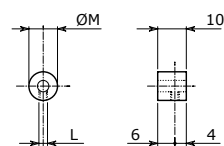
OG 32 A

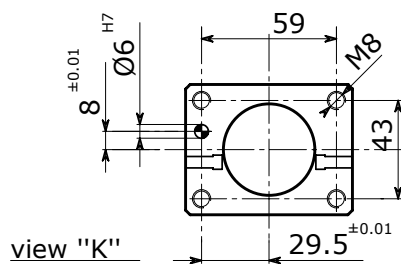
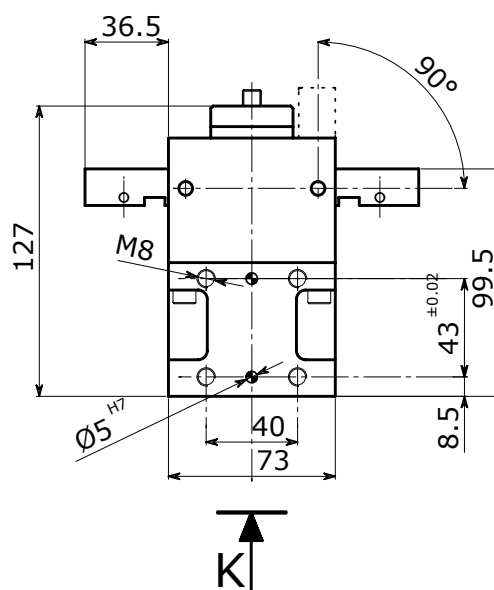
mm
in

Open/Closed control

J	K	L	M
10 0.40	21 0.82	M4	16 0.63

Sensor pin





TECHNICAL DATA

OG 40 A

Stroke per jaw	°	90
Fluid consumption double stroke	cm ³ in ³	77 4.7
Closing moment per jaw @ 6 bar	Nm in lb	40 354
Total closing moment @ 6 bar	Nm in lb	80 708
Recommended workpiece weight	Kg lb	1.90 4.19
Weight	Kg lb	1.80 3.96
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.

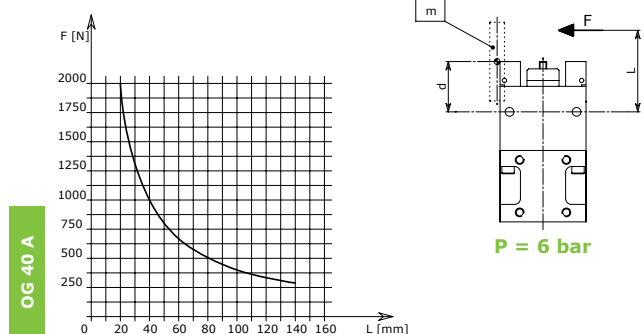
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Clamping Force Diagram

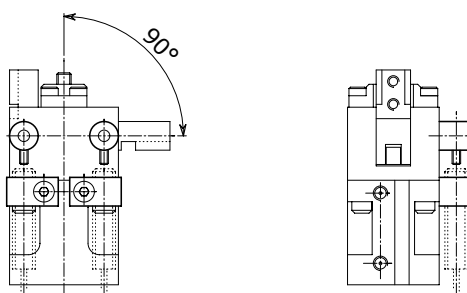
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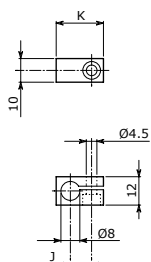
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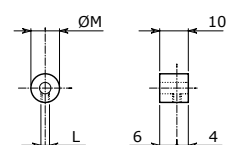
Switch bracket



Open/Closed control

		J	K	L	M
		mm	mm	mm	mm
OG 40 A	mm	14	25	M4	16
	in	0.55	0.98		0.63

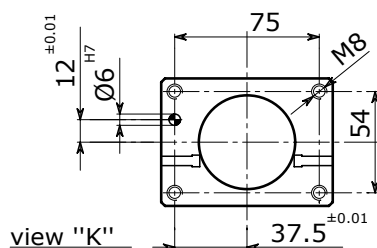
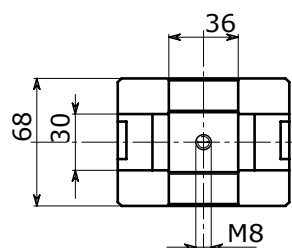
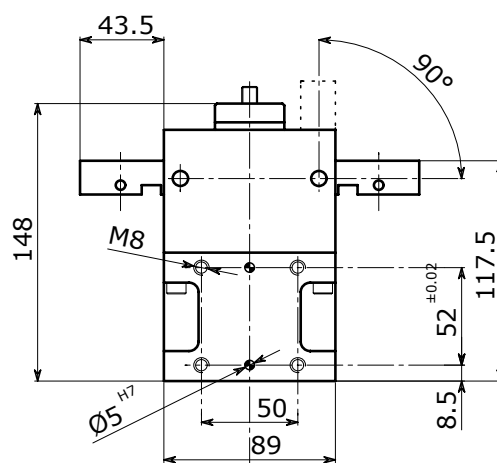
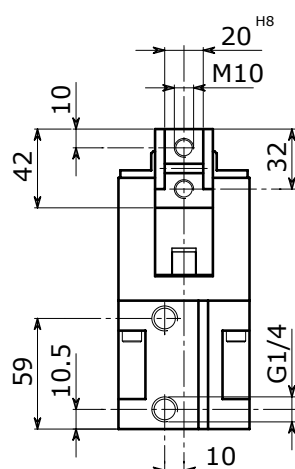
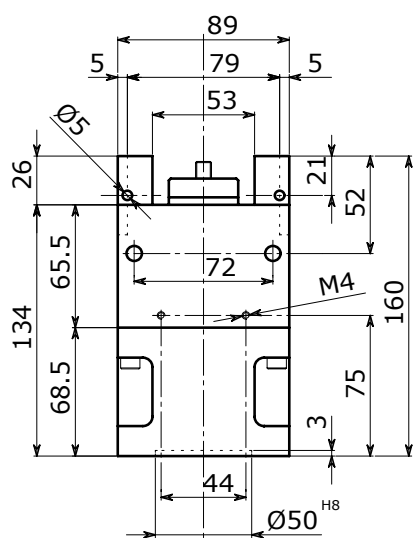
Sensor pin



Dimensional Drawing



OG 50 A



K

TECHNICAL DATA

OG 50 A

Stroke per jaw	°	90
Fluid consumption double stroke	cm ³ in ³	151 9.21
Closing moment per jaw @ 6 bar	Nm in lb	50 442
Total closing moment @ 6 bar	Nm in lb	100 885
Recommended workpiece weight	Kg lb	2.38 5.24
Weight	Kg lb	3.00 6.60
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.

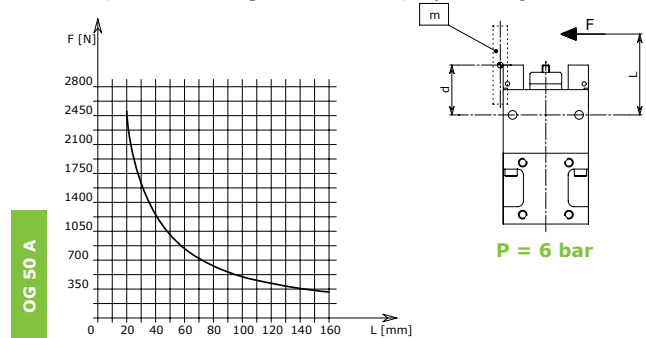
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Clamping Force Diagram

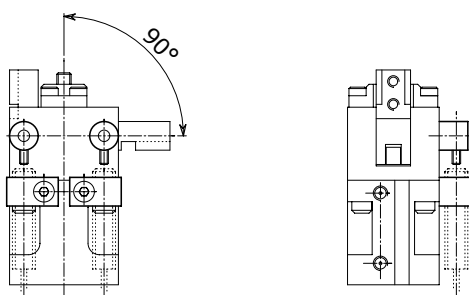
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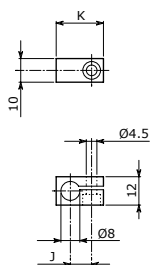
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Open-Closed Control Position with External Switches

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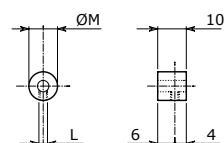
Switch bracket



Open/Closed control

		J	K	L	M
		mm	mm	mm	mm
OG 50 A	mm	14	25	M5	20
	in	0.55	0.98		0.79

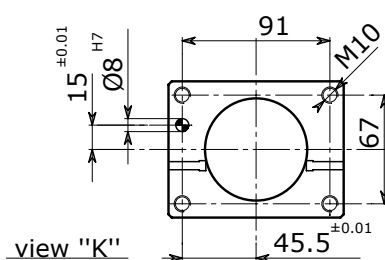
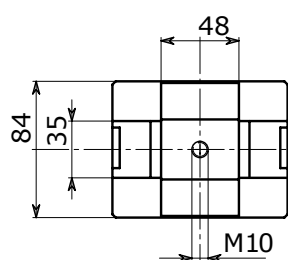
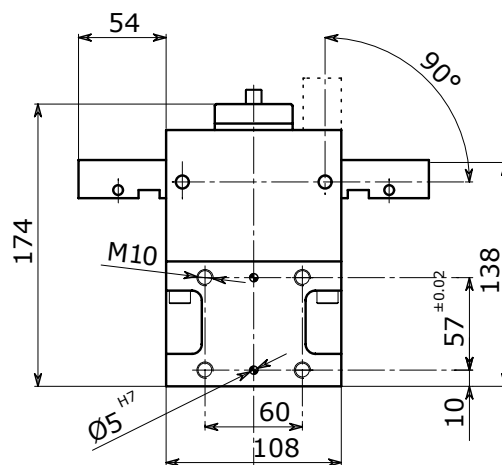
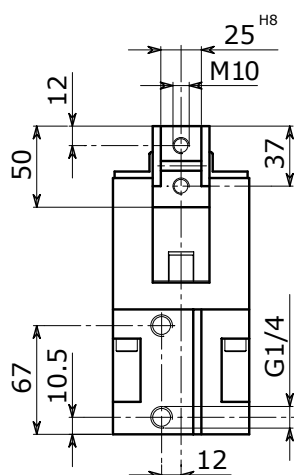
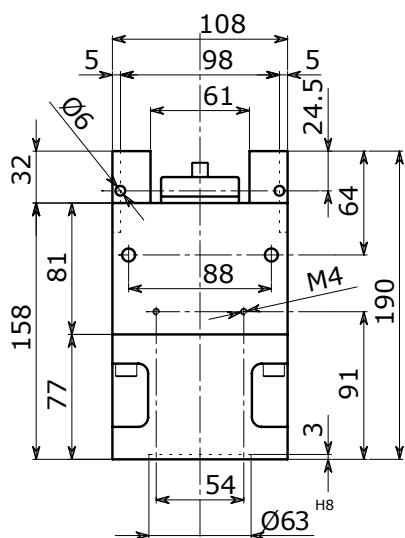
Sensor pin



Dimensional Drawing



OG 63 A



OG 63 A

TECHNICAL DATA

OG 63 A

Stroke per jaw	°	90
Fluid consumption double stroke	cm ³ in ³	288 17.6
Closing moment per jaw @ 6 bar	Nm in lb	150 1328
Total closing moment @ 6 bar	Nm in lb	300 2655
Recommended workpiece weight	Kg lb	7.14 15.71
Weight	Kg lb	4.50 9.90
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.

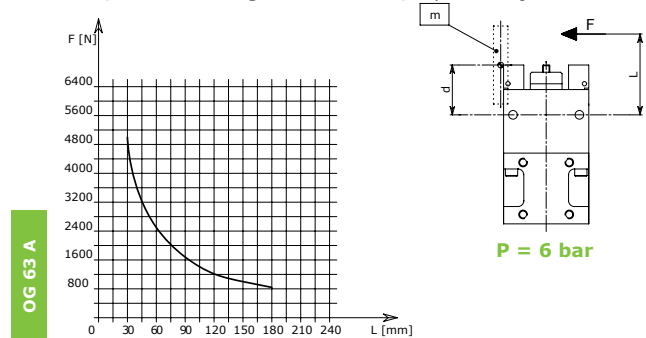
Opening Pressure **2 - 8 bar (29 - 116 psi)**

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

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

Clamping Force Diagram

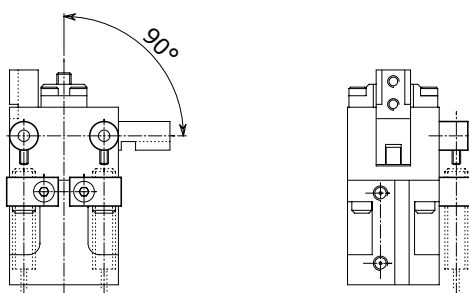
Note: "L" value, where the diagram's line ends, represents jaws' maximum length.



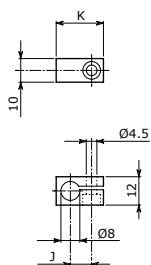
F = True clamping force per jaw - **L** = Reading distance - **d** = Distance from finger center of gravity to lever rotation fulcrum - **m** = Finger mass
Values read in toggle position (**0°**)

Open-Closed Control Position with External Switches

This accessory has to be required together with the gripper. It is not available separately.



Switch bracket

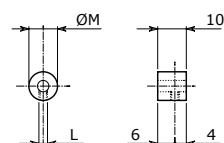


Open/Closed control

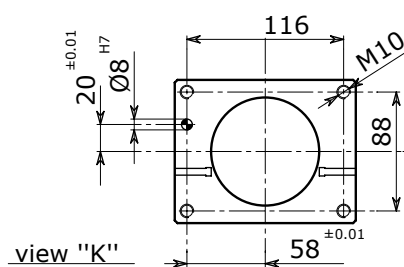
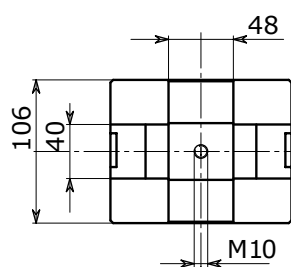
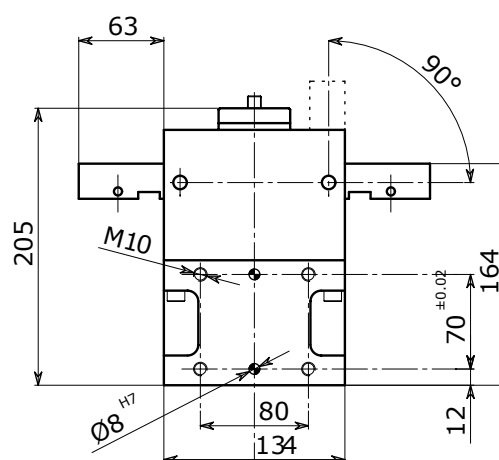
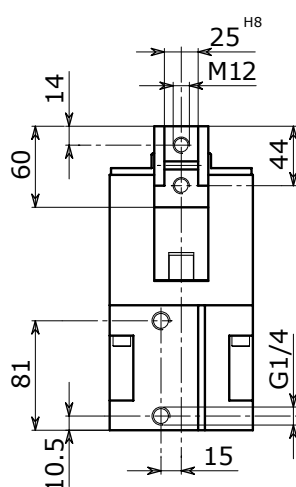
		J	K	L	M
	mm in	17 0.67	28 1.10	M5	20 0.79

OG 63 A

Sensor pin



Technical drawing of a mechanical part, likely a bracket or support, showing dimensions and features. The drawing includes a top view and a side view. Key dimensions include overall width 134, overall height 225, and various internal features like holes and slots. A note $\varnothing 80 \text{ H8}$ is present near the bottom right corner.



TECHNICAL DATA

OG 80 A

Stroke per jaw	°	90
Fluid consumption double stroke	cm ³ in ³	585 35.7
Closing moment per jaw @ 6 bar	Nm in lb	225 1991
Total closing moment @ 6 bar	Nm in lb	450 3893
Recommended workpiece weight	Kg lb	10.71 23.57
Weight	Kg lb	8.00 17.60
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.

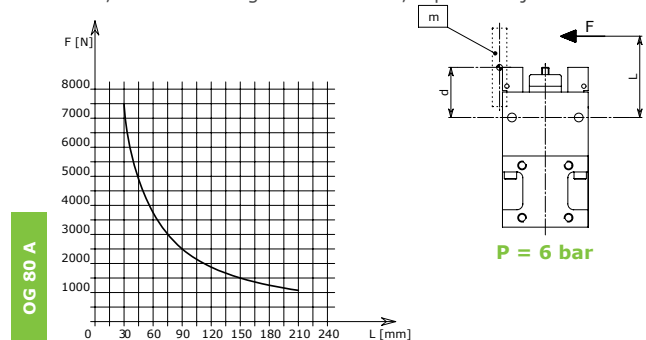
Opening Pressure **2 - 8 bar (29 - 116 psi)**

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

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

Clamping Force Diagram

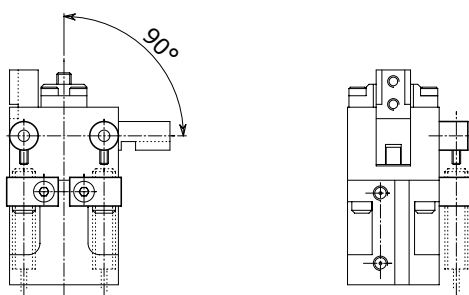
Note: "L" value, where the diagram's line ends, represents jaws' maximum length.



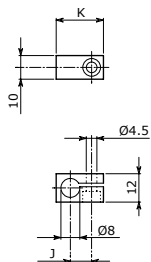
F = True clamping force per jaw - **L** = Reading distance - **d** = Distance from finger center of gravity to lever rotation fulcrum - **m** = Finger mass
Values read in toggle position (**0°**)

Open-Closed Control Position with External Switches

This accessory has to be required together with the gripper. It is not available separately.



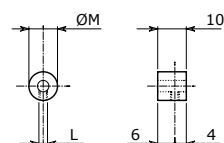
Switch bracket



Open/Closed control

		J	K	L	M
		mm in	mm in	mm in	mm in
OG 80 A	mm	17	28	M6	24
	in	0.67	1.10		0.94

Sensor pin





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