Pneumatic Angular Grippers
OF 2-Finger

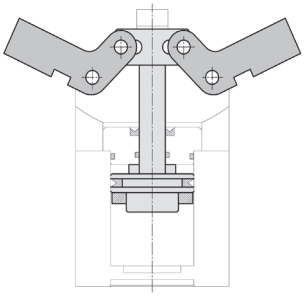
OF is an angular gripper for universal use in clean or dirty environments. Suitable for space sensitive applications.

Advantages

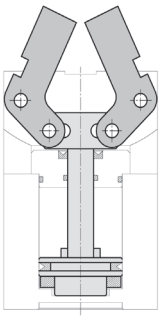
- Slim design allows multiple grippers to be arranged in a row.
- Available a range of piston plate diameters from 20 to 32 mm.
- Light, compact design for space-saving handling without interference.
- Integrated permanent magnets for direct monitoring of piston movement.
- Slots for mounting and positioning of magnetic-field sensors.

EFFECTO GROUP

Open/Close Diagram

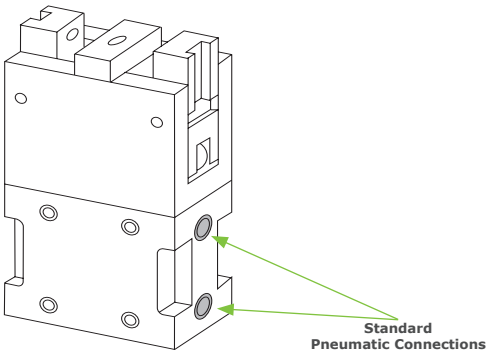


OPEN

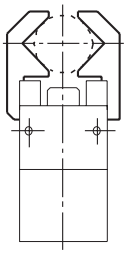


CLOSED

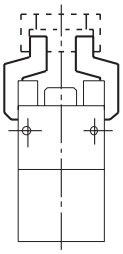
Pneumatic Feed



Gripping Diagram



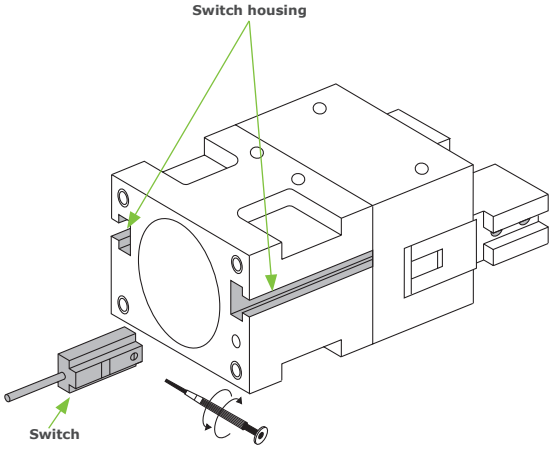
External Clamping

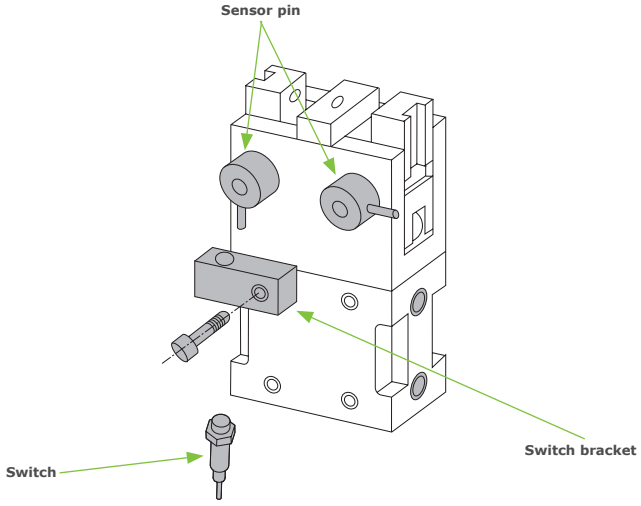


Internal Clamping

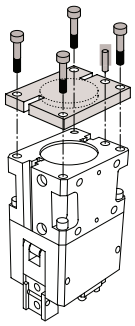
Guidelines for the selection of a gripper model
Selection of the correct gripper model depends on the workpiece's weight, the friction coefficient between the fingers and the workpiece and the required motion of the application.
Due to inertial forces associated with motion, we recommend that the holding 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

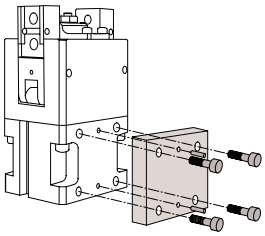




Mounting

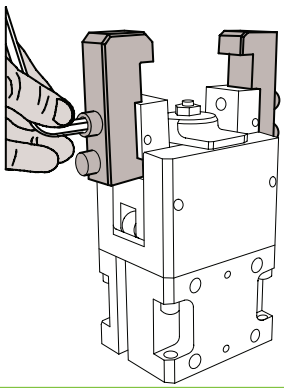


Axial Mounting
Bottom fixing

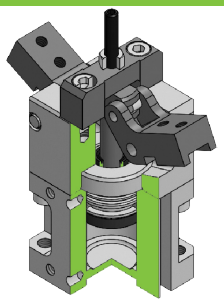


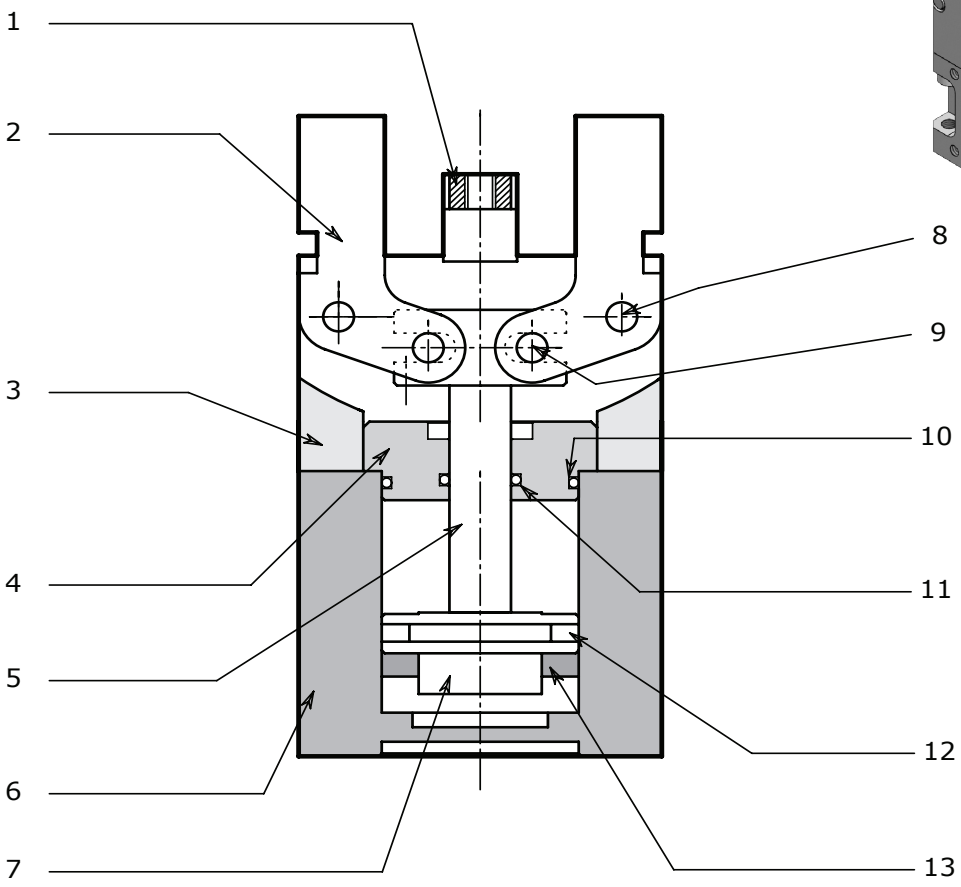
Side Mounting

Fingers Mounting



Construction Diagram

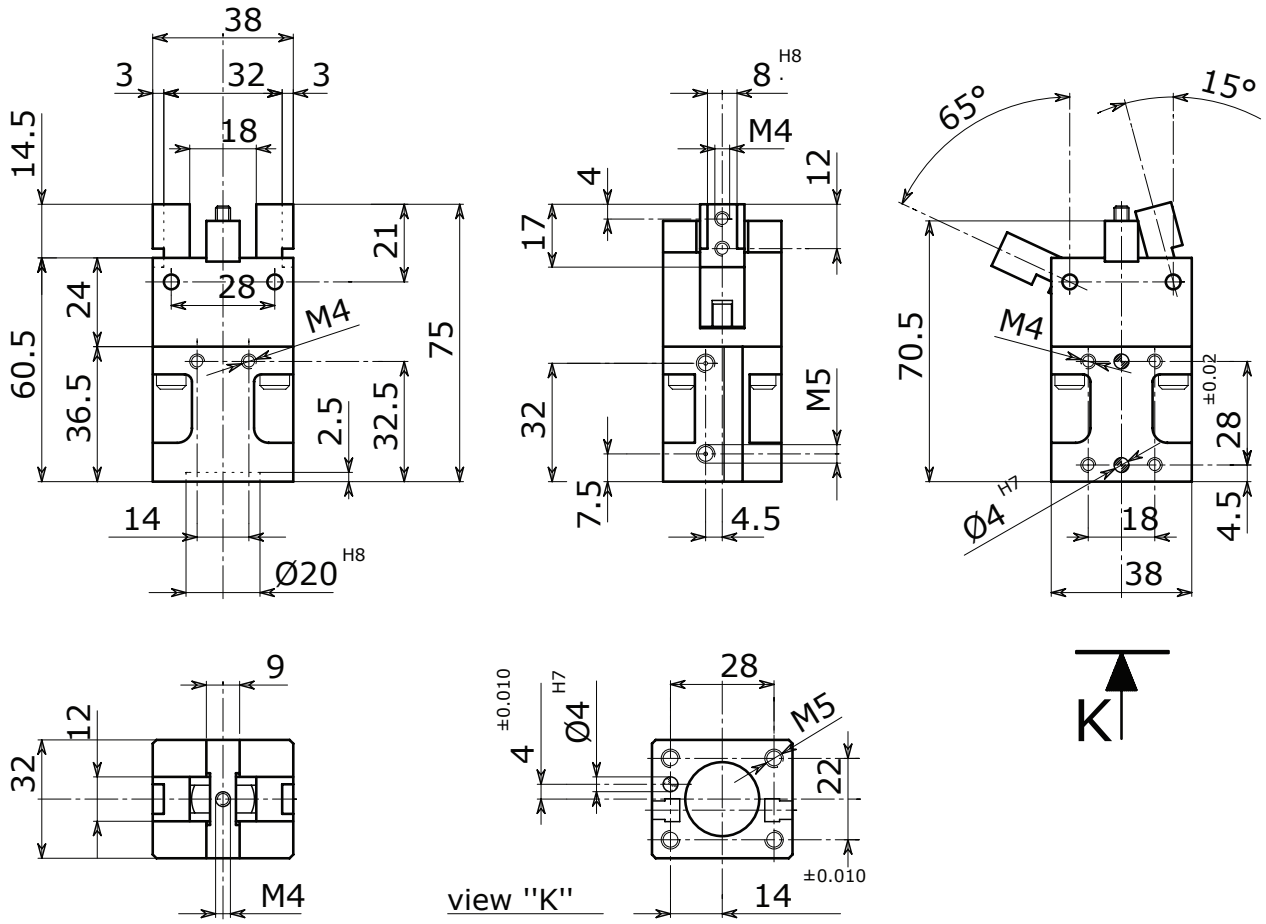




Nr.	Description	Material
01	PLATE	C40 Steel
02	LEVER	Chrome Molybdenum Steel
03	BODY	Aluminum Alloy
04	PILOT BOSS	Bronze
05	DRIVE HUB	Chrome Molybdenum Steel
06	CYLINDER	Aluminum Alloy
07	PISTON	Aluminum Alloy
08	PIN	Chrome Molybdenum Steel
09	KNUCKLE PIN	Chrome Molybdenum Steel
10	SEAL	NBR
11	SHAFT SEAL	NBR
12	PISTON SEAL	NBR
13	MAGNET	Rubber Magnet

Dimensional Drawing

OF 20



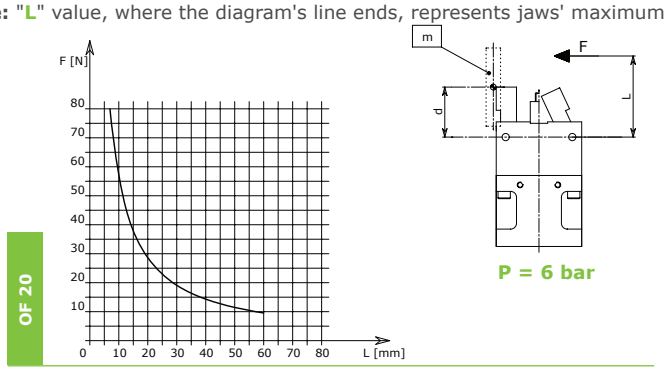
TECHNICAL DATA

		OF 20
Stroke per jaw	°	80
Fluid consumption double stroke	cm^3 in^3	7.6 0.5
Closing force per jaw @ 6 bar	N lb	29 7
Opening force per jaw @ 6 bar	N lb	33 7
Total closing force @ 6 bar	N lb	57 13
Total opening force @ 6 bar	N lb	65 15
Recommended workpiece weight	kg lb	0.29 0.60
Weight	kg lb	0.25 0.55
Repeat accuracy	mm in	± 0.05 ± 0.0020

* 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 **3 - 8 bar (44 - 116 psi)**
Working Temperature **5 - 60 °C (41 - 140 °F)**
Noise Emission (Sound Pressure) **≤ 70 db(A) in any direction**

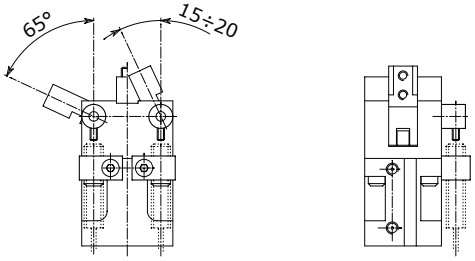
Clamping Force Diagram

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

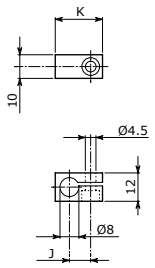


F = True clamping force per jaw - **L** = Reading distance - **d** = Distance from finger center of gravity to lever rotation fulcrum - **m** = Finger mass
Values read at a distance **L=20 mm**

Open-Closed Control Position with External Switches

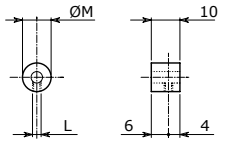


Switch bracket



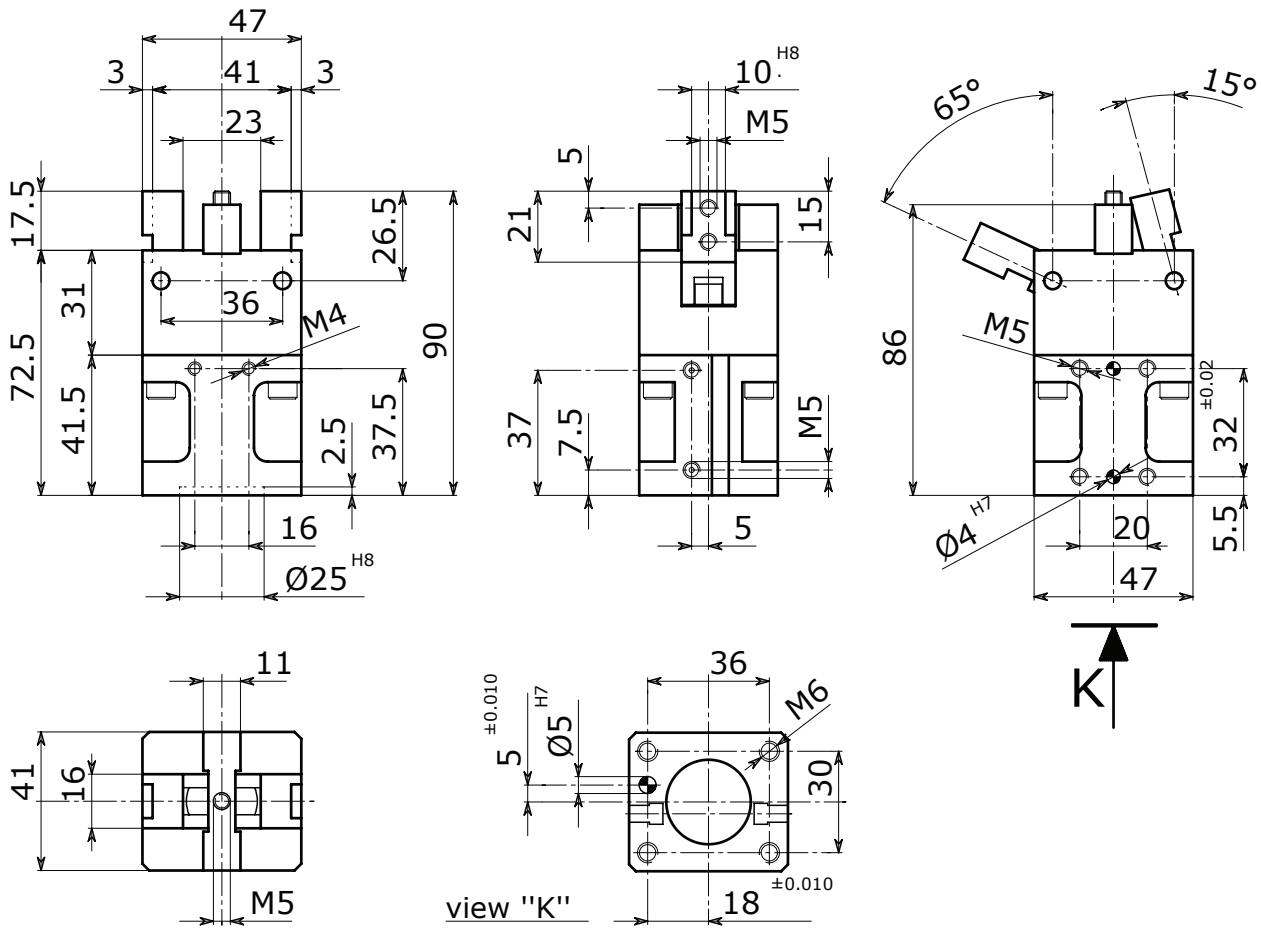
		Open/Closed control			
		J	K	L	M
OF 20	mm in	7 0.28	18 0.71	M3	10 0.40

Sensor pin



Dimensional Drawing

OF 25

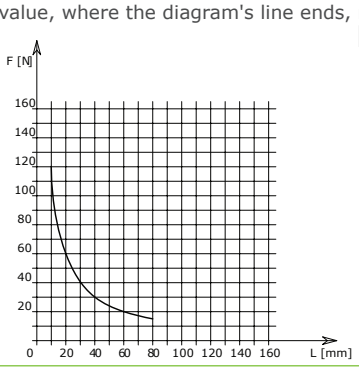


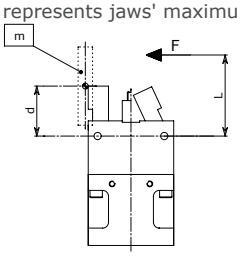
		OF 25
Stroke per jaw	°	80
Fluid consumption double stroke	cm^3 in^3	16.2 1.0
Closing force per jaw @ 6 bar	N lb	60 14
Opening force per jaw @ 6 bar	N lb	67 15
Total closing force @ 6 bar	N lb	120 27
Total opening force @ 6 bar	N lb	134 30
Recommended workpiece weight	kg lb	0.60 1.30
Weight	kg lb	0.45 0.99
Repeat accuracy	mm in	± 0.05 ± 0.0020

* 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 **3 - 8 bar (44 - 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.



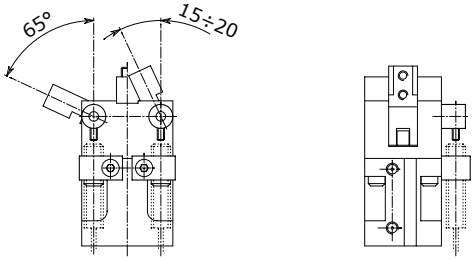


P = 6 bar

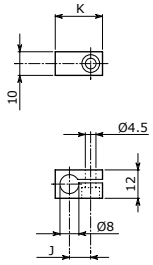
OF 25

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 at a distance **L=20 mm**

Open-Closed Control Position with External Switches

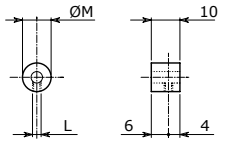


Switch bracket



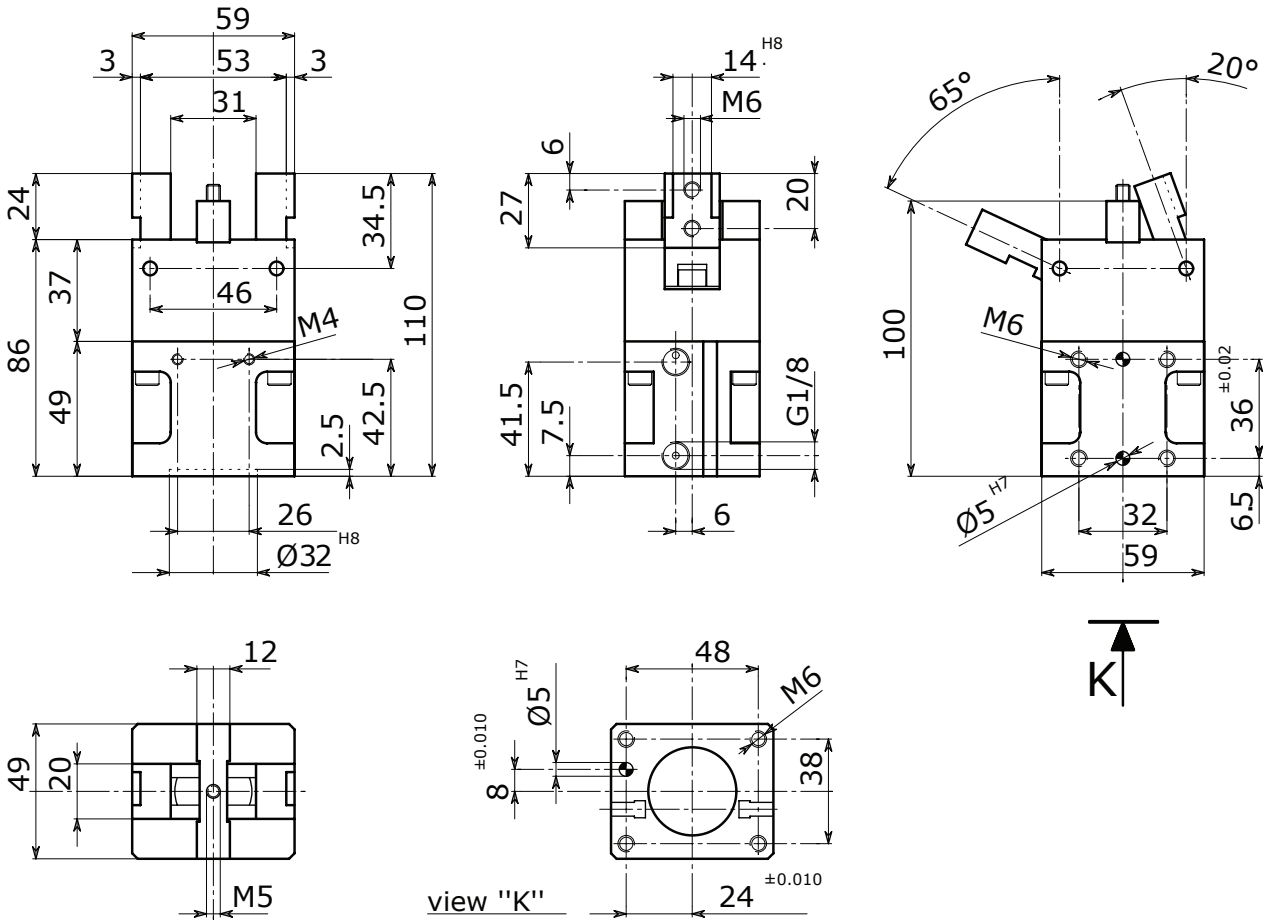
		Open/Closed control			
		J	K	L	M
OF 25	mm in	10 0.40	21 0.82	M4	15 0.59

Sensor pin



Dimensional Drawing

OF 32

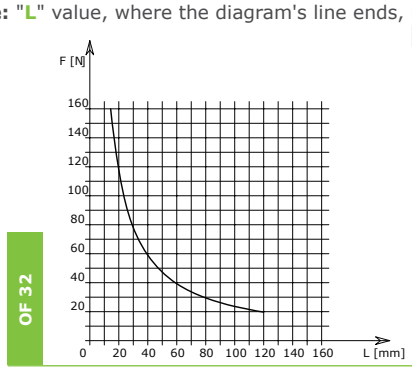


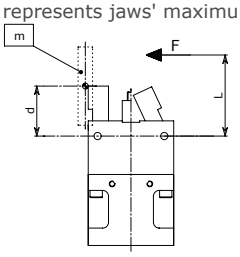
		OF 32
Stroke per jaw	°	85
Fluid consumption double stroke	cm^3 in^3	32.2 2.0
Closing force per jaw @ 6 bar	N lb	118 27
Opening force per jaw @ 6 bar	N lb	130 29
Total closing force @ 6 bar	N lb	236 53
Total opening force @ 6 bar	N lb	260 58
Recommended workpiece weight	kg lb	1.18 2.60
Weight	kg lb	0.78 1.72
Repeat accuracy	mm in	± 0.05 ± 0.0020

* 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 **3 - 8 bar (44 - 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.

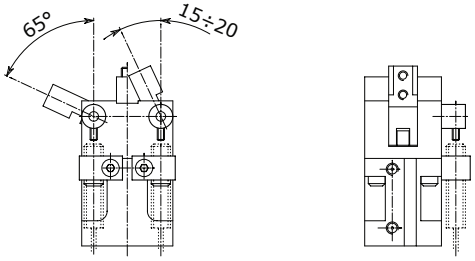




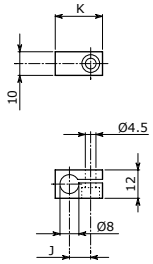
P = 6 bar

F = True clamping force per jaw - **L** = Reading distance - **d** = Distance from finger center of gravity to lever rotation fulcrum - **m** = Finger mass
Values read at a distance **L=20 mm**

Open-Closed Control Position with External Switches

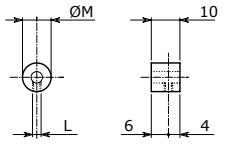


Switch bracket



		Open/Closed control			
		J	K	L	M
OF 32	mm in	10 0.40	21 0.82	M4	16 0.63

Sensor pin



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