Pneumatic Parallel Grippers
LPG 2-Finger

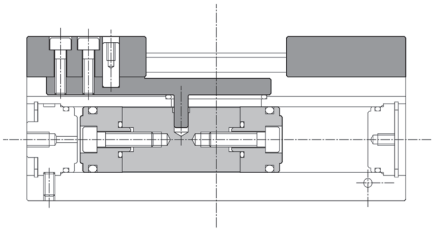
LPG is a long stroke two-finger parallel gripper featuring high reliability and a long service life, suitable for many applications including dirty/harsh environments.

Advantages

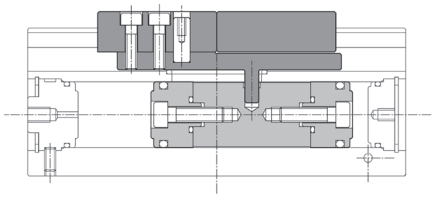
- Limited height and large jaw support to ensure rigidity and stability.
- Profiled guideways designed with polymer slide parts that have very low friction and high load capability.
- Double piston drive synchronized by a rack-and-pinion system hermetically sealed for dirty environment applications.
- All materials selected for long life in harsh environments.
- Standard central connection for gripper pressurization.
- Slots for mounting and positioning of magnetic-field sensors.
- Air supply via hose-free direct connection or screw connections for flexible pressure supply in all automated systems.

EFFECTO GROUP

Open/Close Diagram

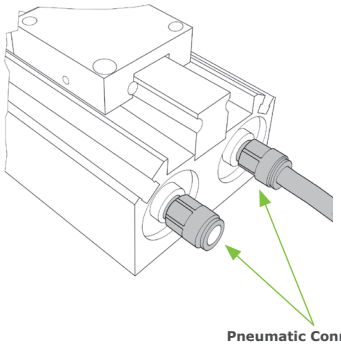


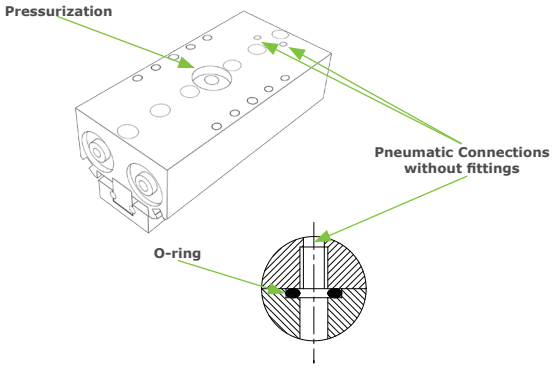
OPEN



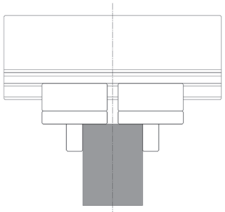
CLOSED

Pneumatic Feed

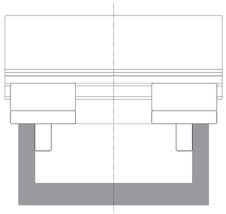




Gripping Diagram



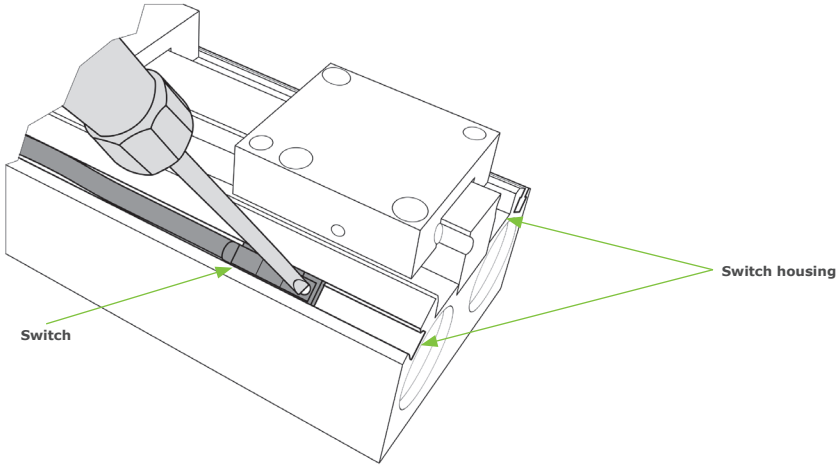
External Clamping



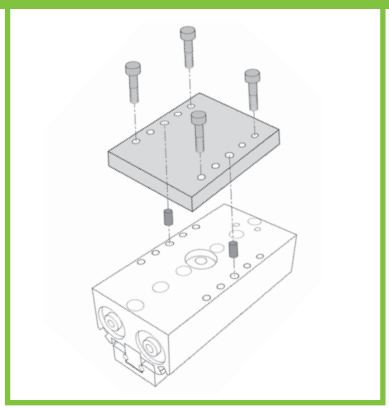
Internal Clamping

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.

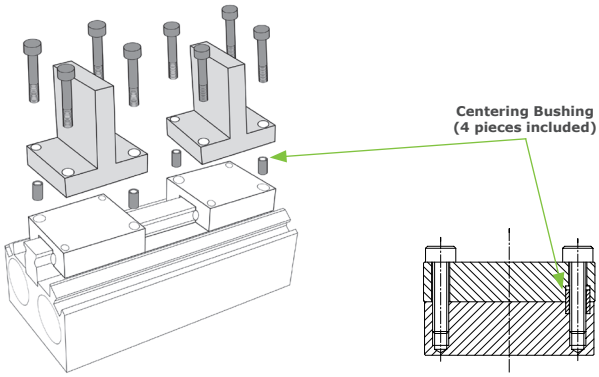
Control Diagram



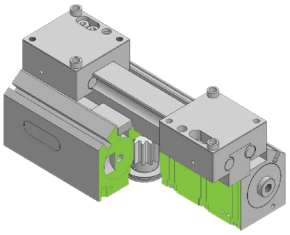
Mounting

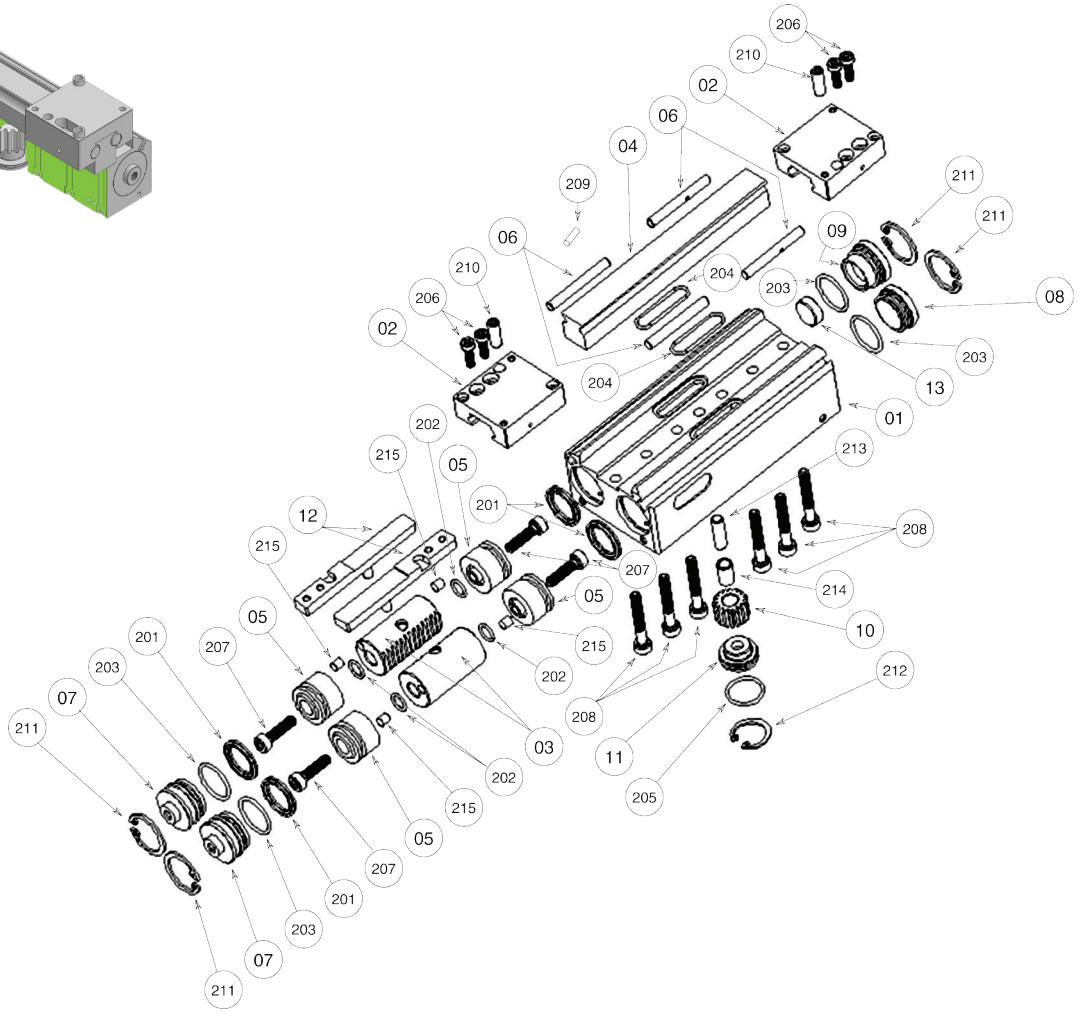


Fingers Mounting



Construction Diagram



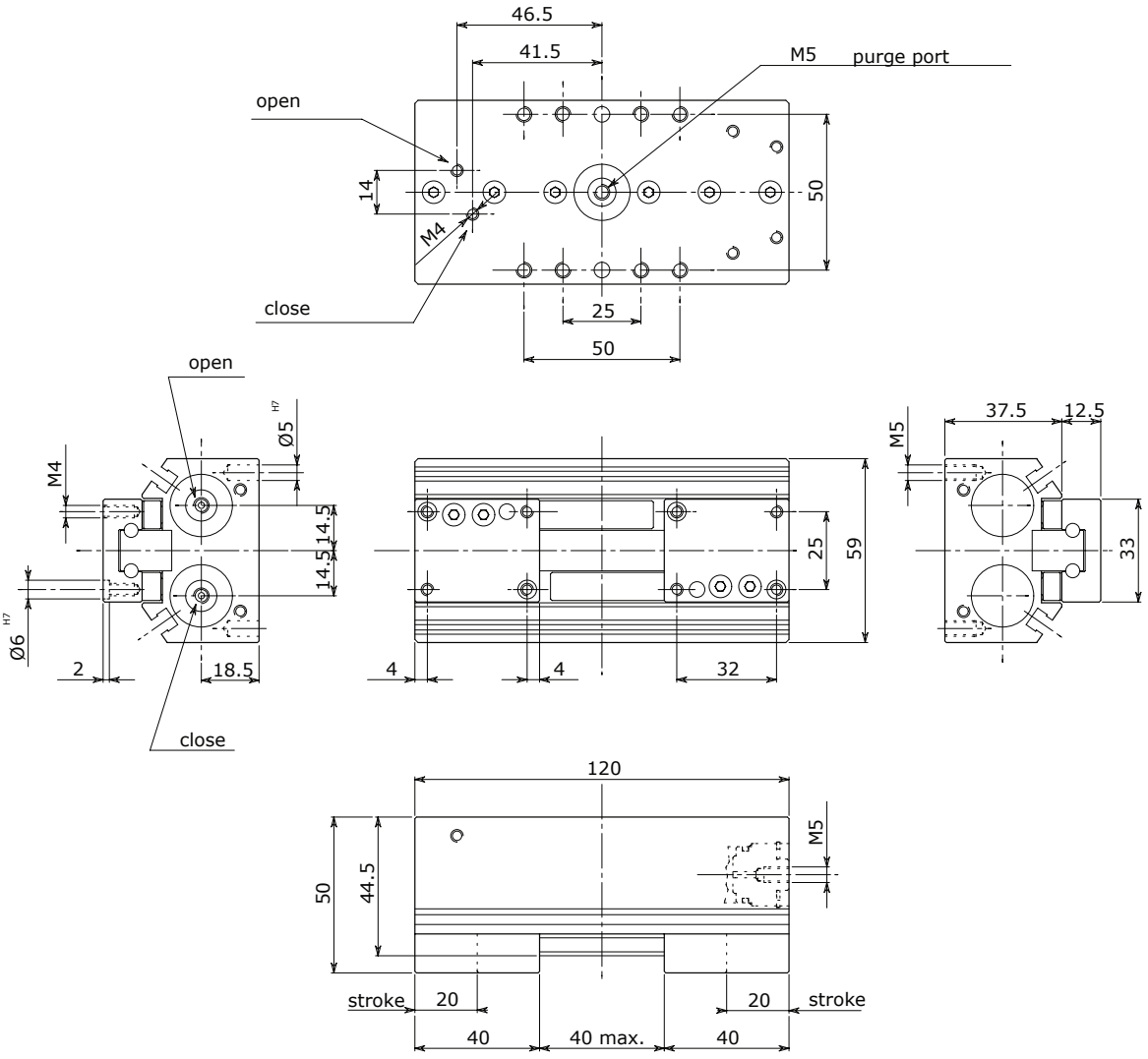


Nr.	Description	Material
01	BODY	Aluminum Alloy
02	JAW	Aluminum Alloy
03	RACK	Stainless Steel
04	GUIDE	Aluminum Alloy
05	RACK PISTON	Aluminum Alloy
06	LINEAR BEARING	Polyamide-imide
07	FEED CAP	Aluminum Alloy
08	SIDE CAP	Aluminum Alloy
09	STOP CAP	Aluminum Alloy
10	GEAR	Steel
11	BOTTOM CAP	Aluminum Alloy
12	PLATE	Chrome Molybdenum Steel
13	STOP DAMPER	Vulkollan

Nr.	Description	Material
201	PISTON SEAL	NBR
202	SEAL	NBR
203	CAP SEAL	NBR
204	SCRAPER	NBR
205	CAP SEAL	NBR
206	SCREW	Steel
207	SCREW	Steel
208	SCREW	Steel
209	CYLINDRICAL PIN	Steel
210	CYLINDRICAL PIN	Steel
211	SNAP RING	Steel
212	SNAP RING	Steel
213	CYLINDRICAL PIN	Steel
214	GUIDE BUSHING	Steel
215	MAGNET	NdFeB

Dimensional Drawing

LPG 18-40



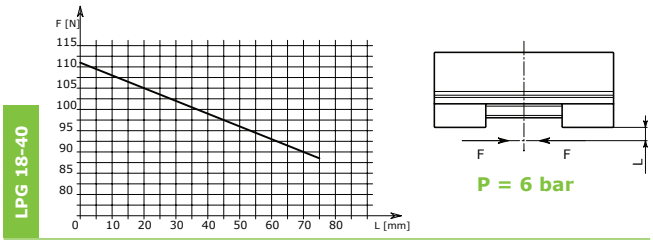
TECHNICAL DATA

		LPG 18-40
Stroke per jaw	mm in	20 0.8
Fluid consumption double stroke	cm^3 in^3	20.3 1.2
Closing force per jaw @ 6 bar	N lb	105 24
Opening force per jaw @ 6 bar	N lb	105 24
Total closing force @ 6 bar	N lb	210 47
Total opening force @ 6 bar	N lb	210 47
Recommended workpiece weight	kg lb	1.05 2.30
Weight	kg lb	0.75 1.65
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 **2 - 8 bar (29 - 116 psi)**
Working Temperature **5 - 60 °C (41 - 140 °F)**
Noise Emission (Sound Pressure) **≤ 70 db(A) in any direction**

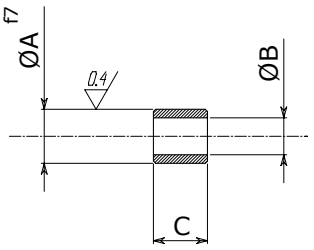
Clamping Force Diagram

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



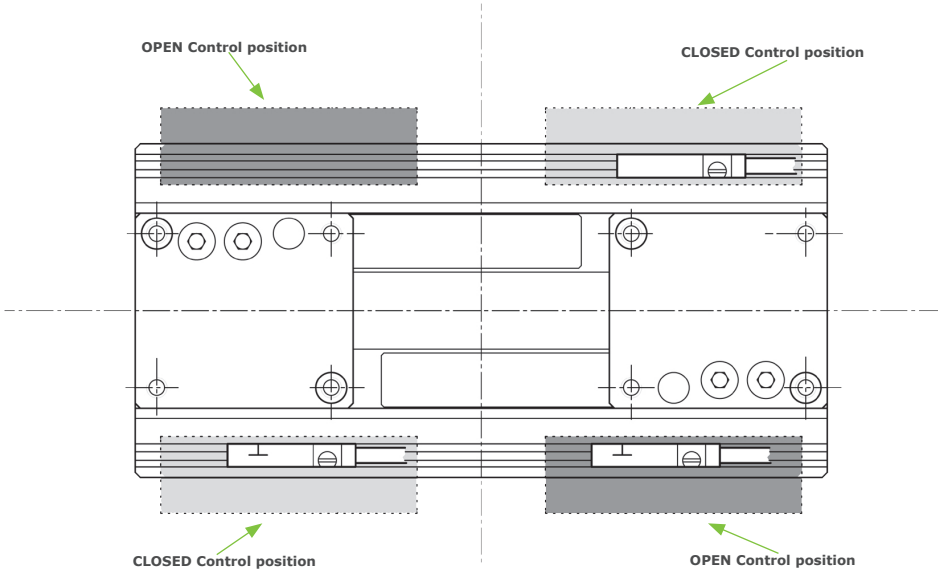
F = True clamping force per jaw - **L** = Reading distance
Values read at a distance **L = 20 mm**

Jaw Centering Bushing



		A	B	C
LPG 18-40	mm in	6 0.24	4.2 0.17	4 0.16

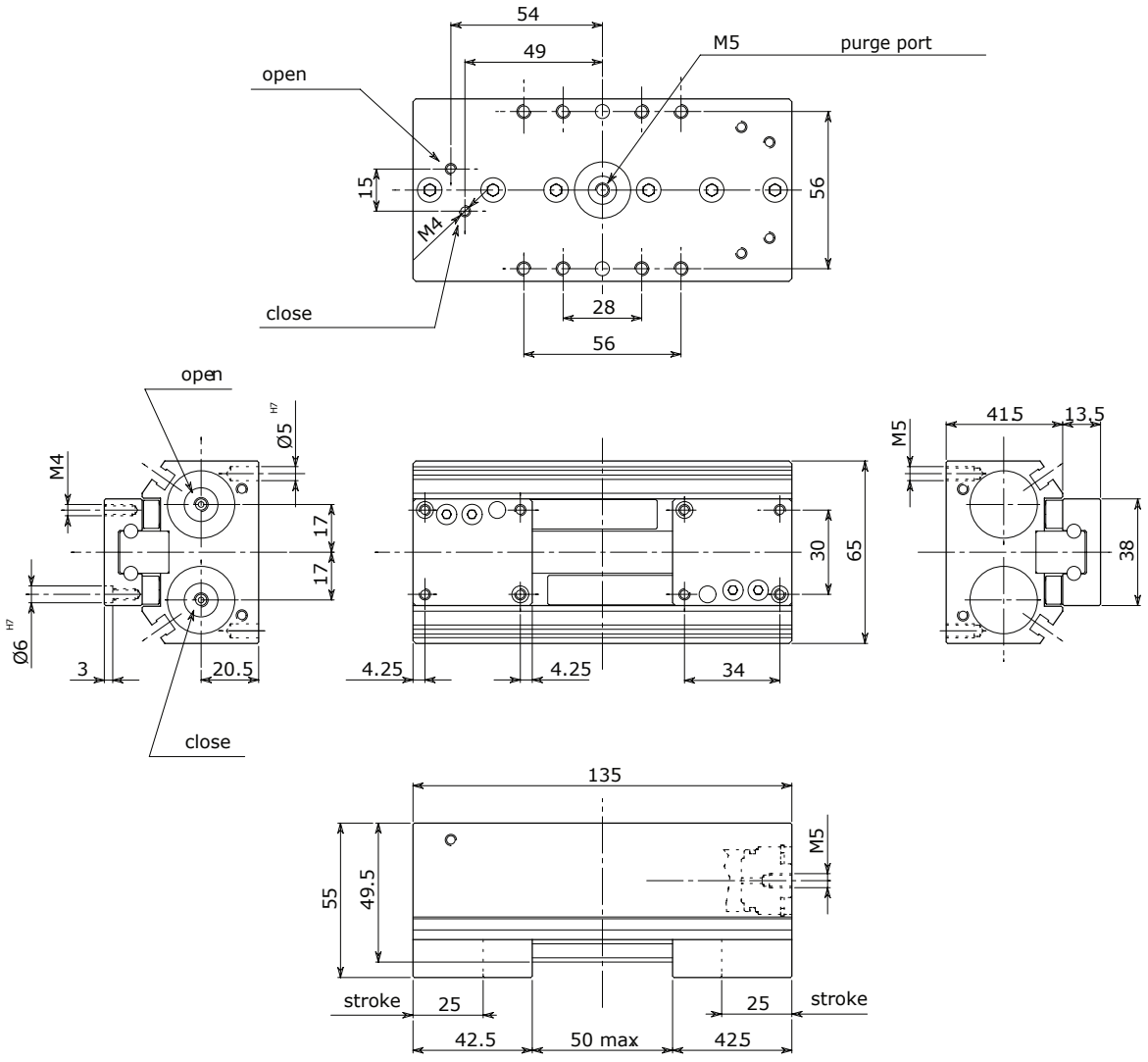
Assembly and adjustment of the magnetic switches



IMPORTANT: slowly insert the magnetic switches into the T- grooves pushing them towards the center of the gripper until the switch led lights up (First switching, after a few mm. the sensor detects a second reading point not to be used!).
Lock tighten the set screw to block the sensor into position. Test the correct setting by opening and closing the gripper.

Dimensional Drawing

LPG 22-50



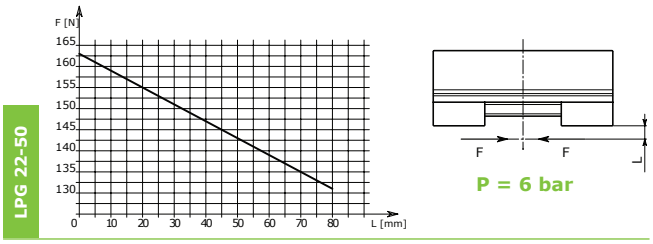
TECHNICAL DATA

		LPG 22-50
Stroke per jaw	mm in	25 1
Fluid consumption double stroke	cm^3 in^3	38 2.3
Closing force per jaw @ 6 bar	N lb	155 35
Opening force per jaw @ 6 bar	N lb	155 35
Total closing force @ 6 bar	N lb	310 70
Total opening force @ 6 bar	N lb	310 70
Recommended workpiece weight	kg lb	1.55 3.40
Weight	kg lb	1.10 2.42
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 **2 - 8 bar (29 - 116 psi)**
Working Temperature **5 - 60 °C (41 - 140 °F)**
Noise Emission (Sound Pressure) **≤ 70 db(A) in any direction**

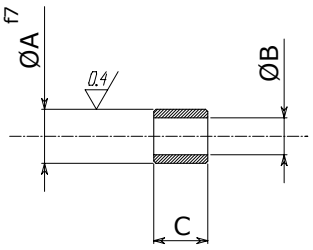
Clamping Force Diagram

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



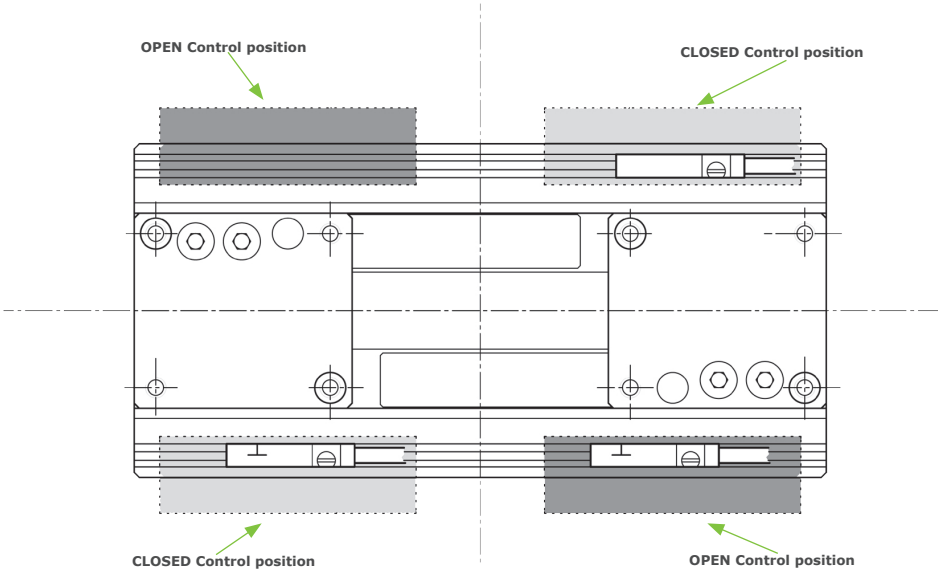
F = True clamping force per jaw - **L** = Reading distance
Values read at a distance **L = 20 mm**

Jaw Centering Bushing



		A	B	C
LPG 22-50	mm in	6 0.24	4.2 0.17	6 0.24

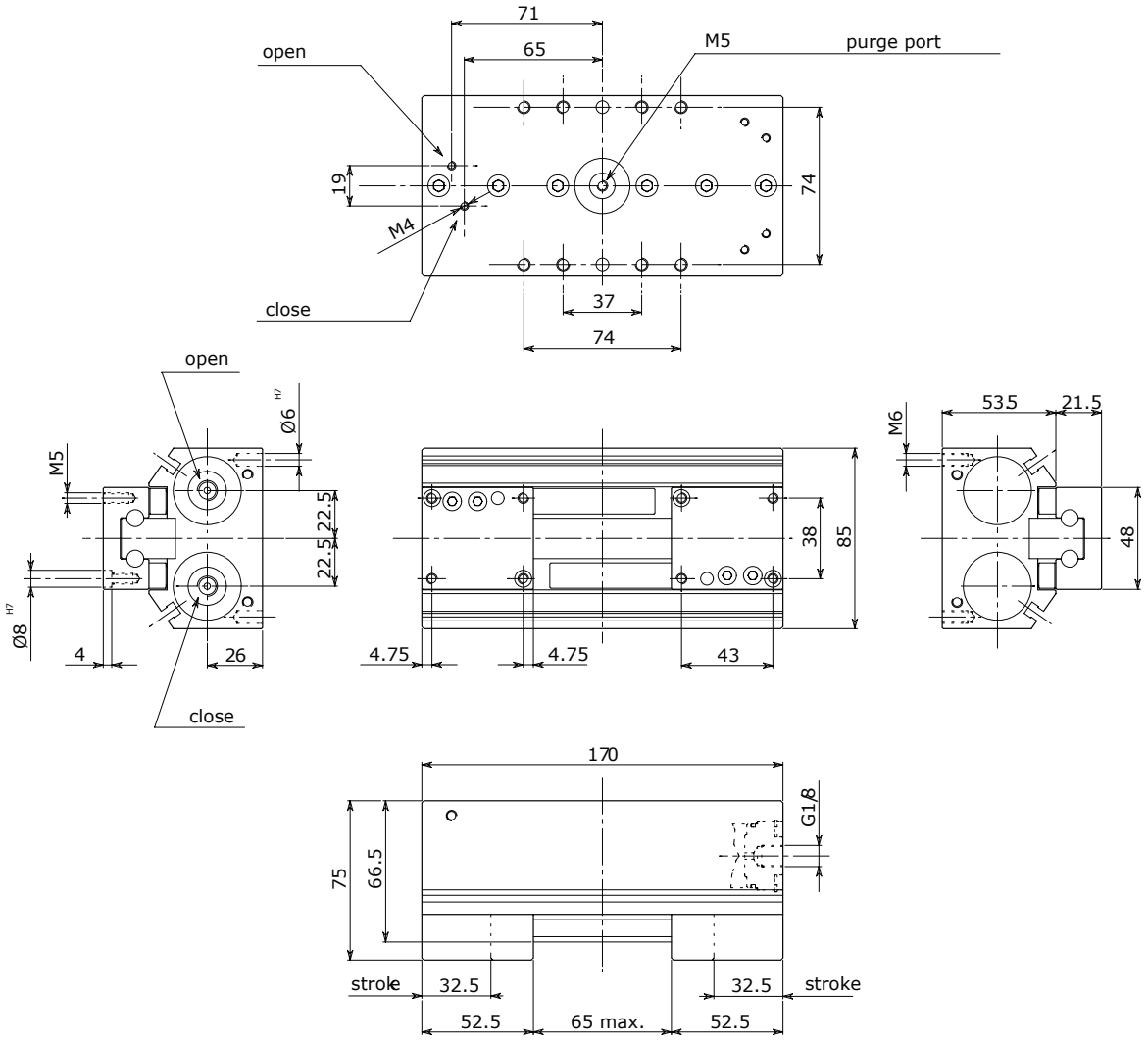
Assembly and adjustment of the magnetic switches



IMPORTANT: slowly insert the magnetic switches into the T- grooves pushing them towards the center of the gripper until the switch led lights up (First switching, after a few mm. the sensor detects a second reading point not to be used!).
Lock tighten the set screw to block the sensor into position. Test the correct setting by opening and closing the gripper.

Dimensional Drawing

LPG 30-65



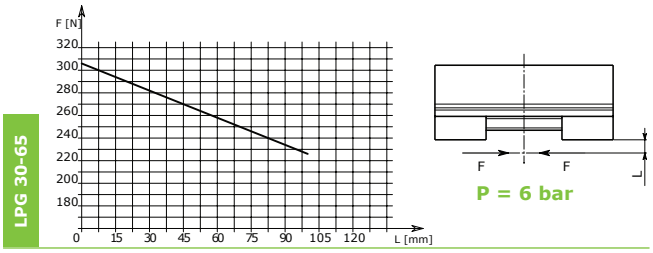
TECHNICAL DATA

		LPG 30-65
Stroke per jaw	mm in	32.5 1.3
Fluid consumption double stroke	cm^3 in^3	92 5.6
Closing force per jaw @ 6 bar	N lb	290 65
Opening force per jaw @ 6 bar	N lb	290 65
Total closing force @ 6 bar	N lb	580 130
Total opening force @ 6 bar	N lb	580 130
Recommended workpiece weight	kg lb	2.90 6.40
Weight	kg lb	2.20 4.84
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 **2 - 8 bar (29 - 116 psi)**
Working Temperature **5 - 60 °C (41 - 140 °F)**
Noise Emission (Sound Pressure) **≤ 70 db(A) in any direction**

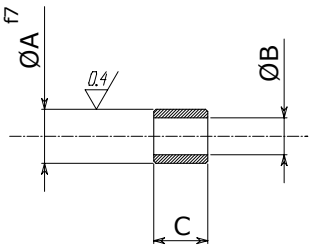
Clamping Force Diagram

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



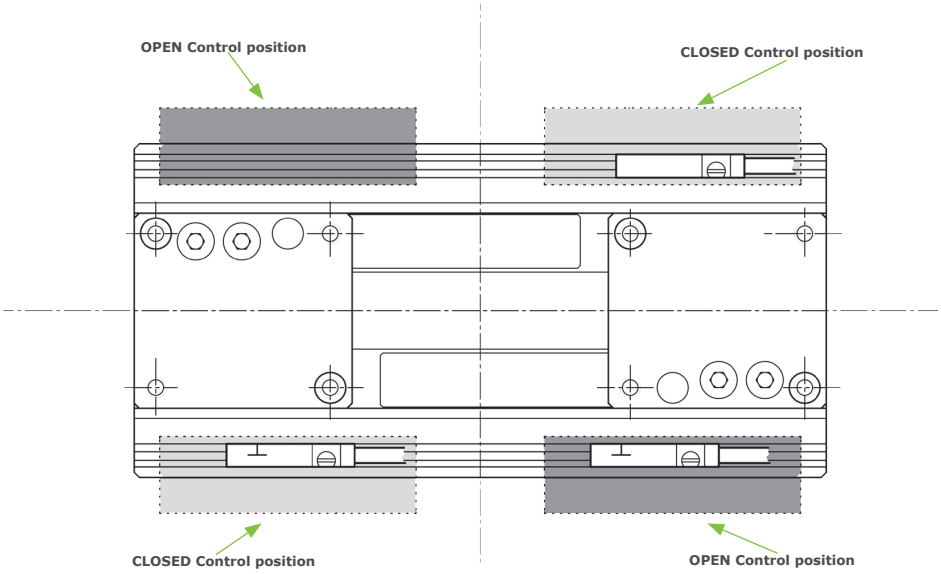
F = True clamping force per jaw - **L** = Reading distance
Values read at a distance **L = 20 mm**

Jaw Centering Bushing



		A	B	C
LPG 30-65	mm in	8 0.31	5.2 0.20	8 0.31

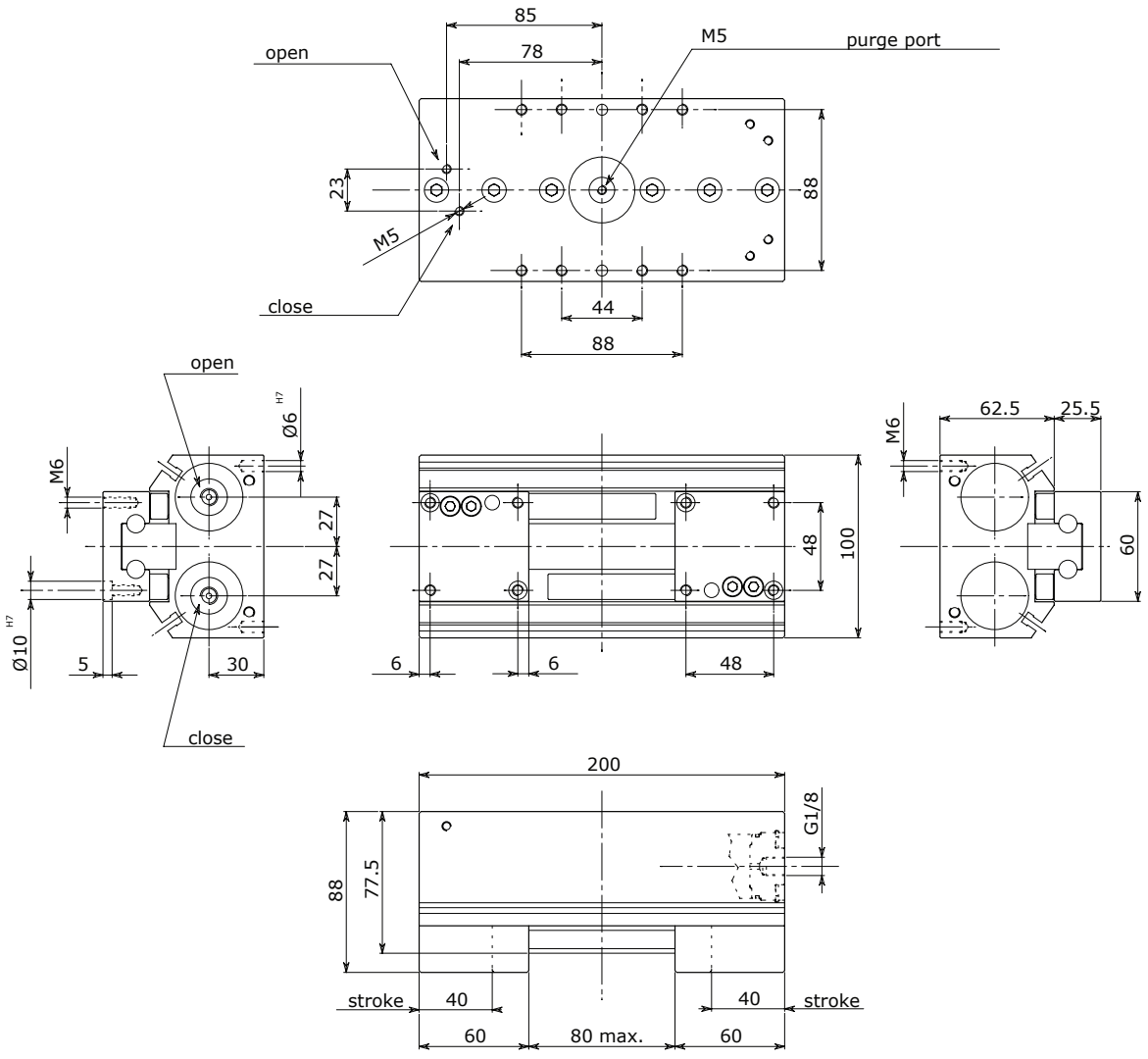
Assembly and adjustment of the magnetic switches



IMPORTANT: slowly insert the magnetic switches into the T- grooves pushing them towards the center of the gripper until the switch led lights up (First switching, after a few mm. the sensor detects a second reading point not to be used!).
Lock tighten the set screw to block the sensor into position. Test the correct setting by opening and closing the gripper.

Dimensional Drawing

LPG 35-80



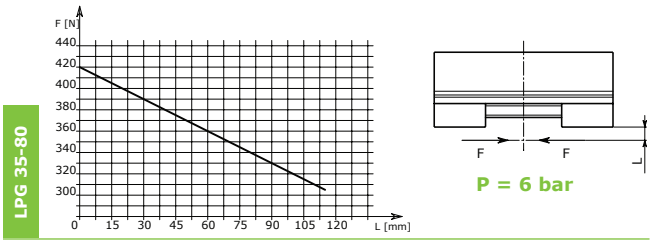
TECHNICAL DATA

		LPG 35-80
Stroke per jaw	mm in	40 1.6
Fluid consumption double stroke	cm^3 in^3	154 9.4
Closing force per jaw @ 6 bar	N lb	400 90
Opening force per jaw @ 6 bar	N lb	400 90
Total closing force @ 6 bar	N lb	800 180
Total opening force @ 6 bar	N lb	800 180
Recommended workpiece weight	kg lb	4.00 8.80
Weight	kg lb	3.50 7.70
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 **2 - 8 bar (29 - 116 psi)**
Working Temperature **5 - 60 °C (41 - 140 °F)**
Noise Emission (Sound Pressure) **≤ 70 db(A) in any direction**

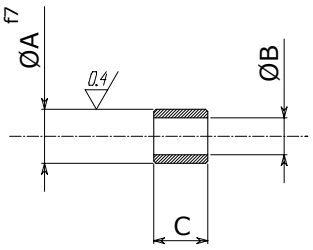
Clamping Force Diagram

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



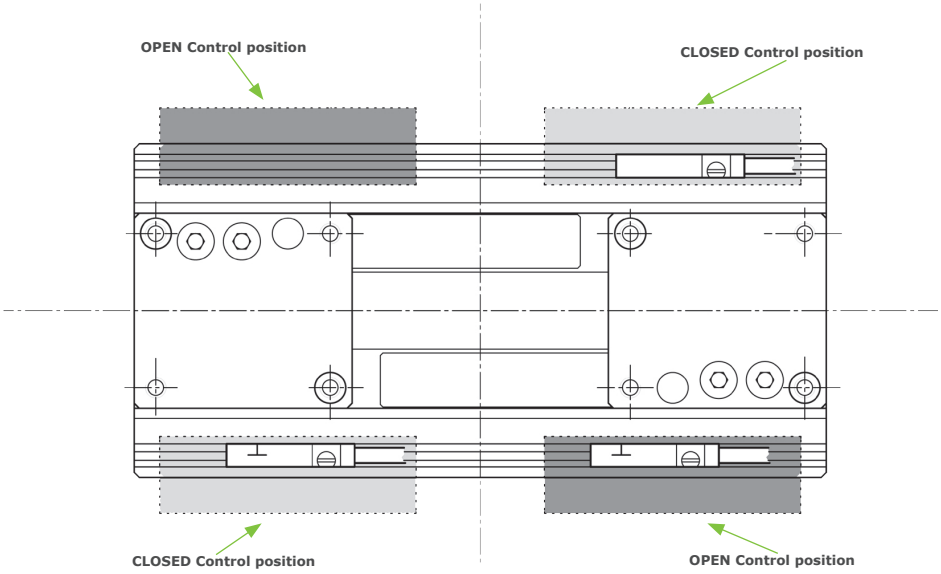
F = True clamping force per jaw - **L** = Reading distance
Values read at a distance **L = 20 mm**

Jaw Centering Bushing



		A	B	C
LPG 35-80	mm in	10 0.39	6.2 0.24	10 0.39

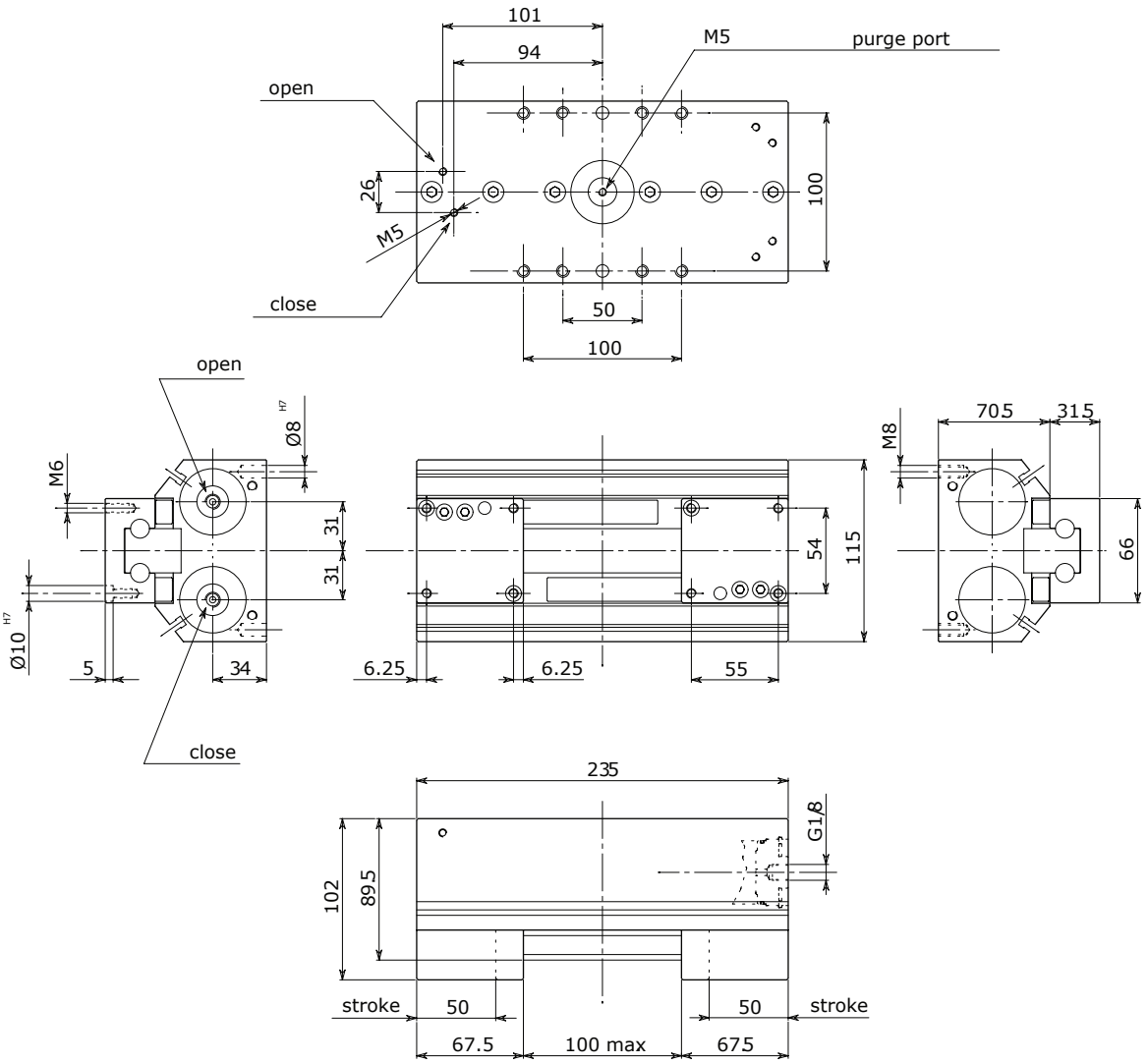
Assembly and adjustment of the magnetic switches



IMPORTANT: slowly insert the magnetic switches into the T- grooves pushing them towards the center of the gripper until the switch led lights up (First switching, after a few mm. the sensor detects a second reading point not to be used!).
Lock tighten the set screw to block the sensor into position. Test the correct setting by opening and closing the gripper.

Dimensional Drawing

LPG 40-100



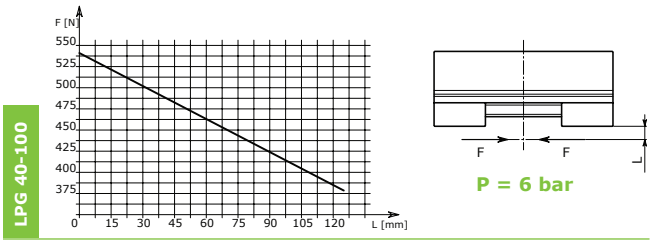
TECHNICAL DATA

		LPG 40-100
Stroke per jaw	mm in	50 2
Fluid consumption double stroke	cm^3 in^3	251 15.3
Closing force per jaw @ 6 bar	N lb	515 116
Opening force per jaw @ 6 bar	N lb	515 116
Total closing force @ 6 bar	N lb	1030 232
Total opening force @ 6 bar	N lb	1030 232
Recommended workpiece weight	kg lb	5.15 11.3
Weight	kg lb	5.60 12.32
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 **2 - 8 bar (29 - 116 psi)**
Working Temperature **5 - 60 °C (41 - 140 °F)**
Noise Emission (Sound Pressure) **≤ 70 db(A) in any direction**

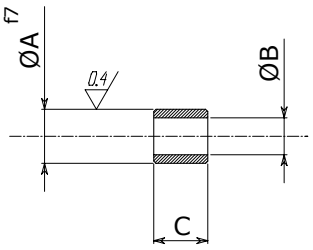
Clamping Force Diagram

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



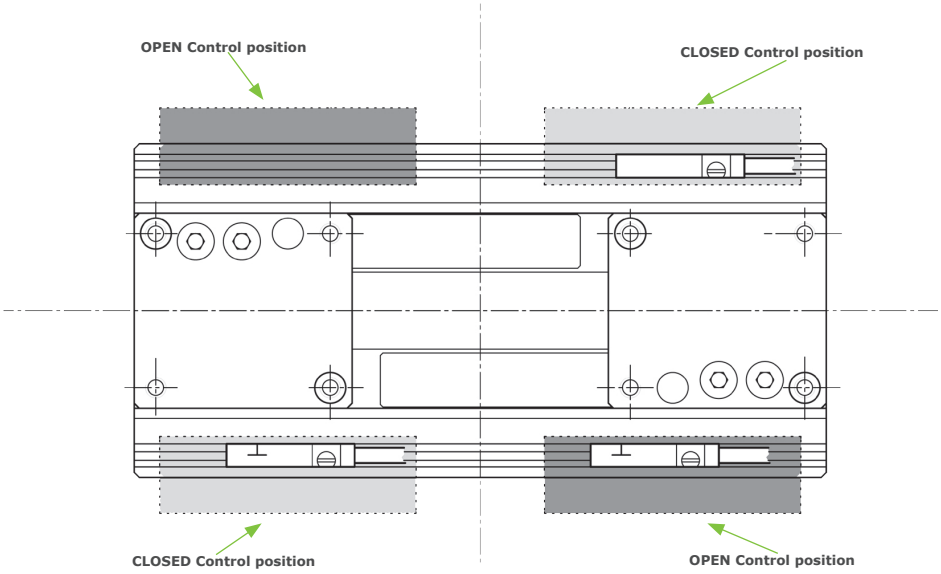
F = True clamping force per jaw - **L** = Reading distance
Values read at a distance **L = 20 mm**

Jaw Centering Bushing



		A	B	C
LPG 40-100	mm in	10 0.39	6.2 0.24	10 0.39

Assembly and adjustment of the magnetic switches



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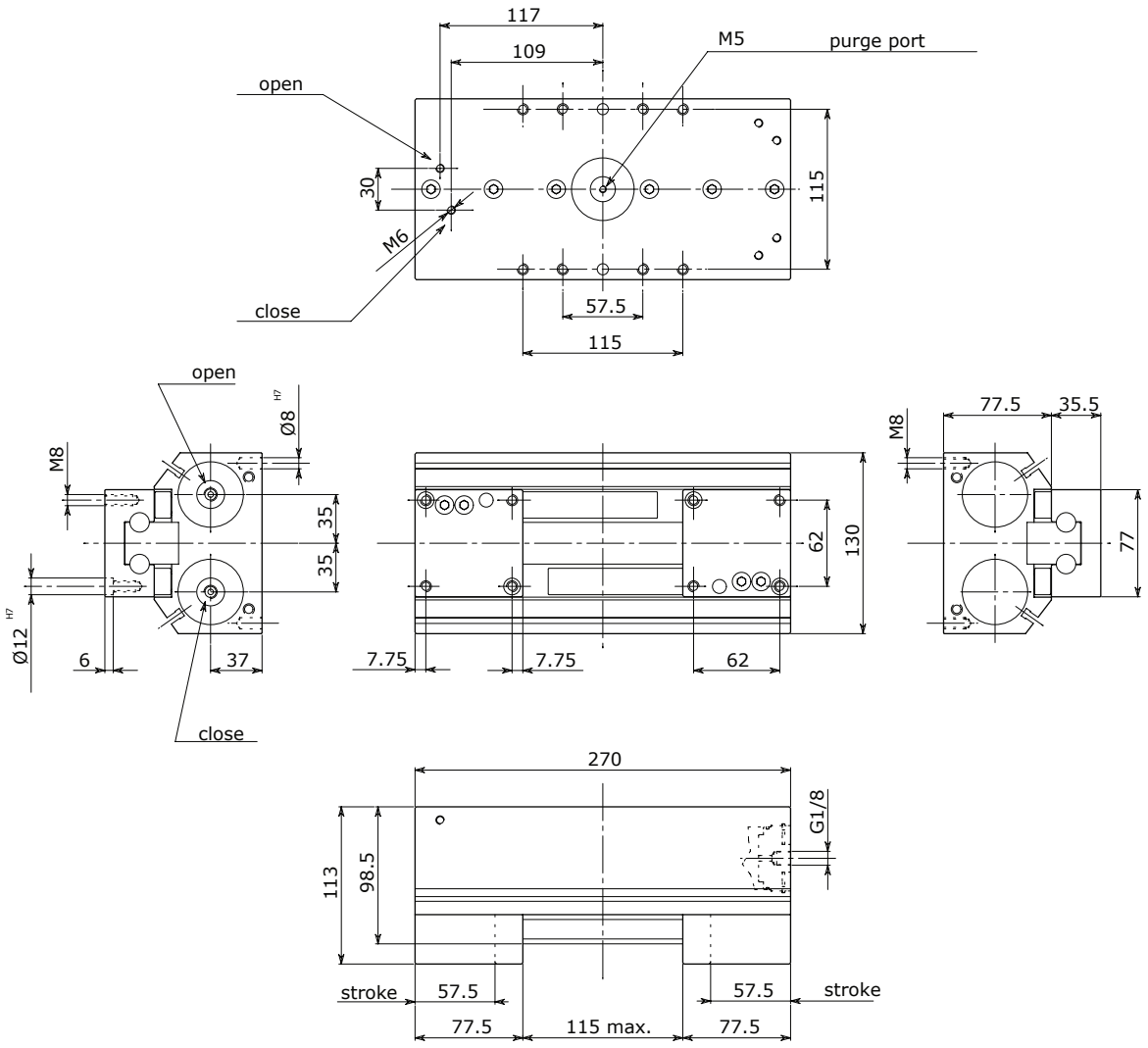
Lock tighten the set screw to block the sensor into position. Test the correct setting by opening and closing the gripper.

Dimensional Drawing

LPG 45-115



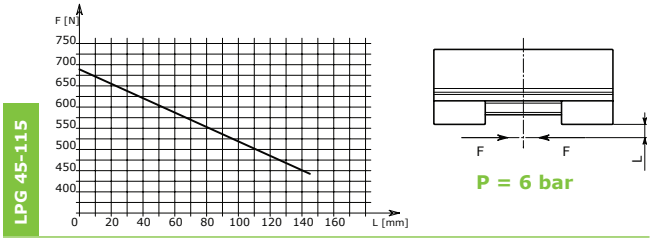
TECHNICAL DATA

		LPG 45-115
Stroke per jaw	mm in	57.5 2.3
Fluid consumption double stroke	cm^3 in^3	366 22.3
Closing force per jaw @ 6 bar	N lb	655 147
Opening force per jaw @ 6 bar	N lb	655 147
Total closing force @ 6 bar	N lb	1310 295
Total opening force @ 6 bar	N lb	1310 295
Recommended workpiece weight	kg lb	6.55 14.40
Weight	kg lb	8.00 17.60
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 **2 - 8 bar (29 - 116 psi)**
Working Temperature **5 - 60 °C (41 - 140 °F)**
Noise Emission (Sound Pressure) **≤ 70 db(A) in any direction**

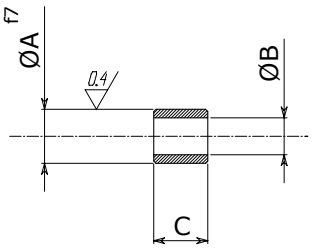
Clamping Force Diagram

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



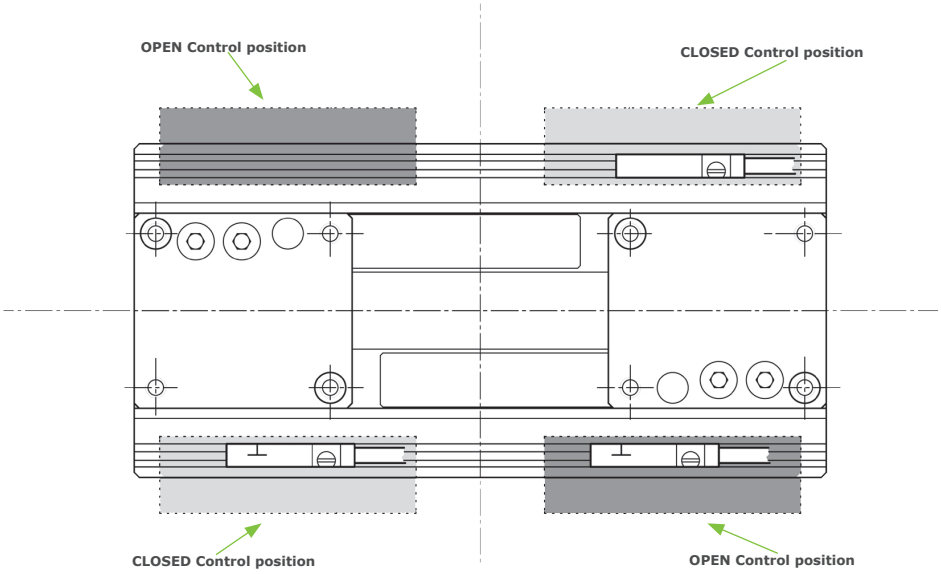
F = True clamping force per jaw - **L** = Reading distance
Values read at a distance **L = 20 mm**

Jaw Centering Bushing



		A	B	C
LPG 45-115	mm in	12 0.47	8.2 0.32	12 0.47

Assembly and adjustment of the magnetic switches



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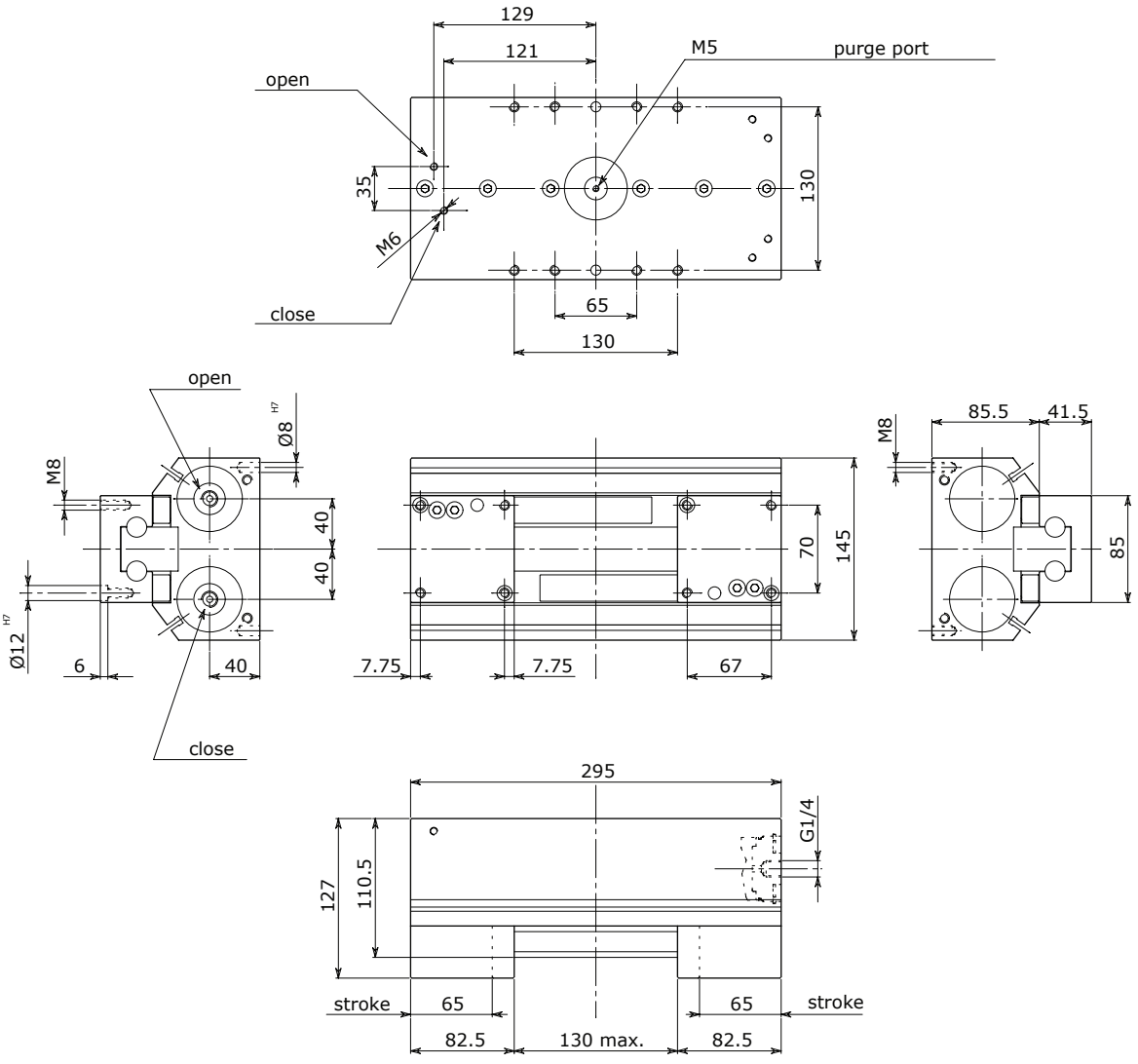
Lock tighten the set screw to block the sensor into position. Test the correct setting by opening and closing the gripper.

Dimensional Drawing

LPG 50-130



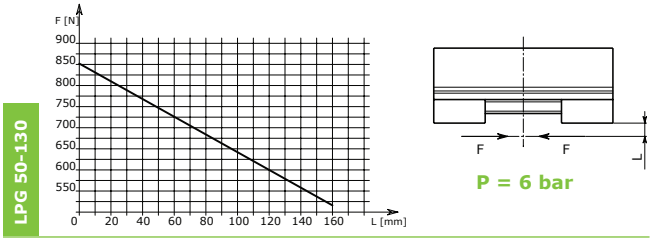
TECHNICAL DATA

		LPG 50-130
Stroke per jaw	mm in	65 2.6
Fluid consumption double stroke	cm^3 in^3	510 31.1
Closing force per jaw @ 6 bar	N lb	810 182
Opening force per jaw @ 6 bar	N lb	810 182
Total closing force @ 6 bar	N lb	1620 364
Total opening force @ 6 bar	N lb	1620 364
Recommended workpiece weight	kg lb	8.10 17.80
Weight	kg lb	11.00 24.20
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 **2 - 8 bar (29 - 116 psi)**
Working Temperature **5 - 60 °C (41 - 140 °F)**
Noise Emission (Sound Pressure) **≤ 70 db(A) in any direction**

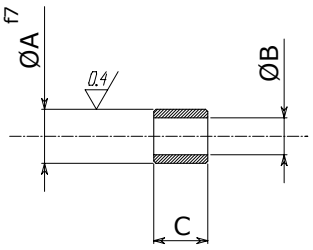
Clamping Force Diagram

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



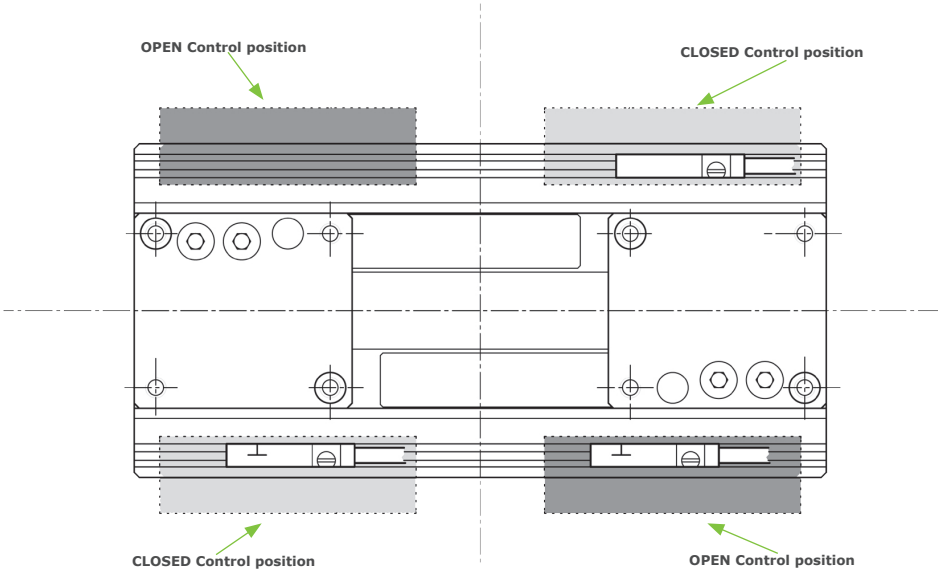
F = True clamping force per jaw - **L** = Reading distance
Values read at a distance **L = 20 mm**

Jaw Centering Bushing



		A	B	C
LPG 50-130	mm in	12 0.47	8.2 0.32	12 0.47

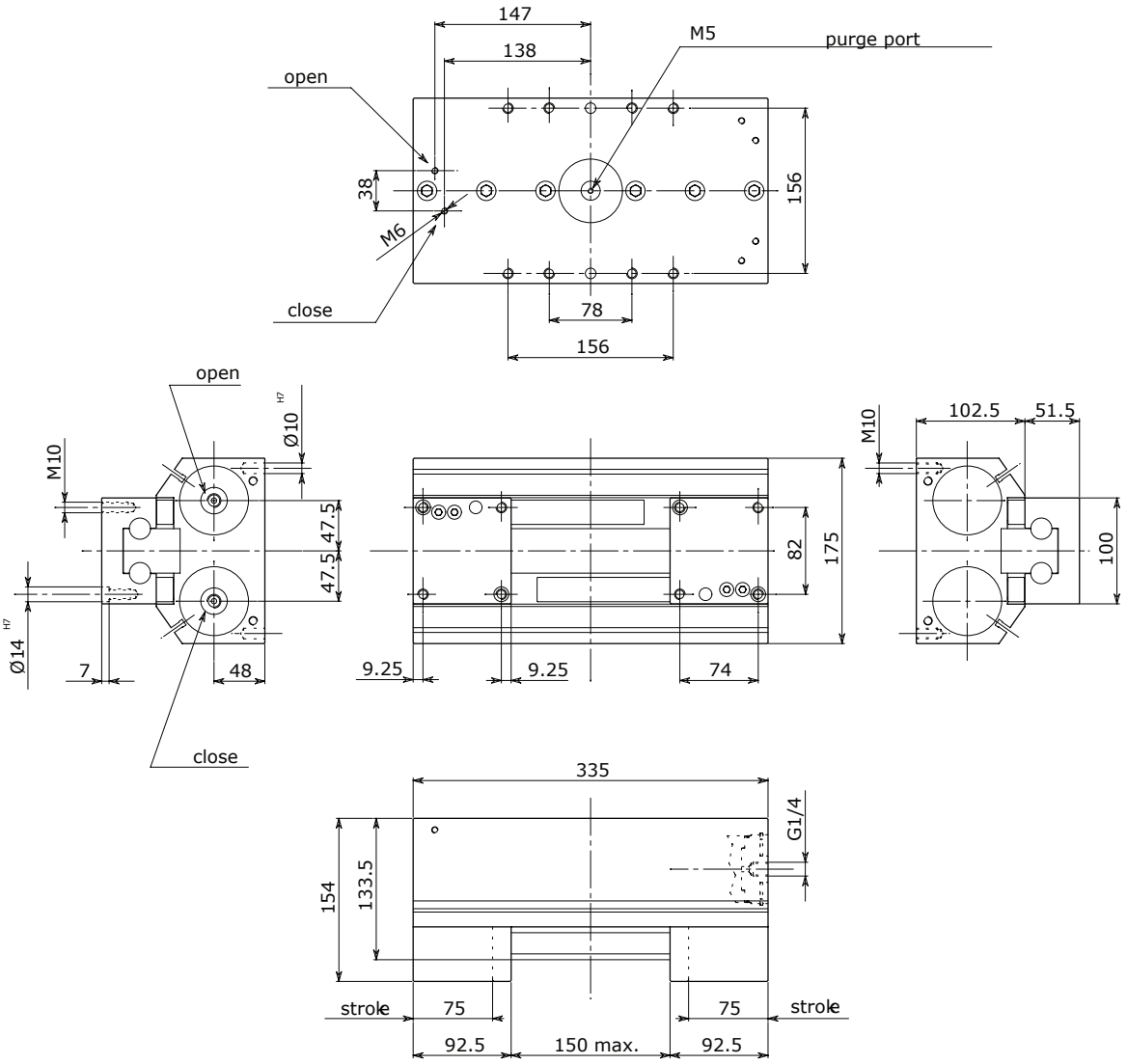
Assembly and adjustment of the magnetic switches



IMPORTANT: slowly insert the magnetic switches into the T- grooves pushing them towards the center of the gripper until the switch led lights up (First switching, after a few mm. the sensor detects a second reading point not to be used!).
Lock tighten the set screw to block the sensor into position. Test the correct setting by opening and closing the gripper.

Dimensional Drawing

LPG 63-150



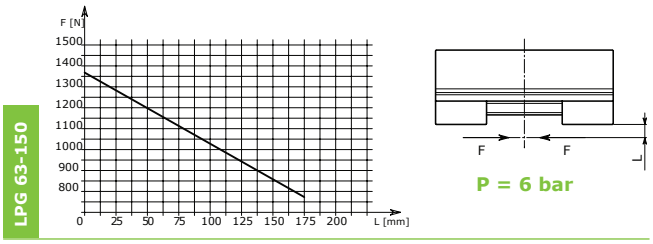
TECHNICAL DATA

		LPG 63-150
Stroke per jaw	mm in	75 3
Fluid consumption double stroke	cm^3 in^3	935 57
Closing force per jaw @ 6 bar	N lb	1300 292
Opening force per jaw @ 6 bar	N lb	1300 292
Total closing force @ 6 bar	N lb	2600 585
Total opening force @ 6 bar	N lb	2600 585
Recommended workpiece weight	kg lb	13.00 28.60
Weight	kg lb	18.00 39.60
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 **2 - 8 bar (29 - 116 psi)**
Working Temperature **5 - 60 °C (41 - 140 °F)**
Noise Emission (Sound Pressure) **≤ 70 db(A) in any direction**

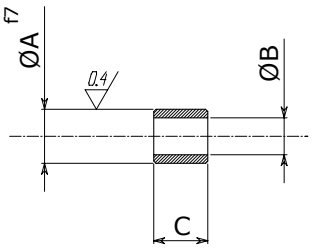
Clamping Force Diagram

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



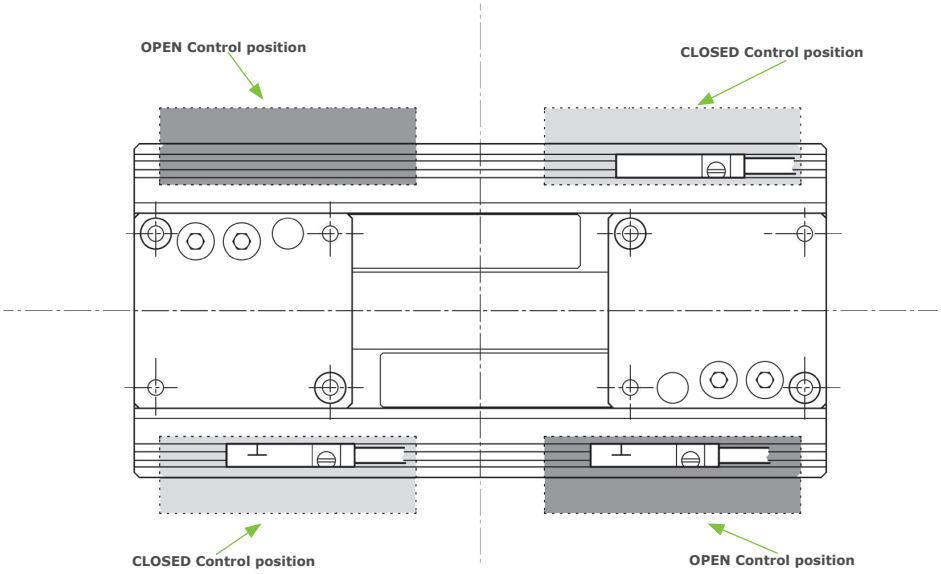
F = True clamping force per jaw - **L** = Reading distance
Values read at a distance **L = 20 mm**

Jaw Centering Bushing



		A	B	C
LPG 63-150	mm in	14 0.55	10.2 0.40	14 0.55

Assembly and adjustment of the magnetic switches



IMPORTANT: slowly insert the magnetic switches into the T- grooves pushing them towards the center of the gripper until the switch led lights up (First switching, after a few mm. the sensor detects a second reading point not to be used!).
Lock tighten the set screw to block the sensor into position. Test the correct setting by opening and closing the gripper.

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