

PARALLEL PNEUMATIC GRIPPERS

PRECISION LOW PROFILE SERIES



RPLC Series
Starts at
\$285

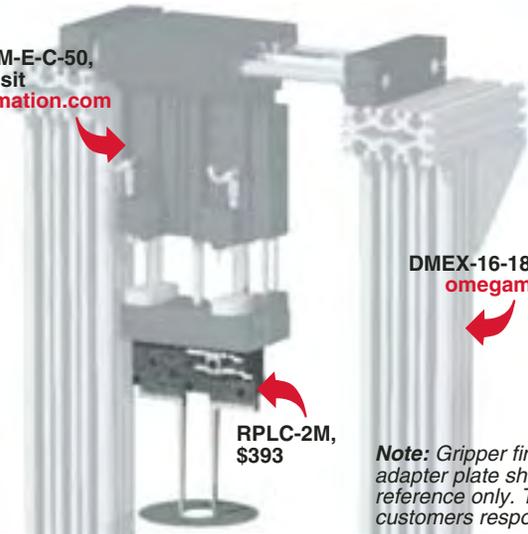


- Precision Gripping—Preloaded V Roller Bearings Eliminate Side Play Resulting in Excellent Part Positioning
- Class 10 Clean Room Rated with Corrosion Resistant Shield, Clean Room Grade Lubricant and Scavenge Port
- Components Protected by Stainless Steel Shield for Use in Harsh Environments
- Accuracy of 0.05 mm (0.002") and Repeatability of 0.03 mm (0.001")
- Rigid and Low Friction Design Allows for Longer Finger lengths for Use on Delicate Parts
- Non-Synchronous Motion Option Provides Independent Jaw Operation
- Up to 5 Million Cycles in Typical Operation and 10 Million with Maintenance
- Operating Temperature -35 to 80°C (-30 to 180°F)
- System Requires 0.3 to 7 bar (5 to 100 psi) Dry Filtered (40 Micron or Better) Air Supply
- Requires 4-Way, 2 Position Valve and Regulator for Delicate Parts



RPLC-3M, \$522

DLT-10M-E-C-50,
\$270, visit
omegamation.com



RPLC-2M,
\$393

DMEX-16-18, \$72, visit
omegamation.com

Note: Gripper fingers and adapter plate shown are for reference only. Tooling is customers responsibility.

PRODUCT FEATURES

Hard Coat Anodize
The body has hard-coat anodize 60 RC with PTFE impregnation

Pre-Load Adjustment Screws
Adjustable preload screws allow for adjustment of preload on roller bearings

Stainless Steel Screws
Provides protection against corrosion

Preloaded Bearings
Roller bearings are preloaded for maximum support and zero side play

Self Lubricating Seals
Self lubricating dynamic seals (Buna-N only)

One Piece Body
One piece lightweight aluminum body

Dowel Holes
Slip fit dowel pin holes in body

Purge/Scavenge Port
For extreme environments from dry and gritty to clean-room Class 10 or better

High Grip Force
High grip force with respect to weight due to extremely efficient drive mechanism

Patented Bearing Support
"Dual-V" roller bearings provide low friction rolling motion

Accessory Mounting Holes

Non-Synchronous Operation Available

Clean-Room Lubrication
Units are lubricated with a clean-room grade grease

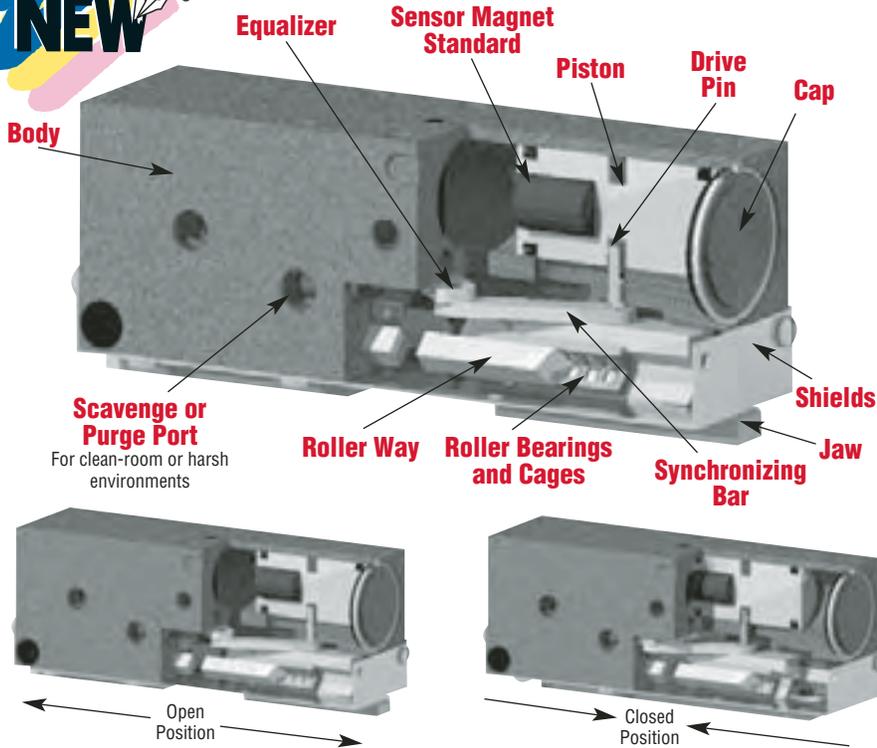
Sensors
Reads position of jaw (Sold separately- see "Accessories" to order)

Quality Components
Internal components are made from hardened bearing and tool steels. External components are made from corrosion resistant materials for resistance to de-ionized water or for use in FDA and medical parts handling applications

Stainless Steel Shields
Stationary and non-contacting shields eliminate the possibility of particle generation



OPERATING PRINCIPLE



- Dual double acting opposed pistons, connected to both a jaw and a synchronizing bar by a drive pin, actuate in opposite directions.
- The synchronizing bars are connected to the equalizer which synchronizes the motion.
- The purge/scavenge port can be used to expel or retain contaminants using pressure or vacuum respectively.
- Suitable for internal or external gripping.
- The synchronizing elements can be removed for non-synchronous operation.

TECHNICAL SPECIFICATIONS

Pneumatic Specifications

Pressure Operating Range: 0.3 to 7 bar (5 to 100 psi)

Cylinder Type: Dual double acting

Dynamic Seals:

Internally lubricated Buna-N

Valve Required to Operate:

4-way, 2-position

Air Quality Requirements

Air Filtration: 40 micron or better

Air Lubrication: Not necessary*

Air Humidity: Low moisture content (dry)

Temperature Operating Range

Buna-N Seals (Standard): -35 to 80°C (-30 to 180°F)

FKM Seals (Optional): -30 to 120°C (-20 to 250°F)

Maintenance Specifications

Expected Life:

Normal Application: 5 million cycles

With Preventative Maintenance:

10+ million cycles*

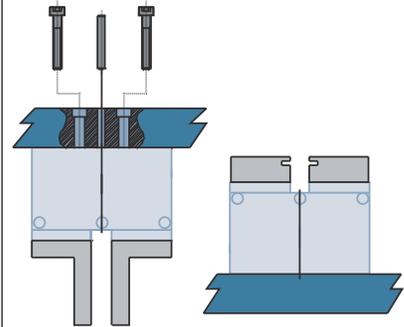
Field Repairable: Yes

Seal Repair Kits Available: Yes

* Addition of lubrication will greatly increase service life.

MOUNTING INFORMATION

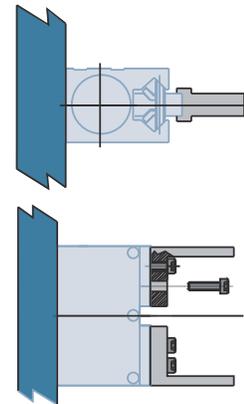
Grippers can be mounted and operated in any orientation.



Body mounts with screws and locates with slip-fit dowel pins for accuracy.

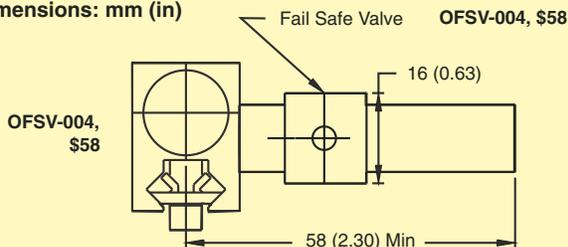


Shields provide protection from falling debris when mounted upside down.



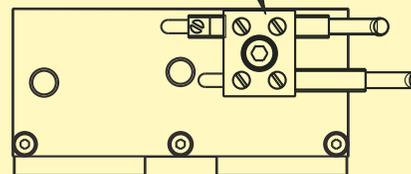
Fingers attach to jaws with screws and locate by keying

Dimensions: mm (in)



- Position Sensors Available—PNP or NPN Magneto Resistive Style, 2 per Gripper Recommended
- Sensors are Slot Mounted with Mounting Kit and Easily Adjusted with Hex Key

Magneto Resistive Sensor
OHSP-017, \$63 and
OHSN-017, \$63



- Built-In LED for Ease of Positioning and Troubleshooting with Quick Disconnect Fitting
- Sensor Extension Cables Available in 2 or 5 m Long

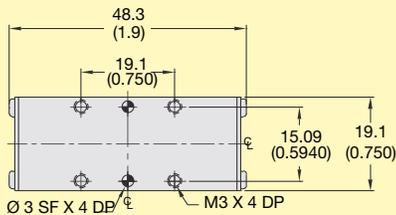
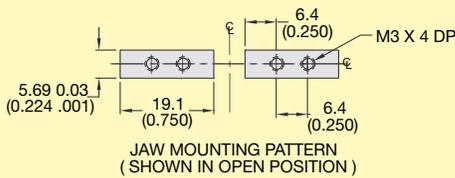
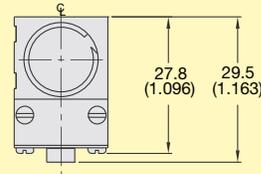
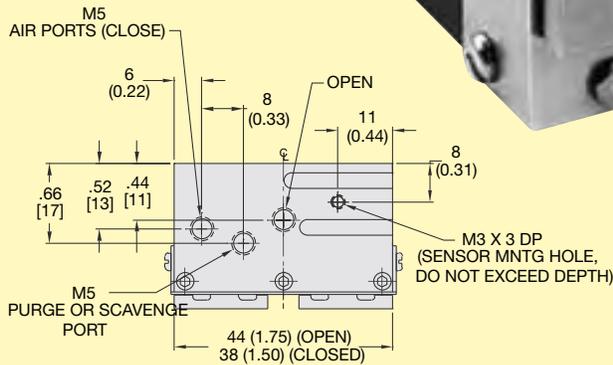
PARALLEL PNEUMATIC GRIPPER— LOW PROFILE CLEAN ROOM SERIES RPLC-1M



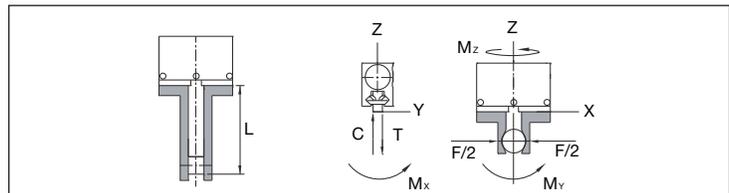
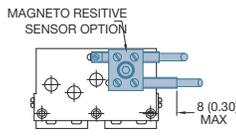
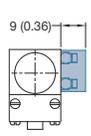
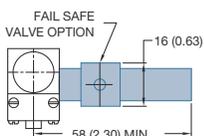
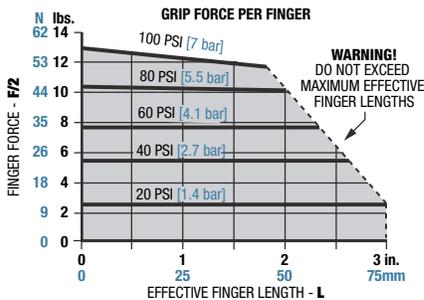
RPLC-1M, \$285, shown larger than actual size.



Dimensions: mm (in)



SPECIFICATIONS	RPLC-1M	RPLC-1
Total Rated Grip Force F @ 100 psi, 7 bar	116 N	26 lb
Stroke	6.4 mm	0.25"
Weight	0.07 Kg	0.16 lb
Pressure Range	0.3 to 7 bar	5 to 100 psi
Cylinder Bore Ø	11.1 mm	0.438"
Displacement	0.6 cm ³	0.038" ³
Temp Range (Standard Seals)	-35 to 80°C	-30 to 180°F
Temp Range (FKM Seals)	-30 to 120°C	-20 to 250°F
Actuation	0.10 sec	
Accuracy	±0.05 mm	±0.002"
Repeatability	±0.03 mm	±0.001"
Valve Required to Actuate	4-way, 2-position	



LOADING CAPACITY†	STATIC	DYNAMIC
Maximum Tensile T	222 N (50 lbs)	67 N (15 lbs)
Maximum Compressive C	222 N (50 lbs)	67 N (15 lbs)
Maximum Moment Mx	3.4 Nm (30"/lbs)	1.1 Nm (10"/lbs)
Maximum Moment My	4.5 Nm (40"/lbs)	1.4 Nm (12"/lbs)
Maximum Moment Mz	3.4 Nm (30"/lbs)	1.1 Nm (10"/lbs)

†Capacities are per set of jaws and are not simultaneous



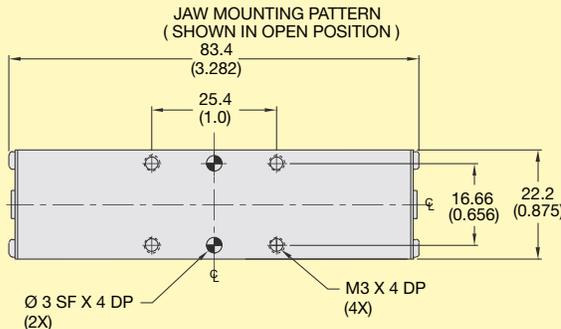
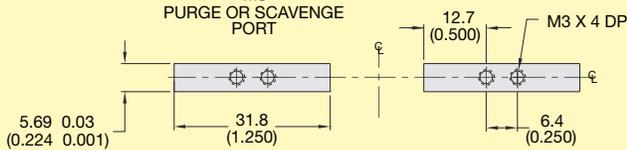
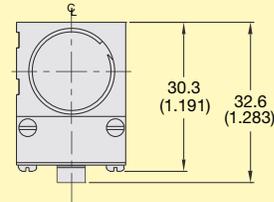
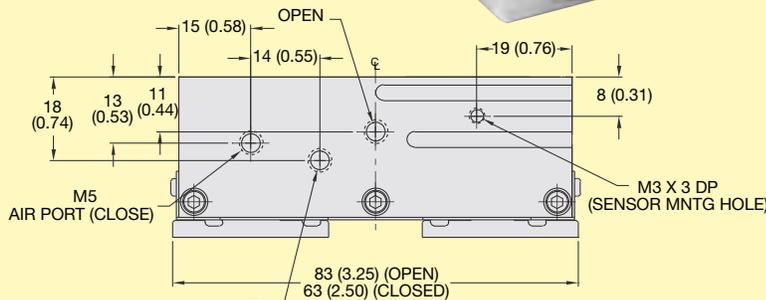
PARALLEL PNEUMATIC GRIPPER— LOW PROFILE CLEAN ROOM SERIES RPLC-2M



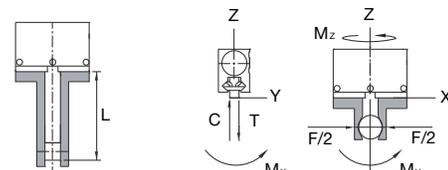
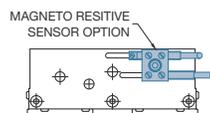
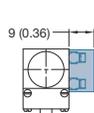
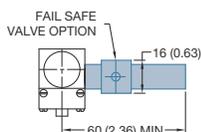
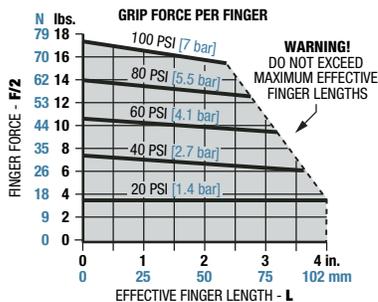
RPLC-2M, \$393, shown larger than actual size.



Dimensions: mm (in)



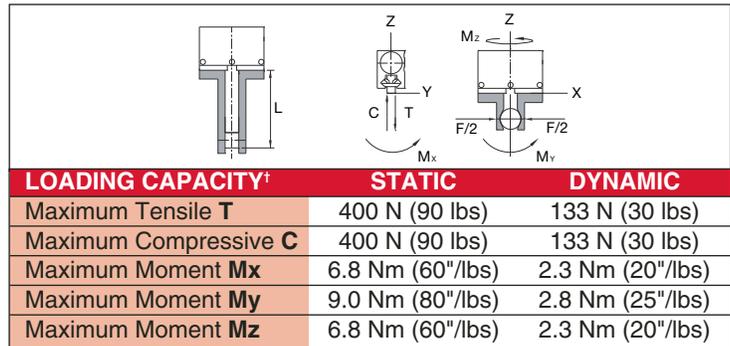
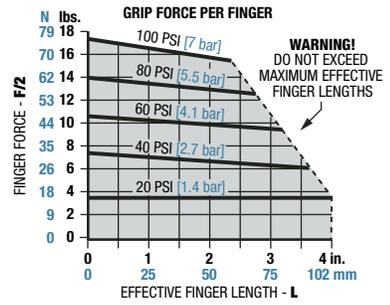
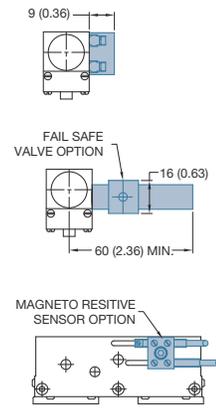
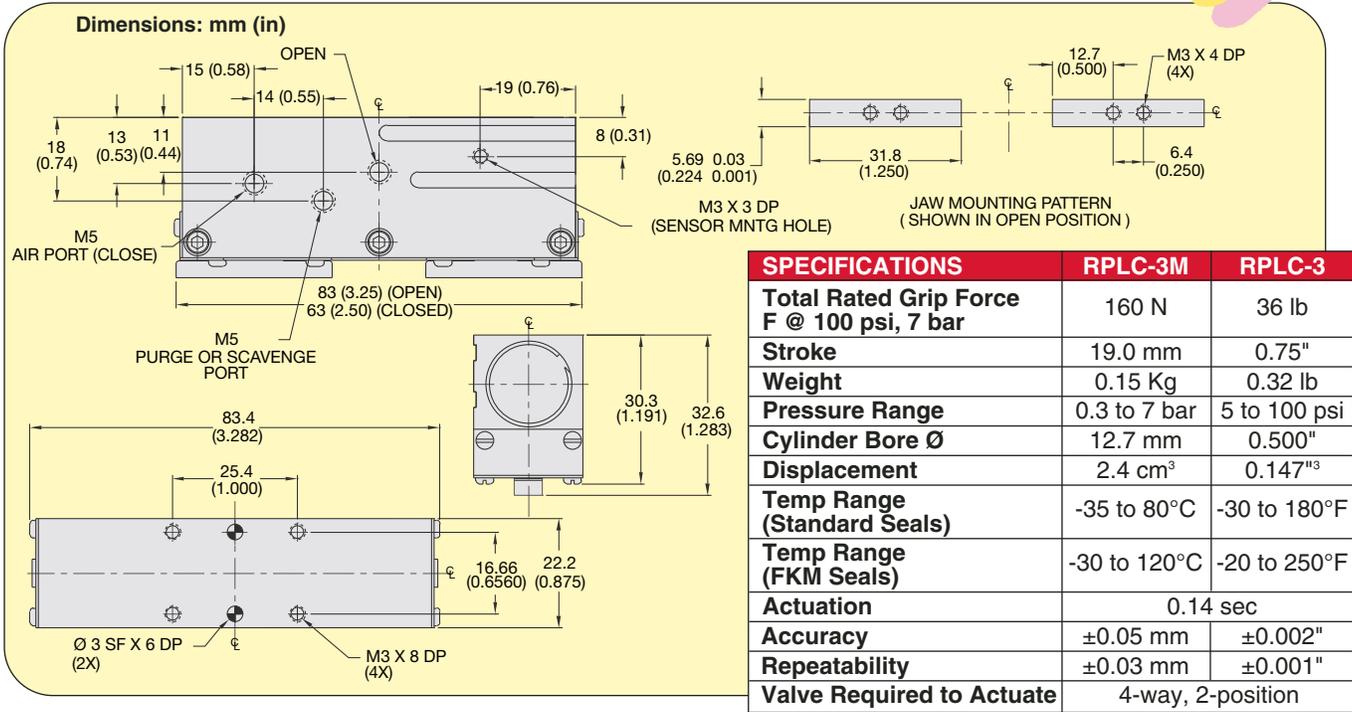
SPECIFICATIONS	RPLC-2M	RPLC-2
Total Rated Grip Force F @ 100 psi, 7 bar	116 N	26 lb
Stroke	12.7 mm	0.50"
Weight	0.09 Kg	0.20 lb
Pressure Range	0.3 to 7 bar	5 to 100 psi
Cylinder Bore Ø	11.1 mm	0.438"
Displacement	1.2 cm ³	0.075" ³
Temp Range (Standard Seals)	-35 to 80°C	-30 to 180°F
Temp Range (FKM Seals)	-30 to 120°C	-20 to 250°F
Actuation	0.13 sec	
Accuracy	±0.05 mm	±0.002"
Repeatability	±0.03 mm	±0.001"
Valve Required to Actuate	4-way, 2-position	



LOADING CAPACITY [†]	STATIC	DYNAMIC
Maximum Tensile T	289 N (65 lbs)	89 N (20 lbs)
Maximum Compressive C	289 N (65 lbs)	89 N (20 lbs)
Maximum Moment M _x	5.1 Nm (45"/lbs)	1.7 Nm (15"/lbs)
Maximum Moment M _y	6.8 Nm (60"/lbs)	2.3 Nm (20"/lbs)
Maximum Moment M _z	5.1 Nm (45"/lbs)	1.7 Nm (15"/lbs)

[†]Capacities are per set of jaws and are not simultaneous

PARALLEL PNEUMATIC GRIPPER— LOW PROFILE CLEAN ROOM SERIES RPLC-3M



[†]Capacities are per set of jaws and are not simultaneous

To Order (Specify Model Number)		MOST POPULAR MODELS HIGHLIGHTED!						
MODEL NO.	PRICE	BODY LENGTH	BODY HEIGHT	BODY DEPTH	STROKE	GRIP FORCE @	WEIGHT	
		mm (in)	mm (in)	mm (in)	mm (in)	(lbs)	Kg (lbs)	
RPLC-1M	\$285	48.3 (1.9)	29.5 (1.163)	19.1 (0.750)	6.4 (0.25)	116 (26)	0.07 (0.16)	
RPLC-2M	393	62.9 (2.475)	29.5 (1.163)	19.1 (0.750)	12.7 (0.05)	116 (26)	0.09 (0.20)	
RPLC-3M	522	83.4 (3.282)	32.6 (1.283)	22.2 (.875)	19.1 (0.75)	160 (36)	0.15 (0.32)	

Ordering Example: RPLC-2M mini pneumatic low profile gripper with jaw stroke of 12.7 mm (0.05") \$393. Recommended accessories include 2 sensors and mounting kit, along with a 4-way, 2-position valve. Temperature rating of -35 to 80°C (-30 to 180°F). Temperature range can be extended to -30 to 120°C (-20 to 250°F) with FKM seals. Add "-V" to the end of the part number and \$36. All models come with standard synchronous jaws, if non-synchronous jaws are required consult sales. Detailed specification and CAD drawings are available at omegamotion.com.

ACCESSORIES

MODEL NO.	PRICE	QTY/UNIT	DESCRIPTION
OSMK-008	\$15	1	Sensor mounting kit
OHSN-017	63	1 or 2	NPN magneto resistive sensor short barrel with quick disconnect fitting
OHSP-017	63	1 or 2	PNP magneto resistive sensor short barrel with quick disconnect fitting
CABL-010	23	1 or 2	2 m (6') sensor extension cable with quick disconnect fitting
CABL-013	26	1 or 2	5 m (16') sensor extension cable with quick disconnect fitting
OFSV-004	58	1	M5 fail safe valve

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