



# PARALLEL PNEUMATIC GRIPPERS

## PRECISION LOW PROFILE SERIES—LONG FINGER APPLICATIONS



RPL Series  
Starts at  
**\$233**



- Precision Gripping—Preloaded V Roller Bearings Eliminate Side Play Resulting in Excellent Part Positioning
- Gripper Force 116 to 160 N (26 to 36 lbs)  
Stroke 6.4 to 19.1 mm (0.25 to 0.75")
- 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

All models  
shown smaller  
than actual size.

DLT-08M-E-C-44, \$255,  
visit [omegamation.com](http://omegamation.com)

RPL-1M, \$233

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

DLT-10M-L-C-100, \$330,  
visit [omegamation.com](http://omegamation.com)

RPL-2M, \$317

DMEX-16 mounting stanchions,  
multiple sizes available.  
Visit [omegamation.com](http://omegamation.com)

## PRODUCT FEATURES

### Hard Coat Anodize

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

### One Piece Body

One piece lightweight aluminum body

### Dowel Holes

Slip fit dowel pin holes in body

### Accessory Mounting Bracket

### Sensors

Reads position of jaw  
(sold separately)

### Pre-Load Adjustment Screws

Adjustable preload screws allow for adjustment of preload on roller bearings

### Preloaded Bearings

Roller bearings are preloaded for maximum support and zero side play

### Non-Synchronous Operation Available

### Self Lubricating Seals

Self lubricating dynamic seals (Buna-N only)

### High Grip Force

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

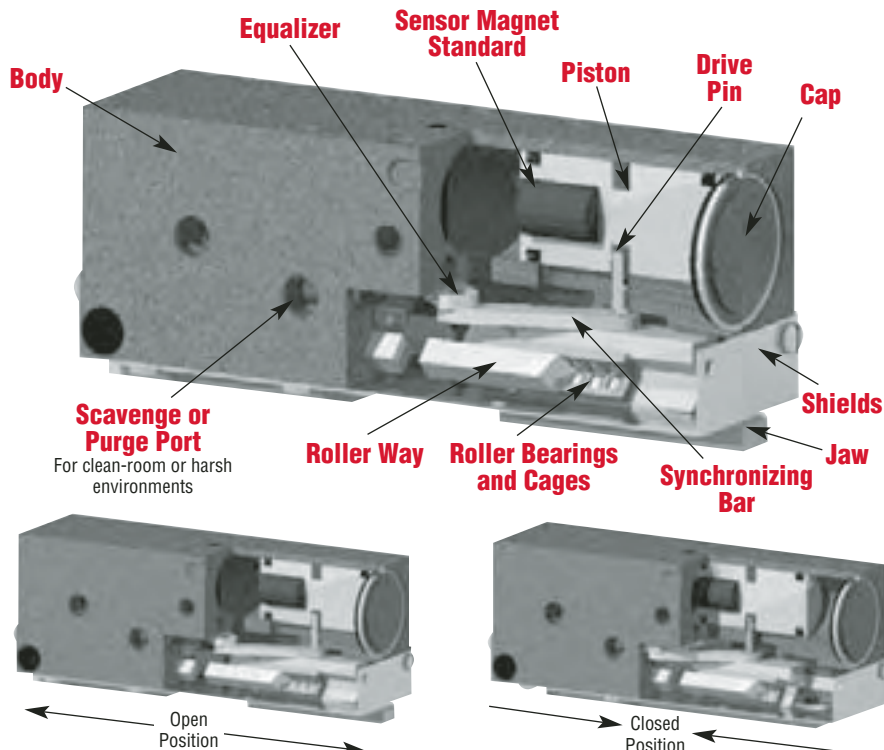
### Quality Components

Internal components are made from hardened bearing and tool steels

### Patented Bearing Support

"Dual-V" roller bearings provide low friction rolling motion

# 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\*

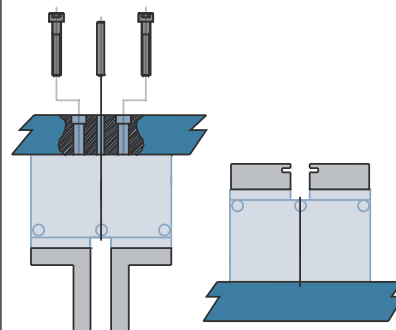
**Field Repairable:** Yes

**Seal Repair Kits Available:** Yes

\*Addition of lubrication will greatly increase service life.

## MOUNTING INFORMATION

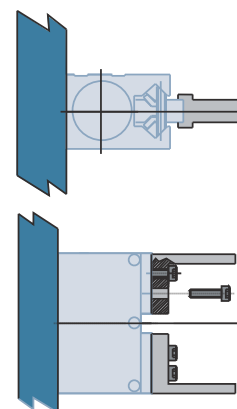
Grippers can be mounted and operated in any orientation.



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

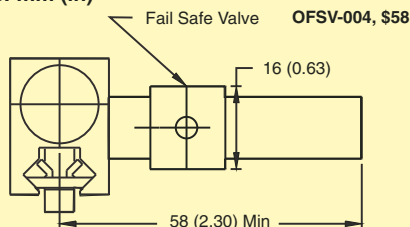


**Warning!** Protect drive and bearing mechanism from falling debris when mounted upside down.

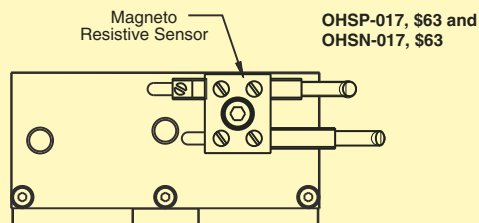


Fingers attach to jaws with screws and locate by keying

### 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

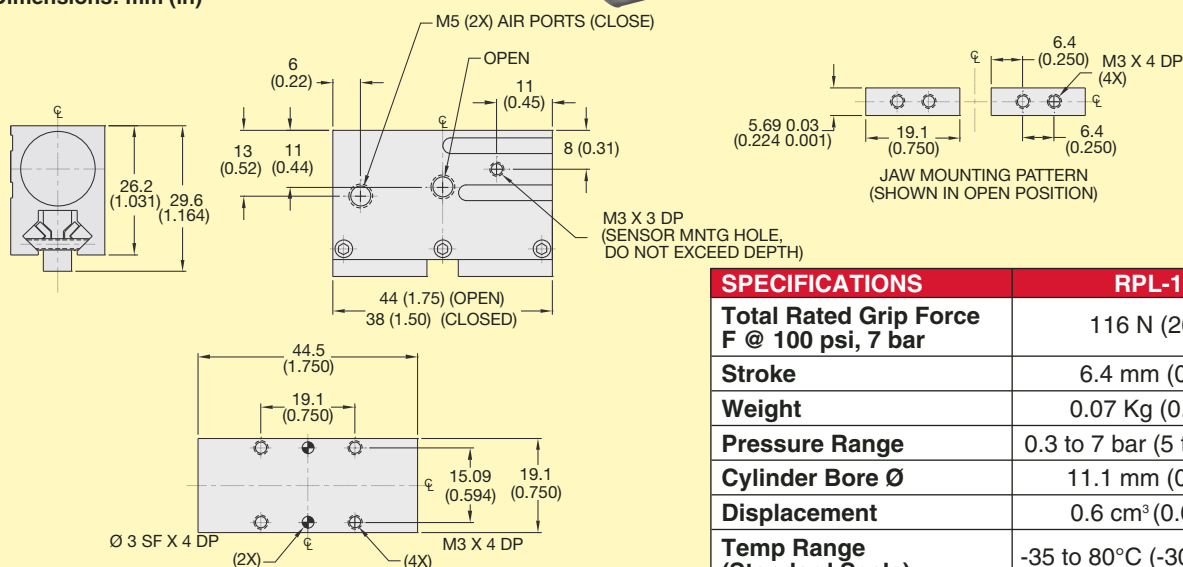


- Built-In LED for Ease of Positioning and Troubleshooting with Quick Disconnect Fitting
- Sensor Extension Cables Available in 2 or 5 m (6 or 16') Long

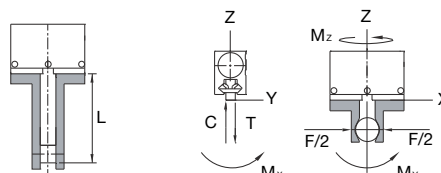
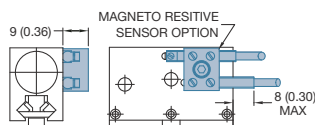
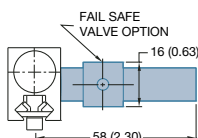
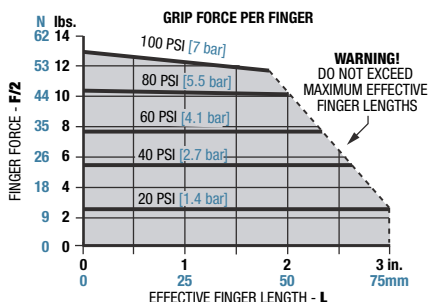


**RPL-1M, \$233, shown  
larger than actual size.**

**Dimensions: mm (in)**



SPECIFICATIONS	RPL-1M
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 <sup>3</sup> (0.038" <sup>3</sup> )
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 <sup>†</sup>	STATIC	DYNAMIC
Maximum Tensile <b>T</b>	222 N (50 lbs)	67 N (15 lbs)
Maximum Compressive <b>C</b>	222 N (50 lbs)	67 N (15 lbs)
Maximum Moment <b>M<sub>x</sub></b>	3.4 Nm (30"/lbs)	1.1 Nm (10"/lbs)
Maximum Moment <b>M<sub>y</sub></b>	4.5 Nm (40"/lbs)	1.4 Nm (12"/lbs)
Maximum Moment <b>M<sub>z</sub></b>	3.4 Nm (30"/lbs)	1.1 Nm (10"/lbs)

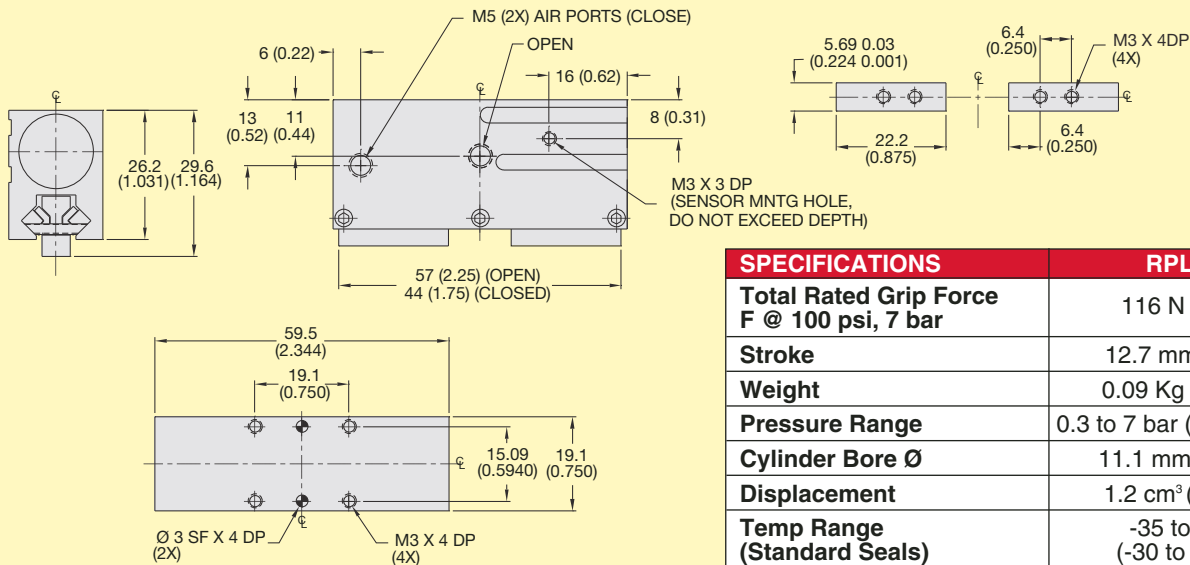
<sup>†</sup>Capacities are per set of jaws and are not simultaneous

# PARALLEL PNEUMATIC GRIPPERS—LOW PROFILE SERIES RPL-2M



RPL-2M, \$317, shown larger than actual size.

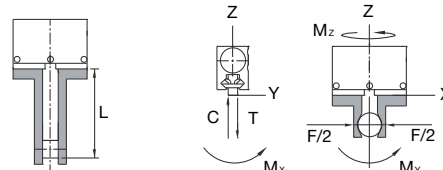
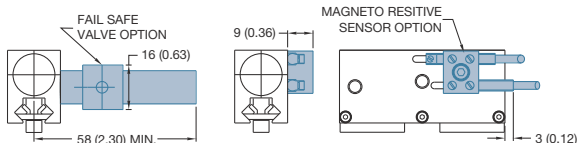
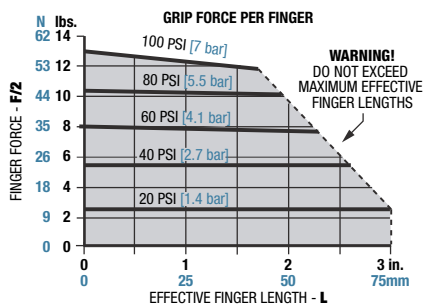
Dimensions: mm (in)



## SPECIFICATIONS

## RPL-2M

<b>Total Rated Grip Force F @ 100 psi, 7 bar</b>	116 N (26 lb)
<b>Stroke</b>	12.7 mm (0.50")
<b>Weight</b>	0.09 Kg (0.20 lb)
<b>Pressure Range</b>	0.3 to 7 bar (5 to 100 psi)
<b>Cylinder Bore Ø</b>	11.1 mm (0.438")
<b>Displacement</b>	1.2 cm <sup>3</sup> (0.075"³)
<b>Temp Range (Standard Seals)</b>	-35 to 80°C (-30 to 180°F)
<b>Temp Range (FKM Seals)</b>	-30 to 120°C (-20 to 250°F)
<b>Actuation</b>	0.13 sec
<b>Accuracy</b>	±0.05 mm (±0.002")
<b>Repeatability</b>	±0.03 mm (±0.001")
<b>Valve Required to Actuate</b>	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 Mx	5.1 Nm (45"/lbs)	1.7 Nm (15"/lbs)
Maximum Moment My	6.8 Nm (60"/lbs)	2.3 Nm (20"/lbs)
Maximum Moment Mz	5.1 Nm (45"/lbs)	1.7 Nm (15"/lbs)

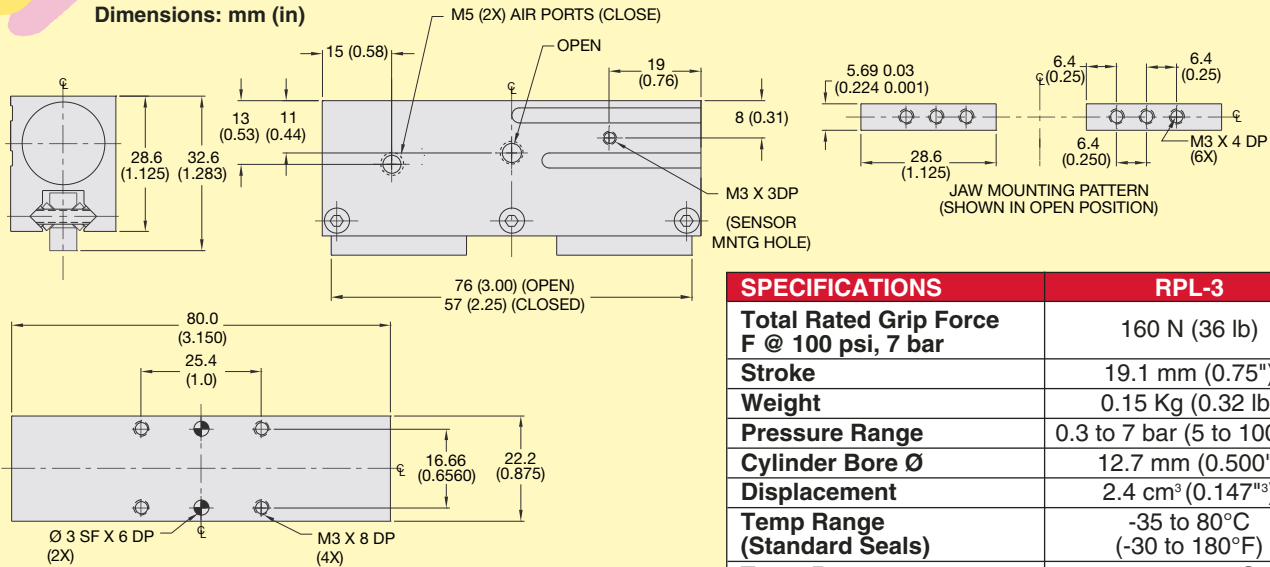
†Capacities are per set of jaws and are not simultaneous





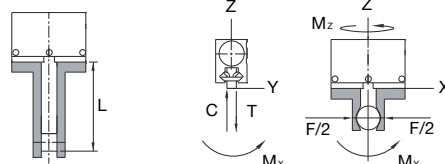
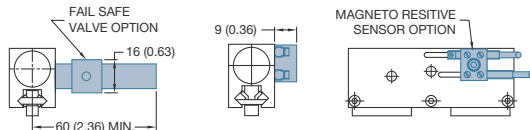
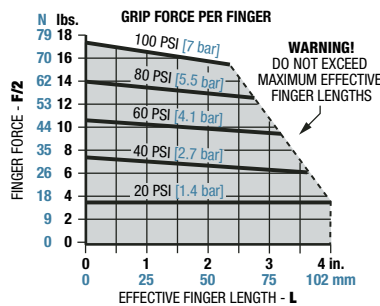
# PARALLEL PNEUMATIC GRIPPERS— LOW PROFILE SERIES RPL-3M

Dimensions: mm (in)



## SPECIFICATIONS

SPECIFICATIONS	RPL-3
Total Rated Grip Force F @ 100 psi, 7 bar	160 N (36 lb)
Stroke	19.1 mm (0.75")
Weight	0.15 Kg (0.32 lb)
Pressure Range	0.3 to 7 bar (5 to 100 psi)
Cylinder Bore Ø	12.7 mm (0.500")
Displacement	2.4 cm <sup>3</sup> (0.147"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	0.14 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	400 N (90 lbs)	133 N (30 lbs)
Maximum Compressive C	400 N (90 lbs)	133 N (30 lbs)
Maximum Moment Mx	6.8 Nm (60"/lbs)	2.3 Nm (20"/lbs)
Maximum Moment My	9.0 Nm (80"/lbs)	2.8 Nm (25"/lbs)
Maximum Moment Mz	6.8 Nm (60"/lbs)	2.3 Nm (20"/lbs)

†Capacities are per set of jaws and are not simultaneous

## To Order (Specify Model Number)

MODEL NO.	PRICE	BODY LENGTH mm (in)	BODY HEIGHT mm (in)	BODY DEPTH mm (in)	STROKE mm (in)	GRIP FORCE @ 7 BAR (100 psi)	WEIGHT kg (lbs)
RPL-1M	\$233	44.5 (1.750)	29.5 (1.164)	19.1 (0.750)	6.4 (0.25)	116 (26)	0.07 (0.16)
RPL-2M	317	59.5 (2.344)	29.5 (1.164)	19.1 (0.750)	12.7 (0.50)	116 (26)	0.09 (0.20)
RPL-3M	440	80 (3.150)	32.6 (1.283)	22.2 (0.875)	19.1 (0.75)	160 (36)	0.15 (0.32)

**Ordering Example:** RPL-2M mini pneumatic low profile gripper with jaw stroke of 12.7 mm (0.50") \$317. 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 [omegamation.com](http://omegamation.com).

## MOST POPULAR MODELS HIGHLIGHTED!

## 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-001	58	1	M5 fail safe valve

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