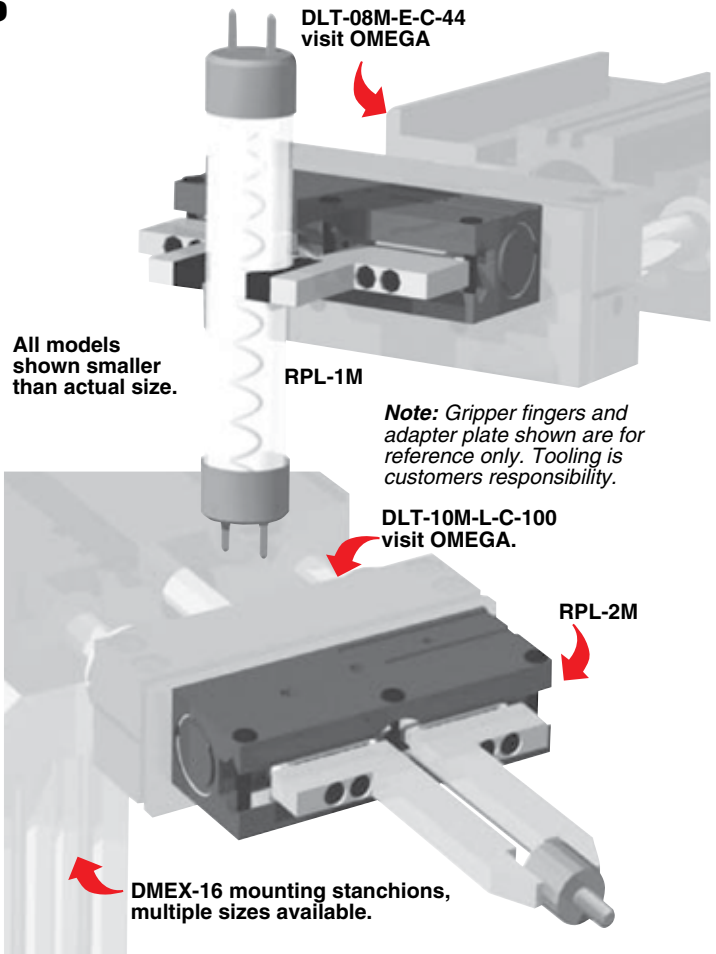


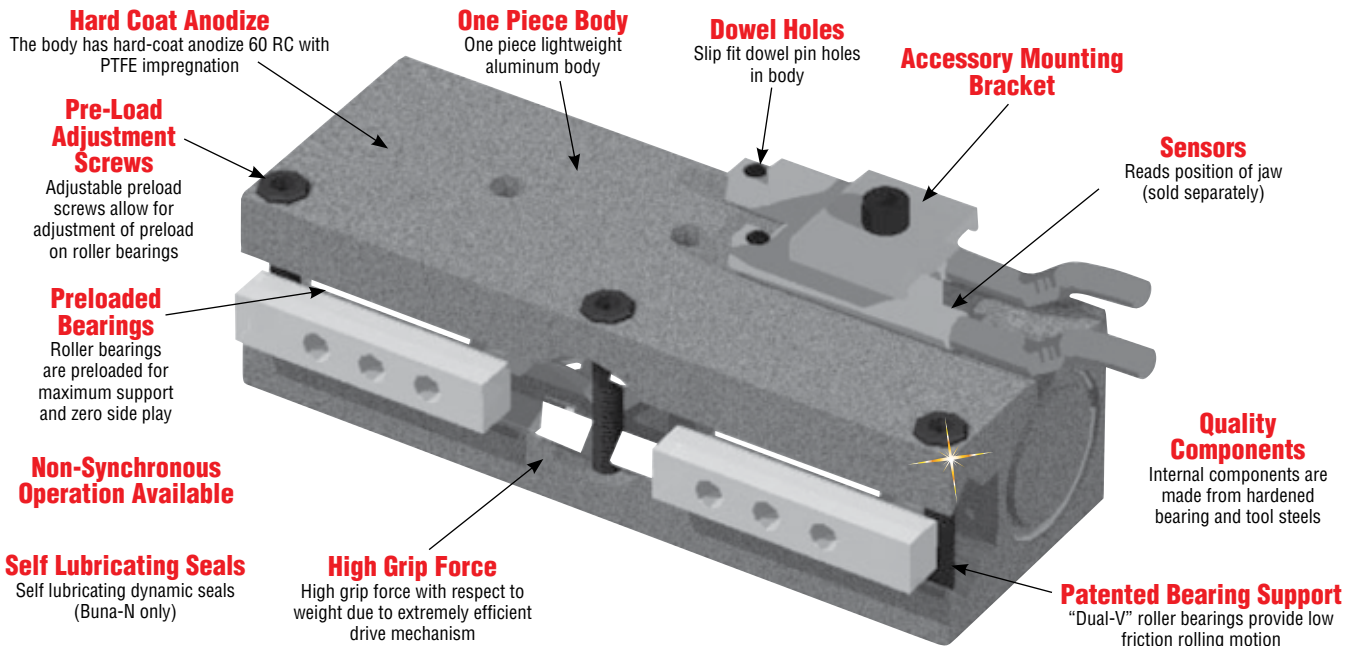
# PARALLEL PNEUMATIC GRIPPERS PRECISION LOW PROFILE SERIES—LONG FINGER APPLICATIONS

## RPL Series

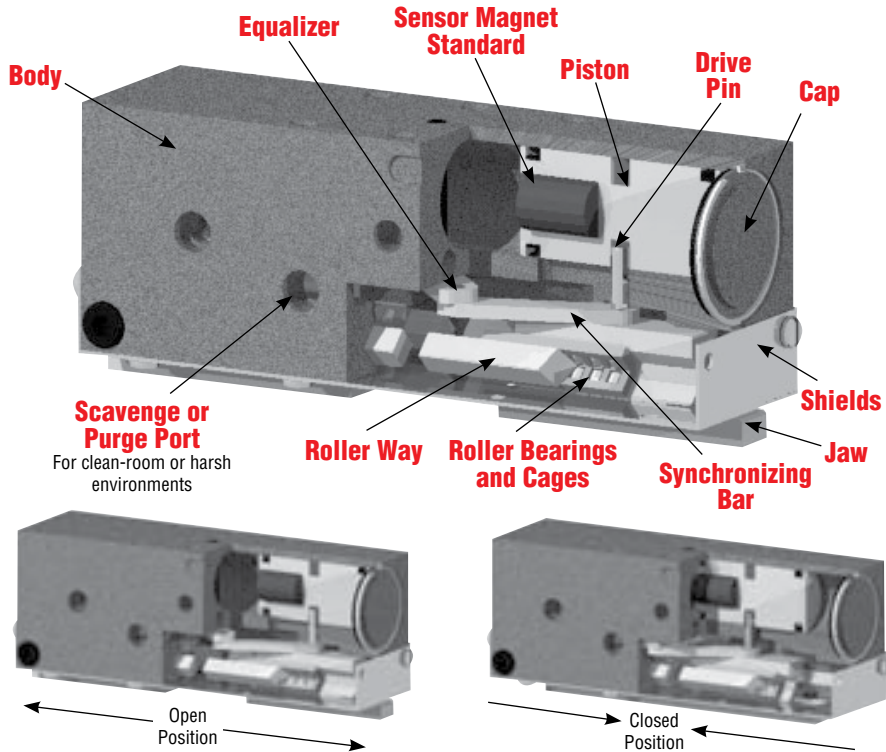
- Precision Gripping—Preloaded V Roller Bearings Eliminate Side Play Resulting in Excellent Part Positioning
- Gripper Force 116 to 160 N (26 to 36 lbs) Stroke 6.4 to 19.1 mm (0.25 to 0.75")
- Accuracy of 0.05 mm (0.002") and Repeatability of 0.03 mm (0.001")
- Rigid and Low Friction Design Allows for 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



## PRODUCT FEATURES



# 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

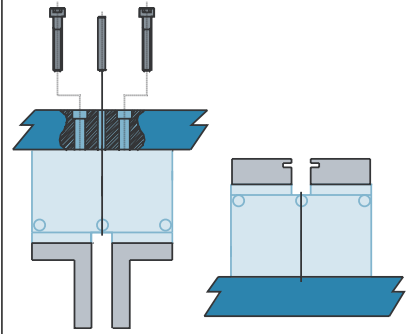
### Pneumatic Specifications

- 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

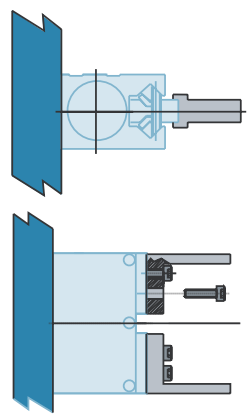
Grippers can be mounted and operated in any orientation.



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

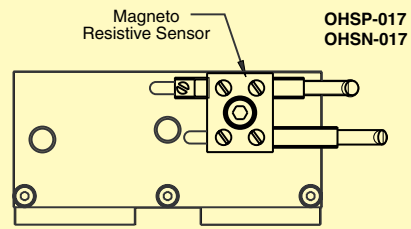
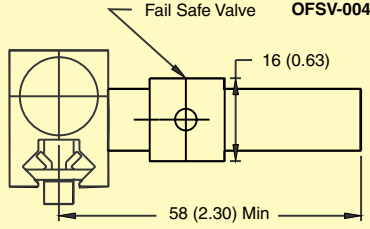


**Warning!** Protect drive and bearing mechanism from falling debris when mounted upside down.



Fingers attach to jaws with screws and locate by keying

### Dimensions: mm (inch)

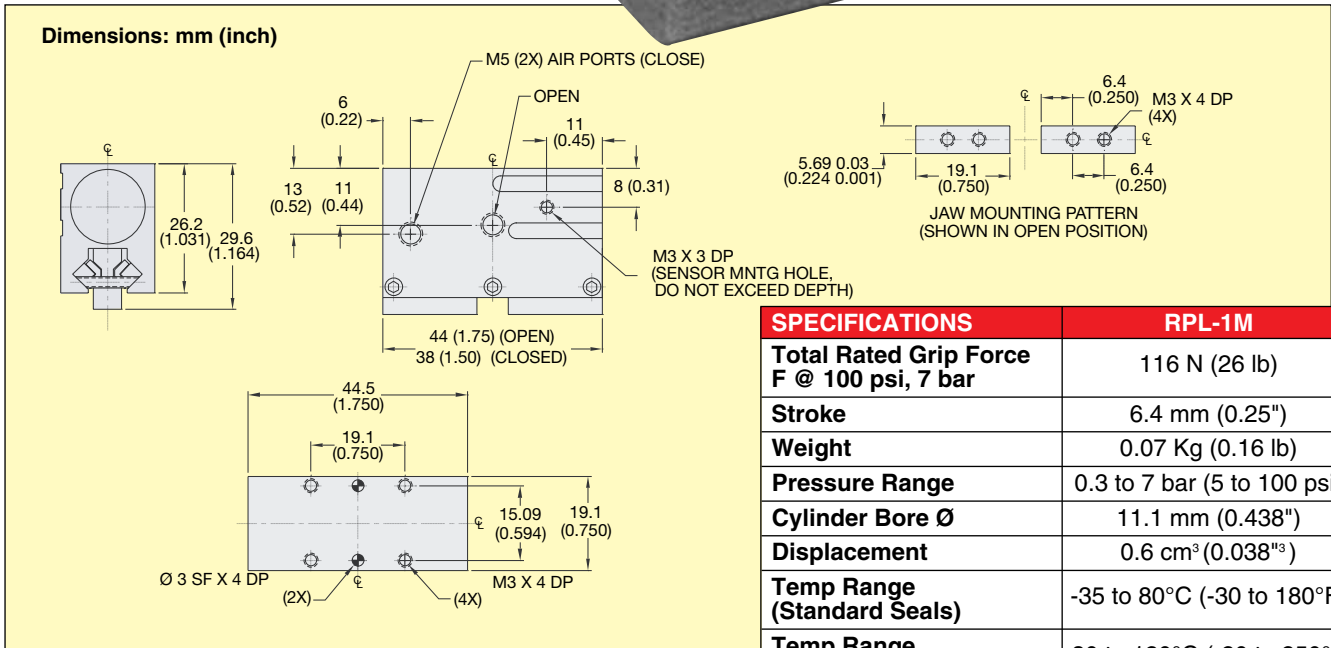


- Position Sensors Available—PNP or NPN Magneto Resistive Style, 2 per Gripper Recommended
- Sensors are Slot Mounted with Mounting Kit and Easily Adjusted with Hex Key
- Built-In LED for Ease of Positioning and Troubleshooting with Quick Disconnect Fitting
- Sensor Extension Cables Available in 2 or 5 m (6.6 or 16') Long

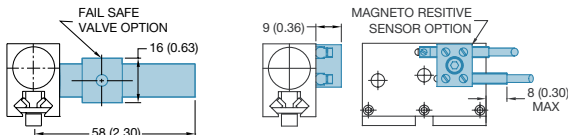
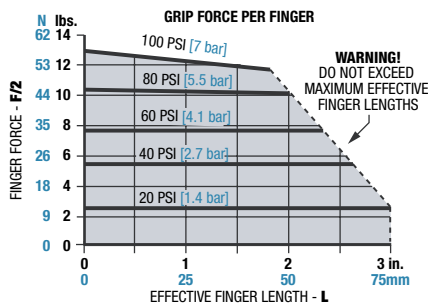
# PARALLEL PNEUMATIC GRIPPERS LOW PROFILE SERIES RPL-1M



RPL-1M shown larger than actual size.



SPECIFICATIONS	RPL-1M
<b>Total Rated Grip Force F @ 100 psi, 7 bar</b>	116 N (26 lb)
<b>Stroke</b>	6.4 mm (0.25")
<b>Weight</b>	0.07 Kg (0.16 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>	0.6 cm <sup>3</sup> (0.038 in <sup>3</sup> )
<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>	0.10 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



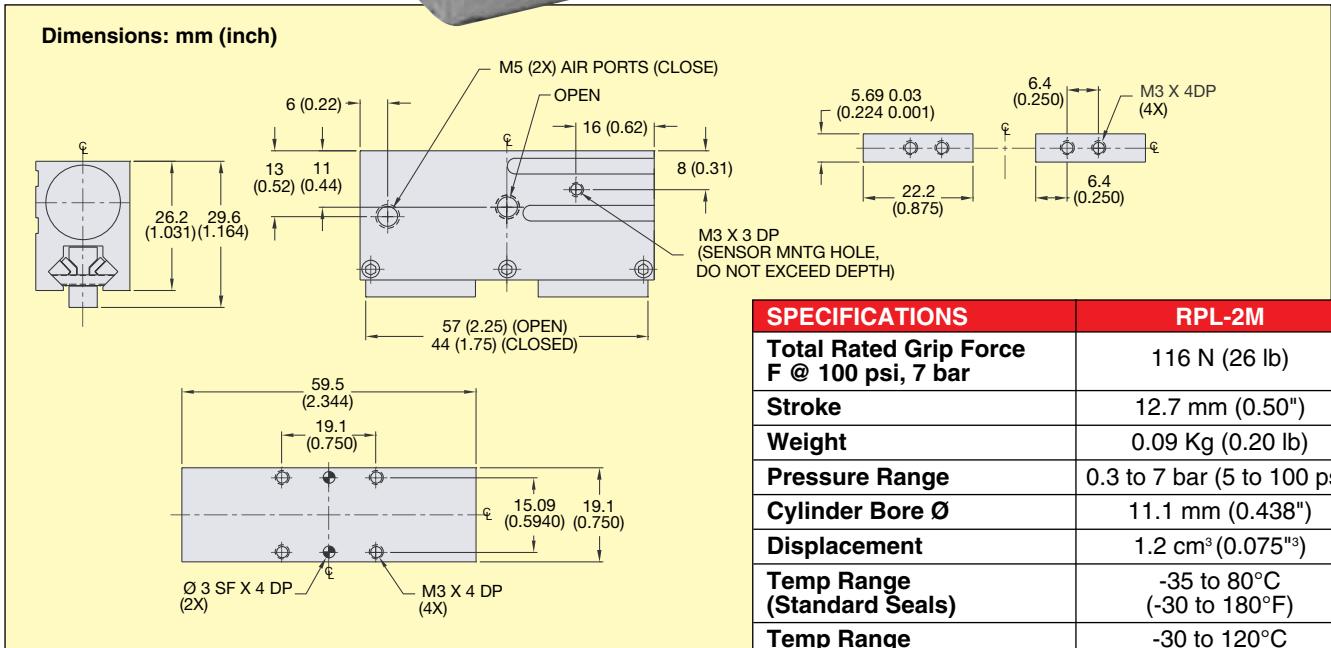
LOADING CAPACITY†	STATIC	DYNAMIC
Maximum Tensile <b>T</b>	222 N (50 lbs)	67 N (15 lbs)
Maximum Compressive <b>C</b>	222 N (50 lbs)	67 N (15 lbs)
Maximum Moment <b>M<sub>x</sub></b>	3.4 Nm (30"/lbs)	1.1 Nm (10"/lbs)
Maximum Moment <b>M<sub>y</sub></b>	4.5 Nm (40"/lbs)	1.4 Nm (12"/lbs)
Maximum Moment 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

†Capacities are per set of jaws and are not simultaneous

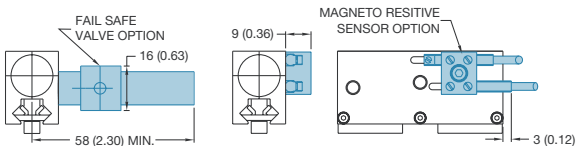
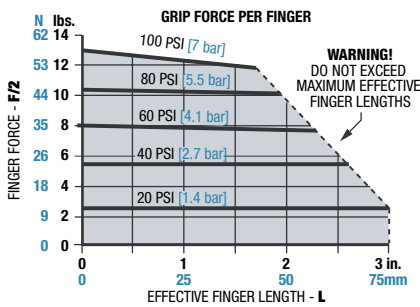
# PARALLEL PNEUMATIC GRIPPERS LOW PROFILE SERIES RPL-2M



RPL-2M shown larger than actual size.



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" <sup>3</sup> )
<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

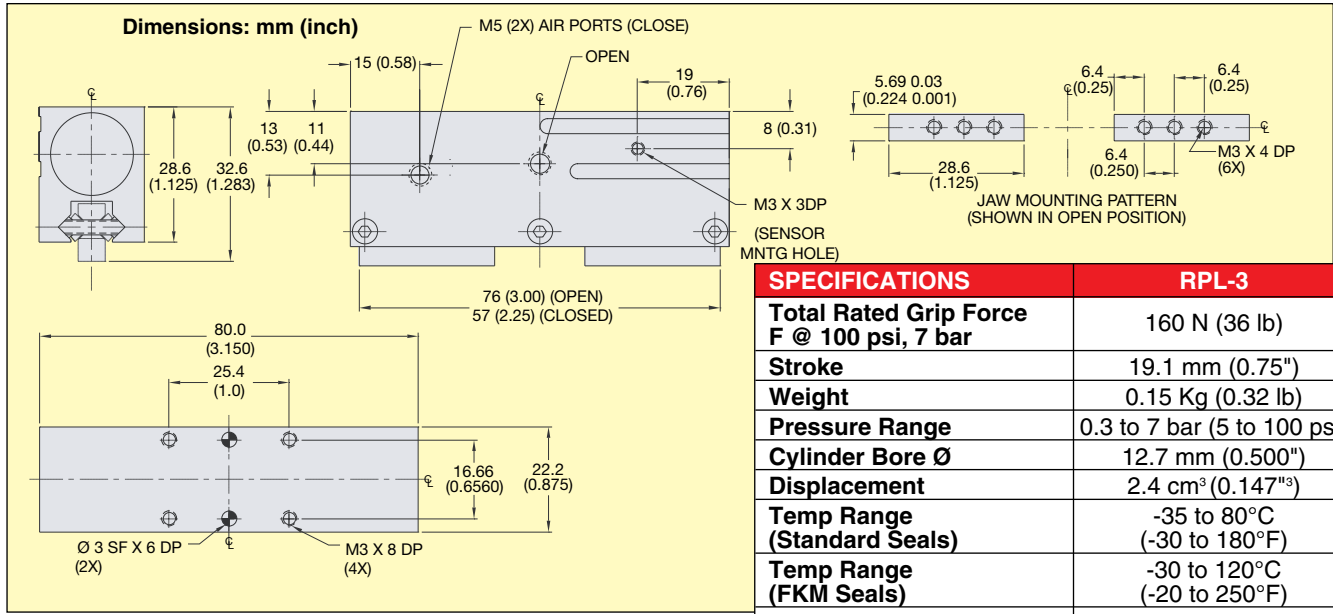


LOADING CAPACITY†	STATIC		DYNAMIC	
	T	C	Mx	My
Maximum Tensile T	289 N (65 lbs)	89 N (20 lbs)	1.7 Nm (15"/lbs)	2.3 Nm (20"/lbs)
Maximum Compressive C	289 N (65 lbs)	89 N (20 lbs)	1.7 Nm (15"/lbs)	2.3 Nm (20"/lbs)
Maximum Moment Mx	5.1 Nm (45"/lbs)	1.7 Nm (15"/lbs)	5.1 Nm (45"/lbs)	1.7 Nm (15"/lbs)
Maximum Moment My	6.8 Nm (60"/lbs)	2.3 Nm (20"/lbs)	6.8 Nm (60"/lbs)	2.3 Nm (20"/lbs)
Maximum Moment Mz	5.1 Nm (45"/lbs)	1.7 Nm (15"/lbs)	5.1 Nm (45"/lbs)	1.7 Nm (15"/lbs)

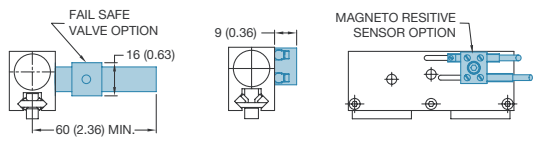
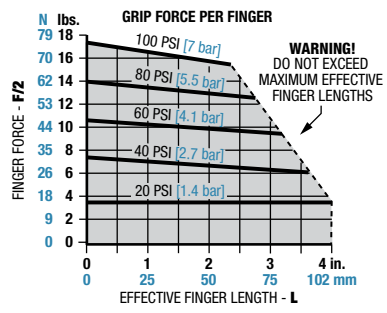
†Capacities are per set of jaws and are not simultaneous



# PARALLEL PNEUMATIC GRIPPERS LOW PROFILE SERIES RPL-3M



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

†Capacities are per set of jaws and are not simultaneous

To Order						
MODEL NO.	BODY LENGTH mm (inch)	BODY HEIGHT mm (inch)	BODY DEPTH mm (inch)	STROKE mm (inch)	GRIP FORCE @ 7 BAR (100 psi)	WEIGHT kg (lbs)
RPL-1M	44.5 (1.750)	29.5 (1.164)	19.1 (0.750)	6.4 (0.25)	116 (26)	0.07 (0.16)
RPL-2M	59.5 (2.344)	29.5 (1.164)	19.1 (0.750)	12.7 (0.50)	116 (26)	0.09 (0.20)
RPL-3M	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"). 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 for additional cost. All models come with standard synchronous jaws, if non-synchronous jaws are required consult sales. Detailed specification and CAD drawings are available at OMEGA.

Accessories		
MODEL NO.	QTY/UNIT	DESCRIPTION
OSMK-008	1	Sensor mounting kit
OHSN-017	1 or 2	NPN magneto resistive sensor short barrel with quick disconnect fitting
OHSP-017	1 or 2	PNP magneto resistive sensor short barrel with quick disconnect fitting
CABL-010	1 or 2	2 m (6.6') sensor extension cable with quick disconnect fitting
CABL-013	1 or 2	5 m (16') sensor extension cable with quick disconnect fitting
OFSV-001	1	M5 fail safe valve