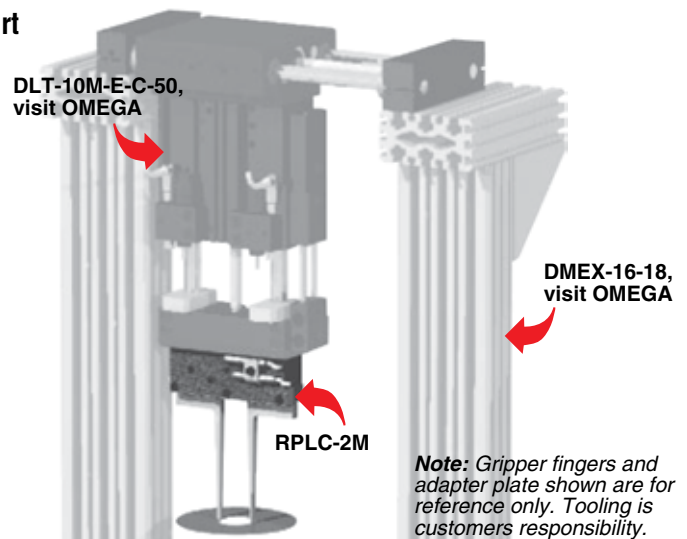
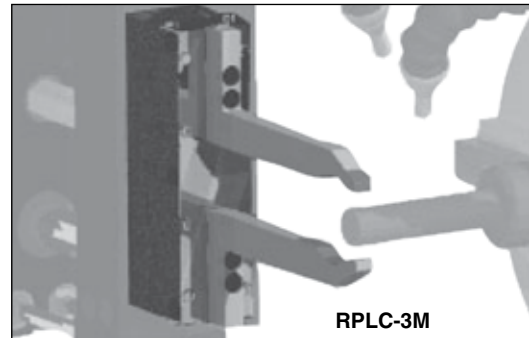


# PARALLEL PNEUMATIC GRIPPERS

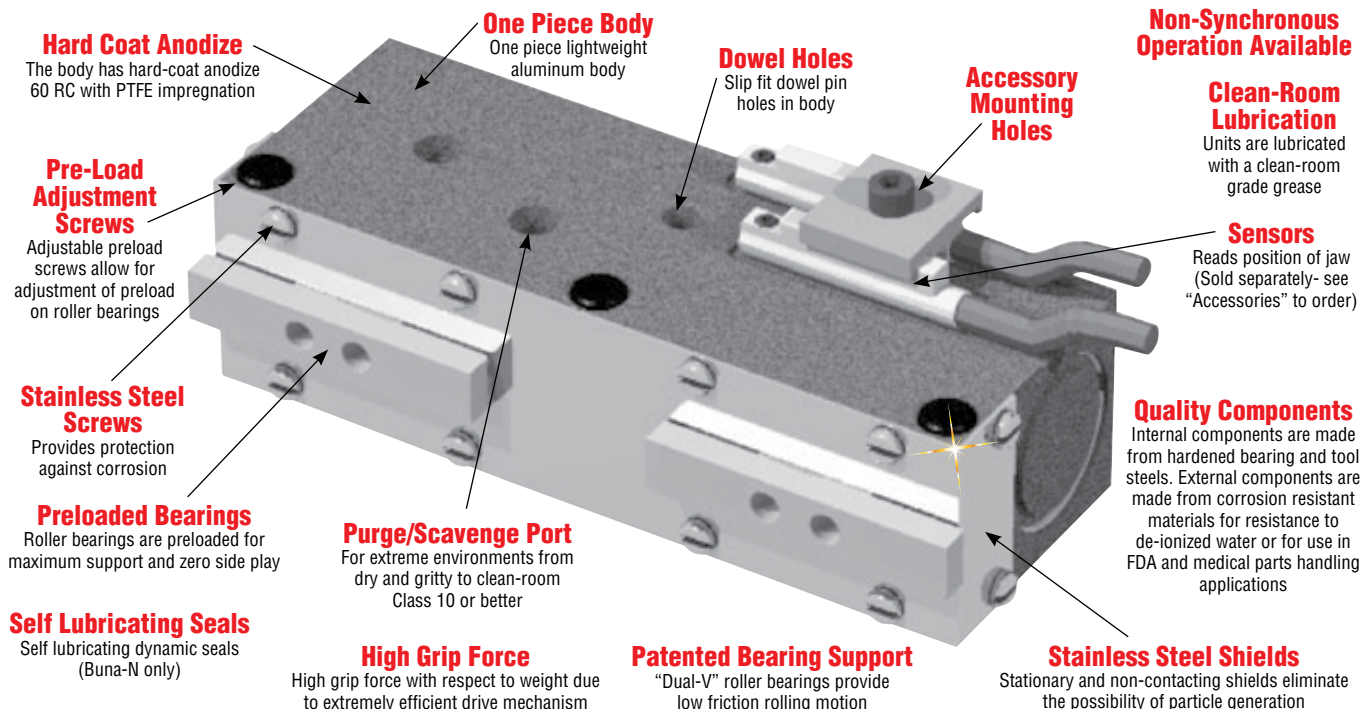
## PRECISION LOW PROFILE SERIES

### RPLC Series

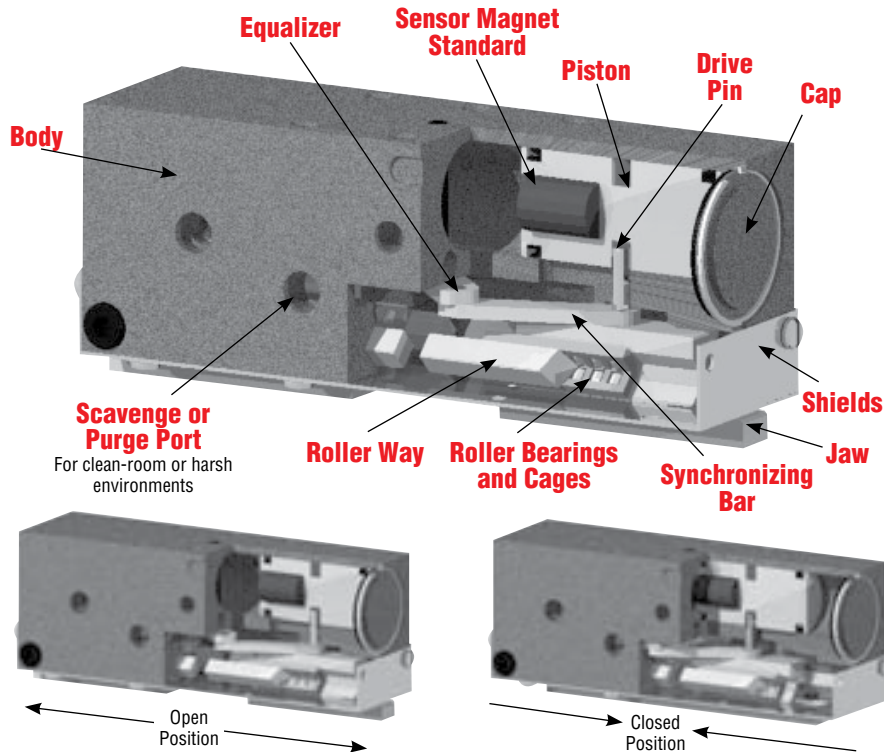
- **Precision Gripping**—Preloaded V Roller Bearings Eliminate Side Play Resulting in Excellent Part Positioning
- **Class 10 Clean Room Rated** with Corrosion Resistant Shield, Clean Room Grade Lubricant and Scavenge Port
- **Components Protected by Stainless Steel Shield** for Use in Harsh Environments
- **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



## 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\*

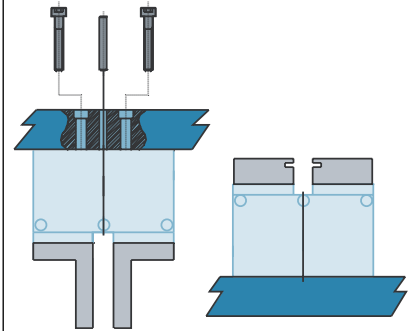
**Field Repairable:** Yes

**Seal Repair Kits Available:** Yes

\* Addition of lubrication will greatly increase service life.

## MOUNTING INFORMATION

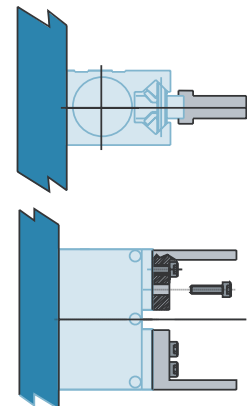
Grippers can be mounted and operated in any orientation.



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

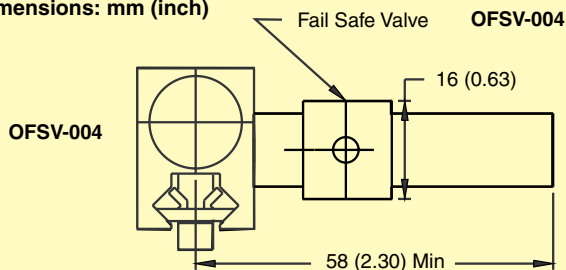


Shields provide protection from falling debris when mounted upside down.

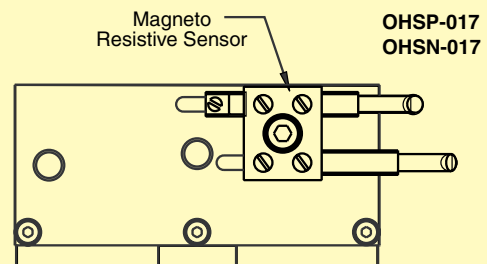


Fingers attach to jaws with screws and locate by keying

### 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



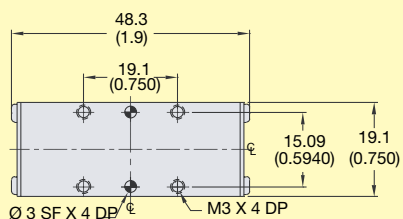
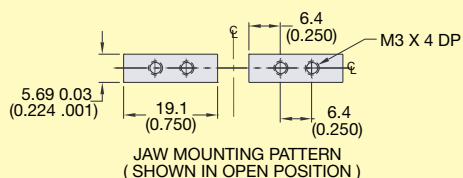
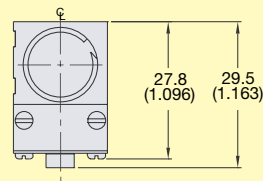
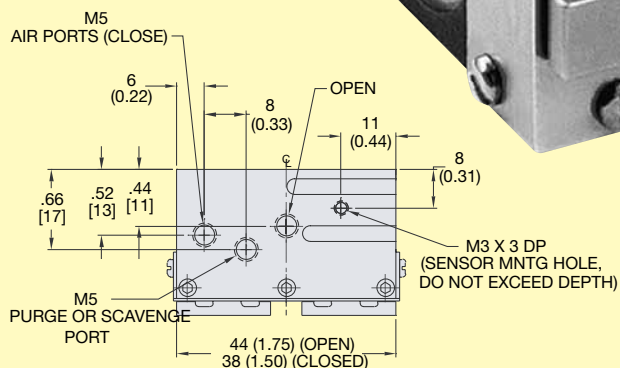
- Built-In LED for Ease of Positioning and Troubleshooting with Quick Disconnect Fitting
- Sensor Extension Cables Available in 2 or 5 m Long

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

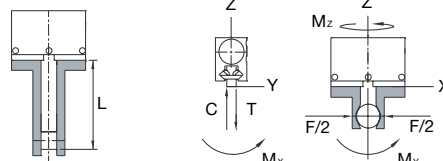
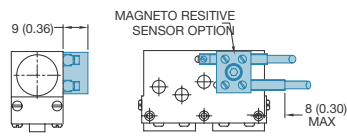
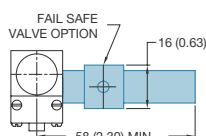
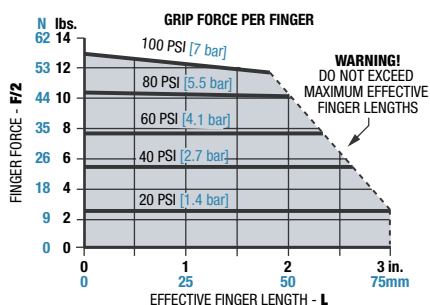
RPLC-1M shown  
larger than actual size.



## Dimensions: mm (inch)



SPECIFICATIONS	RPLC-1M	RPLC-1
<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" <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 <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)

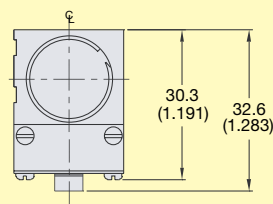
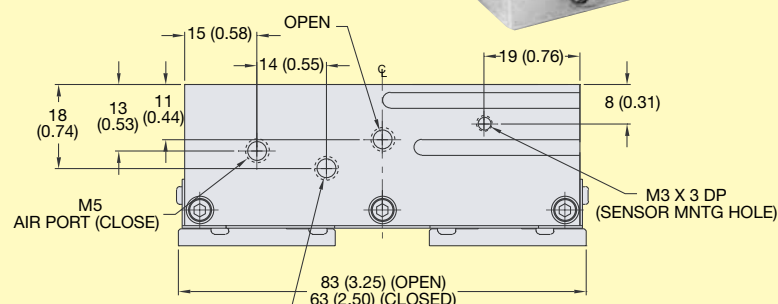
<sup>†</sup>Capacities are per set of jaws and are not simultaneous

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

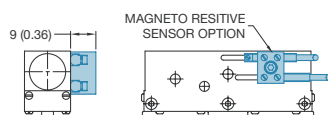
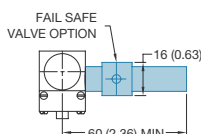
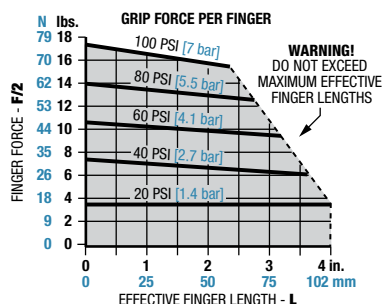


RPLC-2M shown larger  
than actual size.

Dimensions: mm (inch)



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 <sup>3</sup>	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	

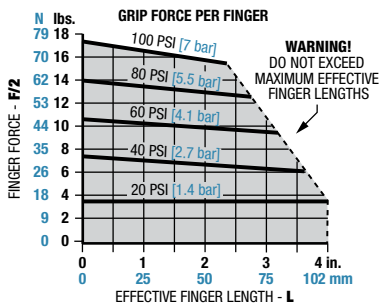
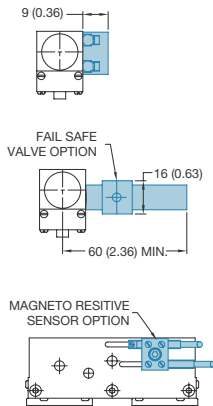
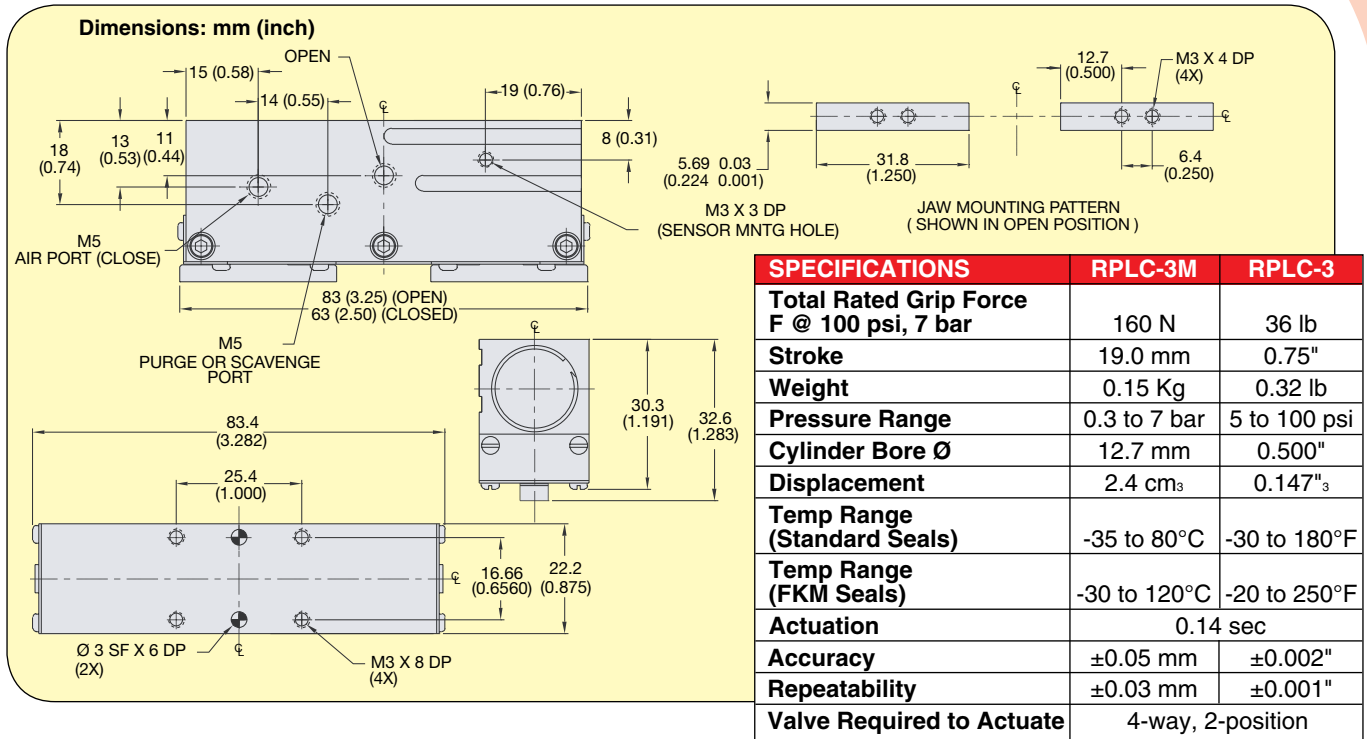


LOADING CAPACITY <sup>†</sup>	STATIC	DYNAMIC
Maximum Tensile T	289 N (65 lbs)	89 N (20 lbs)
Maximum Compressive C	289 N (65 lbs)	89 N (20 lbs)
Maximum Moment M <sub>x</sub>	5.1 Nm (45"/lbs)	1.7 Nm (15"/lbs)
Maximum Moment M <sub>y</sub>	6.8 Nm (60"/lbs)	2.3 Nm (20"/lbs)
Maximum Moment M <sub>z</sub>	5.1 Nm (45"/lbs)	1.7 Nm (15"/lbs)

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



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



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 @ (lbs)	WEIGHT Kg (lbs)
RPLC-1M	48.3 (1.9)	29.5 (1.163)	19.1 (0.750)	6.4 (0.25)	116 (26)	0.07 (0.16)
RPLC-2M	62.9 (2.475)	29.5 (1.163)	19.1 (0.750)	12.7 (0.05)	116 (26)	0.09 (0.20)
RPLC-3M	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"). 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') sensor extension cable with quick disconnect fitting
CABL-013	1 or 2	5 m (16') sensor extension cable with quick disconnect fitting
OFSV-004	1	M5 fail safe valve