

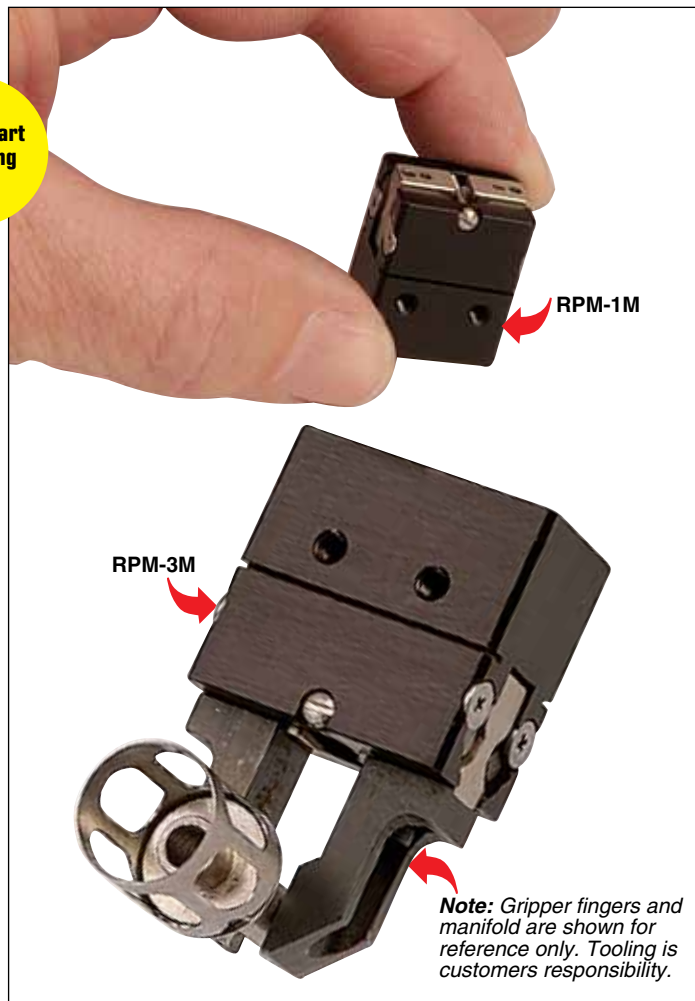
# PARALLEL PNEUMATIC GRIPPERS MINIATURE SERIES DESIGNED FOR MANIFOLD MOUNTING

## RPM Series



Small Part  
Handling

- Precision Gripping—Preloaded V Roller Bearings Eliminate Side Play Resulting in Excellent Part Positioning
- Accuracy of 0.05 mm (0.002") and Repeatability of 0.03 mm (0.001")
- Rated Grip Force @ 7 Bar (100 psi), 36 N (8 lbs)
- Compact Design for Gripping Small Parts in Small Places
- Rigid and Low Friction Design Allows for Longer Finger Lengths for Use on Delicate Parts
- Group Multiple Grippers in Close Array Using Top Manifold Mounting Surface
- 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 3 to 7 bar (40 to 100 psi) Dry Filtered (40 micron or Better) Air Supply
- Requires 4-Way, 2 Position Valve and Regulator for Delicate Parts



## PRODUCT FEATURES

### Slip Fit Dowel Pin Holes

Located in body and jaws

### Adjustable Preload

Adjustable preload screw allows for adjustment of preload on roller bearings

### One Piece Body

One piece lightweight aluminum body

### Roller Bearings

Patented Dual- "V" roller bearings provide low friction rolling motion and maximum rigidity for fingers

### Quality Components

Internal components are made from hardened bearing and tool steels

### Self Lubricating Dynamic Seals

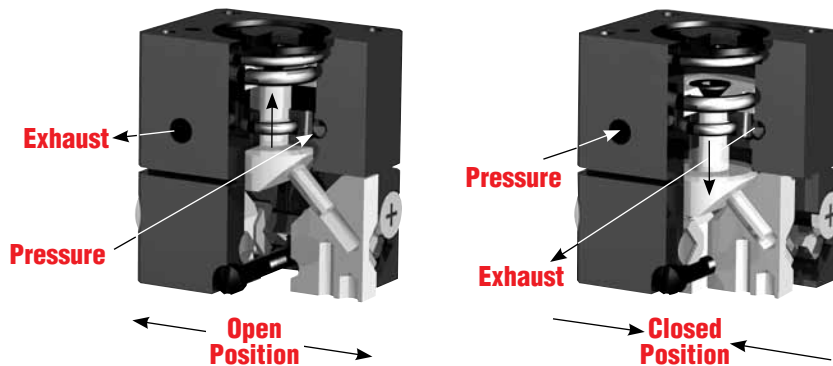
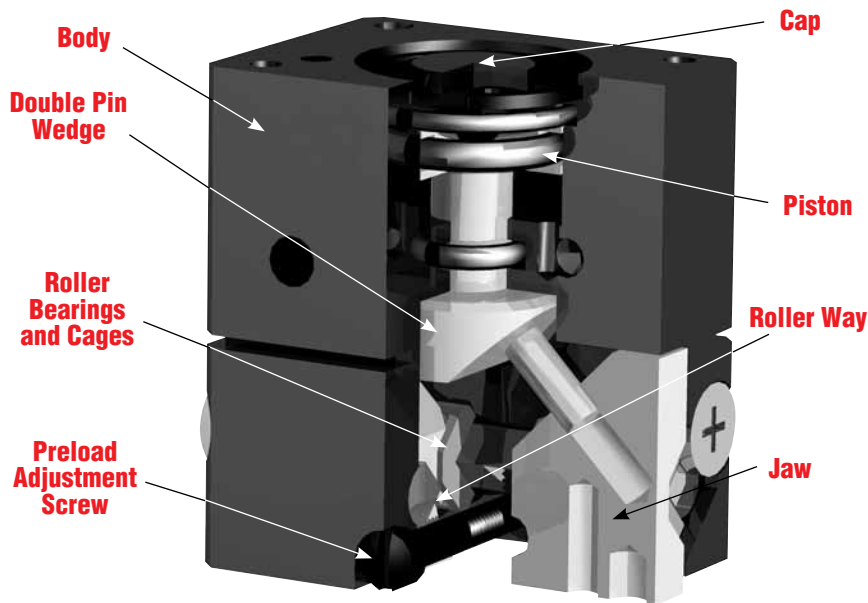
Buna-N only

### Preloaded Bearings

Bearings are preloaded for maximum support and zero side play



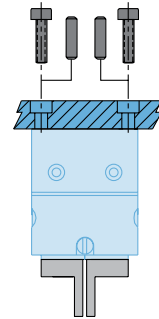
# OPERATING PRINCIPLE



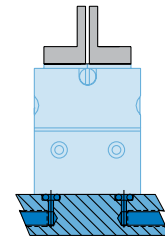
- A double acting piston is connected by a shaft to a double sided pin wedge.
- The pin wedge slides in a hole located in each of the jaws converting vertical motion of the wedge into horizontal synchronous motion of the jaws.
- This gripper is suitable for internal or external gripping.

## MOUNTING INFORMATION

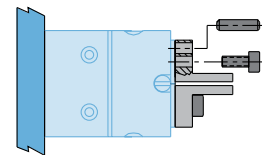
Grippers can be mounted and operated in any orientation.



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



Unit has top manifold ports.



Fingers attach to jaws with screws and locate with dowel pins or by keying.

## TECHNICAL SPECIFICATIONS

### Pneumatic Specifications

**Pressure Operating Range:** 3 to 7 bar (40 to 100 psi)

**Cylinder Type:** 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\***  
C-48

### Expected Life:

**Normal Application:** 5 million cycles

**With Preventative Maintenance:**

10+ million cycles\*

**Field Repairable:** Yes

**Seal Repair Kits Available:** Yes

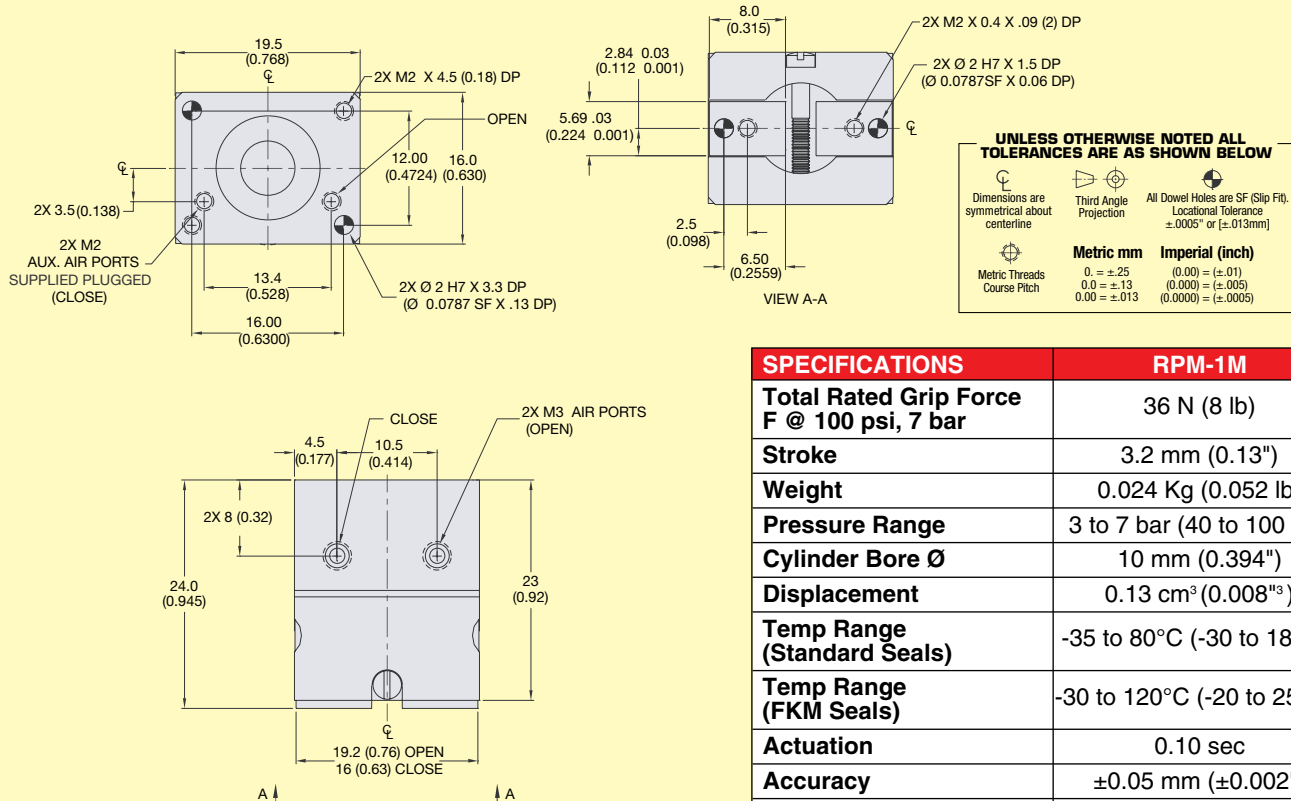
\*Addition of lubrication will greatly increase service life.

# PARALLEL PNEUMATIC GRIPPER MINIATURE SERIES RPM-1M

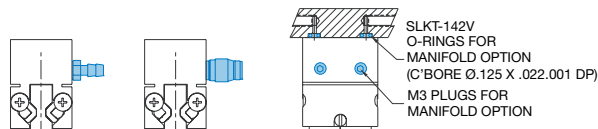
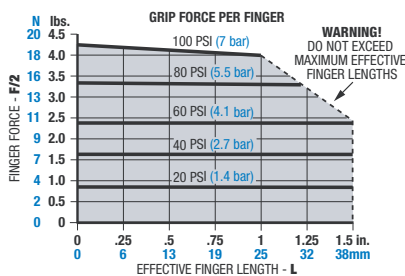


RPM-1M shown larger  
than actual size.

## Dimensions: mm (inch)



SPECIFICATIONS	RPM-1M
Total Rated Grip Force <b>F @ 100 psi, 7 bar</b>	36 N (8 lb)
Stroke	3.2 mm (0.13")
Weight	0.024 Kg (0.052 lb)
Pressure Range	3 to 7 bar (40 to 100 psi)
Cylinder Bore Ø	10 mm (0.394")
Displacement	0.13 cm <sup>3</sup> (0.008"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 <b>T</b>	89 N (20 lbs)	31 N (7 lbs)
Maximum Compressive <b>C</b>	89 N (20 lbs)	31 N (7 lbs)
Maximum Moment <b>Mx</b>	1 Nm (12"/lbs)	0.5 Nm (4"/lbs)
Maximum Moment <b>My</b>	2 Nm (15"/lbs)	0.6 Nm (5"/lbs)
Maximum Moment <b>Mz</b>	1 Nm (12"/lbs)	0.5 Nm (4"/lbs)

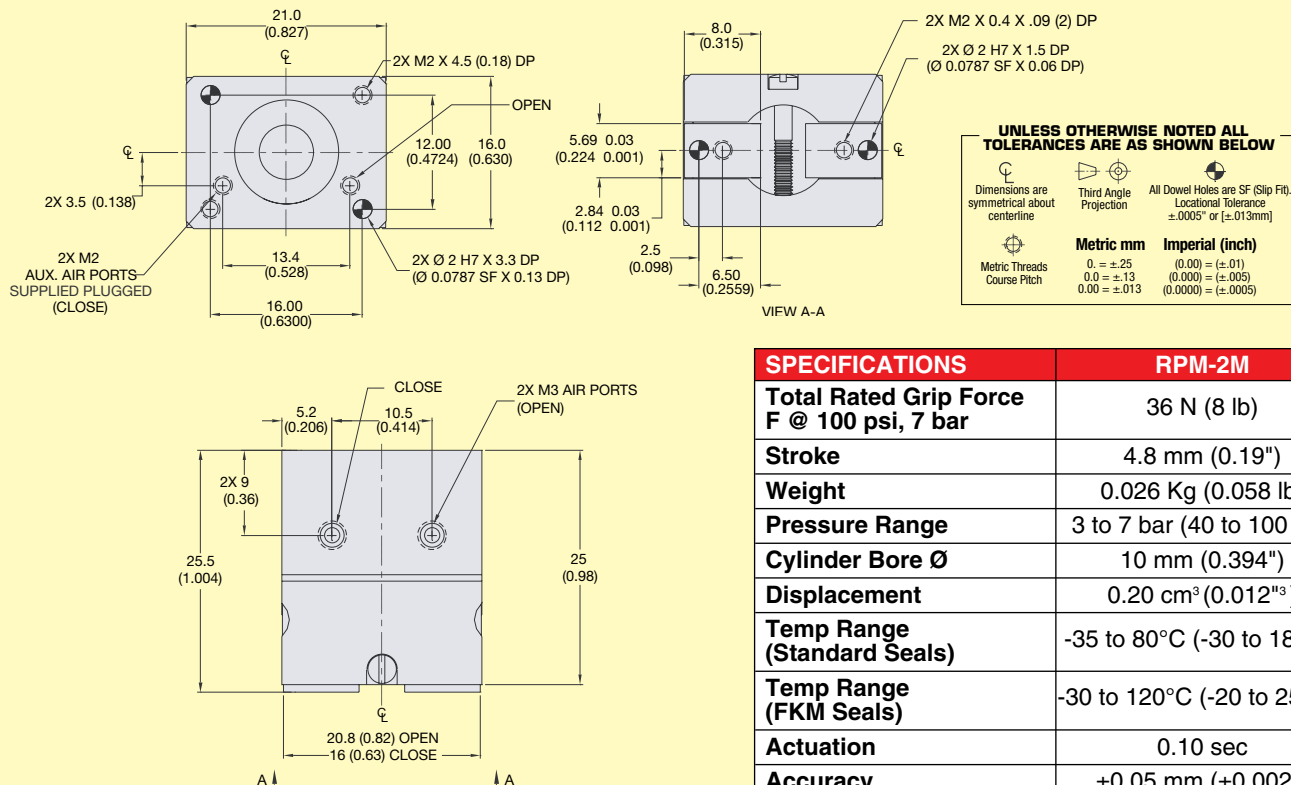
† Capacities are per set of jaws and not simultaneous.

# PARALLEL PNEUMATIC GRIPPER MINIATURE SERIES RPM-2M

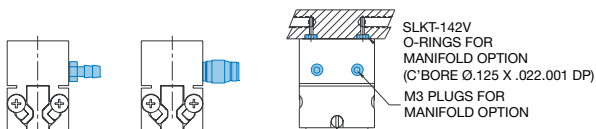
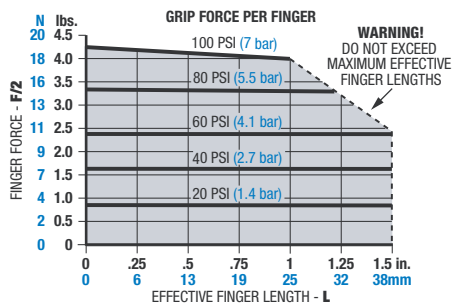


RPM-2M shown larger  
than actual size.

Dimensions: mm (inch)



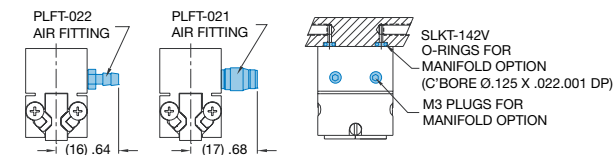
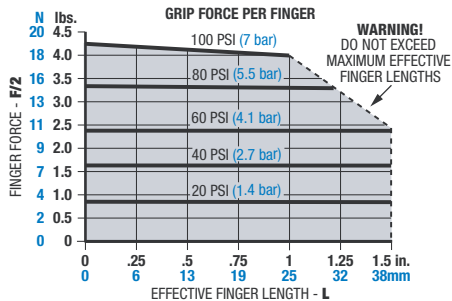
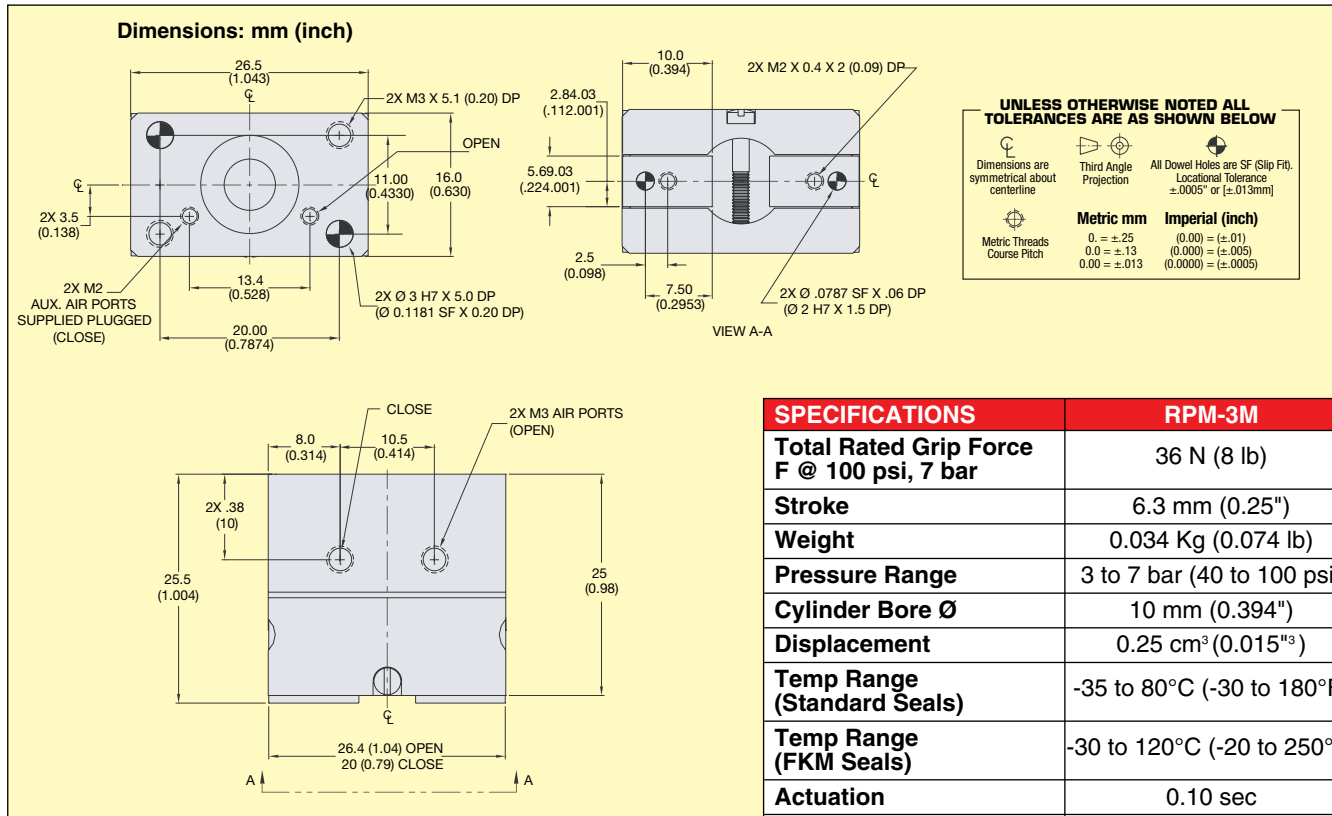
SPECIFICATIONS	RPM-2M
<b>Total Rated Grip Force F @ 100 psi, 7 bar</b>	36 N (8 lb)
<b>Stroke</b>	4.8 mm (0.19")
<b>Weight</b>	0.026 Kg (0.058 lb)
<b>Pressure Range</b>	3 to 7 bar (40 to 100 psi)
<b>Cylinder Bore Ø</b>	10 mm (0.394")
<b>Displacement</b>	0.20 cm <sup>3</sup> (0.012"³)
<b>Temp Range (Standard 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>	0.10 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>	89 N (20 lbs)	31 N (7 lbs)
Maximum Compressive <b>C</b>	89 N (20 lbs)	31 N (7 lbs)
Maximum Moment <b>Mx</b>	1 Nm (12"/lbs)	0.5 Nm (4"/lbs)
Maximum Moment <b>My</b>	2 Nm (15"/lbs)	0.6 Nm (5"/lbs)
Maximum Moment <b>Mz</b>	1 Nm (12"/lbs)	0.5 Nm (4"/lbs)

† Capacities are per set of jaws and not simultaneous.

# PARALLEL PNEUMATIC GRIPPER MINIATURE SERIES RPM-3M



LOADING CAPACITY†	STATIC	DYNAMIC
Maximum Tensile <b>T</b>	89 N (20 lbs)	31 N (7 lbs)
Maximum Compressive <b>C</b>	89 N (20 lbs)	31 N (7 lbs)
Maximum Moment <b>M<sub>x</sub></b>	1 Nm (12"/lbs)	0.5 Nm (4"/lbs)
Maximum Moment <b>M<sub>y</sub></b>	2 Nm (15"/lbs)	0.6 Nm (5"/lbs)
Maximum Moment <b>M<sub>z</sub></b>	1 Nm (12"/lbs)	0.5 Nm (4"/lbs)

† Capacities are per set of jaws and not simultaneous.

**To Order** Visit [omega.com/rpm\\_series](http://omega.com/rpm_series) for Pricing and Details

MODEL NO.	LENGTH mm (inch)	DEPTH mm (inch)	HEIGHT mm (inch)	STROKE mm (inch)
RPM-1M	19.5 (0.768)	16 (0.630)	23 (0.92)	3.2 (0.13)
RPM-2M	21.0 (0.827)	16 (0.630)	25 (0.98)	4.8 (0.19)
RPM-3M	26.5 (1.043)	16 (0.630)	25 (0.98)	6.3 (0.25)

## ACCESSORIES

MODEL NO.	DESCRIPTION
SLKT-121	Standard seal repair kit
SLKT-142V	Top air port manifold seal kit (FKM only)

**Ordering Example:** RPM-1M, pneumatic powered mini gripper with maximum stroke of 3.2 mm (0.13").  
Recommended accessories **SLKT-142V**, top air port manifold seal kit for remote air fitting use.