Miniature Proportional Pinch Valve
M-Series

Resolution Air Ltd.

Precision Flow Control Pinch Valve

Providing Sanitary Fluid Separation & Flow Metering

Resolution Air's patented valve design allows the benefits of pinch valve fluid separation to be combined with proportional valve control for sanitary processes that require highly accurate incremental flow regulation where cleanliness and sterility is required Previously, this could only be accomplished with a manually operated control valve. The newly developed Miniature Proportional Pinch Valve series has been engineered to meet the needs of the most challenging precision flow applications in industries such as bio-chemical, food and beverage, and healthcare.

Miniature Proportional Pinch Valve Design

The MPPV series allows physical separation between the valve from corrosive or high purity process fluids, while providing the incremental flow control offered in a conventional proportional valve. The MPPV pinches a fluid filled, pressurized, low durometer tube to regulate the flow of the liquid or gas through the tube. The design incorporates a stepper linear actuator and custom piston, which provide precision proportional control functioning in the valve. In addition, with the actuator's non-back driveable lead screw, power is only required when changing position.

Available in a variety of size configurations to meet a wide range of needs, Resolution Air Miniature Proportional Pinch Valves are ideally suited for use in portable and handheld equipment designed for analytical and diagnostic processes.

Resolution Air, Ltd. *Miniature Proportional Pinch Valves* offer unprecedented system design flexibility through this revolutionary new valve technology. Contact us today to discuss your application or to order an easy-to-install evaluation kit.

Miniature Proportional Pinch Valve Advantages

- Automated control
- No physical contact with process fluid
- High resolution flow control
- Maintains position with power loss
- Home switch provides digital output for full open position
- Durable construction
- Tested performance
- High repeatability
- Low power consumption
- No leakage
- Long performance life
- Light weight, low profile design
- Superior corrosion resistance
- Valve body material option: Stainless Steel

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Resolution Air

MINIATURE PROPORTIONAL PINCH VALVE

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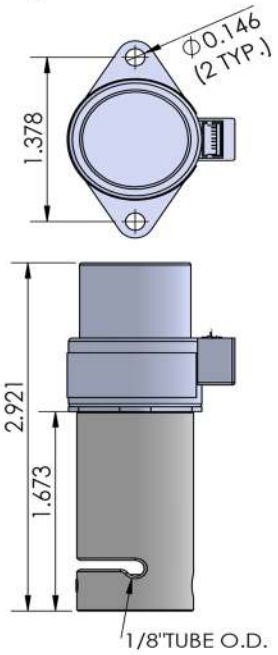
MPPV-2

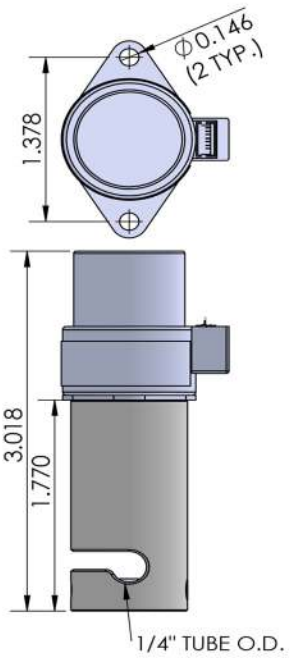
Tube Size O.D. **0.125"**
Max. Inline PSI **100**
*Travel Rate** **.5 sec.**
Weight **2.7 oz.**
Valve Dim. **0.875 O.D. x 2.921"L**

*full open to full close



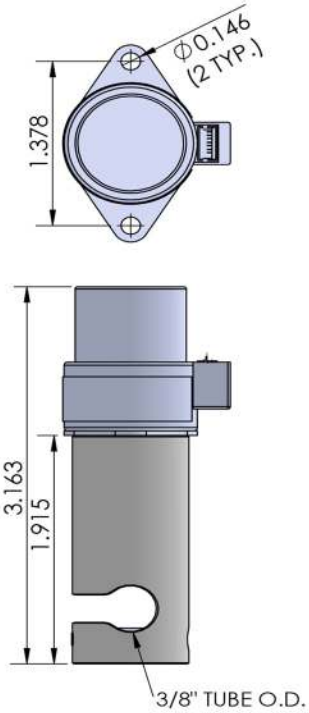
MPPV-4

Tube Size O.D. **0.250"**
Max. Inline PSI **50**
*Travel Rate** **1 sec.**
Weight **2.8 oz.**
Valve Dim. **0.875 O.D. x 3.018"L**



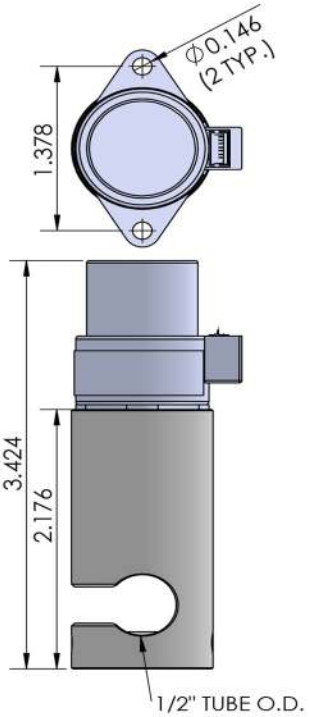
MPPV-6

Tube Size O.D. **0.375"**
Max. Inline PSI **25**
*Travel Rate** **1.5 sec.**
Weight **2.8 oz.**
Valve Dim. **0.875 O.D. x 3.163"L**



MPPV-8

Tube Size O.D. **0.500"**
Max. Inline PSI **17**
*Travel Rate** **2 sec.**
Weight **3.3 oz.**
Valve Dim. **0.875 O.D. x 3.424"L**



Performance Characteristics

Standard Tube Sizes (O.D.)	1/8", 1/4", 3/8", 1/2"
Recommended Tubing Durometer	50-60 Shore A
Max. Temp.	180° F
Motor Type	Bi-Polar Stepper Motor
Position Resolution	.0005"/step
Power Consumption	3.85 Watts
Motor Supply Voltage	24-40 VDC Unregulated Power Supply
Max. Current/Phase	385 mA
Electrical Connection	12" Wiring Harness (included)
Driver Requirements	Bi-Polar Chopper Drive
Home Switch	Hall Effect- Full Open Position
Home Switch Supply Voltage	3.8-24 VDC
Max. Pinch Force	16.25 lbs. @100 steps/sec.

Applications Include

- Chemical Mixing / Dispensing
- Dosage Systems
- Clinical or Chemical Analysis
- Vending Machines
- Blood Handling/Analysis
- Lab Analysis