PROPORTIONAL FLOW CONTROL SOLENOID VALVE
(Normally Close)
Proportional flow control valve, integral to the design of an inspiratory flow system, provides precision control for the flow of gas. Specialized proportional valves are available for application in ventilators and anesthesia machines and provide accurate and safe delivery of precise gases to patients.

**APPLICATIONS**
- Ventilators
- Anesthesia Delivery & Monitors
- Insufflators
- Pressure and Flow Control

**FEATURES**
- Low power consumption generates less heat
- Proven performance tested to 100 million life cycles
- Uses either DC current or pulse width modulation with closed loop feedback to deliver optimal system performance.

**SPECIFICATIONS**
- Valve Type: 2 Way Normally Closed
- Port: Manifold Mounting
- Body Material: Brass
- Seal: NBR Optional FKM
- Media: Air, Oxygen, Nitrous Oxide, Carbon Dioxide, Heliox & other medical gases
- LPM: 150 LPM @35 PSI Differential Pressure
- Operating Environment: 32 to 132 F (0 to 55 C)
- Storage Temperature: -40 to 158 F (-40 to 70 C)
- Dimensions: L-17.6mm, W-16mm, H-52mm
- Weight: 56 g

**ELECTRICAL**
- Power: 12V DC (2.5 Watts)
- Electric Termination: 15” Lead Wire

**WETTED MATERIALS**
- Body: Brass
- Stem Base: 430 FR Stainless steel
- All Others: NBR/FKM, 430 FR Stainless Steel, Stainless Steel, Aluminum (Manifold)

**PERFORMANCE CHARACTERISTICS**
- Leak Rate: The leakage shall not exceed the following values:
  - Internal: 5.0 sccm of Air up to 101 psi (7 bar)
  - External: 0.5 sccm of Air up to 101 psi (7 bar)
- Operating Pressure: 0 to 60 PSI
- Orifice Sizes: 5mm
- Hysteresis: 7% of full scale current (Typical), 15% of full scale current (Max)
- Response time: 10 ms Typical
- Reliability: 100 Million Cycles, 0.95 Reliability Factor, 95% Confidence Interval

**NOTE:** Contact factory for customized configurations: eg custom calibration and electrical connections.
ELECTRICAL REQUIREMENTS

<table>
<thead>
<tr>
<th>Nominal Supply Voltage (VDC)</th>
<th>Nominal Coil Resistance (Ohms) @ 20°C</th>
<th>Control Current at Maximum Flow (mA)</th>
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</thead>
<tbody>
<tr>
<td>12</td>
<td>50.2</td>
<td>170</td>
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BASIC CONTROL:
proportional valve can be controlled by either voltage or current; however, it is highly recommended that current control be employed to ensure the most repeatable valve flow performance.

SUGGESTED PWM CONTROL:
For PWM control, the signal applied to the valve should have a frequency of 5 kHz or greater. Optimal frequency will be application dependent.

This simple current driver circuit draws only 1 mA at the input control (0-5VDC) and provides control for any configuration regardless of valve voltage or resistance.
NOTE: In order to provide the best possible solution for your application, please provide the following requirements when contacting Applications Engineering:

- Media, Inlet & Outlet Pressures
- System Supply Voltage
- Minimum Required Flow Rate
- Media & Ambient Temperature Range

PROPORTIONAL FLOW CONTROL VALVE MODEL IDENTIFICATION CHART

**PRODUCT**
- **I** PROPORTIONAL

**SEAL MATERIAL**
- **N** NITRILE (NBR)
- **V** VITON

**PRESSURE & ORIFICE**
- **0** 30PSI / 0.8MM
- **1** 60PSI / 5.0MM

**PORT TYPE**
- **B** BARB
- **M** MANIFOLD

**PORT SIZE**
- **Blank** MANIFOLD MOUNTING
- **0** ⅛"" (5 MM)
- **1** ¼"" (5 MM)

**PLUNGER**
- **9** 5 MM

**Note:** Above mentioned pressure is a differential pressure.

**IBV19M**
PROPORTIONAL FLOW CONTROL VALVE 60PSI / 5.0 MM ORIFICE MINIFOLD MOUNTING BRASS BODY (5MM)