M Series – Subminiature

- MOPD: 100 PSI (6.9 Bar)
- C, Range: 0.018 to 0.070 (Kv Range: 0.017 to 0.032)
- As Low As 0.5 Watts

The M Series implements efficient power conservation in a solenoid valve that is specifically designed for sub-miniature two- and three-way pneumatic and select liquid applications. Field proven to exceed performance requirements in battery-powered applications, the M Series can be designed for extreme low wattage conditions. With a compact size, consistent high-speed response time, and reliable operation over 200 million cycles, the M Series delivers extended performance and precision flow control in a small lightweight environment.

Typical Applications
Ideal for inline PC interfacing and manifold assemblies:
- Medical and Therapeutic Healthcare
- Clinical Chemistry and Analysis Equipment
- Drop-on-Demand Printing
- Environmental Instrumentation

Dimensions
Threaded Port Body

Manifold Mount Body

How To Order
Use the **Bold** characters from the choices listed on the following page to construct a product code.

Example:

MB315-EB33-P-201
1 Watt 3-Way N.C. solenoid valve with a 0.052˝ (1.321mm) orifice, EPDM plunger seal/o-ring, brass body, 1/8” barb body and stop port, P.C. board mount (4-pin), operating at 5 VDC, and is cleaned for oxygen use.

Note: After the Primary Prefix, any "Code" may be blank when standard (blank) selections are specified.
### Part Prefix Table

<table>
<thead>
<tr>
<th>Power Rating</th>
<th>Orifice Size</th>
<th>MOPD</th>
<th>CV</th>
<th>KV</th>
<th>Body</th>
<th>1 Primary Prefix</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5 Watt</td>
<td>0.031&quot; (0.79mm)</td>
<td>25</td>
<td>1.7</td>
<td>0.018</td>
<td>0.015</td>
<td>MA</td>
</tr>
<tr>
<td></td>
<td>0.052&quot; (1.32mm)</td>
<td>10</td>
<td>0.7</td>
<td>0.037</td>
<td>0.032</td>
<td>MA</td>
</tr>
<tr>
<td>1 Watt</td>
<td>0.031&quot; (0.79mm)</td>
<td>50</td>
<td>3.4</td>
<td>0.018</td>
<td>0.015</td>
<td>MB</td>
</tr>
<tr>
<td></td>
<td>0.052&quot; (1.32mm)</td>
<td>25</td>
<td>1.7</td>
<td>0.037</td>
<td>0.032</td>
<td>MB</td>
</tr>
<tr>
<td>2 Watts</td>
<td>0.031&quot; (0.79mm)</td>
<td>100</td>
<td>6.9</td>
<td>0.018</td>
<td>0.015</td>
<td>MC</td>
</tr>
<tr>
<td></td>
<td>0.052&quot; (1.32mm)</td>
<td>50</td>
<td>3.4</td>
<td>0.037</td>
<td>0.032</td>
<td>MC</td>
</tr>
</tbody>
</table>

### Valve Type
- 20 = 2-Way normally closed
- 22 = 2-Way normally open
- 30 = 3-Way normally closed (free vent)
- 32 = 3-Way normally open
- 33 = 3-Way multi-purpose
- 34 = 3-Way directional control

### Orifice Size
- 2 = 0.031" (0.79mm)
- 5 = 0.052" (1.32mm)

### Plunger Seal / O-Ring Material
- V = Viton®
- N = Nitrile
- E = EPDM

### Body Material
- B = Brass
- A = Aluminum

### Body Port Configuration
- 0 = Face mount
- 1 = 1/16" (1.6mm) barb
- 2 = 5/64" (2.0mm) or 3/32" (2.4mm) barb
- 3 = 1/8" (3.2mm) barb
- 4 = Manifold mount, #10-32 UNF-2A stud
- 5 = #10-32 UNF-28 female thread (180° apart only)
- 6 = 1/8-27 NPT ports (180° apart only)

### Stop Port Configuration
- 1 = No barb (Standard for 2-way NC & 3-way free vent)
- 1 = 1/16" (1.6mm) barb (0.031" orifice only)
- 2 = 5/64" (2.0mm) or 3/32" (2.4mm) barb
- 3 = 1/8" (3.2mm) barb

### Coil Construction (Tape-Wrapped, 130°C Class B)
- U = P.C. board solderable (2-pin)
- P = P.C. board mount (4-pin)
- Q = Quick connect 0.110" (2.79mm) spade
- L = Lead-wires, #26 AWG, 18" (45.7cm) long
- W = Lead-wires (Specify length in inches)

### Voltage
- 200 = 3 VDC
- 201 = 5 VDC
- 203 = 12 VDC
- 204 = 24 VDC
- 207 = DC (specify voltage)
- 209 = AC Rectified 2-watt coil only (specify voltage, lead-wires only)

### Additional Options
- OC = Cleaned for oxygen use
- VAC = Vacuum application – 0 to 27" Hg (0 to 914 mBar)

**Notes**
1. Barbs are brass.
2. For Stop Port Configuration, must select '0' for valve type 20 (2-way NC) and for type 30 (3-way NC Free Vent).
3. For Stop Port Configuration, must select '1' or '2' or '3' for valve types 22 (2-way NO), 31 (3-way NC Line Connect), 32 (3-way NO), 33 (3-way MP), and 34 (3-way DC). Selection '0' can not be used.
4. 2 pins near stop are active.

1 Teflon® o-ring not suitable for manifold mount.

Gems specializes in the design and manufacturing of custom solenoid valves and fluidic systems. If you don’t see what you’re looking for, or have a question, contact us at 800-378-1600 or info@gemssensors.com.

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**Flow Key**
- Blocked Flow
- Free Flow