



## General Purpose Type M Series

**2-Way • Cast Bronze Bodies • Packless  
Velvetrol® Internal Piston Pilot Operated  
General Purpose Solenoid Valves  
Normally Closed when De-Energized**

**For General Purpose Applications:** Air & Inert Gases | Water & Aqueous Liquids | Light Oils


**Pressures:** 5psi minimum to 250psi maximum | Full Port

**Temperature:** -40°F to 250°F | Class H Coils

**Mounting:** Install in horizontal line with coil upright and on top  
(unless ordered with -76 vertical mounting option)

**Pipe Sizes:** 1/8" – 2" NPT • Full Port

**Normally Closed Only**

|   |   |
|---|---|
| <b>Service Ratings</b>  | Complete pricing, service & electrical ratings are shown on the List Price Schedule. Valves will be furnished for 5-125 PSI and 120 VAC unless otherwise specified.   |
| <b>M-3B, M-3V</b>  | General Purpose Air & Water<br>5-125psi OR 10-250psi<br>220°F Max. Fluid Temp, Class H Coils<br>24, 120, 240, 480, 120/240 VAC (50/60 Hz), 26 Watts Max.  |
| <b>M4-3B, M4-3V</b>   | Air & Inert Gases, Water & Aqueous Liquids, Light Oils (225SSU or 15SAE)<br>5-125psi OR 10-250psi<br>250°F Max. Fluid Temp, Class H Coils<br>12, 24, 120, 240, 480, 120/40 VAC (50/60 Hz), 26 Watts Max.<br>12, 24, 48, 115, 230 VDC, 24 Watts Max. |
| <b>Add: -81, -84</b>  | -81 Factory Slow Close Option (reduces water hammer)<br>-84 Factory Quick Close Option  |
| <b>Add: -76</b>   | Spring Loaded Pilot for vertical mounting. Limitations apply. Consult factory.  |

### Construction:

- **Class H Coils** are **NEMA 4X**, watertight/corrosive resistant, molded of filled polyester with 18" leads and 1/2" conduit connector.
- **Bodies** are rated to 400 PSI and cast in bronze.
- **Plunger Tubes** are Stainless Steel silver soldered to the brass bonnet.
- **Piston Assemblies** are brass with filled Teflon™ **piston rings**, Stainless Steel **expanders**, and NBR Buna, or FKM Viton® **seat discs**.
- **Seat Screw** seats are NBR Buna (-3B) or FKM Viton® (-3V).
- **Pilot Valves** are 430 FR Stainless Steel. **Piston springs** are Stainless Steel.

### Specials:

- Slow Close (-81) or Quick Close (-84) factory settings available at no charge.
- Spring-loaded pilot (-76) for vertical mounting available. Limitations apply. Consult factory.
- Teflon™ coated pistons & other special assemblies available.
- Non-standard coils available with voltage, wattage, and lead wire length to your specifications.

## Performance, Ordering, and Installation Guide

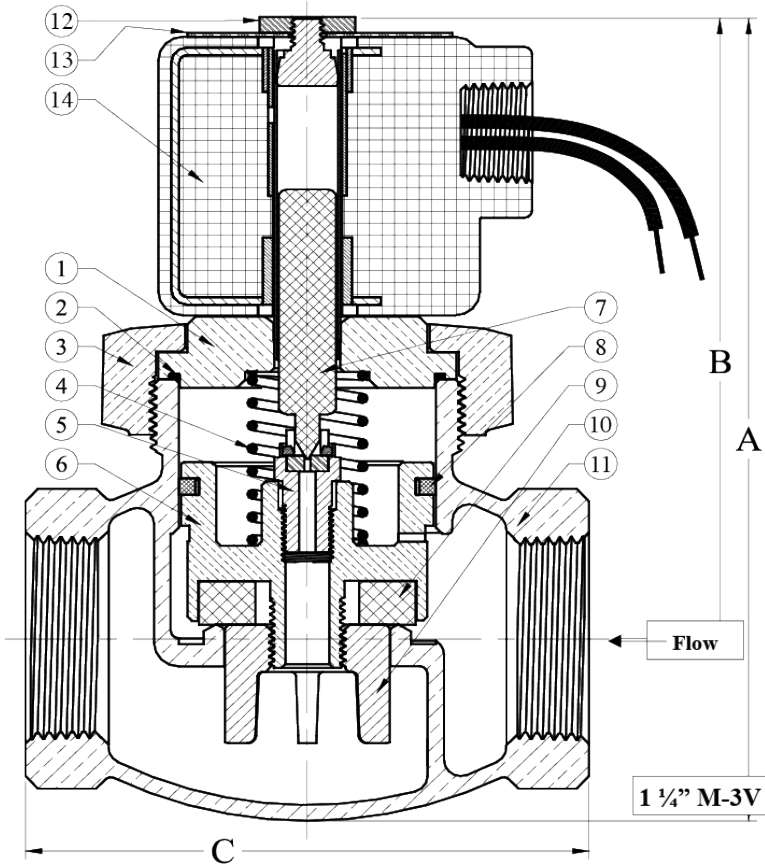
**Ordering Data:** Specify the pipe size, type, fluid, operating pressure, temperature range, electrical specifications, and backpressure (if any).

**Flow Characteristics:** See flow curves in Bulletin 5-FL, or Cv Factors listed below and in Bulletin CP-1

**Operation:** Piston pilot operated, minimum pressure drop of 5psi or 10psi ( $\Delta P$ ), depending on pressure rating, is required across valve for operation.

**Mounting:** Mount in horizontal line with coil vertical ( $\pm 7^\circ$ ) and on top (unless ordered with -76 spring loaded pilot for vertical mounting). Install 40 mesh strainer (not larger) ahead of the valve. Check for proper coil voltage. Make sure that the flow arrow on the valve body is pointing in the direction of flow.

**Servicing:** Solenoid valves should be frequently checked for operation, cleanliness, and internal wear. Repair Kits are factory available – be sure to specify size, type, serial number or operating data, voltage, pressure, etc.)



| Parts Details |                                 |
|---------------|---------------------------------|
| 1             | Bonnet Assembly                 |
| 2             | Bonnet O-ring (NA on 1"-1 1/2") |
| 3             | Bonnet Ring (NA on 1/8"-3/4")   |
| 4             | Piston Spring                   |
| 5             | Seat Screw                      |
| 6             | Piston                          |
| 7             | Pilot Valve                     |
| 8             | Piston Rings & Expanders        |
| 9             | Seat Disc                       |
| 10            | Guide Nut                       |
| 11            | Body                            |
| 12            | Coil Nut                        |
| 13            | Nameplate                       |
| 14            | Coil                            |

| Physical Dimensions |      |         |      |      |      |
|---------------------|------|---------|------|------|------|
| Size                | Cv   | Weight  | A    | B    | C    |
| 1/8"                | 1.3  | 3 lbs.  | 5.13 | 4.25 | 2.75 |
| 1/4"                | 2.1  | 3 lbs.  | 5.13 | 4.25 | 2.75 |
| 3/8"                | 2.3  | 3 lbs.  | 5.13 | 4.25 | 2.75 |
| 1/2"                | 3.9  | 3 lbs.  | 5.13 | 4.25 | 2.75 |
| 3/4"                | 5.1  | 4 lbs.  | 5.50 | 4.50 | 3.25 |
| 1"                  | 11.6 | 5 lbs.  | 5.75 | 4.56 | 3.81 |
| 1-1/4"              | 12.1 | 7 lbs.  | 6.50 | 5.06 | 4.25 |
| 1-1/2"              | 26   | 9 lbs.  | 7.06 | 5.38 | 4.88 |
| 2"                  | 48   | 14 lbs. | 8.00 | 5.88 | 5.88 |