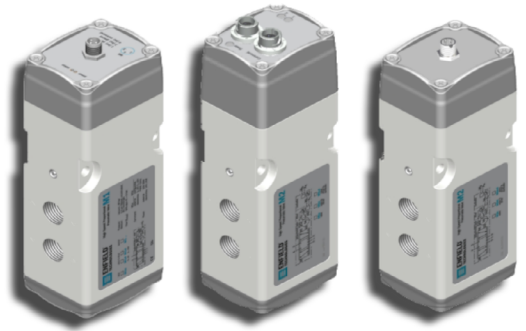


M High Speed Proportional Pneumatic Control Valves



The M-Series valves are instrument grade, proportional, pneumatic directional control valves engineered for high performance applications. Designed to directly interface with a PLC, motion controller, or with compatible Enfield electronics, the M-Series valves provide high speed linear control.

Features

- 5/3 Bi-Directional Proportional Flow Control Valve
- Direct Acting Linear Force Motor
- Infinitely Variable Valve Positioning (3 Extreme Positions)
- Low Hysteresis
- High Bandwidth
- Fast Shifting Time
- Low Leakage
- High Linearity

Applications

High performance open and closed loop systems:

- Motion Control
- Flow Control
- Pressure Control
- Force Control
- Vacuum Control
- Mixing
- Ultra-Fast Switching (<5 ms)

Compatibility

Controllers

- C1 Controller & Driver (M2s)
- LS-C10 Controller & Driver (M2s)
- LS-C41 Controller & Driver (All)

Drivers

- D1 Proportional Linear Motor Valve Driver (M2s)

Mechanical Specifications

- Pressure:**
-1...15 bar (vacuum...225 psi)
- Ports:**
3/8" NPTF
- Mounting:**
2 x 10-32 Through Holes
- Temperature Range:**
0°C - 50°C (32°F - 122°F)
- Filtration:**
5 µm Particulate
0.3 µm Coalescing
- Media:**
Unlubricated, Dry, Neutral Gas
- Environmental Protection Class:**
IP65
- Gating Element:**
Spool and Sleeve

Electrical Specifications

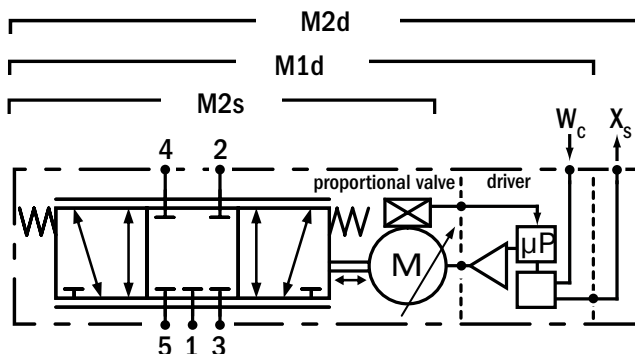
- Current:**
-1A...0...1A with
Enfield Approved Electronics
- Power Consumption:**
Maximum < 8W

Material Specifications

- Body:**
Aluminum 6061
- Spool & Sleeve:**
Stainless Steel 440C
- Seals & Gaskets:**
Nitrile
- Other:**
Nickel Plated Steel & Copper

Performance Specifications

- Shifting Time:**
< 2.8 ms
- Hysteresis:**
Average Hysteresis < 5 %
Maximum Hysteresis < 10%
- Valve Type:**
5-Port, 3-Position, Proportional
- Flow (5.5 → 0 bar):**
1750 SLPM
(60 SCFM)
- Turndown Ratio:**
250:1



M-Series ISO diagram

The **M-Series High Speed Proportional Pneumatic Valves** enable high precision industrial and automation applications. In addition to the proportional response and ultra-fast response time, the construction of these valves feature an IP65 environmental protection rating. With 3/8" NPTF ports, the M-Series offers the highest flow capacity of the Enfield product line allowing for faster responses and quicker dynamics. Featuring three different electronics packages, users can select the M-Series valve that most easily integrates into their design.



Valve Specifications	M1d	M2d	M2s
Description	Valve & Driver	Valve & Driver	Valve
Electrical Connection	3-Pin M8 x 1 (Male)	6-Pin Alden PL500 (Female) 4-pin Alden P500 (Female)	3-Pin M8 x 1 (Male)
Input	0...5 VDC 0...10 VDC 0...20mA 4...20mA PWM (>2 kHz)	-10...10 VDC -5...5 VDC 0...5 VDC 0...10 VDC 0...20 mA 4...20 mA	-1A...0...1A from Enfield Electronics
Dimensions	158.7 x 55.0 x 45.0 mm (6.25 x 2.17 x 1.77 in)	171.9 x 55.0 x 45.0 mm (6.77 x 2.17 x 1.77 in)	158.3 x 55.0 x 45.0 mm (6.23 x 2.17 x 1.77 in)
Weight	818 g (28.8 oz)	852 g (30.0 oz)	795 g (28.0 oz)

Enfield Technologies
35 Nutmeg Drive
Trumbull, CT 06611
USA

+1 203 375 3100

enfieldtech.com