

CONFIGURATION

X	Control	No Manual Override
D	Flow Rate	Nominal 5 gpm @ 200 psi (14 bar) differential (20 L/min.)
N	Seal Material	Buna-N
(none)	Coil	No coil

This valve is a pilot-operated, normally closed, electro-proportional throttle with reverse free-flow check. Energizing the coil generates an opening force on the pilot stage which vents the main stage poppet to open proportionally, allowing flow from port 2 to 1. In the open condition, flow from 1 to 2 will cause the valve to auto-close and only pilot flow will pass from 1 to 2.

TECHNICAL DATA

NOTE: DATA MAY VARY BY CONFIGURATION. SEE CONFIGURATION SECTION.

Cavity	T-162A
Series	0
Capacity	5 gpm
Maximum Operating Pressure	3000 psi
Hysteresis (with dither)	15%
Linearity (with dither)	3%
Repeatability (with dither)	3%
Recommended dither frequency	140 Hz
Maximum Valve Leakage at 110 SUS (24 cSt)	0.004 in ³ /min.@3000 psi
Check Cracking Pressure	100 psi
Viscosity Range	35 - 2000 SUS
Deadband, nominal (as a percentage of input)	48%
Response Time - Typical	50 ms
Switching Frequency	15,000 max. cycles/hr
Valve Hex Size	3/4 in.
Valve Installation Torque	20 - 25 lbf ft
Seal kit - Cartridge	Buna: 990162007
Seal kit - Cartridge	Viton: 990162006
Model Weight	0.40 lb.

NOTES

- Please verify cartridge clearance requirements when choosing a Sun manifold. Different valve controls and coils require different clearances.
- An additional 2.00 inches (50,8 mm) beyond the valve extension is needed for coil installation and removal.

CONFIGURATION OPTIONS

Model Code Example: FPBDArray

CONTROL	(X) FLOW RATE	(D) SEAL MATERIAL	(N) COIL *
X No Manual Override	D Nominal 5 gpm @ 200 psi (14 bar) differential (20 L/min.)	N Buna-N V Viton	No coil

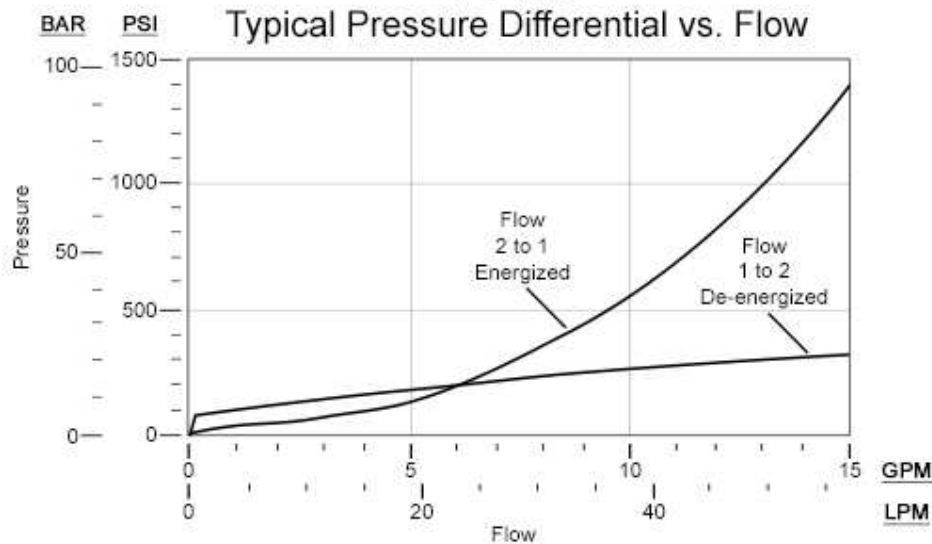
* Additional coil options are available

TECHNICAL FEATURES

- Capacities rated at 200 psi (14 bar) differential and maximum rated coil current.
- FLeX Series proportional valves are fully compatible with the XMD Expandable Mobile Drivers from Sun.
- Designed and tested to 10 million on-off operational cycles.
- Exceeds new NFPA test standard T2.6.1 R2014 for fatigue and burst pressure ratings.
- Improved linearity and resolution over similar competing valves.
- Designed using CFD fluid simulation for optimized geometries.
- For optimum performance, an amplifier with current feedback and adjustable dither (100 - 250 Hz) should be used.
- Depending on circuit requirements, a reverse free flow check bypassing the compensator may be needed when using an FPB* with an external compensator.
- All configurations of this valve include zinc-nickel plating as standard for 1000-hour salt fog protection.
- A wide variety of coil termination and voltage options are available, with and without surge protection. See the CONFIGURATION section.
- Coil connector options offer ratings up to IP69K. See individual coil product pages for details.
- This valve utilizes the 740 Series low-power coils.
- A FULL DATA SHEET is available for this model using the link at the top of the page.
- Incorporates the Sun floating style construction to minimize the possibility of internal parts binding due to excessive installation torque and/or cavity/cartridge machining variations.

PERFORMANCE CURVES

FPBD



FPBD

Flow vs. Coil Current

