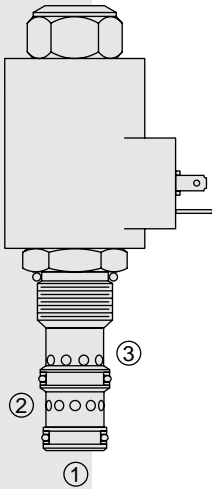


ELECTRO-PROPORTIONAL VALVES—FLOW CONTROLS

PV72-31 Proportional Flow Control Cartridge,



DESCRIPTION

A solenoid operated, electrically-variable, three-port, pressure-compensated, spool-type, normally open when de-energized, proportional flow control valve. It can be used as a priority-type flow regulator with pressure-compensated, regulated and bypass flow. It can also be used as a restrictive-type, two-way, pressure-compensated flow regulator when the bypass line (port ②) is blocked.

OPERATION

The PV72-31 will regulate flow out of port ③ regardless of system working pressure. With increasing current applied to the solenoid, the PV72-31 will decrease output flow.

Note: When used as a bypass flow control in applications where the priority flow port will be blocked by external valving, bypass pressure drop will increase unless a small amount of leakage is provided for the priority port. Consult factory.

Operation of Manual Override:

To Engage: Turn clockwise approximately 1 turn to reach start point. Continue another approximately 5 turns to full shift.

To Disengage: Turn counterclockwise approximately 6 turns to positive stop.

FEATURES

- Excellent linearity and hysteresis.
- Hardened spool and cage for long life.
- Efficient wet armature construction.
- Optional coil voltages and terminations.
- Cartridges voltage interchangeable.
- Unitized, molded coil design.
- Coil waterproofing standard.
- Manual override option.

RATINGS

Operating Pressure: Port ①: 240 bar (3500 psi); Ports ② and ③: 207 bar (3000 psi)

Regulated Flow Rate in 3-Port Mode: Range A: 53 lpm (14 gpm)
Range B: 38 lpm (10 gpm)

Maximum Input Flow in 3-Port Mode: Range A and B: 114 lpm (30 gpm)

Maximum Flow Rate in 2-Port Mode: Range A: 42 lpm (11 gpm)
Range B: 31 lpm (8 gpm)

Note: For increased flow capacity in a 2-port flow control, see model PV72-21

Internal Leakage: .38 lpm (0.1 gpm) fully closed at 207 bar (3000 psi)

Electrical: 2 standard voltage ratings

Coil Voltage	Threshold Current	Max. Control Current
12 VDC	150 ± 100 mA	1350 ± 150 mA
24 VDC	75 ± 50 mA	675 ± 75 mA

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1.

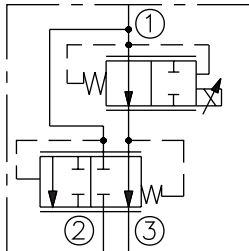
Cavity: VC12-3; See page 9.112.1; **Cavity Tool:** CT12-3X-XX; See page 8.600.1

Seal Kit: SK12-3X-MM; See page 8.650.1 for seal kit options

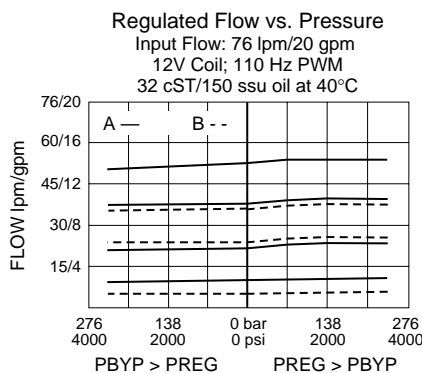
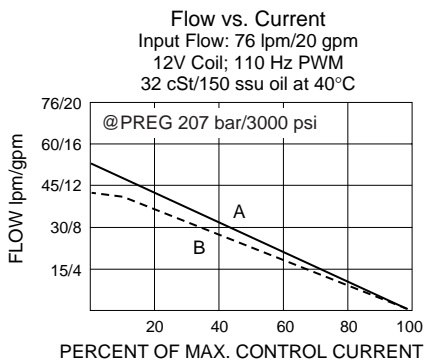
and appropriate seals based on application temperature range.

SYMBOLS

USASI/ISO:



PERFORMANCE

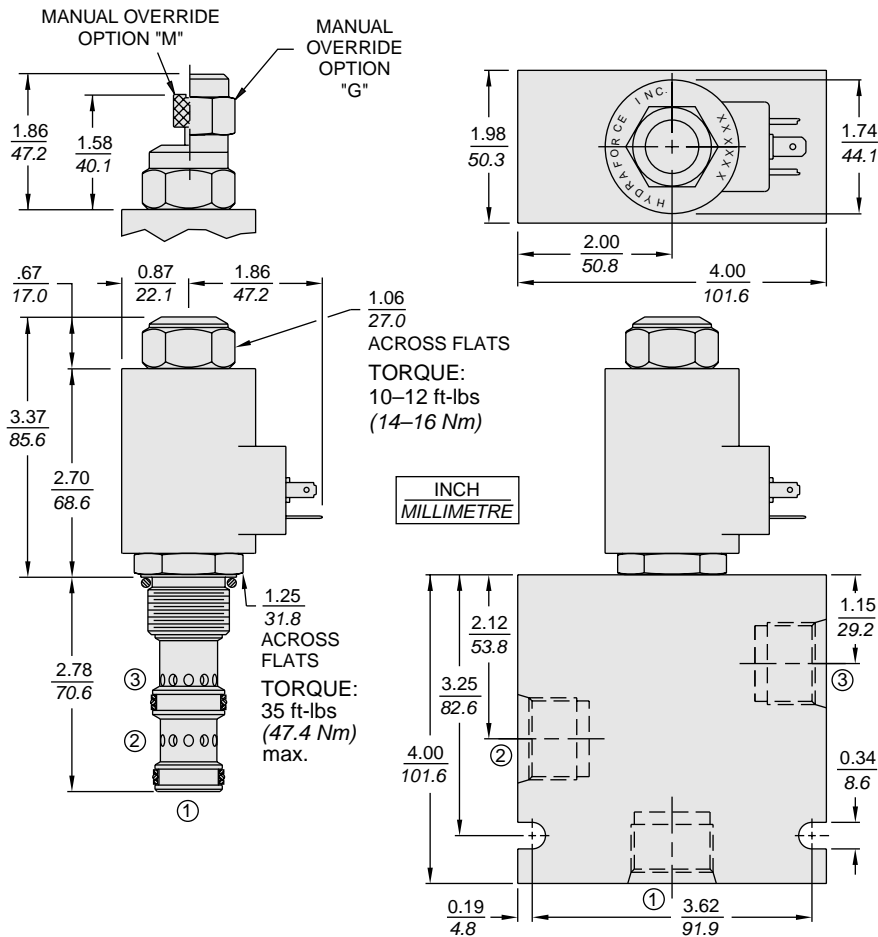


Recommended Electronic Controllers:
See page 2.001.1 or our Electronics catalog.

Normally Open

PV72-31

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.36 kg. (0.80 lbs.)
Steel with hardened work surfaces.
Zinc-plated exposed surfaces.
Buna N O-rings and polyester elastomer back-ups standard.

Standard Ported Body: Weight: 1.09 kg. (2.4 lbs.) Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.012.1

70-Size "D" Coil: Weight: 0.32 kg. (0.7 lbs.) Unitized thermoplastic encapsulated, Class H high temperature magnet-wire. See page 3.200.7.

70-Size "E" Coil: Weight: 0.41 kg. (0.9 lbs.) Fully encapsulated with rugged external metal shell. IP69K rated. See page 3.400.13.

TO ORDER

PV72-31		-	-	-	-	-
Flow Range	A					
Required. See Performance Curves.	B					
Option(s)	(Blank)					
None	M					
Manual Override	G					
Manual Override with Guard						
		Porting				
		0	Cartridge Only			
		10T	SAE 10			
		12T	SAE 12			
		16T	SAE 16			
		4B	1/2 in. BSP*			
		6B	3/4 in. BSP*			
			*BSP Body; U.K. Mfr. Only			
		Seals				
			Buna N (Std.)	N		
			Fluorocarbon	V		
					Terminations D-Coil	
					DS	Dual Spades
					DG	DIN 43650
					DL	Leadwires (2)
					DL/W	Leads w/Weatherpak® Connectors
						Terminations E-Coil
						IP69K Rated
					ER	Deutsch DT04-2P
					EY	Metri-Pack® 150
						Coils with internal diode are available. Consult factory.
					Voltage	
					0	Less Coil
					12	12 VDC
					24	24 VDC