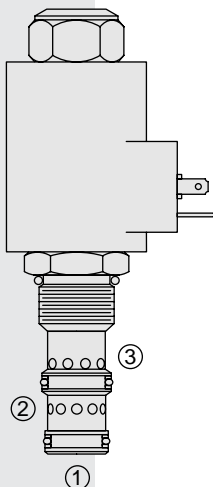


# ELECTRO-PROPORTIONAL VALVES—FLOW CONTROLS

## PV72-35 Proportional Flow Control Cartridge,



### DESCRIPTION

A linear solenoid-driven, two-way normally open, screw-in cartridge valve designed for use with a pressure compensator to function as an electrically stroked variable flow regulator.

### OPERATION

With increasing electric current, the **PV72-35** changes from full open to full closed with flow from port ② to port ③. Port ① is used only to pressure balance the spool and should be plugged. The proportional valve is intended to function in tandem with standard HydraForce pressure compensators at pressure differentials of 21 bar (300 psid) or less, or alone in variable volume pressure-compensated circuits with load sense capability.

The valve is designed to work with industry-common controllers which typically feature current capability to 2 amps @ 12 VDC, PWM, and start/stop trim adjustments (I-min./I-max.). Consult factory for details and potential sourcing.

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

### RATINGS

**Operating Pressure:** 207 bar (3000 psi)

**Internal Leakage:** 328 cc/min. (20 cu. in./min.) fully closed at 207 bar (3000 psi)

**Electrical:** 2 standard voltage ratings

Coil Voltage	Threshold Current	Max. Control Current
12 VDC	300 ± 200 mA	1500 ± 100 mA
24 VDC	150 ± 100 mA	750 ± 50 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 9.110.1; **Cavity Tool:** CT12-3X-XX; See page 8.600.1

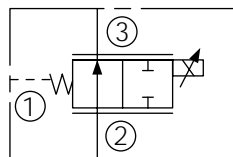
**Seal Kit:** SK12-3X-MM; See page 8.650.1 for seal kit options and appropriate seals based on application temperature range.

#### Recommended Electronic Controllers:

See page 2.001.1 or our Electronics catalog.

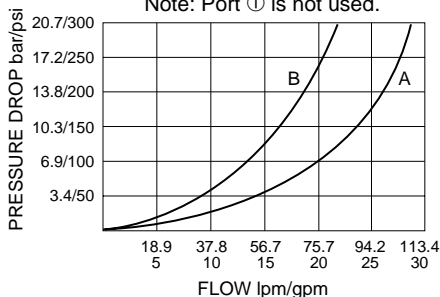
### SYMBOLS

#### USASI/ISO:



### PERFORMANCE

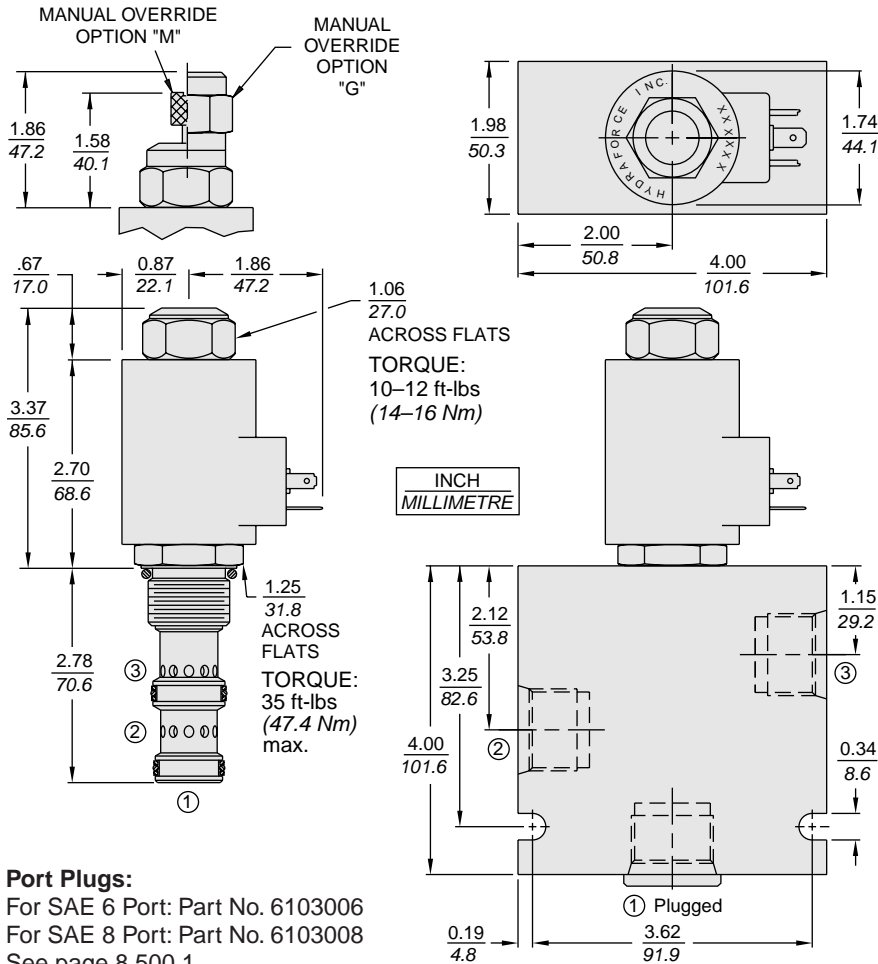
② to ③ Coil De-energized  
Through Cartridge & Ported Body  
32 cSt/150 ssu oil at 40°C  
Note: Port ① is not used.



# Normally Open

PV72-35

## DIMENSIONS



### Port Plugs:

For SAE 6 Port: Part No. 6103006  
 For SAE 8 Port: Part No. 6103008  
 See page 8.500.1

## 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

### PV72-35

**Flow Range**  
 Required. See Performance Curves.

A  
 B

### 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

### Option(s)

None (Blank)  
 M Manual Override  
 Manual Override with Guard  
 G

### 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