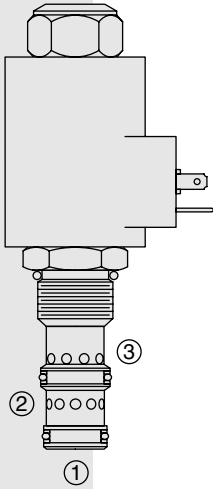


ELECTRO-PROPORTIONAL VALVES—FLOW CONTROLS

PV72-33 Proportional Flow Control Cartridge,



DESCRIPTION

A linear solenoid-driven, two-way normally closed, 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 **PV72-33** changes from full closed to full open with flow from port ③ to port ②. 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 12 bar (175 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 characteristics.
- 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: 492 cc/min. (30 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 ± 70 mA | 1500 ± 100 mA |
| 24 VDC | 150 ± 35 mA | 750 ± 100 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 ssu)

Installation: No restrictions; See page 9.020.1.

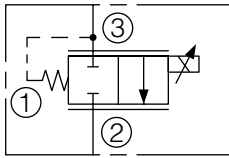
Cavity: VC12-3; See page 9.110.1

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

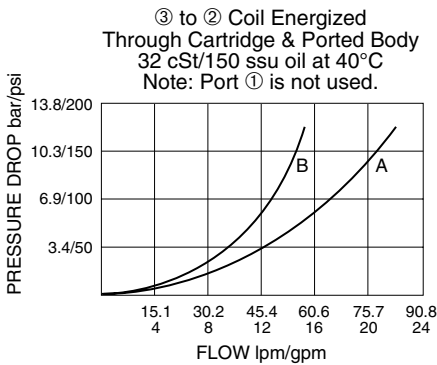
Seal Kit: SK12-3X-MM; See page 8.650.1

SYMBOLS

USAS/ISO:



PERFORMANCE



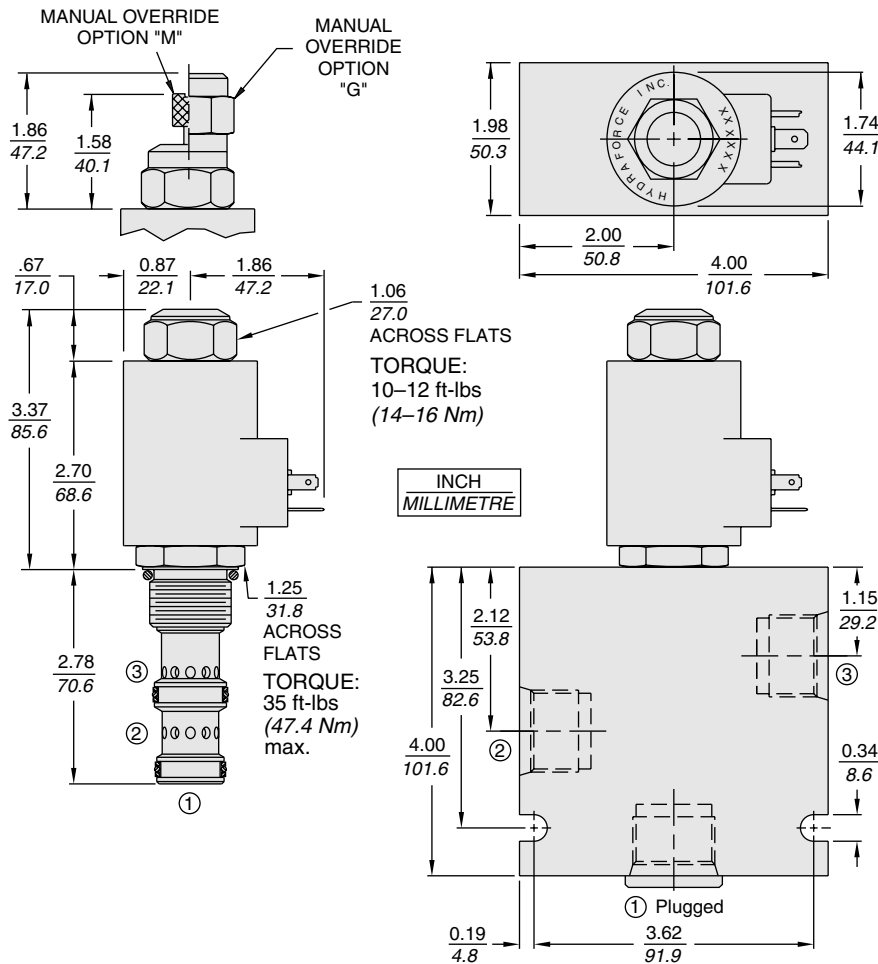
Recommended Controllers (See Section 3)

| Input Sig. w/12V Coil | DIN Coil Mount | PCB Board | Metal Box | DIN Rail Mount |
|--------------------------|-------------------|--------------|--------------|-------------------|
| 0-5 VDC | 7114950 | 4000046 | 4000049 | 4000136 |
| 0-10 VDC | 4000070 | 4000141 | 4000124 | 4000137 |
| 4-20 mA | 4000123 | 4000143 | 4000130 | 4000139 |
| PWM | — | 4000144 | 4000133 | 4000140 |
| w/24V Coil | | | | |
| 0-5 VDC | 4000161 | 4000194 | 4000174 | 4000136 |
| 0-10 VDC | 4000165 | 4000141 | 4000182 | 4000137 |
| 4-20 mA | 4000169 | 4000143 | 4000186 | 4000139 |
| PWM | — | 4000144 | 4000133 | 4000140 |

Normally Closed

PV72-33

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.19 kg. (0.42 lbs.); Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-ups standard.

Standard Ported Body: Weight: 0.36 kg. (0.80 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 240 bar (3500 psi); See page 8.012.1. Steel and Ductile Iron bodies available; dimensions may differ; consult factory.

Coil: Weight: 0.32 kg. (0.7 lbs.); Unitized thermoplastic encapsulated, Class H high temperature magnet-wire; See page 3.200.1.

Port Plug: For SAE 6 Port: 6103006
For SAE 8 Port: 6103008;
See page 8.500.1.

TO ORDER

| | | | | | |
|---|--|--|--|---|---|
| PV72-33 | | - | - | - | - |
| Flow Range (Refer to Performance Curves.) | A B | Porting 0 Cartridge Only 10T SAE 10 12T SAE 12 16T SAE 16 | Terminations Std. Coil DS Dual Spades DG DIN 43650 DL Leadwires (2) DL/W Leads w/Weatherpak® Connectors | | |
| Option(s) | None (Blank) M Manual Override G Manual Override with Guard | 4B 1/2 in. BSP* 6B 3/4 in. BSP* *BSP Body; U.K. Mfr. Only | Terminations E-Coil ER Deutsch DT04-2P (IP69K Rated) Coils with internal diode are available. Consult factory. | | |
| | | Seals Buna N (Std.) N Fluorocarbon V | Voltage 0 Less Coil 12 12 VDC 24 24 VDC | | |