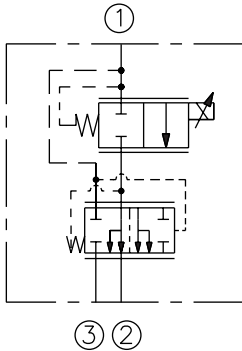


ELECTRO-PROPORTIONAL VALVES—FLOW CONTROLS

PFR72-33x-J Proportional Priority Flow Regulator,

SYMBOLS

USASI/ISO:



Attention Manifold Designers:

To obtain these high flow capabilities using proportional flow controls and compensators, optimized cavity drillings are required. Please consult factory.

DESCRIPTION

A pressure-compensated electrically-variable three-port flow regulator that is a priority (bypass) type control. This combination valve uses a PV72-33x proportional cartridge and an EC12-40 compensator.

OPERATION

The **PFR72-33x-J** series will bypass all flow when de-energized at the pressure compensator spring value. When energized, this proportional valve/compensator package will regulate flow out of port ②, regardless of system working pressure, with an increasing current applied to the solenoid.

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.
- Screw-in manual override option.

RATINGS

Operating Pressure: 207 bar (3000 psi)

Pressure Rise: Pressure at ① begins to rise higher than the compensating pressure differential when bypass flow exceeds 41.6 lpm (11 gpm).

Internal Leakage: 492 cc/min. (30 cu. in./min.) fully closed at 207 bar (3000 psi) out port ②.

Electrical: 2 standard voltage ratings

Coil Voltage	Threshold Current	Max. Control Current
12 VDC	300 ± 70 mA	1500 ± 200 mA
24 VDC	150 ± 35 mA	750 ± 100 mA

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 until positive stop is found.

Filtration: See page 9.010.1

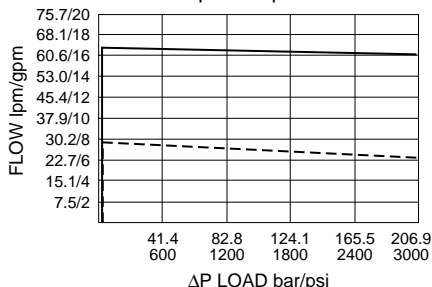
Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

PERFORMANCE CURVES

24 Volt coil used; 100 Hz dither; PWM controller

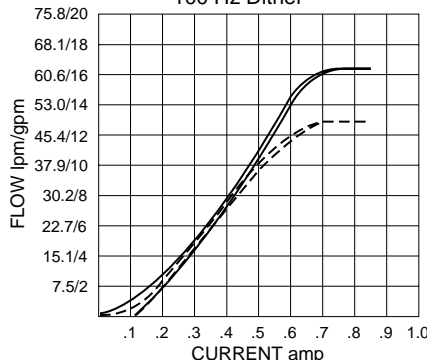
Priority Port Flow Rate Loss Under Load
PV72-33A with EC12-40 Typical
11 bar/160 psi compensator —
6.9 bar/100 psi compensator - - -



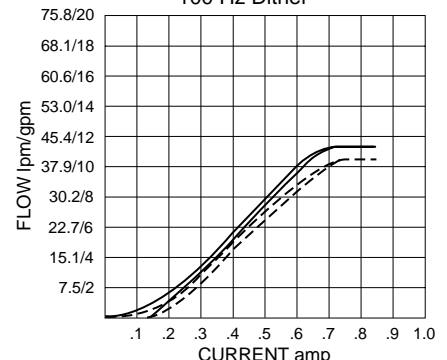
Priority Port Flow Delivered Out Port ②:

For 12 volt coils, double the current (amp) values shown.

Flow vs. Current (207 bar/3000 psi Load)
PV72-33A with EC12-40
11 bar/160 psi spring —
6.9 bar/100 psi spring - - -
100 Hz Dither



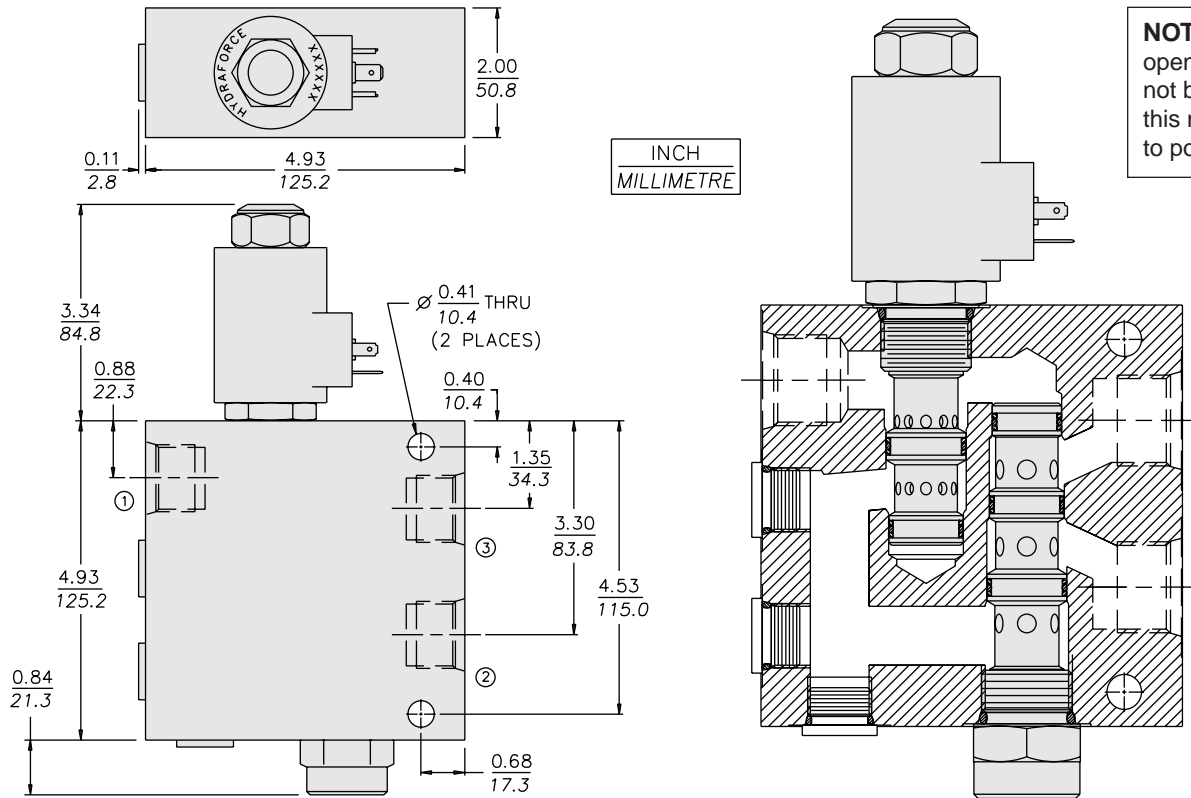
Flow vs. Current (207 bar/3000 psi Load)
PV72-33B with EC12-40
11 bar/160 psi spring —
6.9 bar/100 psi spring - - -
100 Hz Dither



3-Port, Pressure Compensated

PFR72-33x-J

DIMENSIONS



MATERIALS

Cartridge: Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and back-ups standard.

Standard Ported Body: Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. Consult factory.

Coil: D-Coil: See page 3.200.1
E-Coil: See page 3.400.1

Package Weight: 2.95 kg. (6.5 lbs.)

Seal Kit: SK12-3x-MM (PV)
SK12-4x-TMB (EC)

TO ORDER

PFR72-33 - J - 12T - -

*PV Orifice Range	Override Option	Terminations D-Coil
Orifice Range A	(Blank) None	DS Dual Spades
Orifice Range B	M Screw Type	DG DIN 43650
		DL Leadwires (2)
		DL/W Leads w/Weatherpak® Connectors
*Compensator Spring		Terminations E-Coil
4.14 bar (60 psi) 60		IP69K Rated
5.17 bar (75 psi) 75		ER Deutsch DT04-2P
6.89 bar (100 psi) 100		EY Metri-Pack® 150
11.03 bar (160 psi) 160		
	Seals	Voltage
	Buna N (Std.) N	0 Less Coil
	Fluorocarbon V	12 12 VDC
		24 24 VDC

*Select Orifice Range and Compensator Spring by referring to the Performance Curves on the preceding page.

Coils with internal diode are available. Consult factory.