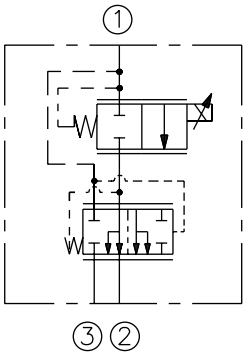
PFR70-33x-J Proportional Priority Flow Regulator, N.C.,

SYMBOLS

USASI/ISO:

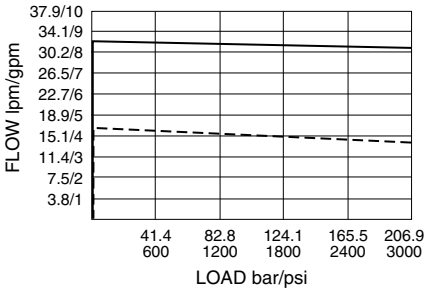


Attention Manifold Designers:
To obtain these high flow capabilities using proportional flow controls and compensators, optimized cavity drillings are required. Please consult factory.

PERFORMANCE CURVES

24 Volt coil used; 130 Hz dither; PWM controller

Priority Port Flow Rate Loss Under Load
PV70-33A with EC12-40 Typical
11 bar/160 psi compensator —
6.9 bar/100 psi compensator - - -



DESCRIPTION

A pressure-compensated electrically-variable three-port flow regulator that is a priority (bypass) type control. This combination valve uses a PV70-33x proportional cartridge and an EC12-40 compensator.

OPERATION

The **PFR70-33x-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 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.
- 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: 410 cc/min. (25 cu. in./min.) fully closed at 207 bar (3000 psi) out port ②.

Electrical: 2 standard voltage ratings

Coil Voltage	Threshold Current (mA) A & B Range	Threshold Current (mA) C Range	Max. Control Current (mA) A & B Range	Max. Control Current (mA) C Range
12 VDC	300 ± 70	360 ± 70	1500 ± 200	1400 ± 200
24 VDC	150 ± 35	180 ± 35	750 ± 100	700 ± 100

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

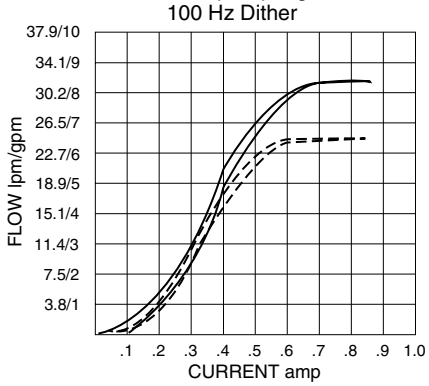
Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 ssu)

Installation: No restrictions; See page 9.020.1

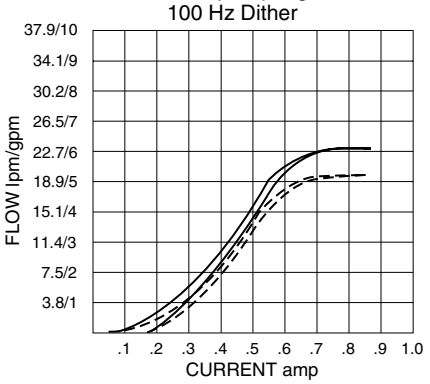
Priority Port Flow Delivered Out Port ②:

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

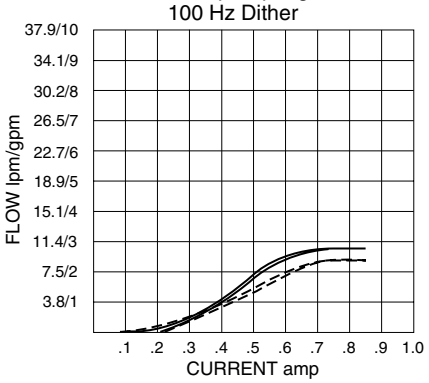
Flow vs. Current (207 bar/3000 psi Load)
PV70-33A with EC12-40
11 bar/160 psi spring ——
6.9 bar/100 psi spring - - - -
100 Hz Dither



Flow vs. Current (207 bar/3000 psi Load)
PV70-33B with EC12-40
11 bar/160 psi spring ——
6.9 bar/100 psi spring - - - -
100 Hz Dither

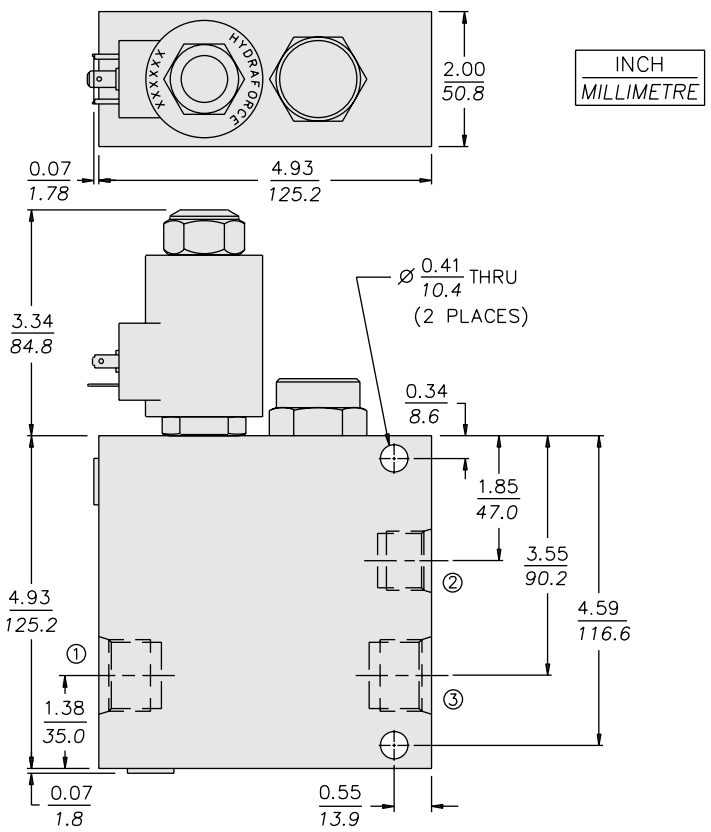


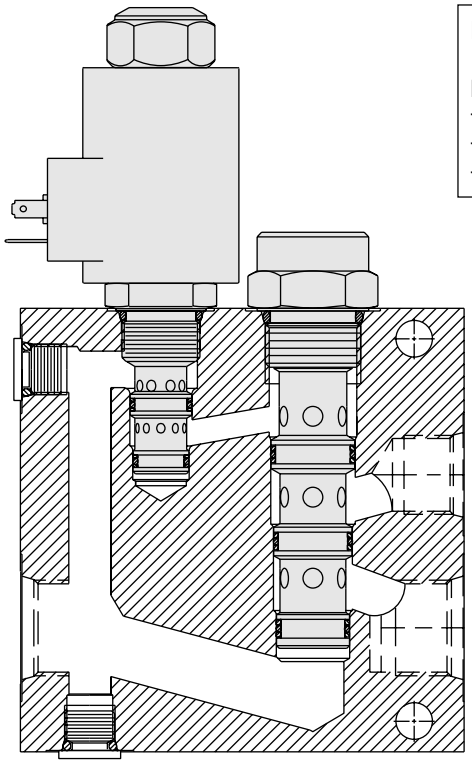
Flow vs. Current (207 bar/3000 psi Load)
PV70-33C with EC12-40
11 bar/160 psi spring ——
6.9 bar/100 psi spring - - - -
100 Hz Dither



3-Port, Pressure Compensated — PFR70-33x-J

DIMENSIONS





NOTE: The N.O. PV70-35 may not be substituted in this manifold due to port logic factors.

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 240 bar (3500 psi). Steel and ductile iron bodies available; dimensions may differ; consult factory.

Coil: Unitized thermoplastic encapsulated, Class H high temperature magnetwire; See page 3.200.1.

Package Weight: 2.72 kg. (6 lbs.).

Seal Kit: SK10-3x-MM (PV)
SK12-4x-TMB (EC)

TO ORDER

PFR70-33__ - J__ - 10/12T† - __ - ____

***PV Orifice Range**

Orifice Range	**A**	
Orifice Range	**B**	
Orifice Range	**C**	

Override Option

(Blank)	None
M	Screw Type

***Compensator Spring**

6.9 bar (100 psi)	**100**
11.03 bar (160 psi)	**160**

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

† Ports 1 & 3: SAE 12
Port 2: SAE 10

Seals

Buna N (Std.)	**N**
Fluorocarbon	**V**

Terminations

DS	Dual Spades
DG	DIN 43650
DL	Leadwires (2)
DL/W	Leads w/Weatherpak® Connectors
DR	Deutsch DT04-2P

Voltage

0	Less Coil
12	12 VDC
24	24 VDC

Coils with internal diode are available. Consult factory.