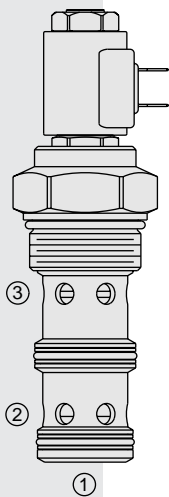


ELECTRO-PROPORTIONAL VALVES—FLOW CONTROLS

PV42-M30 Proportional Flow Control Cartridge,

U.S. Patent
6,966,329



DESCRIPTION

A solenoid-operated, two-stage, three-port, pressure-compensated, spool-type, normally closed when de-energized, proportional flow control valve. It can be used as a priority-type flow regulator with pressure-compensated, regulated and bypass flow.

OPERATION

The **PV42-M30** will regulate flow out of port ③ regardless of system working pressure at ③ or at bypass port ②. Two priority flow ranges are provided for better resolution: Range A for priority flow up to 170 lpm/45 gpm, and Range B for priority flow up to 132 lpm/35 gpm. For either range, the input flow at ① can be up to 225 lpm/60 gpm.

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.

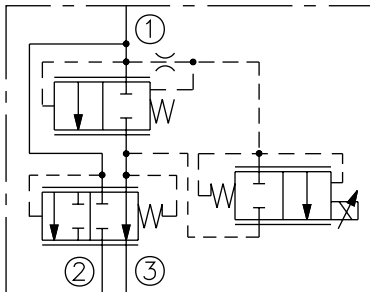
Operation of Manual Override: To Engage: Turn clockwise approximately 3 turns to reach start point. Continue another approximately 2 more turns to full shift. To Disengage: Turn counterclockwise approximately 5 turns to positive stop.

FEATURES

- Excellent linearity and hysteresis characteristics.
- Hardened spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet armature construction.

SYMBOLS

USASI/ISO:



RATINGS

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

Regulated Flow Rate: Range A: 170 lpm (45 gpm)
Range B: 132 lpm (35 gpm)

Maximum Input Flow: 225 lpm (60 gpm)

Maximum Internal Leakage: 1.52 lpm (0.40 gpm) at zero current

Electrical: 2 standard voltage ratings

Coil Voltage	Threshold Current	Max. Control Current
12 VDC	400 ± 100 mA	1400 ± 150 mA
24 VDC	200 ± 50 mA	700 ± 75 mA

Filtration: See page 9.010.1

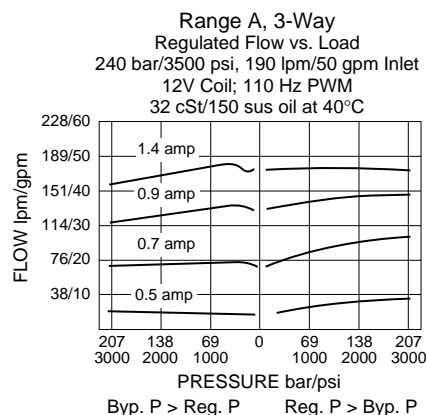
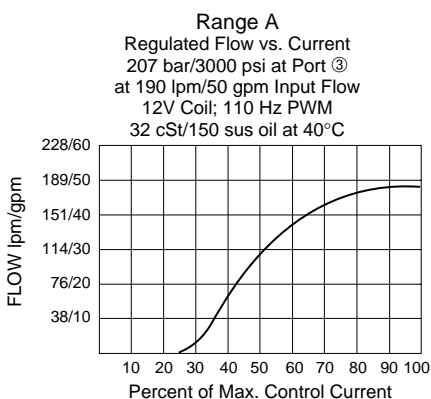
Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1.

Cavity: VC42-M3; See page 9.142.1; **Cavity Tool:** CT42-M3X-XX; See page 8.600.1

Seal Kit: SK42-3X-MM; See page 8.650.1 for seal kit options and appropriate seals based on application temperature range.

PERFORMANCE

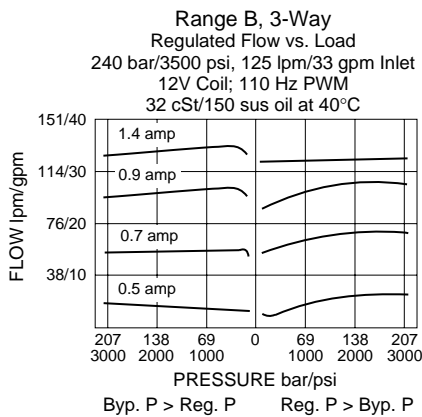
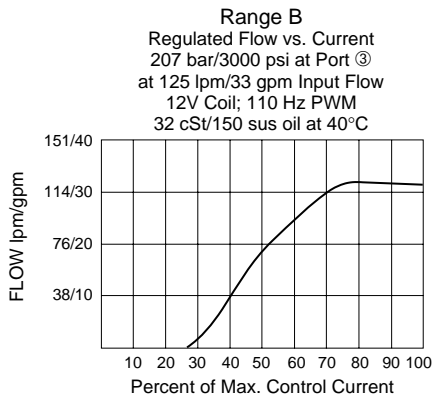


Recommended Electronic Controllers:
See page 2.001.1 or our Electronics catalog.

Normally Closed

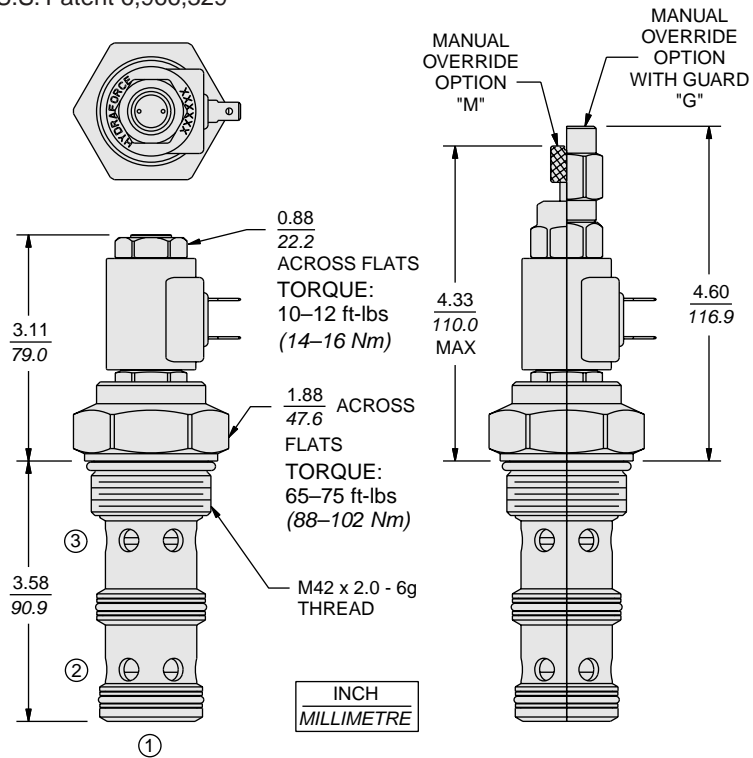
PV42-M30

PERFORMANCE (continued)



DIMENSIONS

U.S. Patent 6,966,329



MATERIALS

Cartridge: Weight: 0.89 kg. (1.97 lbs.);
Steel with hardened work surfaces.
Zinc-plated exposed surfaces.
Buna N O-rings and polyester
elastomer back-ups standard.

Ported Body: Consult factory.

EHPR Series Coil: Weight: 0.32 kg.
(0.7 lbs.) Unitized thermoplastic
encapsulated, Class H high
temperature magnet-wire.
See page 3.200.8.

TO ORDER

PV42-M30

Flow Range

Up to 170 lpm
(45 gpm) **A**

Up to 132 lpm
(35 gpm) **B**

Option(s)

None (Blank)

Manual Override **M**

Manual Override
with Guard **G**

Porting

Consult
Factory

Seals

Buna N (Std.) **N**

Fluorocarbon **V**

Terminations

DS Dual Spades

DG DIN 43650

DL Leadwires (2)

DL/W Leads w/Weatherpak®
Connector

ER Deutsch DT04-2P

Coils with internal diode are
available. Consult factory.

Voltage

0 Less Coil

12 12 VDC

24 24 VDC