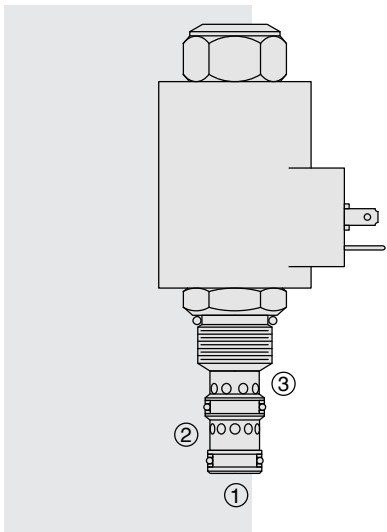


ELECTRO-PROPORTIONAL VALVES—FLOW CONTROLS

PV70-30 Proportional Flow Control Cartridge,



DESCRIPTION

A solenoid-operated, electrically-variable, 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. It can also be used as a restrictive-type 2-way, pressure-compensated flow regulator when the bypass line (port 2) is blocked.

OPERATION

The PV70-30 will regulate flow out of port 3 regardless of system working pressure. With an increasing current applied to the solenoid, the PV70-30 will increase output flow.

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 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.
- 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: Inlet: 240 bar (3500 psi); Ports 2 and 3: 207 bar (3000 psi)

Regulated Flow Rate: Bypass Blocked, Range A: 26 lpm (7 gpm)
 Bypass Blocked, Range B: 17 lpm (4.5 gpm)
 Bypass Open, Range A: 30 lpm (8 gpm)
 Bypass Open, Range B: 17 lpm (4.5 gpm)

Maximum Input Flow: Bypass Open, Range A: 50 lpm (13 gpm)
 Bypass Open, Range B: 26 lpm (7 gpm)

Internal Leakage: 197 cc/min. (12 cu. in./min.) fully closed at 207 bar (3000 psi)

Electrical: 2 standard voltage ratings

Coil Voltage	Threshold Current	Max. Control Current
12 VDC	250 ± 100 mA	1250 ± 150 mA
24 VDC	125 ± 50 mA	600 ± 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: VC10-3; See page 9.110.1

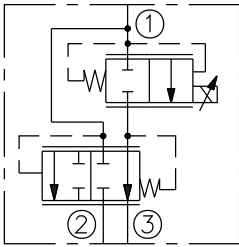
Cavity Tool: CT10-3X-XX; See page 8.600.1

Seal Kit: SK10-3X-MM; See page 8.650.1 for seal kit options and appropriate seals based on application temperature range.

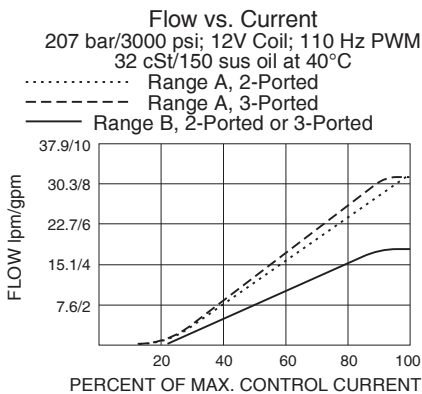
Recommended Electronic Controllers:
 See page 2.001.1 or our Electronics catalog.

SYMBOLS

USASI/ISO:



PERFORMANCE



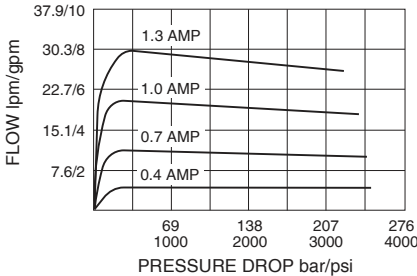
Performance info. continued on following page.

Normally Closed

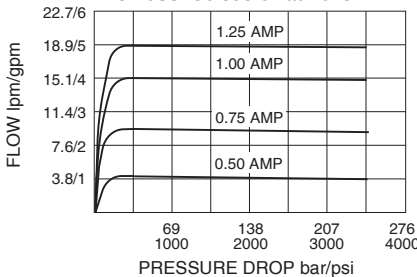
PV70-30

PERFORMANCE (Continued)

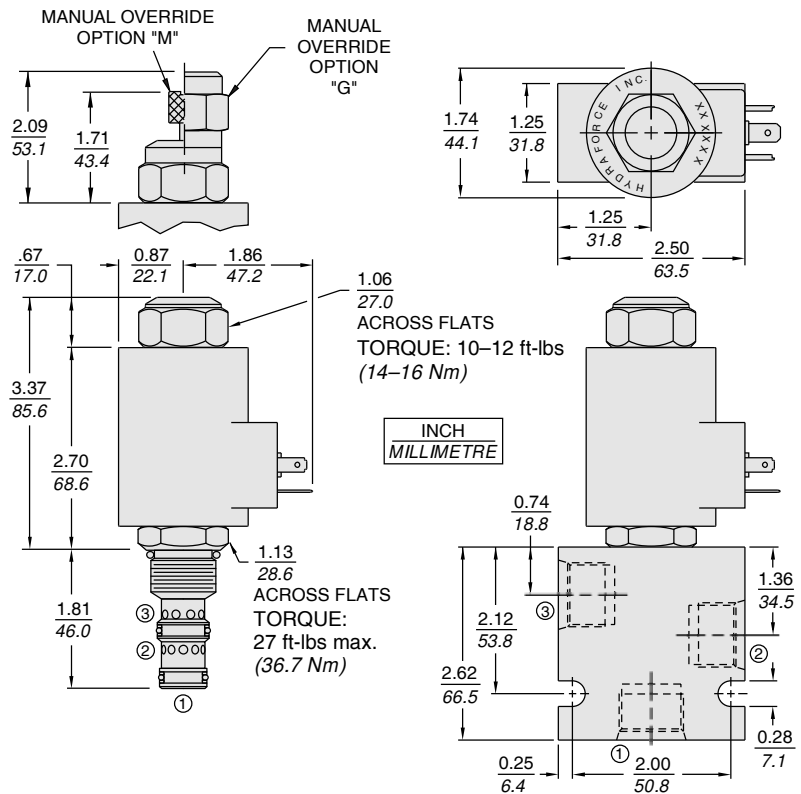
Regulated Flow vs. Pressure Drop
2-Ported; Flow Range A
240 bar/3500 psi Inlet
12V Coil; 110 Hz PWM
32 cSt/150 sus oil at 40°C



Regulated Flow vs. Pressure Drop
2-Ported; Flow Range B
240 bar/3500 psi Inlet
12V Coil; 110 Hz PWM
32 cSt/150 sus oil at 40°C



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 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.010.1

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

PV70-30		-	-	-	-
Flow Range Required. See Performance Curves.	A B	Porting 0 Cartridge Only 6T SAE 6 8T SAE 8 2B 1/4 in. BSP* 3B 3/8 in. BSP*	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	
Option(s)	None (Blank) Manual Override M Manual Override with Guard G	*BSP Body; U.K. Mfr. Only	Seals Buna N (Std.) N Fluorocarbon V	Coils with internal diode are available. Consult factory.	Voltage 0 Less Coil 12 12 VDC 24 24 VDC