

Part number:

HYDROMA

HYDRAULICKÉ SYSTÉMY

**HIDROMA
SYSTEMS**

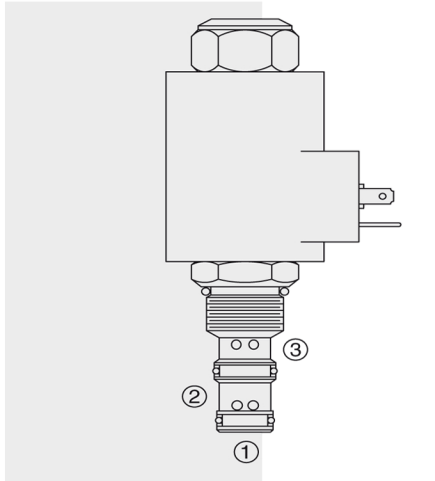
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HYDROMA

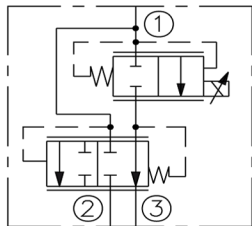
ГИДРАВЛИЧЕСКИЕ СИСТЕМЫ

ELECTRO-PROPORTIONAL VALVES—FLOW CONTROLS

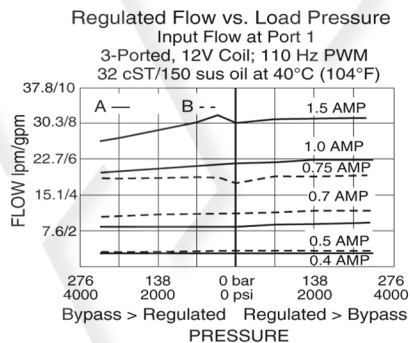
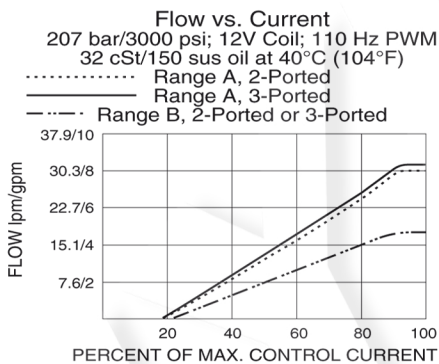
PV70-30 Proportional Flow Control, Bypass,



ISO SYMBOL



PERFORMANCE



DESCRIPTION

A solenoid-operated, three-port, pressure-compensated, spool-type, normally closed when de-energized, proportional flow control regulator. 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

With inlet flow at port 1, the **PV70-30** will regulate priority flow out of port 3 regardless of system working pressure, with flow rate proportional to current applied to the solenoid. Excess flow will bypass out of port 2. The bypass flow can be used for auxiliary function control.

Note: Avoid dead-heading of priority line by external valving to prevent blocking of bypass line. In restrictive mode applications, bypass port 2 has to be blocked. Flow rate out of port 3 remains proportional to current applied to the solenoid regardless of load (pressure) applied to port 3.

FEATURES

- Choice of two regulated flow ranges.
- Hardened spool and cage for long life.
- Excellent linearity and hysteresis. .
- Efficient wet armature construction.
- Cartridges voltage interchangeable.
- Unitized, molded coil design.
- Coil waterproofing standard.
- Manual override options.

RATINGS

Operating Pressure: Inlet (Port 1) : 240 bar (3500 psi); Regulated (Port 3): 207 bar (3000 psi); Bypass (Port 2): 207 bar (3000 psi)

Proof Pressure: 345 bar (5000 psi) **Burst Pressure:** 896 bar (13,000 psi)

Flow Rating:

Flow Rating lpm (gpm)	Range A		Range B	
	2-Ported	3-Ported	2-Ported	3-Ported
Regulated	26.5 (7.0)	30.3 (8.0)	17.0 (4.5)	17.0 (4.5)
Nominal Input	--	37.9 (10.0)	--	18.9 (5.0)
Maximum Input	--	49.2 (13.0)	--	26.5 (7.0)

Maximum Internal Leakage: 197 cc/min. (12 cu. in./min.) at Port 3 with 207 bar (3000 psi) at Port 1 (Port 2 closed)

Operating Fluid Temperature: -40 to 100°C (-40 to 212°F) with Buna N seals; -26 to 204°C (-15 to 400°F) with fluorocarbon seals; -54 to 107°C (-65 to 225°F) with polyurethane seals

Electrical Parameters: (Nominal values with size 70 E-series and D-series coils)

Coil Voltage Rating (VDC)	Valve Inductance (mH)		Threshold Current (mA)	Maximum Control Current	
	E-Coil	D-Coil		Flow Range A	Flow Range B
12	240	200	335	1500	1350
24	700	600	165	750	675

Hysteresis: Up to 10% of maximum regulated flow (30 to 90% of flow range)

Dither/PWM Frequency Range: 100 to 250 Hz **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: Install D-series coils with two O-rings above and below the coil. Install E-series coils with only one O-ring above the coil. Manual override options M and G require Coil Nut Kits. See part numbers below. See Cartridge Installation, page 9.020.1 for cartridge, coil and coil retainer installation. To assure proper function, coil retainer must be installed.

Cavity: VC10-3; See page 9.110.1 **Cavity Tool:** CT10-3X-XX; See page 8.600.1

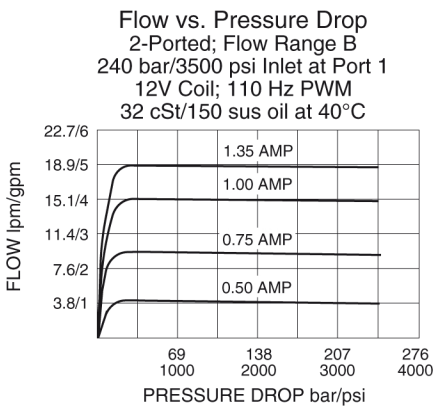
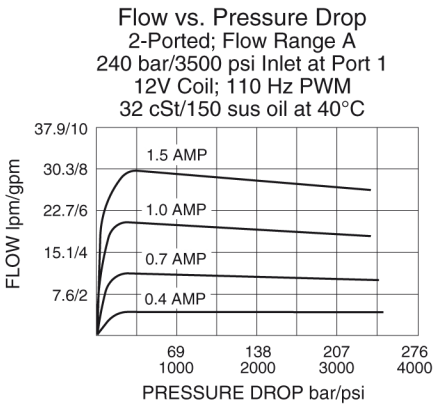
Seal Kit: SK10-3X-MM; See page 8.650.1 for seal kit options and appropriate seals based on application temperature range.

Coil Nut Kits (for Manual Override Option G): 4001214; (for Option M): 420218

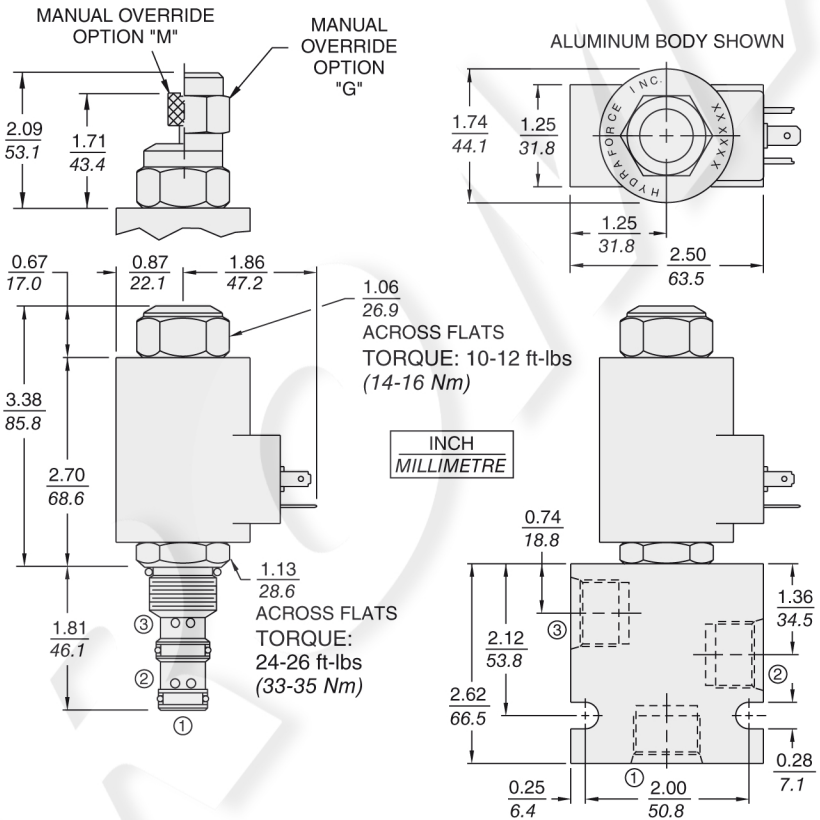
Normally Closed

PV70-30

PERFORMANCE (Continued)



DIMENSIONS



Recommended Electronic Controllers:

See page 2.001.1 or our Electronics catalog.

MATERIALS

Cartridge: Weight: 0.32 kg. (0.70 lbs.); with manual override M - 0.37 kg (0.81 lb.); with manual override G - 0.45 kg (1.00 lb.) 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 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

Option(s)

None (Blank)

Manual Override

Manual Override with Guard

M*

G**

Porting

0 Cartridge Only

6T SAE 6

8T SAE 8

2B 1/4 in. BSP*

3B 3/8 in. BSP*

*BSP Body; U.K. Mfr. Only

Seals

Buna N (Std.) **N**

Fluorocarbon **V**

Polyurethane **P**

Terminations D-Coil

DG DIN 43650

DS Dual Spades

DL Leadwires (2)

Terminations E-Coil

ER IP69K Rated

Deutsch DT04-2P

EY Metri-Pack® 150

Voltage

0 Less Coil

12 12 VDC

24 24 VDC

* Requires Coil Nut Kit P/N 4202180

** Requires Coil Nut Kit P/N 4001214