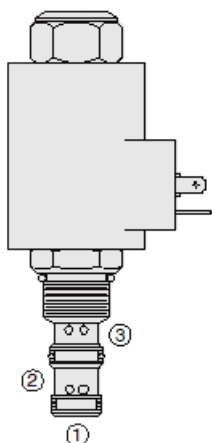




Overview



Description

Pv70-33xx is a solenoid operated, spool type, normally closed, proportional flow control valve designed for use with a pressure compensator to function as a proportional flow regulator

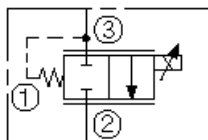
Operation

Pv70-33xx is a solenoid operated, spool type, normally closed, proportional flow control valve designed for use with a pressure compensator to function as a proportional flow regulator

Features

- Excellent linearity and hysteresis characteristics.
- Hardened spool and cage for long life.
- Optional coil voltages and terminations.
- Efficient wet-armature construction.
- Cartridges are voltage-interchangeable.
- Unitized, molded coil design.
- Coil waterproofing standard.
- Manual Override option.

Symbol



Ratings

Pressure Ratings

Pressure rating	241 bar (3500 psi)
Proof pressure	345 bar (5000 psi)
Burst pressure	896 bar (13000 psi)

Flow Ratings

Flow rating	0 to 45.4 lpm (0 to 14 gpm)	- Note: Range A
	0 to 37.8 lpm (0 to 10 gpm)	- Note: Range b
	0 to 18.9 lpm (0 to 5 gpm)	- Note: Range c
Maximum internal leakage	197 ml/min (12 in ³ /min)	
Hysteresis flow	lpm (gpm)	- Note: Maximum

Temperature Ratings

Operating fluid temperature	-40 to 100 °C (-40 to 212 °F)	- Note: With buna N seals
	-26 to 204 °C (-15 to 400 °F)	- Note: With fluorocarbon seals
	-54 to 107 °C (-65 to 225 °F)	- Note: With urethane seals
Storage temperature	-40 to 70 °C (-40 to 160 °F)	
Ambient temperature	-40 to 70 °C (-40 to 160 °F)	

Other Ratings

Corrosion protection	960 hr salt spray per ASTM b117
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Operating Parameters

Fluids	Mineral based or synthetic hydraulic fluid with lubricating properties
Fluid viscosity range	7.4 to 420 cSt
Maximum operating contamination level	18/16/13 per ISO 4406



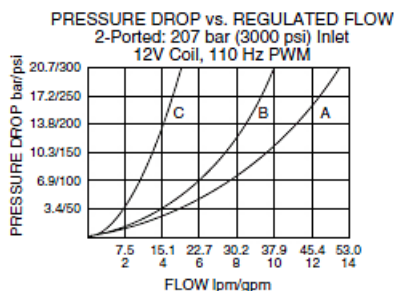
Properties

Unit weight	0.32 kg (0.70 lb)	- Note: PV70-33X
	0.38 kg (0.83 lb)	- Note: Pv70-33mx
	0.46 kg (1.02 lb)	- Note: Pv70-33gx
Internal wetted surface area	173.1 cm ² (26.8 in ²)	- Note: Pv7033x
	176.3 cm ² (27.3 in ²)	- Note: Pv7033mx and pv70-33gx

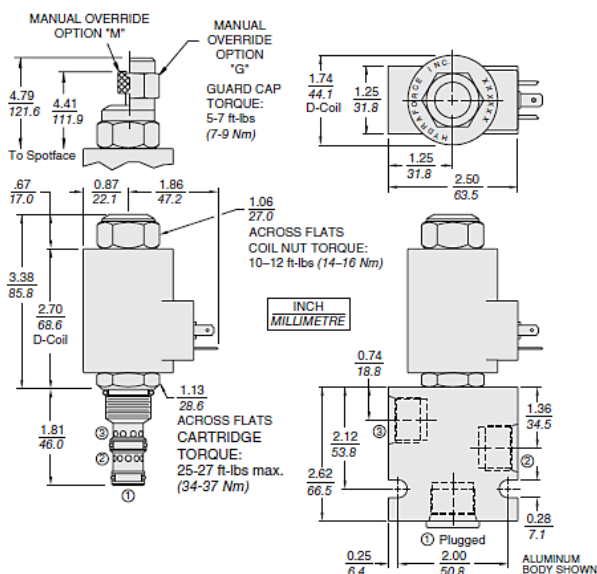
Electrical Parameters

Note	With size 70 d-series and e-series coils	
Valve inductance	240 mH	- Note: E-coil 12 V
	700 mH	- Note: E-coil 24 V
	200 mH	- Note: D-coil 12 V
	600 mH	- Note: D-coil 24 V
Threshold current	300 mA	- Note: Flow range A or b 12 V coil
	150 mA	- Note: Flow range A or b 24 V coil
	360 mA	- Note: Flow range c 12 V coil
	180 mA	- Note: Flow range c 24 V coil
Maximum control current	1500 mA	- Note: Flow range A or b 12 V coil
	750 mA	- Note: Flow range A or b 24 V coil
	1400 mA	- Note: Flow range c 12 V coil
	700 mA	- Note: Flow range c 24 V coil
Dither PWM frequency	100 to 250 Hz	

Performance



Dimensions





Materials

Materials

Cartridge: Weight: 0.32 kg. (0.70 lb.) With Option M: 0.38 kg. (0.83 lb.) With Option G: 0.46 kg. (1.02 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 (0.8 lb); Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi); Ductile iron bodies available; dimensions may differ.

70-Size D-Coil: Weight each: 0.32 kg (0.7 lb); Unitized thermoplastic encapsulated, Class H high temperature magnet wire.

70-Size E-Coil: Weight each: 0.41 kg (0.9 lb); Fully encapsulated with rugged external metal shell. IP69K rated.

Port Plug: For SAE 6 Port: 6103006. For SAE 8 Port: 6103008

Installation Specifications

Cavity	VC10-3
Cartridge installation torque	34 to 37 N-m (25 to 27 ft-lb)
Maximum allowable torque	75 N-m (55 ft-lb)
Coil nut torque	14 to 16 N-m (10 to 12 ft-lb)
Cover cap torque	7 to 9 N-m (5 to 7 ft-lb)
Orientation restriction	None

Accessories

Seal kit	SK10-3X-MM (x = N) - Note: V seal option SK10-3U-OO - Note: U seal option
Housings	
Coils	

Order Code

POSITION	CODE	DESCRIPTION
		PV70-33DE-H-J-L
D		Max Regulated Flow
D	A	45.4 lpm (14.0 gpm) Max Regulated Flow
D	B	37.8 lpm (10.0 gpm) Max Regulated Flow
D	C	18.9 lpm (5.0 gpm) Max Regulated Flow
E		Manual Override
E	BLANK	NONE
E	G	Variable Position Override, Red Knurled Knob with Cover Cap
E	M	Variable Position Override, Red Knurled Knob
H		Line Body
H	0	No Body
H	6T	Aluminum SAE 6
H	8T	Aluminum SAE 8
H	6TD	Ductile Iron SAE 6
H	8TD	Ductile Iron SAE 8
H	3B	Aluminum BSPP 3/8" (3)
H	3BD	Ductile Iron BSPP 3/8" (3)
J		Seal
J	N	Buna-N
J	V	Fluorocarbon
J	P	Polyurethane
J	U	PPDI Urethane



POSITION	CODE	DESCRIPTION
L		Coil
L	0	No Coil
L	12DG	12 VDC, D-Coil, DIN 43650
L	12DL	12 VDC, D-Coil, Dual Lead Wires
L	12DL/W	12 VDC, D-Coil, Dual Lead Wires with Weatherpak
L	12DS	12 VDC, D-Coil, Dual Spade
L	12ER	12 VDC, E-Coil, Deutsch
L	12EY	12 VDC, E-Coil, Metri-Pack 150
L	24DG	24 VDC, D-Coil, DIN 43650
L	24DL	24 VDC, D-Coil, Dual Lead Wires
L	24DS	24 VDC, D-Coil, Dual Spade
L	24ER	24 VDC, E-Coil, Deutsch

