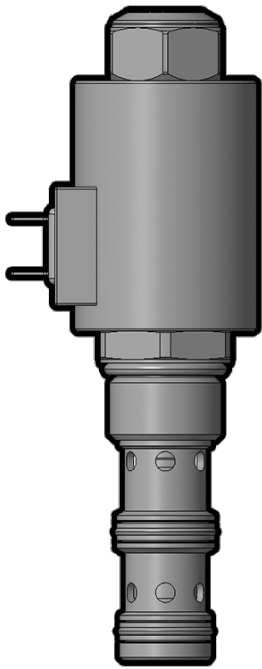




Overview



Description

PV72-31 is a solenoid operated, pressure compensated, spool type, normally open, proportional priority flow control valve.

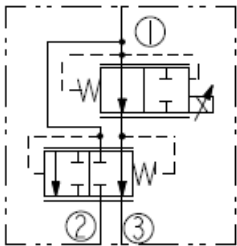
Operation

The valve provides priority regulated flow at port 3 with pressure compensated regulated and bypass flow. The regulated flow is inversely proportional to electric current applied to the solenoid. Priority flow will decrease with increasing current applied to the solenoid.

Features

- Choice of two regulated flow ranges
- Excellent linearity and hysteresis characteristics.
- 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	240 bar (3500 psi)
Proof pressure	345 bar (5000 psi)
Burst pressure	896 bar (13000 psi)

Flow Ratings

Flow rating	0 to 53 lpm (0 to 14.0 gpm)	- Note: For "a" flow range;
	0 to 37.9 lpm (0 to 10.0 gpm)	- Note: For "b" flow range
Maximum internal leakage	0.38 lpm (0.1 gpm)	- Note: Fully closed at 207 bar (3000 psi).
Hysteresis flow	±1.9 lpm (0.50 gpm)	

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
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

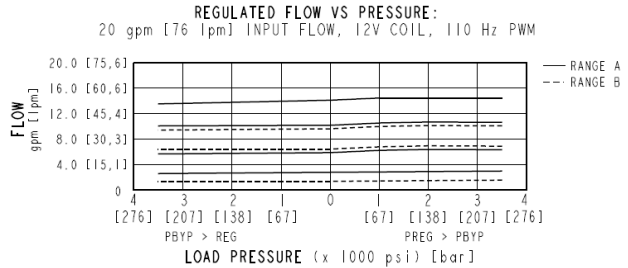
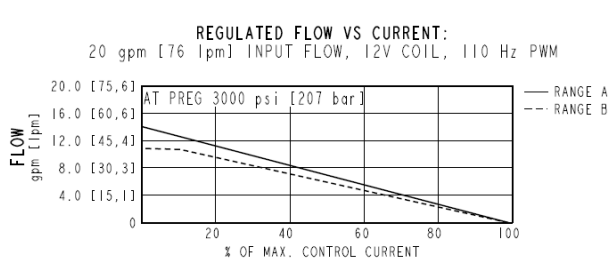
Properties

Unit weight	0.42 kg (0.93 lb)	- Note: PV72-31X
	0.47 kg (1.03 lb)	- Note: PV72-31XM
	0.56 kg (1.23 lb)	- Note: PV72-31XG
Internal wetted surface area	338.1 cm ² (52.4 in ²)	- Note: PV72-31X
	341.3 cm ² (52.9 in ²)	- Note: PV72-31XM PV72-31XG

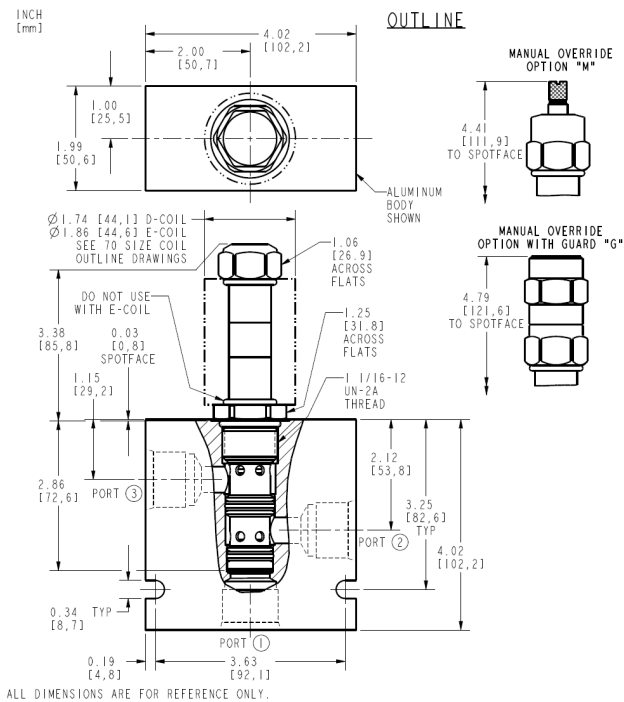
Electrical Parameters

Note	With size 70 e-series and d-series coils	
Valve inductance	240 mH	- Note: E-coil 12 V
	200 mH	- Note: D-coil 12 V
	700 mH	- Note: E-coil 24 V
	600 mH	- Note: D-coil 24 V
Threshold current	150 mA ±100	- Note: 12 V coil
	75 mA ±50	- Note: 24 V coil
Maximum control current	1350 mA ±150	- Note: 12 V coil
	675 mA ±75	- Note: 24 V coil
Dither PWM frequency	100 to 250 Hz	

Performance



Dimensions





Installation Specifications

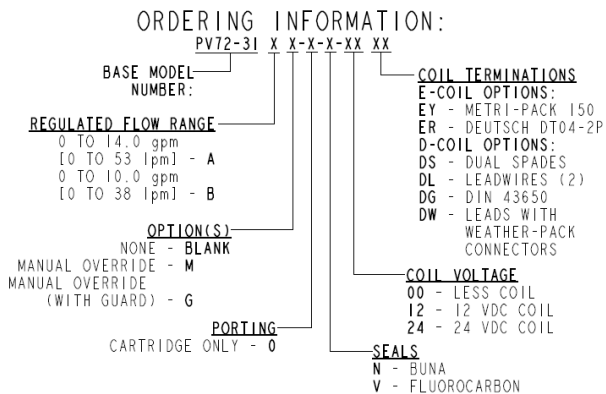
Cavity	VC12-3
Cartridge installation torque	47 N-m (35 ft-lb)
Coil nut torque	14 to 16 N-m (10 to 12 ft-lb)
Cover cap torque	7 to 9 N-m (5 to 7 ft-lb)
Orientation restriction	None

Accessories

Seal kit	SK12-3X-MM	- Note: X = seal option
Housings		
Coils		



Order Code



POSITION	CODE	DESCRIPTION
		PV72-31DE-H-JL
D		Max Regulated Flow
D	A	53.0 lpm (14.0 gpm) Max Regulated Flow
D	B	37.9 lpm (10.0 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	8T	Aluminum SAE 8
H	10T	Aluminum SAE 10
H	12T	Aluminum SAE 12
H	12TD	Ductile Iron SAE 12
H	6B	Aluminum BSPP 3/4" (6)
J		Seal
J	N	Buna-N
J	V	Fluorocarbon
J	P	Polyurethane
J	U	PPDI Urethane
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