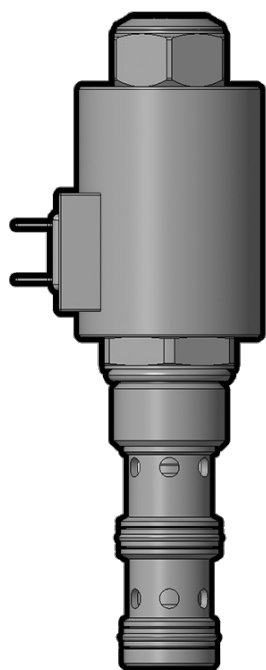




Overview



Description

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

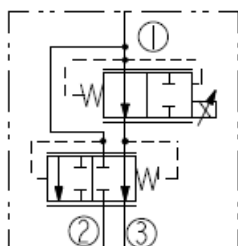
Operation

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 |
|----------------------|---------------------------------|



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 |

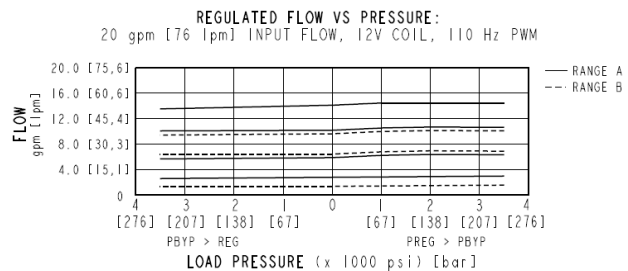
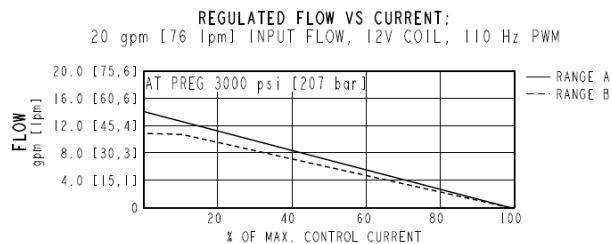
Properties

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

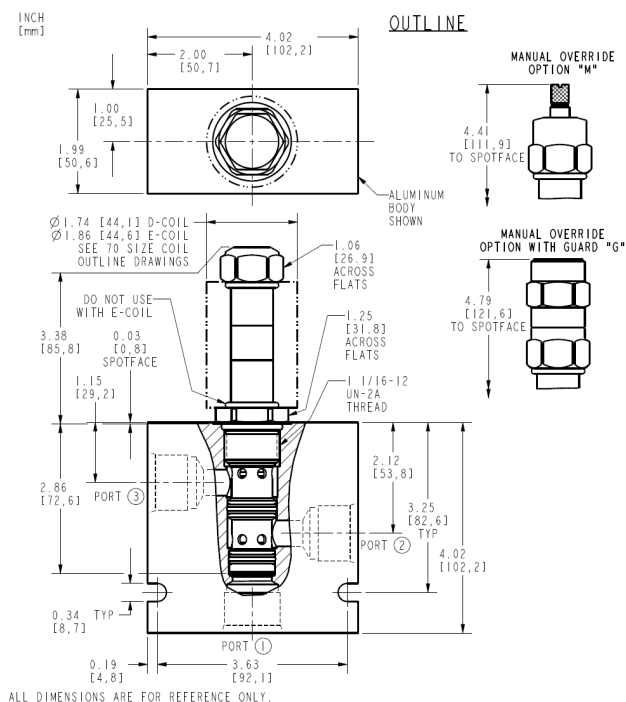
Electrical Parameters

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

Performance



Dimensions





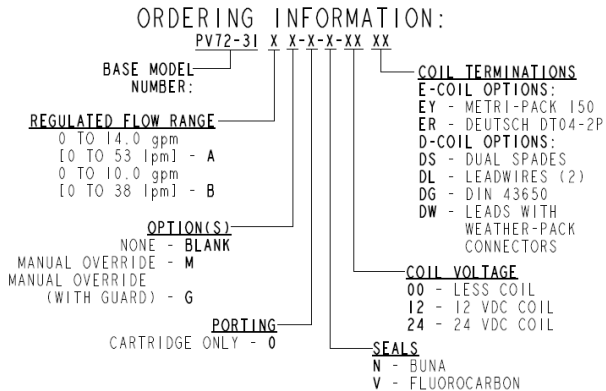
Installation Specifications

| | |
|-------------------------------|-------------------------------|
| 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 |
|----------|------------|--------------------------------|

Order Code



Model Options

PV72-31DE-H-J-L

D Max Regulated Flow

| CODE | DESCRIPTION |
|------|--|
| A | 53.0 lpm (14.0 gpm) Max Regulated Flow |
| B | 37.9 lpm (10.0 gpm) Max Regulated Flow |

E Manual Override

| CODE | DESCRIPTION |
|-------|---|
| BLANK | NONE |
| G | Variable Position Override, Red Knurled Knob with Cover Cap |
| M | Variable Position Override, Red Knurled Knob |

H Line Body

| CODE | DESCRIPTION |
|------|------------------------|
| 0 | No Body |
| 8T | Aluminum SAE 8 |
| 10T | Aluminum SAE 10 |
| 12T | Aluminum SAE 12 |
| 12TD | Ductile Iron SAE 12 |
| 6B | Aluminum BSPP 3/4" (6) |

J Seal

| CODE | DESCRIPTION |
|------|--------------|
| N | Buna-N |
| V | Fluorocarbon |



| CODE | DESCRIPTION |
|------|------------------|
| P | Polyurethane |
| U | PPDI Urethane |

L Coil

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