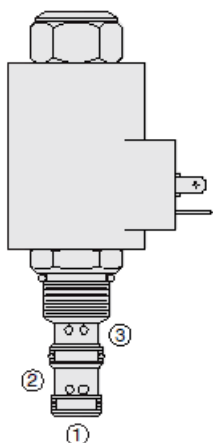




## Overview



### 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.

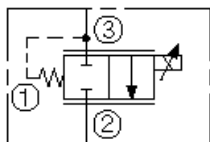
### Operation

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

### Temperature Ratings

Operating fluid temperature	-40 to 100 °C (-40 to 212 °F)	- <b>Note:</b> With buna N seals
	-26 to 204 °C (-15 to 400 °F)	- <b>Note:</b> With fluorocarbon seals
	-54 to 107 °C (-65 to 225 °F)	- <b>Note:</b> 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



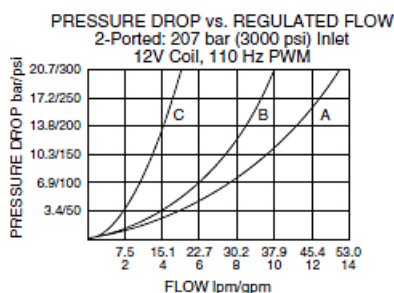
## Properties

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

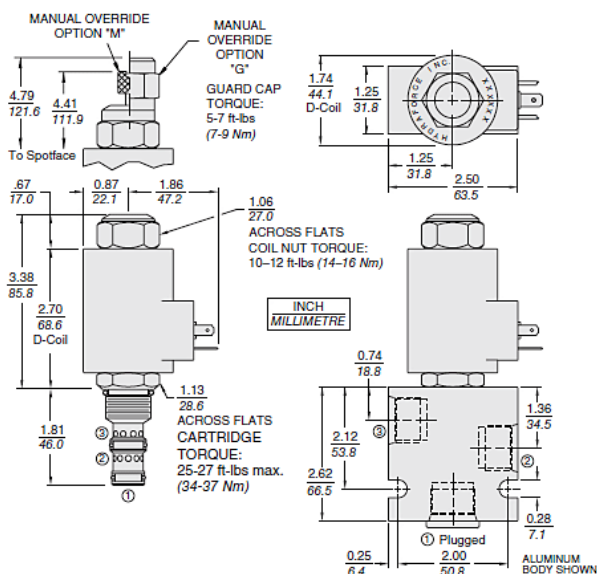
## Electrical Parameters

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

## Performance



## Dimensions





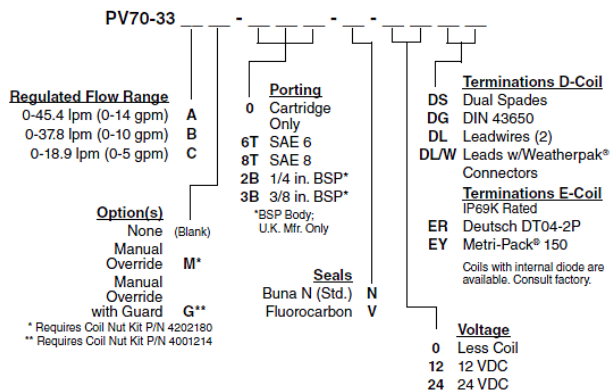
## Installation Specifications

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 - <b>Note:</b> V seal option SK10-3U-OO - <b>Note:</b> U seal option
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## Order Code



### Model Options

#### PV70-33DE-H-J-L

##### D Max Regulated Flow

CODE	DESCRIPTION
A	45.4 lpm (14.0 gpm) Max Regulated Flow
B	37.8 lpm (10.0 gpm) Max Regulated Flow
C	18.9 lpm (5.0 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
6T	Aluminum SAE 6
8T	Aluminum SAE 8
6TD	Ductile Iron SAE 6
8TD	Ductile Iron SAE 8
3B	Aluminum BSPP 3/8" (3)
3BD	Ductile Iron BSPP 3/8" (3)

##### J Seal



CODE	DESCRIPTION
N	Buna-N
V	Fluorocarbon
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