

Proportional Valves

EPV16-B

Proportional Flow Control Valve, Poppet Type, Normally Closed, Pilot Operated, Pressure Compensated

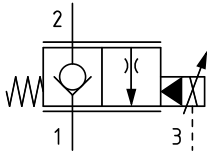
280 bar [4000 psi] • 160 l/min [42 US gpm]



DESCRIPTION AND OPERATION

This is a 2-way, poppet type, normally closed, pressure compensated proportional flow control valve. In the de-energized condition, flow is blocked from port 2 to 1, while allowing free flow from port 1 to 2. Energizing the coil will proportionally open port 2 to 1, and the flow will remain constant irrespective of changes in pressure differential across the valve.

SCHEMATIC



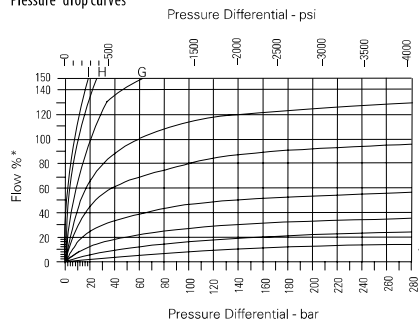
PERFORMANCE DATA

Rated pressure*	280 bar [4000 psi]
Rated flow	160 l/min [42 US gpm]
Max Regulated Flow	10 ml/min @ 140 bar [2000 psi]
Maximum Hysteresis	4%
Recommended PWM frequency	100-200 Hz
Threshold current	350-600 mA [12 VDC coil] 175-250 mA [24 VDC coil]
Maximum control current	1.4 A [12 VDC coil] 0.7 A [24 VDC coil]
Coil Options	EPV series
Weight	1 kg [2.2 lb]
Cavity	C-16-3SU

*Rated pressure based on NFPA fatigue test standards (at 1 million cycles)

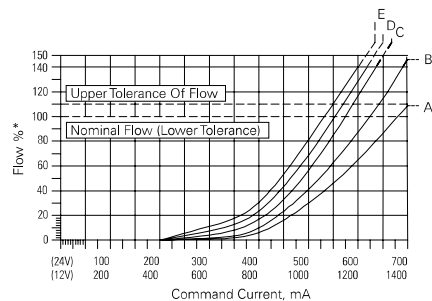
PERFORMANCE CURVES

Pressure drop curves



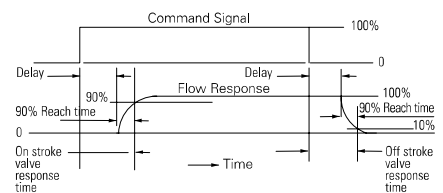
* Flow interims of % for each poppet size

Command current	12 V	24 V
A-	600 mA	300mA
B-	700 mA	350mA
C-	800 mA	400mA
D-	900 mA	450mA
E-	1000 mA	500mA
F-	1100 mA	550mA
G-	1200 mA	600mA
H-	1300 mA	650mA
I-	1400 mA	700mA



* Flow interims of % for each poppet size

Pressure differential	10 bar/1	50 psi
A-	10 bar	300 psi
B-	20 bar	700 psi
C-	50 bar	1500 psi
D-	100 bar	3000 psi
E-	200 bar	4000 psi



Pressure drop @ 120 l/min (30 USgpm)

Pressure drop DP	On stroke Delay/reach 90%	Off stroke delay/reach 90%
20 bar (290 psi)	24 ms/35 ms	5 ms/15 ms
100 bar (1450 psi)	24 ms/17 ms	5 ms/7 ms

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DIMENSIONS

mm [in]

Coil Nut Torque

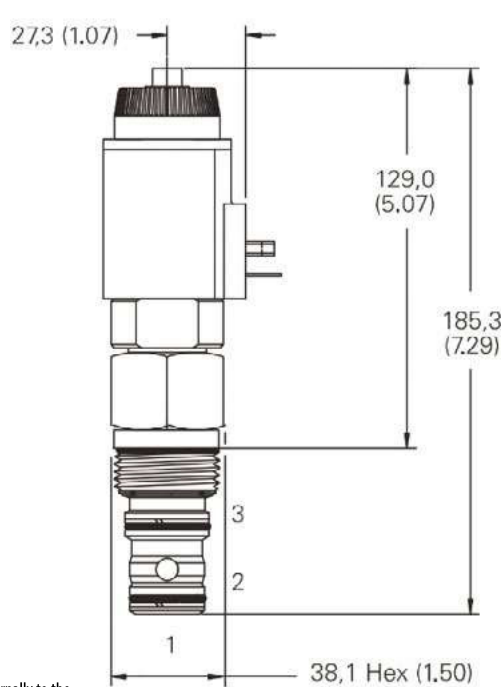
2.5-3.0 Nm [22-27 ft in lbs]

Installation torque

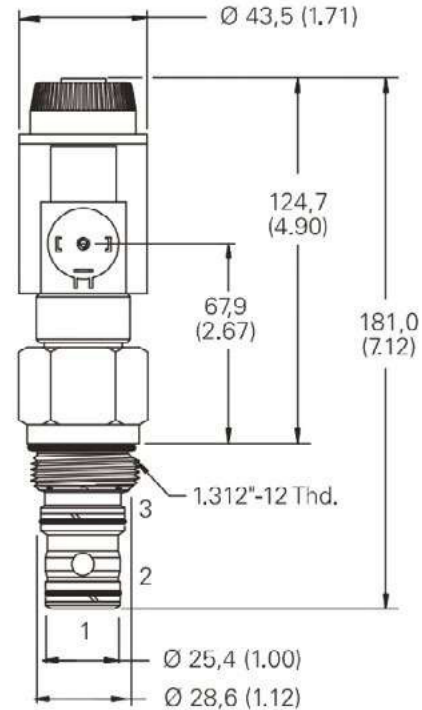
A - 108-122 Nm [80-90 ft. lbs]

S - 136-149 Nm [100-110 ft. lbs]

*Port 3 must be connected to Port 1 externally to the cartridge, either by passages in the cavity block or external plumbing. When purchased with undercut body, this connection is included in the body and Port 3 is not machined.



With manual override



Without manual override

MODEL CODE

EPV16 - B - 04 - A - 10H - N - 12D - M - N - 13

Max Regulated Flow

Code Flow

04 40 l/min (10.5 US gpm)

06 60 l/min (16 US gpm)

10 100 l/min (26 US gpm)

16 160 l/min (42 US gpm)

Housing Material

Omit - No housing

A - Aluminium

S - Steel

Housing

Code	Ports	Aluminium	Steel
0	No housing		
4G	1/2" BSP	02-166607	02-165500
6G	3/4" BSP	02-161592	02-164931
10H	#10 SAE	02-170238	02-161983
12H	#12 SAE	02-166609	02-161982

* Aluminum bodies are to be used for pressures less than 210 bar (3000 psi).

* Additional housings available

Connector Type

0 - No coil

W - Flying lead

N - Deutsch (DT04-2P)

Y - Metripack 150 male

U - DIN 43650

Manual Override Option

Omit - No manual override

M - Pin type

S - Screw type

Coil Voltage

00 - No coil, nut included (p/n 02-148332)

12D - 12VDC

24D - 24VDC

*Use EPV series, 16W coils

Seal Option

Code	Seal Kit
N - Buna - N (standard)	02-154069
V - Viton	1203263
NF - Buna - N and 60 mesh filter screen	
VF - Viton and 60 mesh filter screen	