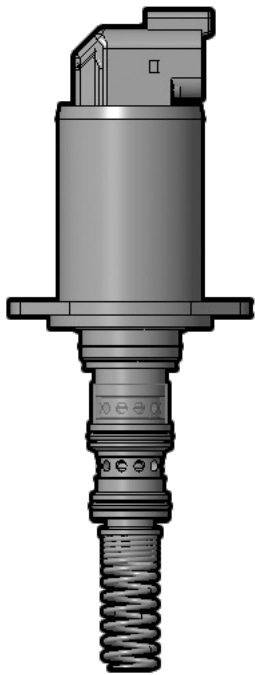




## Overview



### Description

The EHPV90-G33XX is a proportional, spool-type valve that utilizes an engineered feedback spring to feed back the spool position of a main control valve (mcv), piston pump or other piloted device, making it proportional to the input current. It is a 3rd generation, drop-in, flange mounted cartridge type valve. The coil is an integral part of the valve and is not serviceable.

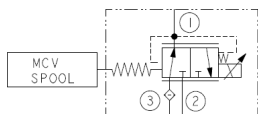
### Operation

The mechanical feedback spring at port 1 is connected to the mcv spool or other piloted device. Port 2 is connected to tank and port 3 (inlet) is connected to the opposite end of the mcv or other piloting device. With no current applied to the coil the valve connects port 3 to port 1, while blocking port 2. This condition causes the pressure at both ends of the mcv pilot ports to remain equal and the mcv spool will remain centered. When current is applied to the coil, the EHPV90-G33 will shift to open port 1 to port 2 and block flow from port 3 to port 1, allowing the mcv spool to shift proportionally to the applied current.

### Features

- Pilot control for servo-mechanical valves
- Spring provides mechanical feedback
- Pressurize both ends of the controlled spool for quick response and improved hysteresis
- Economical drop-in style
- Mounting plate option
- Compact size
- Top-mounted connector

### Symbol



## Ratings

### Pressure Ratings

Pressure rating	45 bar (650 psi)	- <b>Note:</b> All ports
Proof pressure	54 bar (780 psi)	- <b>Note:</b> All ports
Burst pressure	258 bar (3750 psi)	- <b>Note:</b> All ports pressurized
Control pressure at maximum control current	30 bar (435 psi)	

### Flow Ratings

Flow rating	15 lpm (4 gpm)	
Maximum internal leakage	60 ml/min (3.6 in <sup>3</sup> /min)	- <b>Note:</b> At 45 bar (650 psi)
Hysteresis	4 %	- <b>Note:</b> PWM

### Other Ratings

Cycle life	2 million cycles
Environmental rating	IP69K
Corrosion protection	1000 hour salt spray per ASTM B117

### Temperature Ratings

Operating fluid temperature	-40 to 149 °C (-40 to 300 °F)	- <b>Note:</b> HNBR
	-26 to 204 °C (-15 to 400 °F)	- <b>Note:</b> fluorocarbon
	-54 to 107 °C (-65 to 225 °F)	- <b>Note:</b> polyurethane
Storage temperature	-40 to 70 °C (-40 to 158 °F)	
Ambient temperature	-40 to 80 °C (-40 to 176 °F)	

### Electrical Parameters

Recommended PWM frequency	150 Hz	- <b>Note:</b> PWM
---------------------------	--------	--------------------



## Operating Parameters

Fluids	Mineral based or synthetic hydraulic fluid with lubricating properties
Fluid viscosity range	7.4 to 420 cSt

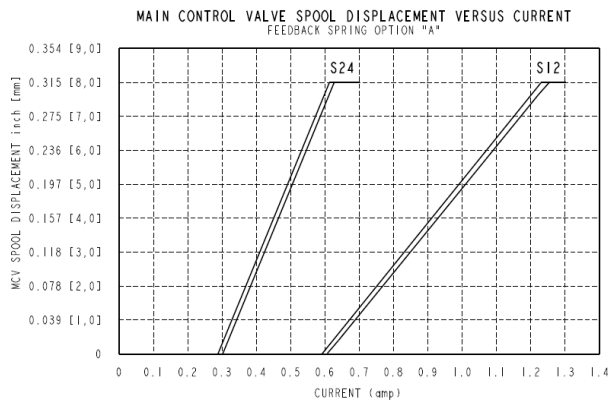
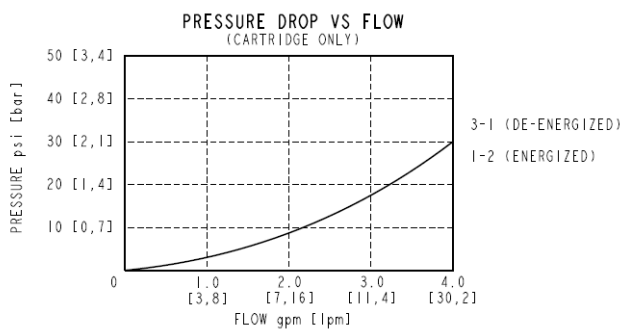
## Properties

Unit weight	0.32 kg (0.70 lb)	
Internal wetted surface area	245 cm <sup>2</sup> (38 in <sup>2</sup> )	
Installed length	30.0 mm (1.18 in)	- <b>Note:</b> Option A
Main control valve spool displacement	8.0 mm (0.315 in)	- <b>Note:</b> Option A

## Electrical Parameters

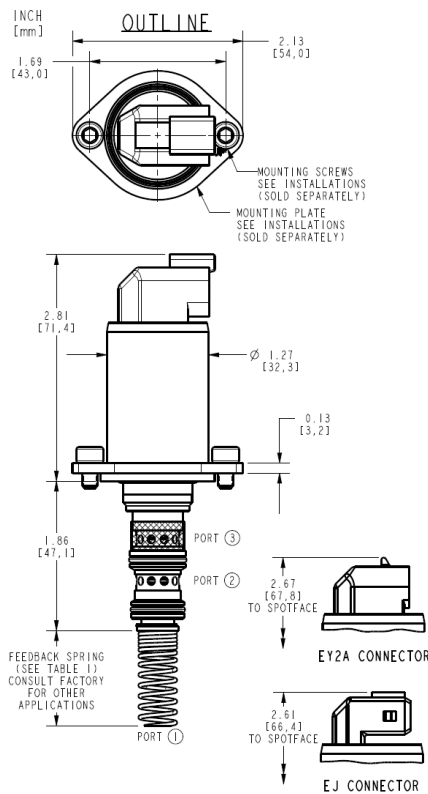
Maximum control current	1.30 A	- <b>Note:</b> (S12)
	0.65 A	- <b>Note:</b> (S24)
Coil resistance	4.83 ohms	- <b>Note:</b> (S12)
	18.35 ohms	- <b>Note:</b> (S24)
Valve inductance	77 mH	- <b>Note:</b> (S12)
	301 mH	- <b>Note:</b> (S24)

## Performance





## Dimensions



## Installation Specifications

Cavity	VC-G034	- <b>Note:</b> Standard configuration
Installation type	Flange mounted	
Orientation restriction	None	
Mounting screw torque	3 to 4 N-m (2.2 to 3.0 ft-lb)	- <b>Note:</b> For standard VC-G027 Cavity
Note	For retro-fitting into older drop-in cavities and other mounting options, see "Mounting-options-for-G3-valves" technical reference	

## Accessories

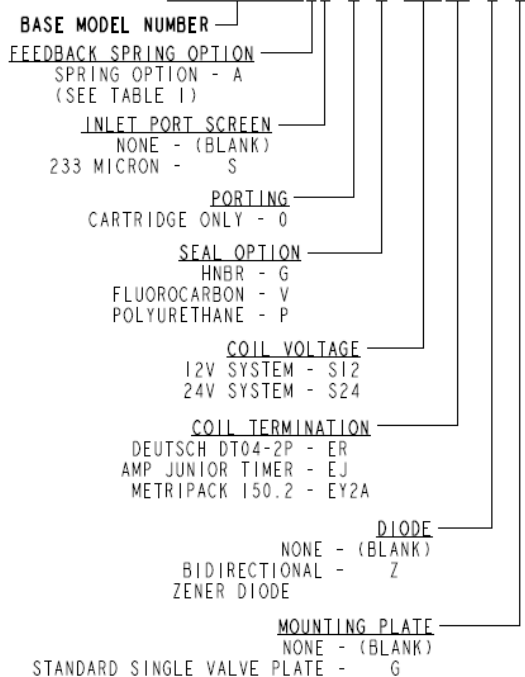
Mounting plate	HF P/N 4595096	- <b>Note:</b> Use with standard VC-G027 cavity
Mounting screws	M5 X 0.8 X 12 mm long, HF P/N: 4002609 (sold separately)	- <b>Note:</b> Use with standard VC-G027 cavity
Seal kit	SK-G034-X	- <b>Note:</b> X=seal option
Ported test body	HF P/N: 71611X0	

## Order Code



### ORDERING INFORMATION

EHPV90-G33XX-0-X-XXXXX/X-X



### Model Options

#### EHPV90-G33DG-H-J-KL

#### D Feedback Spring Option

CODE	DESCRIPTION
A	Spring option A (30 mm length, 8 mm MCV spool displacement)

#### G Screen

CODE	DESCRIPTION
BLANK	NONE
S	233 micron Screen

#### H Line Body

CODE	DESCRIPTION
0	No Body

#### J Seal

CODE	DESCRIPTION
G	HNBR
V	Fluorocarbon
P	Polyurethane

#### K Coil Voltage

CODE	DESCRIPTION
S12	12 VDC System
S24	24 VDC System

#### L Coil Termination

CODE	DESCRIPTION
EJ	E-Coil, AMP Jr.



CODE	DESCRIPTION
ER	E-Coil, Deutsch
EY2A	E-Coil, Metri-Pack 150.2

**U Mounting Plate**

CODE	DESCRIPTION
BLANK	None
G	Standard Single Valve Plate