



EVP SERIES PROPORTIONAL CONTROL VALVES

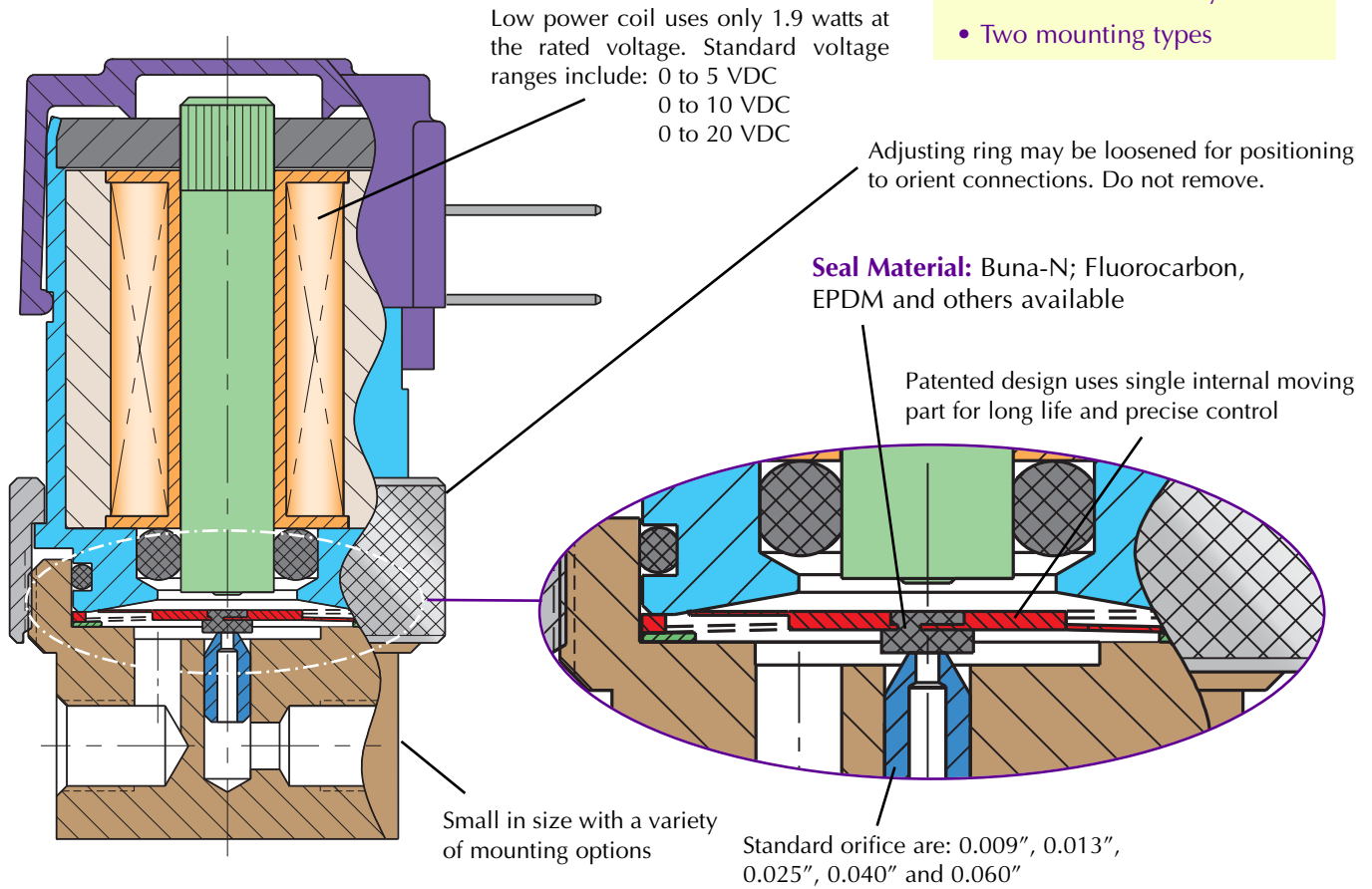
The EVP series Proportional Control Valves combine the features of the existing EV series valve - long life, low power, and Clippard's reputation for high quality components - with the additional capability for proportional control.

The EVP series valve provides air or gas flow control, and varies the output flow based on the current input to the solenoid. The consistent gain (see chart) of this valve provides a high degree of control for many applications.

Controllability and overall value are the main features of the EVP Proportional Valve series. The valve may be controlled using DC current, open or closed-loop control, and even PWM (Pulse Width Modulation) to cover a broad range of applications.

Features

- Flow proportional to input current
- Fast response
- Long life
- Small package
- Single moving part - low friction and wear
- Five orifice sizes
- Three connection styles
- Two mounting types



Designed For:

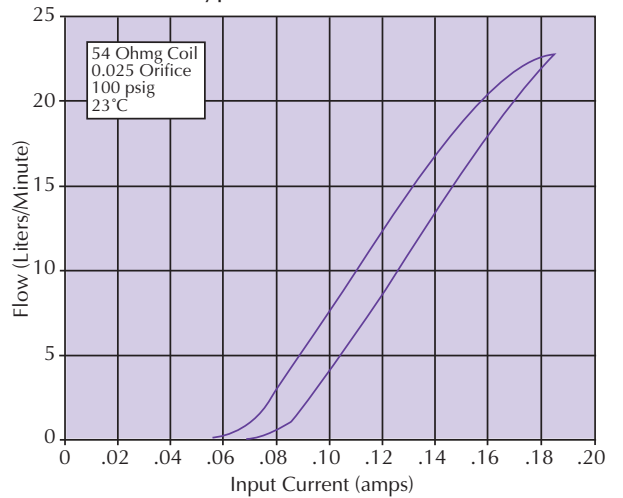
- Analytical Instruments
- Blood pressure monitoring
- Precise pressure control
- Patient Simulators
- Automotive
- Gas Controllers
- Mass Flow Control
- Gas Chromatography
- Respirators / Ventilators and many more...

EVP SERIES PROPORTIONAL CONTROL VALVES



Based on Clippard's original spider design from 1973, the EVP's armature is the heart of the valve which provides precise flow control.

Typical Performance



Type: 2-Way, Proportional

Medium: Air, Inert Gases

Temperature Range: 32 to 120°F (0 to 49°C)

Power Consumption: 1.9 watts at 23°C, 2.3 watts max

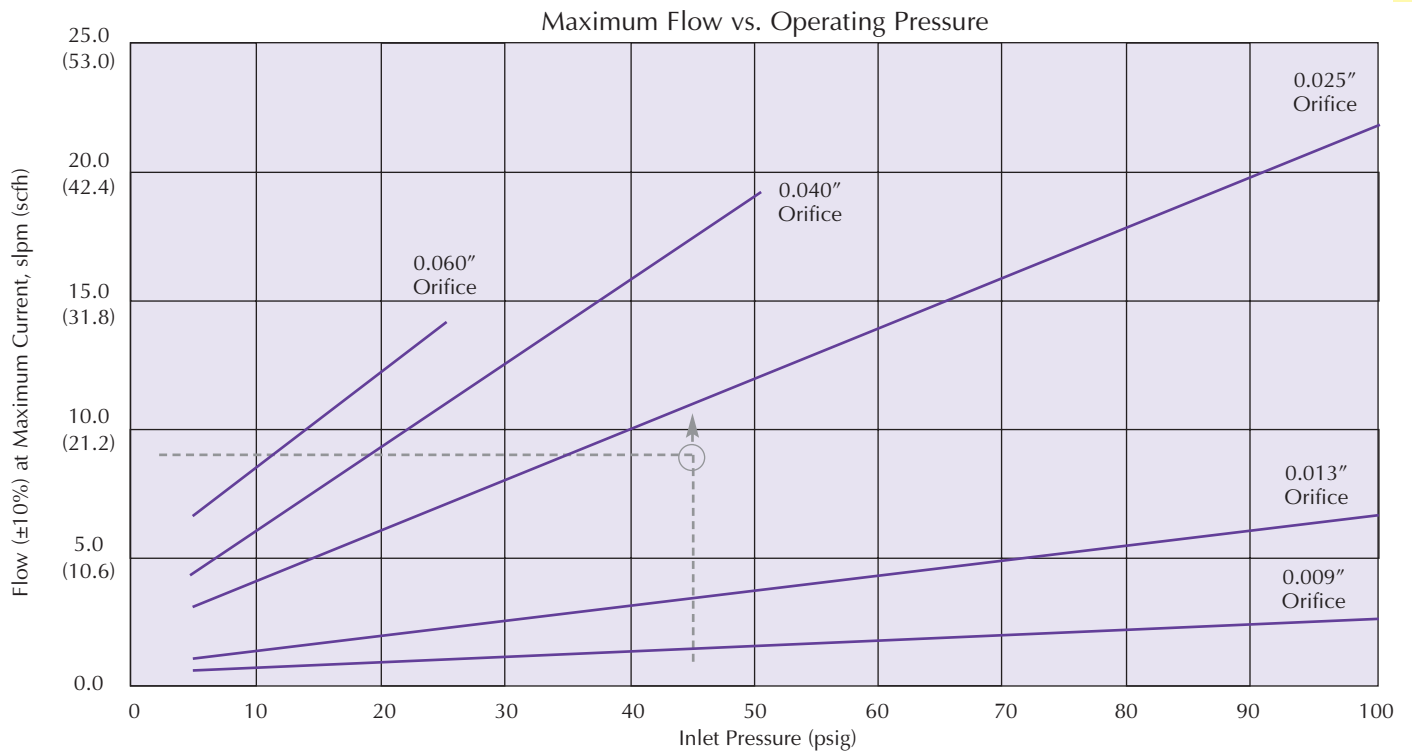
Mounting: In-line or Manifold (see [page 185](#) for manifolds)

Ports: #10-32 Female (In-line)

#10-32 Male Stud (Manifold)

Seal Material: Buna-N; Fluorocarbon and EPDM
Others available.

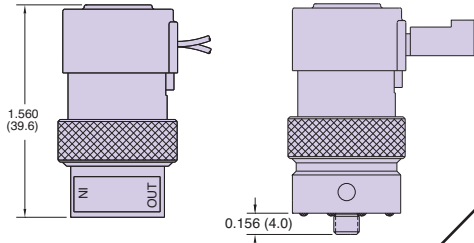
Maximum Hysteresis: 10% of full current



To determine the correct orifice required, locate the colored line immediately above the flow/pressure intersection
Example: 9 slpm required at 45 psig inlet. This example leads to a "-2545" valve (0.025" nozzle, 45 psig).



2-WAY PROPORTIONAL VALVES, IN-LINE & MANIFOLD MOUNT



		Voltage			Base Part No.		Operating Range & Orifice
In-Line Mount	Manifold Mount	5 VDC	10 VDC	20 VDC	In-Line Mount	Manifold Mount	
	<p>0.025" Pin Connector</p>	•			<u>EC-P-05-*</u>	<u>EC-PM-05-*</u>	<p>* Complete Part Number with the number derived after choosing the desired Maximum Operating Range and Orifice size below.</p>
		•	•		<u>EC-P-10-*</u>	<u>EC-PM-10-*</u>	
			•		<u>EC-P-20-*</u>	<u>EC-PM-20-*</u>	
	<p>Spade Terminals</p>	•			<u>ET-P-05-*</u>	<u>ET-PM-05-*</u>	
		•	•		<u>ET-P-10-*</u>	<u>ET-PM-10-*</u>	
			•		<u>ET-P-20-*</u>	<u>ET-PM-20-*</u>	
	<p>Wire Leads Side (Radial)</p>	•			<u>EV-P-05-*</u>	<u>EV-PM-05-*</u>	
		•	•		<u>EV-P-10-*</u>	<u>EV-PM-10-*</u>	
			•		<u>EV-P-20-*</u>	<u>EV-PM-20-*</u>	

Base Part No. plus [] [] - [] - [] []

See Page 189 for flow chart/selection

Orifice Options:

- 09 - 0.009" dia.
- 13 - 0.013" dia.
- 25 - 0.025" dia.
- 40 - 0.040" dia.
- 60 - 0.060" dia.

Maximum Pressure (specify Operating Pressure):

- [] - 5 to 100 psig
- [] - 5 to 50 psig
- [] - 5 to 25 psig

Options:
Blank - none
E - EPDM seals
V - FKM seals

Ports:
Blank - #10-32
M5 - Metric

* Consult factory for availability of non-standard voltages and other options

Sample part number: EC-P-10-2585

Medium: Clean, dry air or inert gases

Power Consumption: 1.9 watts at 73°F, 2.3 watts max

Temperature Range: 32 to 120°F (0 to 49°C)

Ports: #10-32 Female (in-line); manifold (see page 185 for manifold options)

In-Line Mount Manifold Mount

Nominal Voltage Range @ 73°F (VDC)	Input Current Range (amps)	Coil Resistance @ 73°F (ohms)	Max. Voltage Required (VDC)
0 to 5	0 to 0.370	13.5	6.2
0 to 10	0 to 0.185	54	12.4
0 to 20	0 to 0.092	218	24.8

Do not exceed input current range.

The EVP Proportional Valve can be calibrated for pressures less than the maximum shown here. Lower pressures may be substituted, and will be used for calibration. The pressures shown above are standard options. For pressures less than 5 psig, please consult factory.

NEW! EVPD PROPORTIONAL VALVE DRIVER



Features

- Plug-and-play interface between Clippard's EVP series valves and PLCs or other controls
- Linearized valve response right "out of the box"
- Three selectable valve output ranges
- Five signal inputs to choose from
- Easy integration with existing machine controls
- User-adjustable parameters
- Automatic Temperature Compensation to maintain constant current
- Two configuration options: stand-alone PCB or enclosed in housing
- Compact size.

Plug-and-Play Control for Proportional Valves

The New EVPD Proportional Valve Driver fast-tracks valve-control applications. This product is ideal for laboratories and OEM product development, and can be customized to fit OEM applications including control parameters. The EVPD produces driver current for Clippard's EVP series valves proportional to input control signals.

Power Requirement: 7 to 28 VDC @ 5 Watt (see chart)

Input Impedance: 200 kΩ

Command Set-Point Signal Type: Selectable: 0 to 5 VDC, 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA, PWM @ ≥2 kHz duty cycle

Adjustments: Minimum Drive Current, Maximum Drive Current, Command Deadband

LED Indicators: Power; Activity Status & Faults

Output: 0 to 0.4 A (selectable range)

Temperature Range: 0° to 155°F (-18° to 68°C)

Size: Open card: 1.5" x 1.3" x 0.4" unmounted; Enclosed: 2.2" x 1.8" x 0.7" excluding DIN clip

RoHS Compliant

Power Requirements

Power input requirements are specified as supply voltage ranges for each EVP valve. Supplying voltages outside of these ranges may result in valve malfunctioning. Power requirements are determined by the valve voltage specification.

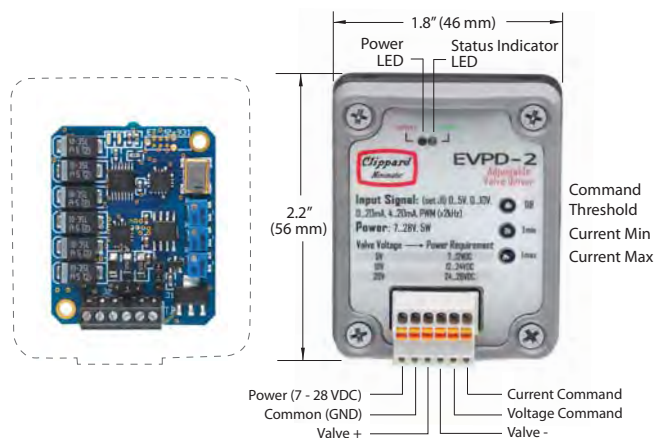
EVP Valve Type	Input Voltage Range	EVPD Max Output*
0 to 5 VDC	7 to 12 VDC	400 mA
0 to 10 VDC	12 to 28 VDC	200 mA
0 to 20 VDC	14 to 28 VDC	100 mA

* See EVP Valve Current Requirements

Part No.	Description
<u>EVPD-2</u>	EVPD Driver Assembly in Enclosure
<u>EVPD-1</u>	EVPD Driver Board
<u>EVPD-2DIN</u>	DIN Rail Mounting Clip (shown at right) with Screws



For further information, visit www.clippard.com/evpd



Effect on Valve Flow

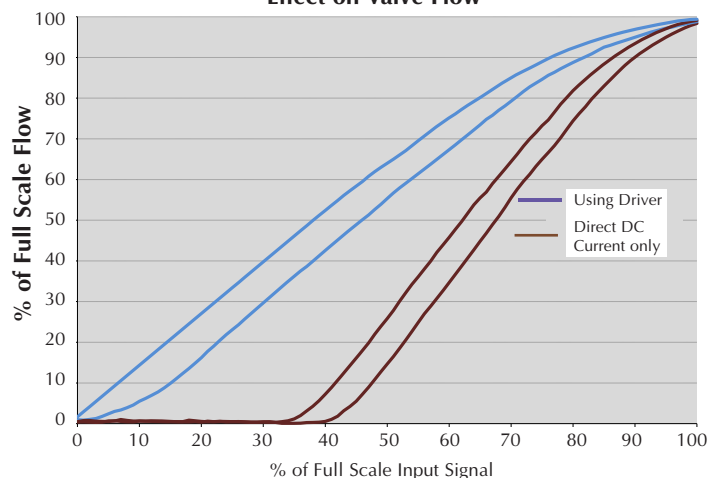


Figure 1: Effect of Driver Output on EVP Flow