

# Clippard

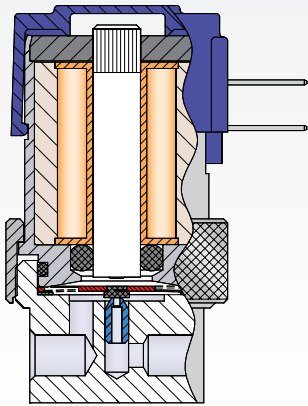
## PROPORTIONAL VALVES



# Proportional Valves

## EVP Series Proportional Valve

Precision-built utilizing Clippard's renowned Spider technology 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. Controllability and overall value are the main features of the EVP series. The consistent gain of this valve provides a high degree of control for many applications.



**p. 4**

*3 voltage coils*

*≤10% hysteresis*

*~±10% of given flow target*

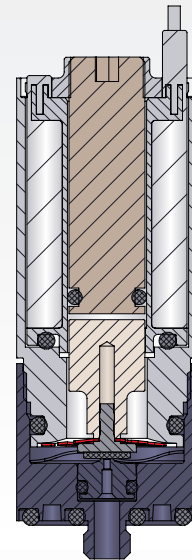
*Fast response*

*Long life*

## DVP Series Proportional Valve

Like the EVP series, the DVP also provides proportional control utilizing Clippard's renowned Spider technology.

In addition, the DVP series offers an extremely high cycle life, fast response, linear flow gain, low power consumption, and flows over 60 l/min. The DVP provides air or gas flow control and varies the output flow based on the current input to the solenoid.



**p. 10**

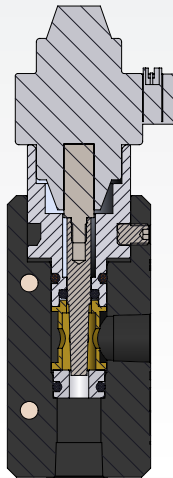
*Higher flow (over 60 l/min)*

*Fast response*

*Long life*

## SCPV Series Stepper Needle Valve

Utilizing the industry's most robust and powerful linear actuator, Clippard's high flow SCPV series stepper-controlled proportional valve is ideal for critical medical, analytical, and industrial automation applications. The SCPV is an excellent choice where high resolution, high flow, low hysteresis, and variable control of inert gases is required. In addition, the simple design is customizable to allow for unique flow curves more specific to your application needs.



**p. 14**

*High accuracy stepper-driven needle valve*

*Fully customizable design*

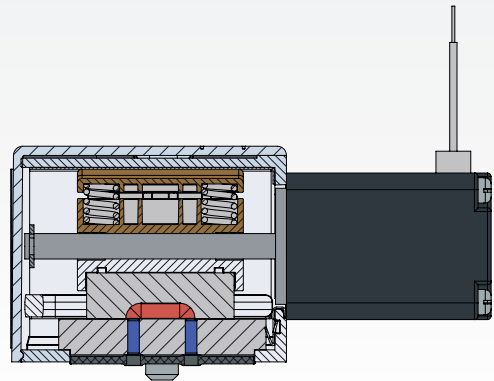
*Very low hysteresis*

*"Set it and forget it" control*

*0.001" (0.03 mm) step resolution*

## Eclipse Proportional Isolation Valve

The patented, stepper-controlled Eclipse proportional isolation valve leads the industry in performance and durability. This valve is ideal in critical applications for liquid and gas delivery, medical, analytical and industrial automation requiring ultra fine resolution and excellent repeatability. In addition, the unique design allows for custom flow profiles.



**p. 18**

*Ceramic sliding seal*

*Liquid capable*

*Zero dead volume (fully flushable)*

*0.0009 in<sup>3</sup> (0.0154 cm<sup>3</sup>)*

*Unique, patented design*

*Ultra-fine resolution*

## EVP PROPORTIONAL VALVES

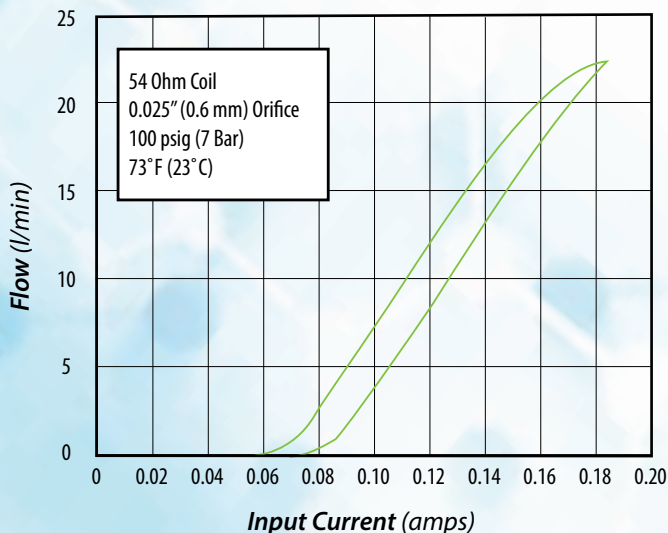


The EVP series proportional control valves combine the features of the existing EV series valve—long life, low power, and Clippard’s reputation for high quality components—with the additional capability for proportional control. The EVP series valve provides air or gas flow control and varies the output flow based on the current input to the solenoid.

Controllability and overall value are the main features of the EVP proportional valve series. The consistent gain of this valve provides a high degree of control for many applications. 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.

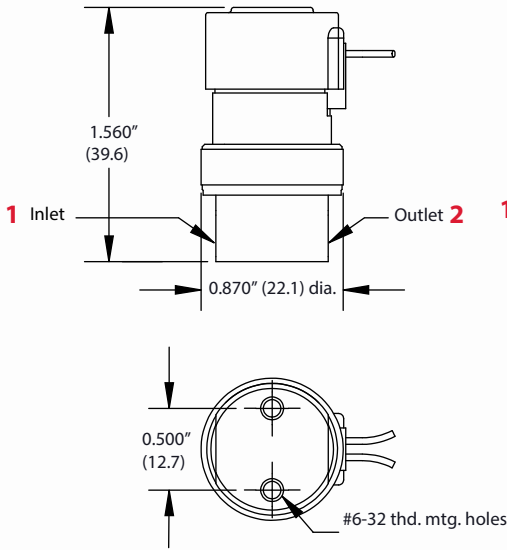
<b>Coil Resistance</b>	13.5, 54, 218 $\Omega$ @ 72°F (22°C)
<b>Connection</b>	Square pin, terminal spades, or 18" (45.7 cm) wire leads
<b>Current</b>	0 to 0.370 A, 0 to 0.185 A, 0 to 0.092 A
<b>Driver</b>	EVPD (optional)
<b>Filtration</b>	40 micron filter (recommended)
<b>Flow Range</b>	Up to 22 l/min
<b>Function</b>	2-way normally-closed proportional
<b>Material, Body</b>	Nickel plated brass
<b>Material, Seals</b>	Nitrile, FKM, or EPDM
<b>Material, Seat</b>	Stainless steel
<b>Material, Wetted</b>	ENP brass, ENP steel, stainless steel
<b>Max. Flow</b>	$\pm$ 10% of target flow
<b>Max. Hysteresis</b>	$\leq$ 10% of full current
<b>Max. psig</b>	100 psig (7 bar)
<b>Medium</b>	Clean, dry air or inert gases
<b>Mount</b>	In-line threaded ports or manifold
<b>Number of Ports</b>	2
<b>Operating Pressure</b>	Vac. to 100 psig (0.3 to 7 bar)
<b>Operating Temp. Range</b>	32 to 120°F (0 to 48°C)
<b>Orifice</b>	0.009", 0.013", 0.025", 0.040", 0.060" (0.23, 0.33, 0.64, 1.00, 1.52 mm)
<b>Port, Inlet</b>	#10-32 female or manifold stud
<b>Port, Outlet</b>	#10-32 female or manifold outlet hole
<b>Power Requirement</b>	1.9 watts @ 72°F (22°C); 2.3 watts max.
<b>Voltage</b>	5, 10, or 20 VDC nominal
<b>Wattage</b>	1.9 watts @ 72°F (22°C), 2.3 watts max.
<b>More Details</b>	<a href="http://clippard.com/link/evp-series">clippard.com/link/evp-series</a>

**Typical Performance**

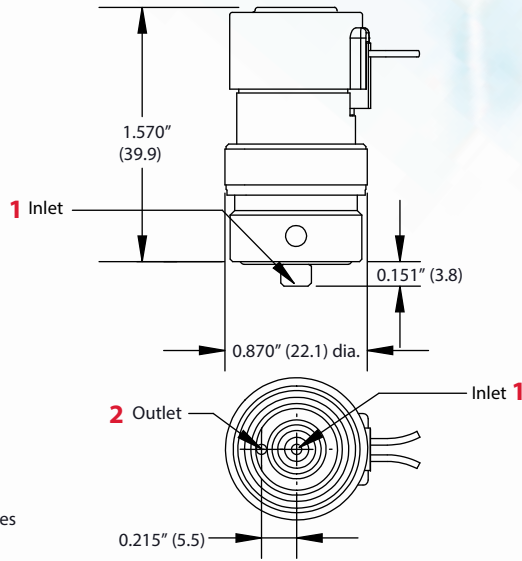


The above flow curve is a typical calibration record for the EVP. All proportional valves have a stored calibration data sheet readily available upon request.

### Inline Mount



### Manifold Mount



### Manifolds

15490-1	Pilot Manifold #10-32 Inlet, 1/8" NPT Outlet
15490-2	Single Supply 1/8" NPT Inlet, #10-32 Outlet
15490-3	Dual Supply 1/8" NPT Inlet, #10-32 Outlet
15491-1	Side-Ported #10-32 Inlet, 1/8" NPT Outlet
15491-2	Side-Ported 1/8" NPT (R1/8) Inlet, #10-32 Outlet
15490-5	Single-Station 1/8" NPT Inlet, 1/8" NPT Outlet
15481-2	Single-Sided 2-Station
15481-4	Single-Sided 4-Station
15481-6	Single-Sided 6-Station
15482-8	Double-Sided 8-Station
15482-12	Double-Sided 12-Station

Dimensions shown are in inches (millimeters listed in parentheses).  
Visit [clippard.com](http://clippard.com) for more detailed 2D and 3D drawings.

- Flow proportional to input current
- Fast response and long life

## ORDERING INFORMATION

<b>E</b>	<b>P</b>	<b>V</b>	<b>S</b>	<b>M</b>	<b>A</b>
<b>Electrical Connection</b>	<b>Mounting</b>	<b>Voltage</b>	<b>Orifice*</b>	<b>Seal</b>	<b>Maximum Pressure (5 psig to 100 psig)</b>
C Connector	(blank) Base Mount	05 0 to 5 VDC	09 0.009" (0.23) dia., 2.7 l/min ±10%, max. 100 psig (7 bar)	(blank) Nitrile	00 In increments of 5, from 05 to 95
T Terminal Spades	M Manifold Mount	10 0 to 10 VDC	13 0.013" (0.33) dia., 6.7 l/min ±10%, max. 100 psig (7 bar)	E EPDM <sup>1</sup>	A0 100 psig
V Wire Leads		20 0 to 20 VDC	25 0.025" (0.64) dia., 22.0 l/min ±10%, max. 100 psig (7 bar)	V FKM <sup>1</sup>	
			40 0.040" (1.02) dia., 18.7 l/min ±10%, max. 50 psig (3.4 bar)		
			60 0.060" (1.52) dia., 14.0 l/min ±10%, max. 25 psig (1.7 bar)		

<sup>1</sup>Min. order quantity required for EPDM or FKM seals.

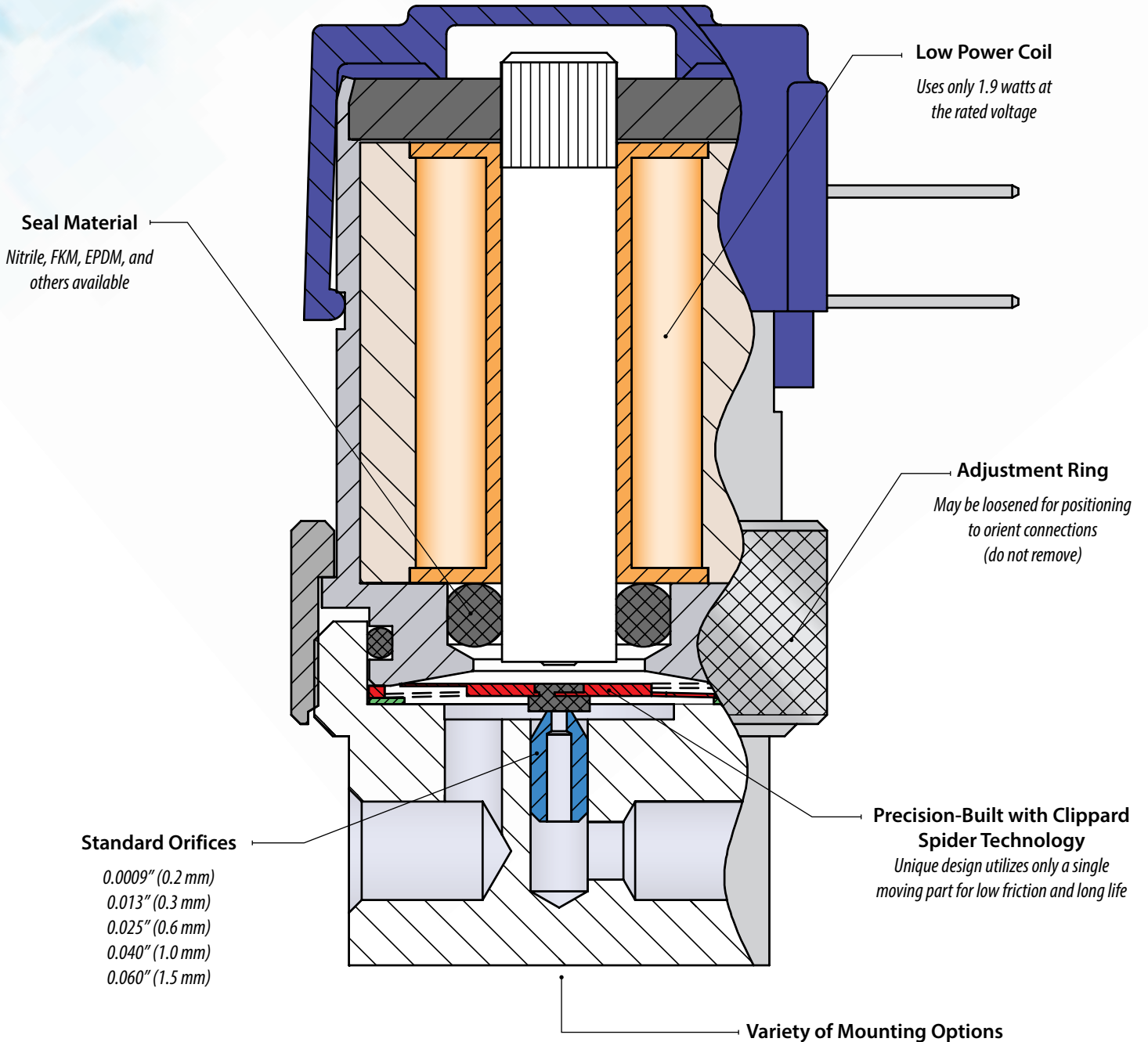
**Please Note:** Not all possible configurations are valid.  
Consult the online configurator at [clippard.com](http://clippard.com).

**Example Part Number:**  
**EC-P-05-0925**

For more info, scan the  
QR code or visit  
[clippard.com/link/evp-series](http://clippard.com/link/evp-series)



# A Close-Up of the EVP Series



# How to Select Your EVP Proportional Valve

When choosing your valve, there are many variables to consider. To select the best valve for your application, focus on:

- 1 Control Signal
- 2 Valve Orifice
- 3 Operating Pressure

**Please Note:** It is important to specify and use a calibrated valve that matches your application. Be sure to use a valve set to your operating pressure. Otherwise, the required power for opening the valve will be high and the resolution to set your flow proportional will be poor.

## 1 CONTROL SIGNAL

Voltage Range	Input Current Range	Coil Resistance	Max. Voltage Required
0 to 5 VDC @ 72°F (22°C)	0 to 0.370A	13.5 ohms @ 72°F (22°C)	6.2 VDC
0 to 10 VDC @ 72°F (22°C)	0 to 0.185A	54 ohms @ 72°F (22°C)	12.4 VDC
0 to 20 VDC @ 72°F (22°C)	0 to 0.092A	218 ohms @ 72°F (22°C)	24.8 VDC

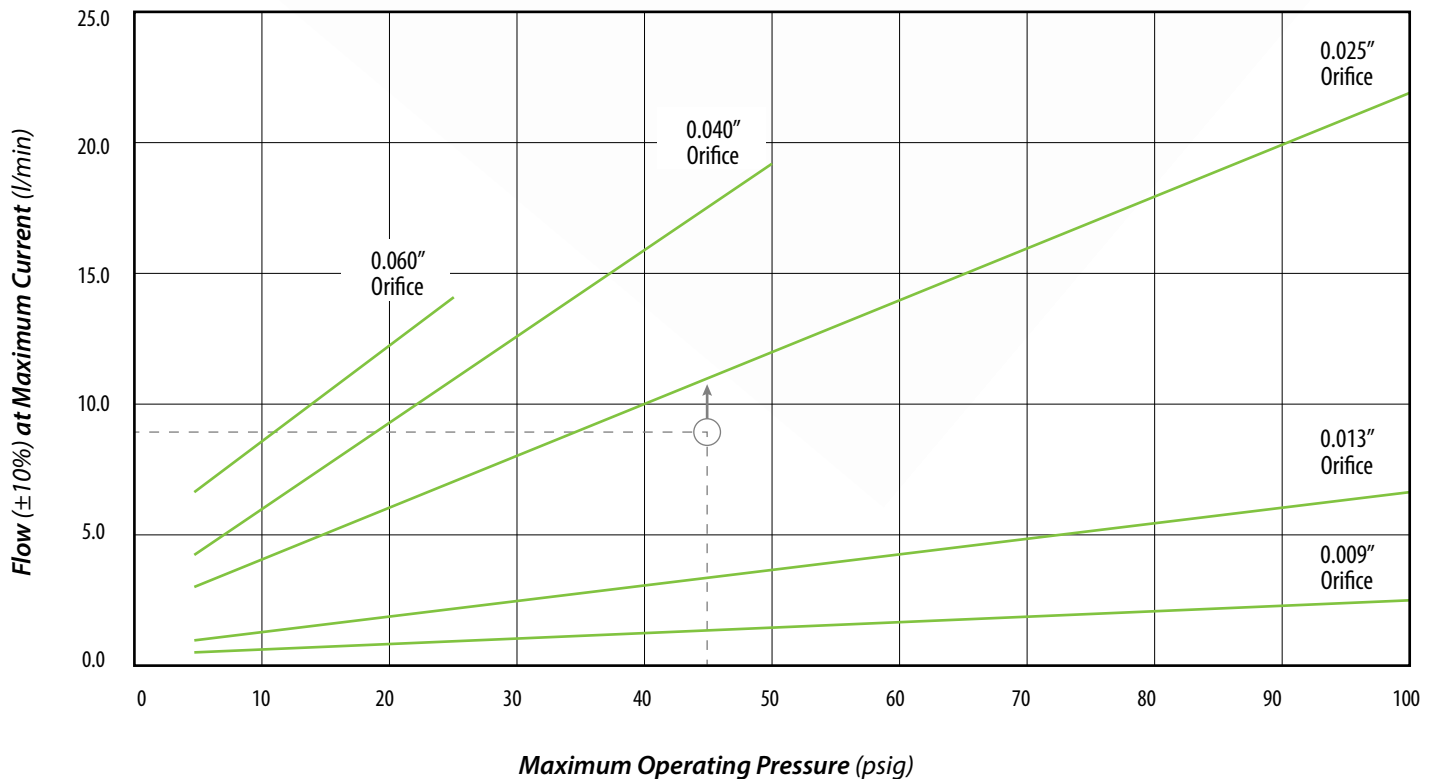
Note: Do not exceed input current range

## 2 VALVE ORIFICE (Maximum Working Pressure)

Orifice Diameter	Rated Pressure	Flow at Max. Current (±10%)
0.009" (0.23 mm)	100 psig (7 bar)	2.7 l/min @ 100 psig (7 bar)
0.013" (0.33 mm)	100 psig (7 bar)	6.7 l/min @ 100 psig (7 bar)
0.025" (0.64 mm)	100 psig (7 bar)	22.0 l/min @ 100 psig (7 bar)
0.040" (1.02 mm)	50 psig (3.4 bar)	18.7 l/min @ 50 psig (3.4 bar)
0.060" (1.52 mm)	25 psig (1.7 bar)	14.0 l/min @ 25 psig (1.7 bar)

Note: Maximum flow is measured at maximum pressure

## 3 OPERATING PRESSURE - Maximum Flow vs. Operating Pressure



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).

# DVP PROPORTIONAL VALVES

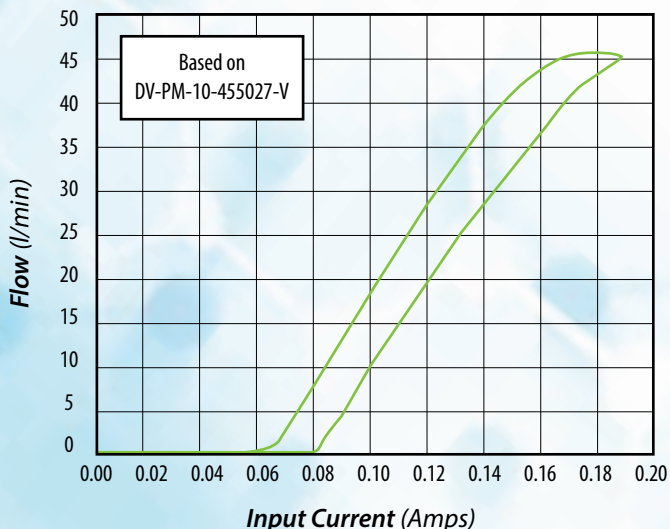


Clippard’s DVP series proportional solenoid valves are precision-built 2-way control valves. With its solid, compact design, long life, and exceptionally high flow rates, these valves are suitable for a wide variety of applications across many different industries.

The DVP valve provides air or gas flow control and varies the output flow based on the current input to the solenoid. The valve’s consistent gain provides a high degree of control. It may be controlled using DC current, open or closed-loop control, and even pulse width modulation (PWM) to cover a large range of applications.

<b>Coil Resistance</b>	52.6, 210.5 $\Omega$ @ 72°F (22°C)
<b>Connection</b>	Terminal spades or 18" (45.7 cm) wire leads
<b>Current</b>	0 to 0.190 A, 0 to 0.095 A
<b>Cycle Life</b>	1,000,000,000+
<b>Driver</b>	EVDP (optional)
<b>Filtration</b>	40 micron filter (recommended)
<b>Function</b>	2-way normally-closed proportional
<b>Material, Body</b>	Stainless steel
<b>Material, Seals</b>	FKM, nitrile, EPDM, or silicone
<b>Material, Seat</b>	Stainless steel
<b>Material, Wetted</b>	304 stainless steel, PPS
<b>Max. Flow</b>	+10%, -0%
<b>Medium</b>	Air or compatible gases
<b>Mount</b>	Manifold, #10-32 male stud
<b>Number of Ports</b>	2
<b>Operating Pressure</b>	Vac. to 100 psig (7 bar)
<b>Operating Temp. Range</b>	32 to 120°F (0 to 49°C)
<b>Port, Inlet</b>	Manifold stud
<b>Port, Outlet</b>	Manifold outlet hole
<b>Voltage</b>	10 or 20 VDC nominal
<b>Wattage</b>	1.9 watts @ 72°F (22°C), 2.5 watts max.
<b>More Details</b>	<a href="http://clippard.com/link/dvp-series">clippard.com/link/dvp-series</a>

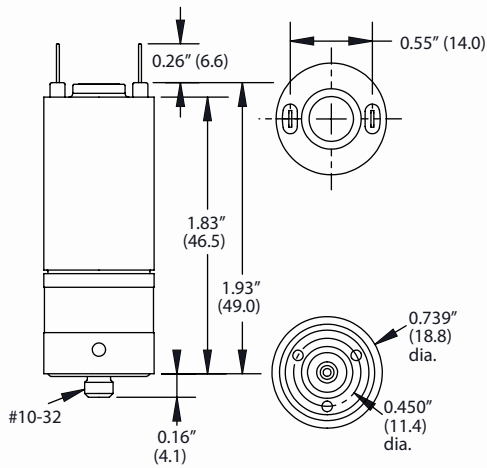
Typical Performance



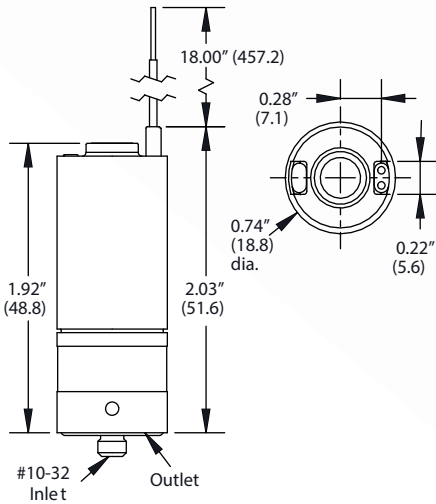
The above flow curve is a typical calibration record for the DVP. All proportional valves have a stored calibration data sheet readily available upon request.



## Spade Terminals



## Wire Leads



## Manifolds

15490-5	Single-Station, ENP Brass
15781-2	2-Station, Black Anodized Aluminum, 1/8" NPT
15781-4	4-Station, Black Anodized Aluminum, 1/8" NPT
15481-6	6-Station, Black Anodized Aluminum, 1/8" NPT

Dimensions shown are in inches (millimeters listed in parentheses).

Visit [clippard.com](http://clippard.com) for more detailed 2D and 3D drawings.

- Extremely low hysteresis
- Low heat rise / low power
- Flow proportional to input current
- Robust stainless steel spring, base, and housing
- Industry standard for leak-free operation
- Over 1,000,000,000 cycles

## ORDERING INFORMATION

**D** □ - **P** **M** - □ - □ - □ - □ - □

### Electrical Connection

- T Spade Terminals
- V Wire Leads (Axial)

### Voltage

10 10 VDC  
20 20 VDC

### Flow

In increments of 1, from 010 to 678  
(1.0 l/min to 67.8 l/min)

Example: 300 (300 l/min)

### Operating Pressure

In increments of 1, from 005 to 100  
5 psig (0.4 Bar) to 100 psig (6.9 Bar)

Example: 040 (40 psig, 2.8 bar)

### Seals

- V FKM (standard)
- (blank) Nitrile
- E EPDM<sup>1</sup>
- S Silicone<sup>1</sup>

<sup>1</sup>Min. order quantity required for EPDM or silicone seals

### Example Part Number:

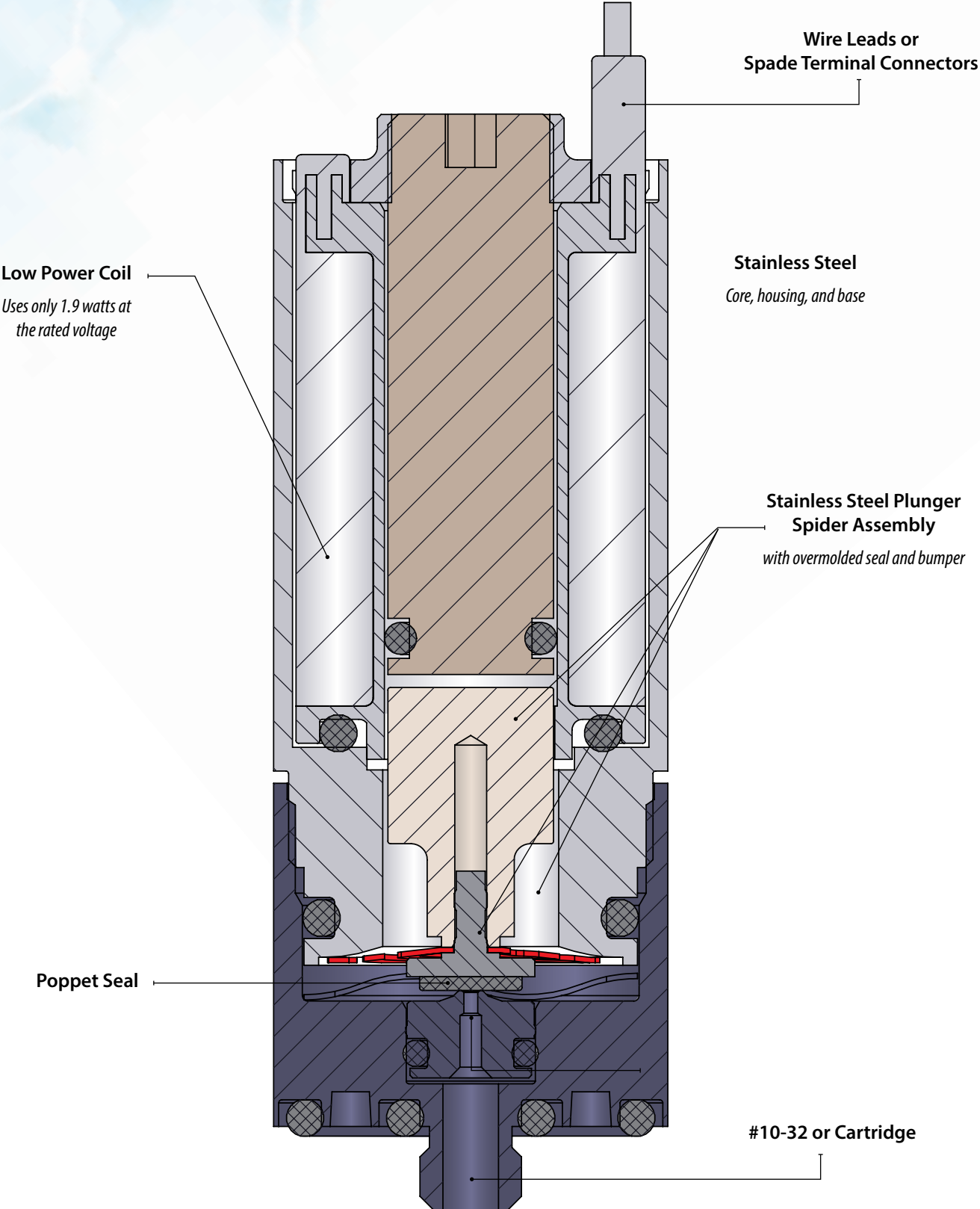
DT-PM-10-300-040-V

For more info, scan the QR code or visit

[clippard.com/link/dvp-series](http://clippard.com/link/dvp-series)



# A Close-Up of the DVP Series



# How to Select Your DVP Proportional Valve

Proportional flow is achieved by varying the current input to the valve. It is crucial to specify and use a calibrated valve that matches your application. To ensure you have a valve that will perform well for your specific requirements, be sure to use a valve set to your operating pressure.

The flow capabilities shown below in green are standard configurable options. The flow capabilities shown in blue are available as a special custom option. Contact Clippard for more details.

To select your valve, reference the flow chart and list your operating pressure in a 3-digit format (065 = 65 psig). Next, specify your desired maximum flow rate for your pressure (500 = 50.0 l/min). Accurately specify your nominal operating pressure and flow to ensure the best performance and resolution for your application.

For nominal operating pressures under 5 psig, use a 005 designator for pressure. For vacuum applications, use the positive pressure equivalent and reverse the ports.

When choosing your valve, there are many variables to consider. To select the best valve for your application, focus on:

- 1 Control Signal
- 2 Operating Pressure

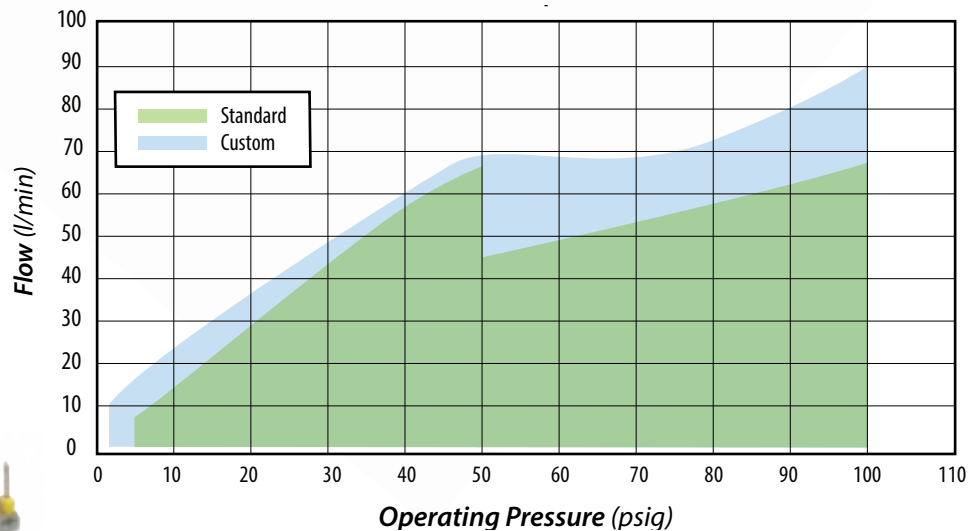
**Please Note:** It is important to specify and use a calibrated valve that matches your application. Be sure to use a valve set to your operating pressure. Otherwise, the required power for opening the valve will be high and the resolution to set your flow proportional will be poor.

## 1 CONTROL SIGNAL

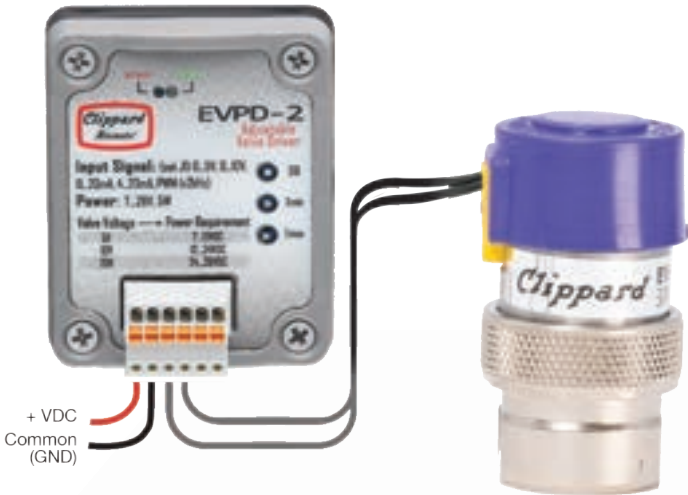
Voltage Range	Input Current Range	Coil Resistance	Max. Voltage Required
0 to 10 VDC @ 72°F	0 to 0.190A	52.6 ohms @ 72°F	13 VDC
0 to 20 VDC @ 72°F	0 to 0.095A	210.5 ohms @ 72°F	26 VDC

Note: Do not exceed input current range

## 2 OPERATING PRESSURE - Flow vs. Operating Pressure



## EVP / DVP DRIVER



The 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 or DVP series valves proportional to input control signals.

- Plug-and-play interface between Clippard's EVP and DVP 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

<b>Adjustment</b>	Min. drive current, max. drive current, command deadband
<b>Command Set-Point Signal Type</b>	Selectable: 0 to 5 VDC, 0 to 10 VDC, 0 to 20 mA, 4 to 20 mA, PWM @ $\geq 2$ kHz duty cycle
<b>Connection</b>	Screw terminals or DIN connector
<b>Input Impedance</b>	200 k $\Omega$
<b>LED Indicators</b>	Power, activity, status, and faults
<b>Mount</b>	Mounting holes or DIN rail
<b>Operating Temp. Range</b>	0 to 155°F (-18° to 68°C)
<b>Output</b>	0 to 400 mA (selectable range)
<b>Power Requirement</b>	7 to 28 VDC @5 watt
<b>More Details</b>	<a href="http://clippard.com/link/evpd-driver">clippard.com/link/evpd-driver</a>

The tuning adjustments on the EVPD allow the user to adjust the command signal needed to start opening the valve, adjust the opening current to the valve, and limit the maximum current to the valve to restrict the valve maximum opening and prevent current beyond the valve solenoid's rating. The settings are used by the valve management software in the microcontroller along with driver current feedback to calculate command instructions to the digital PWM controller.

The resulting change to valve performance is shown in the *Effect on Valve Flow* chart for a typical EVP valve (10 VDC coil, 0.06" orifice, 25 psig max).

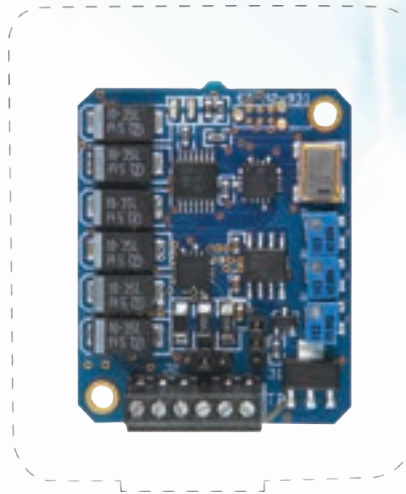
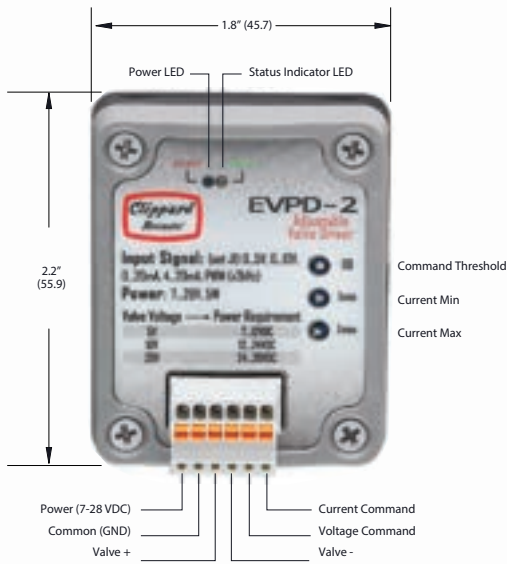
### Power Requirements

Power input requirements are specified as supply voltage ranges for each EVP or DVP 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

### EVPD-2

### EVPD-1

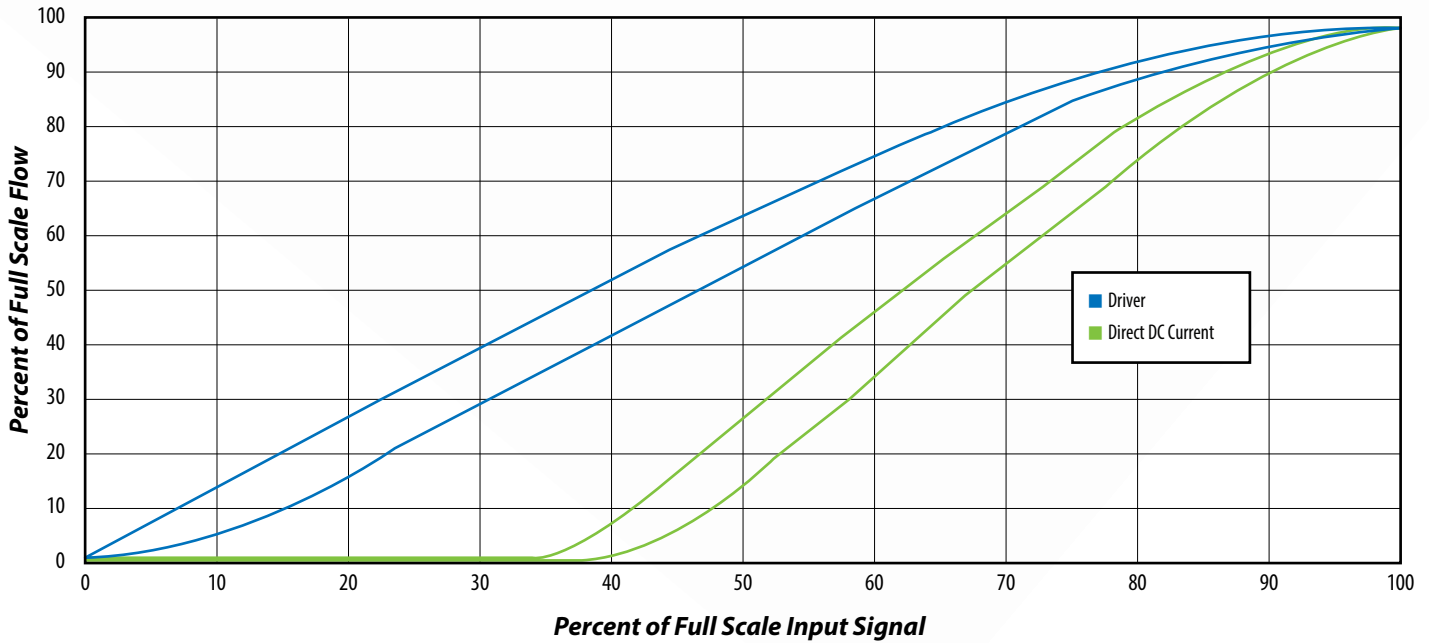


Dimensions shown are in inches (millimeters listed in parentheses).

Visit [clippard.com](http://clippard.com) for more detailed 2D and 3D drawings.



### Effect on Valve Flow



## ORDERING INFORMATION

**E V P D - □**

EVP Driver

- 1 Driver Assembly in Enclosure
- 2 Driver Board
- 2DIN DIN Rail Mounting Clip

Example Part Number:  
EVPD-1

For more info, scan the QR code or visit  
[clippard.com/link/evpd-driver](http://clippard.com/link/evpd-driver)



# SCPV NEEDLE VALVES

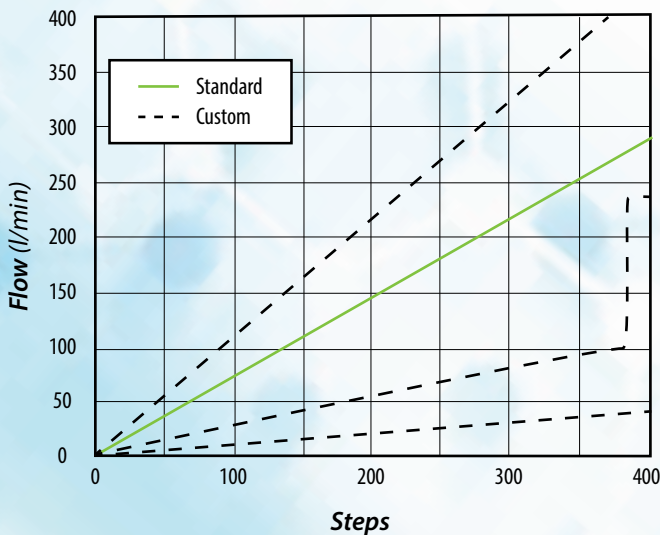


Utilizing the industry's most robust and powerful linear actuator, the SCPV series high flow stepper-controlled proportional valves outperform the competition in performance and durability. These valves are ideal in critical applications such as gas delivery, medical, analytical, and industrial automation requiring high resolution, high flow, and low hysteresis. In addition, the unique design allows for custom flow profiles when required.

Positioning a 3.5° needle through a 0.152" (3.9 mm) orifice in 0.001" (0.03 mm) step increments provides for very linear and repeatable flow control within your application process. Standard models, inline, cartridge, and manifold mounts are ready to go for control of air and other inert gases.

<b>Connection</b>	Connector / wiring harness
<b>Driver</b>	Bipolar chopper drive required
<b>Flow Range</b>	Up to 280 l/min
<b>Flow Resolution</b>	0.7 l/min per step
<b>Linearity</b>	<2.5% of full scale
<b>Material, Wetted</b>	Stainless steel, aluminum, brass, acetal, and FKM
<b>Max. Hysteresis</b>	<2%
<b>Max. psig</b>	100 psig
<b>Medium</b>	Air or compatible gases
<b>Mount</b>	In-line, manifold, or cartridge
<b>Needle</b>	3.5°
<b>Number of Ports</b>	2
<b>Operating Pressure</b>	Vac. to 100 psig (7 bar)
<b>Operating Temp. Range</b>	32 to 184°F (0 to 84°C)
<b>Port, Inlet</b>	1/8" NPT, manifold, or cartridge
<b>Port, Outlet</b>	1/8" NPT, manifold, or cartridge
<b>Position Resolution</b>	0.001" (0.03 mm) per step
<b>Power Requirement</b>	5 VDC supply to motor
<b>Repeatability</b>	<0.5% of full scale
<b>Response Time</b>	0.95 secs fully-open to fully-closed
<b>Wattage</b>	3.85 watts nominal ( <i>only during adjustment—zero power consumption to maintain position</i> )
<b>More Details</b>	<a href="http://clippard.com/link/scpv-series">clippard.com/link/scpv-series</a>

**Flow Rate (SCPV-1-3 @ 100 psig)**



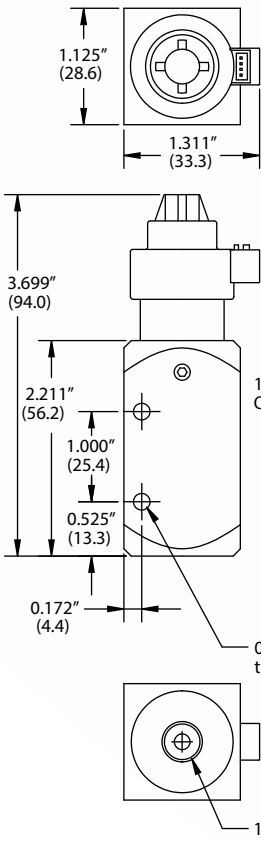
## CUSTOMIZABLE FOR YOUR APPLICATION

The SCPV is highly modifiable for OEM applications, including:

- Flow profiles up to 5,800 l/min
- High flow at low pressure
- Materials such as PEEK or stainless steel
- Special seal materials such as FFKM and others
- Applications for control of water
- Applications that provide zero leak shutoff
- Changing the motor to accommodate an encoder
- Providing specific testing procedures

Contact Clippard to discuss what changes can be made to best fit your application requirements.

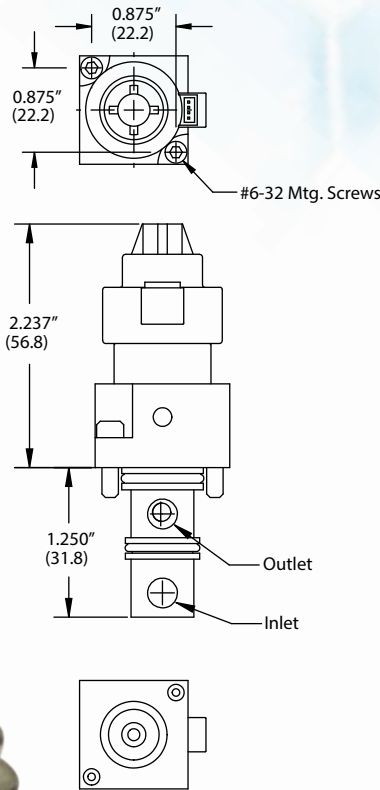
**Inline Mount**



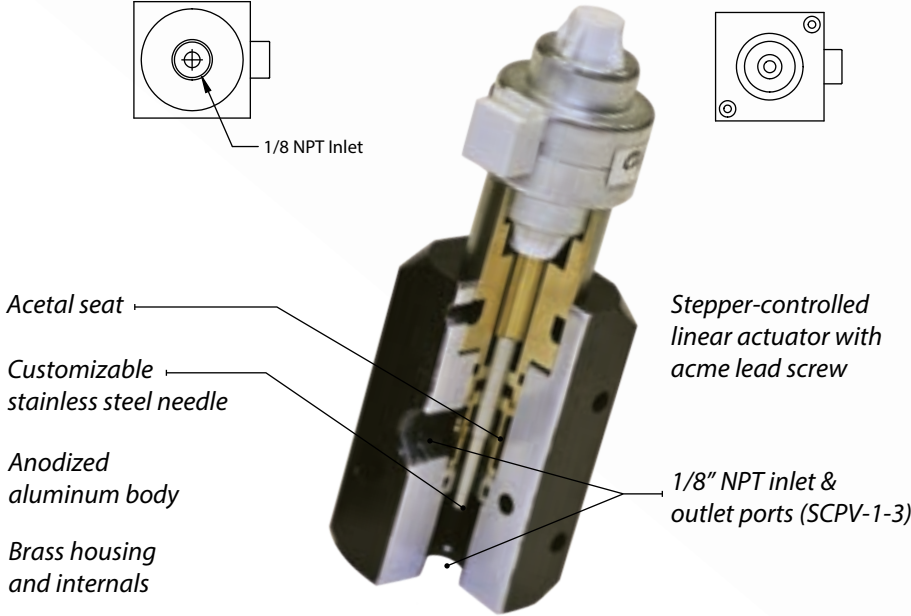
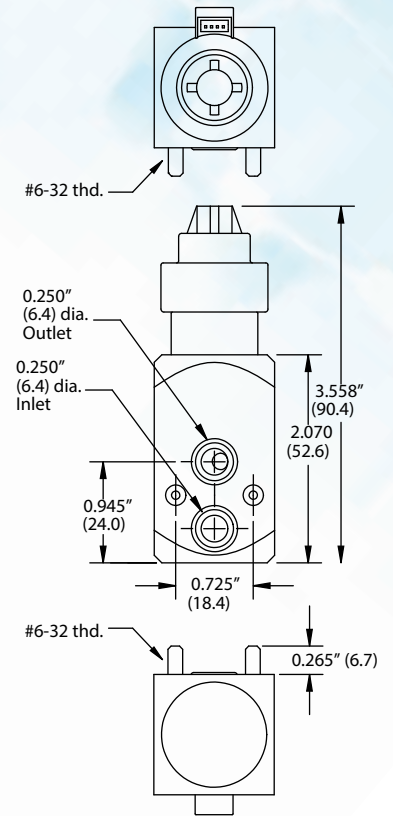
Dimensions shown are in inches (millimeters listed in parentheses).

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**Cartridge Mount**



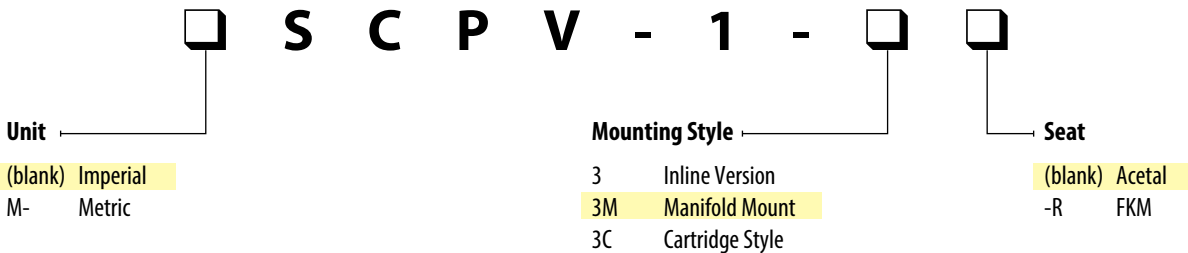
**Manifold Mount**



Stepper-controlled linear actuator with acme lead screw

- <2% hysteresis
- Excellent linearity, <2.5% of full-scale
- 2 ms reaction time
- Millions of cycles
- Holds position for power savings or at a loss of power

**ORDERING INFORMATION**



**Example Part Number:**  
SCPV-1-3M

For more info, scan the QR code or visit [clippard.com/link/scpv-series](http://clippard.com/link/scpv-series)



# ECLIPSE PROPORTIONAL ISOLATION VALVE



The Eclipse is a proportional isolation valve like no other. Utilizing patented slide technology, it achieves exceptional proportional flow resolution that far exceeds the competition. Designed for precision, its flow path is fully flushable and composed entirely of inert ceramic, ensuring compatibility with a wide range of media. In addition, the Eclipse features a unique soft start capability that gradually introduces media at a controlled ramp rate to prevent damage or turbulence.

Utilizing a robust and powerful miniature linear actuator, the Eclipse is stepper-controlled, micro-stepping capable, encoder-ready, and its unique design allows for custom flow profiles.

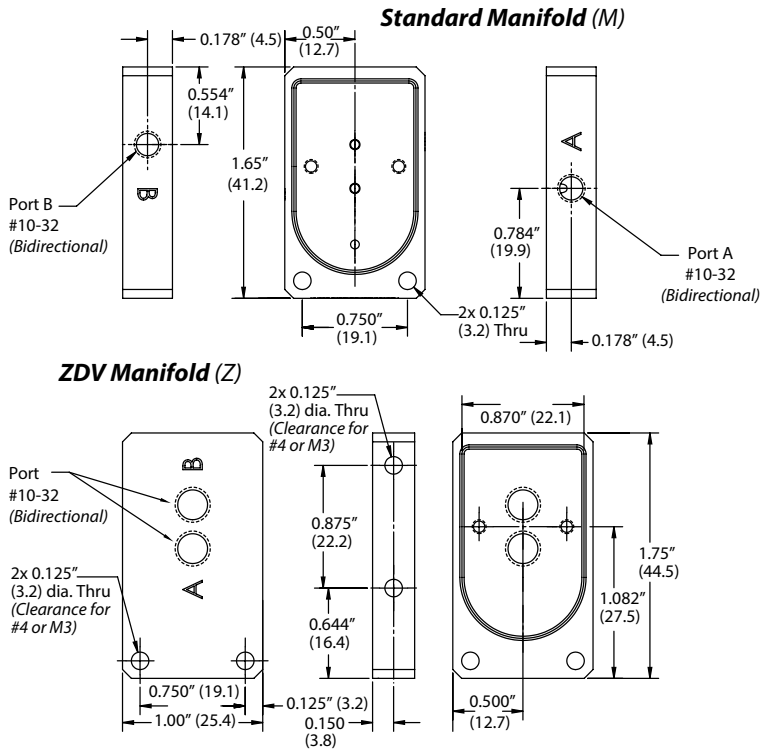
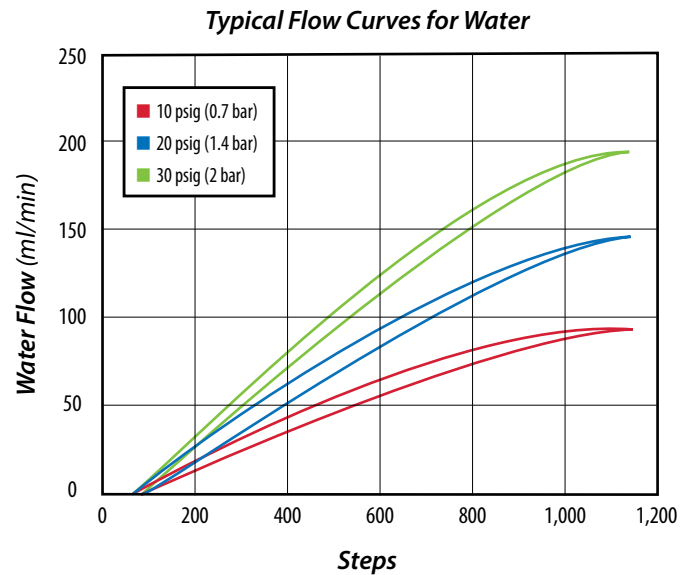
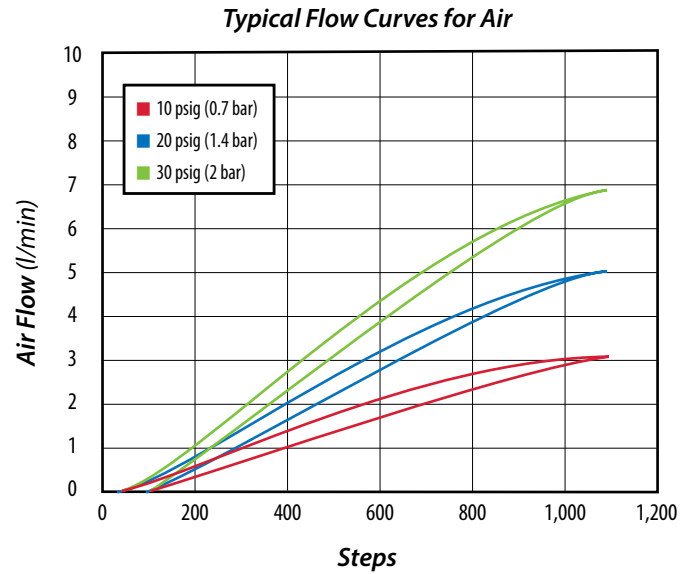
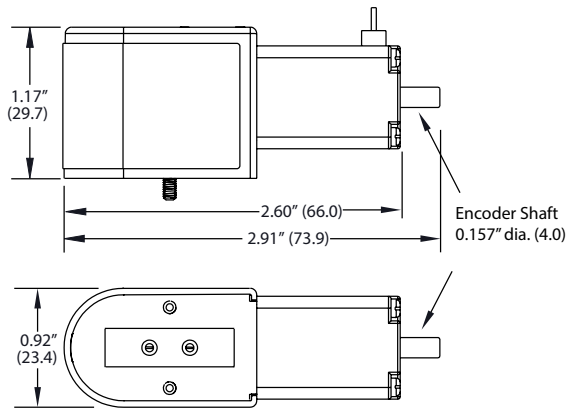
For applications that demand exceptional liquid and gas control, Clippard's Eclipse offers outstanding precision and unrivaled proportional flow resolution.

- **Unrivaled resolution**
- **Inert flow path** (*all wetted areas ceramic*)
- **Soft start prevents damage or turbulence**
- **Zero dead volume** (*fully flushable, <0.0009 in<sup>3</sup>*)
- **Excellent linearity** (*<4% of full-scale*)
- **Fast response** (*<2 ms reaction time*)
- **Cycle life of typically >1 million cycles**
- **Repeatability <5% of full travel**
- **Bi-directional**

<b>Current</b>	0.49A per phase
<b>Cycle Life</b>	Typically >1 million
<b>Driver</b>	Bipolar chopper drive required
<b>Flow Range</b>	<b>Air:</b> 0 to 7 l/min <b>Water:</b> 0 to 190 l/min -0 / +10% @ 30 psig (2 bar)
<b>Flow Resolution</b>	<b>Air:</b> 0.000487 l/min (487.5 µl) @ 30 psig (2 bar) <b>Water:</b> 0.0002 l/min (200 µl) @ 30 psig (2 bar)
<b>Linearity</b>	<4% of full-scale
<b>Material, Body</b>	Ceramic
<b>Material, Seals</b>	FKM standard, EPDM and others available
<b>Material, Wetted</b>	Ceramic (others depending on porting option)
<b>Max. Flow</b>	<b>Air:</b> 0 to 7 l/min -0 /+10% <b>Water:</b> 0 to 190 ml/min -0 /+10% @ 30 psig (2 bar)
<b>Max. psig</b>	30 psig (2 bar)
<b>Medium</b>	Liquids and gases
<b>Mount</b>	Manifold or flat bottom (ZDVF)
<b>Number of Ports</b>	2
<b>Operating Pressure</b>	Vac. to 30 psig (2 bar)
<b>Operating Temp. Range</b>	32 to 180°F (0 to 82°C)
<b>Port, Exhaust</b>	None
<b>Port, Inlet</b>	#10-32, Manifold or ZDVF ( <i>zero dead volume fitting</i> )
<b>Port, Outlet</b>	#10-32, Manifold or ZDVF ( <i>zero dead volume fitting</i> )
<b>Position Resolution</b>	0.00006" (0.0015 mm)
<b>Power Requirement</b>	20 VDC supply to motor @ 30 psig (2 bar)
<b>Proof Pressure</b>	50 psig (3.4 bar)
<b>Response Time</b>	<2 ms
<b>Wattage</b>	2.5 watts nominal ( <i>only during adjustment, zero power consumption to maintain position</i> )
<b>More Details</b>	<a href="http://clippard.com/link/eclipse-valve">clippard.com/link/eclipse-valve</a>

*\*This product is highly modifiable for OEM applications, including alternate body materials, flow profiles, and more. Call 877-245-6247 to discuss your needs.*





Dimensions shown are in inches (millimeters listed in parentheses).  
 Visit [clippard.com](http://clippard.com) for more detailed 2D and 3D drawings.

## ORDERING INFORMATION

# E I V U

Porting

M Manifold  
 Z Zero Dead Volume Manifold

Seals

(blank) ZDVF porting  
 -V FKM

Encoder Shaft

-ENS Encoder shaft (standard)  
 (blank) No encoder shaft

### Accessories

- EUM-01 Single-Station Manifold, #10-32
- M-EUM-01 Single-Station Manifold, M5x0.8
- SCPVD-1 Bipolar Chopper Driver
- ZDVF-18 Headless 1/4-28 Flatbottom Fitting, 1/8" (3.2 mm) OD (IDEX p/n XP-348)

Also Recommended: Miniature optical encoder from US Digital for 4 mm bore with metric screws (p/n E4T)

**Example Part Number:**  
**EIVU-M-V-ENS**

For more info, scan the QR code or visit

[clippard.com/link/eclipse-valve](http://clippard.com/link/eclipse-valve)



# SCPV DRIVER

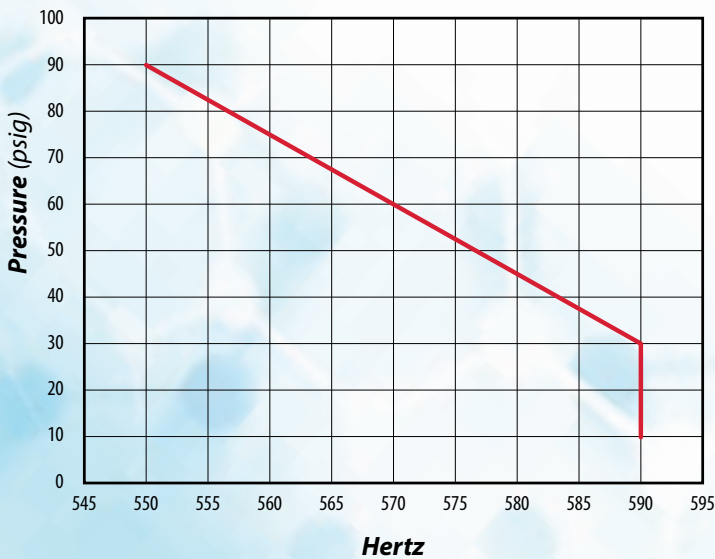


<b>Current / Phase</b>	385 mA
<b>Inductance / Phase</b>	8.08 mH
<b>Insulation Resistance</b>	20M ohms
<b>Motor Voltage</b>	5 VDC
<b>Resistance / Phase</b>	13 ohms
<b>Temperature Rise</b>	135°F (57°C)
<b>Wattage</b>	3.85 watts
<b>More Details</b>	<a href="http://clippard.com/link/scpvd-driver">clippard.com/link/scpvd-driver</a>

*\*This product is highly modifiable for OEM applications—including alternate body materials, flow profiles, and more. Call 877-245-6247 to discuss your needs.*

The SCPVD is a bi-polar stepper motor driver board which can be used for stepper motors up to a max 2A/phase. It is based on the Allegro A4988 motor driver. The driver requires a motor drive voltage of 7 to 35 volts. An external controller is required to deliver step and direction signals to the driver board. The SCPVD is capable of microstepping and defaults to a 16th step micro-stepping mode. The step mode as well as several other options such as sleep, enable, and reset can be toggled on and off.

**Max. Step Pulse Frequency**



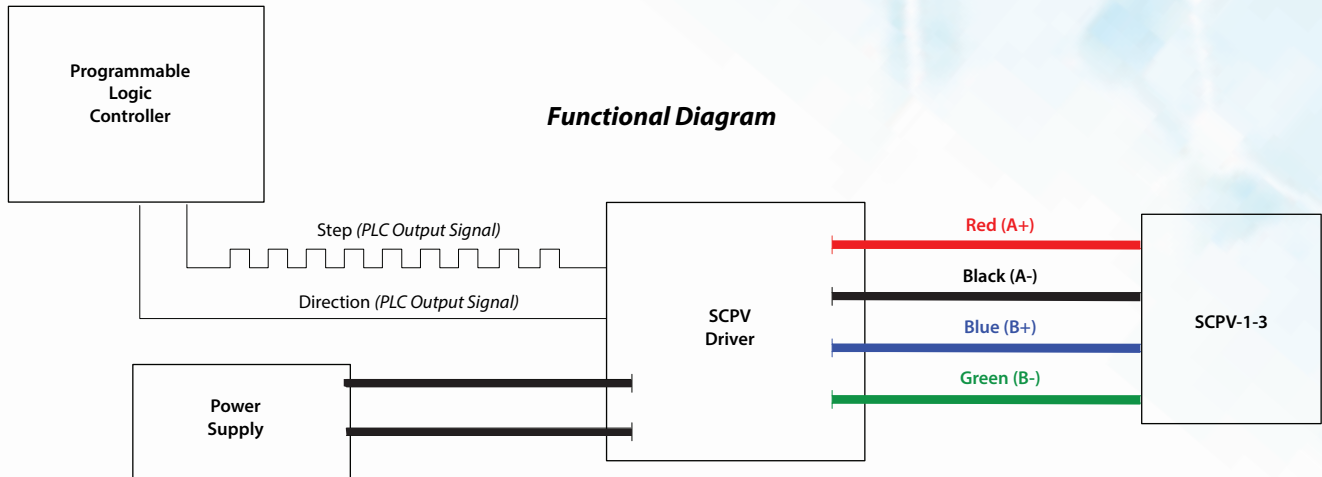
For Use with Clippard's

**SCPV Series  
Stepper-Controlled  
Proportional Valve**

and/or

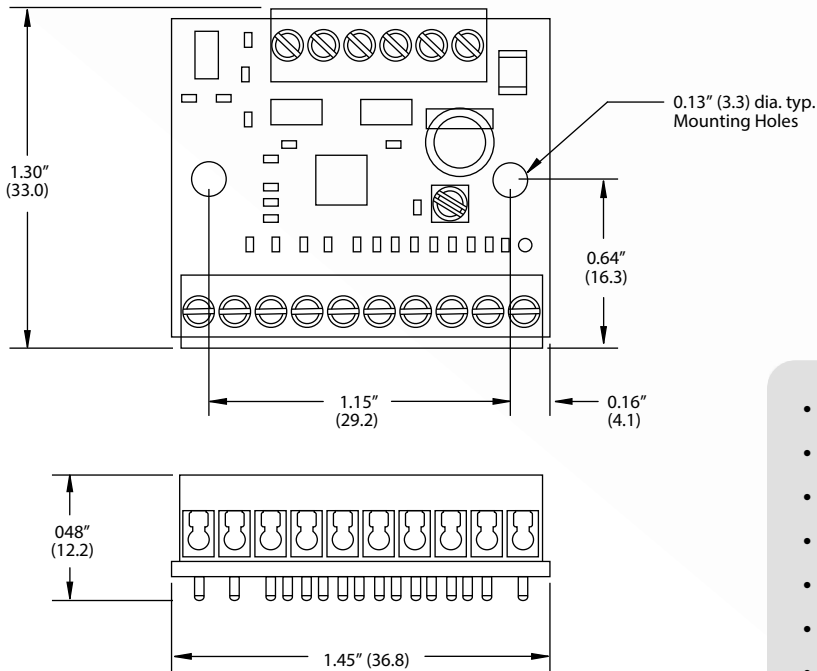
**Eclipse Proportional  
Isolation Valve**





## Applications

- Analytical instruments
- Blood pressure monitoring
- Precise pressure control
- Patient simulators
- Gas controllers
- Mass flow control
- Gas chromatography
- Respirators / ventilators



Dimensions shown are in inches (millimeters listed in parentheses).

- +7 to +35 VDC supply voltage
- Max. 2A / phase
- 1/16, 1/8, 1/4, 1/2, and full step modes
- 5V or 3.3V logic inputs (jumper selectable)
- LED power supply indicator light
- Crossover current protection
- Thermal shutdown circuitry

## ORDERING INFORMATION

# S C P V D - 1

**Example Part Number:**  
SCPVD-1

For more info, scan the  
QR code or visit  
[clippard.com/link/scpvd-driver](http://clippard.com/link/scpvd-driver)



## BPV BALANCED POPPET SERIES



Clippard's new pressure compensated valve, the BPV, is another addition to an impressive list of quality flow control products! The new BPV series provides all the qualities you've come to rely on with the EVP/DVP proportional valves, but with design features that address critical low pressure/high flow applications.

- Small package with significant flow
- All ports down design
- Wetted parts ideal for oxygen and inert gases
- Smooth liftoff
- Low hysteresis
- Low leak design
- Ideal for low pressure/high flow applications
- Can be calibrated to meet specific applications

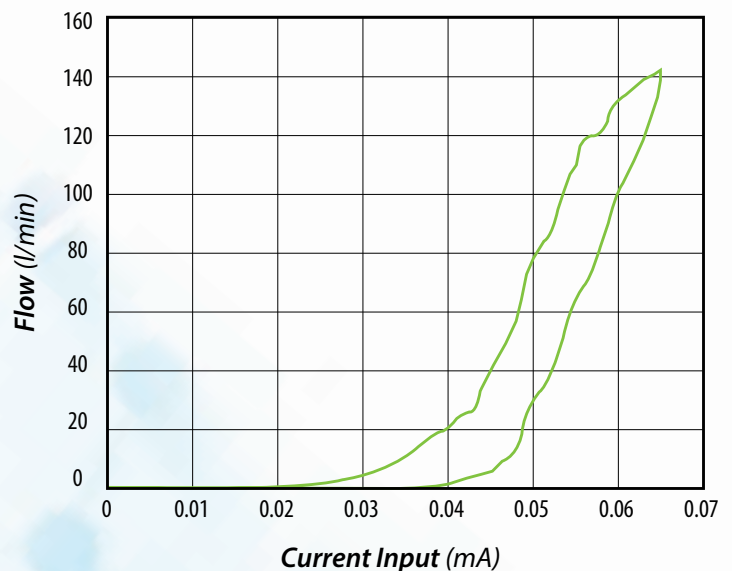
<b>Connection</b>	Flying leads
<b>Cycle Life</b>	>100 million
<b>Flow</b>	120 l/min @ 30 psig (2 bar)
<b>Function</b>	2-way normally-closed proportional
<b>Hysteresis</b>	10% of full scale typical, 15% max.
<b>Material, Seals</b>	FKM
<b>Material, Wetted</b>	303 stainless steel, PPS (manifold mount), 430FR stainless steel, brass
<b>Medium</b>	Air, oxygen, or neutral gas
<b>Mount</b>	Cartridge or manifold
<b>Operating Pressure</b>	0-45 psig (3 bar)
<b>Operating Temp. Range</b>	50 to 122°F (10 to 50°C)
<b>Response Time</b>	10 ms
<b>Voltage</b>	5, 12, or 24 VDC
<b>Wattage</b>	2.5 watts typical
<b>More Details</b>	<a href="http://clippard.com/link/bpv">clippard.com/link/bpv</a>

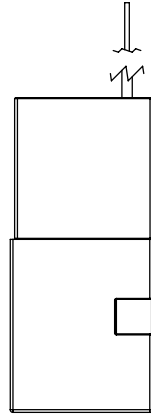
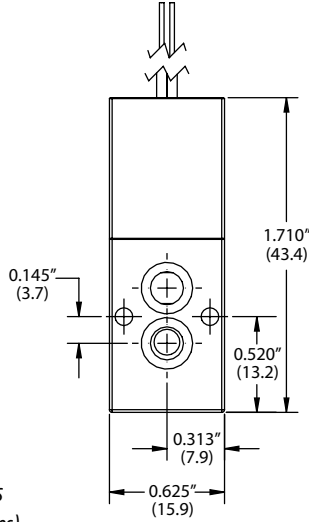
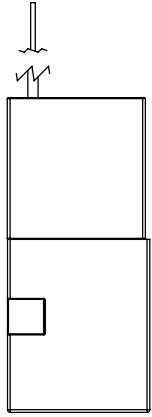
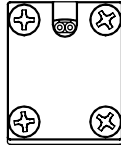
### PRELIMINARY

**Note:** This product is still in development.

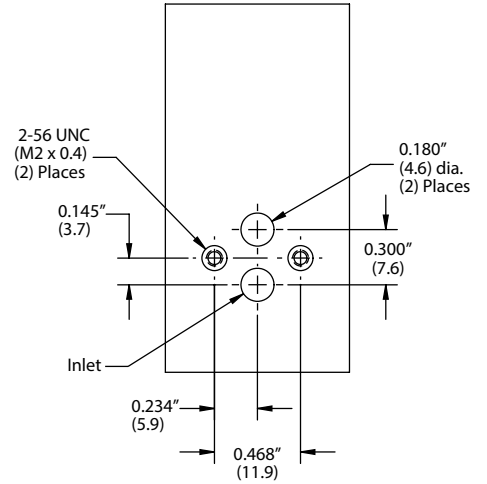
*Specifications are subject to change.*

**Typical Flow @ 45 psig (2 bar)**



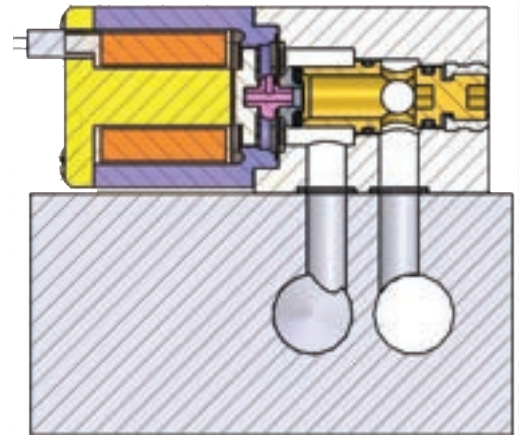
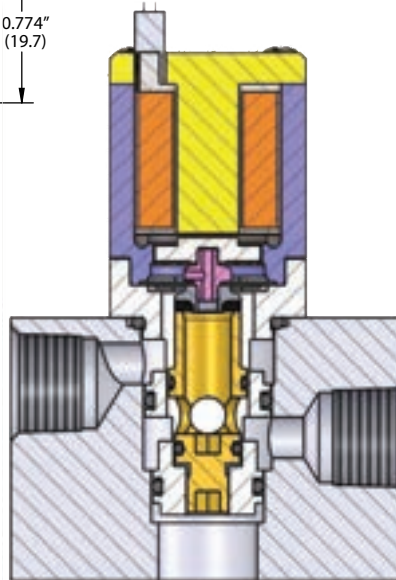
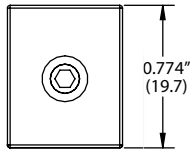


### Hole Placement For Manifold



Dimensions shown are in inches  
(millimeters listed in parentheses).

Visit [clippard.com](http://clippard.com) for more detailed  
2D and 3D drawings as they  
become available.



## Applications

- Medical devices
- Analytical instruments
- Biotechnology
- Industrial process controls
- Food and beverage equipment

## ORDERING INFORMATION

**Not Yet Available to Order—*Coming Soon!***

Contact Clippard or your local Clippard distributor to discuss participating in the early Beta release

For more info, scan the  
QR code or visit  
[clippard.com/link/bpv](http://clippard.com/link/bpv)



## CPV8 MICRO 8 MM SERIES



These direct actuating proportional valves offer an extremely fast response time for precise, proportional dosing of minute volumes. They are extremely quiet, emit very low vibration, and consume very little power, making them ideal for a wide range of medical and diagnostic applications.

Standard products offered will fit the needs of most applications, however this series can be fully customized according to the user's unique requirements. Consult Clippard with your specific application.

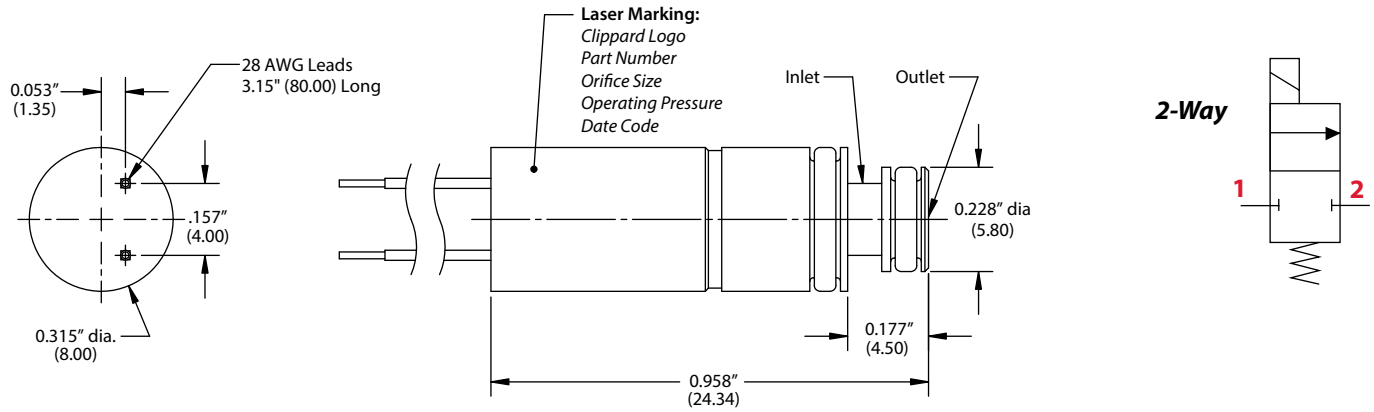
- Ideal for compact assemblies
- Eliminates downstream pulsations
- Smooth proportional delivery
- Low current power / low to no noise
- Exceptional variability of flow vs. command current
- Tiny package with a robust design
- Highly customizable performance

<b>Current Range</b>	0 to 70 mA
<b>Duty Cycle</b>	100% @ I < 55 mA
<b>Flow Coefficient Kv</b>	<b>0.012" Orifice:</b> Up to 0.003 m <sup>3</sup> /h <b>0.020" Orifice:</b> Up to 0.005 m <sup>3</sup> /h
<b>Function</b>	2-way normally-closed proportional
<b>Leak Rate</b>	< 1 ml/min
<b>Material, Body</b>	Stainless steel
<b>Material, Seals</b>	FKM, FFKM
<b>Max. Flow</b>	7.5 l/min
<b>Medium</b>	Air, inert gases
<b>Mount</b>	Cartridge
<b>Operating Pressure</b>	<b>0.012" Orifice:</b> 0 to 116 psig (10 bar) <b>0.020" Orifice:</b> 0 to 87 psig (6 bar)
<b>Operating Temp. Range</b>	40 to 120°F (5 to 50°C)
<b>Orifice</b>	0.012" (0.3 mm), 0.020" (0.5 mm)
<b>Thermal Resistance</b>	~70 K/W (without flow)
<b>Voltage</b>	32 V
<b>Wattage</b>	1.5 watts max.
<b>More Details</b>	<a href="http://clippard.com/link/pv8">clippard.com/link/pv8</a>

### PRELIMINARY

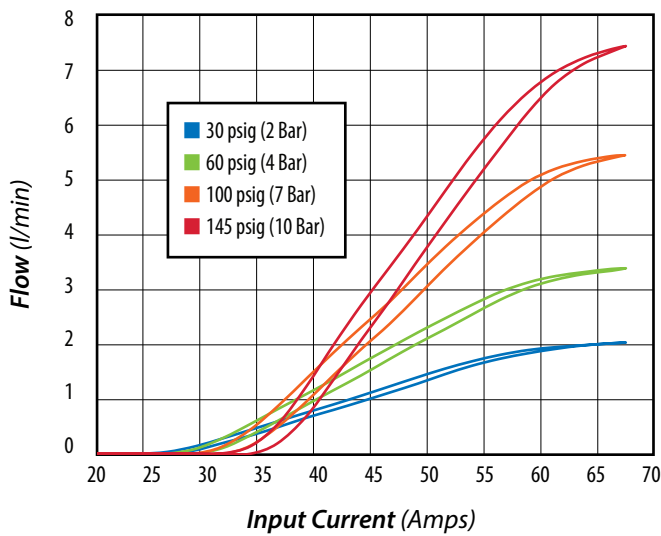
**Note:** This product is still in development.

*Specifications are subject to change.*

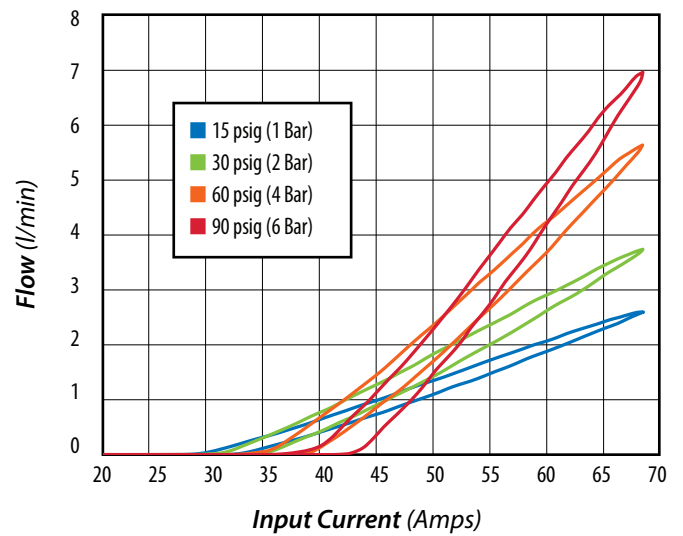


Dimensions shown are in inches (millimeters listed in parentheses).  
Visit [clippard.com](http://clippard.com) for more detailed 2D and 3D drawings as they become available.

Typical Performance for 0.012" Orifice (Air)



Typical Performance for 0.020" Orifice (Air)



## ORDERING INFORMATION

Not Yet Available to Order—*Coming Soon!*

For more info, scan the  
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