

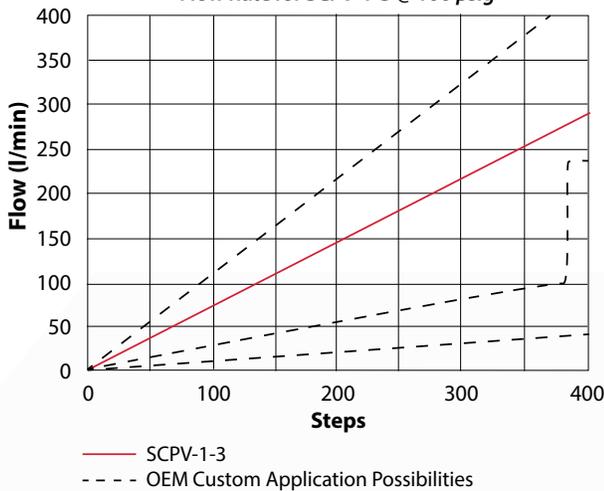
# STEPPER-CONTROLLED SCPV SERIES

## 2-WAY PROPORTIONAL VALVES



Characteristic Curve

Flow Rate for SCPV-1-3 @ 100 psig



Part No.	Description
SCPV-1-3	Proportional Valve, In-Line
SCPV-1-3M	Proportional Valve, Manifold
SCPV-1-3C	Proportional Valve, Cartridge

Stepper-controlled linear actuator with acme lead screw

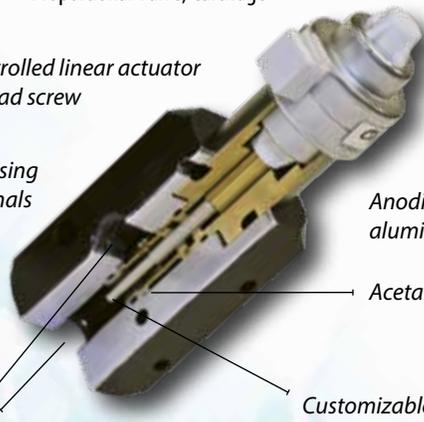
Brass housing and internals

Anodized aluminum body

Acetal seat

1/8" NPT inlet & outlet ports (SCPV-1-3)

Customizable stainless steel needle



Utilizing the industry's most robust and powerful linear actuator, the high flow stepper-controlled proportional valve outperforms the competition in performance and durability. The SCPV valve is 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.

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

<b>Medium</b>	Air or compatible gases
<b>Typical Cycle Time for Full Travel</b>	0.95 seconds @ 100% duty cycle 0.55 seconds @ 25% duty cycle <i>(full open to full close or full close to full open)</i>
<b>Wetted Material</b>	Stainless steel, aluminum, brass, acetal, and FKM*
<b>Pressure Range</b>	Vac to 100 psig*
<b>Flow Range</b>	0 to 280 l/min <i>Special configurations over 500 l/min available*</i>
<b>Flow Resolution</b>	0.7 l/min per step
<b>Position Resolution</b>	0.001" per step
<b>Temperature Range</b>	32 to 184°F
<b>Driver</b>	Bipolar chopper drive required
<b>Needle</b>	3.5°
<b>Supply Voltage to Motor</b>	5 VDC
<b>Response Time</b>	0.95 seconds fully-open to fully-closed
<b>Mounting</b>	In-line, manifold, or cartridge
<b>Power Consumption</b>	3.85 watts nominal only during adjustment Zero power consumption to maintain position
<b>Seals</b>	FKM standard, others available*
<b>Option</b>	Rubber seat <i>(add -R suffix)</i>
<b>More Details</b>	<a href="http://clippard.com/link/scpv">clippard.com/link/scpv</a>

\*This product is highly modifiable for OEM applications—including alternate body materials, flow profiles, and more. Clippard has successfully produced special configurations of the SCPV with flows over 700 slpm at 100 psig. Call 877-245-6247 today to discuss your needs.

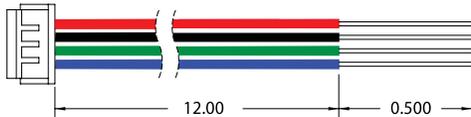
# STEPPER-CONTROLLED SCPV SERIES & DRIVER

## PROPORTIONAL VALVE

### LINEAR ACTUATOR CHARACTERISTICS

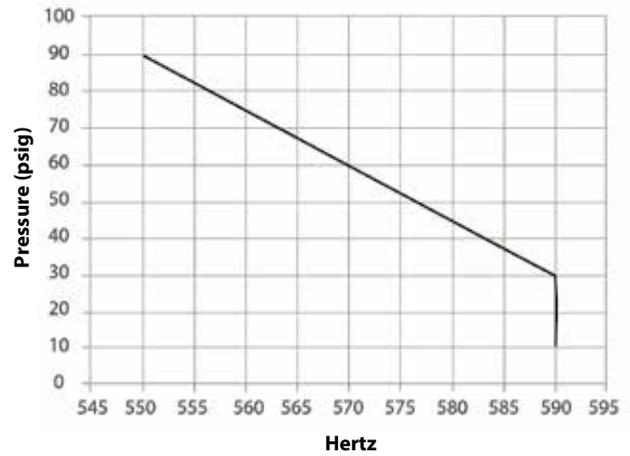
Wiring	Bipolar
Current/Phase	385 mA
Motor Voltage	5 VDC
Resistance/Phase	13 ohms
Inductance/Phase	8.08 mH
Power Consumption	3.85 watts
Temperature Rise	135°F
Insulation Resistance	20M ohms

Wiring Harness (included)



Pin	Color	Pin	Color
1	Red (A+)	3	Green (B-)
2	Black (A-)	4	Blue (B+)

Maximum Step Pulse Frequency vs. Operating Pressure



## SCPVD BI-POLAR STEPPER MOTOR DRIVER

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 micro-stepping 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.



- Medical, analytical, and industrial gas mixing
- Anesthesia equipment
- Precision flow control
- Cuff/bladder pressure control
- Process flow control
- Variable speed control
- Automation of needle valve

For more details, visit [clippard.com/scpv](http://clippard.com/scpv)



Part No.	Description
SCPVD-1	SCPVD-1 SCPV Valve Driver

