

# *Clippard*

## ISOLATION VALVES



# Isolation Valves

## Eclipse Proportional Isolation Valve



**p. 4**

*Patented ceramic slide technology*

*Unrivalled resolution*

*All wetted areas ceramic*

## NIV Series PTFE Isolation Valves



**p. 6**

*All wetted areas PTFE*

## PIV Series PTFE & PEEK Isolation Valves



**p. 8**

*All wetted areas PTFE & PEEK*

*Higher pressures*

*Enhanced durability*

## NPP Series Pneumatic Pinch Valves



**p. 16**

*Zero dead volume*

*Pneumatic*

## NPV Series Electronic Pinch Valves



**p. 18**

*Zero dead volume*

*Electronic*

## NPV7 Long Stroke Pinch Valve



**p. 22**

*Long stroke*

*Panel mounted*

## NIV Series Gradient / Mixing Valves



**p. 10**

*All wetted areas PTFE*

*Individually-controlled  
flow paths*

## AIV Series Air-Operated Isolation Valve



**p. 12**

*Air-operated*

*All wetted areas PTFE & PEEK*

## E2S Compact 10 mm Isolation Valve



**p. 14**

*Compact*

*Lightweight*

## NPV Series Panel Mount Pinch Valves



**p. 24**

*Zero dead volume*

*Electronic*

*Panel mount*

## Hit & Hold Option

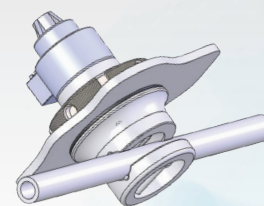


**p. 26**

*Air-operated*

*All wetted areas PTFE & PEEK*

## Coming Soon! Proportional Pinch Valve



**p. 28**

*Compact*

*Lightweight*

# 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.

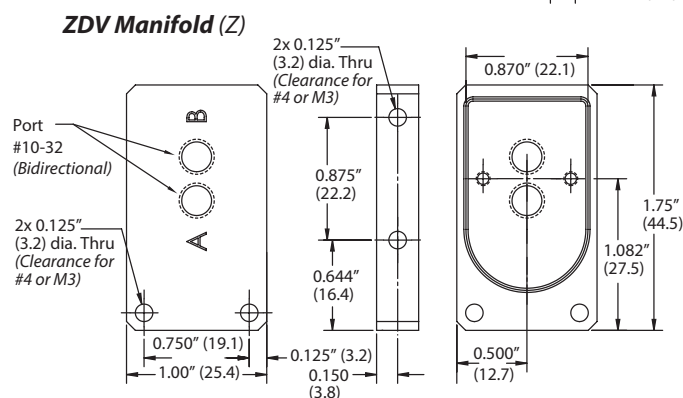
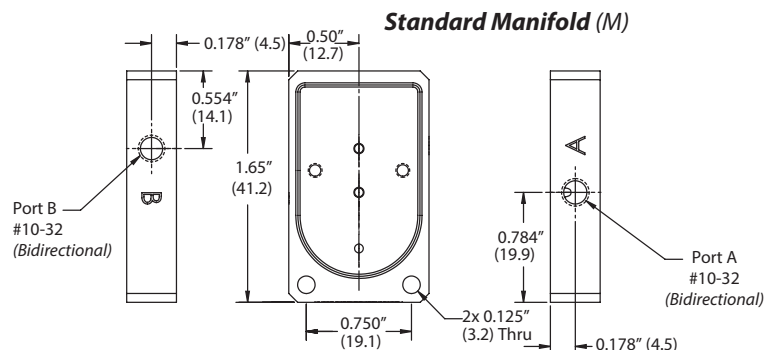
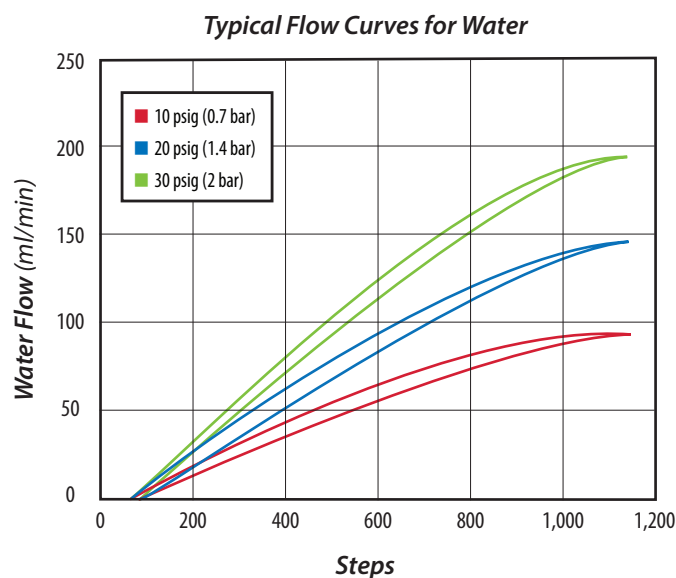
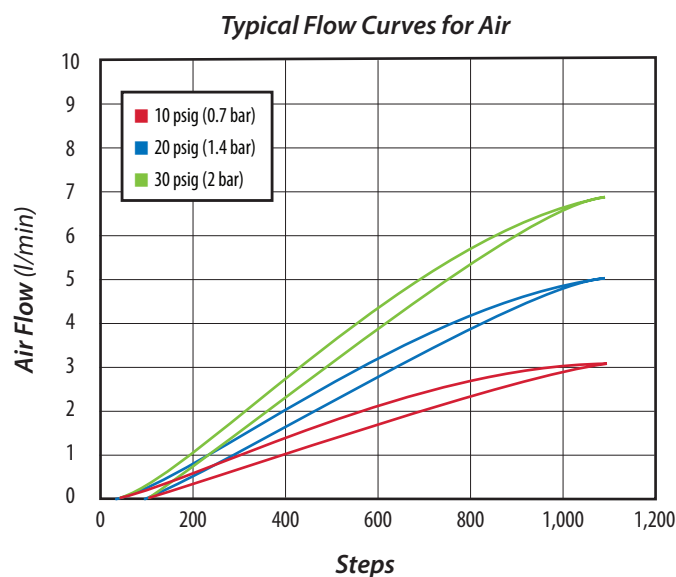
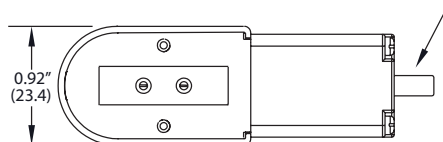
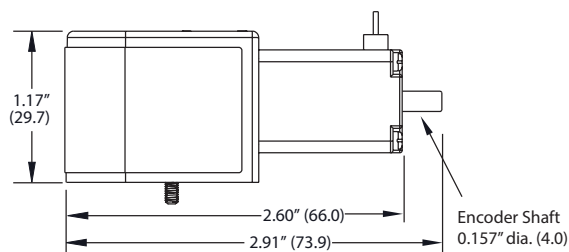
Utilizing a robust and powerful miniature linear actuator, the Eclipse is stepper-controlled, micro-stepping capable, encoder-ready, and its unique design allows for custom flow profiles.

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

- **Leak free** (<0.05 sccm typical)
- **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 ml/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 (zero dead volume fitting)
<b>Port, Outlet</b>	#10-32, Manifold or ZDVF (zero dead volume fitting)
<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 (only during adjustment, zero power consumption to maintain position)
<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)



## NIV SERIES PTFE VALVES

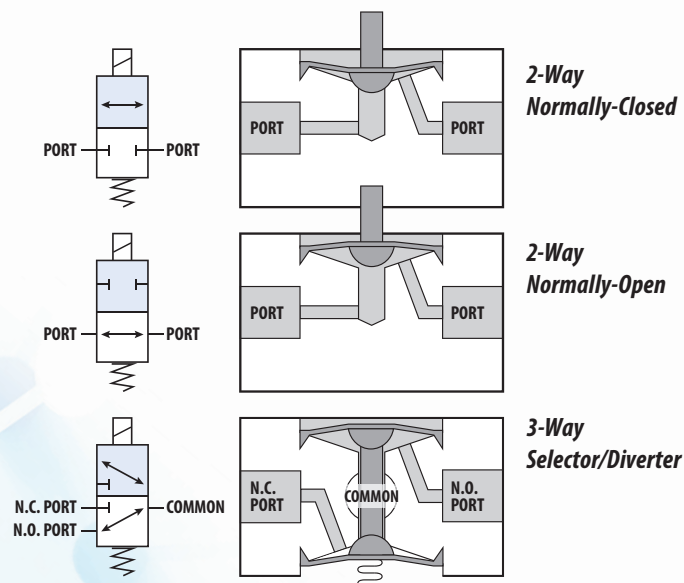


The NIV series media isolation valve is a solenoid-operated device that utilizes a flexible diaphragm to isolate the actuation mechanism from the fluid path. This unique, multifunctional valve stem results in a simplified design with fewer parts, longer life and minimal dead volume. In addition, all wetted areas of the NIV series are PTFE, making it ideal for use with corrosive media.

- Low power consumption
- Compact, lightweight design
- Bidirectional
- Minimal dead volume
- Fully flushable
- All wetted areas PTFE
- Ideal for use with corrosive media
- High cycle life
- Fast response time
- Proudly made in the USA

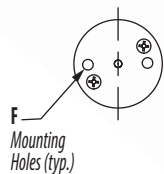
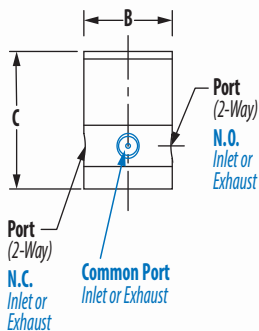


<b>Connection</b>	18" (45 cm) wire leads
<b>Documentation</b>	CE, RoHS
<b>Flow Range</b>	5 to 60 l/min @ 30 psig (2 bar) air
<b>Function</b>	2-way normally-closed or normally-open, 3-way selector/diverter
<b>Material, Wetted</b>	PTFE, FKM
<b>Max. Flow</b>	60 l/min @ 30 psig (2 bar) air
<b>Medium</b>	Air, water, gas, or compatible fluids
<b>Mount</b>	#2-56, #4-40, or manifold (0.118" thru hole)
<b>Operating Temp. Range</b>	-20 to 158°F (-29 to 70°C)
<b>Operating Pressure</b>	Vac. to 30 psig (2 bar)
<b>Ports</b>	#10-32, 1/4-28 UNF, or 1/8 NPS
<b>Response Time</b>	5 to 50 ms typical
<b>Voltage</b>	12 to 24 VDC ( <i>additional options available</i> )
<b>Wattage</b>	1.0 to 7.2 watts
<b>More Details</b>	<a href="http://clippard.com/link/niv-series">clippard.com/link/niv-series</a>



## Orifice 1 & 2

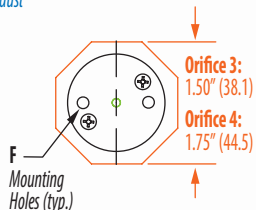
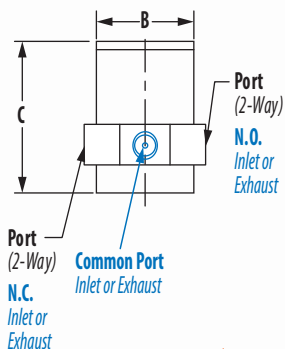
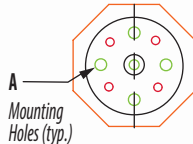
All In-Line Versions



- All versions
- 3-Way only
- Orifice 1 only
- Orifice 2: 2-Way Normally-Closed only
- Orifice 2: 2-Way Normally-Open & 3-Way

## Orifice 3 & 4

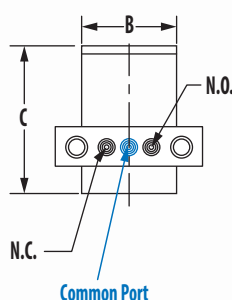
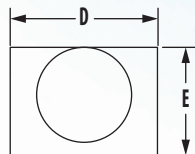
All In-Line Versions



- All versions
- 3-Way only
- Orifice 3 & 4 only
- 2-Way Normally-Closed only
- 2-Way Normally-Open & 3-Way

## Orifice 1, 2, 3, & 4

All Manifold Mount Versions



- All versions
- 3-Way Only

## DIMENSIONS

Orifice	A	B	C	D	E	F
1	#2-56		1.154"			#2-56
	0.094"	0.750"	to 1.162"	1.250"	0.875"	0.188"
	(2.4)	(19.1)	(29.3)	(25.4)	(22.2)	(4.8)
2	#4-40		1.487"			#4-40
	0.125"	1.000"	to 1.492"	1.250"	1.125"	0.250"
	(3.2)	(25.4)	(37.8)	(31.8)	(28.6)	(6.4)
3	#4-40		1.813"			#4-40
	0.125"	1.250"	to 1.863"	1.625"	1.375"	0.250"
	(3.2)	(31.8)	(46.1)	(41.3)	(34.9)	(6.4)
4	#4-40		2.038"			#4-40
	0.125"	1.500"	to 2.088"	1.875"	1.625"	0.250"
	(3.2)	(38.1)	(51.8)	(47.6)	(41.3)	(6.4)

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

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

## ORDERING INFORMATION

<b>Unit</b> (blank) Imperial M- Metric	<b>Orifice<sup>1</sup></b> 1 0.040" (1.0 mm)—#10-32 ports, 6 l/min 2 0.062" (1.6 mm)—1/4-28 UNF ports, 16 l/min 3 0.095" (2.4 mm)—1/4-28 UNF ports, 38 l/min 4 0.156" (4.0 mm)—1/8 NPS ports, 60 l/min <sup>1</sup> Flow @30 psig (2 bar)	<b>Additional Circuitry Option</b> (blank) None L Hit & Hold <sup>2</sup> <sup>2</sup> L option not available with orifice 1	<b>Mount</b> (blank) In-Line, Threaded M Manifold	<b>Voltage</b> 12 12 VDC 24 24 VDC
<b>Function</b> -2 2-Way, Normally-Closed O-2 2-Way, Normally-Open -3 3-Way Selector/Diverter				

**Example Part Number:**  
NR1-2-12

### PEEK ZERO DEAD VOLUME FITTINGS

- IJ2 1/4-28 thd.-1/16" ID Hose Barb
- IJ6 1/4-28 thd.-3/16" ID Hose Barb
- IP6 1/8-27 NPS thd.-3/16" ID Hose Barb
- IT2 #10-32 thd.-1/16" ID Hose Barb

Available in packages of 5 (-PKG) or in bulk (-BLK)



For more info, scan the  
QR code or visit

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



## PIV SERIES PTFE & PEEK VALVES

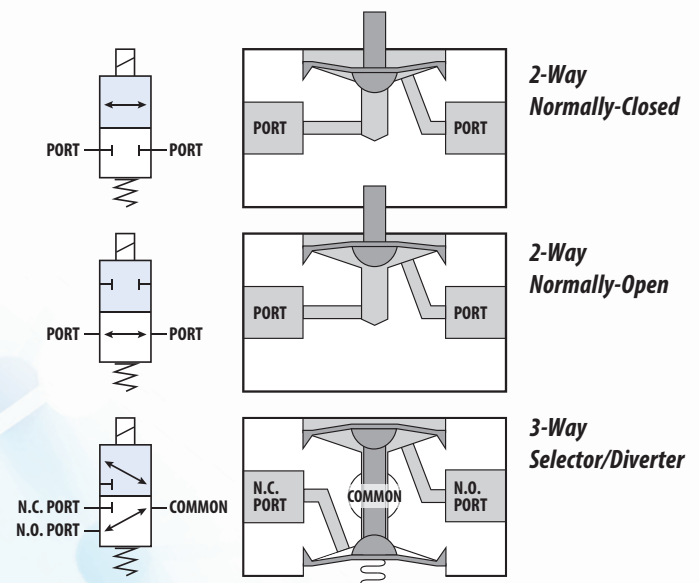


The PIV series features the same solenoid-operation and multifunctional valve stem design as the NIV series but with the added benefit of a PEEK body. This enables the PIV series to deliver higher pressures and provide enhanced durability. All wetted areas of the PIV series are PTFE and PEEK.

<b>Connection</b>	18" (45 cm) wire leads
<b>Documentation</b>	CE, RoHS
<b>Flow Range</b>	5 to 60 l/min @ 30 psig (2 bar) air 10 to 115 l/min @ 100 psig (7 bar) air
<b>Function</b>	2-way normally-closed or normally-open, 3-way selector/diverter
<b>Material, Wetted</b>	PTFE, PEEK, FKM*
<b>Max. Flow</b>	60 l/min @ 30 psig (2 bar) air 115 l/min @ 100 psig (7 bar) air
<b>Medium</b>	Air, water, gas, or compatible fluids
<b>Mount</b>	#2-56, #4-40, or manifold (0.118" thru hole)
<b>Operating Temp. Range</b>	-20 to 158°F (-29 to 70°C)
<b>Operating Pressure</b>	Vac. to 30 psig (2 bar) or 100 psig (7 bar)
<b>Ports</b>	#10-32, 1/4-28 UNF, or 1/8 NPS
<b>Response Time</b>	5 to 50 ms typical
<b>Voltage</b>	12 to 24 VDC ( <i>additional options available</i> )
<b>Wattage</b>	1.0 to 15 watts
<b>More Details</b>	<a href="http://clippard.com/link/piv-series">clippard.com/link/piv-series</a>

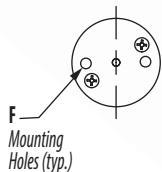
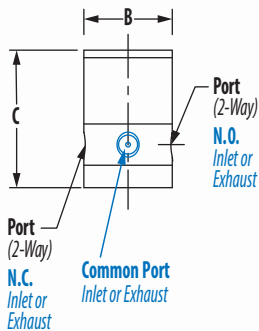
\*Manifold version only

- Low power consumption
- Compact, lightweight design
- Bidirectional
- Minimal dead volume
- Fully flushable
- All wetted areas PTFE or PEEK
- Ideal for use with corrosive media
- High cycle life
- Fast response time
- Proudly made in the USA



## Orifice 1 & 2

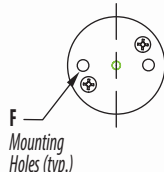
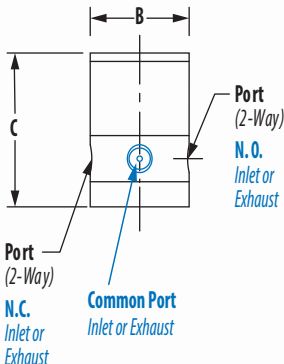
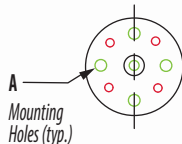
All In-Line Versions



- All versions
- 3-Way only
- Orifice 1 only
- Orifice 2: 2-Way Normally-Closed only
- Orifice 2: 2-Way Normally-Open & 3-Way

## Orifice 3 & 4

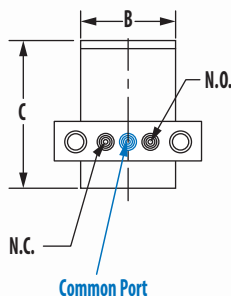
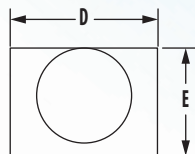
All In-Line Versions



- All versions
- 3-Way only
- 2-Way Normally-Closed only
- 2-Way Normally-Open & 3-Way

## Orifice 1, 2, 3, & 4

All Manifold Mount Versions



- All versions
- 3-Way Only

## DIMENSIONS

Orifice	A	B	C	D	E	F
1	#2-56		1.154"			#2-56
	0.094"	0.750"	to 1.162"	1.250"	0.875"	0.188"
	(2.4)	(19.1)	(29.3	(25.4)	(22.2)	(4.8)
	deep		to 29.5)			deep
2	#4-40		1.487"			#4-40
	0.125"	1.000"	to 1.492"	1.250"	1.125"	0.250"
	(3.2)	(25.4)	(37.8	(31.8)	(28.6)	(6.4)
	deep		to 37.9)			deep
3	#4-40		1.813"			#4-40
	0.125"	1.250"	to 1.863"	1.625"	1.375"	0.250"
	(3.2)	(31.8)	(46.1	(41.3)	(34.9)	(6.4)
	deep		to 47.3)			deep
4	#4-40		2.038"			#4-40
	0.125"	1.500"	to 2.088"	1.875"	1.625"	0.250"
	(3.2)	(38.1)	(51.8	(47.6)	(41.3)	(6.4)
	deep		to 53.0)			deep

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

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

## ORDERING INFORMATION

**Unit**  
(blank) Imperial  
M- Metric

**Orifice**<sup>1</sup>

1 0.040" (1.0 mm) — #10-32 ports, 6 l/min  
2 0.062" (1.6 mm) — 1/4-28 UNF ports, 16 l/min  
3 0.095" (2.4 mm) — 1/4-28 UNF ports, 38 l/min  
4 0.156" (4.0 mm) — 1/8 NPS ports, 60 l/min

<sup>1</sup>Flow @ 30 psig (2 bar)

**Additional Circuitry Option**  
(blank) None  
L Hit & Hold<sup>2</sup>  
<sup>2</sup>L option not available with orifice 1

**Mount**  
(blank) In-Line, Threaded  
M Manifold

**Function**  
-2 2-Way, Normally-Closed  
O-2 2-Way, Normally-Open  
-3 3-Way Selector/Diverter

**Voltage**  
12 12 VDC  
24 24 VDC

**Body Material & Op. Pressure**  
-P PTFE & PEEK Body, Vac. to 30 psig (2 bar)  
-H PTFE & PEEK Body, Vac. to 100 psig (7 bar)

**Example Part Number:**  
NR1-2-12-P

### PEEK ZERO DEAD VOLUME FITTINGS

- IJ2 1/4-28 thd.-1/16" ID Hose Barb
- IJ6 1/4-28 thd.-3/16" ID Hose Barb
- IP6 1/8-27 NPS thd.-3/16" ID Hose Barb
- IT2 #10-32 thd.-1/16" ID Hose Barb

Available in packages of 5 (-PKG) or in bulk (-BLK)

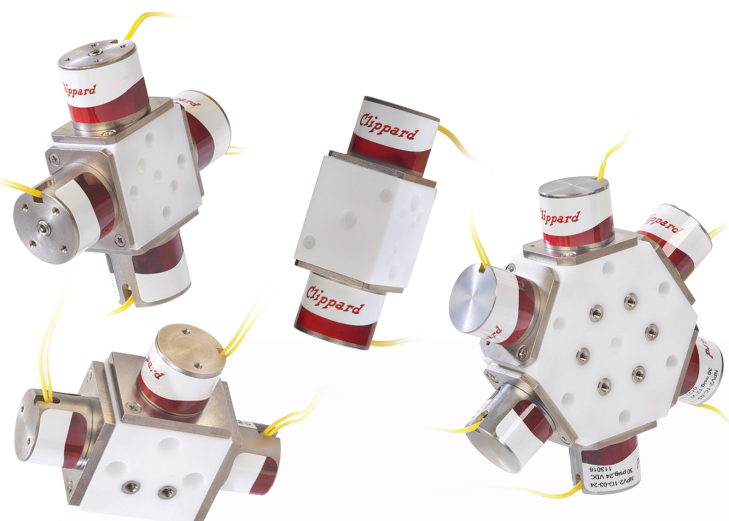


For more info, scan the  
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[clippard.com/link/piv-series](http://clippard.com/link/piv-series)



## NIV SERIES MIXING VALVES

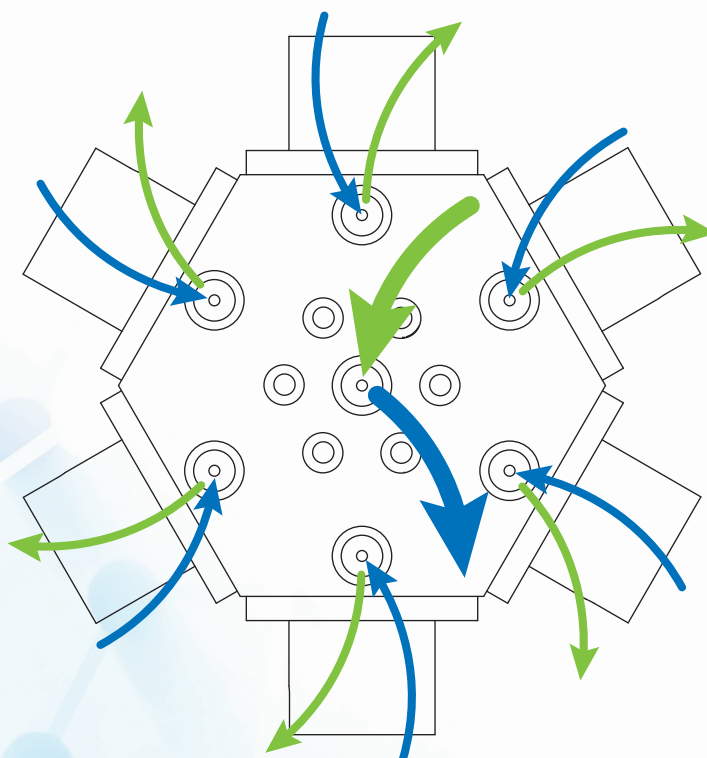


NIV series multi-channel gradient valves feature multiple 2-way, normally-closed PTFE media isolation valves connected around a central body. This unique design provides significant reduction in internal volume with enhanced mixing capabilities. Each actuator operates independently, allowing for flow of various media to be mixed or for one media to be split into multiple streams. These multi-channel gradient mixing valves are useful for solvent selection, stream splitting, flushing, and other automated applications.

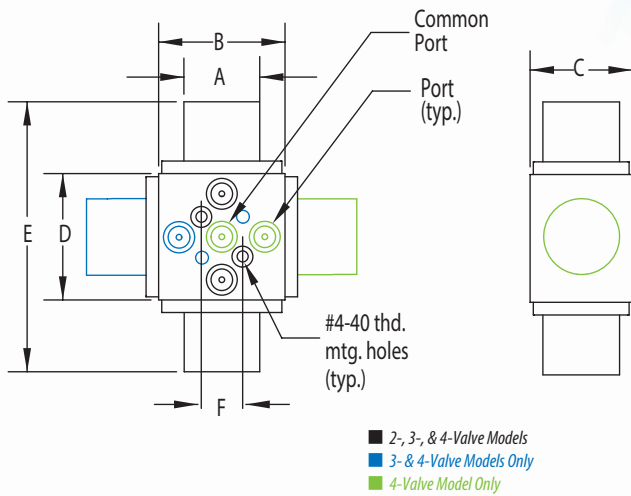
- Individually controlled flow paths
- Mix flow from various media
- Split media into multiple streams

<b>Connection</b>	18" (45 cm) wire leads
<b>Flow Range</b>	5 to 60 l/min @ 30 psig (2 bar) air
<b>Function</b>	2-way normally-closed
<b>Material, Wetted</b>	PTFE
<b>Max. Flow</b>	60 l/min @ 30 psig (2 bar) air
<b>Medium</b>	Air, water, gas, or corrosive fluids
<b>Mount</b>	#4-40 (metric also available)
<b>Operating Temp. Range</b>	-20 to 158°F (-29 to 70°C)
<b>Operating Pressure</b>	Vac. to 30 psig (2 bar)
<b>Ports</b>	1/4-28 UNF or 1/8 NPS
<b>Response Time</b>	5 to 50 ms typical
<b>Voltage</b>	12 to 24 VDC (additional options available)
<b>Wattage</b>	1.0 to 7.2 watts
<b>More Details</b>	<a href="http://clippard.com/link/niv-mixing">clippard.com/link/niv-mixing</a>

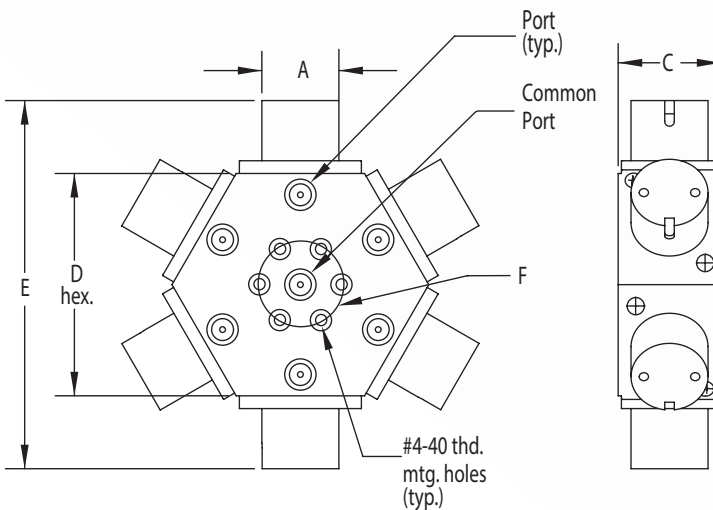
**Multiple Inputs** with a **Common Output**, or  
**Multiple Outputs** with a **Common Input**



## 2-, 3-, & 4-Valve Models



## 6-Valve Models



## DIMENSIONS

Orifice	# Valves	A	B	C	D	E	F
1	2, 3, or 4	0.750" (19.1)	1.250" (31.8)	1.000" (25.4)	1.250" (31.8)	2.670" (67.8)	0.400" (10.2)
	6	0.750" (19.1)	-	1.000" (25.4)	2.165" (55.0)	3.585" (91.1)	0.800" (20.3)
2	2, 3, or 4	1.000" (25.4)	1.500" (38.1)	1.250" (31.8)	1.500" (38.1)	3.362" (85.4)	0.500" (12.7)
	6	1.000" (25.4)	-	1.250" (31.8)	2.598" (66.0)	4.460" (113.3)	1.155" (29.3)
3	2, 3, or 4	1.250" (31.8)	1.750" (44.5)	1.375" (34.9)	1.750" (44.5)	4.100" (104.1)	0.625" (15.9)
	6	1.250" (31.8)	-	1.375" (34.9)	3.031" (77.0)	5.381" (136.7)	1.250" (31.8)
4	2, 3, or 4	1.500" (38.1)	2.000" (50.8)	1.625" (41.3)	2.000" (50.8)	4.458" (113.2)	0.625" (15.9)
	6	1.500" (38.1)	-	1.625" (41.3)	3.464" (88.0)	6.013" (152.7)	1.250" (31.8)

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

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

## ORDERING INFORMATION

N

R

-

2

-

-

G

Orifice<sup>1</sup>

Additional Circuitry Option

Voltage

# of Valves

1

0.040" (1.0 mm)—1/4-28 UNF ports, 6 l/min

2

0.062" (1.6 mm)—1/4-28 UNF ports, 16 l/min

3

0.095" (2.4 mm)—1/4-28 UNF ports, 38 l/min

4

0.156" (4.0 mm)—1/8 NPS ports, 60 l/min

(blank) None

L Hit & Hold<sup>2</sup>

<sup>2</sup>L option not available with orifice 1

12 12 VDC

24 24 VDC

2 2 valves

3 3 valves

4 4 valves

6 6 valves

<sup>1</sup>Flow @30 psig (2 bar)

**Example Part Number:**  
 NR1-2-12-G2

<sup>1</sup>Flow @30 psig (2 bar)

## PEEK ZERO DEAD VOLUME FITTINGS

- IJ2 1/4-28 thd.-1/16" ID Hose Barb
- IJ6 1/4-28 thd.-3/16" ID Hose Barb
- IP6 1/8-27 NPS thd.-3/16" ID Hose Barb
- IT2 #10-32 thd.-1/16" ID Hose Barb

Available in packages of 5 (-PKG) or in bulk (-BLK)



For more info, scan the QR code or visit

[clippard.com/link/niv-mixing](http://clippard.com/link/niv-mixing)



## AIV SERIES AIR-OPERATED VALVES

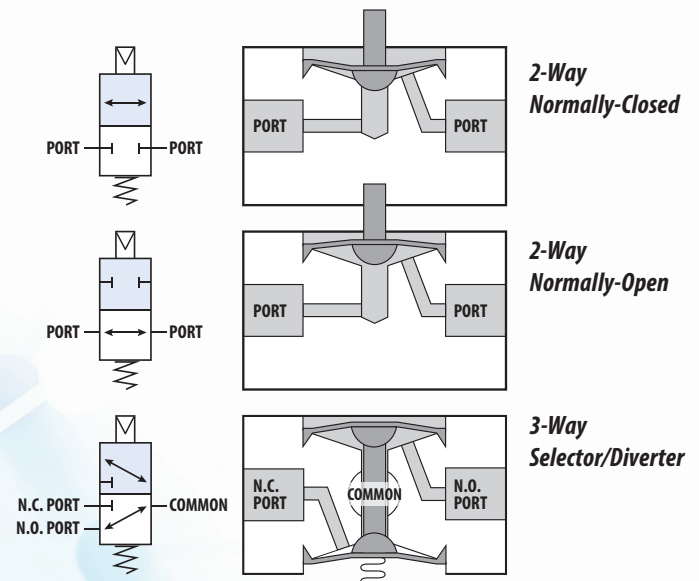


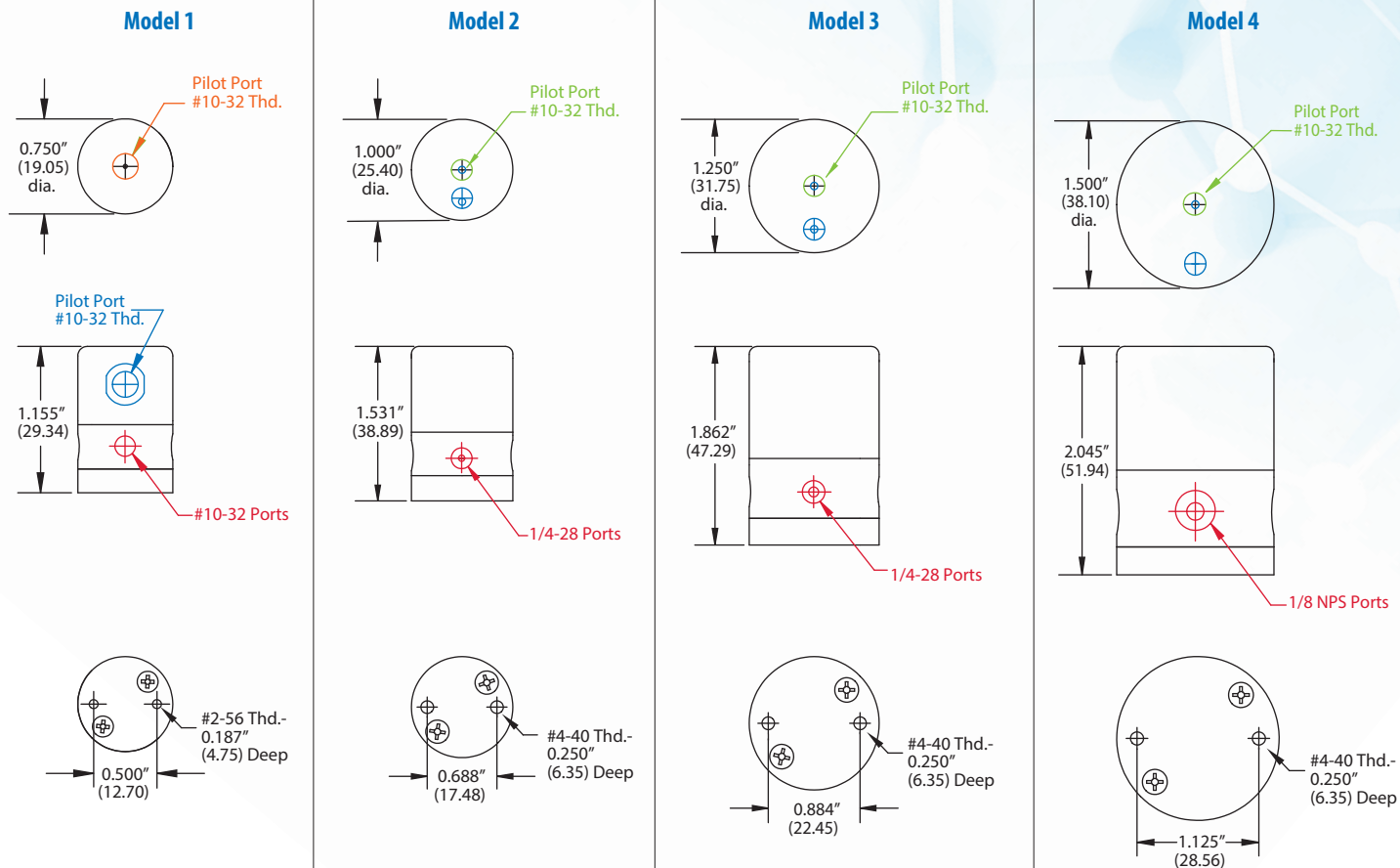
Like the NIV and PIV series, the AIV series features Clippard's unique multifunctional valve stem design for longer life and minimal dead volume. The difference with the AIV series is that it also provides the added benefit of air operation, which is—by definition—intrinsically-safe. No solenoid means absolutely no heat buildup from the coil, making the AIV series ideal for applications that utilize temperature-sensitive media. Like the PIV, all wetted areas of the AIV series are PTFE and PEEK, making it ideal for use with corrosive media.

- Zero power consumption (air-operated)
- Excellent intrinsically safe valve substitute
- No heat build-up
- Compact, lightweight design
- Bidirectional
- Minimal dead volume
- Fully flushable
- All wetted areas PTFE or PEEK
- High cycle life
- Fast response time
- Proudly made in the USA



<b>Connection</b>	#10-32 UNF ( <i>pilot port</i> )
<b>Documentation</b>	CE, RoHS
<b>Flow Range</b>	10 to 180 l/min @ 100 psig (7 bar)
<b>Function</b>	2-way normally-closed or normally-open or 3-way selector/diverter
<b>Material, Wetted</b>	PTFE, PEEK
<b>Medium</b>	Air, water, gas, or compatible fluids
<b>Mount</b>	#2-56 or #4-40
<b>Operating Temp. Range</b>	-30 to 180°F (-34 to 82°C)
<b>Operating Pressure</b>	Vac. to 100 psig (7 bar)
<b>Pilot Pressure, Max.</b>	100 psig (7 bar)
<b>Pilot Pressure, Min.</b>	30 psig (2 bar)
<b>Ports</b>	#10-32, 1/4-28 UNF, or 1/8 NPS
<b>More Details</b>	<a href="http://clippard.com/link/aiv">clippard.com/link/aiv</a>





- All versions  
 ■ 2-Way, Normally-Closed (-2)  
 ■ 2-Way, Normally-Open (O-2)  
 ■ 3-Way Selector/Diverter (-3)  
 ■ 2-Way, Normally-Open & 3-Way Selector/Diverter (O-2 and -3)

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

## ORDERING INFORMATION

**A I V**

Orifice\*

- 1 0.040" (1.0 mm) — #10-32 ports; 2-way: 30 l/min, 3-way: 10 l/min
- 2 0.062" (1.6 mm) — 1/4-28 UNF ports; 2-way: 60 l/min, 3-way: 35 l/min
- 3 0.095" (2.4 mm) — 1/4-28 UNF ports; 2-way: 130 l/min, 3-way: 75 l/min
- 4 0.156" (4.0 mm) — 1/8 NPS ports; 2-way: 180 l/min, 3-way: 115 l/min

\*Flow @ 100 psig (7 bar)

**Example  
Part Number:**

**AIV1-2**

Function

- 2 2-Way, Normally-Closed
- O-2 2-Way, Normally-Open
- 3 3-Way Selector/Diverter

### PEEK ZERO DEAD VOLUME FITTINGS

- IJ2 1/4-28 thd.-1/16" ID Hose Barb
- IJ6 1/4-28 thd.-3/16" ID Hose Barb
- IP6 1/8-27 NPS thd.-3/16" ID Hose Barb
- IT2 #10-32 thd.-1/16" ID Hose Barb

Available in packages of 5 (-PKG) or in bulk (-BLK)

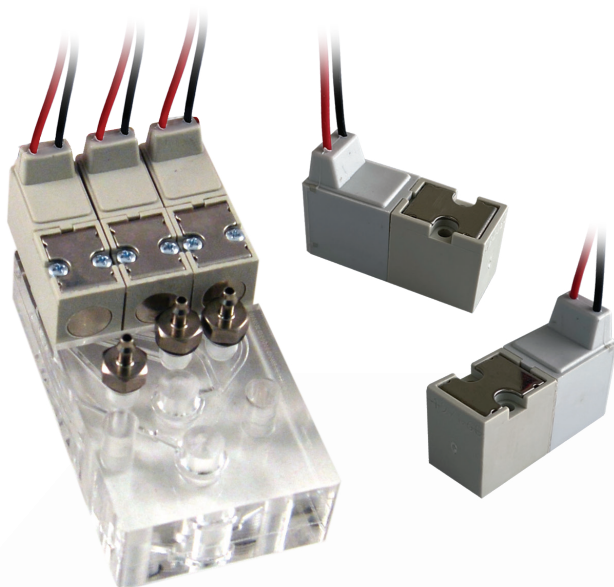


For more info, scan the  
QR code or visit

[clippard.com/link/aiv](http://clippard.com/link/aiv)



## E2S SERIES ISOLATION VALVES



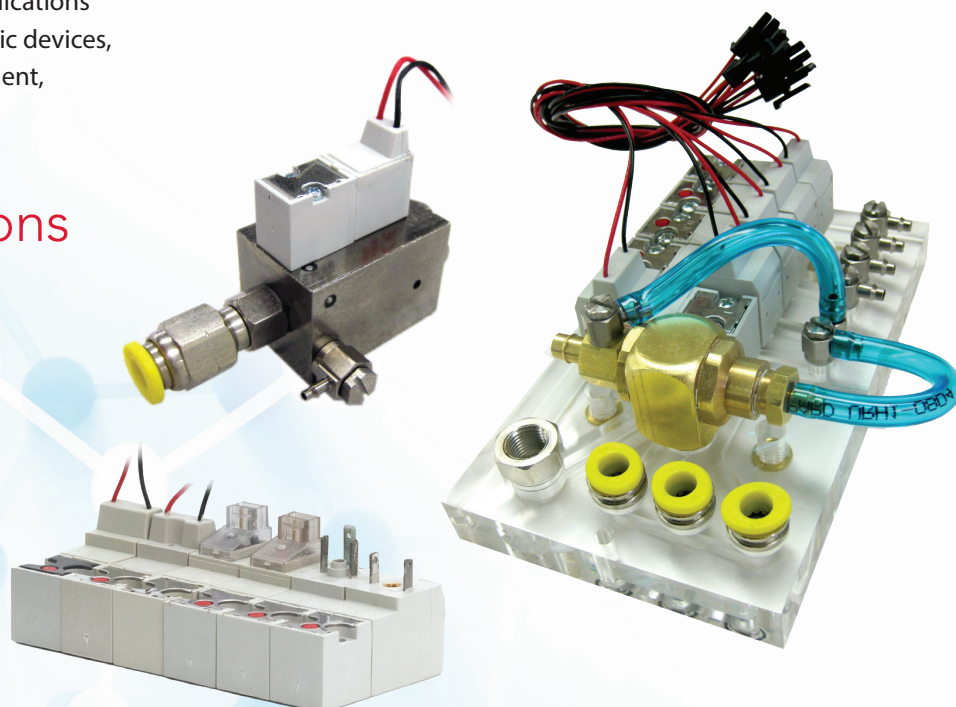
<b>Connection</b>	11.8" (30 cm) wire leads
<b>Flow Range</b>	15 to 30 l/min
<b>Function*</b>	2-way normally-closed isolation ( <i>monodirectional</i> )
<b>Material, Body</b>	Nylon
<b>Material, Seals</b>	EPDM
<b>Material, Wetted</b>	Glass-filled nylon, EPDM
<b>Max. Flow</b>	30 l/min
<b>Max. Temperature of Coil</b>	311°F (155°C)
<b>Medium</b>	Air, water, gas, or compatible fluids
<b>Mount</b>	M2x14
<b>Operating Temp. Range</b>	14 to 122°F (-10 to 50°C) <i>Must use clean, dry air when &lt;32°F (0°C)</i>
<b>Operating Pressure*</b>	0 to 36 psig (2.5 bar)
<b>Response Time</b>	6 ms
<b>Voltage</b>	12 to 24 VDC
<b>Wattage</b>	1.3 to 2.8 watts
<b>More Details</b>	<a href="http://clippard.com/link/e2s">clippard.com/link/e2s</a>

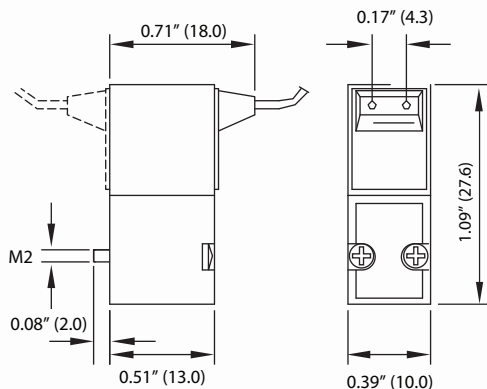
*\*Always less than 2 psig (0.1 bar) backpressure on outlet port for proper function.*

The E2S series valve combines the versatility of Clippard's compact 10 mm valve line with the advantages of media isolation. With a durable, glass-filled nylon body and an EPDM diaphragm that separates the actuation mechanism from the flow path, the E2S series is an excellent choice for dispensing a wide range of aggressive gases and liquids in applications that require compact, electronically-controlled valves which have minimal backpressure. Applications include printing equipment, medical diagnostic devices, dental equipment, fermentation, water treatment, dispensing, and more.

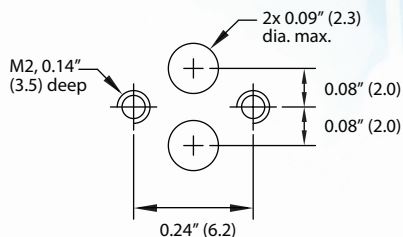
## Customization Options

- Voltage
- Power
- Electrical Connectors
- IP Protection
- Pressures
- Silent operation for quiet environments

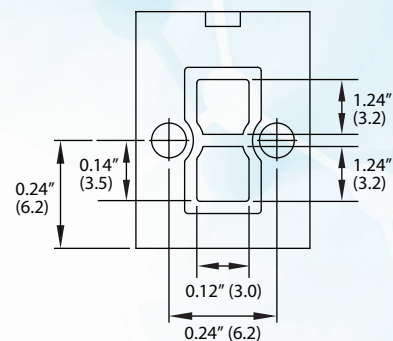




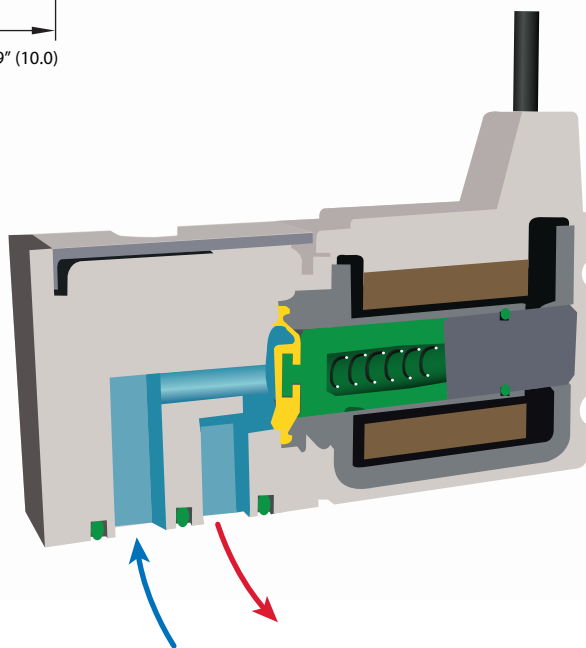
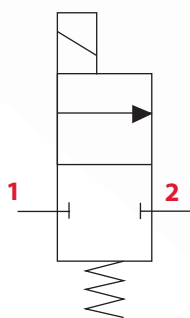
### Suggested Subbase



### Pneumatic Interface



### 2-Way Monodirectional



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 2 S 1 0 □ W □**

### Orifice and Wattage

C-2 0.03" (0.8 mm), 1.3 watts—15 l/min @ 36 psig (2.5 bar)  
F-4 0.05" (1.2 mm), 2.0 watts—30 l/min @ 36 psig (2.5 bar)  
H-4 0.06" (1.4 mm), 2.0 watts—18 l/min @ 15 psig (1 bar)  
J-5 0.06" (1.6 mm), 2.8 watts—22 l/min @ 15 psig (1 bar)

### Voltage

012 12 VDC  
024 24 VDC

### Example Part Number:

**E2S10C-2W012**

For more info, scan the  
QR code or visit  
[clippard.com/link/e2s](http://clippard.com/link/e2s)



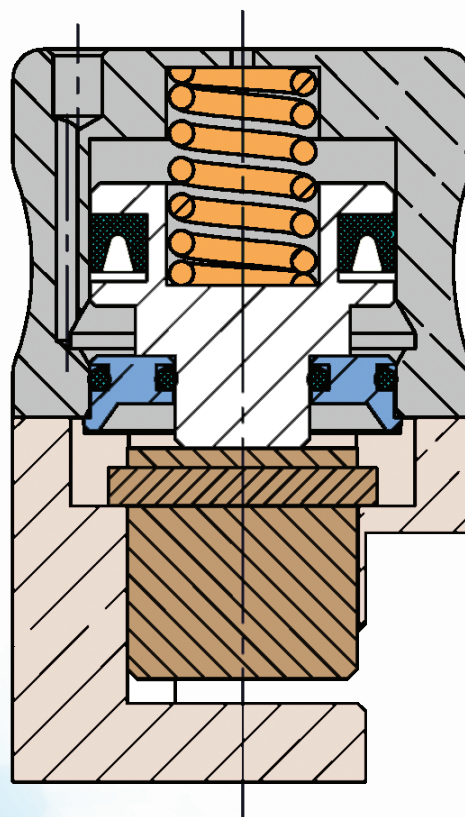
## NPP SERIES PINCH VALVES

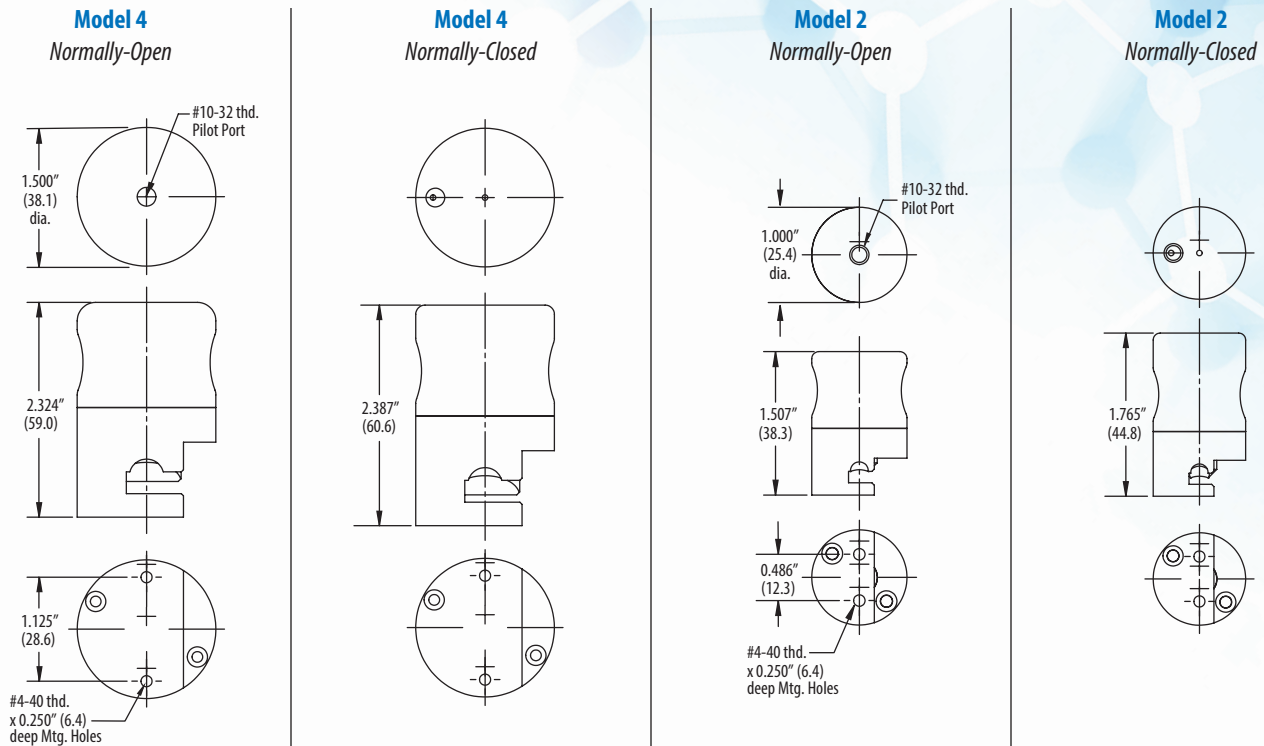


Clippard's NPP series pinch valves utilize an air-piloted design to provide the same functionality and benefits as the NPV series but with the added benefit of lower power and greater force. This makes them ideal for applications that are particularly sensitive to heat or those that require larger or firmer tubes.

- Unobstructed flow path
- Each valve comes with 12" (30 cm) of silicone tubing pre-installed
- Tubing is easily replaceable
- Low power consumption
- High cycle life
- Large variety of tubing sizes available
- Ideal for applications that are sensitive to heat
- A great choice for closing larger and/or firmer tubes

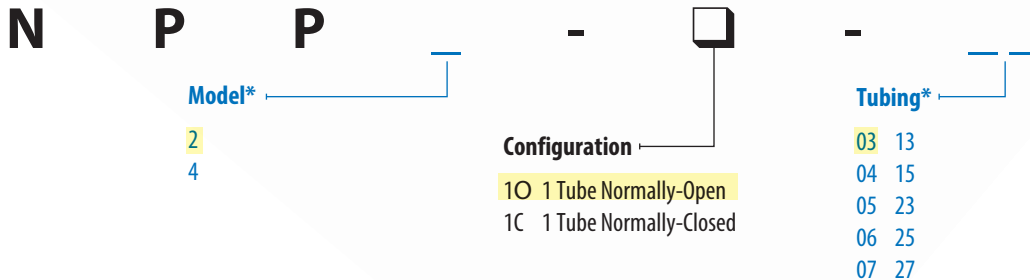
<b>Function</b>	2-way normally-open or normally-closed
<b>Material, Body</b>	Aluminum, ENP
<b>Material, Wetted</b>	Polyurethane tubing ( <i>no wetted areas in valve</i> )
<b>Max. Pilot Pressure</b>	250 psig (17 bar)
<b>Medium</b>	Air, water, gas, or compatible fluids
<b>Mount</b>	#4-40 manifold ( <i>M3 available</i> )
<b>Operating Temp. Range</b>	32 to 230°F (0 to 110°C)
<b>Tubing, Length</b>	Comes with 12" (30 cm) of selected tubing
<b>Voltage</b>	n/a ( <i>air piloted</i> )
<b>Wattage</b>	n/a ( <i>air piloted</i> )
<b>More Details</b>	<a href="http://clippard.com/link/npp-series">clippard.com/link/npp-series</a>





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

## ORDERING INFORMATION



\*Use the chart below to identify the appropriate **Model** and **Tubing** based on the desired specifications.

Tubing Type	Max. Pressure	Tubing I.D.	Tubing O.D.	Tubing Wall	Min. to Open	Min. to Close	Model	Tubing
Medical/Laboratory Grade Silicone Tubing	30 psig (2 bar)	1/16" (1.6 mm)	1/8" (3.8 mm)	1/32" (0.8 mm)	15 psig (1 bar)	30 psig (2 bar)	2	03
	30 psig (2 bar)	1/16" (1.6 mm)	3/16" (4.8 mm)	1/16" (1.6 mm)	40 psig (2.8 bar)	30 psig (2 bar)	2	04
	20 psig (1.4 bar)	1/8" (3.8 mm)	1/4" (6.4 mm)	1/16" (1.6 mm)	10 psig (0.7 bar)	20 psig (1.4 bar)	4	05
	20 psig (1.4 bar)	3/16" (4.8 mm)	5/16" (7.9 mm)	1/16" (1.6 mm)	10 psig (0.7 bar)	20 psig (1.4 bar)	4	06
	20 psig (1.4 bar)	1/4" (6.4 mm)	3/8" (9.5 mm)	1/16" (1.6 mm)	10 psig (0.7 bar)	20 psig (1.4 bar)	4	07
Polyurethane Tubing	105 psig (7.2 bar)	1/16" (1.6 mm)	1/8" (3.8 mm)	1/32" (0.8 mm)	50 psig (3.4 bar)	65 psig (4.5 bar)	2	13
	105 psig (7.2 bar)	1/8" (3.8 mm)	1/4" (6.4 mm)	1/16" (1.6 mm)	45 psig (3 bar)	65 psig (4.5 bar)	4	15
Sanitary Food Grade Silicone Tubing	14 psig (1 bar)	1/16" (1.6 mm)	1/8" (3.8 mm)	1/32" (0.8 mm)	15 psig (1 bar)	30 psig (2 bar)	2	23
	14 psig (1 bar)	1/8" (3.8 mm)	1/4" (6.4 mm)	1/16" (1.6 mm)	10 psig (0.7 bar)	20 psig (1.4 bar)	4	25
	9 psig (0.6 bar)	1/4" (6.4 mm)	3/8" (9.5 mm)	1/16" (1.6 mm)	10 psig (0.7 bar)	20 psig (1.4 bar)	4	27

### Example Part Number:

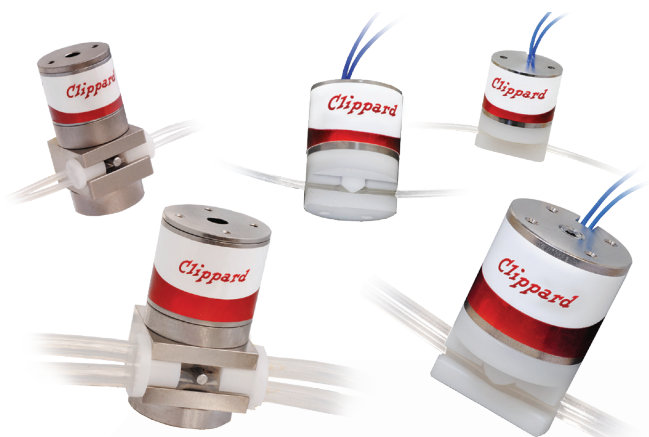
NPP2-1O-03

For more info, scan the QR code or visit

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



## NPV SERIES PINCH VALVES

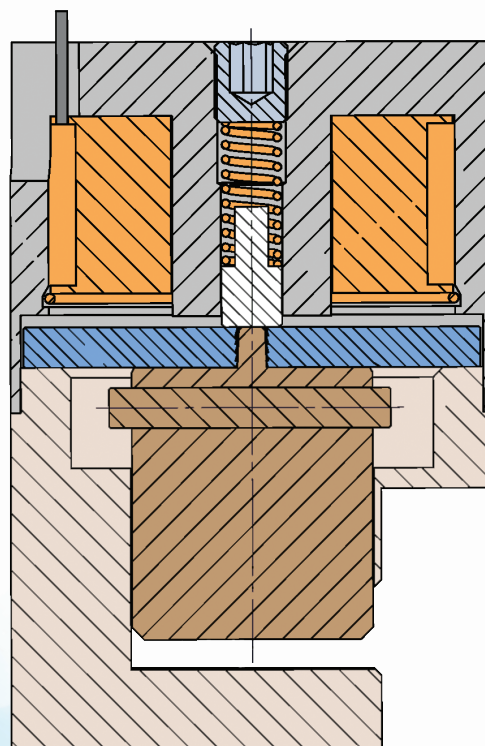


NPV series pinch valves are solenoid-operated devices that are designed to open and close tubes for controlling flow of liquids and gases. Whereas other valve types have internal passages that may cause small amounts of fluid to remain in the valve, pinch valves have no areas where fluid can become trapped. Energizing the solenoid retracts or attracts the plunger, which opens or closes the tube, while de-energizing the solenoid allows the plunger to return to its original state.

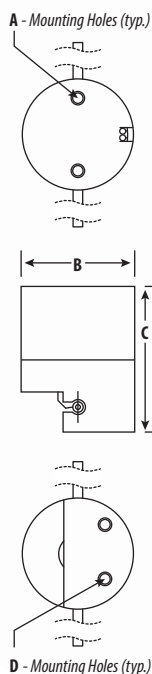
Clippard pinch valves have an unobstructed flow path with zero dead volume—only the inside of the tubing contacts the fluid. This makes them ideal for handling whole blood or other media with particulate matter.

- Unobstructed flow path
- Each valve comes with 12" (30 cm) of silicone tubing pre-installed
- Tubing is easily replaceable
- Low power consumption
- High cycle life
- Large variety of tubing sizes available

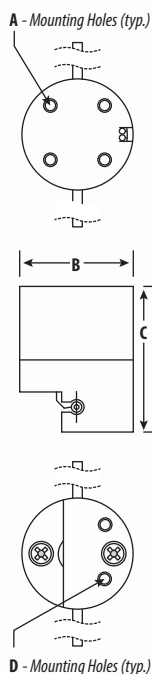
<b>Connection</b>	18" (45 cm) wire leads
<b>Documentation</b>	CE, RoHS
<b>Function</b>	2-way normally-open or normally-closed; 3-way, one tube normally-open, one tube normally-closed
<b>Material, Wetted</b>	Silicone tubing ( <i>no wetted areas in valve</i> )
<b>Max. Pressure</b>	30 psig (2 bar)
<b>Medium</b>	Air, water, gas, or compatible fluids
<b>Mount</b>	#2-56 or #4-40 manifold ( <i>M3 available</i> )
<b>Operating Pressure</b>	0 to 30 psig (0 to 2 bar) with standard medical / laboratory grade silicone tubing
<b>Operating Temperature</b>	-20 to 158°F (-29 to 70°C)
<b>Response Time</b>	5 to 50 ms
<b>Voltage</b>	12 or 24 VDC ( <i>additional options available</i> )
<b>Wattage</b>	1.0 to 7.2 watts
<b>More Details</b>	<a href="http://clippard.com/link/npv-series">clippard.com/link/npv-series</a>



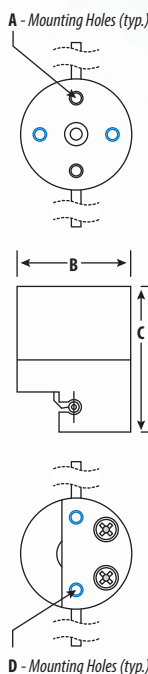
### Model 1 Normally-Closed



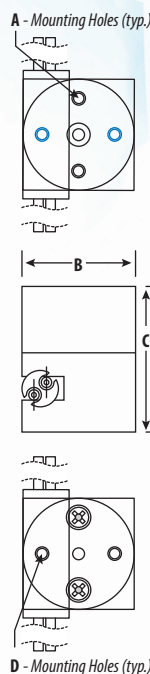
### Models 2, 3, & 4 Normally-Closed



### All Models Normally-Open



### All Models, 3-Way 1 Tube N.O., 1 Tube N.C.



## DIMENSIONS

Model	A	B	C	D
1	#2-56 0.094" (2.4)	0.750" (19.1)	1.000" to 1.625" (25.4 to 41.3)	#2-56 0.188" (4.8) deep
	deep			
2	#4-40 0.125" (3.2)	1.000" (25.4)	1.462" to 1.842" (25.4 to 46.8)	#4-40 0.250" (6.4) deep
	deep			
3	#4-40 0.125" (3.2)	1.250" (31.8)	1.842" to 2.313" (46.8 to 58.8)	#4-40 0.250" (6.4) deep
	deep			
4	#4-40 0.125" (3.2)	1.500" (38.1)	2.197" to 2.663" (55.8 to 67.6)	#4-40 0.250" (6.4) deep
	deep			

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

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

## ORDERING INFORMATION

**N P V**

Model<sup>1</sup>

1  
2  
3  
4

**Additional  
Circuitry Option**

(blank) None  
L Hit & Hold<sup>2</sup>  
<sup>2</sup>L option not available  
with model 1

**Configuration**

1O 1 Tube Normally-Open  
1C 1 Tube Normally-Closed  
2D 1 Tube Normally-Open,  
1 Tube Normally-Closed

**Tubing<sup>1</sup>**

01 06  
02 07  
03 23  
04 25  
05 27

**Voltage**

12 12 VDC  
24 24 VDC

<sup>1</sup>Use the chart below to identify the appropriate **Model** and **Tubing** based on the desired specifications.

Tubing Type	Max. Pressure	Tubing I.D.	Tubing O.D.	Tubing Wall	Amps	Power	Model	Tubing
Medical/Laboratory Grade Silicone Tubing	30 psig (2 bar)	0.030" (0.8 mm)	0.065" (1.7 mm)	0.0175" (0.4 mm)	0.08	1.0 W	1	01
		1/32" (0.8 mm)	3/32" (2.4 mm)	1/32" (0.8 mm)	0.13	1.5 W	2	02
		1/16" (1.6 mm)	1/8" (3.2 mm)	1/32" (0.8 mm)	0.13	1.5 W	2	03
		1/16" (1.6 mm)	3/16" (4.8 mm)	1/16" (1.6 mm)	0.40	4.2 W	3	04
	20 psig (1.4 bar)	1/8" (3.2 mm)	1/4" (6.4 mm)	1/16" (1.6 mm)	0.40	4.2 W	3	05
		3/16" (4.8 mm)	5/16" (7.9 mm)	1/16" (1.6 mm)	0.60	7.2 W	4	06
Sanitary Food Grade Silicone Tubing	14 psig (1 bar)	1/16" (1.6 mm)	1/8" (3.2 mm)	1/32" (0.8 mm)	0.13	1.5 W	2	23
		1/8" (3.2 mm)	1/4" (6.4 mm)	1/6" (1.6 mm)	0.40	4.2 W	3	25
	9 psig (0.6 bar)	1/4" (6.4 mm)	3/8" (9.5 mm)	1/16" (1.6 mm)	0.60	7.2 W	4	27

### Example Part Number:

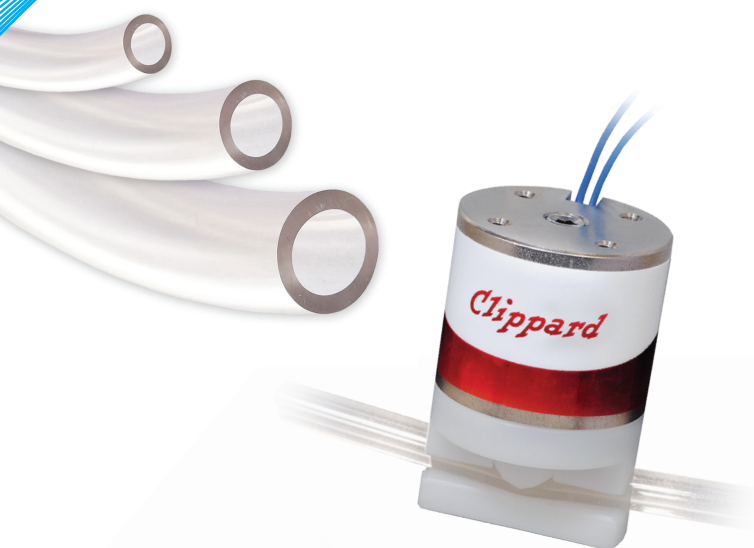
NPV1-1O-01-12

For more info, scan the  
QR code or visit

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



## PINCH VALVE TUBING



Clippard pinch valves come pre-installed with 12" of easily replaceable medical/laboratory grade or sanitary food grade silicone tubing available in a large variety of sizes.

- Each valve comes with 12" (30 cm) of select silicone tubing pre-installed
- Tubing is easily replaceable
- High cycle life
- Large variety of tubing sizes available
- Available in 5' (1.5 meter) or 50' (15.2 meter) rolls
- Excellent flexibility

### High Quality Medical / Laboratory / Pharmaceutical Grade Silicone

<b>Material</b>	Platinum-cured silicone
<b>Durometer</b>	50 Shore A
<b>Tensile Strength</b>	1,388 psi (95 bar) at break
<b>Elongation at Break</b>	815%
<b>Modulus at 200%</b>	299 psi (20 bar)
<b>Tear Strength</b>	263 ppi (46 N/mm)

- No organic plasticizers, phthalates or latex additives
- No peroxide cure chlorophenyl or PCB by-products
- Exceeds USP Class VI plastic tests
- Meets ISO 10993 guidelines for body contact applications
- Manufactured to the principles of FDA 21 CFR 210/211 cGMPs for pharmaceutical products
- Produced in an FDA-registered (CFN-1816403) and inspected healthcare facility

### High Quality Sanitary Food Grade Silicone

<b>Material</b>	Platinum-cured silicone
<b>Durometer</b>	50 Shore A
<b>Tensile Strength</b>	1,450 psi (99 bar) at break
<b>Elongation at Break</b>	770%
<b>Modulus at 200%</b>	280 psi (19 bar)
<b>Tear Strength</b>	200 ppi (35 N/mm)

- Suitable for applications where preservation of taste, aroma and color are crucial
- Entirely non-toxic, non-hemolytic and non-pyrogenic
- Meets USP Class VI criteria and 3-A sanitary standards
- NSF 51 standard and FDA 21 CFR Part 177.2600 criteria
- Complies with ISO 10993 guidelines for contact with blood (or other body fluids or tissue) for up to 30 days as listed in the FDA GP-84

### Polyurethane

<b>Material</b>	Polyurethane
<b>Durometer</b>	85 Shore A
<b>Static Burst Pressure</b>	>500 psig (34.5 bar) @ 70°F (21°C)

- Abrasion and chemical resistant
- UV stabilized
- NSF61 resin compliance, meets UL94MB and USPVI

# More Information About Pinch Valve Tubing

## High Quality Medical/Laboratory Grade Silicone

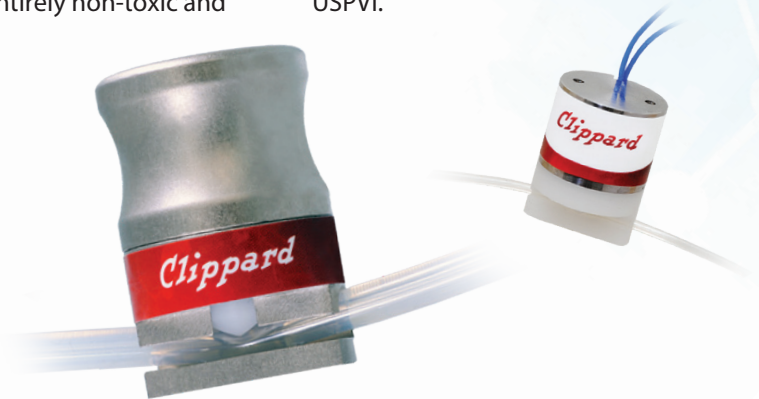
This high quality, platinum-cured silicone tubing is specifically designed for use in medical devices and contains no organic plasticizers, phthalates or latex additives, peroxide cure chlorophenyl, or PCB by-products. This type of silicone tubing is commonly used in medical applications such as drug dispensing, urinary collection systems, dialysis equipment, IV systems, on the waste side of instrumentation, and countless other applications.

## High Quality Sanitary Food Grade Silicone

This high quality, food grade tubing is suitable for various applications in the food and beverage industries where preservation of taste, aroma and color are crucial. It is entirely non-toxic and non-pyrogenic.

## Polyurethane

This is a flexible, durable, UV-stabilized, ether-based tubing. It is abrasion and chemical resistant and well-suited for a wide range of applications. Complies with NSF61 and meets UL94MB and USPVI.



## ORDERING INFORMATION

Tubing Type		Tubing No.		Max. Pressure		Tubing I.D.	Tubing O.D.	Tubing Wall	Tubing	Roll Size	
										005 5' (1.5 meters)	050 50' (15 meters)
SIH1	Medical/Laboratory Grade Silicone Tubing	0201		30 psig (2 bar)		0.030" (0.8 mm)	0.065" (1.7 mm)	0.0175" (0.4 mm)	01		
		0301				1/32" (0.8 mm)	3/32" (2.4 mm)	1/32" (0.8 mm)	02		
		0402				1/16" (1.6 mm)	1/8" (3.2 mm)	1/32" (0.8 mm)	03	15 psig (1 bar)	30 psig (2 bar)
		0602				1/16" (1.6 mm)	3/16" (4.8 mm)	1/16" (1.6 mm)	04	40 psig (2.8 bar)	30 psig (3 bar)
		0804				1/8" (3.2 mm)	1/4" (6.4 mm)	1/16" (1.6 mm)	05	10 psig (0.7 bar)	20 psig (1.4 bar)
		1006		20 psig (1.4 bar)		3/16" (4.8 mm)	5/16" (7.9 mm)	1/16" (1.6 mm)	06	10 psig (0.7 bar)	20 psig (1.4 bar)
SFG1	Sanitary Food Grade Silicone Tubing	1208				1/4" (6.4 mm)	3/8" (9.5 mm)	1/16" (1.6 mm)	07	10 psig (0.7 bar)	20 psig (1.4 bar)
		0402		14 psig (1 bar)		1/16" (1.6 mm)	1/8" (3.2 mm)	1/32" (0.8 mm)	23	15 psig (1 bar)	30 psig (3 bar)
		0804				1/8" (3.2 mm)	1/4" (6.4 mm)	1/16" (1.6 mm)	25	10 psig (0.7 bar)	20 psig (1.4 bar)
URH1	Polyurethane Tubing	1208		9 psig (0.6 bar)		1/4" (6.4 mm)	3/8" (9.5 mm)	1/16" (1.6 mm)	27	10 psig (0.7 bar)	20 psig (1.4 bar)
		0402		105 psig (7.2 bar)		1/16" (1.6 mm)	1/8" (3.2 mm)	5/16" (7.9 mm)	13	50 psig (3.4 bar)	65 psig (4.5 bar)
		0804				1/8" (3.2 mm)	1/4" (6.4 mm)	1/16" (1.6 mm)	15	45 psig (3 bar)	65 psig (4.5 bar)

### Example Part Number:

SIH1-0201-NAS-005

For more info, scan the QR code or visit

[clippard.com/link/pinch-tubing](http://clippard.com/link/pinch-tubing)



## LONG STROKE PINCH VALVE



This powerful pinch valve provides the same functionality as Clippard's standard NPV series but with the added benefits of a longer stroke. This makes it ideal for applications that require greater flow or those that utilize viscous or particulate-laden media. As with all Clippard pinch valves, each valve comes pre-installed with 12" (30 cm) of your choice of standard medical/laboratory grade or sanitary food grade silicone tubing. The NPV7 series comes with an integrated hit hold circuit board installed for lower power consumption, less heat, and increased life cycle.

Do you have an application that requires a special type of tubing? All Clippard pinch valves are compatible with a wide range of tubing. Contact us to discuss your specific needs.

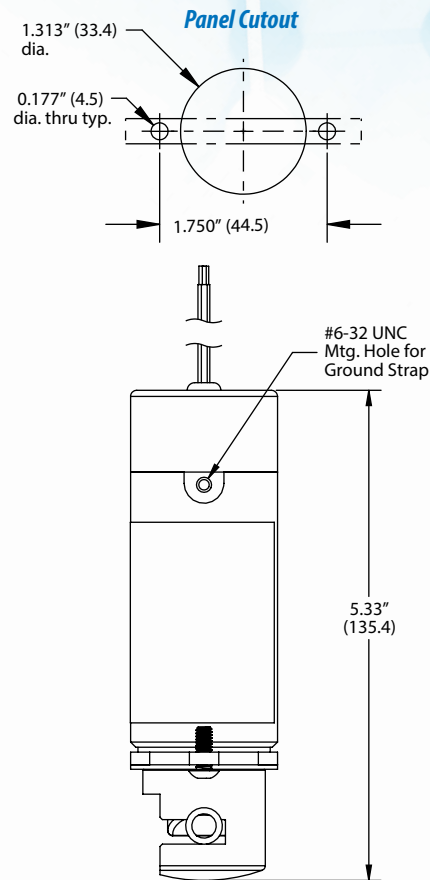
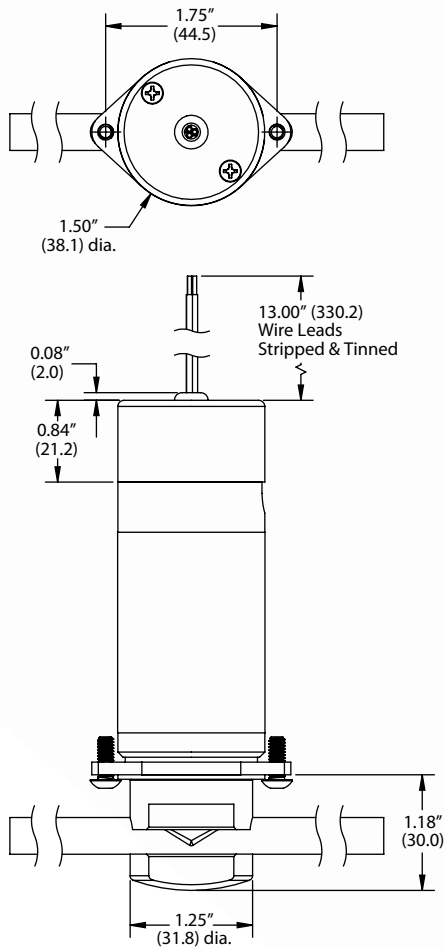
- Unobstructed flow path
- Each valve comes with 12" (30 cm) of silicone tubing pre-installed
- Tubing is easily replaceable
- Higher flow
- Longer stroke

<b>Connection</b>	13" (33 cm) wire leads
<b>Documentation</b>	IEC, RoHS
<b>Function</b>	2-way normally-closed
<b>LED Indicators</b>	Power status (green), trigger status (blue), warning status (red—indicates for > 3.75A, > 140°C, or short circuit)
<b>Material, Body</b>	Stainless steel and aluminum (ENP)
<b>Material, Wetted</b>	Silicone tubing (no wetted areas in valve)
<b>Medium</b>	Air, water, gas, or compatible fluids
<b>Mount</b>	Panel
<b>Operating Pressure</b>	0 to 20 psig (0 to 1.4 bar) with standard medical / laboratory grade silicone tubing
<b>Operating Temperature</b>	-20 to 158°F (-29 to 70°C)
<b>Output</b>	8-24 V, 3A max.
<b>Response Time</b>	50 ms
<b>Voltage</b>	24 VDC
<b>Voltage, Hold PWM Freq.</b>	Approx. 25 kHz
<b>Voltage, Trigger Input</b>	3.3 to 24 VDC
<b>Wattage</b>	72 watts hit, 8 watts hold after 115 ±15 ms
<b>More Details</b>	<a href="http://clippard.com/link/npv7">clippard.com/link/npv7</a>

*\*Note: It is not recommended to use this valve without the addition of current-limiting circuitry (i.e., hit and hold circuit and/or pwm). On its own, the valve surface will reach temperatures exceeding 140°F (60°C) and will become a burn hazard.*

## Applications

- Medical and analytical testing
- Dialysis
- Blood analysis and processing
- Peptide and DNA synthesis
- Bioreactors and bioprocessing
- Inkjet printing
- Liquid and gas chromatography
- Drug manufacturing
- Chemical processing
- Controlling the flow of chemical liquids and slurries
- Water and wastewater treatment
- Precision control of chemical injections
- Food and pulp processing
- Handling abrasive or viscous fluids



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

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

## ORDERING INFORMATION

**N P V 7 L - 1 C P - - 2 4**

Tubing\*

06  
07  
27

\*Use the chart below to identify the appropriate tubing based on the desired specifications.

Tubing Type	Max. Pressure	Tubing I.D.	Tubing O.D.	Tubing Wall	Tubing
Medical/Laboratory Grade Silicone Tubing	20 psig (1.4 bar)	3/16" (4.8 mm)	5/16" (7.9 mm)	1/16" (1.6 mm)	06
	10 psig (0.7 bar)	1/4" (6.4 mm)	3/8" (9.5 mm)	1/16" (1.6 mm)	07
Sanitary Food Grade Silicone Tubing	9 psig (0.6 bar)	1/4" (6.4 mm)	3/8" (9.5 mm)	1/16" (1.6 mm)	27

### Example Part Number:

NPV7-1CP-06-24

For more info, scan the QR code or visit  
[clippard.com/link/npv7](http://clippard.com/link/npv7)



## PANEL MOUNT NPV PINCH VALVES



For applications that require better access or enhanced cleanliness, Clippard NPV series pinch valves are also available with a convenient panel mount option. Panel mounted pinch valves provide all the same benefits as Clippard's standard NPV series along with seamless integration and easy accessibility. Compared to standard manifold mounted pinch valves, panel mounting offers simplified installation, a cleaner appearance, and reduced contamination risk.

As with all Clippard pinch valves, the panel mounted NPV series features an unobstructed flow path with zero dead volume—only the inside of the tubing contacts the fluid.

- Unobstructed flow path
- Each valve comes with 12" (30 cm) of silicone tubing pre-installed
- Tubing is easily replaceable
- Low power consumption
- High cycle life
- Large variety of tubing sizes available

<b>Connection</b>	18" (45 cm) wire leads
<b>Documentation</b>	CE, RoHS
<b>Function</b>	2-way normally-open or normally-closed
<b>Material, Body</b>	Aluminum ENP
<b>Material, Wetted</b>	Silicone tubing ( <i>no wetted areas in valve</i> )
<b>Max. Pressure</b>	30 psig (2 bar)
<b>Medium</b>	Air, water, gas, or compatible fluids
<b>Mount</b>	Thru panel (max. thickness 1/4")
<b>Operating Pressure</b>	0 to 30 psig (0 to 2 bar) with standard medical / laboratory grade silicone tubing
<b>Operating Temperature</b>	-20 to 158°F (-29 to 70°C)
<b>Ports</b>	#10-32, 1/4-28 UNF, or 1/8 NPS
<b>Response Time</b>	50 ms
<b>Voltage</b>	12 or 24 VDC ( <i>additional options available</i> )
<b>Wattage</b>	1.0 to 7.2 watts
<b>More Details</b>	<a href="http://clippard.com/link/npv-p">clippard.com/link/npv-p</a>

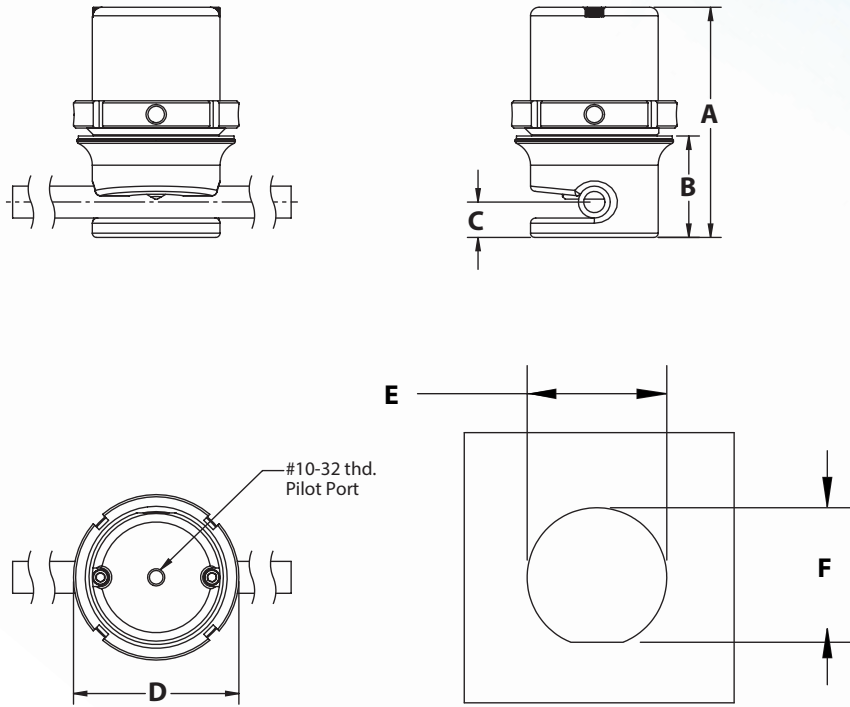


## DIMENSIONS

Model	2	3	4
A - N.O.	2.04" (51.89)	2.45" (62.23)	2.83" (71.98)
A - N.C.	2.19" (55.74)	2.62" (66.61)	3.01" (76.37)
B	.83" (21.08)	1.04" (26.37)	1.32" (33.58)
C	0.29" (7.37)	0.42" (10.54)	0.53" (13.49)
D	1.45" dia. (36.75)	1.70" dia. (43.13)	1.94" dia. (49.38)
E	1.150" ±0.005" dia. (29.21 ±0.13)	1.390" ±0.005" dia. (35.31 ±0.13)	1.640" ±0.005" dia. (41.66 ±0.13)
F	1.085" ±0.005" (27.56 ±0.13)	1.335" ±0.005" (33.91 ±0.13)	1.580" ±0.005" (40.13 ±0.13)

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

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



## ORDERING INFORMATION

Model <sup>1</sup>	Additional Circuitry Option	Configuration	Tubing <sup>1</sup>	Voltage
2 3 4	(blank) None L Hit & Hold <sup>2</sup> <sup>2</sup> L option not available with model 1	1O 1 Tube Normally-Open 1C 1 Tube Normally-Closed	02 07 03 23 04 25 05 27	12 12 VDC 24 24 VDC

<sup>1</sup>Use the chart below to identify the appropriate **Model** and **Tubing** based on the desired specifications.

Tubing Type	Max. Pressure	Tubing I.D.	Tubing O.D.	Tubing Wall	Amps	Power	Model	Tubing
Medical/Laboratory Grade Silicone Tubing	30 psig (2 bar)	1/32" (0.8 mm)	3/32" (2.4 mm)	1/32" (0.8 mm)	0.13	1.5 W	2	02
		1/16" (1.6 mm)	1/8" (3.2 mm)	1/32" (0.8 mm)	0.13	1.5 W	2	03
		1/16" (1.6 mm)	3/16" (4.8 mm)	1/16" (1.6 mm)	0.40	4.2 W	3	04
	20 psig (1.4 bar)	1/8" (3.2 mm)	1/4" (6.4 mm)	1/16" (1.6 mm)	0.40	4.2 W	3	05
		1/4" (6.4 mm)	3/8" (9.5 mm)	1/16" (1.6 mm)	0.60	7.2 W	4	07
Sanitary Food Grade Silicone Tubing	14 psig (1 bar)	1/16" (1.6 mm)	1/8" (3.2 mm)	1/32" (0.8 mm)	0.13	1.5 W	2	23
		1/8" (3.2 mm)	1/4" (6.4 mm)	1/16" (1.6 mm)	0.40	4.2 W	3	25
	9 psig (0.6 bar)	1/4" (6.4 mm)	3/8" (9.5 mm)	1/16" (1.6 mm)	0.60	7.2 W	4	27

### Example Part Number:

NPV2-1OP-02-12

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



## PANEL MOUNT NPP PINCH VALVES



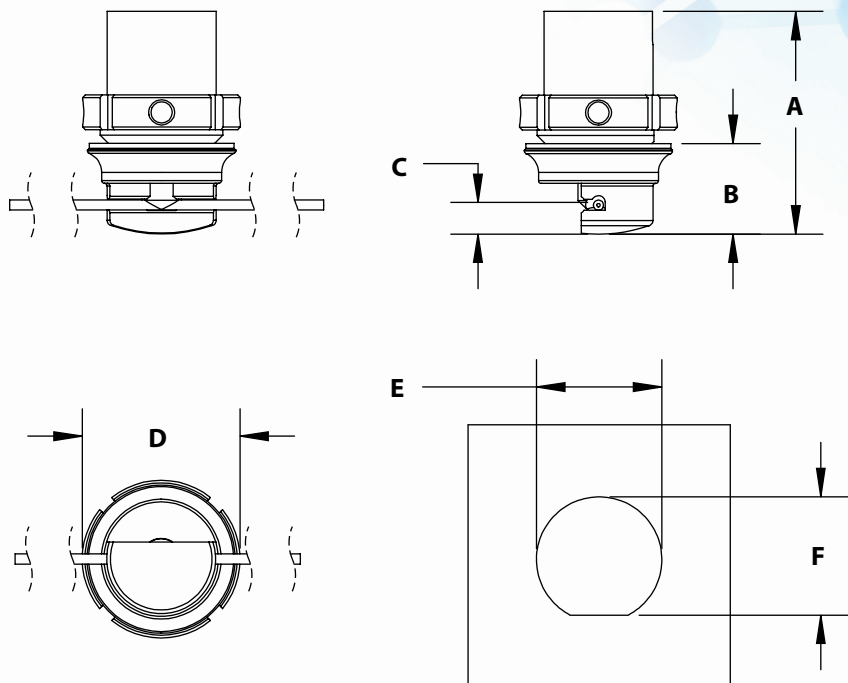
<b>Function</b>	2-way normally-open or normally-closed
<b>Material, Body</b>	Aluminum ENP
<b>Material, Wetted</b>	Silicone or polyurethane tubing (no wetted areas in valve)
<b>Max. Pilot Pressure</b>	250 psig (17 bar)
<b>Medium</b>	Air, water, gas, or compatible fluids
<b>Mount</b>	Thru panel (max. thickness 1/4")
<b>Operating Temp. Range</b>	32 to 230°F (0 to 110°C)
<b>Tubing, Length</b>	Comes with 12" (30 cm) of selected tubing
<b>More Details</b>	<a href="http://clippard.com/link/npp-p">clippard.com/link/npp-p</a>

For applications that require better access or enhanced cleanliness, Clippard NPP series pinch valves are also available with a convenient panel mount option. Panel mounted pinch valves provide all the same benefits as Clippard's standard NPP series along with seamless integration and easy accessibility. Compared to standard manifold mounted pinch valves, panel mounting offers simplified installation, a cleaner appearance, and reduced contamination risk.

As with all Clippard pinch valves, the panel mounted NPP series features an unobstructed flow path with zero dead volume—only the inside of the tubing contacts the fluid.

- Unobstructed flow path
- Each valve comes with 12" (30 cm) of silicone tubing pre-installed
- Tubing is easily replaceable
- High cycle life
- Large variety of tubing sizes available





## DIMENSIONS

Model	2	4
A - N.O.	1.95" (49.63)	2.70" (68.68)
A - N.C.	2.21" (56.18)	2.77" (70.28)
B	0.77" (19.58)	1.19" (30.25)
C	0.238" (6.03)	0.42" (10.57)
D	1.45" (36.75)	1.94" (49.38)
E	1.150" ±0.005" dia. (29.21 ±0.13)	1.640" ±0.005" dia. (41.66 ±0.13)
F	1.085" ±0.005" (27.56 ±0.13)	1.580" ±0.005" (40.13 ±0.13)

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

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

## ORDERING INFORMATION

N	P	P	-	P	-
Model*			Configuration	Tubing*	
2 4			1O 1 Tube Normally-Open 1C 1 Tube Normally-Closed	03 13 04 15 05 23 06 25 07 27	

\*Use the chart below to identify the appropriate **Model** and **Tubing** based on the desired specifications.

Tubing Type	Max. Pressure	Tubing I.D.	Tubing O.D.	Tubing Wall	Min. to Open	Min. to Close	Model	Tubing
Medical/Laboratory Grade Silicone Tubing	30 psig (2 bar)	1/16" (1.6 mm)	1/8" (3.8 mm)	1/32" (0.8 mm)	15 psig (1 bar)	30 psig (2 bar)	2	03
	30 psig (2 bar)	1/16" (1.6 mm)	3/16" (4.8 mm)	1/16" (1.6 mm)	40 psig (2.8 bar)	30 psig (2 bar)	2	04
	20 psig (1.4 bar)	1/8" (3.8 mm)	1/4" (6.4 mm)	1/16" (1.6 mm)	10 psig (0.7 bar)	20 psig (1.4 bar)	4	05
	20 psig (1.4 bar)	3/16" (4.8 mm)	5/16" (7.9 mm)	1/16" (1.6 mm)	10 psig (0.7 bar)	20 psig (1.4 bar)	4	06
	20 psig (1.4 bar)	1/4" (6.4 mm)	3/8" (9.5 mm)	1/16" (1.6 mm)	10 psig (0.7 bar)	20 psig (1.4 bar)	4	07
Polyurethane Tubing	105 psig (7.2 bar)	1/16" (1.6 mm)	1/8" (3.8 mm)	1/32" (0.8 mm)	50 psig (3.4 bar)	65 psig (4.5 bar)	2	13
	105 psig (7.2 bar)	1/8" (3.8 mm)	1/4" (6.4 mm)	1/16" (1.6 mm)	45 psig (3 bar)	65 psig (4.5 bar)	4	15
Sanitary Food Grade Silicone Tubing	14 psig (1 bar)	1/16" (1.6 mm)	1/8" (3.8 mm)	1/32" (0.8 mm)	15 psig (1 bar)	30 psig (2 bar)	2	23
	14 psig (1 bar)	1/8" (3.8 mm)	1/4" (6.4 mm)	1/16" (1.6 mm)	10 psig (0.7 bar)	20 psig (1.4 bar)	4	25
	9 psig (0.6 bar)	1/4" (6.4 mm)	3/8" (9.5 mm)	1/16" (1.6 mm)	10 psig (0.7 bar)	20 psig (1.4 bar)	4	27

### Example Part Number:

NPP2-1OP-03

For more info, scan the  
QR code or visit

[clippard.com/link/npp-p](http://clippard.com/link/npp-p)



## HIT & HOLD OPTION



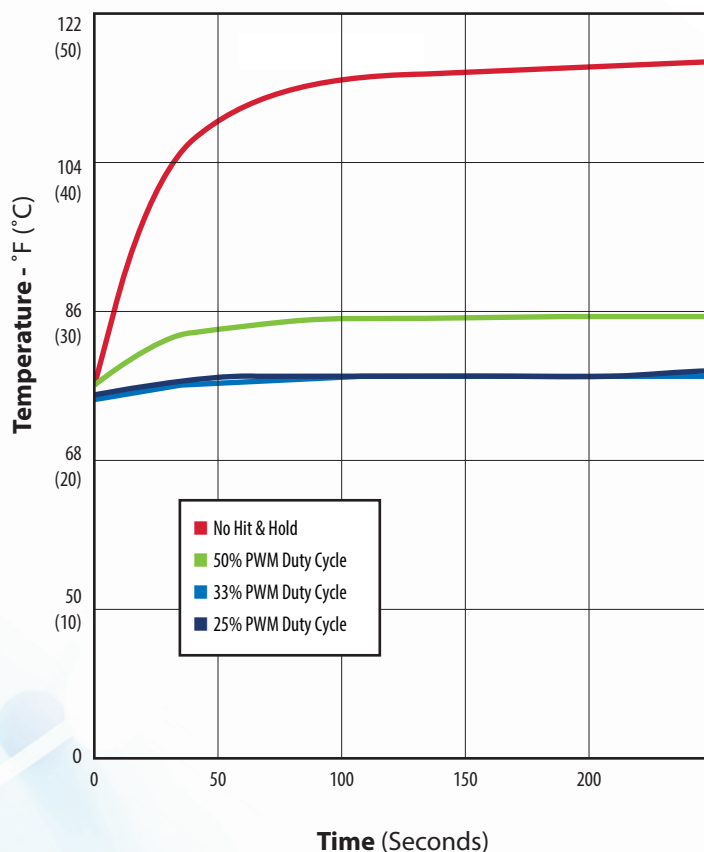
<b>Hold Voltage PWM Freq.</b>	Approx. 25 KHz
<b>LED Indicators</b>	Power status (green), trigger status (blue), warning (red)—indicates for over 3.75 A, over 140°C, or short circuit)
<b>Hit Time</b>	115 ± 30 ms
<b>Trigger Input</b>	3.3 to 24 VDC, 10mA @ 24 VDC trigger input
<b>Life Cycle</b>	>2,000,000
<b>Valve Voltage</b>	12 or 24 VDC (nominal)
<b>More Info</b>	<a href="http://clippard.com/link/hit-hold">clippard.com/link/hit-hold</a>

The general principal behind a hit and hold circuit is that the valve is energized to full power for a short period of time before dropping the voltage and current to a specified level. Applications that are sensitive to heat rise can greatly benefit from hit and hold circuits by maintaining lower temperatures in a variety of applications. In some applications, hit and hold can actually extend the life of the valve.

Clippard's hit and hold option minimizes the heat generated by the coil when the valve is energized for longer than 5 minutes. The optimized duty cycle is factory set and is available on Clippard NIV, PIV, and NPV series valves.

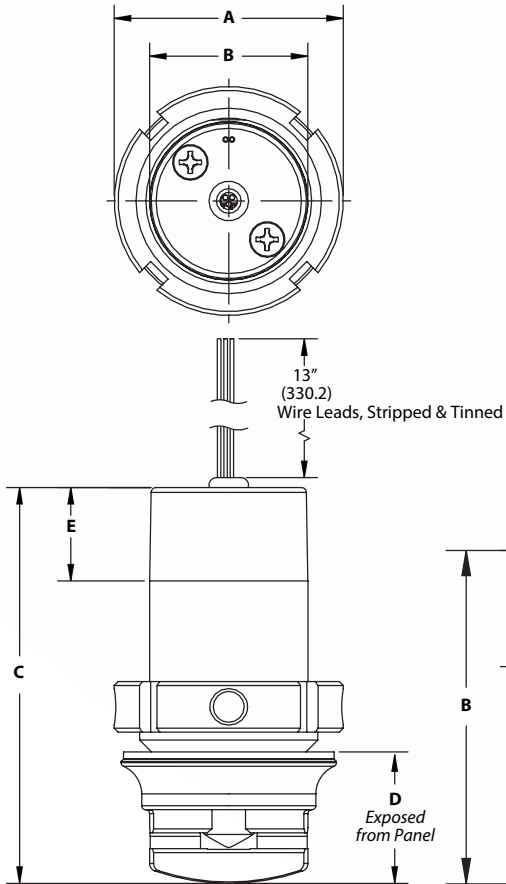
- Lower power consumption
- Less heat generation by the coil
- Increased life cycle
- Ideal for applications that are sensitive to heat rise

### VALVE HEATING TREND

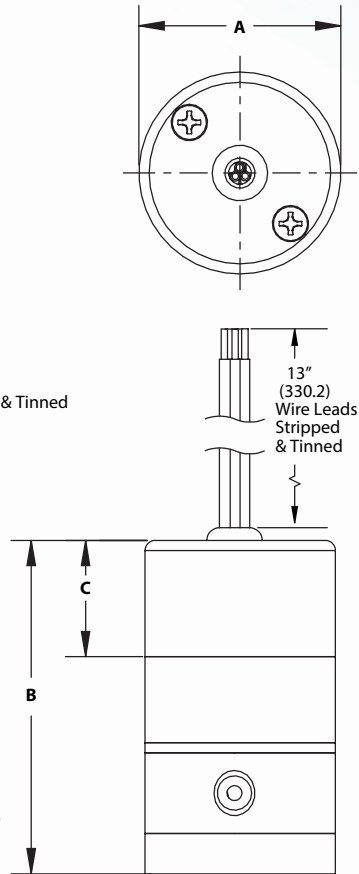


NPV-2 duty cycle testing under ambient temperature conditions

## NPV-P Panel Mounted Pinch Valves



## NIV / NPV Isolation and Pinch Valves



## DIMENSIONS, NPV-P (Panel Mounted Pinch Valves)

Model	2	3	4
A	1.45" dia. (36.8)	1.70" dia. (43.1)	1.94" dia. (49.4)
B	1.00" dia. (25.4)	1.25" dia. (31.7)	1.50" dia. (38.1)
C	2.63" (66.9)	3.04" (77.2)	3.42" (87.0)
D	0.83" (21.2)	1.04" (26.4)	1.32" (33.6)
E	0.72" (18.3)	0.72" (18.3)	0.84" (20.8)

## DIMENSIONS, NIV & NPV (Isolation & Pinch Valves)

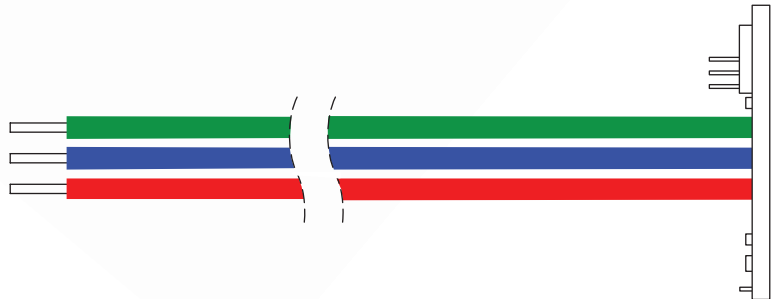
Model	2	3	4
A	1.00" dia. (25.4)	1.25" dia. (31.7)	1.50" dia. (38.1)
B	2.04" (51.8)	2.44" (61.9)	2.79" (70.8)
C	0.72" (18.3)	0.72" (18.3)	0.84" (20.8)

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

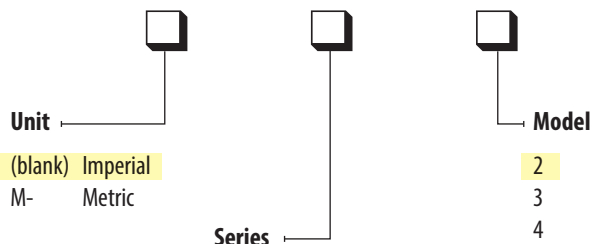
Visit [clippard.com](http://clippard.com) for more detailed  
2D and 3D drawings.

## WIRING DIAGRAM

<span style="color: green;">■</span>	Ground
<span style="color: blue;">■</span>	Trigger—Triggering input, 3.3-24 VDC
<span style="color: red;">■</span>	Valve Voltage—12 or 24 VDC depending on valve coil selected



## ORDERING INFORMATION



Unit  
(blank) Imperial  
M- Metric

Series

NPV NPV Series Pinch Valve  
NIV NIV Series PTFE Isolation Valve or Gradient/Mixing Valve  
PIV PIV Series PTFE & PEEK Isolation Valve

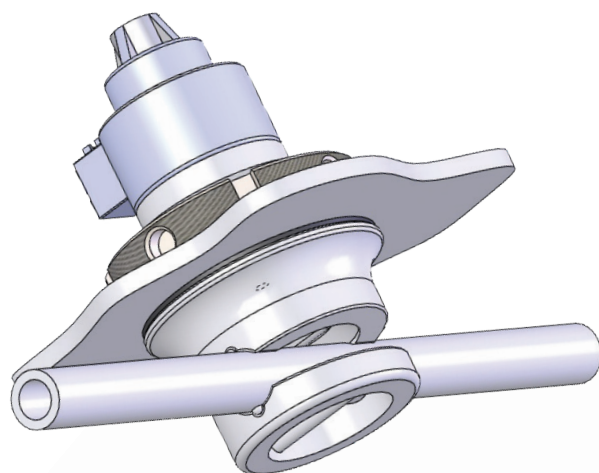
Model  
2  
3  
4

Refer to the series data sheet or  
online configurator for complete  
ordering information

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



## PPV PROPORTIONAL PINCH VALVE



Function	2-way proportional
Material, Body	ENP aluminum
Material, Seals	FKM
Material, Wetted	TPE tubing ( <i>no wetted areas in valve</i> )
Medium	Air, water, gas, or compatible fluids
Mount	Panel ( <i>gasketed</i> )
Operating Pressure	20 to 30 psig (1.5 to 2 bar)
Panel Thickness	0.250" (6.4 mm) max.
Temperature, Ambient	32 to 180°F (0 to 82°C)
More Details	<a href="http://clippard.com/link/ppv">clippard.com/link/ppv</a>

Clippard's PPV series pinch valve proportionally controls the flow of liquids and gases by pinching a tube set using a high force, high accuracy stepper-driven linear actuator. Its unique design features enable you to take your applications to the next level by providing proportional resolution and linearity that far exceed those of competing models (see chart below).

As with all Clippard pinch valves, the only wetted material is the tubing, which is a medical and pharmaceutical grade thermoplastic elastomer developed to be an excellent alternative to silicone. In addition, the PPV's gasketed panel mount design makes it ideal for applications where sterility and washdown procedures are required.

### Patent Pending

- **Finer resolution and greater linearity**  
(*compared with competition*)
- **Replaceable and sterilizable tube set**  
(*Gamma, EtO, and autoclave capable tubing*)
- **Gasketed panel mount for clean rooms and washdown**
- **High force, high accuracy stepper-driven linear actuator holds position for power savings or at a loss of power**
- **Available in 1/4" and 3/8" OD tube sizes**  
(*other sizes also available, contact Clippard to discuss*)

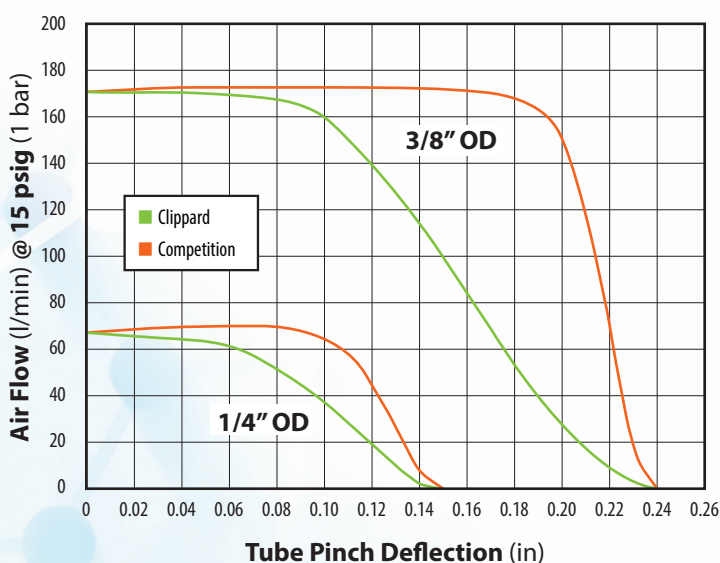
### ELECTRICAL SPECIFICATIONS

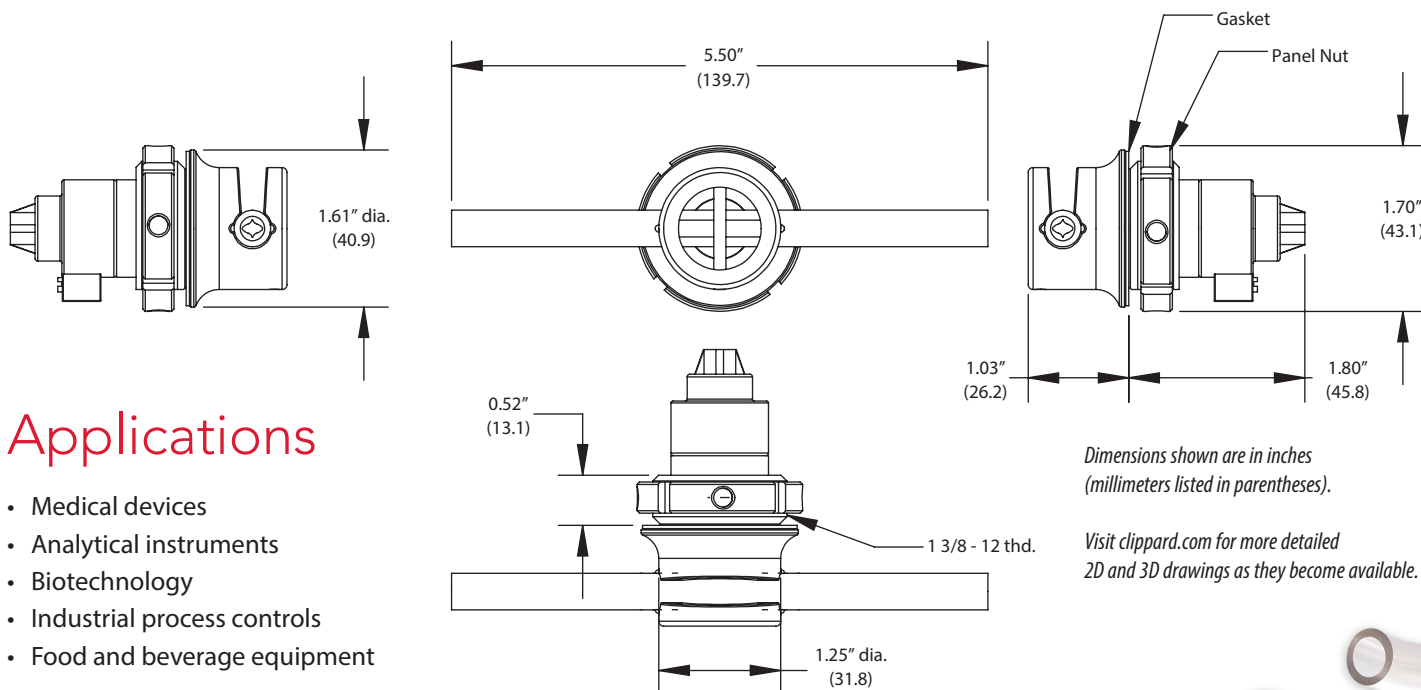
Driver	Bipolar chopper drive
Supply Voltage	5 VDC to motor
Wattage	3.85 watts nominal, 0 power consumption to maintain position

### PRELIMINARY

**Note: This product is still in development.**  
*Specifications are subject to change.*

### TYPICAL PINCH VALVE FLOW CHARACTERISTIC



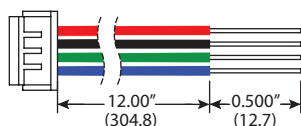


## Applications

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

### LINEAR ACTUATOR CHARACTERISTICS

Current / Phase	385 mA
Inductance / Phase	8.08 mH
Insulation Resistance	20M ohms
Motor Voltage	5 VDC
Resistance / Phase	13 ohms
Temperature Rise	135°F (57°C)
Wattage	3.85 watts
Wiring	Bipolar



#### Wiring Harness (Included)

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

### HIGH QUALITY MEDICAL / PHARMACEUTICAL GRADE TPE TUBING

Certifications	REACH, RoHS, USP 661 compliant, CFR Title 21, USP Class VI, ISO 10993 (part 4 and 5)
Durometer	68 Shore A
Elongation at Break	470%
Material	Medical / pharmaceutical grade TPE
Size 1*	1/8" (3.2 mm) ID x 1/4" (6.4 mm) OD Max. operating pressure 30 psig (2 bar)
Size 2*	1/4" (6.4 mm) ID x 3/8" (9.5 mm) OD Max. operating pressure 20 psig (1.5 bar)
Sterilization	Autoclave to 275°F (135°C), gamma resistance to 45 kGy, ethylene oxide (EtO)
Tensile Strength	870 psig (60 bar) at break

\*Other sizes also available, contact Clippard to discuss

### ORDERING INFORMATION

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

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

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