Clippard

ISOLATION VALVES

Isolation Valves

Eclipse Proportional Isolation Valve

p. 4

Patented ceramic slide technology

Unrivaled 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

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Long stroke

Panel mounted

NIV Series Gradient / Mixing Valves

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All wetted areas PTFE

Individually-controlled flow paths

AIV Series Air-Operated Isolation Valve

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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

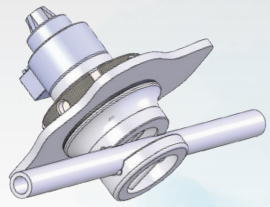
Hit & Hold Option

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.

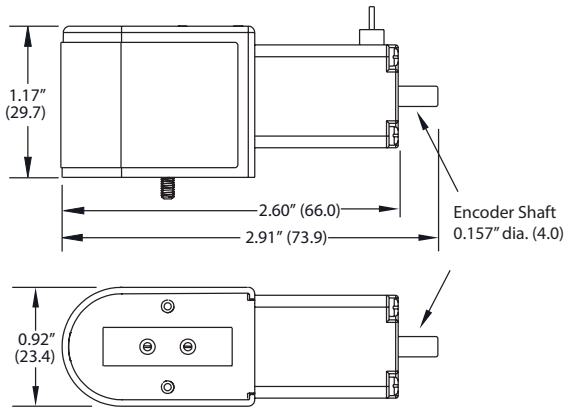
Utilizing a robust and powerful miniature linear actuator, the Eclipse is stepper-controlled, micro-stepping capable, encoder-ready, and its unique design allows for custom flow profiles.

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

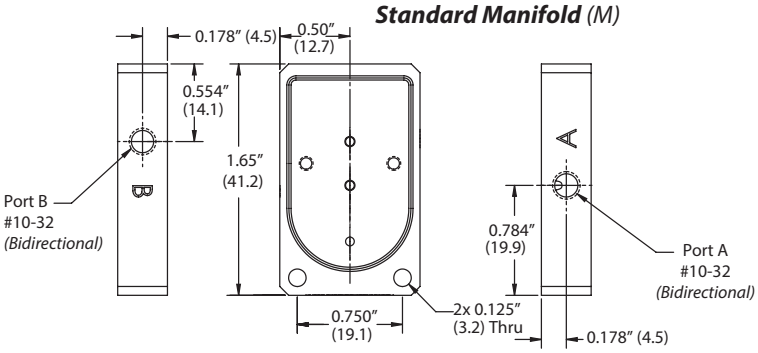
- **Leak free** *(<0.05 sccm typical)*
- **Unrivaled resolution**
- **Inert flow path** *(all wetted areas ceramic)*
- **Soft start prevents damage or turbulence**
- **Zero dead volume** *(fully flushable, <0.0009 in3)*
- **Excellent linearity** *(<4% of full-scale)*
- **Fast response** *(<2 ms reaction time)*
- **Cycle life of typically >1 million cycles**
- **Repeatability <5% of full travel**
- **Bi-directional**

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

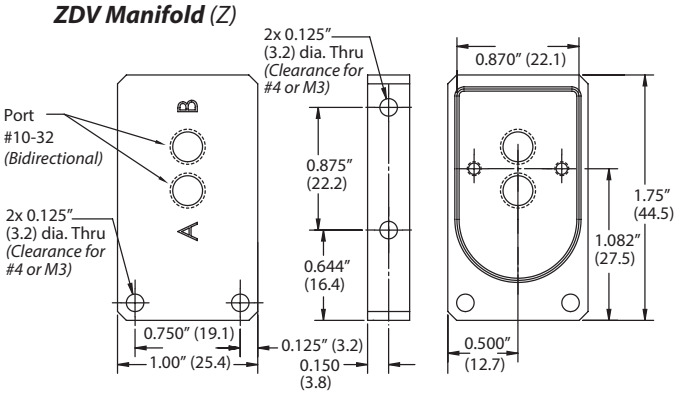
This product is highly modifiable for OEM applications, including alternate body materials, flow profiles, and more. Call **877-245-6247 to discuss your needs.*



Standard Manifold (M)

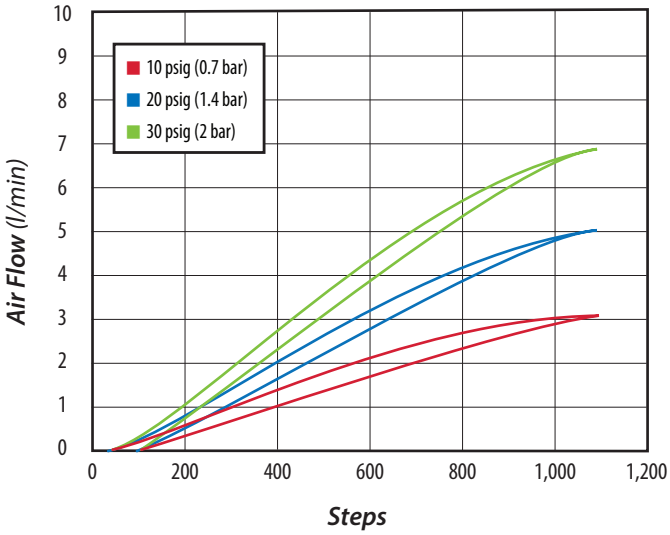


ZDV Manifold (Z)

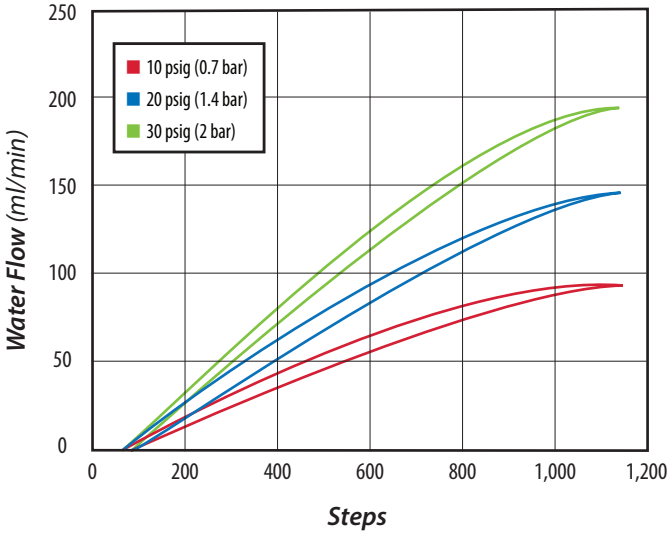


Dimensions shown are in inches (millimeters listed in parentheses).
Visit clippard.com for more detailed 2D and 3D drawings.

Typical Flow Curves for Air



Typical Flow Curves for Water



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

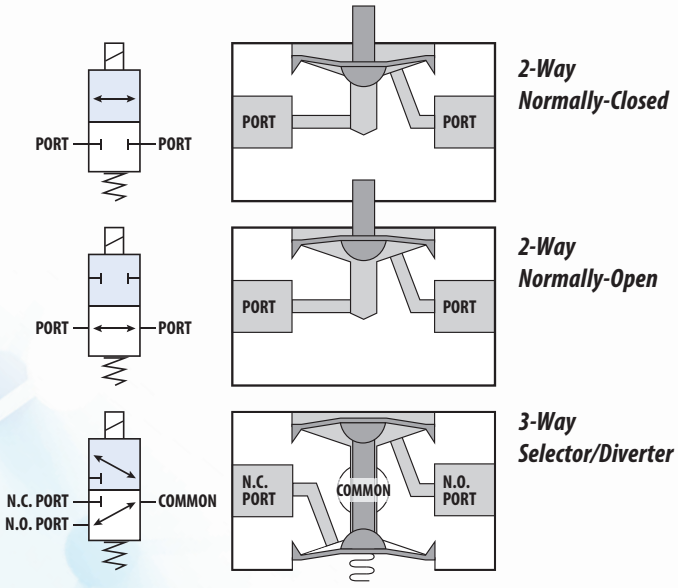
For more info, scan the QR code or visit
clippard.com/link/eclipse-valve

NIV SERIES PTFE VALVES

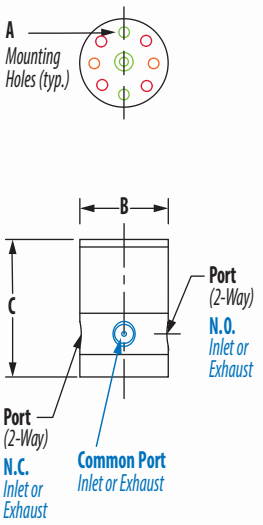
The NIV series media isolation valve is a solenoid-operated device that utilizes a flexible diaphragm to isolate the actuation mechanism from the fluid path. This unique, multifunctional valve stem results in a simplified design with fewer parts, longer life and minimal dead volume. In addition, all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

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

- **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**

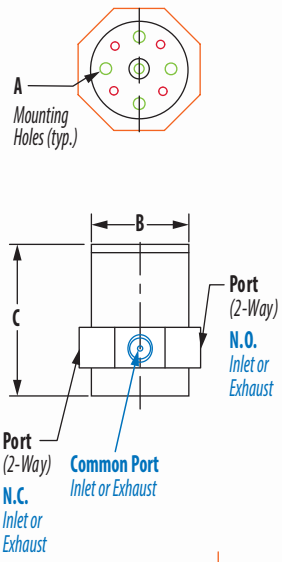


Orifice 1 & 2
All In-Line Versions



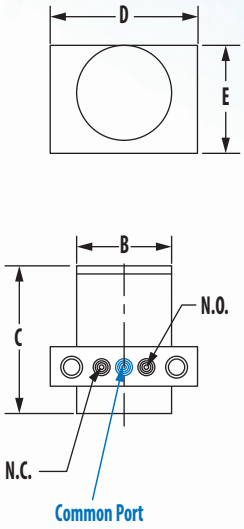
- All versions
- 3-Way only
- Orifice 1 only
- Orifice 2: 2-Way Normally-Closed only
- Orifice 2: 2-Way Normally-Open & 3-Way

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

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

Visit clippard.com for more detailed 2D and 3D drawings.

ORDERING INFORMATION

❑ N R ❑ ❑ ❑ ❑ - ❑

Unit

(blank)	Imperial
M-	Metric

Orifice[1]

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*

[1]*Flow @30 psig (2 bar)*

Additional Circuitry Option

(blank)	None
L	Hit & Hold[2]

[2]*L option not available with orifice 1*

Mount

(blank)	In-Line, Threaded
M	Manifold

Voltage

12	12 VDC
24	24 VDC

Function

-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
IT6	#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

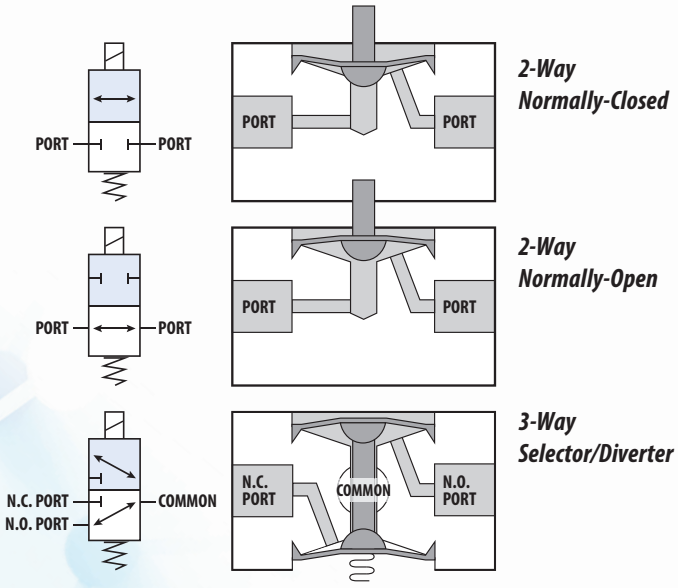
PIV SERIES PTFE & PEEK VALVES

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.

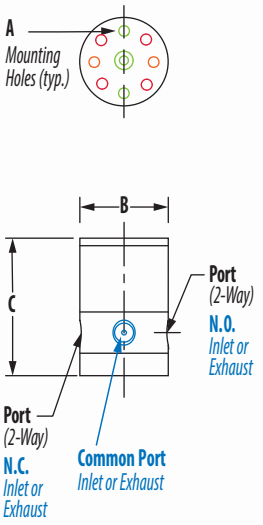
Connection	18" (45 cm) wire leads
Documentation	CE, RoHS
Flow Range	5 to 60 l/min @ 30 psig (2 bar) air 10 to 115 l/min @ 100 psig (7 bar) air
Function	2-way normally-closed or normally-open, 3-way selector/diverter
Material, Wetted	PTFE, PEEK, FKM*
Max. Flow	60 l/min @ 30 psig (2 bar) air 115 l/min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

**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**

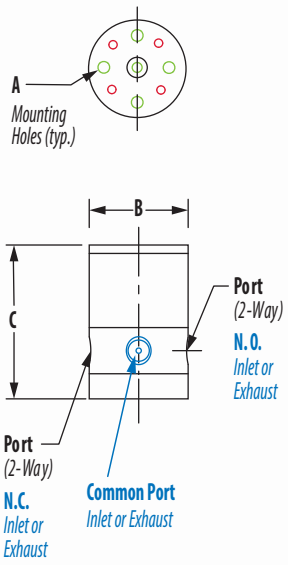


Orifice 1 & 2
All In-Line Versions



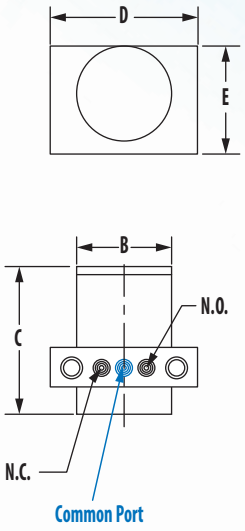
- All versions
- 3-Way only
- Orifice 1 only
- Orifice 2: 2-Way Normally-Closed only
- Orifice 2: 2-Way Normally-Open & 3-Way

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

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

Visit clippard.com for more detailed 2D and 3D drawings.

ORDERING INFORMATION

❑ N R ❑ ❑ ❑ ❑ - ❑ ❑

Unit

(blank)	Imperial
M-	Metric

Orifice[1]

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*

[1]*Flow @ 30 psig (2 bar)*

Additional Circuitry Option

(blank)	None
L	Hit & Hold[2]

[2]*L option not available with orifice 1*

Function

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

Mount

(blank)	In-Line, Threaded
M	Manifold

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

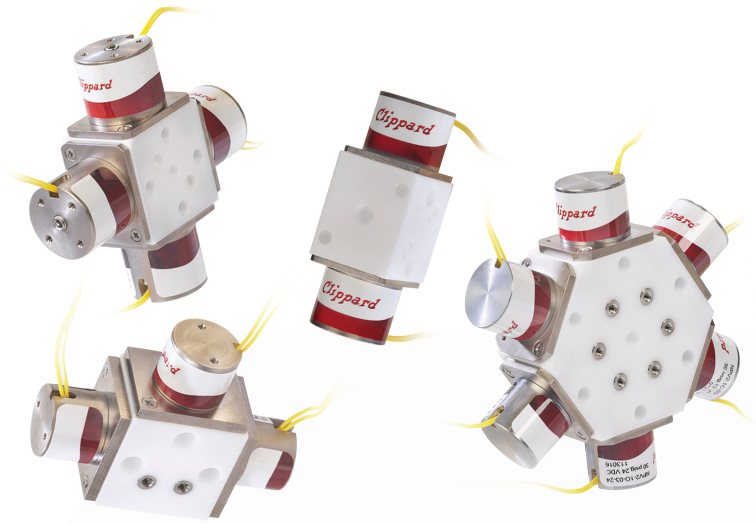
PEEK ZERO DEAD VOLUME FITTINGS

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
IT6	#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/piv-series

NIV SERIES MIXING VALVES

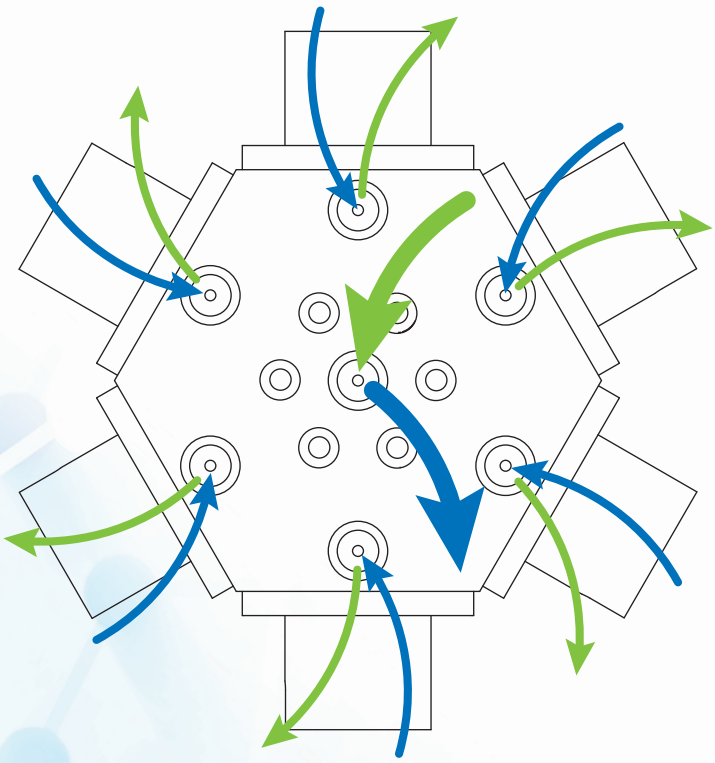


Connection	18" (45 cm) wire leads
Flow Range	5 to 60 l/min @ 30 psig (2 bar) air
Function	2-way normally-closed
Material, Wetted	PTFE
Max. Flow	60 l/min @ 30 psig (2 bar) air
Medium	Air, water, gas, or corrosive fluids
Mount	#4-40 *(metric also available)*
Operating Temp. Range	-20 to 158˚F (-29 to 70˚C)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

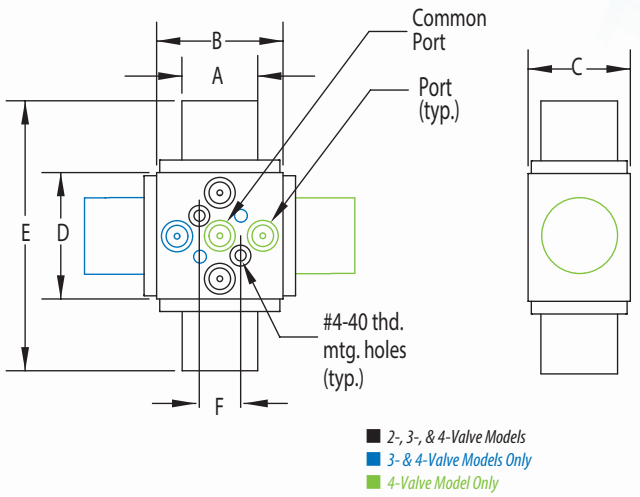
NIV series multi-channel gradient valves feature multiple 2-way, normally-closed PTFE media isolation valves connected around a central body. This unique design provides significant reduction in internal volume with enhanced mixing capabilities. Each actuator operates independently, allowing for flow 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**

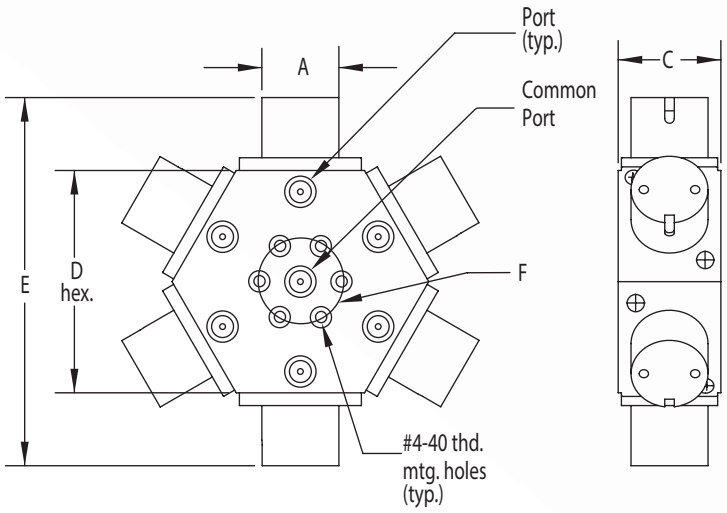
Multiple Inputs with a **Common Output**, or
Multiple Outputs with a **Common Input**



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 for more detailed 2D and 3D drawings.

ORDERING INFORMATION

N R ❑ ❑ - 2 - ❑ - G ❑

Orifice[1]
- 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*

[1]*Flow @30 psig (2 bar)*

Additional Circuitry Option
- (blank) None
- L Hit & Hold[2]

[2]*L option not available with orifice 1*

Voltage
- 12 12 VDC
- 24 24 VDC

# of Valves
- 2 2 valves
- 3 3 valves
- 4 4 valves
- 6 6 valves

Example Part Number:
NR1-2-12-G2

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
- IT6 #10-32 thd.-1/16" ID Hose Barb

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

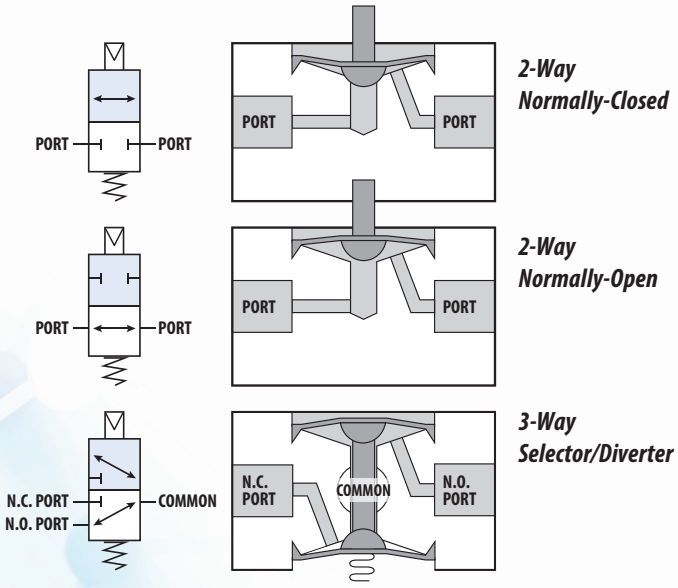
For more info, scan the QR code or visit
clippard.com/link/niv-mixing

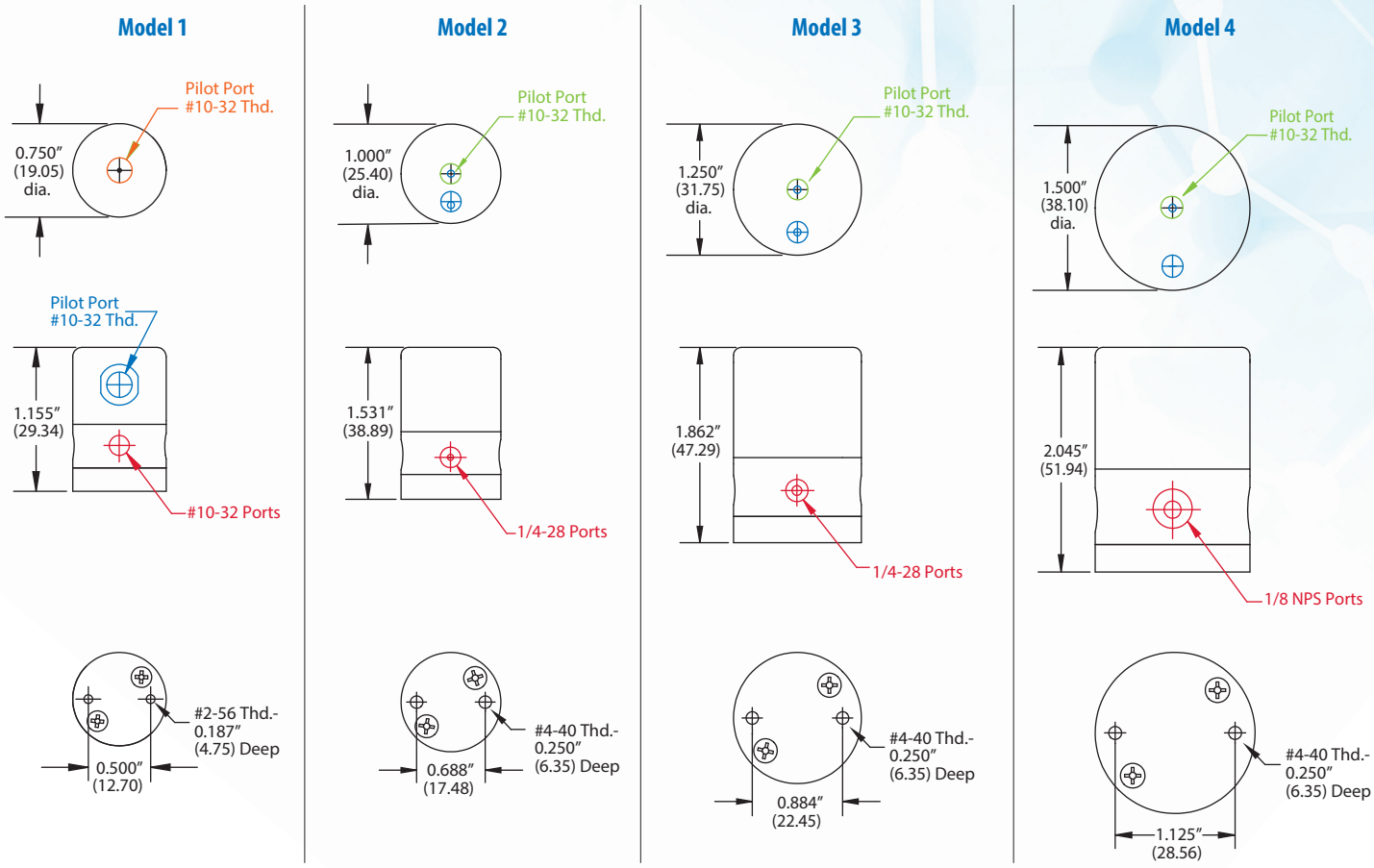
AIV SERIES AIR-OPERATED VALVES

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 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**

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





■ *All versions*
■ *2-Way, Normally-Closed (-2)*
■ *2-Way, Normally-Open (0-2)*
■ *3-Way Selector/Diverter (-3)*
■ *2-Way, Normally-Open & 3-Way Selector/Diverter (0-2 and -3)*

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

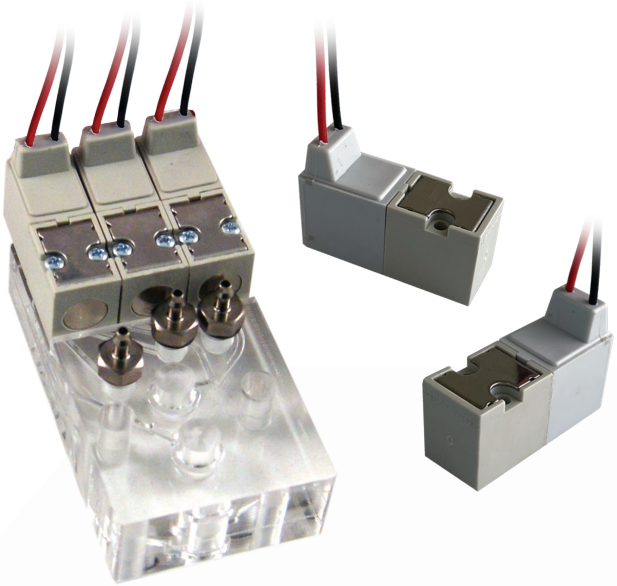
PEEK ZERO DEAD VOLUME FITTINGS

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
IT6	#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

E2S SERIES ISOLATION VALVES



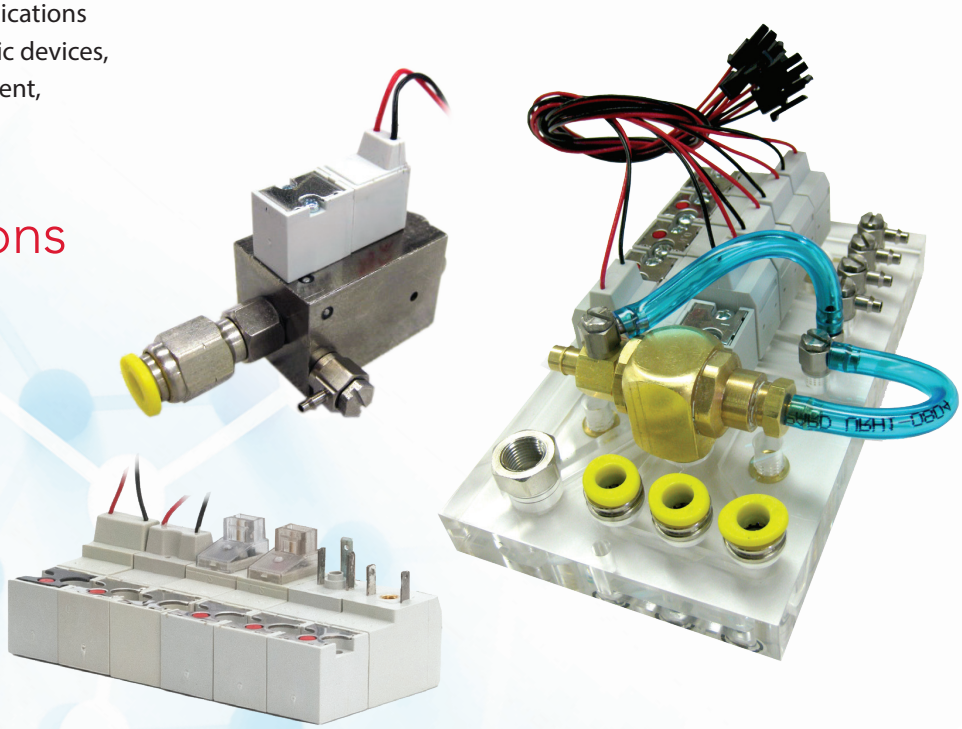
Connection	11.8" (30 cm) wire leads
Flow Range	15 to 30 l/min
Function*	2-way normally-closed isolation *(monodirectional)*
Material, Body	Nylon
Material, Seals	EPDM
Material, Wetted	Glass-filled nylon, EPDM
Max. Flow	30 l/min
Max. Temperature of Coil	311˚F (155˚C)
Medium	Air, water, gas, or compatible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

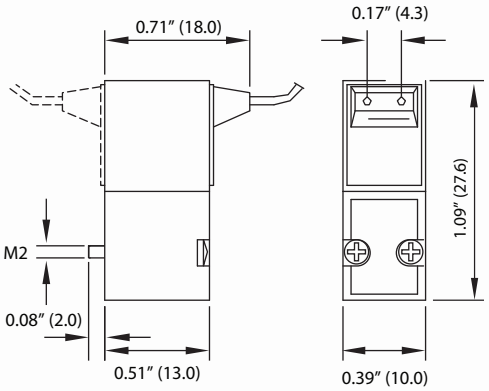
**Always less than 2 psig (0.1 bar) backpressure on outlet port for proper function.*

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.

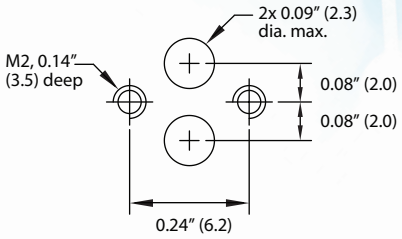
Customization Options

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

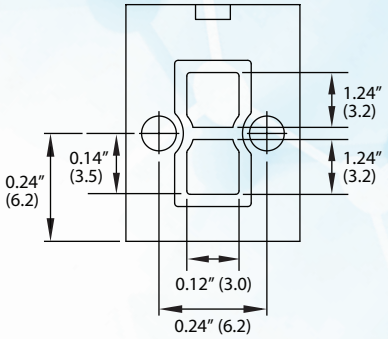




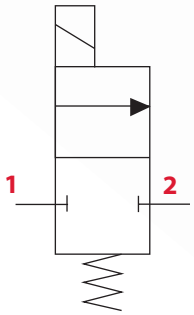
Suggested Subbase

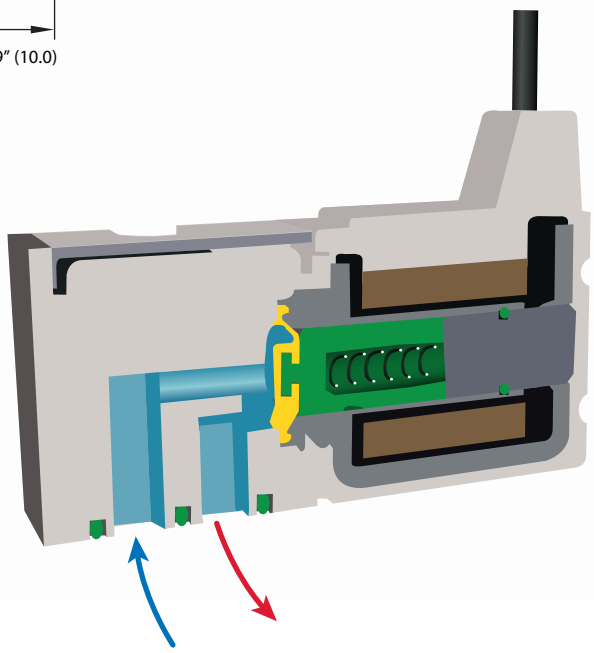


Pneumatic Interface



2-Way Monodirectional





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

Visit clippard.com 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

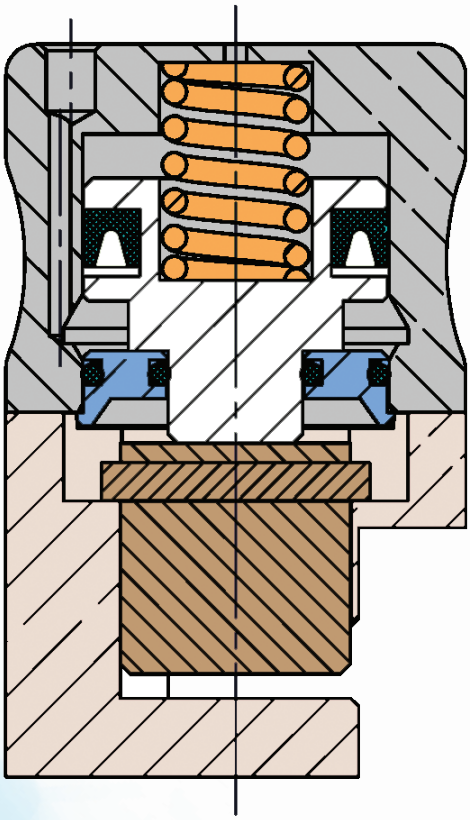
For more info, scan the QR code or visit ***clippard.com/link/e2s***

NPP SERIES PINCH VALVES

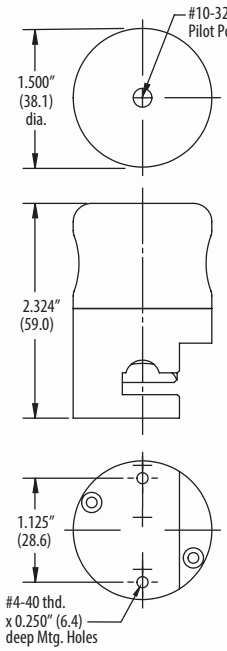
Function	2-way normally-open or normally-closed
Material, Body	Aluminum, ENP
Material, Wetted	Polyurethane tubing *(no wetted areas in valve)*
Max. Pilot Pressure	250 psig (17 bar)
Medium	Air, water, gas, or compatible fluids
Mount	#4-40 manifold *(M3 available)*
Operating Temp. Range	32 to 230˚F (0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

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.

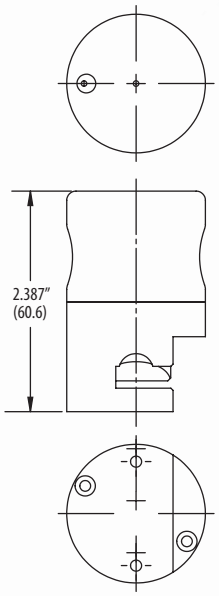
- **Unobstructed flow path**
- **Each valve comes with 12" (30 cm) of silicone tubing pre-installed**
- **Tubing is easily replaceable**
- **Low power consumption**
- **High cycle life**
- **Large variety of tubing sizes available**
- **Ideal for applications that are sensitive to heat**
- **A great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



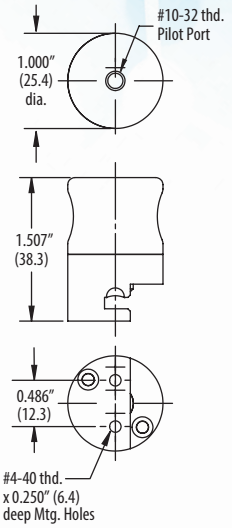
Model 4
Normally-Open



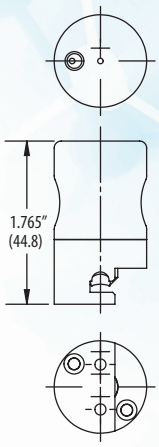
Model 4
Normally-Closed



Model 2
Normally-Open



Model 2
Normally-Closed



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

ORDERING INFORMATION

N P P _ - ❑ - _ _

Model*
2
4

Configuration
1O 1 Tube Normally-Open
1C 1 Tube Normally-Closed

Tubing*
03 13
04 15
05 23
06 25
07 27

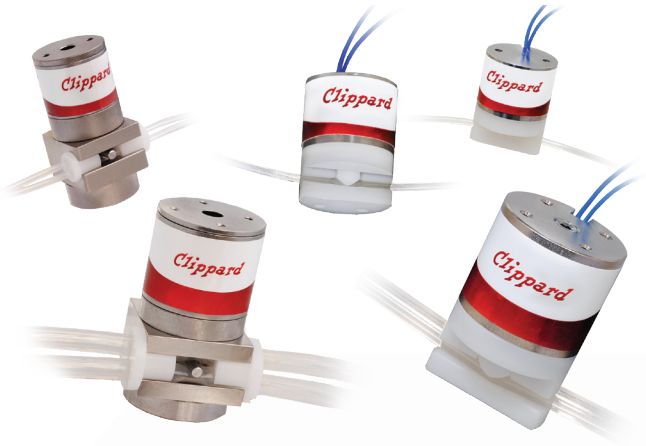
**Use the chart below to identify the appropriate Model and Tubing based on the desired specifications.*

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:
NPP2-1O-03

For more info, scan the QR code or visit
clippard.com/link/npp-series

NPV SERIES PINCH VALVES

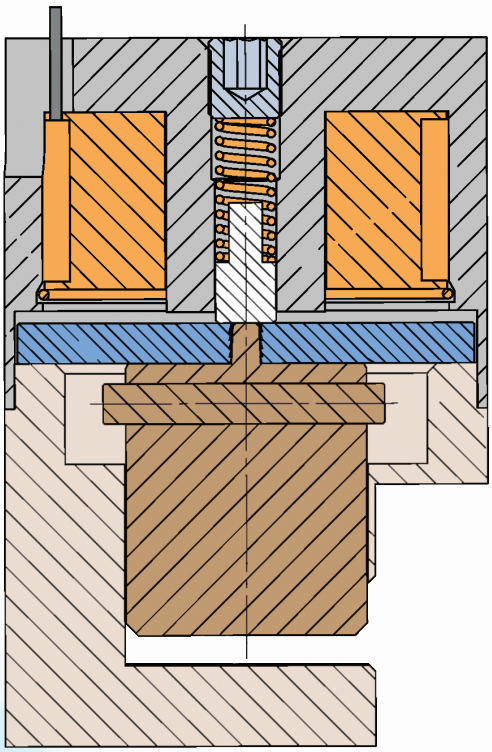


NPV series pinch valves are solenoid-operated devices that are designed to open and close tubes for controlling flow of liquids and gases. Whereas other valve types have internal passages that may cause small amounts of fluid to remain in the valve, pinch valves have no areas where fluid can become trapped. 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.

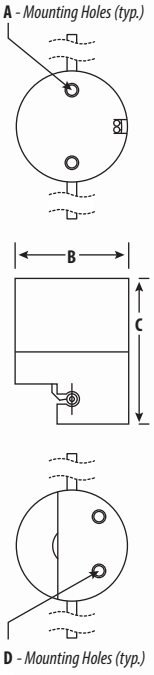
Clippard pinch valves have an unobstructed flow path with zero dead volume—only the inside of the tubing contacts the fluid. This makes them ideal for handling whole blood or other media with particulate matter.

- **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**

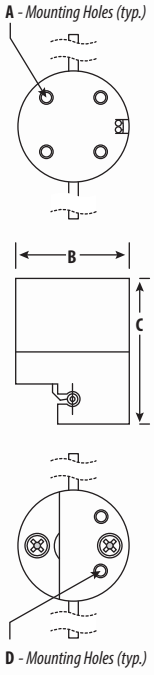
Connection	18" (45 cm) wire leads
Documentation	CE, RoHS
Function	2-way normally-open or normally-closed; 3-way, one tube normally-open, one tube normally-closed
Material, Wetted	Silicone tubing *(no wetted areas in valve)*
Max. Pressure	30 psig (2 bar)
Medium	Air, water, gas, or compatible fluids
Mount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



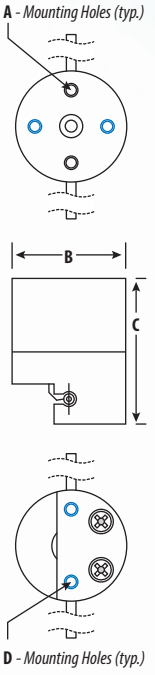
Model 1
Normally-Closed



Models 2, 3, & 4
Normally-Closed

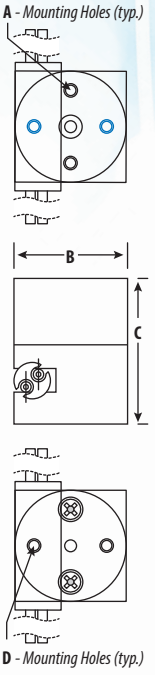


All Models
Normally-Open



■ *All versions*
■ *Models 2, 3, & 4*

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



■ *All versions*
■ *Models 2, 3, & 4*

DIMENSIONS

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

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

Visit clippard.com for more detailed 2D and 3D drawings.

ORDERING INFORMATION

N P V _ ❑ - ❑ - _ _ - ❑

Model[1]
1
2
3
4

Additional Circuitry Option
(blank) None
L Hit & Hold[2]
[2]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[1]
01 06
02 07
03 23
04 25
05 27

Voltage
12 12 VDC
24 24 VDC

[1]*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
		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)	1/6″ (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

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

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

- No organic plasticizers, pthalates 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

Material	Platinum-cured silicone
Durometer	50 Shore A
Tensile Strength	1,450 psi (99 bar) at break
Elongation at Break	770%
Modulus at 200%	280 psi (19 bar)
Tear Strength	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

Material	Polyurethane
Durometer	85 Shore A
Static Burst Pressure	>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

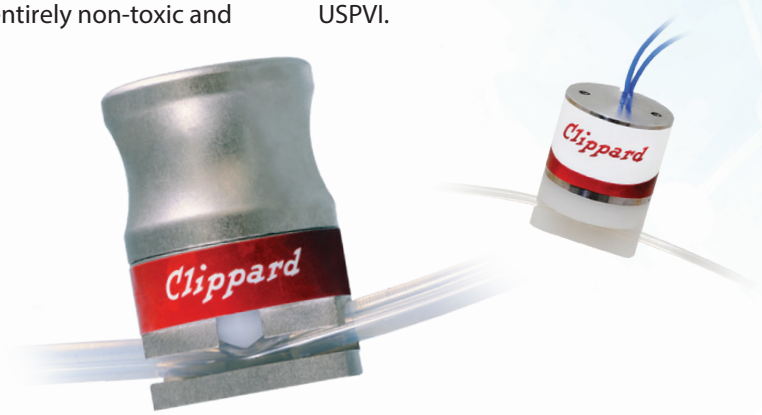
This high quality, platinum-cured silicone tubing is specifically designed for use in medical devices and contains no organic plasticizers, phthalates or latex additives, peroxide cure chlorophenyl, or PCB by-products. This type of silicone tubing is commonly used in medical applications such as drug 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

❑ - ❑ - N A S - ❑

Tubing Type

Tubing No.

Roll Size

005 5′ (1.5 meters)
050 50′ (15 meters)

Tubing Type		Tubing No.	Max. Pressure	Tubing I.D.	Tubing O.D.	Tubing Wall	Tubing	Min. to Close	Min. to Open
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	20 psig (1.4 bar)	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		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)
		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)
SFG1	Sanitary Food Grade Silicone Tubing	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)
		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)
URH1	Polyurethane Tubing	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

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.

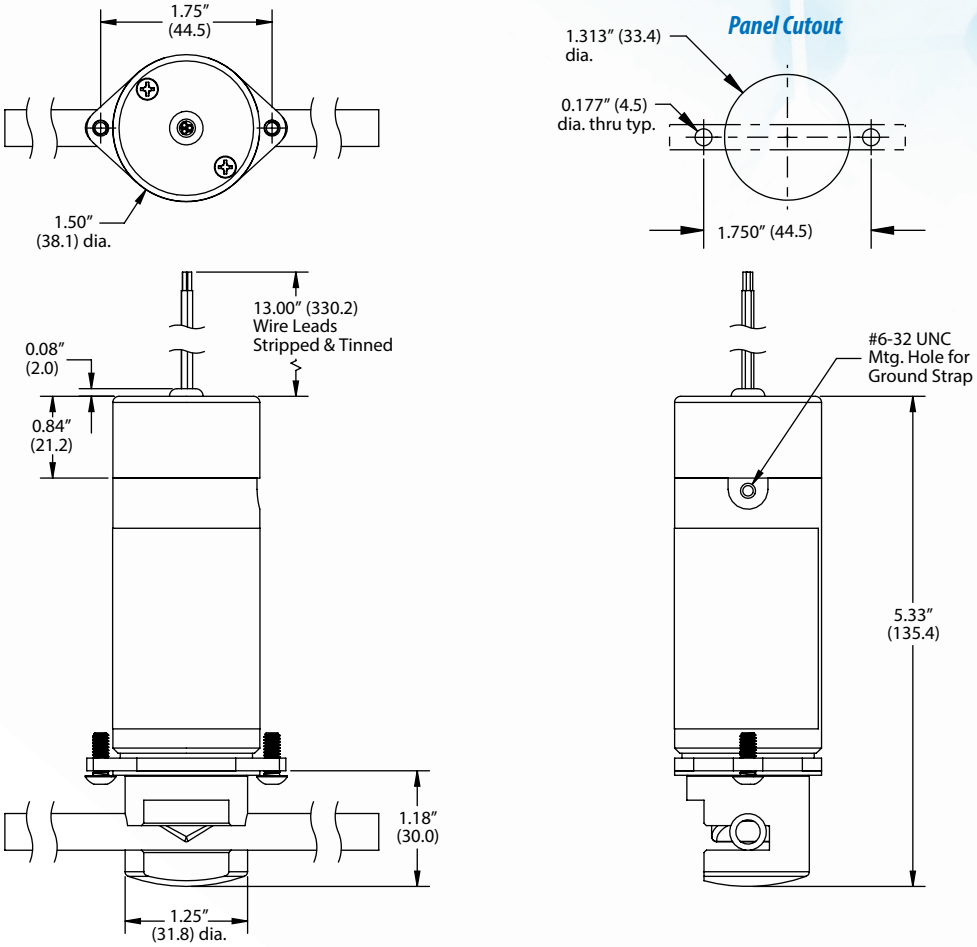
- **Unobstructed flow path**
- **Each valve comes with 12" (30 cm) of silicone tubing pre-installed**
- **Tubing is easily replaceable**
- **Higher flow**
- **Longer stroke**

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

**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 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

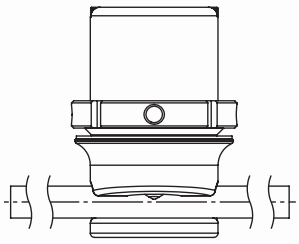
PANEL MOUNT PINCH VALVES

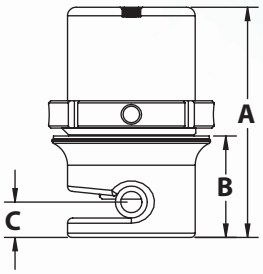
Connection	18" (45 cm) wire leads
Documentation	CE, RoHS
Function	2-way normally-open or normally-closed
Material, Body	Aluminum ENP
Material, Wetted	Silicone tubing *(no wetted areas in valve)*
Max. Pressure	30 psig (2 bar)
Medium	Air, water, gas, or compatible fluids
Mount	Thru panel (max. thickness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

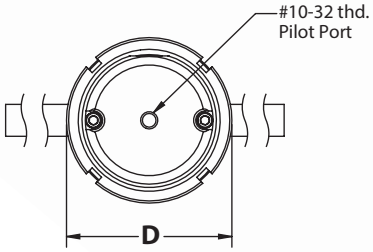
For applications that require better access or enhanced cleanliness, Clippard NPV series pinch valves are also available with a convenient panel mount option. Panel mounted pinch valves provide all the same benefits as Clippard's standard NPV series along with seamless integration and easy accessibility.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

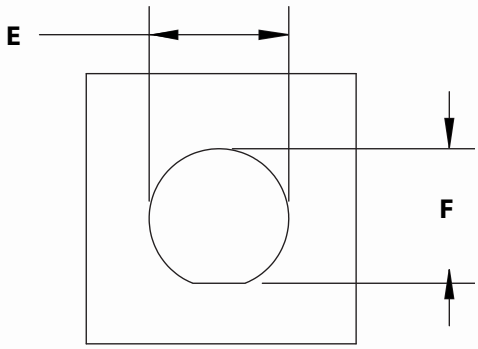
As with all Clippard pinch valves, the panel mounted NPV series features an unobstructed flow path with zero dead volume—only the inside of the tubing contacts the fluid.

- **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**









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 for more detailed 2D and 3D drawings.

ORDERING INFORMATION

N P V ❑ - ❑ P - ❑ - ❑

Model[1]
- 2
- 3
- 4

Additional Circuitry Option
- (blank) None
- L Hit & Hold[2]

[2]*L option not available with model 1*

Configuration
- 1O 1 Tube Normally-Open
- 1C 1 Tube Normally-Closed

Tubing[1]
- 02 07
- 03 23
- 04 25
- 05 27

Voltage
- 12 12 VDC
- 24 24 VDC

[1]*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

HIT & HOLD OPTION

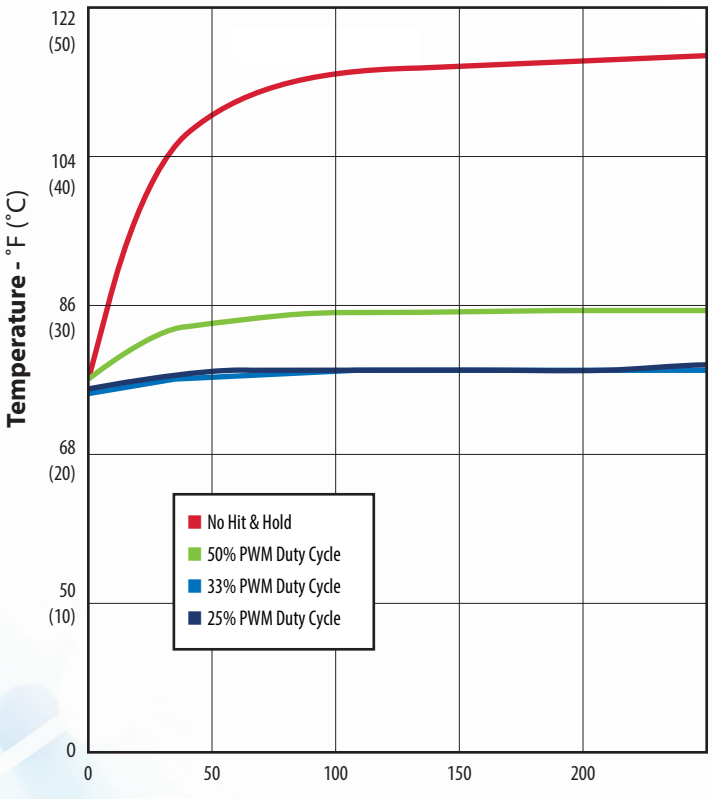
Hold Voltage PWM Freq.	Approx. 25 Khz
LED Indicators	Power status (green), trigger status (blue), warning (red—indicates for over 3.75 A, over 140˚C, or short circuit)
Hit Time	115 ± 30 ms
Trigger Input	3.3 to 24 VDC, 10mA @ 24 VDC trigger input
Life Cycle	>2,000,000
Valve Voltage	12 or 24 VDC (nominal)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

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**

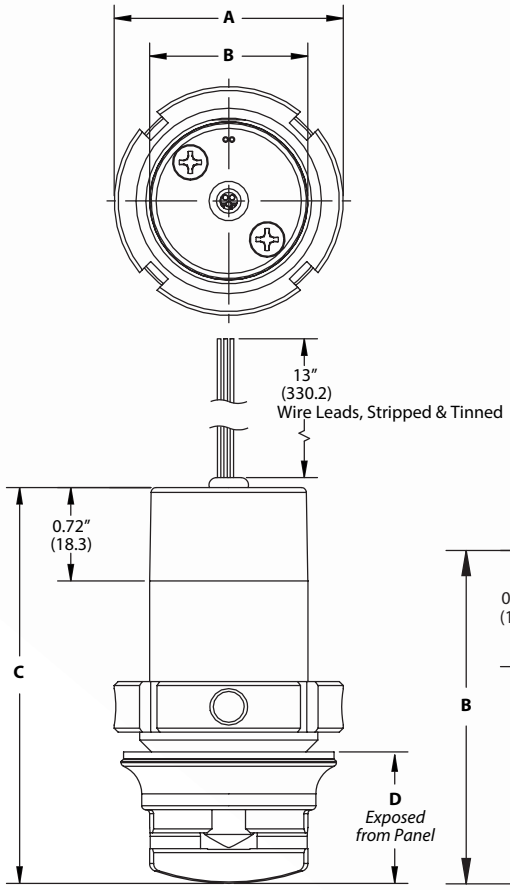
VALVE HEATING TREND



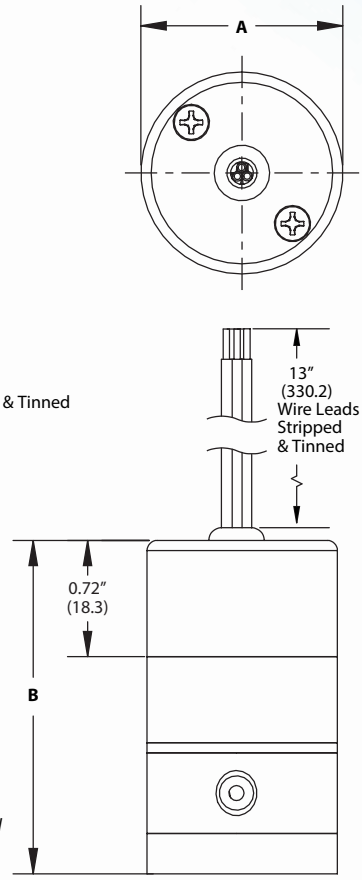
Time (Seconds)

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)

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

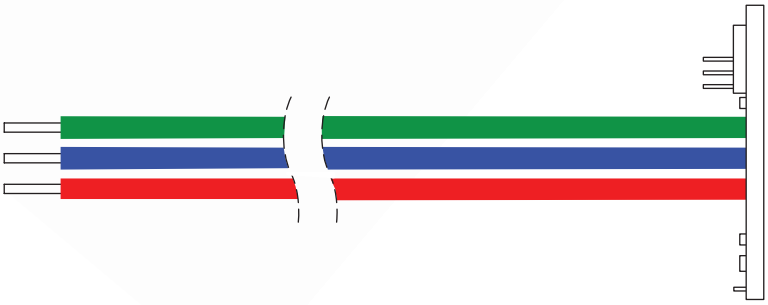
Model	2	3	4
A	1.00″ dia. (25.4)	1.25″ dia. (31.7)	1.50″ dia. (38.1)
B	2.04″ (51.8)	2.44″ (61.9)	2.79″ (70.8)

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

Visit clippard.com for more detailed 2D and 3D drawings.

WIRING DIAGRAM

- **Ground**
- **Trigger**—*Triggering input, 3.3-24 VDC*
- **Valve Voltage**—*12 or 24 VDC depending on valve coil selected*



ORDERING INFORMATION

❑ ❑ ❑ L - ❑

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

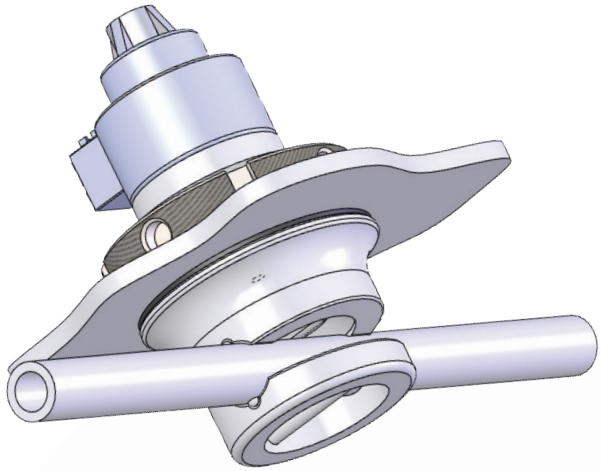
Model

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

PPV PROPORTIONAL PINCH VALVE



Function	2-way proportional
Material, Body	ENP aluminum
Material, Seals	FKM
Material, Wetted	TPE tubing *(no wetted areas in valve)*
Medium	Air, water, gas, or compatible fluids
Mount	Panel *(gasketed)*
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	clippard.com/link/ppv

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

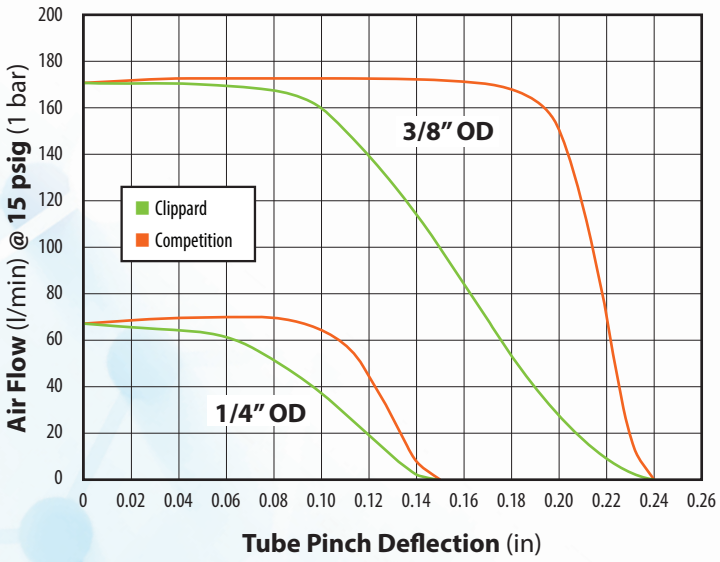
Driver	Bipolar chopper drive
Supply Voltage	5 VDC to motor
Wattage	3.85 watts nominal, 0 power consumption to maintain position

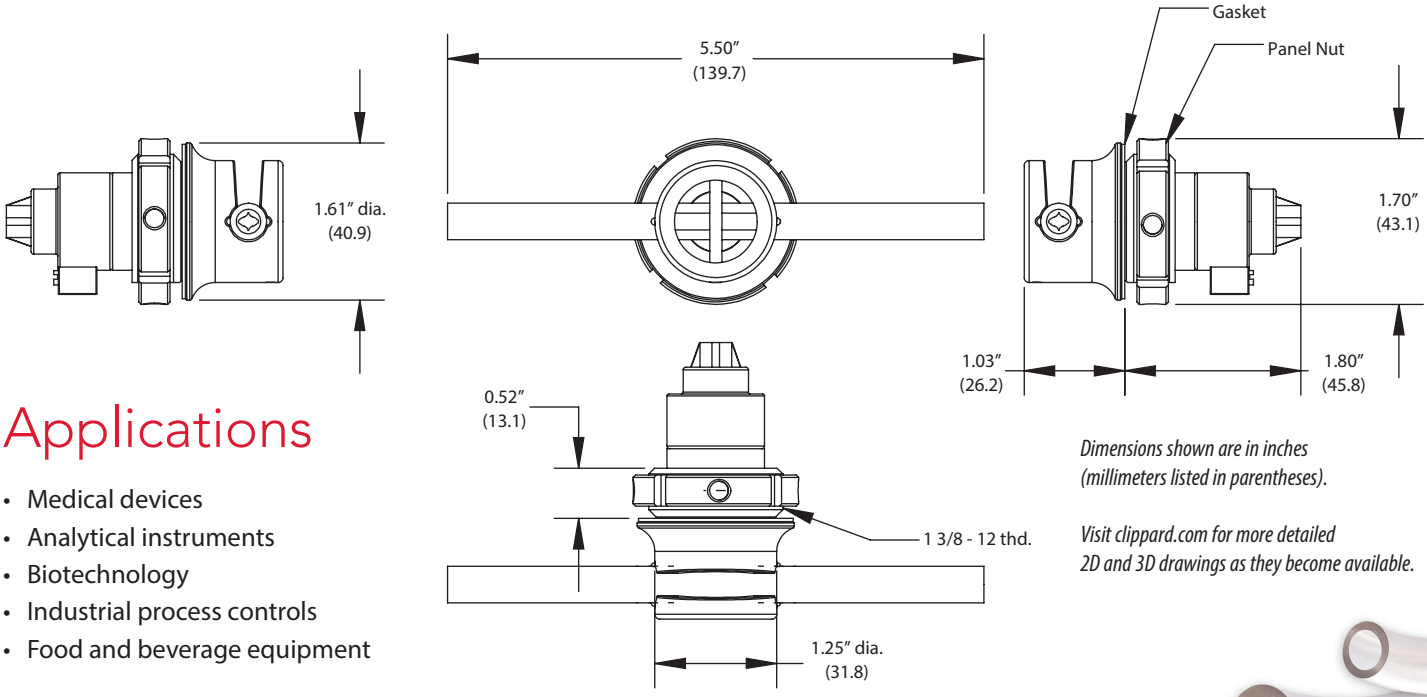
PRELIMINARY

Note: This product is still in development.

Specifications are subject to change.

TYPICAL PINCH VALVE FLOW CHARACTERISTIC





Applications

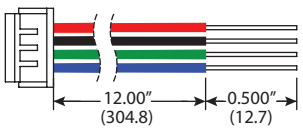
- Medical devices
- Analytical instruments
- Biotechnology
- Industrial process controls
- Food and beverage equipment

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

Visit clippard.com for more detailed 2D and 3D drawings as they become available.

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

For more info, scan the QR code or visit
clippard.com/link/ppv

PRECISION CONTROL SOLUTIONS

ELECTRONIC VALVES

Clippard revolutionized the electronic valve market in the early 1970s with the EV series, which quickly became the industry standard for life and reliability. This unparalleled history in providing new and innovative products continues today, aided by advanced manufacturing machines and techniques.

clippard.com/link/elec-valves

PROPORTIONAL VALVES

For optimal controllability, proportional valves provide output proportional to input. These types of valves are ideal for applications which require variable flow control.

clippard.com/link/prop-valves

ISOLATION VALVES

Media isolation valves are used for a wide variety of applications, including those that require precise, repeatable dispensing for medical and analytical instrumentation. Choose from a large variety of sizes, configurations, materials, and options or contact us to discuss special customizations.

clippard.com/link/isolation-valves

CONTROL VALVES

From flow controls to needle valves, check valves, shuttle valves, exhaust valves and more, Clippard's control valves are available in a wide range configurations and functions. Sizes range from #3-56 and #10-32 through 3/8" NPT, for pressures up to 300 psig.

clippard.com/link/control-valves

DIRECTIONAL CONTROL VALVES

Clippard's line of mechanically-operated directional control valves includes toggle, stem, and lever valves as well as hand and foot-actuated pedal valves, palm button valves, and more. Choose from #3-56, #10-32, 1/8" NPT or 1/4" NPT ports.

clippard.com/link/directional-valves

AIR PILOT VALVES

The force output of an air pilot is much more powerful than the power produced from electrical solenoids or actuators. This makes air pilot valves ideal for applications where higher air flow and/or lower power are required, as well as when simplicity and cost savings are important.

clippard.com/link/air-pilot-valves

ELECTRONIC CONTROLS

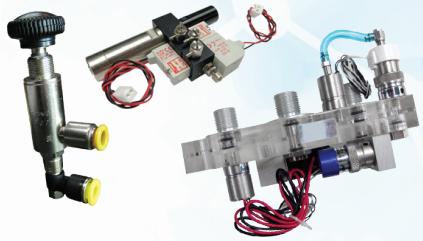
Clippard's Cordis series is a highly-customizable line of electronic controls designed to help close the loop around pressure and flow. With unparalleled accuracy and resolution, this line will elevate your application to the next level. Take control like never before with the Cordis.

clippard.com/link/elec-controls

PRESSURE REGULATORS

Regulators are offered in either relieving or non-relieving versions with a large variety of adjustment options and mounting styles to choose from. For even greater precision control, check out Clippard's Cordis line of electronic pressure regulators.

clippard.com/link/press-reg



CUSTOM SOLUTIONS

Clippard excels at designing special variations, modifications, and completely custom valves, fittings, and assemblies. If you need a product that fits your application perfectly, we will work with you to design or modify products to suit your exact needs.

clippard.com/link/custom

AIR PREP EQUIPMENT

Pneumatic applications with properly conditioned air will operate longer, cost less, and improve system efficiency. Clippard's line includes filters, regulators, lubricators, and combination units from #10-32 up to 1". A modular design and interconnecting hardware simplifies installation and maintenance.

clippard.com/link/air-prep

FITTINGS

Small in size but large in performance, Clippard precision fittings are designed to save you time, space, and money when designing versatile, efficient, trouble-free circuits. Choose from an endless variety in several different styles including push-quick, slip-on, barb, and quick connect.

clippard.com/link/fittings

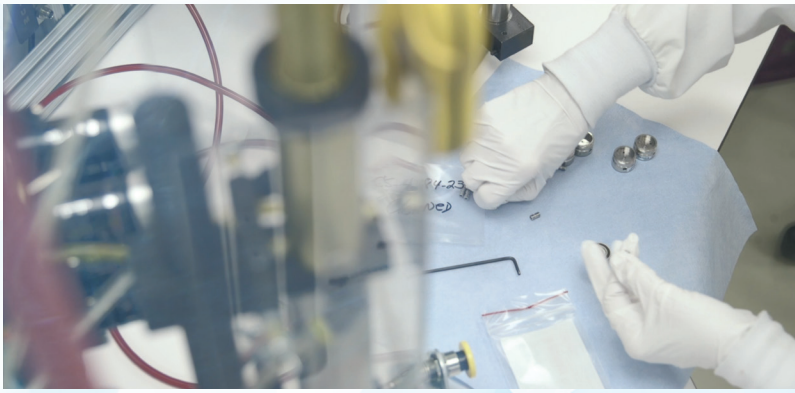
HOSE & TUBING

Choose from a large variety of miniature hose and tubing, including copper and nylon tubing, flexible urethane and vinyl hose and tubing, and food-, medical-, or laboratory-grade silicone tubing.

clippard.com/link/tubing

Clippard products are distributed through our worldwide network of sales and engineering specialists. All of our representatives are stocking distributors and keep a variety of Clippard products on hand to fill your immediate needs. Each of our distributors are backed by our own large inventory to ensure quick delivery.

To locate your nearest distributor, call 877-245-6247 or visit **clippard.com/distributors**



- ELECTRONIC VALVES
- PROPORTIONAL VALVES
- ISOLATION VALVES
- ELECTRONIC CONTROLS
- CUSTOM SOLUTIONS
- PRESSURE REGULATORS
- CONTROL VALVES
- DIRECTIONAL CONTROL VALVES
- AIR PILOT VALVES
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