

# Clippard

## NPV Series 2-Way & 3-Way Miniature Pinch Valves



- Small, compact design
- Hygienic and easy to clean (replace tubes)
- Low power consumption
- High cycle life
- Can handle whole blood and particulate matter
- Unobstructed flow path
- Each valve comes with 12" of silicone tubing, pre-installed
- Variety of tubing sizes available
- Tubing is easily replaceable
- Available in 2-Way (Normally-Open or Normally-Closed) or 3-Way (one tube Normally-Open, one tube Normally-Closed) configurations
- Proudly made in the U.S.A.
- CE, RoHS Compliant
- ISO 9001:2008

### COIL CHART

Model	Power	Voltage	Amps
NPV1	1.0 W	12 VDC	0.08A
		24 VDC	0.04A
NPV2	1.5 W	12 VDC	0.13A
		24 VDC	0.06A
NPV3	4.2 W	12 VDC	0.40A
		24 VDC	0.18A
NPV4	7.2 W	12 VDC	0.60A
		24 VDC	0.30A

The **Clippard NPV Series Miniature Pinch Valve** is a solenoid-operated device that is designed to open and close tubes for controlling flow of liquids and gases. Other valve types have internal passages that may cause small amounts of fluid to remain in the valve. Pinch valves have no areas or dead volume where fluid can become trapped. Only the inside of the tubing contacts the fluid. Energizing the solenoid retracts or extends the plunger, which opens or closes the tube. De-energizing the solenoid will allow the plunger to return to its original state.

NPV Series pinch valves are available with one tube or two tubes. The single tube versions function as standard "on/off" 2-Way valves and are available in Normally-Open or Normally-Closed. The two tube versions feature one Normally-Open tube and one Normally-Closed tube, allowing them to function as 3-Way valves.

Common industries that use pinch valves for the benefits of isolating media from a mechanical valve include: drug dispensing, laboratory equipment, waste water, medical devices, chemical, food and beverage equipment, ceramic/glass/plastic, and solids handling.

All NPV Series pinch valves ship with 12" of high quality silicone tubing pre-installed. Standard options include medical/laboratory grade or FDA approved food grade silicone tubing. Custom valve configurations and additional tubing options are available (consult factory).

### SPECIFICATIONS

<b>Valve Type</b>	2-Way Normally-Open or Normally-Closed 3-Way (one tube N.O., one tube N.C.)
<b>Medium</b>	Air, water, gas, compatible fluids
<b>Max. Pressure Range</b>	20 to 30 psig*
<b>Power Consumption</b>	1.0 to 7.2 watts
<b>Electrical Connections</b>	18" wire leads
<b>Voltage</b>	12 or 24 VDC
<b>Mounting</b>	#2-56, #4-40
<b>Wetted Materials</b>	Silicone tubing
<b>CE, RoHS Compliant</b>	

\*With standard medical/laboratory grade silicone tubing

Read more online at [clippard.com/link/npv-tds](http://clippard.com/link/npv-tds)

## TUBING SPECIFICATIONS

Tubing Type	Max. Pressure	Tubing Re-Order Part No.		Tubing Dimensions			Tubing No.
		5' Roll	50' Roll	I.D.	O.D.	Wall	
<b>Medical/Laboratory Grade Silicone Tubing</b> <i>(Standard)</i>	30 psi	SIH1-0201-NAS-005	SIH1-0201-NAS-050	0.030"	0.065"	0.0175"	01
		SIH1-0301-NAS-005	SIH1-0301-NAS-050	1/32"	3/32"	0.0313"	02
		SIH1-0402-NAS-005	SIH1-0402-NAS-050	1/16"	1/8"	0.0313"	03
		SIH1-0602-NAS-005	SIH1-0602-NAS-050	1/16"	3/16"	0.0625"	04
	20 psi	SIH1-0804-NAS-005	SIH1-0804-NAS-050	1/8"	1/4"	0.0625"	05
		SIH1-1006-NAS-005	SIH1-1006-NAS-050	3/16"	5/16"	0.0625"	06
		SIH1-1208-NAS-005	SIH1-1208-NAS-050	1/4"	3/8"	0.0625"	07
<b>Sanitary Food Grade Silicone Tubing</b> <i>(Available)</i>	14 psi	SFG1-0402-NAS-005	SFG1-0402-NAS-050	1/16"	1/8"	0.0313"	23
		SFG1-0804-NAS-005	SFG1-0804-NAS-050	1/8"	1/4"	0.0625"	25
	9 psi	SFG1-1208-NAS-005	SFG1-1208-NAS-050	1/4"	3/8"	0.0625"	27

NPV Series pinch valves include 12" of silicone tubing pre-installed. Clippard's standard tubing option is high quality medical/laboratory grade silicone tubing. Sanitary food grade silicone tubing is also available. Contact Clippard to discuss other tubing options.

### Medical/Laboratory Grade Silicone Tubing

- Suitable for a large variety of medical and laboratory applications
- Excellent flexibility
- Contains 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

#### SPECIFICATIONS

<b>Material</b>	Platinum-cured silicone
<b>Durometer Hardness</b>	50 Shore A
<b>Tensile Strength at Break</b>	1,388 psi
<b>Elongation at Break</b>	815%
<b>Modulus at 200%</b>	299 psi
<b>Tear Strength</b>	263 ppi

### Sanitary Food Grade Silicone Tubing

- Suitable for various applications in the food and beverage industries where preservation of taste, aroma and color are crucial
- Excellent flexibility
- Entirely non-toxic, non-hemolytic and non-pyrogenic
- Meets USP Class VI Criteria
- Meets 3-A Sanitary Standards
- NSF 51 Standard
- 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

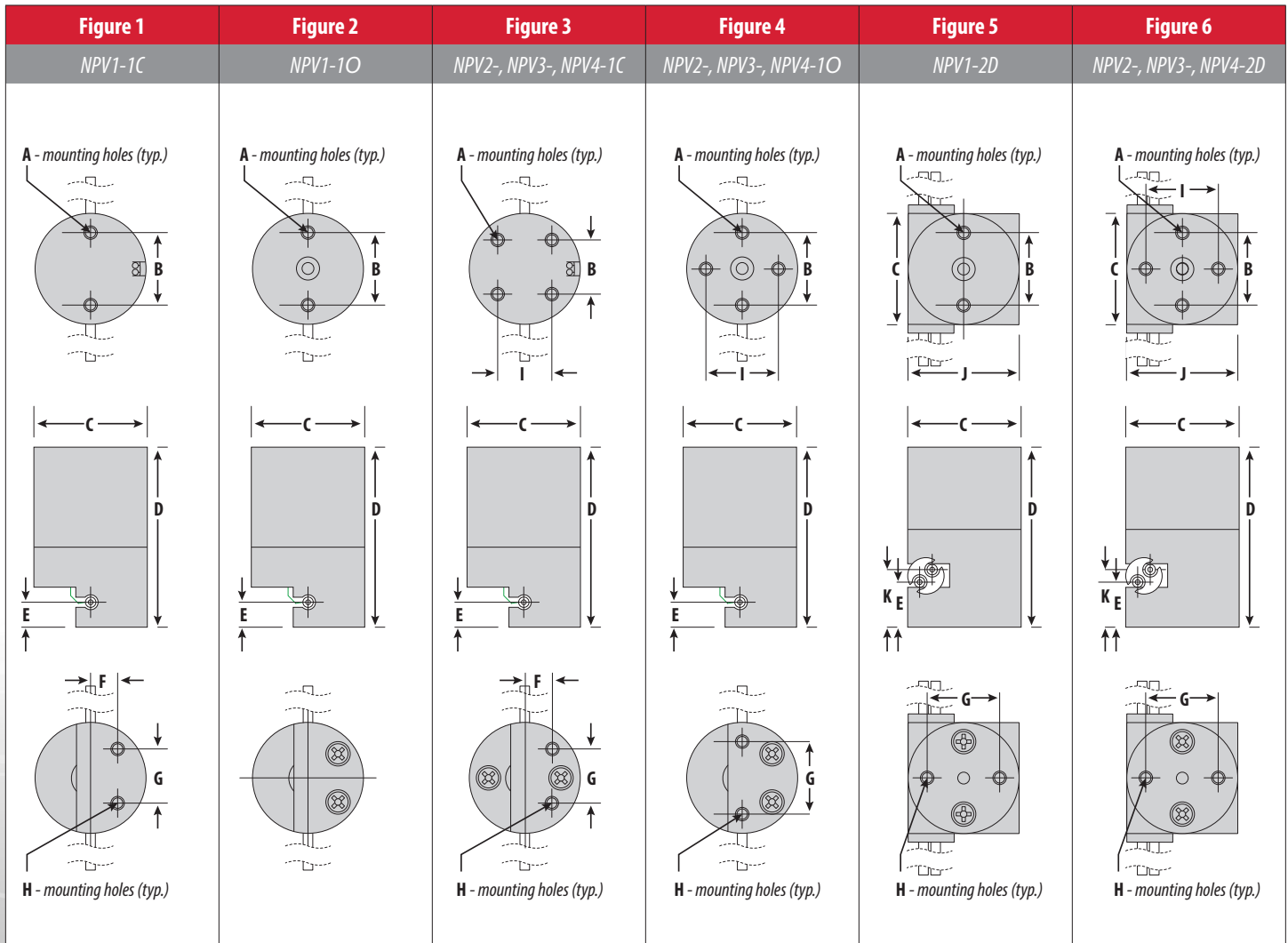
#### SPECIFICATIONS

<b>Material</b>	Platinum-cured silicone
<b>Durometer Hardness</b>	50 Shore A
<b>Tensile Strength at Break</b>	1,450 psi
<b>Elongation at Break</b>	770%
<b>Modulus at 200%</b>	280 psi
<b>Tear Strength</b>	200 ppi

## VALVE DIMENSIONS

Configuration	Model	Figure	Dimensions—See Figures 1-6, below										
			A	B	C	D	E	F	G	H	I	J	K
<b>1 Tube, N.C.</b>	NPV1-1C-	1	#2-56 x 0.094" deep	0.500"	0.750"	1.002"	0.156"	0.177"	0.354"	#2-56 x 0.188" deep	—	—	—
	NPV2-1C-	3	#4-40 x 0.125" deep	0.486"	1.000"	1.462"	0.176"	0.243"	0.486"	#4-40 x 0.250" deep	0.486"	—	—
	NPV3-1C-	3	#4-40 x 0.125" deep	0.626"	1.250"	1.847"	0.289"	0.313"	0.626"	#4-40 x 0.250" deep	0.626"	—	—
	NPV4-1C-	3	#4-40 x 0.125" deep	0.796"	1.500"	2.197"	0.411"	0.398"	0.796"	#4-40 x 0.250" deep	0.796"	—	—
<b>1 Tube, N.O.</b>	NPV1-1O-	2	#2-56 x 0.094" deep	0.500"	0.750"	1.125"	0.156"	—	—	#2-56 x 0.188" deep	—	—	—
	NPV2-1O-	4	#4-40 x 0.125" deep	0.687"	1.000"	1.467"	0.176"	—	0.687"	#4-40 x 0.250" deep	0.687"	—	—
	NPV3-1O-	4	#4-40 x 0.125" deep	0.884"	1.250"	2.000"	0.289"	—	0.884"	#4-40 x 0.250" deep	0.884"	—	—
	NPV4-1O-	4	#4-40 x 0.125" deep	1.125"	1.500"	2.350"	0.411"	—	1.125"	#4-40 x 0.250" deep	1.125"	—	—
<b>2 Tubes (1 N.O., 1 N.C.)</b>	NPV1-2D-	5	#2-56 x 0.094" deep	0.500"	0.750"	1.625"	0.470"	—	0.500"	#2-56 x 0.188" deep	—	0.785"	0.562"
	NPV2-2D-	6	#4-40 x 0.125" deep	0.687"	1.000"	1.842"	0.470"	—	0.687"	#4-40 x 0.250" deep	0.687"	1.000"	0.578"
	NPV3-2D-	6	#4-40 x 0.125" deep	0.884"	1.250"	2.313"	0.527"	—	0.884"	#4-40 x 0.250" deep	0.884"	1.250"	0.723"
	NPV4-2D-	6	#4-40 x 0.125" deep	1.125"	1.500"	2.663"	0.609"	—	1.125"	#4-40 x 0.250" deep	1.125"	1.800"	0.891"

## DRAWINGS



## ORDERING INFORMATION

Tubing Type	Tubing No.	Valve Model	Voltage		Configuration			Amps	Power	Max. Pressure
			12VDC	24VDC	1 Tube, N.C.	1 Tube, N.O.	2 Tubes			
<b>Medical/ Laboratory Grade Silicone Tubing (Standard)</b>	01	NPV1	•		NPV1-1C-01-12	NPV1-1O-01-12	NPV1-2D-01-12	0.08	1.0W	30 psi
				•	NPV1-1C-01-24	NPV1-1O-01-24	NPV1-2D-01-24	0.04		
	02 03	NPV2	•		NPV2-1C-02-12	NPV2-1O-02-12	NPV2-2D-02-12	0.13	1.5W	
				•	NPV2-1C-02-24	NPV2-1O-02-24	NPV2-2D-02-24	0.06		
			•		NPV2-1C-03-12	NPV2-1O-03-12	NPV2-2D-03-12	0.13		
		•	NPV2-1C-03-24	NPV2-1O-03-24	NPV2-2D-03-24	0.06				
	04 05	NPV3	•		NPV3-1C-04-12	NPV3-1O-04-12	NPV3-2D-04-12	0.40	4.2W	
				•	NPV3-1C-04-24	NPV3-1O-04-24	NPV3-2D-04-24	0.18		
			•		NPV3-1C-05-12	NPV3-1O-05-12	NPV3-2D-05-12	0.40		
		•	NPV3-1C-05-24	NPV3-1O-05-24	NPV3-2D-05-24	0.18				
	06 07	NPV4	•		NPV4-1C-06-12	NPV4-1O-06-12	NPV4-2D-06-12	0.60	7.2W	
				•	NPV4-1C-06-24	NPV4-1O-06-24	NPV4-2D-06-24	0.30		
			•		NPV4-1C-07-12	NPV4-1O-07-12	—	0.60		
		•	NPV4-1C-07-24	NPV4-1O-07-24	—	0.30				
<b>Sanitary Food Grade Silicone Tubing (Available)</b>	23	NPV2	•		NPV2-1C-23-12	NPV2-1O-23-12	NPV2-2D-23-12	0.13	1.5W	14 psi
				•	NPV2-1C-23-24	NPV2-1O-23-24	NPV2-2D-23-24	0.06		
	25	NPV3	•		NPV3-1C-25-12	NPV3-1O-25-12	NPV3-2D-25-12	0.40	4.2W	14 psi
				•	NPV3-1C-25-24	NPV3-1O-25-24	NPV3-2D-25-24	0.18		
	27	NPV4	•		NPV4-1C-27-12	NPV4-1O-27-12	—	0.60	7.2W	9 psi
				•	NPV4-1C-27-24	NPV4-1O-27-24	—	0.30		

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