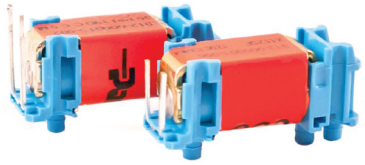
NEX-Valve

Miniature Non-Elastomer Liquid Valve

8mm Liquid Valve



Parker's NEX-Valve is a direct-acting, poppet-style valve featuring 2-way bidirectional flow that incorporates many of the proven features of the X-valve®. NEX is inert and eliminates disadvantages commonly encountered in elastomeric valves handling aggressive liquids.

Typical Applications

- Wide Format Printing
- Reservoir Fill / Drain
- Liquid Cooling Systems

Features

- Unique non-elastomeric design is compatible found with Alcohols, Solvents, Water and Solvent-based inks
- Power consumption as low as 0.5 Watt; PWM and hit & hold circuit compatible
- Compact and efficient side-by-side mounting
- Ensures high reliability with its single piece body design
- Allows for direct tubing connection or a radial seal for manifold assemblies through its universal barb design
- RoHS compliant

Product Specifications

Physical Properties

Valve Type:
Inert Non-Isolation Valve

Valve Configuration:
2-Way Normally Closed

Media:
Water, Alcohols, Solvents
(The NEX is designed for use with Liquids. If the application requires control of gas please refer to the Parker X-Valve® datasheet)

Operating Environment:
32 to 122°F (0 to 50°C)

Storage Temperature:
-40 to 158°F (-40 to 70°C)

Dimensions:
Length: 0.92 in (23.4 mm)
Width: 0.31 in (7.9 mm)
Height: 0.48 in (12.2 mm)
to Barb End / 0.35 in (8.9 mm)
to Manifold Face

Spacing: 0.315 in (8 mm) center

Porting:
Barbs for 1/16 in (1.5 mm)
I. D. Tubing, (1/32 in Wall Max.)
Manifold Mount (Gasket accessory required, see ordering info)

Weight: 0.16 oz (4.5 g)

Internal Volume (µL): 74

Electrical

Voltage (VDC):
3, 5, 12 or 24 VDC

Power (Watts):
0.5 - 0.045" (1.14 mm) orifice
1.0 - 0.030" (0.76 mm) orifice

Connections:
PC Pins, 4 mm centers
Lead Wire/Connector Assembly
(Accessory, see ordering info)

Wetted Materials*

Bobbin/Body:
PBT (Polybutylene terephthalate)

Pole & Plunger:
430 FR Series Stainless Steel

All Others:
302 Series Stainless Steel

* See Chemical Compatibility Page
Consult factory for other options

Performance Characteristics

Pressure:
0 to 6 psid (0.4 bar differential)
0 to 30 psid (2.0 bar differential)

Orifice Sizes/Equivalent C_V:
0.045" (1.14 mm) / 0.018
0.030" (0.76 mm) / 0.010

Proof Pressure:
200 psig (13.7 bar)

Leak Rate: Tested with Water
< 0.02 sccm @ 6 psi,
(Water tight)

Response Time:
< 20 ms maximum cycling

Recommended Filtration:
10 micron

Reliability:
Life Cycle rating of 1 million cycles (worst case tested, no performance degradation)

X-Valve is a registered trademark of Parker Hannifin Corporation.

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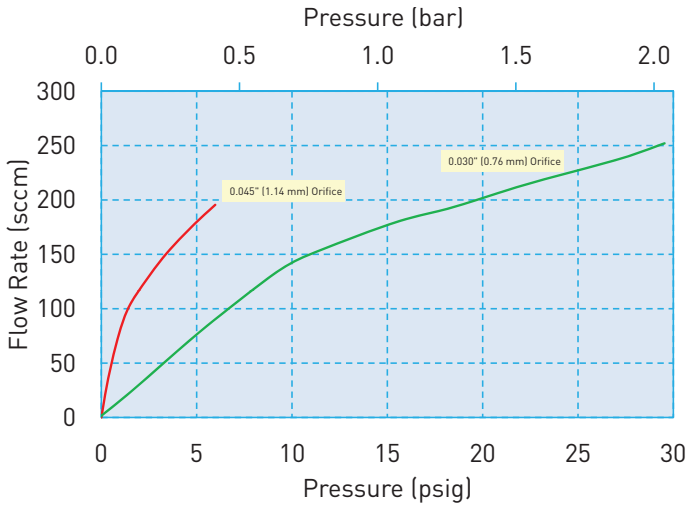
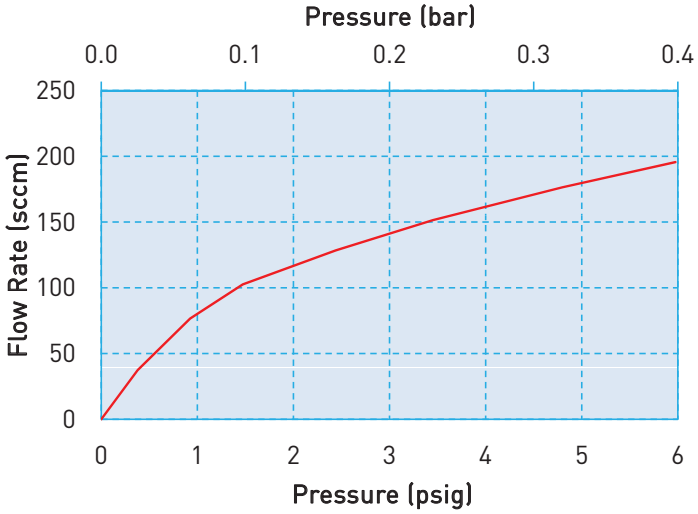
Typical Flow Curve

All Models

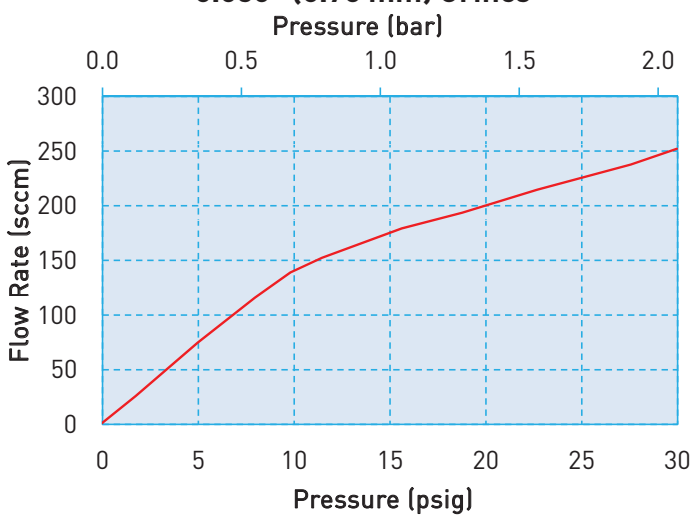
(Tested w/water 24° C)



0.045" (1.14 mm) Orifice



0.030" (0.76 mm) Orifice



NEX-Valve Miniature Non-Elastomer Liquid Valve

Pressure and Flow Capabilities/Power

Orifice Size	Nominal Cv	Maximum Operating Pressure Differential *	Power Consumption
0.045 in (1.14 mm)	0.018	6 psid (0.4 bar differential)	0.5 Watt
0.030 in (0.76 mm)	0.010	30 psid (2.0 bar differential)	1 Watt

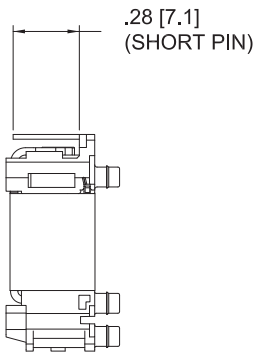
* Proof pressure is 200 psig (13.7 bar)

Electrical Interface

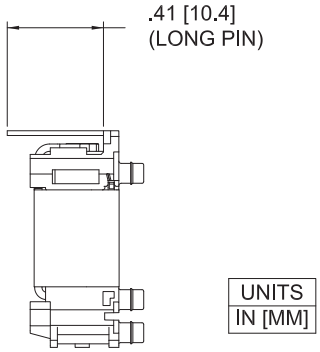
Short Pin
(For Pin/Wire Lead or PCB Terminal Housing Connection)
[Reference Accessories section]

Long Pin
(For Pin/PCB solder mount connection)

Coil Connections



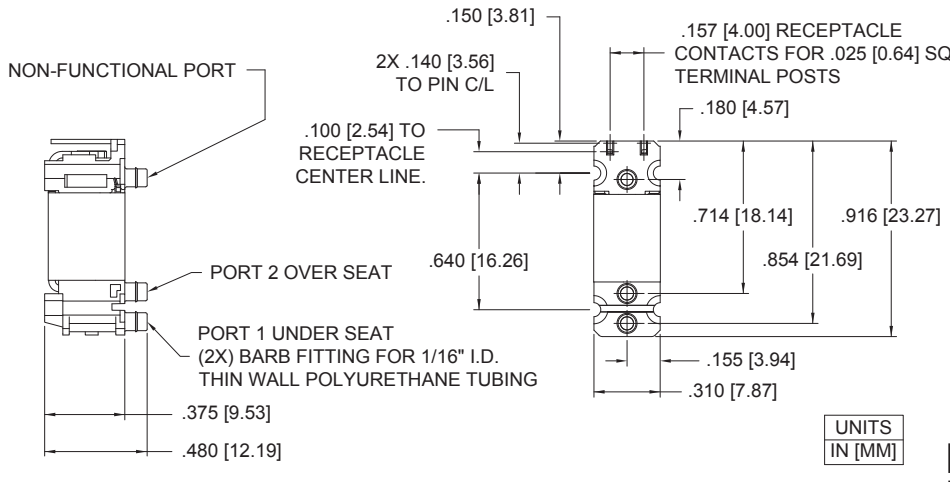
Electrical Connection Options:
Electrical terminals compatible with Molex 51065 series connector or equivalent.



Dimensions

SIDE VIEW

BOTTOM VIEW



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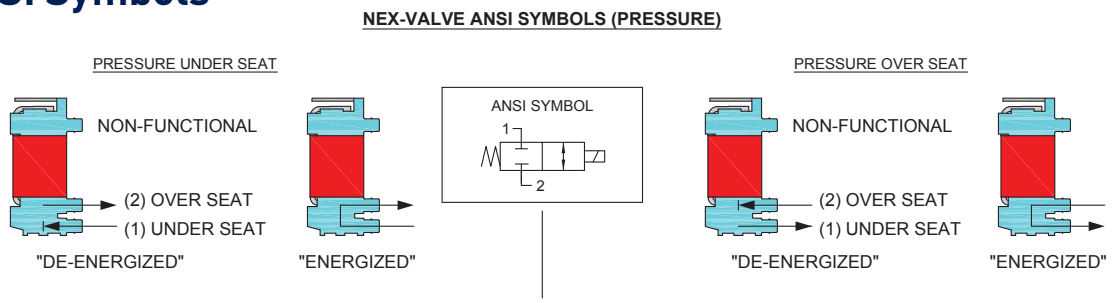
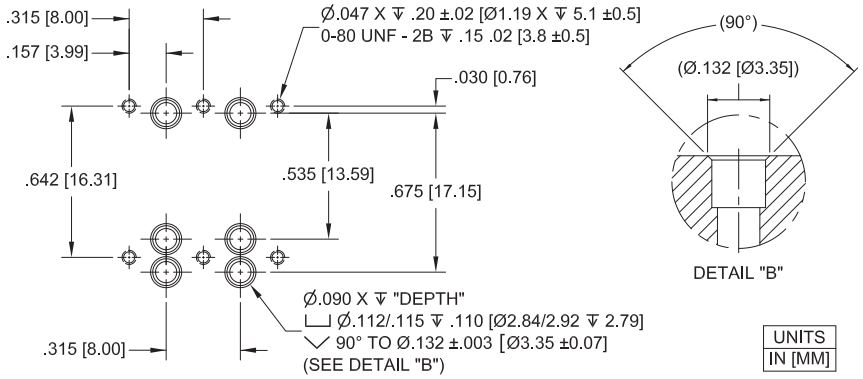
ANSI Symbols



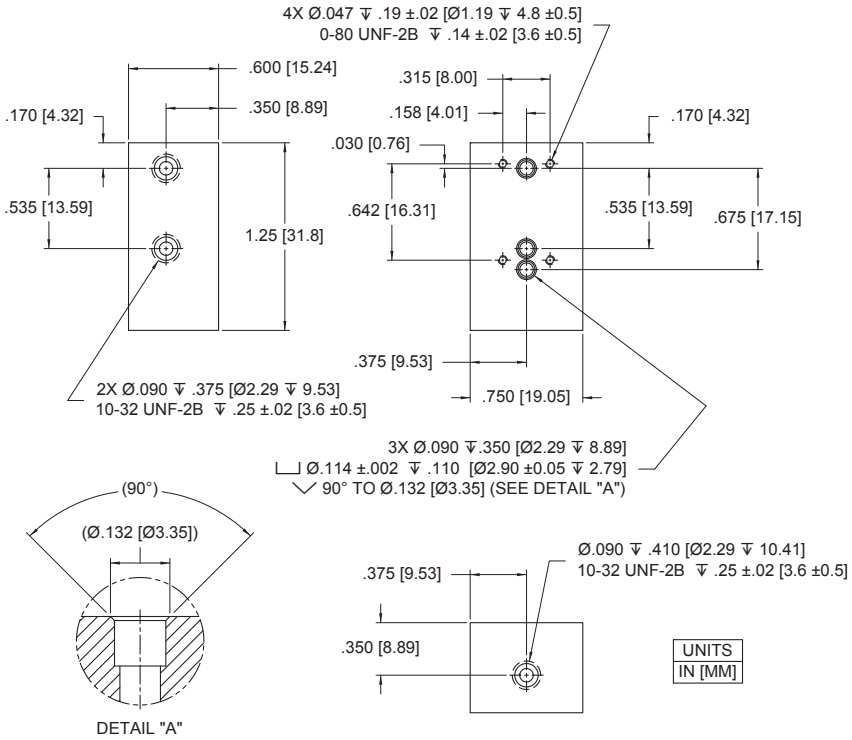
NEX-Valve
Manifold Mount Diagram



Mechanical Integration

Dimensions

Recommended NEX-Valve
Manifold Dimensions



NEX-Valve Miniature Non-Elastomer Liquid Valve

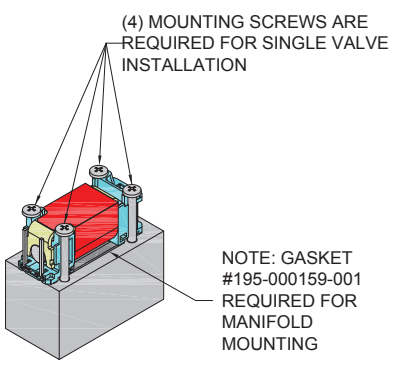
Chemical Compatibility Chart*

Chemical	PBT	Stainless Steel
DI Water	1	1
Methanol	1	1
Isopropanol	1	1
Ethanol	1	1
Acetonitrile		1
Tetrahydrofuran	1	4
Toluene	2	4
Organic Acids - Dilute	3	1
Non Organic Acids - Dilute	1	1
Bases - Dilute	1	1
Saline	1	1
Bleach 12%	2	1

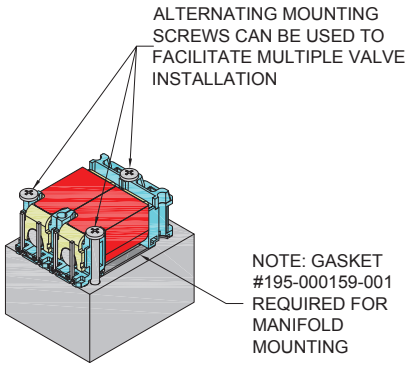
*The above is an Abbreviated Chemical Compatibility Chart and is for reference purposes only.
Please consult factory for a complete list.

COMPATIBILITY LEGEND		
1	**EXCELLENT**	Minimal or no effect
2	**GOOD**	Possible swelling and/or loss of physical properties
3	**DOUBTFUL**	Moderate or severe swelling and loss of physical properties
4	**NOT RECOMMENDED**	Severe effect and should not be considered

Recommended NEX-Valve Mounting



Single Station Manifold Mounting



Multiple Station Manifold Mounting

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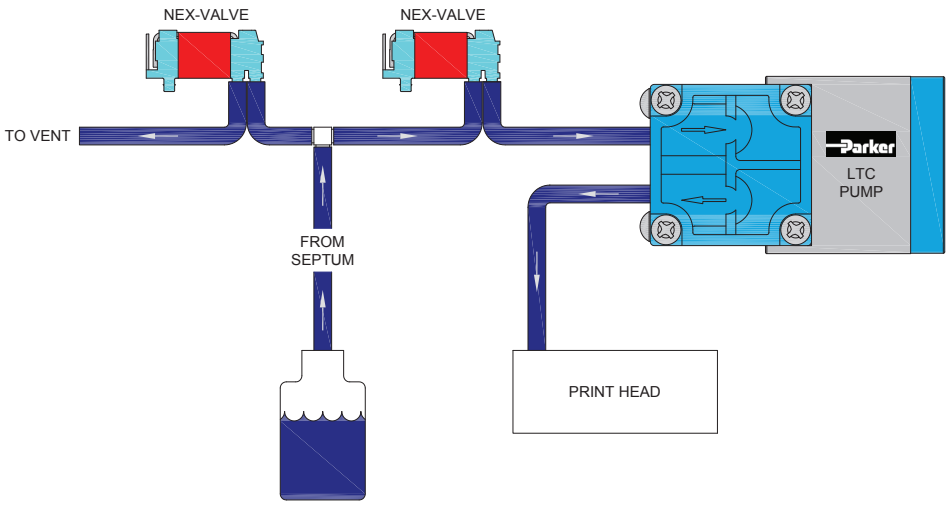
Typical Flow Diagram

NEX-Valve used for solvent control in Printing Application.



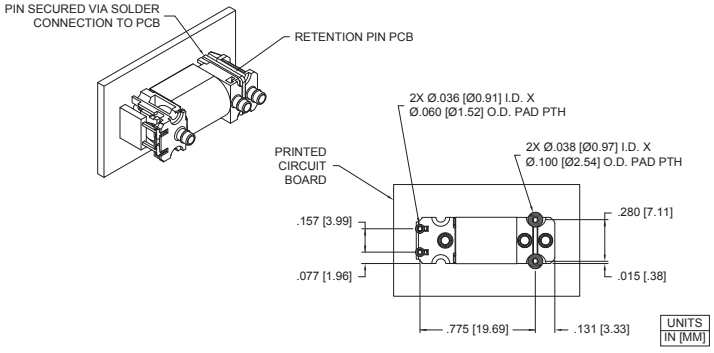
Accessories

Manifold Rubber Gasket (FKM)
195-000159-001
(required for manifold mounting)

12" Wire Leads
290-006061-001
(for use with Short Pin valve configuration)

Screw 0-80 x 1/2" Binding Head, Phillips
191-000100-208
(4 required for first valve, 2 more required for each subsequent valve)

Retention Pin PCB
190-006020-001



NEX-Valve Miniature Non-Elastomer Liquid Valve

Ordering Information

Orifice Size	Pressure	Valve Type	Wattage	Voltage	Electrical Coil Connection	Part Number
0.030" (0.76 mm)	0-30 psid (2.07 bar differential)	2 Way NC	1.0	3V	Short Pins	912-000005-011
				12V	Short Pins	912-000005-007
					Long Pins	912-000005-003
				24V	Short Pins	912-000005-004
					Long Pins	912-000005-008

Orifice Size	Pressure	Valve Type	Wattage	Voltage	Electrical Coil Connection	Part Number
0.045" (1.14 mm)	0-6 psid (0.41 bar differential)	2 Way NC	0.5	3V	Short Pins	912-000005-005
					Long Pins	912-000005-001
				5V	Short Pins	912-000005-009
					Long Pins	912-000005-010
				12V	Short Pins	912-000005-006
					Long Pins	912-000005-002
				24V	Long Pins	912-000005-014

Accessories	
195-000159-001: Rubber (FKM) Gasket [1]	[1] Not supplied with the valve. Used as a seal between the valve ports and manifold.
290-006061-001: 12" (30.5 cm) Wire Leads [2]	[2] Not supplied with the valve. Used to electrically interface with the valve.
190-006020-001: Retention Pin, PCB [3]	[3] Not supplied with the valve. Used to secure the valve for printed circuit board solder mounting.
191-000100-208: Screw, 0-80 x 1/2", Binding Head, Phillips [4]	[4] Not supplied with the valve. Four (4) screws are required for single station manifold valve mounting. See Recommended X-Valve Mounting for multiple station mounting screw requirements.

NOTE: In order to provide the best possible solution for your application, please provide the following requirements when contacting Applications Engineering:

- Media, Inlet & Outlet Pressures
- Minimum Required Flow Rate
- System Supply Voltage
- Media
- Ambient Temperature Range

Please click on the Order On-line button www.parker.com/precisionfluidics/nexvalve to configure your NEX-Valve Miniature Inert Non-Elastomer Liquid Valve. For more detailed information, visit us on the Web, or call and refer to Performance Spec. #790-002240-001 and Drawing #790-002241-001 (100 psig) and drawing #890-003090-001 (Standard Pins) and #890-003090-002 (Long Pins).

For more information call +1 603 595 1500 or email ppfinfo@parker.com
Visit www.parker.com/precisionfluidics