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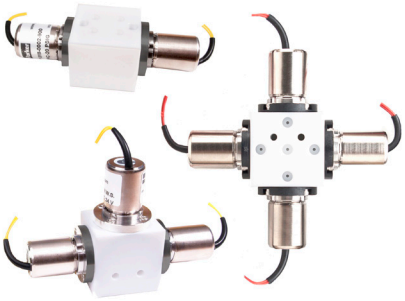
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Find the *Parker / General Valve Corporation 4 Station* at our website: *Click HERE*

Series 18

Chemically Inert Manifold Liquid Valve

Isolation Manifold



The Series 18 is designed for compact installation in multi-liquid systems. Available with multiple inlets and one outlet (or vice-versa), the Series 18 features all wetted parts of PTFE. Tubing and connections between discrete valves are eliminated and dead volume is reduced. Repeatability and rapid response time make the Series 18 ideally suited for controlling small percentages of low flow liquids.

Typical Applications

- Liquid Chromatography Gradient Generation
- Liquid Selection and Mixing Valve

Features

- Provides unsurpassed chemical compatibility for a wide range of media with all wetted parts of PTFE.
- Low internal volume for reduced delay volume
- 100% continuous duty rating in ambient temperatures up to 66°C
- Low power for reduced heat generation and power consumption
- Fast response times for accurate, repeatable results
- Symmetrical design ensures fluid path length and timing is identical for each fluid channel
- 100% tested tight leak rate provides assurance of a quality seal
- Provides reliable operation for the life of your instrument
- RoHS compliant

Product Specifications

Physical Properties

Valve Type:
Multi Station Diaphragm Isolation Valve
Valve Configuration:
2-Way Normally Closed
Media:
Liquids
Operating Environment:
40 to 150°F (4 to 66°C)
Dimensions:
See pages 3, 4 & 5
Weight:
8 oz (226 g) [2 Station]
10.2 oz (289 g) (3 Station]
12.4 oz (352 g) [4 Station]
Porting:
1/4-28 Threaded ports
Internal Volume (µL):

	Valve	Inlet Path	Outlet Path
2 station	12.6	25.2	42.4
3 station	12.6	25.2	42.4
4 station	12.6	25.2	57.1

Electrical

Voltage (VDC):	9	12	24
Power (Watts):	2.5	2.5	4.2
Current (mA):	273	211	173
Resistance (Ohm):	33	57	139

(Ω±5% @ 70°F, 21°C)

Connections:

12” Lead Wires Standard
26 AWG, PTFE Insulated

Wetted Materials*

Seals:
PTFE
Body:
PTFE

* See Chemical Compatibility Page
Consult factory for other options

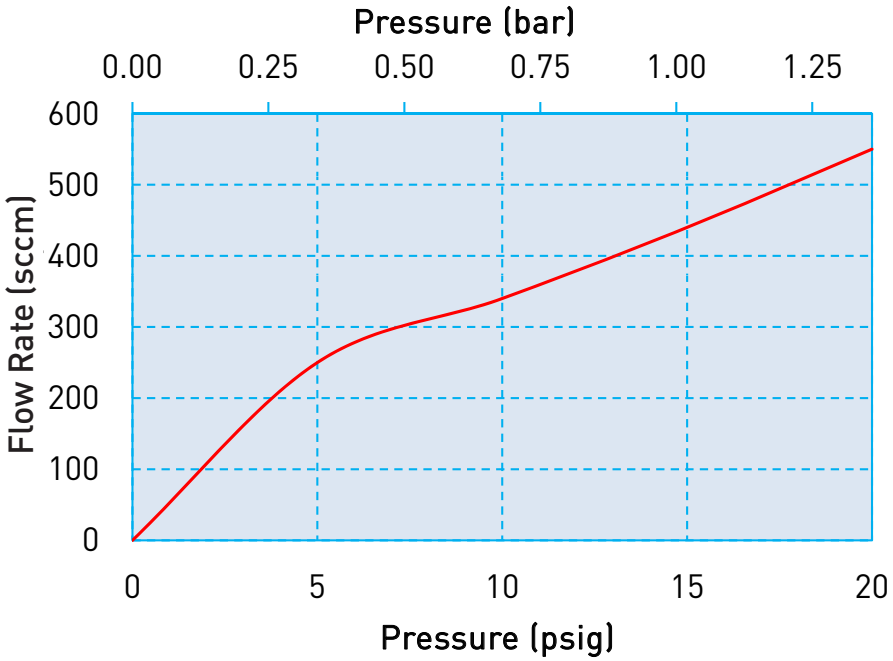
Performance Characteristics

Operating Pressure/ Orifice Diameters:
Vacuum - 20 psig (1.4 bar) / 0.060” (1.52 mm)
Proof Pressure:
1.5X rated pressure
Leak Rate:
Bubble Tight
Response Time:
<12 ms
Recommended Filtration:
10 µm max
Reliability:
Life Cycle Rating of 10 million (Application dependent)

Series 18 Chemically Inert Manifold Liquid Valve

Typical Flow Curve

All Models
Orifice: 0.060" (1.52mm)
(Tested w/water 24° C)



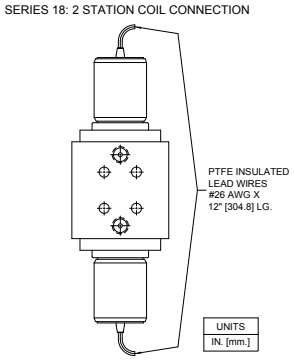
Series 18 Chemically Inert Manifold Liquid Valve

Electrical Interface

Coil Type: Wire leads

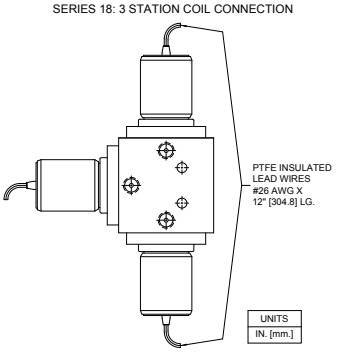
2 Station



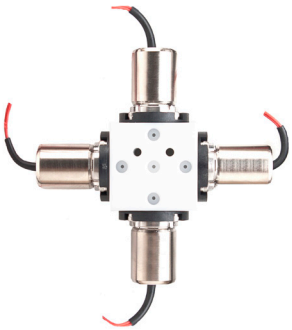


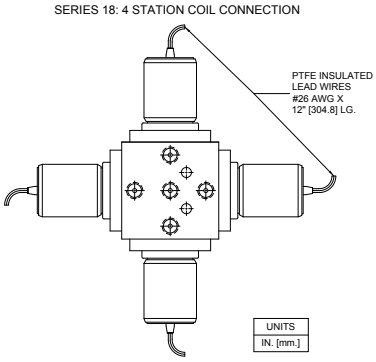
3 Station





4 Station





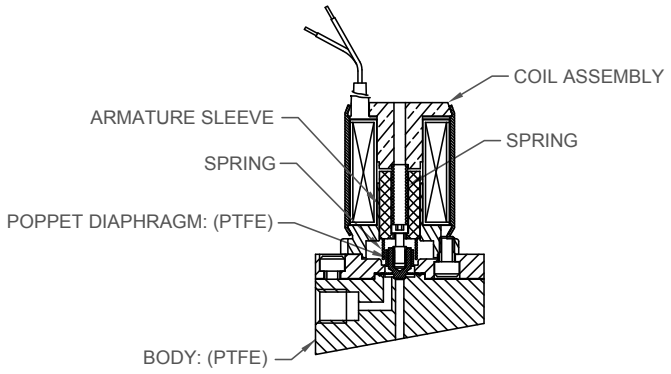
Note: Custom configurations available please contact the factory.

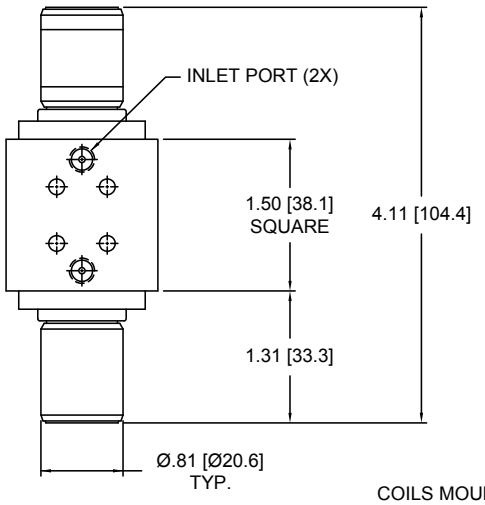
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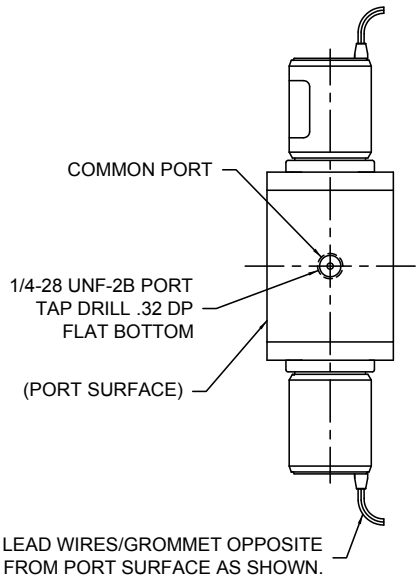
Mechanical Integration

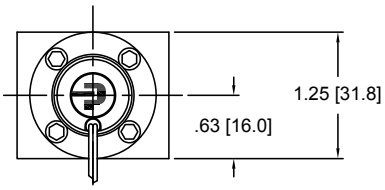
Dimensions

Series 18: 2 Station Cross-Section

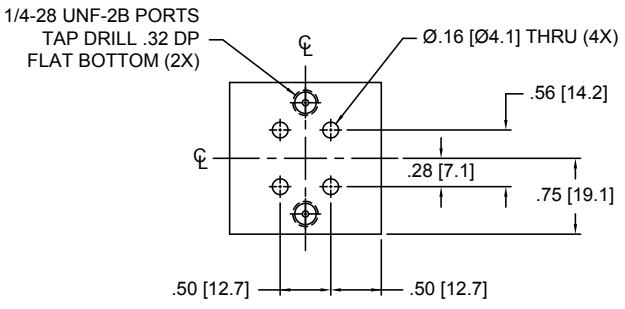






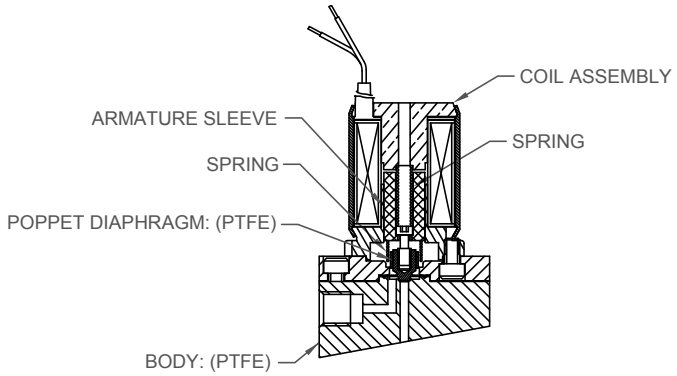


PORT CONFIGURATION VIEW

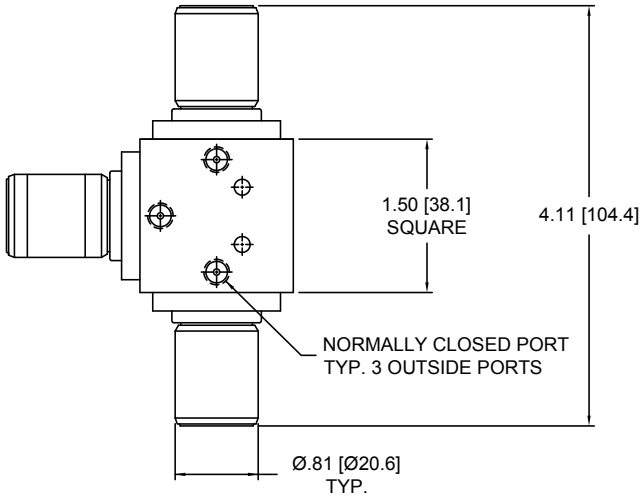


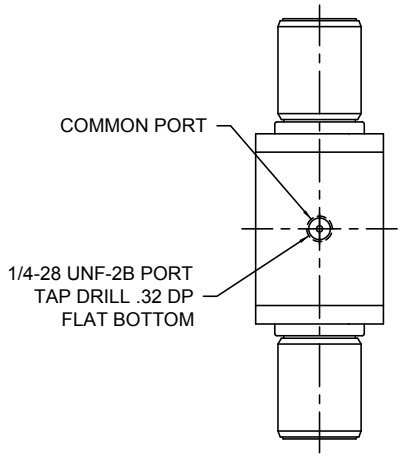
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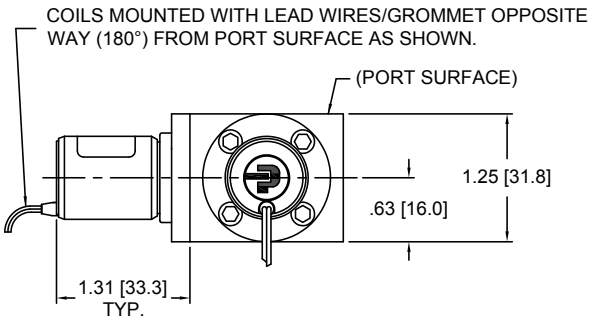
Series 18: 3 Station Cross-Section



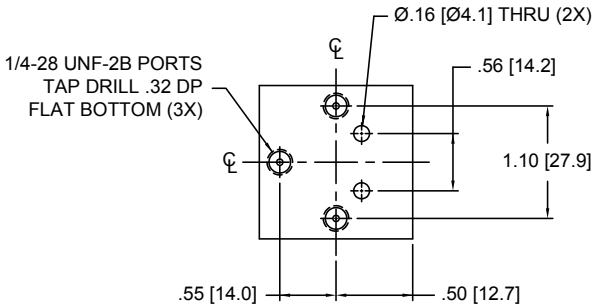
*THIS SINGLE COIL ASSEMBLY
IS TYPICAL FOR ALL VALVES





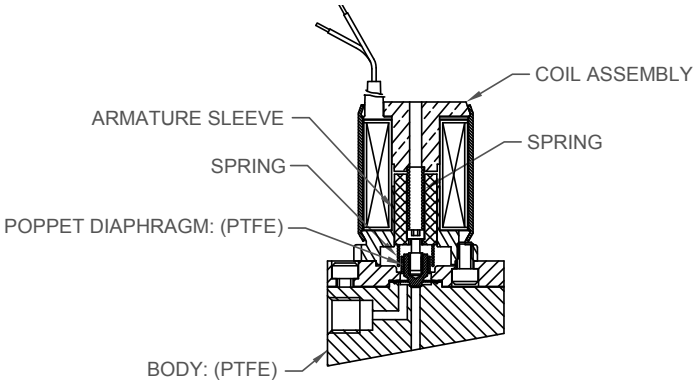


PORT CONFIGURATION VIEW

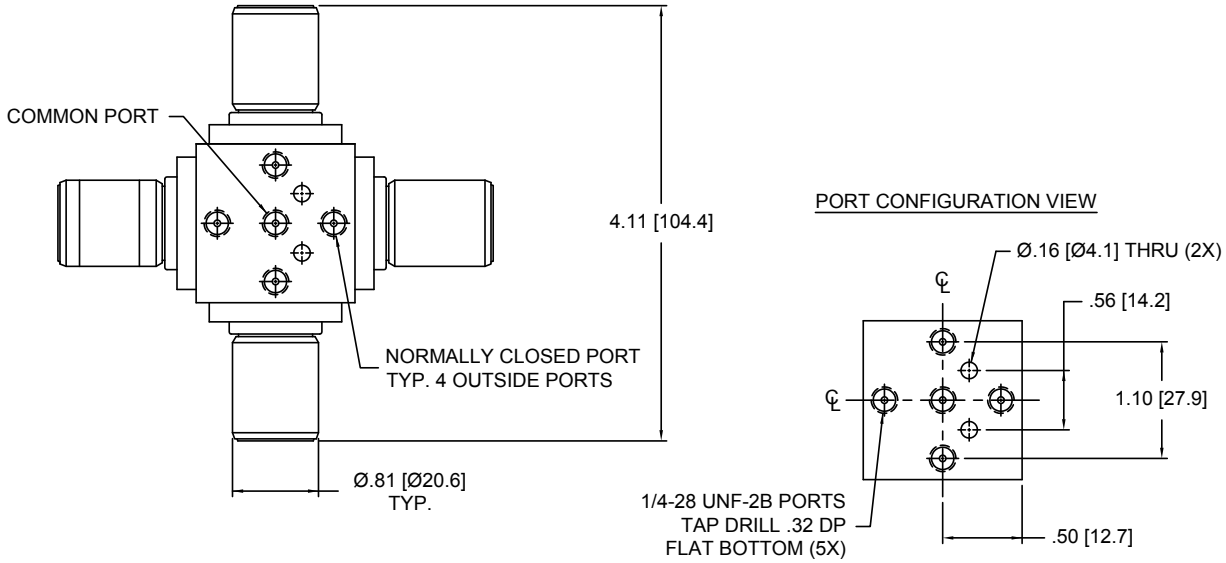


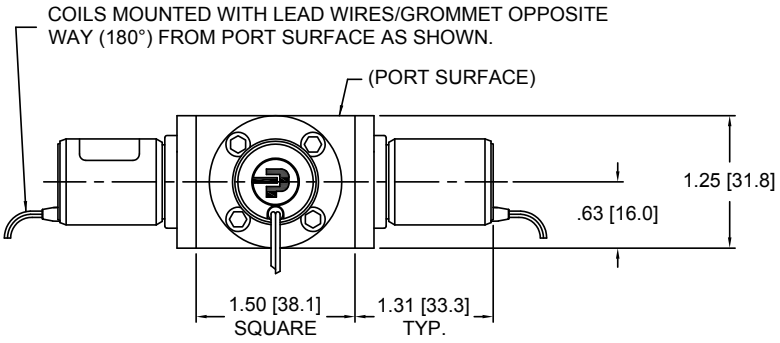
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Series 18: 4 Station Cross-Section



*THIS SINGLE COIL ASSEMBLY
IS TYPICAL FOR ALL VALVES





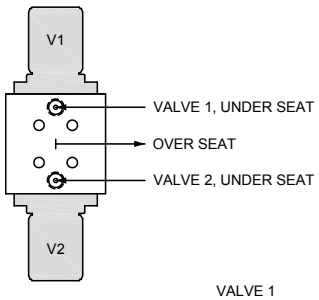
Series 18 Chemically Inert Manifold Liquid Valve

ANSI Symbols

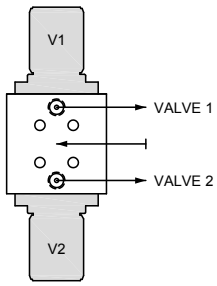
Pressure

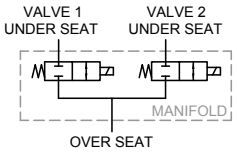
2 STATION, 2-WAY

GRADIENT GENERATION / FLOW MIXING

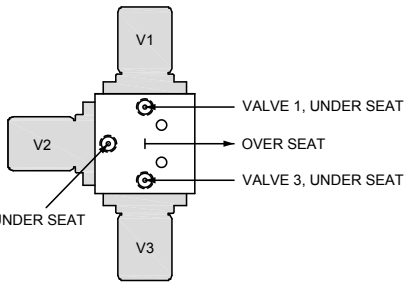


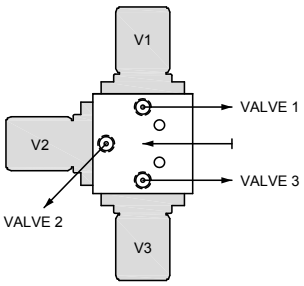
FLOW SELECTION / STREAM SPLITTING

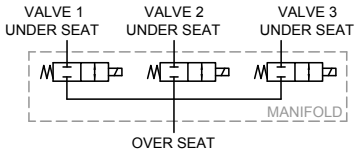




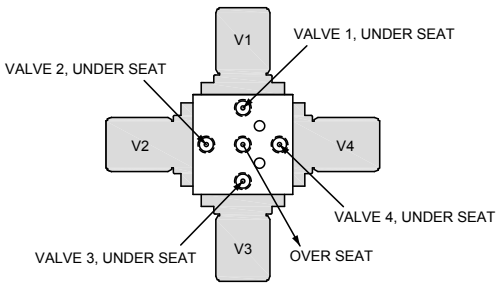
3 STATION, 2-WAY

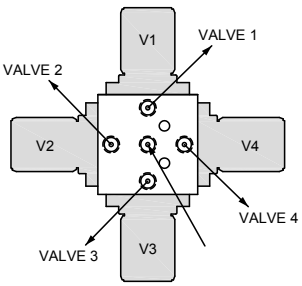


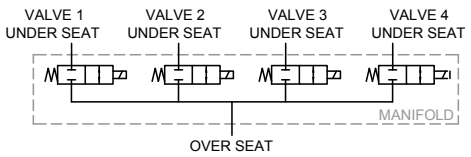




4 STATION, 2-WAY





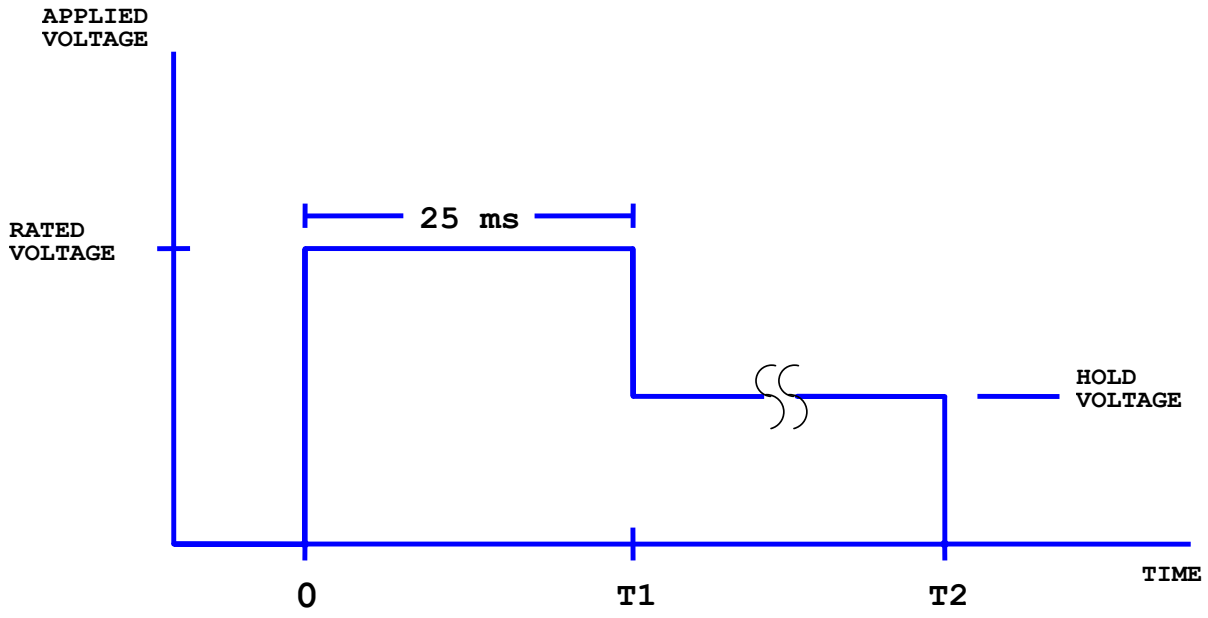


Hit and Hold Specifications:

Hit and Hold is a method for driving valves that can be used to reduce power consumption and heat generation while maintaining valve performance specifications. The valve is "hit" with the full rated voltage for some time period to open it (T1 in the graph) and then "held" open with substantially reduced voltage until the desired pulse length is reached (T2 in the graph). The following table shows the possible holding voltages and power consumption for our standard 12 and 24VDC solenoids.

Rated Voltage (volts)	*Hold Voltage*	*Hold Power*
24	8 volts	0.46 watts
12	5 volts	0.44 watts

Note: Other voltages available



Hold Voltage Graph

Series 18 Chemically Inert Manifold Liquid Valve

Chemical Compatibility Chart*

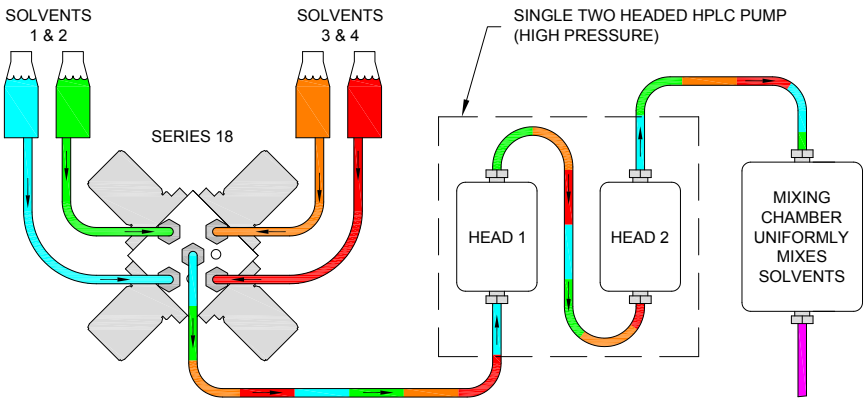
Chemical	Seals and Body TEFLON® (PTFE)
DI Water	1
Methanol	1
Isopropanol	1
Ethanol	1
Acetonitrile	1
Tetrahydrofuran	1
Toluene	1
Organic Acids - Dilute	1
Non Organic Acids - Dilute	1
Bases - Dilute	1
Saline	1
Bleach 12%	1
Sodium Hydroxide 20%	1

* The above is an Abbreviated Chemical Compatibility Chart. 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

Typical Flow Diagram

Quaternary Gradient HPLC Flow Diagram



Proven Performance:

- The Series 18 Valve has been successfully tested to more than ten million cycles with no degradation of components afterwards Passing specifications for:
  - Response time
  - Internal leakage
  - External leakage
  - Repeatability
- Can achieve mix ratios from 99:1 to 1:99 with high accuracy and repeatability.
- The Series 18 Valve has a proven track record in Analytical Instrumentation for over 25 years.

Series 18 Chemically Inert Manifold Liquid Valve

Ordering Information

Orifice Size	Pressure	Valve Type	Number of Stations	Voltage	Part Number
0.062"(1.57 mm)	Vac-20 psig (1.38 bar)	2 Way NC	4	9V	018-0301-900
				12V	018-0074-900
				24V	018-0048-900
			3	12V	018-0083-900
				24V	018-0003-900
			2	12V	018-0012-900
				24V	018-0002-900

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 (or go to www.parker.com/precisionfluidics/s18) to configure your Series 18 Chemically Inert Manifold Valve. For more detailed information, visit us on the Web, or call 603-595-1500.

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

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