

- > Designed for use with IMI Norgren V6 syringe pumps and 6cm syringes
- > Bi-directional flow valves; not intended for use as shut-off or relief valves
- > Rated to 100 psi
- > Available in plug style with PTFE or in face style with Ceramic
- > Highly inert to most chemistries and designed for long life
- > Available in distribution, non-distribution and loop configurations
- > Suitable for use in analytical, biotechnology and diagnostics instruments



## Specifications

### Physical

#### Valve Overall Dimensions

**Diameter:** 1.30"

**Length:** 1.90"

1.895" (8 Way valve)

2.700" (12 Way valve)

#### Mass

55 to 97 grams

#### Life cycle<sup>1</sup> (Minimum)

100,000 [Plug]

1,000,000 [Ceramic]

### Environmental

#### Operating Temperature

50°F to 104°F (10°C to 40°C)

#### Operating Humidity

5% to 95% relative humidity,  
non-condensing at 104°F (40°C)

#### Storage Temperature

13°F to 185°F (-10°C to 85°C)

#### WEEE & RoHS Compliant

### Mechanical

#### Orifice Diameter

See table for available diameters

#### Port Specifications

1/4-28 flat bottom threaded ports, 0.245" deep

#### Rated pressure

Vacuum<sup>2</sup> to 100 psi

#### Valve Mounting Hardware (supplied) Torque

5.0 in-lbs.

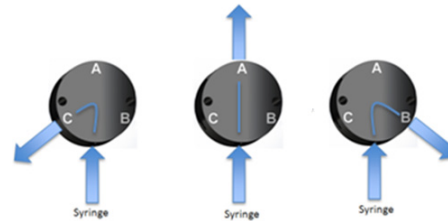
<sup>1</sup>Tested with DI Water using IMI Standard protocol

<sup>2</sup>Vacuum pressure: -25inHg maximum at 2750ft elevation (1psia max).

## Valve Flow Configuration Types

### Distribution

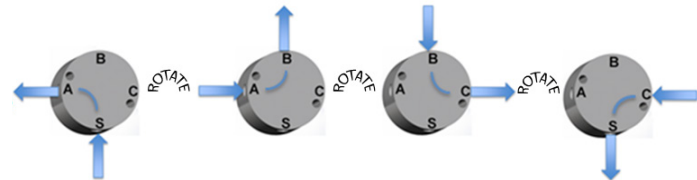
Distribution valves have a flow path configuration that connects the syringe port to any of the other fluid ports through a central common port. Flow is bi-directional for each connection. The naming of each valve type is determined by the number of ports available to connect with the syringe port i.e. the syringe port is not counted.



Possible flow paths on a 3-Way Distribution Valve

### Non-Distribution

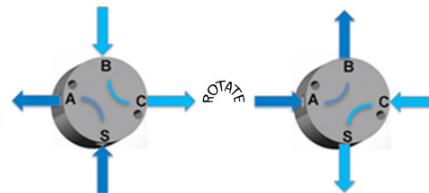
A non-distribution valve connects adjacent ports on a valve to allow fluid to flow between them. Fluid may be drawn into the syringe only from one of the adjacent ports. Non-distribution valves allow a "bypass" fluid path where the fluid flows through the valve without entering the syringe. An external pressure system is required to move fluids through any flow paths not involving the syringe port. The naming of each valve type is determined by the number of possible fluid paths.



Possible flow paths on a 4-Way Non-Distribution Valve

### Loop

A loop valve connects adjacent ports on a valve to create multiple simultaneous flow paths including the syringe port. These valves therefore only exist in even numbered port configurations. Fluid may be drawn into the syringe only from one of the adjacent ports. An external pressure system is required to move fluids through any flow paths not involving the syringe port.



Possible flow paths on a 4-Way Loop Valve

**Face Seal Valves - Ceramic**

P/N	Orifice Diameter	Valve Type
23550	0.059"	3-Way Distribution
23551	0.078"	3-Way Distribution
24898	0.059"	4-Way Distribution
23604	0.059"	5-Way Distribution
23370*	0.059"	8-Way Distribution
24090**	0.076"	8-Way Distribution
24105***	0.040"	12-Way Distribution
23548	0.059"	3-Way Non-Distribution
23549	0.078"	3-Way Non-Distribution

Wetted Materials: Alumina Ceramic, FFKM (seals)

\*Overall length: 1.895"

\*\*Overall length: 2.495"

\*\*\*Overall length: 2.700"

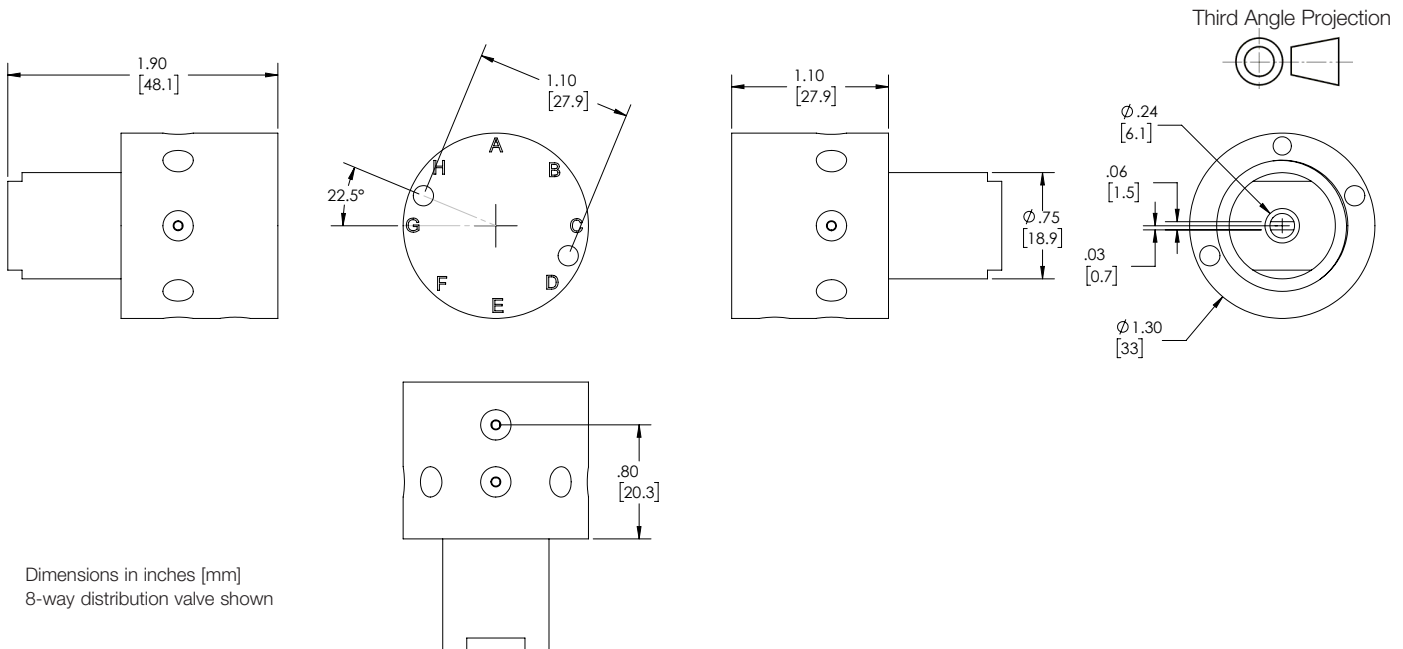
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**Optional Accessories**

P/N	Description
18659	Port Plug Screw, use with seal p/n 18781

**Seal Washers**

P/N	Description
14271	Teflon, 0.070 ID Hole, for 0.059" orifice
18031	Teflon, 0.095 ID Hole, for 0.076" orifice
18033	Teflon, 0.125 ID Hole, for 0.089" orifice
18781	Teflon, No hole, for port plug



Dimensions in inches [mm]  
8-way distribution valve shown

**Plug Valves**

P/N	Orifice Diameter	Valve Type	P/N	Orifice Diameter	Valve Type
19218	0.059"	1-Way Distribution	19194	0.031"	3-Way Non-Distribution
18247	0.059"	1-Way Distribution	17615	0.059"	3-Way Non-Distribution
18248	0.076"	1-Way Distribution	18192	0.076"	3-Way Non-Distribution
99884	0.031"	3-Way Distribution	18680	0.089"	3-Way Non-Distribution
17616	0.059"	3-Way Distribution	24699	0.090"	3-Way Non-Distribution
18189	0.076"	3-Way Distribution	17712	0.059"	4-Way Non-Distribution
23554	0.031"	4-Way Distribution	18191	0.076"	4-Way Non-Distribution
17617	0.059"	4-Way Distribution	24697	0.059"	4-Way Loop
18190	0.076"	4-Way Distribution	29621	0.059"	6-Way Loop
17618	0.059"	5-Way Distribution			
18188	0.076"	5-Way Distribution			
24701	0.031"	6-Way Distribution			
17619	0.059"	6-Way Distribution			
18193	0.076"	6-Way Distribution			
19323	0.031"	8-Way Distribution			
17620	0.059"	8-Way Distribution			
17877	0.076"	8-Way Distribution			

**Optional Accessories**

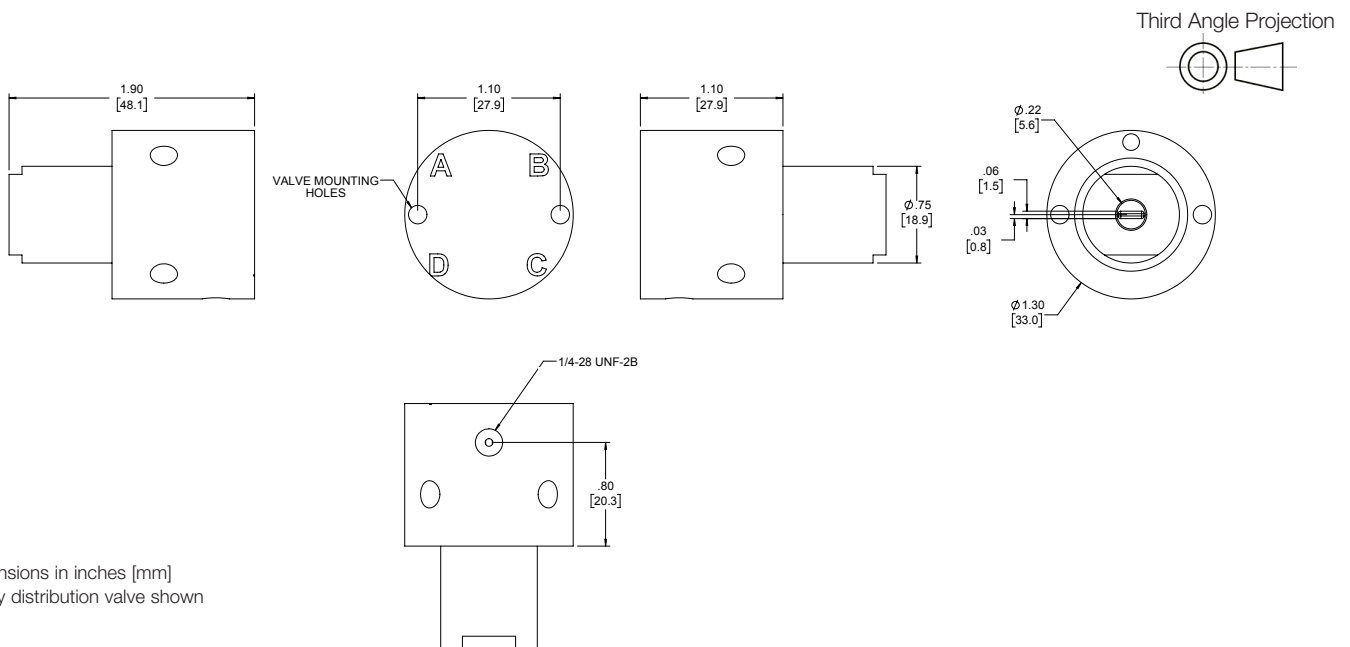
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**Seal Washers**

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18781	Teflon, No hole, for port plug

Wetted Materials: PCTFE, PTFE

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Dimensions in inches [mm]  
4-way distribution valve shown

**Warning**

Improper selection, misuse, age or malfunction of components used in systems can cause failure in various modes. The system designer is warned to consider the failure modes of all component parts and to provide adequate safeguards to prevent personal injury or damage to equipment or property in the event of such failure modes. System designers and end users are cautioned to consult instruction sheets and specifications available from the factory. The system designer/end user is responsible for verifying that all requirements for the application are met.

**Warranty**

The products described herein are warranted subject to seller's Standard Terms and Condition of Sale, available at seller's website.

**Proposition 65:** These products may contain chemicals known to the state of California to cause cancer, or birth defects, or other reproductive harm.