

IMI Norgren 3cm Rotary Valves are designed to mate with the IMI Norgren 3cm Syringes and are compatible with the Cadent™ 3 Syringe Pumps. These valves are rated to 100 psi and are suitable for use in various life science instruments serving analytical, biotechnology and diagnostic applications. They are highly inert to most chemistries and are designed for long life. Rotary valves are directional flow valves and are not intended to be used as shut-off or pressure relief valves.

There are three basic rotary valve constructions: Plug and Face Seal. Plug valves are typically made in PTFE and offer the widest range of chemical compatibility. Face Seal valves are available in either PPS/XP-113 or PEEK/Ceramic material and offer extended long life as a key performance feature.



## Specifications

### Physical

#### Valve Overall Dimensions

**Diameter:** 1.40 in.

**Length:** 1.78 in.

See valve interface dimensions below

#### Mass

30 grams

### 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 (-25° 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\* to 100 psi

#### Syringe Locking Set Screw Torque

1.0 in-lbs.

#### Valve Mounting Hardware (supplied) Torque

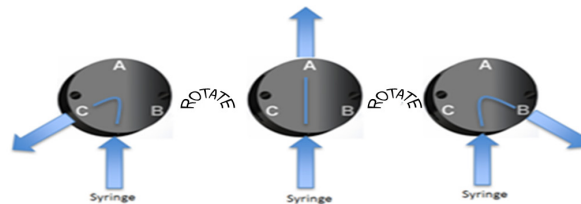
5.0 in-lbs.

\*Vacuum pressure: -25inHg maximum at 2750ft elevation (1psia max).

## Valve Flow Configuration Types

### Distribution

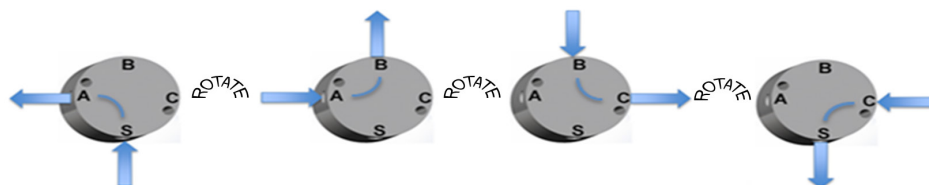
Distribution valves have a flow path configuration that connects the syringe port to any of the other fluid ports through a central common port. Flow is bi-directional for each connection. The naming of each valve type is determined by the number of ports available to connect with the syringe port i.e. 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

**Face Seal Valves - Ceramic**

P/N	Orifice Diameter	Valve Type
30138	0.031	2-Way Distribution
30149	0.059	2-Way Distribution
30139	0.031	3-Way Distribution
30150	0.059	3-Way Distribution
30140	0.031	4-Way Distribution
30151	0.059	4-Way Distribution
30141	0.031	5-Way Distribution
30152	0.040	5-Way Distribution
30142	0.031	6-Way Distribution
30153	0.040	6-Way Distribution
101034	0.031	8-Way Distribution
101035	0.040	8-Way Distribution
101036	0.031	12-Way Distribution
101038	0.040	12-Way Distribution
30144	0.031	3-Way Non-Distribution
30155	0.059	3-Way Non-Distribution
30145	0.031	4-Way Non-Distribution
30156	0.059	4-Way Non-Distribution
30147	0.031	6-Way Non-Distribution
30158	0.040	6-Way Non-Distribution

Wetted Materials: PEEK, Alumina Ceramic, FFKM PTFE

**Face Seal Valves - Plastic**

P/N	Orifice Diameter	Valve Type
23324	0.059"	3-Way Distribution
24643	0.020"	4-Way Distribution
23325	0.059"	4-Way Distribution
23326	1mm	5-Way Distribution
23327	1mm	6-Way Distribution
23562	0.059"	3-Way Non-Distribution
23563	0.059"	4-Way Non-Distribution

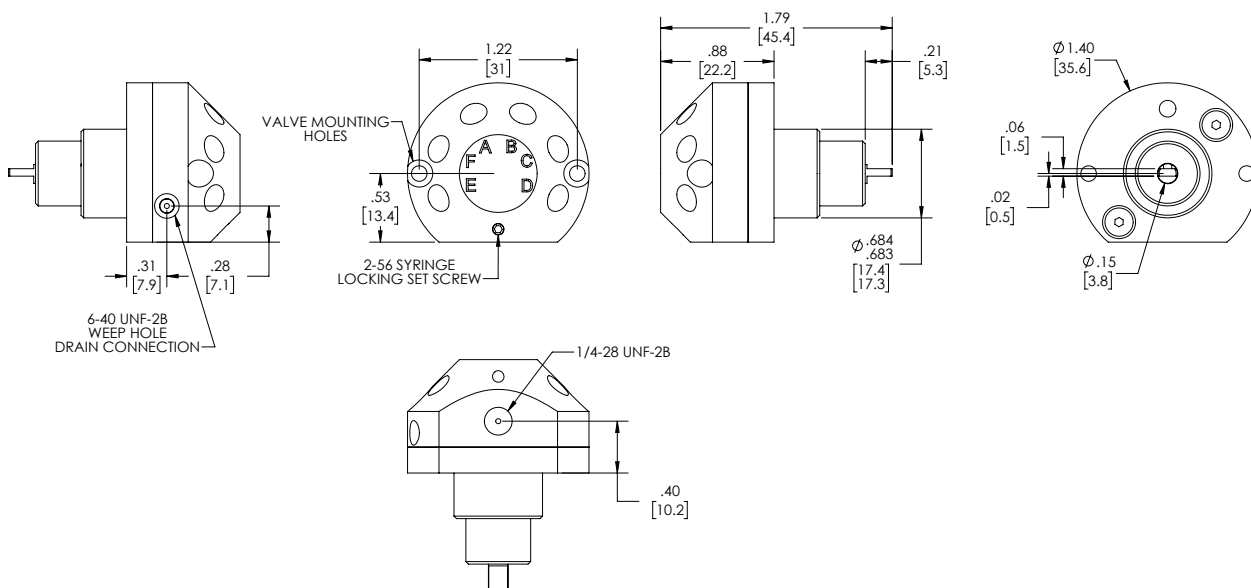
Wetted Materials: PPS, XP-113, PTFE

**Optional Accessories**

P/N	Description
24528	Weep Hole Fitting - PEEK
24529	Weep Hole Fitting - Stainless Steel
18659	Port Plug Screw, use with seal p/n 18781

For other customization requests, contact us at [IMIKloehncustomersupport@imi-precision.com](mailto:IMIKloehncustomersupport@imi-precision.com)

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



**Plug Valves**

P/N	Orifice Diameter	Valve Type	P/N	Orifice Diameter	Valve Type
23272	0.059	1-Way Distribution	28391	0.031	3-Way Non-Distribution
20051	0.031	2-Way Distribution	28393	0.059	3-Way Non-Distribution
20052	0.059	2-Way Distribution	28395	0.076	3-Way Non-Distribution
20053	0.076	2-Way Distribution	28397	0.031	4-Way Non-Distribution
25393	0.031	3-Way Distribution	28399	0.059	4-Way Non-Distribution
25394	0.059	3-Way Distribution	28401	0.076	4-Way Non-Distribution
25395	0.076	3-Way Distribution			
25396	0.031	4-Way Distribution			
25397	0.059	4-Way Distribution			
25398	0.076	4-Way Distribution			
25399	0.031	5-Way Distribution			
25400	1mm	5-Way Distribution			
25401	0.031	6-Way Distribution			
25402	1mm	6-Way Distribution			

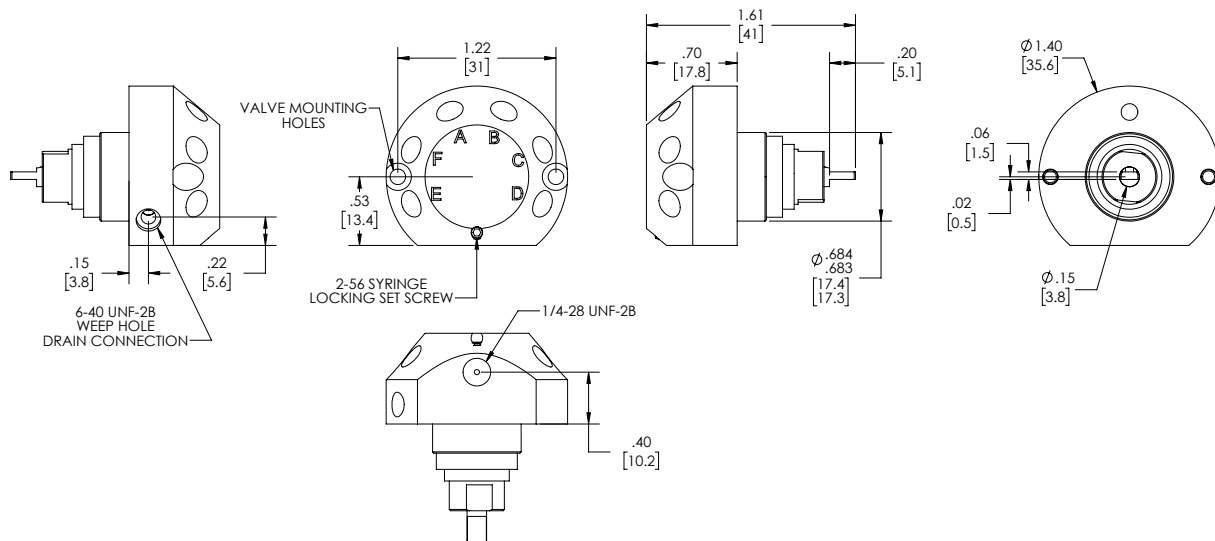
**Optional Accessories**

P/N	Description
24528	Weep Hole Fitting - PEEK
24529	Weep Hole Fitting - Stainless Steel
18659	Port Plug Screw, use with seal p/n 18781

Wetted Materials: PCTFE, PTFE

For other customization requests, contact us at [IMIKloehncustomersupport@imi-precision.com](mailto:IMIKloehncustomersupport@imi-precision.com)

Dimensions in inches [mm]  
6-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.