

3cm Rotary Valves

- > Designed for use with Cadent™ 3 syringe pumps and Kloehn 3cm syringes
- > Bi-directional flow valves; not intended for use as shut-off or relief valves
- > Rated to 100psig (6.89barg)
- > Suitable for use in analytical, biotechnology and diagnostics instruments
- > Available in plug style with PTFE or in face style with PPS/XP-113 or Ceramic
- > Highly inert to most chemistries and designed for long life
- > Available in distribution and non-distribution configurations



Technical Features

Diameter:

1.40" (3.56cm)

Length:

1.78"

1.91" (8-way)

2.30" (12-way)

Mass:

1.05 oz (30g)

Life Cycle⁽¹⁾ (Minimum):

100,000 [Plug]

100,000 [Plastic Face Seal]

500,000 [Ceramic Face Seal]

(1) Tested with DI water using Norgren standard protocol
(2) Vacuum pressure -25inHg maximum at 2750ft
Environmental Operating
Temperature:

10°C to 40°C (50°F to 104°F)

Operating Humidity:

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

Storage Temperature:

-33°C to 71°C (-27°F to 160°F)

WEEE & RoHS Compliant
Chemical (Wetted)
Orifice Size:

See table for available diameters

Port Specifications:

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

Rated Pressure:

 Vacuum⁽²⁾ to 100 psig (6.89 barg)

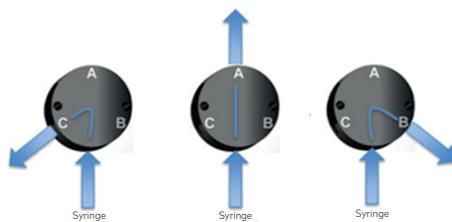
Syringe Locking Set Screw
Torque:

1.0 in.-lbs.

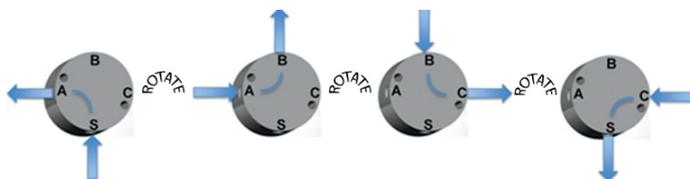
Valve Mounting Hardware
(supplied) Torque

5.0 in.-lbs.

Valve Flow Configuration Types



Possible flow paths on a 3-way distribution valve



Possible flow paths on a 4-way non-distribution valve

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 (the syringe port is not counted).

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.

Face Seal Valves - Ceramic

P/N	Orifice Size (in)	Internal Volume (µL)	Valve Type
30138	0.031	13.9	2-Way Distribution
30149	0.059	53.9	2-Way Distribution
30139	0.031	13.9	3-Way Distribution
30150	0.059	53.4	3-Way Distribution
30140	0.031	14.3	4-Way Distribution
30151	0.059	53.4	4-Way Distribution
30141	0.031	14.1	5-Way Distribution
30152	0.040	23.5	5-Way Distribution
30142	0.031	13.9	6-Way Distribution
30153	0.040	23.5	6-Way Distribution
101034	0.031	16.9	8-Way Distribution
101035	0.040	30.1	8-Way Distribution
101036	0.031	21.4	12-Way Distribution
101038	0.040	33.6	12-Way Distribution
30144	0.031	14.0	3-Way Non-Distribution
30155	0.059	52.8	3-Way Non-Distribution
30145	0.031	12.9	4-Way Non-Distribution
30156	0.059	49.0	4-Way Non-Distribution
30147	0.031	12.2	6-Way Non-Distribution
30158	0.040	20.5	6-Way Non-Distribution

Face Seal Valves - Plastic

P/N	Orifice Size (in)	Internal Volume (µL)	Valve Type
23324	0.059	48.7	3-Way Distribution
24643	0.020	5.30	4-Way Distribution
23325	0.059	48.7	4-Way Distribution
23326	1mm	23.6	5-Way Distribution
23327	1mm	23.6	6-Way Distribution
23562	0.059	48.1	3-Way Non-Distribution
23563	0.059	48.1	4-Way Non-Distribution

Optional Accessories

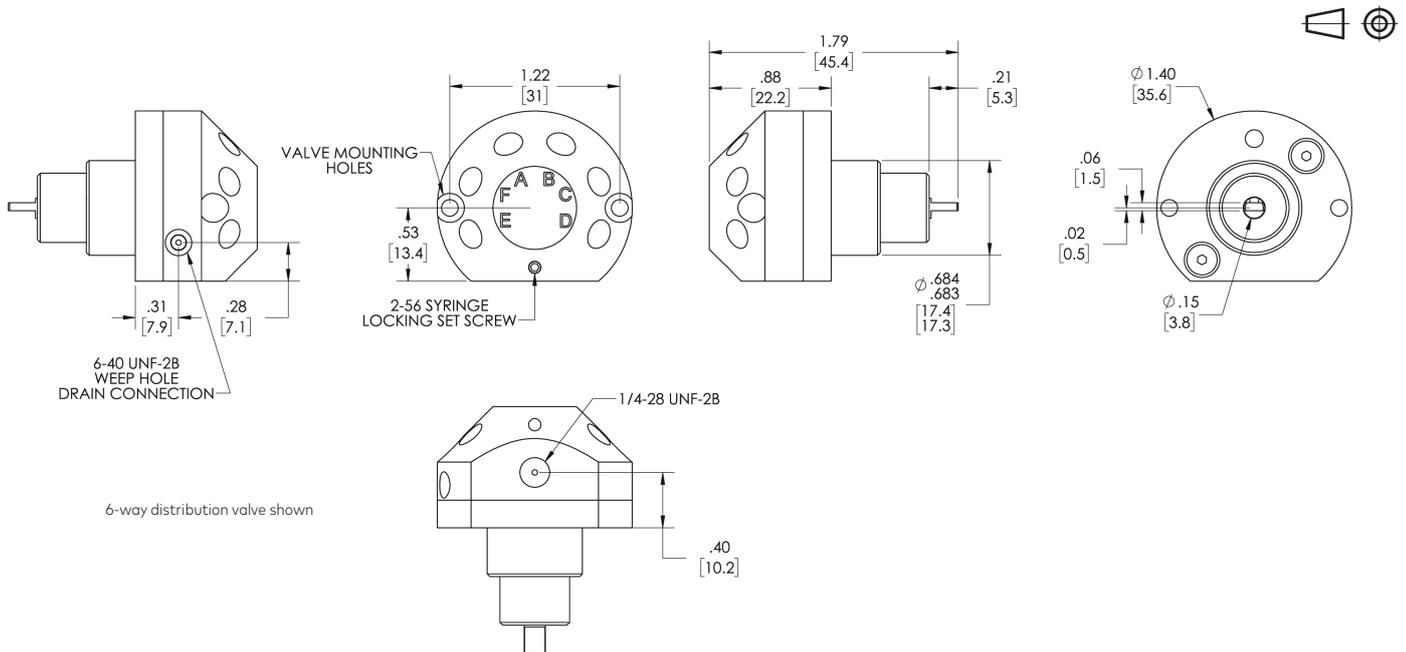
P/N	Description
24528	Weep Hole Fitting - PEEK
24529	Weep Hole Fitting - Stainless Steel
18659	Port Plug Screw, use with seal p/n 18781

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

Wetted Materials: PEEK, Alumina Ceramic, FFKM PTFE

 For customization requests, contact us at IMIKloehncustomersupport@imi-precision.com

 Dimensions in inches [mm]
 Projection/Third angle


Plug Valves			
P/N	Orifice Size (in)	Internal Volume (µL)	Valve Type
23272	0.059	8.51	1-Way Distribution
20051	0.031	14.8	2-Way Distribution
20052	0.059	52.3	2-Way Distribution
20053	0.076	86.6	2-Way Distribution
25393	0.031	14.8	3-Way Distribution
25394	0.059	51.7	3-Way Distribution
25395	0.076	23.9	3-Way Distribution
25396	0.031	14.7	4-Way Distribution
25397	0.059	23.6	4-Way Distribution
25398	0.076	85.3	4-Way Distribution
25399	0.031	14.7	5-Way Distribution
25400	1mm	24.3	5-Way Distribution
25401	0.031	6.50	6-Way Distribution
25402	1mm	24.1	6-Way Distribution

Wetted materials: PCTFE, PTFE

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Plug Valves			
P/N	Orifice Size (in)	Internal Volume (µL)	Valve Type
28391	0.031	8.90	3-Way Non-Distribution
28393	0.059	31.5	3-Way Non-Distribution
28395	0.076	51.5	3-Way Non-Distribution
28397	0.031	8.70	4-Way Non-Distribution
28399	0.059	30.3	4-Way Non-Distribution
28401	0.076	49.1	4-Way Non-Distribution

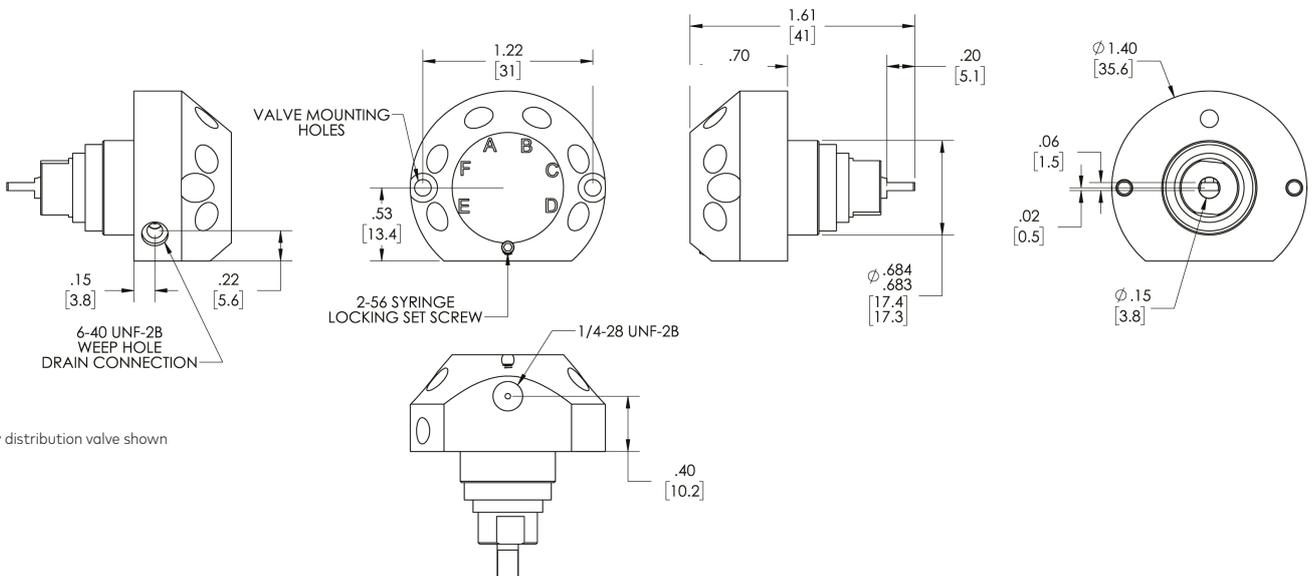
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6-way distribution valve shown

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. Due to unlimited application, system conditions and chemistries, it is the buyers responsibility to validate the product within their specific application.

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