



# *i* **Polymer**

international polymer solutions

**BECO**  
manufacturing 

**TEQCOM**

Proud manufacturer of high purity fluid handling products

[www.ipolymer.com](http://www.ipolymer.com) | [info@ipolymer.com](mailto:info@ipolymer.com)

# iPolymer

international polymer solutions

Welcome to iPolymer, a merger of two proud Southern California brand names providing more than 50 years of quality products and services. TEQCOM Industries and BECO Manufacturing have combined forces as iPolymer, the premier provider of High Purity Fluid Handling products serving a broad spectrum of industries including Semiconductor, Life Sciences, Gas Analytics and Water Purification Systems.

iPolymer's team of dedicated engineers, technicians and sales agents strive to provide unsurpassed customer satisfaction. Our skilled craftsmen are experts in a wide variety of plastic machining and fabrication techniques utilizing state-of-the-art CNC Machining, Routing and Plastic Welding equipment. Engineering Support includes Solidworks 3D modeling, MasterCAM, In-house laboratory testing and FEA analysis.

Our extensive product offering consists of standard catalog items and custom fabricated solutions all designed with your high purity fluid handling needs in mind! Plastics used in our manufacturing process include PTFE, PFA, PVDF, PEEK, CPVC, Polypropylene and other specialized polymers to fit your specific requirements.

Come and explore how iPolymer can help you find your next solution!



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## High Purity Fittings & Connectors



### FITTING MATERIALS AVAILABLE

- PTFE
- PFA
- PVDF

### TUBE FITTINGS

Barbed Fitting  
Bulkhead Female Connector  
Bulkhead Male Connector  
Bulkhead Union  
Female Branch Tee  
Female Connector  
Female Elbow  
Female Run Tee  
Male Branch Tee  
Male Connector  
Male Elbow  
Male Run Tee  
Reducing Union  
Tube Cap  
Tube Insert  
Union  
Union Cross  
Union Elbow  
Union Elbow Reducer  
Union Tee

### THREE COMPRESSION NUT MATERIAL TYPES

- HA - Injection Molded PVDF Nut\*\* (Standard Configuration)
- TA - PTFE Nut with Anodized Aluminum Support Band
- TS - PTFE Nut with Stainless Support Band

### FLARED FITTINGS

Male Connector  
Female Connector  
Union Elbow  
Union Elbow Reducer  
Union Tee  
Male Run Tee  
Male Branch Tee  
Bulkhead Union  
Bulkhead Male Connector  
Bulkhead Union Reducer  
Union  
Union Reducer  
Male Elbow  
Flare Caps

### PIPE FITTINGS

Bushing  
Coupling  
Elbow  
Female Reducer  
Pipe Nipple  
Pipe Union  
Plug  
Tee

### SPARES

Ferrule\*\*  
Nut  
Panel Nut

### MINI FITTINGS

Nut  
Ferrule  
Insertion Tool

\*\*All HA style fittings are standard equipped with a PTFE ferrule & Kynar Gripper.



# SPECIFICATIONS: Tube Fitting Assembly

## Pressure Ratings:

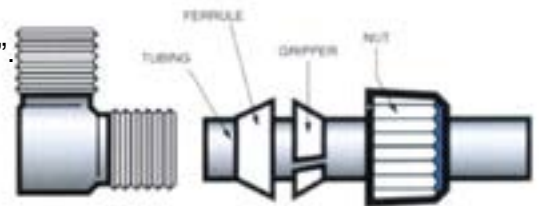
- Performance at ambient room conditions: 120 psi for 1/16" fittings linear decreasing to 80 psi for 3/4" fittings and 60 psi for fittings larger than 3/4".
- Performance at elevated temperatures up to 85°C/185°F: 90 psi for 1/16" fittings linear decreasing to 60 psi for 3/4" fittings and 40 psi for fittings larger than 3/4".
- Contact factory for temperature ratings above 85°C / 185°F.
- Temperature below 72° F the pressure rating does not increase or decrease. Pressure rating is maintained from 72° F and below.
- See page 23 for further details

## Materials of Construction

- Fittings: Machined from virgin Polytetrafluoroethylene (PTFE).
- Ferrules: Ferrules are machined from virgin Polytetrafluoroethylene (PTFE).
- Grippers: The Gripper in the two piece Ferrule-Gripper assemblies are manufactured from PVDF.
- Nuts: The "HA" style nuts are molded PVDF.

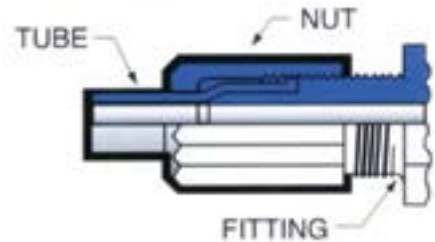
Pressure performance ratings are based on laboratory testing, industry standard material characteristics and historical data. A combination of extreme temperature and pressure may affect these products. The user is responsible for verifying the suitability of these products for their application.

## FERRULE & GRIPPER STYLE



1. Cut tubing to desired length.
2. Loosen the nut, insert tube.
3. Tighten the nut finger tight.
4. The fitting is ready to use.

## FLARED END STYLE



## ORDERING FORMAT

**MC - F - 8 6**

### Indicates Connection Size

Tube O.D., FNPT, MNPT, or Flared I.D

- Example: 6 = 6/16" (3/8"), O.D.  
 6 = 6mm Tube O.D.  
 6 = 3/8 Flared I.D

### Indicates Connection Size

Tube O.D., FNPT, MNPT, or Flared I.D

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 6 = 3/8 Flared I.D

**Tube O.D or Flare O.D is Listed Before NPT Size**

### Indicates Fitting Category

- F = Fractional Size Tube Fitting
- M = Metric Size Tube Fitting
- P = Pipe Fitting
- FF = Fractional Flared

### Indicates Type of Fitting

Example: MC-F-86 = Male Connector  
 Fractional Size to connect 1/2" O.D Tubing to 3/8" MNPT,  
 PVDF Nut

### Note:

- Exceptions to above ordering procedure
- Barbed Fittings
- Bugle Fittings
- Mini Fittings

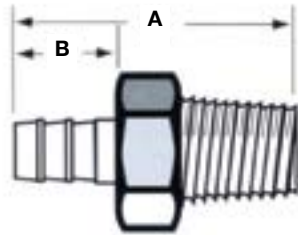




# iPolymer TUBE FITTINGS

## Barbed Fitting

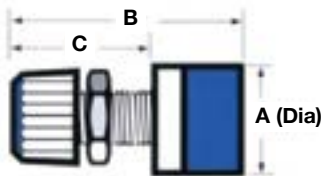
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Part #	Hose I.D.	Male Pipe	A Dim.	B Dim.
BF-F-12	1/16"	1/8" NPT	.99	.38
BF-F-22	1/8"	1/8" NPT	.99	.38
BF-F-32	3/16"	1/8" NPT	1.13	.50
BF-F-34	3/16"	1/4" NPT	1.44	.50
BF-F-36	3/16"	3/8" NPT	1.44	.50
BF-F-54	5/16"	1/4" NPT	1.56	.63
BF-F-56	5/16"	3/8" NPT	1.56	.63
BF-F-58	5/16"	1/2" NPT	1.88	.63
BF-F-64	3/8"	1/4" NPT	1.44	.50
BF-F-66	3/8"	3/8" NPT	1.44	.50
BF-F-68	3/8"	1/2" NPT	1.75	.50
BF-F-74	7/16"	3/8" NPT	1.69	.75
BF-F-76	7/16"	3/8" NPT	1.69	.75
BF-F-78	7/16"	1/2" NPT	2.00	.75
BF-F-712	7/16"	3/4" NPT	2.00	.75
BF-F-1112	11/16"	3/4" NPT	2.13	.88
BF-F-1116	11/16"	1" NPT	2.32	.88
BF-F-1616	1"	1" NPT	2.44	1.00

## Bulkhead Female Connector

101772



Part #	Tube O.D.	FNPT	Panel Hole (Drill Size)	A Dim.	B Dim.	C Dim.
BFC-F-22	1/8"	1/8" NPT	21/64	.75	1.51	.88
BFC-F-32	3/16"	1/8" NPT	25/64	.75	1.51	.88
BFC-F-42	1/4"	1/8" NPT	29/64	.75	1.70	.94
BFC-F-44	1/4"	1/4" NPT	29/64	.84	1.88	.94
BFC-F-54	5/16"	1/4" NPT	37/64	.84	1.88	.94
BFC-F-56	5/16"	3/8" NPT	37/64	1.00	1.88	.94
BFC-F-66	3/8"	3/8" NPT	45/64	1.00	1.94	1.00
BFC-F-88	1/2"	1/2" NPT	57/64	1.25	2.44	1.19
BFC-F-1616	1"	1" NPT	11/64	1.75	2.94	1.50
BFC-M-42	4mm	1/8" NPT	25/64	.75	1.38	.75
BFC-M-62	6mm	1/8" NPT	29/64	.75	1.70	.94
BFC-M-64	6mm	1/4" NPT	29/64	.84	1.88	.94
BFC-M-84	8mm	1/4" NPT	37/64	.84	1.88	.94
BFC-M-104	10mm	1/4" NPT	45/64	.84	1.94	1.00
BFC-M-106	10mm	3/8" NPT	45/64	1.00	1.94	1.00

Call iPolymer with your special application requirements.  
We manufacture short-run custom machined PTFE and PVDF Fittings.

### iPolymer Product Notes:

1. Please email Customer Service at [info@ipolymer.com](mailto:info@ipolymer.com)
2. Call us for special applications. We can manufacture our Fittings with special mounting and interface dimensions.
3. Upon request, alternate material selection from those listed will allow for expanding temperature ratings or other performance characteristics.
4. Unauthorized disassembly of this product will void the original factory one-year product warranty. For further details please contact your local Distributor or our factory directly.

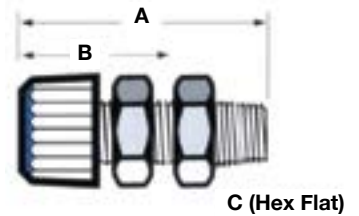
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Part #	Tube O.D.	Male Pipe	Panel Hole (Drill Size)	A Dim.	B Dim.	C Dim.
BMC-F-22	1/8"	1/8 NPT	21/64	1.51	.88	.44
BMC-F-32	3/16"	1/8 NPT	25/64	1.51	.88	.44
BMC-F-42	1/4"	1/8 NPT	29/64	1.57	.94	.56
BMC-F-44	1/4"	1/4 NPT	29/64	1.88	.94	.56
BMC-F-54	5/16"	1/4 NPT	37/64	1.88	.94	.75
BMC-F-56	5/16"	3/8 NPT	37/64	1.88	.94	.75
BMC-F-64	3/8"	1/4 NPT	45/64	1.94	1.00	.75
BMC-F-66	3/8"	3/8 NPT	45/64	1.94	1.00	.75
BMC-F-88	1/2"	1/2 NPT	57/64	2.38	1.13	.94
BMC-F-1616	1"	1" NPT	11/64	2.94	1.50	1.50
BMC-M-42	4mm	1/8 NPT	25/64	1.51	.88	.44
BMC-M-62	6mm	1/8 NPT	29/64	1.59	.94	.56
BMC-M-64	6mm	1/4 NPT	29/64	1.88	.94	.56
BMC-M-84	8mm	1/4 NPT	37/64	1.88	.94	.75
BMC-M-104	10mm	1/4 NPT	45/64	1.94	1.00	.75
BMC-M-106	10mm	3/8 NPT	45/64	1.94	1.00	.75

## Bulkhead Male Connector

101788

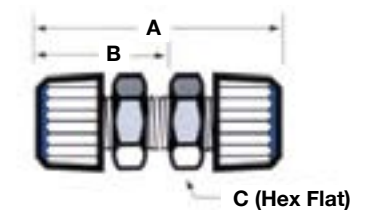


NOTE: For 1/4" max. panel thickness

Part #	Tube O.D.	Panel Hole (Drill Size)	A Dim.	B Dim.	C Dim.
BU-F-2	1/8"	21/64	1.51	.88	.44
BU-F-3	3/16"	25/64	1.51	.88	.44
BU-F-4	1/4"	29/64	1.81	.94	.56
BU-F-5	5/16"	37/64	1.81	.94	.75
BU-F-6	3/8"	45/64	1.81	.94	.75
BU-F-8	1/2"	57/64	2.25	1.19	.94
BU-F-10	5/8"	1-1/64	2.33	1.23	1.13
BU-F-12	3/4"	1-9/64	2.38	1.25	1.13
BU-F-16	1"	1-25/64	2.53	1.33	1.50
BU-F-11	1.1"	1-1/2	2.62	1.44	1.59
BU-M-4	4mm	25/64	1.51	.88	.44
BU-M-6	6mm	29/64	1.81	.94	.56
BU-M-8	8mm	37/64	1.81	.94	.75
BU-M-10	10mm	45/64	1.81	.94	.75
BU-M-12	12mm	57/64	2.25	1.19	.94

## Bulkhead Union

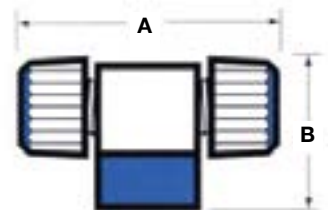
101004



Part #	Tube O.D.	Female Pipe	A Dim.	B Dim.
FBT-F-22	1/8"	1/8 NPT	1.39	1.01
FBT-F-32	3/16"	1/8 NPT	1.39	1.01
FBT-F-42	1/4"	1/8 NPT	1.63	1.01
FBT-F-44	1/4"	1/4 NPT	1.75	1.31
FBT-F-64	3/8"	1/4 NPT	1.75	1.31
FBT-F-66	3/8"	3/8 NPT	1.88	1.44
FBT-F-68	3/8"	1/2 NPT	2.13	1.88
FBT-F-86	1/2"	3/8 NPT	2.12	1.56
FBT-F-88	1/2"	1/2 NPT	2.25	1.88
FBT-F-108	5/8"	1/2 NPT	2.33	1.88
FBT-F-1212	3/4"	3/4 NPT	2.62	2.13
FBT-F-1616	1"	1" NPT	2.90	2.44
FBT-M-42	4mm	1/8 NPT	1.39	1.01
FBT-M-62	6mm	1/8 NPT	1.63	1.01
FBT-M-64	6mm	1/4 NPT	1.75	1.31
FBT-M-84	8mm	1/4 NPT	1.75	1.31
FBT-M-104	10mm	1/4 NPT	1.75	1.31
FBT-M-106	10mm	3/8 NPT	1.88	1.44

## Female Branch Tee

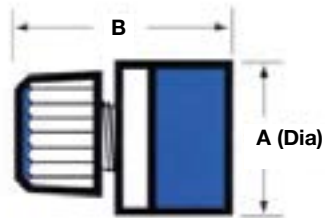
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# iPolymer TUBE FITTINGS

## Female Connector

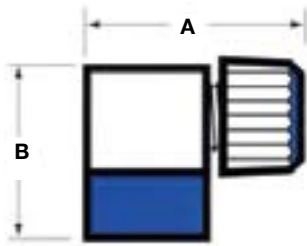
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Part #	Tube O.D.	Female Pipe	A Dim.	B Dim.
FC-F-22	1/8"	1/8" NPT	.75	1.14
FC-F-24	1/8"	1/4" NPT	.84	1.32
FC-F-32	3/16"	1/8" NPT	.75	1.14
FC-F-42	1/4"	1/8" NPT	.75	1.26
FC-F-44	1/4"	1/4" NPT	.84	1.44
FC-F-46	1/4"	3/8" NPT	1.00	1.44
FC-F-66	3/8"	3/8" NPT	1.00	1.44
FC-F-84	1/2"	1/4" NPT	.875	1.62
FC-F-86	1/2"	3/8" NPT	1.00	1.62
FC-F-88	1/2"	1/2" NPT	1.25	1.81
FC-F-124	3/4"	1/4" NPT	1.13	1.68
FC-F-128	3/4"	1/2" NPT	1.13	1.87
FC-F-1212	3/4"	3/4" NPT	1.50	1.87
FC-F-1616	1"	1" NPT	1.75	2.14
FC-M-42	4mm	1/8" NPT	.75	1.14
FC-M-62	6mm	1/8" NPT	.75	1.26
FC-M-64	6mm	1/4" NPT	.84	1.44
FC-M-84	8mm	1/4" NPT	.84	1.44
FC-M-104	10mm	1/4" NPT	.84	1.44
FC-M-106	10mm	3/8" NPT	1.00	1.44
FC-M-128	12mm	1/2" NPT	1.25	1.81

## Female Elbow

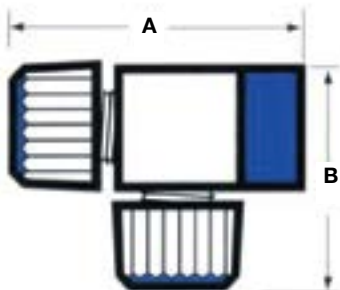
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Part #	Tube O.D.	Female Pipe	A Dim.	B Dim.
FE-F-22	1/8"	1/8" NPT	1.01	1.01
FE-F-32	3/16"	1/8" NPT	1.01	1.01
FE-F-42	1/4"	1/8" NPT	1.13	1.13
FE-F-44	1/4"	1/4" NPT	1.31	1.31
FE-F-64	3/8"	1/4" NPT	1.31	1.31
FE-F-66	3/8"	3/8" NPT	1.44	1.44
FE-F-68	3/8"	1/2" NPT	1.88	1.88
FE-F-86	1/2"	3/8" NPT	1.56	1.56
FE-F-88	1/2"	1/2" NPT	1.88	1.88
FE-F-108	5/8"	1/2" NPT	1.88	1.88
FE-F-128	3/4"	1/2" NPT	2.00	2.00
FE-F-1212	3/4"	3/4" NPT	2.13	2.13
FE-F-1616	1"	1" NPT	2.44	2.44
FE-M-42	4mm	1/8" NPT	1.01	1.01
FE-M-62	6mm	1/8" NPT	1.13	1.13
FE-M-64	6mm	1/4" NPT	1.31	1.31
FE-M-84	8mm	1/4" NPT	1.31	1.31
FE-M-104	10mm	1/4" NPT	1.31	1.31
FE-M-106	10mm	3/8" NPT	1.44	1.44

## Female Run Tee

101003



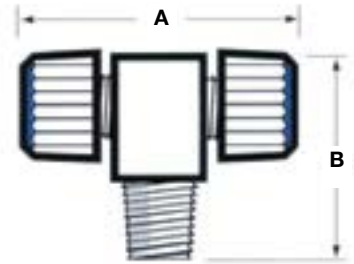
Part #	Tube O.D.	Female Pipe	A Dim.	B Dim.
FRT-F-22	1/8"	1/8" NPT	1.39	1.01
FRT-F-32	3/16"	1/8" NPT	1.39	1.01
FRT-F-42	1/4"	1/8" NPT	1.50	1.13
FRT-F-44	1/4"	1/4" NPT	1.81	1.25
FRT-F-52	5/16"	1/8" NPT	1.50	1.13
FRT-F-64	3/8"	1/4" NPT	1.81	1.25
FRT-F-86	1/2"	3/8" NPT	2.13	1.56
FRT-F-88	1/2"	1/2" NPT	2.44	1.73
FRT-F-108	5/8"	1/2" NPT	2.48	1.73
FRT-F-1212	3/4"	3/4" NPT	2.75	2.00
FRT-F-1616	1"	1" NPT	3.14	2.20
FRT-M-42	4mm	1/8" NPT	1.38	1.00
FRT-M-62	6mm	1/8" NPT	1.50	1.13
FRT-M-64	6mm	1/4" NPT	1.81	1.25
FRT-M-84	8mm	1/4" NPT	1.81	1.25
FRT-M-104	10mm	1/4" NPT	1.81	1.25
FRT-M-106	10mm	3/8" NPT	1.94	1.38



Part #	Tube O.D.	Male Pipe	A Dim.	B Dim.
MBT-F-22	1/8"	1/8" NPT	1.20	1.01
MBT-F-24	1/8"	1/4" NPT	1.32	1.31
MBT-F-32	3/16"	1/8" NPT	1.20	1.01
MBT-F-42	1/4"	1/8" NPT	1.56	1.13
MBT-F-44	1/4"	1/4" NPT	1.56	1.13
MBT-F-46	1/4"	3/8" NPT	1.75	1.50
MBT-F-64	3/8"	1/4" NPT	1.75	1.50
MBT-F-66	3/8"	3/8" NPT	1.75	1.50
MBT-F-68	3/8"	1/2" NPT	2.00	1.94
MBT-F-86	1/2"	3/8" NPT	2.13	1.75
MBT-F-88	1/2"	1/2" NPT	2.12	1.94
MBT-F-108	5/8"	1/2" NPT	2.33	2.06
MBT-F-1212	3/4"	3/4" NPT	2.50	2.19
MBT-F-1616	1"	1" NPT	2.90	2.75
MBT-M-42	4mm	1/8" NPT	1.20	1.01
MBT-M-62	6mm	1/8" NPT	1.56	1.13
MBT-M-64	6mm	1/4" NPT	1.56	1.31
MBT-M-84	8mm	1/4" NPT	1.75	1.50
MBT-M-104	10mm	1/4" NPT	1.75	1.50
MBT-M-106	10mm	3/8" NPT	1.75	1.50

## Male Branch Tee

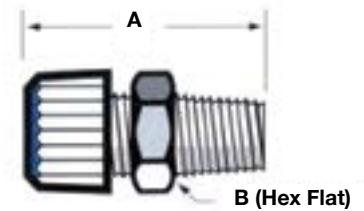
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Part #	Tube O.D.	Male Pipe	A Dim.	B Dim.
MC-F-12	1/16"	1/8" NPT	1.01	.44
MC-F-21	1/8"	1/16" NPT	1.01	.44
MC-F-22	1/8"	1/8" NPT	1.01	.44
MC-F-24	1/8"	1/4" NPT	1.32	.56
MC-F-32	3/16"	1/8" NPT	1.01	.44
MC-F-41	1/4"	1/16" NPT	1.26	.56
MC-F-42	1/4"	1/8" NPT	1.26	.56
MC-F-44	1/4"	1/4" NPT	1.44	.56
MC-F-46	1/4"	3/8" NPT	1.44	.75
MC-F-48	1/4"	1/2" NPT	1.75	.94
MC-F-52	5/16"	1/8" NPT	1.26	.75
MC-F-54	5/16"	1/4" NPT	1.44	.75
MC-F-56	5/16"	3/8" NPT	1.44	.75
MC-F-64	3/8"	1/4" NPT	1.56	.75
MC-F-66	3/8"	3/8" NPT	1.56	.75
MC-F-68	3/8"	1/2" NPT	1.75	.94
MC-F-84	1/2"	1/4" NPT	1.62	.94
MC-F-86	1/2"	3/8" NPT	1.62	.94
MC-F-88	1/2"	1/2" NPT	1.81	.94
MC-F-108	5/8"	1/2" NPT	1.85	1.13
MC-F-1212	3/4"	3/4" NPT	1.87	1.25
MC-F-1612	1"	3/4" NPT	1.95	1.50
MC-F-1616	1"	1" NPT	2.14	1.50
MC-M-42	4mm	1/8" NPT	1.01	.44
MC-M-62	6mm	1/8" NPT	1.26	.56
MC-M-64	6mm	1/4" NPT	1.44	.56
MC-M-84	8mm	1/4" NPT	1.44	.75
MC-M-104	10mm	1/4" NPT	1.44	.75
MC-M-106	10mm	3/8" NPT	1.44	.75
MC-M-126	12mm	3/8" NPT	1.62	.94
MC-M-128	12mm	1/2" NPT	1.81	.94

## Male Connector

101008

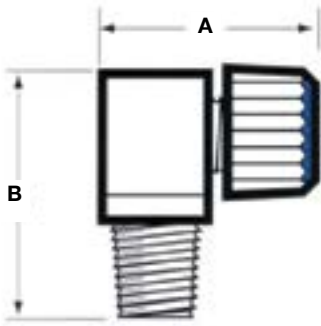


The Bore-Through ("-BT") option is available for Male Connectors #101008 and Unions #101616. This option allows the associated tube to pass completely through the fitting.

# iPolymer TUBE FITTINGS

## Male Elbow

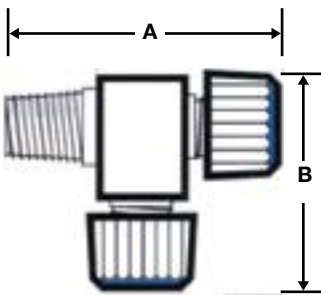
101006



Part #	Tube O.D.	Male Pipe	A Dim.	B Dim.
ME-F-22	1/8"	1/8" NPT	.82	1.01
ME-F-24	1/8"	1/4" NPT	1.06	1.31
ME-F-32	3/16"	1/8" NPT	.82	1.01
ME-F-41	1/4"	1/16" NPT	1.06	1.14
ME-F-42	1/4"	1/8" NPT	1.06	1.14
ME-F-44	1/4"	1/4" NPT	1.06	1.31
ME-F-46	1/4"	3/8" NPT	1.25	1.50
ME-F-52	5/16"	1/8" NPT	1.25	1.31
ME-F-54	5/16"	1/4" NPT	1.25	1.44
ME-F-62	3/8"	1/8" NPT	1.25	1.31
ME-F-64	3/8"	1/4" NPT	1.25	1.50
ME-F-66	3/8"	3/8" NPT	1.25	1.50
ME-F-68	3/8"	1/2" NPT	1.56	1.94
ME-F-86	1/2"	3/8" NPT	1.56	1.94
ME-F-88	1/2"	1/2" NPT	1.56	2.06
ME-F-1212	3/4"	3/4" NPT	1.88	2.31
ME-F-168	1"	1/2" NPT	2.20	2.56
ME-F-1616	1"	1" NPT	2.20	2.75
ME-M-42	4mm	1/8" NPT	.82	1.01
ME-M-62	6mm	1/8" NPT	1.06	1.31
ME-M-64	6mm	1/4" NPT	1.06	1.31
ME-M-84	8mm	1/4" NPT	1.25	1.44
ME-M-104	10mm	1/4" NPT	1.25	1.50
ME-M-106	10mm	3/8" NPT	1.25	1.50

## Male Run Tee

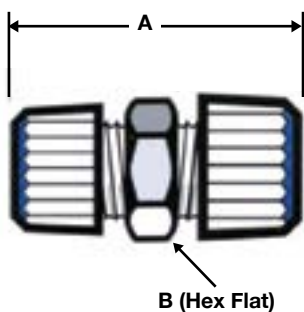
101195



Part #	Tube O.D.	Male Pipe	A Dim.	B Dim.
MRT-F-32	3/16"	1/8" NPT	1.39	.82
MRT-F-41	1/4"	1/16" NPT	1.63	.94
MRT-F-42	1/4"	1/8" NPT	1.63	1.06
MRT-F-44	1/4"	1/4" NPT	1.81	1.06
MRT-F-52	5/16"	1/8" NPT	1.81	1.25
MRT-F-54	5/16"	1/4" NPT	1.94	1.25
MRT-F-64	3/8"	1/4" NPT	2.00	1.25
MRT-F-66	3/8"	3/8" NPT	2.00	1.25
MRT-F-86	1/2"	3/8" NPT	2.31	1.56
MRT-F-88	1/2"	1/2" NPT	2.50	1.56
MRT-F-108	5/8"	1/2" NPT	2.54	1.73
MRT-F-1012	5/8"	3/4" NPT	2.67	1.73
MRT-F-1212	3/4"	3/4" NPT	2.81	1.87
MRT-F-1616	1"	1" NPT	3.33	2.20
MRT-M-42	4mm	1/8" NPT	1.39	.82
MRT-M-62	6mm	1/8" NPT	1.63	1.06
MRT-M-64	6mm	1/4" NPT	1.81	1.06
MRT-M-84	8mm	1/4" NPT	1.94	1.25
MRT-M-104	10mm	1/4" NPT	2.00	1.25
MRT-M-106	10mm	3/8" NPT	2.00	1.25

## Reducing Union

101620



Part #	Tube O.D.	Tube O.D.	A Dim.	B Dim.
RU-F-32	3/16"	1/8"	1.01	.44
RU-F-42	1/4"	1/8"	1.26	.56
RU-F-43	1/4"	3/16"	1.26	.56
RU-F-52	5/16"	1/8"	1.26	.75
RU-F-54	5/16"	1/4"	1.38	.75
RU-F-64	3/8"	1/4"	1.38	.75
RU-F-84	1/2"	1/4"	1.56	.94
RU-F-86	1/2"	3/8"	1.56	.94
RU-F-104	5/8"	1/4"	1.60	1.13
RU-F-106	5/8"	3/8"	1.60	1.13
RU-F-108	5/8"	1/2"	1.66	1.13
RU-F-128	3/4"	1/2"	1.68	1.25
RU-F-1210	3/4"	5/8"	1.72	1.25
RU-F-166	1"	3/8"	1.70	1.50
RU-F-168	1"	1/2"	1.76	1.50
RU-F-1610	1"	5/8"	1.80	1.50
RU-F-1612	1"	3/4"	1.82	1.50
RU-M-46	4mm	6mm	1.26	.56
RU-M-68	6mm	8mm	1.38	.75
RU-M-610	6mm	10mm	1.38	.75
RU-M-810	8mm	10mm	1.38	.75
RU-M-812	8mm	12mm	1.56	.94
RU-M-1012	10mm	12mm	1.56	.94
RU-M-1216	12mm	16mm	1.66	1.13
RU-M-1519	15mm	19mm	1.72	1.25
RU-M-2012	20mm	12mm	1.68	1.25
RU-M-2612	26mm	12mm	1.75	1.50

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Part #	Tube O.D.	A Dim.	B Dim.
TC-F-2	1/8"	.63	.44
TC-F-3	3/16"	.63	.44
TC-F-4	1/4"	.88	.56
TC-F-5	5/16"	.88	.75
TC-F-6	3/8"	.88	.75
TC-F-8	1/2"	1.06	1.00
TC-F-10	5/8"	1.10	1.13
TC-F-12	3/4"	1.12	1.25
TC-F-16	1"	1.20	1.50

Part #	Tube O.D.	Tube I.D.	A Dim.	B Dim.
TI-F-4	1/4"	3/16"	.50	.19
TI-F-5	5/16"	1/4"	.50	.25
TI-F-6	3/8"	5/16"	.55	.31
TI-F-8	1/2"	7/16"	.75	.44
TI-F-10	5/8"	9/16"	.68	.56
TI-F-12	3/4"	11/16"	.80	.69
TI-F-16	1"	7/8"	.93	.88

Part #	Tube O.D.	A Dim.	B Dim.
U-F-1	1/16"	.44	1.01
U-F-2	1/8"	.44	1.01
U-F-3	3/16"	.44	1.01
U-F-4	1/4"	.56	1.38
U-F-5	5/16"	.75	1.38
U-F-6	3/8"	.75	1.38
U-F-8	1/2"	1.00	1.62
U-F-10	5/8"	1.13	1.70
U-F-12	3/4"	1.25	1.74
U-F-16	1"	1.50	1.90
U-F-1.1	1.1"	1.63	2.12
U-M-4	4mm	.44	1.01
U-M-6	6mm	.56	1.38
U-M-8	8mm	.75	1.38
U-M-10	10mm	.75	1.38
U-M-12	12mm	1.00	1.62

Part #	Tube O.D.	A Dim.
UC-F-2	1/8"	1.20
UC-F-3	3/16"	1.20
UC-F-4	1/4"	1.56
UC-F-5	5/16"	1.75
UC-F-6	3/8"	1.75
UC-F-8	1/2"	2.12
UC-F-10	5/8"	2.33
UC-F-12	3/4"	2.49
UC-F-16	1"	2.90
UC-F-1.1	1.1"	3.25
UC-M-4	4mm	1.20
UC-M-6	6mm	1.56
UC-M-8	8mm	1.75
UC-M-10	10mm	1.75
UC-M-12	12mm	2.12

## Tube Cap

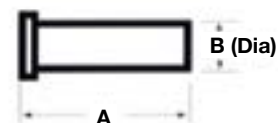
101875

B (Hex Flat)



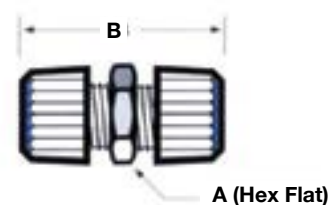
## Tube Insert

100635



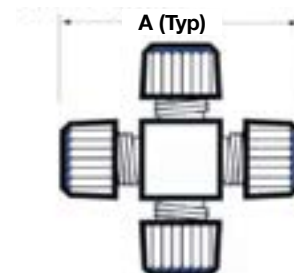
## Union

101616



## Union Cross

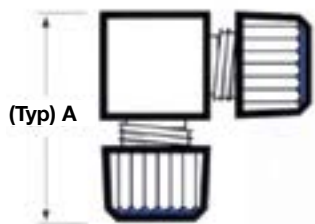
101610



# iPolymer TUBE FITTINGS

## Union Elbow

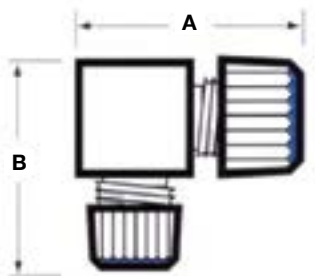
100870



Part #	Tube O.D.	A Dim.
UE-F-2	1/8"	.82
UE-F-3	3/16"	.82
UE-F-4	1/4"	1.06
UE-F-5	5/16"	1.25
UE-F-6	3/8"	1.25
UE-F-8	1/2"	1.56
UE-F-10	5/8"	1.73
UE-F-12	3/4"	1.87
UE-F-16	1"	2.20
UE-F-1.1	1.1"	2.44
UE-M-4	4mm	.82
UE-M-6	6mm	1.06
UE-M-8	8mm	1.25
UE-M-10	10mm	1.25
UE-M-12	12mm	1.56

## Union Elbow Reducer

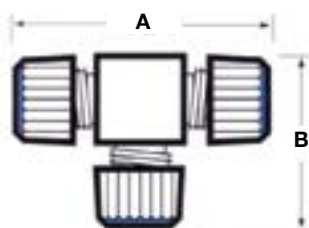
101787



Part #	Tube O.D.	Tube O.D.	A Dim.	B Dim.
UER-F-42	1/4"	1/8"	1.06	1.06
UER-F-64	3/8"	1/4"	1.25	1.25
UER-F-84	1/2"	1/4"	1.56	1.56
UER-F-86	1/2"	3/8"	1.56	1.56
UER-F-108	5/8"	1/2"	1.73	1.73
UER-F-1210	3/4"	5/8"	1.88	1.88
UER-F-1612	1"	3/4"	2.20	2.20
UER-M-84	8mm	4mm	1.25	1.25

## Union Tee

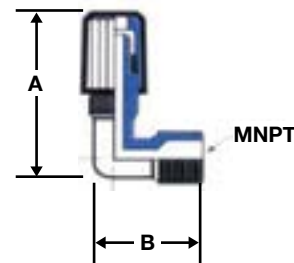
101005



Part #	Tube O.D.	A Dim.	B Dim.
UT-F-2	1/8"	1.20	.82
UT-F-3	3/16"	1.20	.82
UT-F-4	1/4"	1.56	1.06
UT-F-5	5/16"	1.75	1.25
UT-F-6	3/8"	1.75	1.25
UT-F-8	1/2"	2.12	1.56
UT-F-10	5/8"	2.33	1.73
UT-F-12	3/4"	2.50	1.89
UT-F-16	1"	2.90	2.20
UT-F-1.1	1.1"	3.25	2.44
UT-M-4	4mm	1.20	.82
UT-M-6	6mm	1.56	1.06
UT-M-8	8mm	1.75	1.25
UT-M-10	10mm	1.75	1.25
UT-M-12	12mm	2.12	1.56

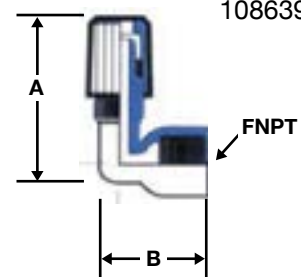
Part #	Flare	MNPT Size	Orifice	A Dim.	B Dim.
ME-FF-42	1/4"	1/8"	.13	1.56	.95
ME-FF-44	1/4"	1/4"	.13	1.56	1.13
ME-FF-46	1/4"	3/8"	.13	1.56	1.13
ME-FF-64	3/8"	1/4"	.25	1.75	1.31
ME-FF-66	3/8"	3/8"	.25	1.75	1.31
ME-FF-68	3/8"	1/2"	.25	2.10	1.56
ME-FF-86	1/2"	3/8"	.38	2.10	1.56
ME-FF-88	1/2"	1/2"	.38	2.10	1.75
ME-FF-812	1/2"	3/4"	.38	2.35	2.00
ME-FF-128	3/4"	1/2"	.63	2.50	2.00
ME-FF-1212	3/4"	3/4"	.63	2.50	2.00
ME-FF-1216	3/4"	1"	.63	2.60	2.29

**Male Elbow**  
104590



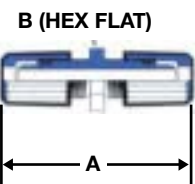
Part #	Flare	FNPT Size	Orifice	A Dim.	B Dim.
FE-FF-42	1/4"	1/8"	.13	1.75	1.13
FE-FF-44	1/4"	1/4"	.13	1.88	1.44
FE-FF-46	1/4"	3/8"	.13	2.00	1.56
FE-FF-64	3/8"	1/4"	.25	1.88	1.44
FE-FF-66	3/8"	3/8"	.25	2.00	1.56
FE-FF-68	3/8"	1/2"	.25	2.25	2.00
FE-FF-86	1/2"	3/8"	.38	2.10	1.56
FE-FF-88	1/2"	1/2"	.38	2.35	2.00

**Female Elbow**  
108639



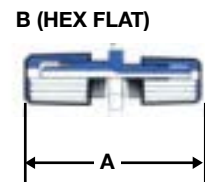
Part #	Flare	Orifice	A Dim.	B Dim.
U-FF-4	1/4"	.13	2.38	0.75
U-FF-6	3/8"	.25	2.38	0.88
U-FF-8	1/2"	.38	2.58	1.00
U-FF-12	3/4"	.63	2.88	1.25
U-FF-16	1"	.88	3.36	1.69

**Union**  
101621



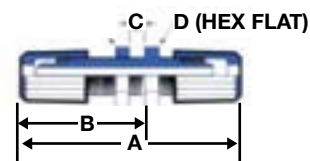
Part #	Flare	Flare	Orifice	A Dim.	B Dim.
RU-FF-64	3/8"	1/4"	.13	2.38	.75
RU-FF-86	1/2"	3/8"	.25	2.60	.94
RU-FF-128	3/4"	1/2"	.38	2.85	1.13

**Reducing Union**  
106881



Part #	Flare	Flare	Orifice	A Dim.	B Dim.	C Max	D Hex
BU-FF-4	1/4"	1/4"	.13	3.02	1.65	.50	.56
BU-FF-6	3/8"	3/8"	.25	3.02	1.65	.50	.75
BU-FF-8	1/2"	1/2"	.38	3.12	1.75	.50	.94
BU-FF-12	3/4"	3/4"	.63	3.27	1.90	.50	1.13

**Bulkhead Union**  
105368

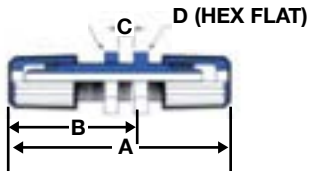




# iPolymer FLARE FITTINGS

## Bulkhead Union Reducer

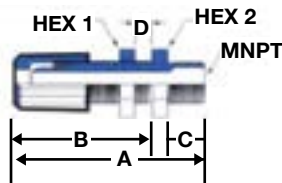
105368



Part #	Flare	Flare	Orifice	A Dim.	B Dim.	C (Max)	D Hex
BUR-FF-64	3/8"	1/4"	.13	3.02	1.65	.50	.75
BUR-FF-86	1/2"	3/8"	.25	3.02	1.75	.50	.94
BUR-FF-128	3/4"	1/2"	.38	3.88	1.90	.50	1.13

## Bulkhead Male Connector

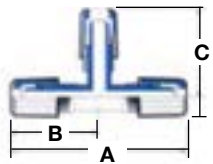
101789



Part #	Flare	MNPT Size	Orifice	A Dim.	B Dim.	C Dim.	D (Max)	Hex 1	Hex 2
BMC-FF-42	1/4"	1/8"	.13	2.67	1.93	.55	.50	3/4	11/16
BMC-FF-44	1/4"	1/4"	.13	2.67	1.93	.55	.50	3/4	11/16
BMC-FF-46	1/4"	3/8"	.13	2.67	1.93	.55	.50	3/4	11/16
BMC-FF-64	3/8"	1/4"	.25	2.79	2.03	.55	.50	15/16	13/16
BMC-FF-66	3/8"	3/8"	.25	2.79	2.03	.55	.50	15/16	13/16
BMC-FF-68	3/8"	1/2"	.25	2.90	2.03	.66	.50	15/16	15/16
BMC-FF-86	1/2"	3/8"	.38	2.91	2.13	.55	.50	1-1/16	15/16
BMC-FF-88	1/2"	1/2"	.38	3.02	2.13	.66	.50	1-1/16	15/16
BMC-FF-812	1/2"	3/4"	.38	3.03	2.13	.67	.50	1-1/16	1-3/16
BMC-FF-128	3/4"	1/2"	.63	3.19	2.28	.66	.50	1-5/16	1-3/16
BMC-FF-1212	3/4"	3/4"	.63	3.20	2.25	.67	.50	1-5/16	1-3/16

## Union Tee

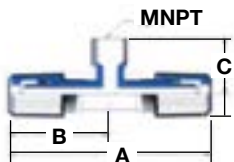
104591



Part #	Flare	Orifice	A Dim.	B Dim.	C Dim.
UT-FF-4	1/4"	.13	2.56	1.28	1.56
UT-FF-6	3/8"	.25	2.75	1.38	1.75
UT-FF-8	1/2"	.38	3.20	1.60	2.10
UT-FF-12	3/4"	.63	3.75	1.88	2.50

## Male Branch Tee

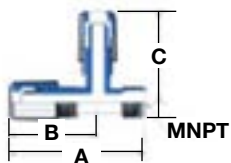
104609



Part #	Flare	MNPT Size	Orifice	A Dim.	B Dim.	C Dim.
MBT-FF-44	1/4"	1/4"	.13	2.56	1.28	1.12
MBT-FF-66	3/8"	3/8"	.25	2.75	1.38	1.31
MBT-FF-88	1/2"	1/2"	.38	3.20	1.60	1.75
MBT-FF-1212	3/4"	3/4"	.63	3.75	1.88	2.00

## Male Run Tee

101197



Part #	Flare	MNPT Size	Orifice	A Dim.	B Dim.	C Dim.
MRT-FF-44	1/4"	1/4"	.13	2.12	1.28	1.56
MRT-FF-66	3/8"	3/8"	.25	2.31	1.38	1.75
MRT-FF-88	1/2"	1/2"	.38	2.85	1.60	2.10
MRT-FF-1212	3/4"	3/4"	.63	3.25	1.88	2.50

Part #	Flare	Orifice	A Dim.
UE-FF-4	1/4"	.13	1.56
UE-FF-6	3/8"	.25	1.75
UE-FF-8	1/2"	.38	2.10
UE-FF-12	3/4"	.63	2.50
UE-FF-16	1"	.88	2.99

Part #	Flare	Flare	Orifice	A Dim.	B Dim.
UER-FF-64	3/8"	1/4"	.125	1.88	1.88
UER-FF-66	3/8"	3/8"	.25	1.88	1.88
UER-FF-128	3/4"	1/2"	.38	2.50	2.35
UER-FF-1612	1"	3/4"	.63	2.99	2.75

Part #	Flare	MNPT Size	Orifice	A Dim.	B Dim.
MC-FF-42	1/4"	1/8"	.13	1.76	.56
MC-FF-44	1/4"	1/4"	.13	1.94	.56
MC-FF-46	1/4"	3/8"	.13	2.06	.75
MC-FF-64	3/8"	1/4"	.25	1.94	.75
MC-FF-66	3/8"	3/8"	.25	1.94	.75
MC-FF-68	3/8"	1/2"	.25	2.25	.94
MC-FF-86	1/2"	3/8"	.38	2.16	.94
MC-FF-88	1/2"	1/2"	.39	2.35	.94
MC-FF-812	1/2"	3/4"	.38	2.35	1.13
MC-FF-128	3/4"	1/2"	.55	2.50	1.13
MC-FF-1212	3/4"	3/4"	.63	2.50	1.13
MC-FF-1216	3/4"	1"	.88	2.69	1.50

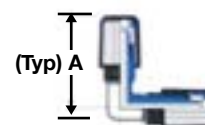
Part #	Flare	FNPT Size	Orifice	A Dim.	B Dim.
FC-FF-42	1/4"	1/8"	.13	1.76	.75
FC-FF-44	1/4"	1/4"	.13	1.94	.84
FC-FF-46	1/4"	3/8"	.13	1.94	1.00
FC-FF-64	3/8"	1/4"	.25	1.94	.84
FC-FF-66	3/8"	3/8"	.25	1.94	1.00
FC-FF-68	3/8"	1/2"	.25	2.13	1.25
FC-FF-86	1/2"	3/8"	.38	2.04	1.00
FC-FF-88	1/2"	1/2"	.38	2.23	1.25
FC-FF-812	1/2"	3/4"	.38	2.23	1.50
FC-FF-128	3/4"	1/2"	.63	2.38	1.25
FC-FF-1212	3/4"	3/4"	.63	2.38	1.50

Part #	Flare	A Dim.	Orifice
N-FF-4	1/4"	1.05	.26
N-FF-6	3/8"	1.05	.38
N-FF-8	1/2"	1.13	.51
N-FF-12	3/4"	1.30	.76
N-FF-16	1"	1.50	1.01

Part #	Flare	A Dim.	B Dim.
FCAP-4	1/4"	1.06	0.75
FCAP-6	3/8"	1.13	0.88
FCAP-8	1/2"	1.13	1.00
FCAP-12	3/4"	1.28	1.38
FCAP-16	1"	1.51	1.75

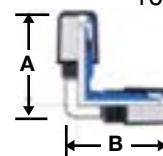
## Union Elbow

108000



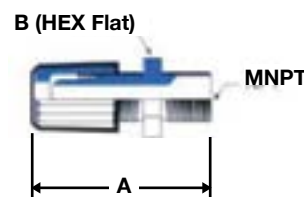
## Union Elbow Reducer

108877



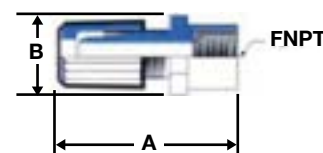
## Male Connector

104950



## Female Connector

108586



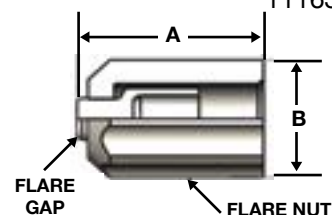
## Flare Nut

103350



## Flare Cap

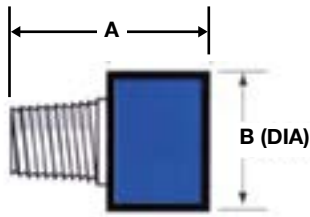
111630



# iPolymer PIPE FITTINGS

## Bushing

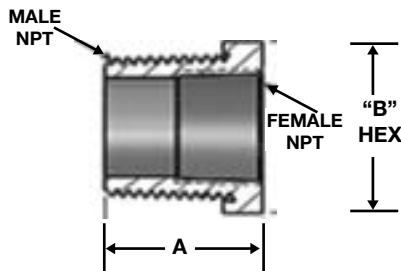
100640



Part #	Male Pipe	Female Pipe	A Dim.	B Dim.
B-P-42	1/4" NPT	1/8" NPT	1.32	.75
B-P-44	1/4" NPT	1/4" NPT	1.50	.84
B-P-46	1/4" NPT	3/8" NPT	1.50	1.00
B-P-64	3/8" NPT	1/4" NPT	1.50	.84
B-P-68	3/8" NPT	1/2" NPT	1.69	1.25
B-P-84	1/2" NPT	1/4" NPT	1.81	.88
B-P-86	1/2" NPT	3/8" NPT	1.81	1.00
B-P-124	3/4" NPT	1/4" NPT	1.81	1.13
B-P-128	3/4" NPT	1/2" NPT	2.00	1.25
B-P-1212	3/4" NPT	3/4" NPT	2.00	1.50
B-P-168	1" NPT	1/2" NPT	2.19	1.38
B-P-1612	1" NPT	3/4" NPT	2.19	1.50

## Short Bushing

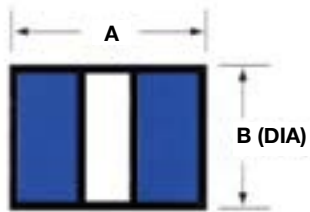
103187



Part #	Male Pipe	Female Pipe	A Dim.	B Dim.
SB-P-42	1/4" NPT	1/8" NPT	0.94	0.63
SB-P-62	3/8" NPT	1/8" NPT	1.00	0.75
SB-P-64	3/8" NPT	1/4" NPT	1.00	0.88
SB-P-82	1/2" NPT	1/8" NPT	1.00	0.94
SB-P-84	1/2" NPT	1/4" NPT	1.00	0.94
SB-P-86	1/2" NPT	3/8" NPT	1.00	0.94
SB-P-124	3/4" NPT	1/4" NPT	1.00	1.25
SB-P-126	3/4" NPT	3/8" NPT	1.00	1.25
SB-P-128	3/4" NPT	1/2" NPT	1.26	1.25
SB-P-164	1" NPT	1/4" NPT	1.45	1.50
SB-P-166	1" NPT	3/8" NPT	1.45	1.50
SB-P-168	1" NPT	1/2" NPT	1.45	1.50
SB-P-1612	1" NPT	3/4" NPT	1.45	1.50

## Coupling

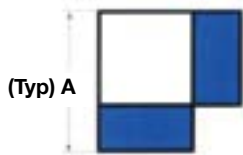
101617



Part #	Female Pipe	A Dim.	B Dim.
C-P-2	1/8" NPT	1.06	.75
C-P-4	1/4" NPT	1.56	.84
C-P-6	3/8" NPT	1.56	.88
C-P-8	1/2" NPT	2.06	1.13
C-P-12	3/4" NPT	2.06	1.50
C-P-16	1" NPT	2.50	1.75

## Elbow

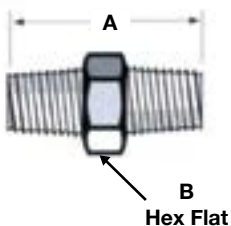
101196



Part #	Female Pipe	A Dim.
E-P-2	1/8" NPT	1.13
E-P-4	1/4" NPT	1.40
E-P-6	3/8" NPT	1.56
E-P-8	1/2" NPT	2.00
E-P-12	3/4" NPT	2.25
E-P-16	1" NPT	2.69
E-P-24	1.5" NPT	3.50

## Pipe Nipple

101618

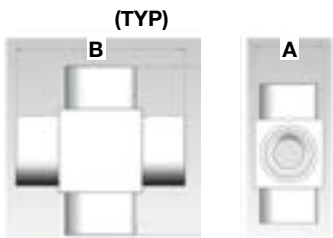


Part #	Male Pipe	A Dim.	B Dim.
NP-P-2	1/8" NPT	1.01	.44
NP-P-4	1/4" NPT	1.50	.56
NP-P-6	3/8" NPT	1.50	.75
NP-P-8	1/2" NPT	2.00	.94
NP-P-12	3/4" NPT	2.00	1.25
NP-P-16	1" NPT	2.38	1.50

iPolymer supplies custom extended length Pipe Nipples (NP-P-XX-XXX defining the overall pipe length). Custom lengths up to 18" can be supplied. These are supplied in 1/16" increments. 1" is represented as 16. 2" is represented as 32. 12" is represented as 192.

Female Pipe Cross

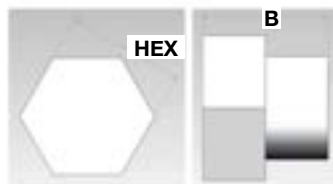
112065



Part #	Female Pipe	A Dim.	B Dim.
FPC-P-2	1/8" NPT	.75	1.51
FPC-P-4	1/4" NPT	.85	1.94
FPC-P-6	3/8" NPT	1.00	2.12
FPC-P-8	1/2" NPT	1.25	2.75
FPC-P-12	3/4" NPT	1.50	2.95
FPC-P-16	1" NPT	1.75	3.63

Female Pipe Cap

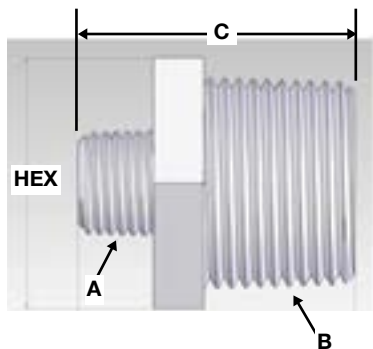
112066



Part #	Female Pipe	Hex	B DIM.
PC-P-1	1/16" NPT	3/4	.68
PC-P-2	1/8" NPT	7/8	.76
PC-P-4	1/4" NPT	1	.94
PC-P-6	3/8" NPT	1-1/8	.94
PC-P-8	1/2" NPT	1-3/8	1.25
PC-P-12	3/4" NPT	1-1/2	1.25
PC-P-16	1" NPT	1-3/4	1.44
PC-P-20	1-1/4" NPT	2-1/4	1.63
PC-P-24	1-1/2" NPT	2-3/8	1.63
PC-P-32	2" NPT	3	1.69

Nipple Pipe Reducer

112067

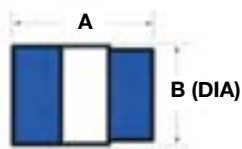


Part #	"A" Pipe	"B" Pipe	Hex	C Dim.
NPR-P-24	1/8" NPT	1/4" NPT	9/16	1.32
NPR-P-26	1/8" NPT	3/8" NPT	7/8	1.32
NPR-P-28	1/8" NPT	1/2" NPT	15/16	1.63
NPR-P-212	1/8" NPT	3/4" NPT	1-1/4	1.63
NPR-P-216	1/8" NPT	1" NPT	1-1/2	1.82
NPR-P-46	1/4" NPT	3/8" NPT	7/8	1.50
NPR-P-48	1/4" NPT	1/2" NPT	15/16	1.81
NPR-P-412	1/4" NPT	3/4" NPT	1-1/4	1.81
NPR-P-416	1/4" NPT	1" NPT	1-1/2	2.00
NPR-P-68	3/8" NPT	1/2" NPT	15/16	1.81
NPR-P-612	3/8" NPT	3/4" NPT	1-1/4	1.81
NPR-P-616	3/8" NPT	1" NPT	1-1/2	2.00
NPR-P-812	1/2" NPT	3/4" NPT	1-1/4	2.00
NPR-P-816	1/2" NPT	1" NPT	1-1/2	2.19
NPR-P-1216	3/4" NPT	1" NPT	1-1/2	2.19

# iPolymer PIPE FITTINGS

## Female Reducer

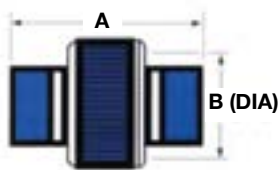
101775



Part #	Female Pipe	Female Pipe	A Dim.	B Dim.
FR-P-42	1/4" NPT	1/8" NPT	1.32	.84
FR-P-62	3/8" NPT	1/8" NPT	1.32	1.00
FR-P-64	3/8" NPT	1/4" NPT	1.50	1.00
FR-P-84	1/2" NPT	1/4" NPT	1.81	1.25
FR-P-86	1/2" NPT	3/8" NPT	1.81	1.25
FR-P-128	3/4" NPT	1/2" NPT	2.00	1.50
FR-P-168	1" NPT	1/2" NPT	2.19	1.75
FR-P-1612	1" NPT	3/4" NPT	2.19	1.75

## Pipe Union

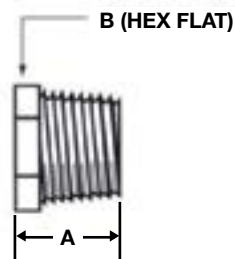
103790



Part #	Female Pipe	A Dim.	B Dim.
PU-P-2	1/8 NPT	1.60	1.25
PU-P-4	1/4 NPT	2.05	1.50
PU-P-6	3/8 NPT	2.13	1.75
PU-P-8	1/2 NPT	2.51	1.75
PU-P-12	3/4 NPT	2.90	2.25
PU-P-16	1" NPT	3.43	2.69

## Plug

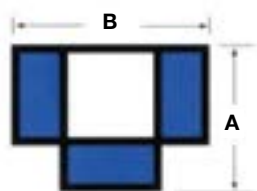
101780



Part #	Male Pipe	A Dim.	B Dim.
P-P-1	1/16" NPT	.63	.38
P-P-2	1/8" NPT	.63	.44
P-P-4	1/4" NPT	.94	.56
P-P-6	3/8" NPT	.94	.75
P-P-8	1/2" NPT	1.25	.94
P-P-12	3/4" NPT	1.25	1.25
P-P-16	1" NPT	1.44	1.50
P-P-24	1.5" NPT	1.50	2.00

## Tee

101782



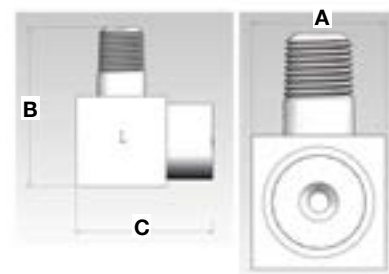
Part #	Female Pipe	A Dim.	B Dim.
T-P-2	1/8" NPT	1.13	1.51
T-P-4	1/4" NPT	1.44	2.00
T-P-6	3/8" NPT	1.56	2.12
T-P-8	1/2" NPT	2.00	2.75
T-P-12	3/4" NPT	2.25	3.00
T-P-16	1" NPT	2.69	3.63



Part #	Male Pipe	Female Pipe	A Dim.	B Dim.	C Dim.
SE-P-1	1/16" NPT	1/16" NPT	.63	1.32	1.13
SE-P-2	1/8" NPT	1/8" NPT	.75	1.32	1.13
SE-P-4	1/4" NPT	1/4" NPT	.84	1.63	1.44
SE-P-6	3/8" NPT	3/8" NPT	1.00	1.94	1.56
SE-P-8	1/2" NPT	1/2" NPT	1.25	2.19	2.00
SE-P-12	3/4" NPT	3/4" NPT	1.50	2.44	2.25
SE-P-16	1" NPT	1" NPT	1.75	2.88	2.44

## Street Elbow

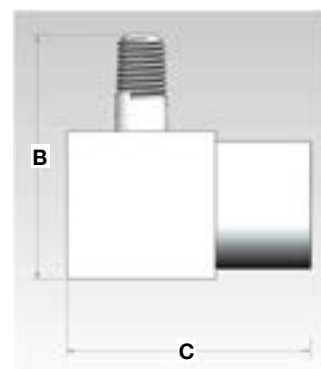
104138



Part #	Male Pipe	Female Pipe	A Dim.	B Dim.	C Dim.
SER-P-24	1/8" NPT	1/4" NPT	.88	1.45	1.44
SER-P-26	1/8" NPT	3/8" NPT	1.00	1.57	1.56
SER-P-28	1/8" NPT	1/2" NPT	1.25	1.82	2.00
SER-P-212	1/8" NPT	3/4" NPT	1.50	2.07	2.25
SER-P-216	1/8" NPT	1" NPT	1.75	2.32	2.69
SER-P-42	1/4" NPT	1/8" NPT	.75	1.50	1.13
SER-P-46	1/4" NPT	3/8" NPT	1.00	1.75	1.56
SER-P-48	1/4" NPT	1/2" NPT	1.25	2.00	2.00
SER-P-412	1/4" NPT	3/4" NPT	1.50	2.25	2.25
SER-P-416	1/4" NPT	1" NPT	1.75	2.50	2.69
SER-P-62	3/8" NPT	1/8" NPT	.75	1.50	1.13
SER-P-64	3/8" NPT	1/4" NPT	.88	1.63	1.44
SER-P-68	3/8" NPT	1/2" NPT	1.25	2.00	2.00
SER-P-612	3/8" NPT	3/4" NPT	1.50	2.25	2.25
SER-P-616	3/8" NPT	1" NPT	1.75	2.50	2.69
SER-P-82	1/2" NPT	1/8" NPT	1.00	1.94	1.38
SER-P-84	1/2" NPT	1/4" NPT	1.00	1.94	1.56
SER-P-86	1/2" NPT	3/8" NPT	1.00	1.94	1.56
SER-P-812	1/2" NPT	3/4" NPT	1.50	2.40	2.25
SER-P-816	1/2" NPT	1" NPT	1.75	2.69	2.69
SER-P-122	3/4" NPT	1/8" NPT	1.50	2.44	1.88
SER-P-124	3/4" NPT	1/4" NPT	1.50	2.44	2.06
SER-P-126	3/4" NPT	3/8" NPT	1.50	2.44	2.06
SER-P-128	3/4" NPT	1/2" NPT	1.50	2.44	2.25
SER-P-1216	3/4" NPT	1" NPT	1.75	2.69	2.69
SER-P-162	1" NPT	1/8" NPT	1.50	2.63	1.88
SER-P-164	1" NPT	1/4" NPT	1.50	2.63	2.06
SER-P-166	1" NPT	3/8" NPT	1.50	2.63	2.06
SER-P-168	1" NPT	1/2" NPT	1.50	2.63	2.25
SER-P-1612	1" NPT	3/4" NPT	1.50	2.63	2.25

## Street Elbow Reducer

112069



# iPolymer PIPE FITTINGS

## Male Pipe Elbow

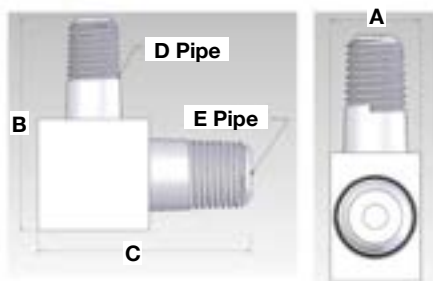
112070



Part #	Male Pipe	A Dim.	B Dim.
ME-P-1	1/16" NPT	.44	1.01
ME-P-2	1/8" NPT	.44	1.01
ME-P-4	1/4" NPT	.56	1.31
ME-P-6	3/8" NPT	.75	1.50
ME-P-8	1/2" NPT	1.00	1.94
ME-P-12	3/4" NPT	1.25	2.19
ME-P-16	1" NPT	1.50	2.63

## Male Pipe Reducing Elbow

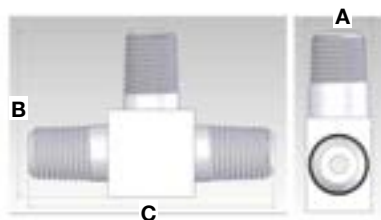
112071



Part #	"D" Pipe	"E" Pipe	A Dim.	B Dim.	C Dim.
MPRE-P-12	1/16" NPT	1/8" NPT	.44	1.01	1.01
MPRE-P-24	1/8" NPT	1/4" NPT	.56	1.13	1.31
MPRE-P-26	1/8" NPT	3/8" NPT	.75	1.32	1.50
MPRE-P-28	1/8" NPT	1/2" NPT	1.00	1.57	1.94
MPRE-P-212	1/8" NPT	3/4" NPT	1.25	1.82	2.19
MPRE-P-216	1/8" NPT	1" NPT	1.50	2.07	2.63
MPRE-P-46	1/4" NPT	3/8" NPT	.75	1.50	1.50
MPRE-P-48	1/4" NPT	1/2" NPT	1.00	1.75	1.94
MPRE-P-412	1/4" NPT	3/4" NPT	1.25	2.00	2.19
MPRE-P-416	1/4" NPT	1" NPT	1.50	2.25	2.63
MPRE-P-68	3/8" NPT	1/2" NPT	1.00	1.75	1.94
MPRE-P-612	3/8" NPT	3/4" NPT	1.25	2.00	2.19
MPRE-P-616	3/8" NPT	1" NPT	1.50	2.25	2.63
MPRE-P-812	1/2" NPT	3/4" NPT	1.25	2.19	2.19
MPRE-P-816	1/2" NPT	1" NPT	1.50	2.44	2.63
MPRE-P-1216	3/4" NPT	1" NPT	1.50	2.44	2.63

## Male Pipe Tee

112068



Part #	Male Pipe	A Dim.	B Dim.	C Dim.
MPT-1	1/16" NPT	.44	1.01	1.58
MPT-2	1/8" NPT	.44	1.01	1.58
MPT-4	1/4" NPT	.56	1.31	2.06
MPT-6	3/8" NPT	.75	1.50	2.25
MPT-8	1/2" NPT	1.00	1.94	2.88
MPT-12	3/4" NPT	1.25	2.19	3.13
MPT-16	1" NPT	1.50	2.63	3.76

Plumber Ferrule P/N	Ferrule Gripper P/N	Tempress Ferrule P/N	Tube O.D.
PF-F-1	N/A	N/A	1/16"
PF-F-2	FG-F-2	N/A	1/8"
PF-F-3	FG-F-3	N/A	3/16"
PF-F-4	FG-F-4	TF-F-4	1/4"
PF-F-5	FG-F-5	TF-F-5	5/16"
PF-F-6	FG-F-6	TF-F-6	3/8"
PF-F-8	FG-F-8	TF-F-8	1/2"
PF-F-10	FG-F-10	TF-F-10	5/8"
PF-F-12	FG-F-12	TF-F-12	3/4"
PF-F-16	FG-F-16	TF-F-16	1"
PF-F-11	FG-F-11	TF-F-11	1.1"
PF-F-22	FG-F-22	TF-F-22	1-3/8"
PF-M-4	FG-M-4	TF-M-4	4mm
PF-M-6	FG-M-6	TF-M-6	6mm
PF-M-7	FG-M-7	TF-M-7	7mm
PF-M-8	FG-M-8	TF-M-8	8mm
PF-M-9	FG-M-9	TF-M-9	9mm
PF-M-10	FG-M-10	TF-M-10	10mm
PF-M-12	FG-M-12	TF-M-12	12mm
PF-M-15	FG-M-15	TF-M-15	15mm
PF-M-20	FG-M-20	TF-M-20	20mm
PF-M-26	FG-M-26	TF-M-26	26mm

## Plumber Ferrule (PF)

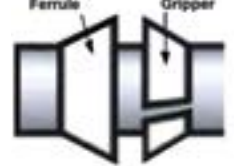
100426



## Ferrule Gripper (FG)

112090

Two Piece Set



## Tempress Ferrule (TF)

101661

One Piece Snap-In Type.  
for use with -TA & -TS  
Teflon Nuts Only

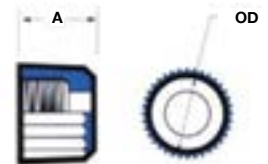


Part #	Tube O.D.	Thread Size	A Dim. (Max)	B Dim. (Max)
N-F-1	1/16"	1/4-28	.61	.50
N-F-2	1/8"	5/16-24	.61	.50
N-F-3	3/16"	3/8-24	.61	.59
N-F-4	1/4"	7/16-20	.61	.68
N-F-5	5/16"	9/16-18	.64	.78
N-F-6	3/8"	1-1/16-16	.64	.88
N-F-8	1/2"	7/8-14	.73	1.25
N-F-10	5/8"	1-12	.77	1.38
N-F-12	3/4"	1-1/8-12	.82	1.50
N-F-16	.1"	1-3/8-12	.90	1.75
N-F-1.1	1.1"	1-1/2-12	1.04	1.88
N-F-22	1-3/8"	1-3/4-12	1.29	2.25
N-M-4	4mm	3/8-24	.61	.59
N-M-6	6mm	7/16-20	.61	.66
N-M-7	7mm	7/16-20	.61	.66
N-M-8	8mm	9/16-18	.64	.88
N-M-9	9mm	11/16-16	.64	.88
N-M-10	10mm	11/16-16	.64	.91
N-M-12	12mm	7/8-14	.73	1.16
N-M-15	15mm	1-12	.77	1.38
N-M-20	20mm	1-1/8-12	.82	1.50
N-M-26	26mm	1-1/2-12	1.04	1.88

Part #	Thread Size	A Dim.	B Dim.
PN-F-1	5/16-24	.50	.25
PN-F-2	3/8-24	.56	.25
PN-F-3	7/16-20	.69	.25
PN-F-4	9/16-18	.88	.25
PN-F-5	1-1/16-16	.94	.28
PN-F-6	7/8-14	1.31	.31
PN-F-7	1-12	1.25	.31
PN-F-8	1-1/8-12	1.38	.31
PN-F-9	1-3/8-12	1.75	.31
PN-F-10	1-1/2-12	2.00	.31
PN-F-11	1-5/8-12	2.12	.31
PN-F-12	1-3/4-12	2.25	.31
PN-F-18	1-7/8-12	2.38	.31

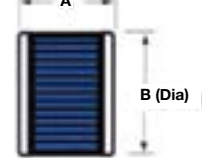
## Tube Nut

101966 / 111722 / 103202



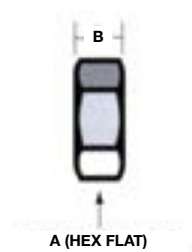
## TA & TS PTFE Tube Nut Style

101615

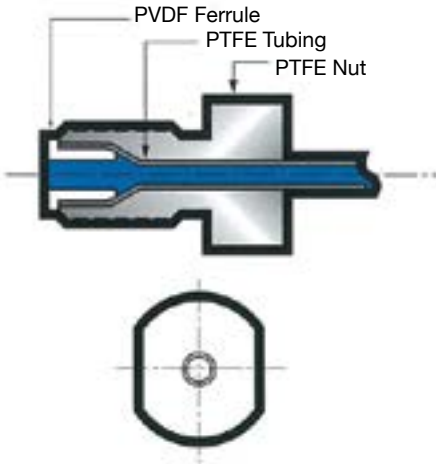


## Panel Nut

100162

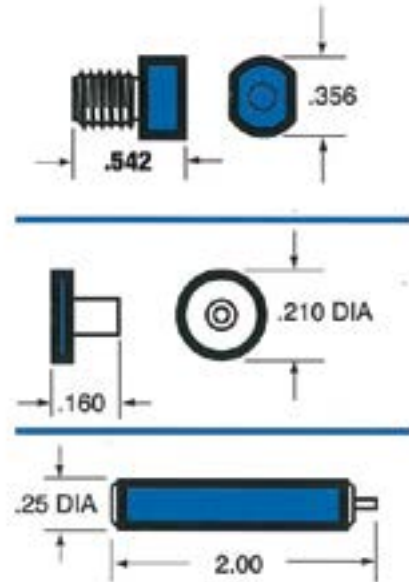


112091



Part #	Tube O.D.	Tube I.D.	Tube Wall	Recommended Tubing	Thread Size
TN062016	.063"	.031"	.016"	FEP-062-016 or FT-062-016	1/4" - 28
TN125016	.125"	.093"	.016"	FEP-125-016 or FT-125-016	1/4" - 28
TN125030	.125"	.065"	.030"	FEP-125-030 or FT-125-030	1/4" - 28
KF062016	.063"	.031"	.016"	FEP-062-016 or FT-062-016	n/a
KF125016	.125"	.093"	.016"	FEP-125-016 or FT-125-016	n/a
KF125030	.125"	.065"	.030"	FEP-125-030 or FT-125-030	n/a

Part #	Tube O.D.	Tube I.D.	Tube Wall	Construction
ITMTF-A		.031"		1 pc metal
ITMTF-B		.093"		1 pc metal
ITMTF-C		.065"		1 pc metal

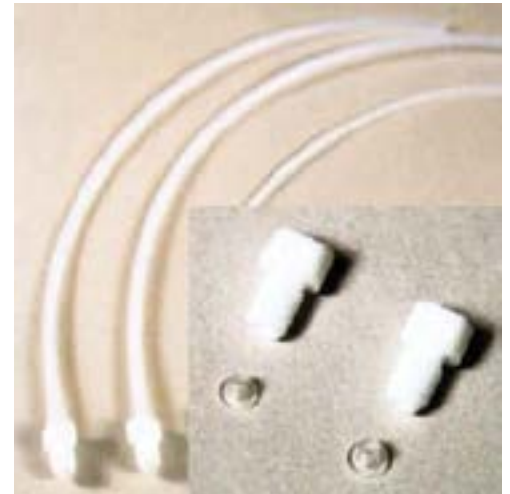


These small High-Purity PTFE Fittings are designed to mate with 1/32", 2/32" and 3/32" I.D. precision tube.

### Common Applications:

- Gas & Liquid Analysis
- Precision Chemical Dosing
- Chromatography Stations
- Analytical Reagenting Blending
- Calibration Standard Sampling

**Call us with your Special Applications.**



Free flowing orifices through fittings and valve ports are defined by the standard port connection callout.

Female NPT (FNPT) & Male NPT (MNPT) ports flow with a maximum orifice equal to the port callout.

Compression Tube and Flared Connections have smaller flow orifices as listed in the table to the right.

*For custom solutions, smaller orifices are available on request.*

Typical Orifice Per Port Size & Type

Port Size	Pipe Port	Tube Port	Flare Port
1/16"	0.062	0.031	-
1/8"	0.125	0.063	-
1/4"	0.250	0.188	0.125
3/8"	0.375	0.312	0.250
1/2"	0.500	0.436	0.375
3/4"	0.750	0.688	0.592
1"	1.000	0.938	0.875

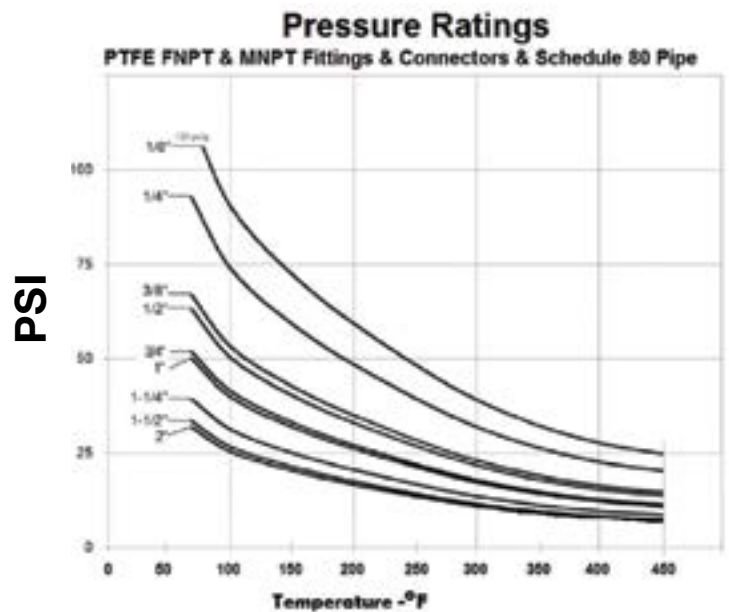
For standard PTFE Fittings & Connectors and Schedule 80 Pipe, the curves to the right represent working pressure versus media temperature (at soaked steady state).

**Pressure:**

- 100 psi = 6.89 bar
- 75 psi = 5.17 bar
- 50 psi = 3.44 bar
- 25 psi = 1.72 bar

**Temperature:**

- 70°F = 21.1°C
- 100°F = 37.8°C
- 200°F = 93.3°C
- 300°F = 148.9°C
- 400°F = 204.4°C



Polytetrafluoroethylene; PTFE Tape (also known as Teflon Tape, Thread Seal Tape or Plumber's Tape) is recommended for all NPT Connections. This thin film of tape is wrapped around the pipe threads per the manufacturer's specifications.



Polytetrafluoroethylene (PTFE) Fittings & Connectors are commonly used for Ultra Purity or Highly Caustic Media. While exceptionally inert, excellent with numerous chemistries and temperature extremes, PTFE is a relatively soft fluoropolymer material.

Care must be taken not to over tighten and strip threaded PTFE Connections. PTFE Tape will help reduce thread damage when adapting metal & PTFE connections.



### Spray Guns (SG)

Our spray guns are constructed of virgin PTFE and Polypropylene to provide them with a long life span in harsh acidic or corrosive environments. Due to their design and comfortable grip Spray Guns are quickly becoming the industry standard in semiconductor fab plants, wet benches and work processing stations. All the Spray Guns may be purchased individually or with a variety of fittings and hoses.

### Recirculating Spray Guns (RC)

The Recirculating Spray Guns all have molded PTFE bodies with PVDF pistons. These RC Guns are designed so that there is very little dead space for bacteria to grow. DI water is able to circulate up to the sealing seat throughout the entire gun and piston. From the sealing seat on, bacteria build up is kept to a minimum by using a 1/16" thick spray nozzle.

### Nitrogen Guns (Nitro)

Our PTFE Nitrogen Guns (Nitro) can deliver maximum anti-corrosion protection wherever extreme chemical environments are used in the vicinity of nitrogen dispensing or dying. Like its companion, the DI Water Spray Gun, Nitro is manufactured of the same durable materials to resist acid attacks.



### Dispense Guns (DG)

Both of the dispense guns, standard or high flow, are designed with the spring totally isolated from the media, thus making them the perfect choice for dispensing acids and solvents. The longer nozzle on the dispense guns allows for them to be inserted into a container thus minimizing splashing.

### Eye Wash (EW)

PTFE Eye Wash is designed to provide emergency eye/facial rinse. When activated a soft flow of aerated water is released. The non-metallic aerator converts harsh city water into a bubbly smooth stream while the PTFE body remains inert to its potentially hostile chemical environment.

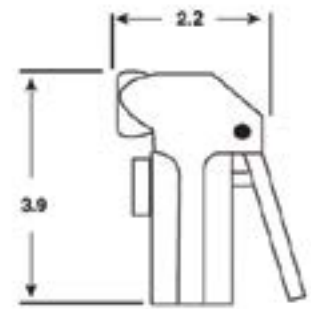
## DI SPRAY / RINSING GUNS

(Max. operating pressure 75 PSI)

(Media Temperature Range: 40°F – 130°F)

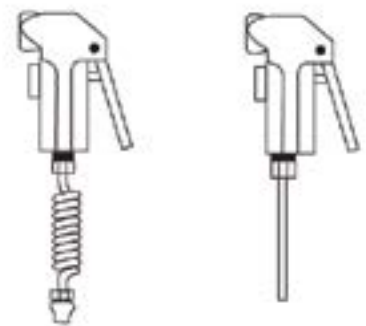
Part No.	Description
SG-103	Standard Spray Gun with 1/2" FNPT inlet thread. <sup>(1)</sup>
SG-102	Spray Gun with 3/8" FNPT inlet thread.
SG-101	Spray Gun with 1/4" FNPT inlet thread.

**NOTE:** ADD -FT FOR FRONT TRIGGER OPTION.  
ADD -H FOR MOUNTING HOOK.



SG-101  
SG-102  
SG-103

Assemblies				
Part No.	Gun	Hose	Intercon. Fitting	Source Fitting
SG-401	SG-101	C4-FEP	MC-F-44	MC-F-44
SG-402	SG-101	C4-PU	J44	J44
SG-403	SG-101	304	MC-F-44	MC-F-44
SG-601	SG-102	C6-FEP	MC-F-66	MC-F-66
SG-602	SG-102	C6-PU	J66	J66
SG-603	SG-102	306	MC-F-66	MC-F-66
SG-801	SG-103	C8-FEP	MC-F-88	MC-F-88
SG-802	SG-103	C8-PU	J88	J88
SG-803	SG-103	308	MC-F-88	MC-F-88



SG-X01  
SG-X02

SG-X03

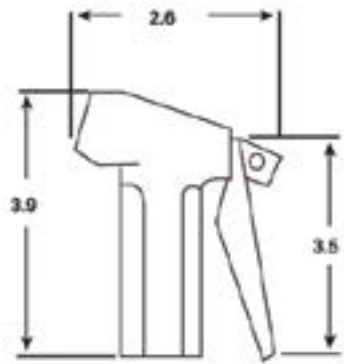


*Special Nozzle Configurations Available*

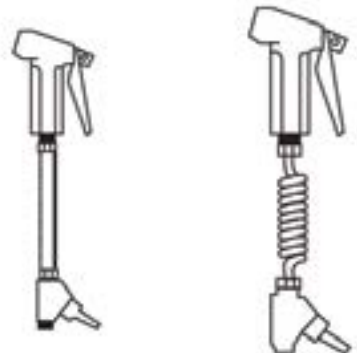
## RECIRCULATING SPRAY GUNS

(Max. operating pressure 75 psi)

(Media Temperature Range: 40°F – 130°F)



RC-103



RC-105

RC-106

Part No.	Description
RC-103	Recirculating spray gun with 1/2" FNPT inlet thread (gun only). <sup>(1)</sup>

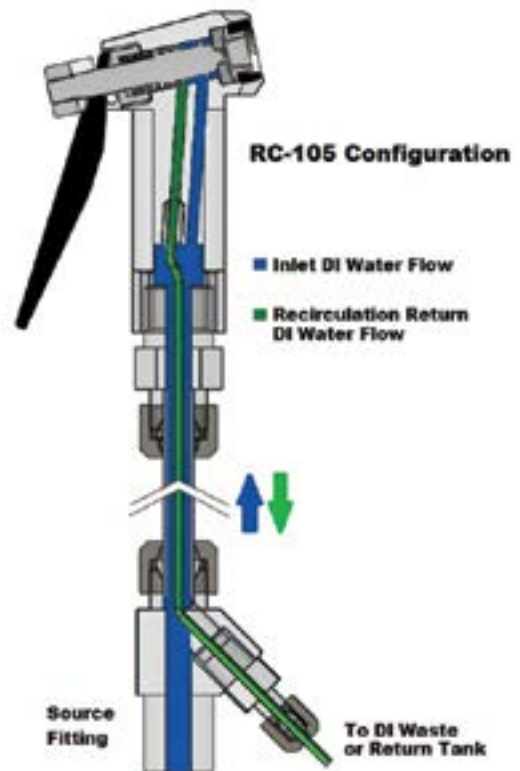
### Assemblies

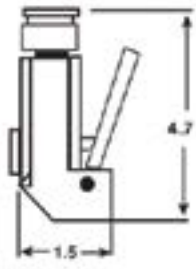
Part No.	Gun	Hose Assy.
RC-105	RC-103	RC-3 / RC-9
RC-106	RC-103	RC-5 / RC-9

### Recirculating Device:

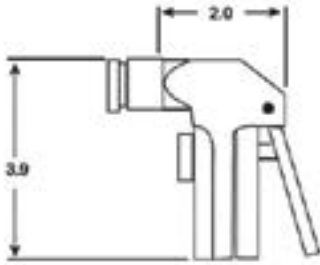
iPolymer Recirculating Spray Guns ("RC" style) are designed to eliminate bacterial growth in DI water spray systems. When the spray gun is not in use, the DI water travels back down the parallel recirculation flow path and returns to the client DI recovery tank or drain line.

By eliminating stagnant pooling water, this open continuous recirculation path reduces bacterial growth.





Nitro-1



Nitro-2



Nitro-3



Nitro-4

## NITROGEN / DRYING GUNS <sup>(3)</sup>

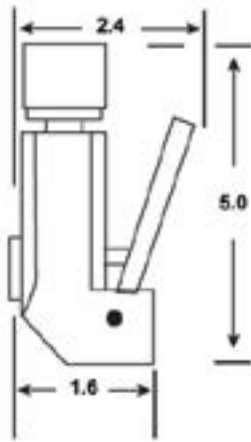
(Max. operating pressure 75 PSI) (Media Temperature Range: 40°F – 130°F)

Part No.	Description
Nitro-1	Standard nitrogen hand spray with 1/4" FNPT inlet thread, filter housing with disposable filter.
Nitro-2	Same as Nitro 1 only using a standard spray gun body configuration. <b>NOTE:</b> ADD -FT FOR FRONT TRIGGER OPTION (NITRO-2 ONLY)

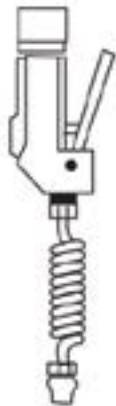
Source Part No.	Gun	Hose Assy.	Fitting	Fitting
NITRO-3	NITRO-1	C4-PU	J44	J44
NITRO-3T	NITRO-1	C4-FEP	MC-F-44	MC-F-44
NITRO-4	NITRO-2	C4-PU	J44	J44
NITRO-4T	NITRO-2	C4-FEP	MC-F-44	MC-F-44

**NOTE:** ADD -FT FOR FRONT TRIGGER OPTION (NITRO-4 AND NITRO-4T ONLY)





EW-101



EW-30X

## EYE WASH

A Qualified Facility Technician should review the installation for the recommended minimum 30 psi water pressure and minimum ANSI Z358.1 flow rate of at least 0.4 gpm for eyewash and 3.0 gpm for eye and face wash. The standard states that the water temperature for flushing eyes should be tepid, between 60°F and 90°F. A full 15 minutes flush of eyes and face are recommended.

Part No.	Description
EW-101	Standard eye wash with 1/4" FNPT inlet thread.

Assemblies Part No.	Gun	Hose Assy.	Intercon. Fitting	Source Fitting
EW-304	EW-101	C6-PU	J64	J64
EW-306	EW-101	C6-PU	J64	J66
EW-308	EW-101	C6-PU	J64	J68



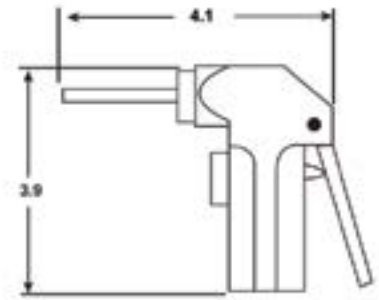


## LIQUID DISPENSING GUNS

(Max. operating pressure 75 PSI)

(Media Temperature Range: 40°F – 130°F)

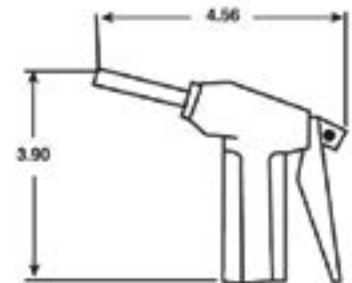
Standard dispensing gun with isolated spring, flow rate 1 GPM. Available in choice of O-ring material: Ethylene Propylene (EP), for use with solvents; Viton (VT), for use with most acids; Kalrez (KA), for use with highly aggressive fluids. To order dispensing gun with the correct O-ring, replace “XX” in the DG part number with the applicable suffix (EP, VT or KA).



DG-50X-XX

Part No.	Description
DG-504-XX	Standard dispensing gun with 1/4" FNPT inlet thread.
DG-506-XX	Standard dispensing gun with 3/8" FNPT inlet thread. <sup>(1)</sup>
DG-508-XX	Standard dispensing gun with 1/2" FNPT inlet thread. <sup>(1)</sup>
DG-800-XX	High flow dispense gun. Features the same isolated spring design, but has a flow rate of 3 GPM. 1/2" FNPT inlet thread.

**NOTE:** ADD -FT FOR FRONT TRIGGER OPTION (DG-50X-XX ONLY)

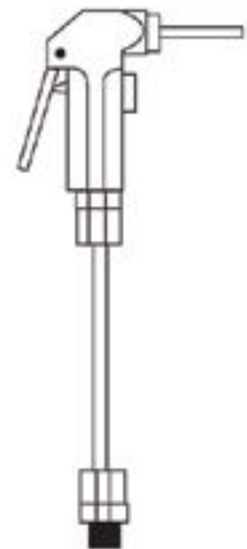


DG-800

Assemblies Part No.	Gun	Hose	Intercon. Fitting	Source Fitting
DG-605-XX	DG-508-XX	308	MC-F-88	MC-F-88
DG-606-XX	DG-508-XX	C6-PU	J68	J68
DG-607-XX	DG-506-XX	C6-PU	J66	J66
DG-905-XX	DG-800-XX	308	MC-F-88	MC-F-88
DG-906-XX	DG-800-XX	C6-PU	J68	J68



*Special Nozzle Configurations Available*



DG-605

Part No.	Reference Description of Assemblies and Spare Parts
304	1/8" ID x 1/4" OD x 8' Long Bendable PTFE Tubing
306	1/4" ID x 3/8" OD x 8' Long Bendable PTFE Tubing
308	3/8" ID x 1/2" OD x 8' Long Bendable PTFE Tubing
C4-FEP	1/4" OD FEP Coiled Tubing <sup>(2)</sup>
C4-FEP-MCF44	C4-FEP Tubing with PTFE Fittings at both ends
C6-FEP	3/8" OD FEP Coiled Tubing <sup>(2)</sup>
C6-FEP-MCF66	C6-FEP Tubing with PTFE Fittings at both ends
C8-FEP	1/2" OD FEP Coiled Tubing <sup>(2)</sup>
C8-FEP-MCF88	C8-FEP Tubing with PTFE Fittings at both ends
C4-PU	1/4" OD Blue Polyurethane Coiled Hose <sup>(2)</sup>
C4-PU-J44	C4-PU Hose with Polypro Fittings at both ends
C6-PU	3/8" OD Blue Polyurethane Coiled Hose <sup>(2)</sup>
C6-PU-J66	C6-PU Hose with Polypro Fittings at both ends
C8-PU	1/2" OD Blue Polyurethane Coiled Hose <sup>(2)</sup>
C8-PU-J88	C8-PU Hose with Polypro Fittings at both ends
C4-PFA	1/4" OD PFA Coiled Tubing <sup>(2)</sup>
C4-PFA-MCF44	C4-PFA Tubing with PTFE Fittings at both ends
C6-PFA	3/8" OD PFA Coiled Tubing <sup>(2)</sup>
C6-PFA-MCF66	C6-PFA Tubing with PTFE Fittings at both ends
C8-PFA	1/2" OD PFA Coiled Tubing <sup>(2)</sup>
C8-PFA-MCF88	C8-PFA Tubing with PTFE Fittings at both ends
RC-3	308 Tubing with PTFE fittings and PTFE recirculating tube
RC-5	C6-FEP Tubing with PTFE fittings and PTFE recirculating tube
RC-7	C6-FEP Tubing with PTFE recirculating tube
RC-9	PTFE source fitting for recirculating spray gun



Part No.	Reference Description of Assemblies and Spare Parts
J44	JACO Male Connector - Polypropylene. 1/4" Tube x 1/4" MNPT
J64	JACO Male Connector - Polypropylene. 3/8" Tube x 1/4" MNPT
J66	JACO Male Connector - Polypropylene. 3/8" Tube x 3/8" MNPT
J68	JACO Male Connector - Polypropylene. 3/8" Tube x 1/2" MNPT
J88	JACO Male Connector - Polypropylene. 1/2" Tube x 1/2" MNPT
MC-F-44	iPolymer Male Connector - PTFE. 1/4" Tube x 1/4" MNPT
MC-F-66	iPolymer Male Connector - PTFE. 3/8" Tube x 3/8" MNPT
MC-F-88	iPolymer Male Connector - PTFE. 1/2" Tube x 1/2" MNPT
900	Nitrogen filter housing
901	Nitrogen filter retaining ring
902	Nitrogen filter O-ring
N2F-10 N2F-50 N2F-100	Disposable nitrogen filters. Each filter is composed of a 25mm diameter Hydrophillic Versapor® Acrylic Copolymer 800 Membrane 0.80um assembled with Polypropylene Ring with Clear Acrylic Luer Housing. Available in quantities of 10, 50, or 100.
EW-AHA	Eye Wash Aerated Head Assembly. Polypropylene construction

**NOTES:**

(1) 1/2" Gun Body inlets includes a polypro reinforcing ring.

(2) Coil Stretch Length:

PU will stretch to 7 Feet

FEP will stretch to 6 Feet

PFA will stretch to 6 Feet



(3) Nitro Guns & Eye Wash Guns are OSHA 1910.242(b) and 41-CFR-50-204.8 compliant with their filter and housing attached.

Part #	Relaxed (oal)	Extended	Coil OD
C-4-PU	31"	9'	1-1/8"
C-6-PU	34"	9'	2"
C-8-PU	26"	6'	3-1/2"
C-4-PFA	26"	5' 6"	1-1/2"
C-6-PFA	26"	5' 6"	2-3/8"
C-8-PFA	30"	6' 6"	4"
C-4-FEP	26"	5' 6"	1-1/2"
C-6-FEP	26"	5' 6"	2-3/8"
C-8-FEP	30"	6' 6"	4"

**iPolymer Product Notes:**

1. Please email Customer Service at [info@ipolymer.com](mailto:info@ipolymer.com)
2. Call us for special applications. We can manufacture our Spray Devices with special mounting and interface dimensions.
3. Upon request, alternate material selection from those listed will allow for expanding temperature ratings or other performance characteristics.
4. Unauthorized disassembly of this product will void the original factory one-year product warranty. For further details please contact your local Distributor or our factory directly.

220927



# Miniature Solenoid Valves

Our **iPolymer Miniature Solenoid Valves** offer precision performance under extreme conditions. Offered as 2-Way and 3-Way Valves with four internal body configurations and five seat sealing methods, our iPolymer Miniature Solenoid Valves are suitable for a wide range of ultra clean to highly corrosive media applications.



Our all virgin PTFE wetted surface design is ideally suited for semiconductor, pharmaceutical, bio-medical and chemical process applications. Configurable with a PTFE Hard Seat, FKM (Viton Eq.) O-Ring Seat, FFKM (Kalrez Eq.) O-Ring Seat, EPDM O-Ring Seat, or Aflas O-Ring Seat the iPolymer Miniature Series Solenoid Valve line provides unsurpassed chemical compatibility with a wide range of flow media. The all wetted PTFE body, valve stem and one piece diaphragm maintain a material inert boundary for ultra clean applications.

- Catalog standard iPolymer Solenoid Valves are designed for Continuous Duty Cycles of 50% or less and for Energized Dwell Periods of no longer than 90 minutes.\*
- For many applications, the Duty Cycle or Energized Dwell Period can be increased. Due to heat generation, without our iPolymer Power Management Circuit, it is not recommended to run with an accumulated Energized Dwell Period greater than 160 minutes per 8 hour production shift.\*
- The Solenoid Coil on our valve will generate heat when energized. Temperatures above 150°F will shorten coil life. Temperatures above 172°F are not recommended. Our iPolymer Power Management Circuit will knock down the steady state temperature of a functioning coil.\*
- Call our iPolymer factory with your unique Solenoid Valve application. Because of the heat generation, care must be taken to consider the ambient conditions and air flow around the coil of any solenoid valve application.\*

## HIGHLIGHTS:

- PTFE design optimized for ultra clean and chemical compatibility.
- Configurations available for various DC & AC voltages.
- Continuous Duty Cycle Rated at controlled ambient temperatures and reduced pressures.
- Valve seat and diaphragm designed for positive flushing and bubble-tight shut off.
- Non porous diaphragm configured to completely isolate solenoid coil from media.
- 100% coil driven – does not require energizing pressure or vacuum to operate.
- O-ring seat configurations for vacuum and complex media applications.
- Designed for aggressive media and elevated temperature.



General Valve Parameters	
1/8 Orifice Cv (2W-NC, 2W-NO, 3W)	0.35 / 0.18 / 0.18
1/4 Orifice Cv (2W-NC, 2W-NO, 3W)	0.60 / 0.35 / 0.35
3/8 Orifice Cv (2W-NC, 2W-NO, 3W)	0.90 / 0.60 / 0.60
Common Port Vacuum in-Hg (max gauge)*	25 2-Way / 23 3-Way
Typical Response Time (msec)	20 - 30
Media Temperature (range)	0 - 80°C / 32 - 176°F
Ambient Temperature (range)	0 - 50°C / 32 - 122°F
Wattage Range (std)	11 -13 W
Voltage Tolerance	-2% + 10%
Coil Lead Length (3 Wire) (Red is Hot / White is Neutral / Green is Ground)	24" - 22 gauge



Maximum Port Pressure Rating (psi)*	O-Ring Seat 3-Way	PTFE Seat 3-Way
Common Port	60	60
Normally Closed Port	35	30
Normally Open Port	60	60
	2-Way NC	2-Way NC
Inlet Port	60	60
Outlet Port	35	30
	2-Way NO	2-Way NO
Inlet Port	60	60
Outlet Port	60	60



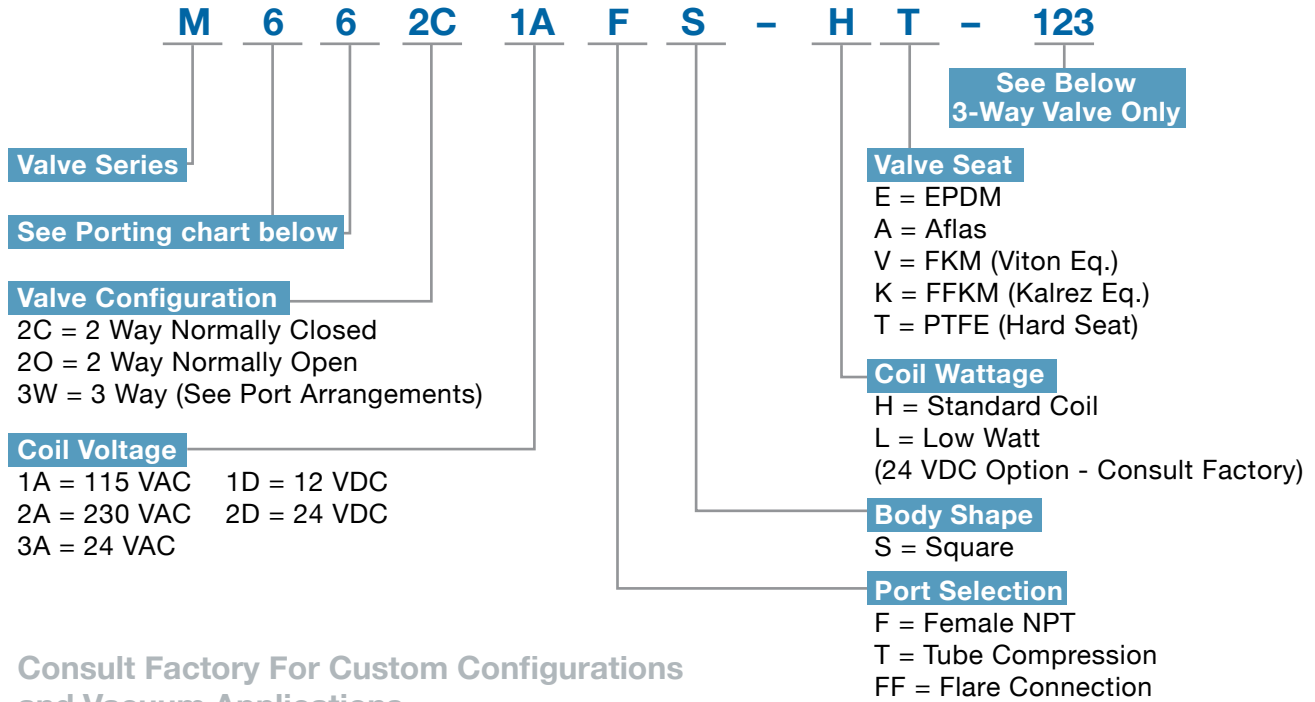
\*Referenced values based on opposing ports open to atmosphere. Vacuum Rating assumes O-Ring Seal and opposing ports open to atmosphere. Pressures listed are for solenoid valve operating at room temperature with coil temperatures elevated to a maximum of 120°F. Elevated coils temperature above 120°F result in reduce performance. Consult factory for performance under extreme conditions.

**Other Options Available on Request:**

- Valves with special port connections such as combinations of pipe, tube and flared ends.
- Extra long wire leads (36" or 48").
- Valves without mounting studs or valves with 4 mounting studs (2 are standard).
- Manifolded valve assemblies.
- Low Power Coils and Power Management options are available. Consult factory for further details and de-rated pressure values.



## Solenoid Valves: ORDERING FORMAT



### Porting w/ Max Orifice

PIPE	
22	1/8" FNPT & 0.125" Orifice
44	1/4" FNPT & 0.250" Orifice
66	3/8" FNPT & 0.375" Orifice
86	1/2" FNPT & 0.375" Orifice
TUBE	
21	1/8" TUBE & 0.063" Orifice
43	1/4" TUBE & 0.188" Orifice
65	3/8" TUBE & 0.313" Orifice
86	1/2" TUBE & 0.375" Orifice
FLARE	
42	1/4" FLARE & 0.125" Orifice
64	3/8" FLARE & 0.250" Orifice
86	1/2" FLARE & 0.375" Orifice

### Port Arrangements

The port orientation can be arranged in four possible patterns on our 3-Way Solenoid Valves. Please select one of the four arrangements.

Looking Down at the Top of the Coil			
123 C NC ● NO	132 C NO ● NC	213 NO NC ● C	321 NC C ● NO
<b>NC-C-NO</b>	<b>NO-C-NC</b>	<b>NC-NO-C</b>	<b>C-NC-NO</b>

**STD** = 123 & 132 are our standard port arrangements.

\*For use with sensitive controls equipment, optional flyback diode available upon request. Call factory for more information.

**Auxiliary Plate ("AP"):** For highly corrosive or caustic gas applications, such as Chlorine Gas, our Auxiliary Plate Option ("-AP") give an extra line of protection. The valve is configured with an auxiliary plate between the upper diaphragm and solenoid coil. The AP (Auxiliary Plate) is O-Ring sealed on the Stem of the diaphragm and supported at the outer body-to-coil interface.

# Miniature Solenoid Valve

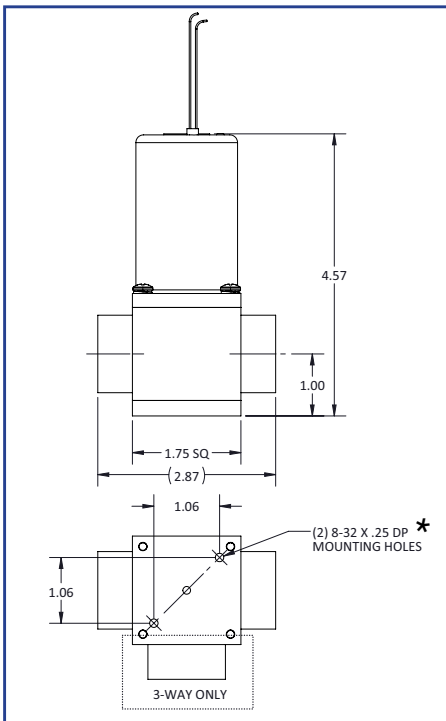
3/8" 3-Way FNPT



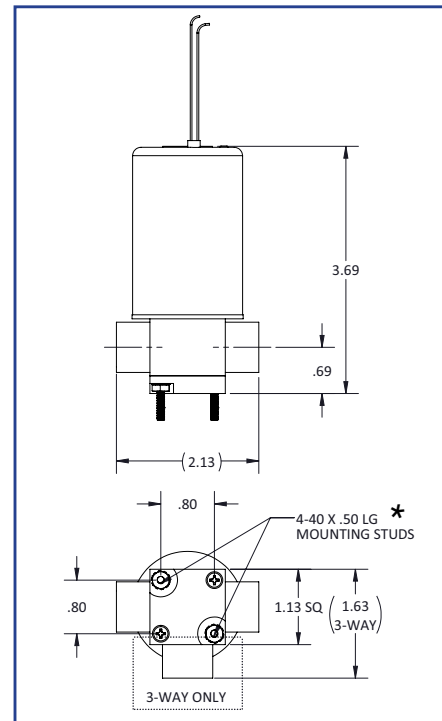
1/8" 2-Way FNPT



Typical for 3/8" and 1/2" Models



Typical for 1/8" and 1/4" Models



\* Two Mounting Studs are supplied (standard). Call factory for alternate mounting options. Care must be taken to limit the applied torque on the Mounting Studs: 7 - 9 in-lbs max

## iPolymer Product Notes:

1. Please email Customer Service at [info@ipolymer.com](mailto:info@ipolymer.com)
2. Call us for special applications. We can manufacture our Valves with special mounting and interface dimensions.
3. Upon request, alternate material selection from those listed will allow for expanding temperature ratings or other performance characteristics.
4. Unauthorized disassembly of this product will void the original factory one-year product warranty. For further details please contact your local Distributor or our factory directly.

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# iPolymer Sub-miniature Solenoid Valves

Our **iPolymer Sub-miniature Solenoid Valves** offer precision performance under extreme conditions. Offered as 2-Way and 3-Way Valves with four internal body configurations and three seat sealing methods, our iPolymer Sub-miniature Solenoid Valves are suitable for a wide range of ultra clean to highly corrosive media applications.

Our PTFE wetted surface design is ideally suited for semiconductor, pharmaceutical, bio-medical and chemical process applications. Configurable with a FKM (Viton Eq.) Seat, FEPM-AFLAS Seat or FFKM (Kalrez Eq.) Seat, the Sub-mini Series Solenoid Valve line provides unsurpassed chemical compatibility with a wide range of flow media. The PTFE body, valve stem and one piece diaphragm maintain a material inert boundary for ultra-clean and harsh-caustic applications.



## HIGHLIGHTS:

- PTFE design optimized for ultra clean and chemical compatibility.
- Configurations available for various DC & AC voltages.
- Fast, accurate and repeatable coil response time from proven technology.
- Valve seat and diaphragm designed for positive flushing and bubble-tight shut off.
- Non-porous diaphragm configured to completely isolate solenoid coil from media.
- 100% coil driven – does not require energizing pressure or vacuum to operate.
- Designed for aggressive media and elevated temperature.

*\*Refer to pages 32 thru 34 of our Mini Solenoid Valve Catalog for discussion on performance, duty cycle, dwell time, and temperature.*

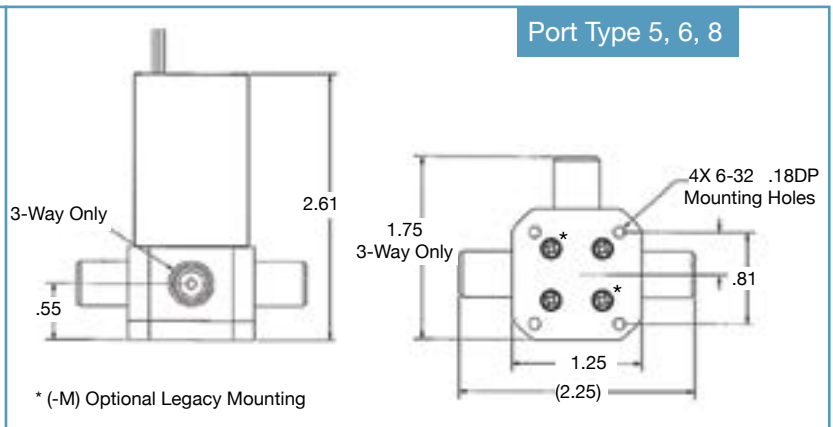
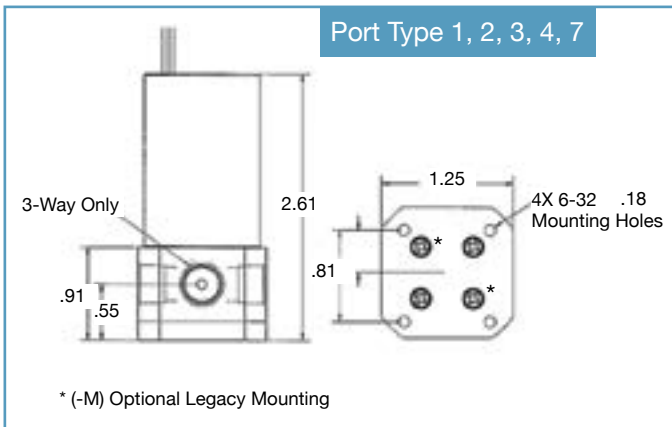
Maximum Port Pressure Rating (psi)	O-Ring Seat 3-Way
Common Port	60
Normally Closed Port	35
Normally Open Port	60
	2-Way NC
Inlet Port	60
Outlet Port	35
	2-Way NO
Inlet Port	60
Outlet Port	60



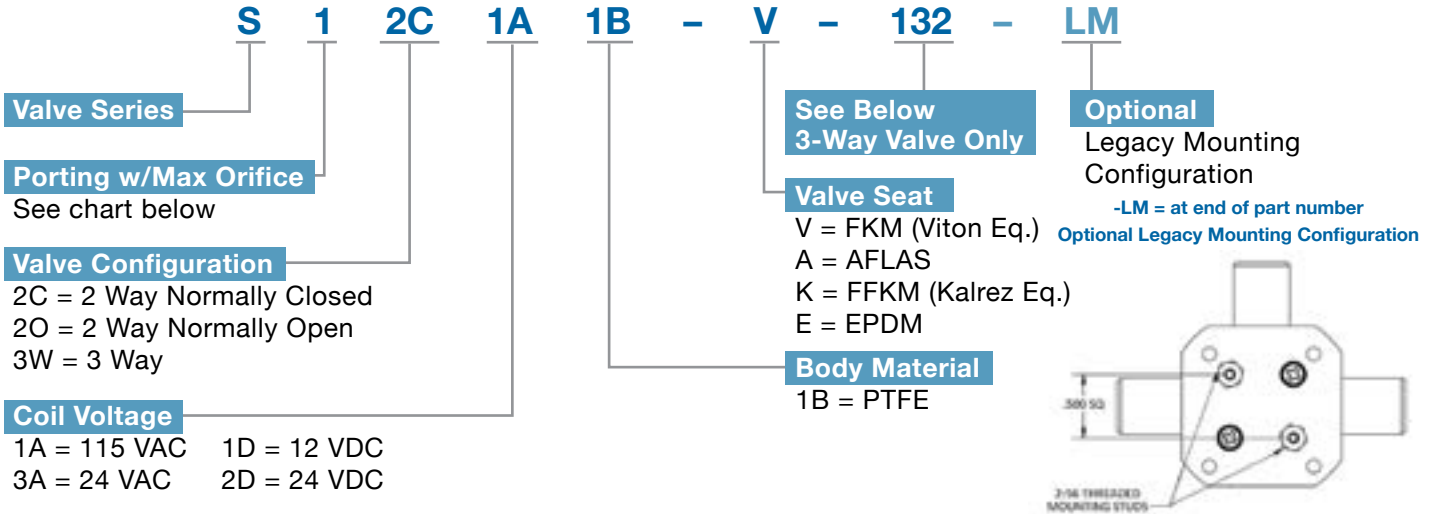
## General Valve Parameters

0.063" Orifice Cv (2W-NC, 2W-NO, 3W)	0.06 / 0.04 / 0.04
0.094" Orifice Cv (2W-NC, 2W-NO, 3W)	0.12 / 0.10 / 0.10
Common Port Vacuum in-Hg (max)	20
Media Temperature (range)	0 - 80°C / 32 - 176°F
Ambient Temperature (range)	0 - 60°C / 32 - 140°F
Wattage Range	10 -12 W
Voltage Tolerance	-2% +10%
Coil Lead Length (2 Wire)	24"





## Solenoid Valves: ORDERING FORMAT



Consult Factory For Custom Configurations.

### Porting w/ Max Orifice

Port Type/Size and Standard Orifice	
1	1/4"-28-UNF Female with 0.063" Orifice
2	1/8" FNPT with 0.094" Orifice
3	#10-32-UNF Female with 0.063" Orifice
4	1/4" FNPT with 0.094" Orifice
5	1/8" Tube with 0.094" Orifice
6	1/4" Tube with 0.094" Orifice
7	1/16" FNPT with 0.063" Orifice
8	1/16" Tube with 0.032" Orifice
9	1/4" Flare with 0.094" Orifice

#### iPolymer Product Notes:

- Please email Customer Service at info@ipolymer.com.
- Call us for special applications. We can manufacture our Valves with special mounting and interface dimensions.
- Upon request, alternate material selection from those listed will allow for expanding temperature ratings or other performance characteristics.
- Unauthorized disassembly of this product will void the original factory one-year product warranty. For further details please contact your local Distributor or our factory directly.

\*Low Power Coils and Power Management options are available. Consult factory for further details and de-rated pressure values.

### Port Arrangements

The port orientation can be arranged in four possible patterns on our 3-Way Solenoid Valves. Please select one of the four arrangements.

Looking Down at the Top of the Coil			
123 C NC ● NO	132 C NO ● NC	213 NO NC ● C	321 NC C ● NO
<b>NC-C-NO</b>	<b>NO-C-NC</b>	<b>NC-NO-C</b>	<b>C-NC-NO</b>

**STD** = 123 & 132 are our standard port arrangements.

\*For use with sensitive controls equipment, optional flyback diode available upon request. Call factory for more information.





# Miniature Pneumatic Diaphragm Valves

Our **iPolymer Miniature Pneumatic Diaphragm Valves** offer precision performance under extreme conditions. Offered as 2-Way and 3-Way Valves with four internal body configurations and three valve seat sealing methods, our iPolymer Miniature Pneumatic Diaphragm Valves are suitable for a wide range



of ultra clean to highly corrosive media applications. Our all virgin PTFE wetted surface design is ideally suited for semiconductor, pharmaceutical, bio-medical and chemical process applications. Configurable with a PTFE Hard Seat, FKM (Viton Eq.) O-Ring Seat or FFKM (Kalrez Eq.) O-Ring Seat the iPolymer MTV series valve line provides unsurpassed chemical compatibility with a wide range of flow media. The all wetted PTFE body, valve stem and one piece diaphragm maintain a material inert boundary for ultra clean applications.

## HIGHLIGHTS:

- PTFE design optimized for ultra clean and chemical compatibility.
- Lightweight pneumatic actuator with compact valve design.
- Pneumatic Actuator available in standard Polypro or Hi Temp Configuration.
- The PTFE diaphragm completely isolates the media from the actuator.
- 100% pneumatic driven – does not require power only supply air.
- O-ring seat configurations for vacuum and complex media applications.
- Designed for aggressive media and elevated temperature.



General Valve Parameters	
1/8" Orifice Cv (2W-NC, 2W-NO, 3W)	0.35 / 0.18 / 0.18
1/4" Orifice Cv (2W-NC, 2W-NO, 3W)	0.60 / 0.35 / 0.35
3/8" Orifice Cv (2W-NC, 2W-NO, 3W)	0.90 / 0.60 / 0.60
Common Port Vacuum in-Hg (max)	25
Actuator Pressure (range)	40 - 60 psi
Media Temperature (range)	0 - 80°C / 32 - 176°F
Ambient Temperature (range)	0 - 60°C / 32 - 140°F

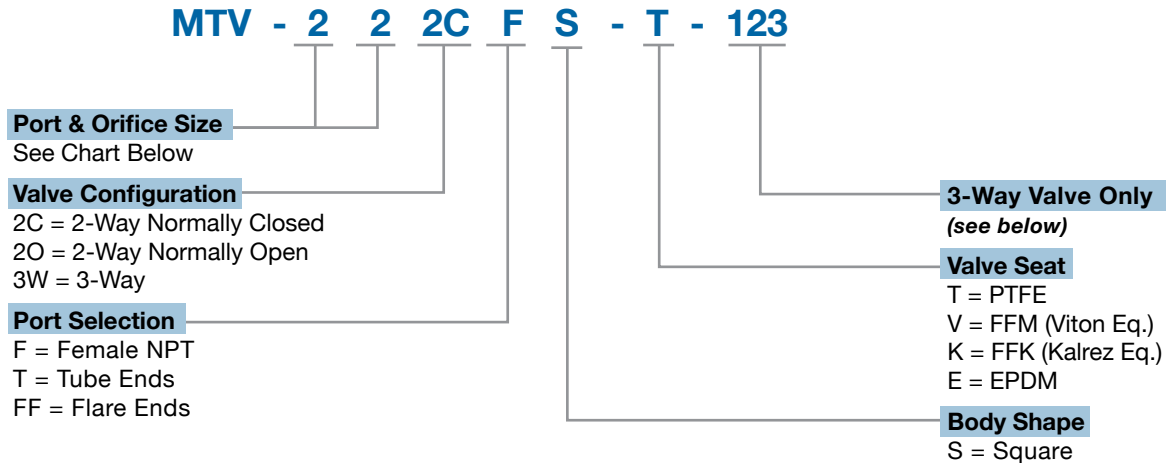
Maximum Port Pressure Rating	3-Way
Common Port	60 psi
Normally Closed Port	30 psi
Normally Open Port	60 psi
	2-Way NC
Inlet Port	60 psi
Outlet Port	30 psi
	2-Way NO
Inlet Port	60 psi
Outlet Port	60 psi

### Other Options Available on Request:

- Valves with special port connections such as combinations of pipe, tube and flared ends.
- Valves without mounting studs or valves with 4 mounting studs (2 are standard).
- Manifold valve assemblies.



# Miniature Pneumatic Diaphragm Valves: ORDERING FORMAT



Consult Factory For Custom Configurations.

## Porting w/ Max Orifice

PIPE	
22	1/8" FNPT & 0.125" Orifice
44	1/4" FNPT & 0.250" Orifice
66	3/8" FNPT & 0.375" Orifice
86	1/2" FNPT & 0.375" Orifice
TUBE	
21	1/8" TUBE & 0.063" Orifice
43	1/4" TUBE & 0.188" Orifice
65	3/8" TUBE & 0.313" Orifice
86	1/2" TUBE & 0.375" Orifice
FLARE	
42	1/4" FLARE & 0.125" Orifice
64	3/8" FLARE & 0.250" Orifice
86	1/2" FLARE & 0.375" Orifice

## Port Arrangements

The port orientation can be arranged in four possible patterns on our 3-Way Pneumatic Valves. Please select one of the four arrangements.

Looking Down at the Top of the Coil			
123 C NC ● NO	132 C NO ● NC	213 NO NC ● C	321 NC C ● NO
<b>NC-C-NO</b>	<b>NO-C-NC</b>	<b>NC-NO-C</b>	<b>C-NC-NO</b>

**STD** = 123 & 132 are our standard port arrangements.

**Auxiliary Plate ("AP"):** For highly corrosive or caustic gas applications, such as Chlorine Gas, our Auxiliary Plate Option ("-AP") give an extra line of protection. The valve is configured with an auxiliary plate between the upper diaphragm and pneumatic actuator. The AP (Auxiliary Plate) is O-Ring sealed on the Stem of the diaphragm and supported at the outer body-to-actuator interface.

# Miniature Pneumatic Diaphragm Valve

3/8" 3-Way FNPT



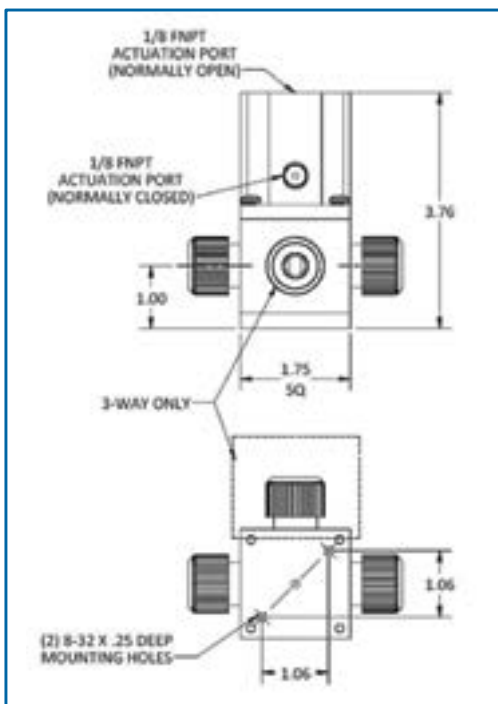
1/4" 3-Way Tube



1/4" 2-Way FNPT

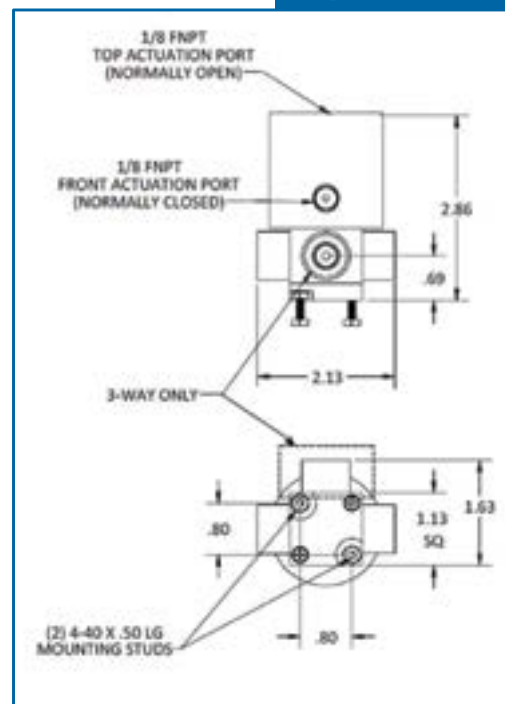


Typical for 3/8" and 1/2" Models



Typical for 1/8" and 1/4" Models

Square Body



## iPolymer Product Notes:

1. Please email Customer Service at [info@ipolymer.com](mailto:info@ipolymer.com)
2. Call us for special applications. We can manufacture our Valves with special mounting and interface dimensions.
3. Upon request, alternate material selection from those listed will allow for expanding temperature ratings or other performance characteristics.
4. Unauthorized disassembly of this product will void the original factory one-year product warranty. For further details please contact your local Distributor or our factory directly.

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# High Pressure Diaphragm Valve

Our **iPolymer High Pressure Diaphragm Valve (HPV)** is designed for use in high purity water and aggressive chemical applications.

Designed with a 100% virgin PTFE wetted flow path, the unit is ideal for DI Water Systems and corrosive media found in solar, semiconductor, pharmaceutical and chemical process applications.

Offered in 2-Way and 3-Way port configurations, our all wetted PTFE HPV2 and HPV3 diaphragm valves are an excellent complement to our Mini and Submini pneumatic valve families.

The compact design of the iPolymer HPV valve series makes it ideally suited for tight spaces in process cabinets and panels. Multiple HPV units can be rack mounted on a common Polypro base for ease of installation. Contact the factory for manifold applications.



The Actuator Housing options include: Polypropylene ("PP")  
Anodized Aluminum ("AA")



Other sizes and configurations are available on request.

## Specifications:

### Materials of Construction:

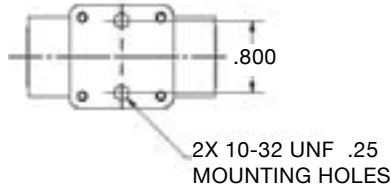
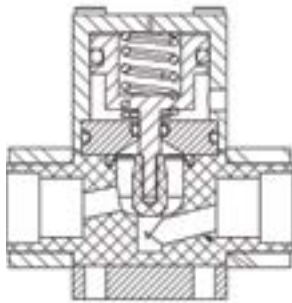
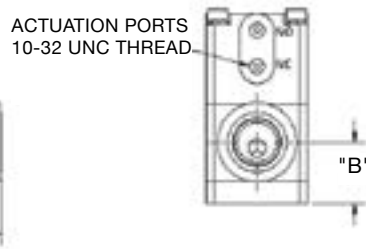
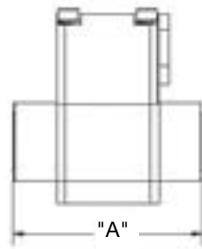
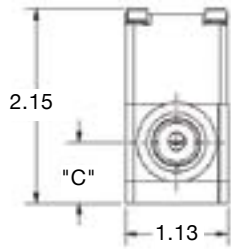
- Wetted Surfaces: Machined 100% Virgin PTFE & M-112
- Non Wetted Materials: PVDF, Polypro, SS, AA

### Temperature Ranges:

- 32°F - 140°F (0°C - 60°C) Ambient
- 32°F - 176°F (0°C - 80°C) Media

### Pressure Ranges:

- Maximum Inlet Pressure: 80 psi (551 kPa | 5.51 bar)
- Maximum Vacuum: 25" Hg
- Consult factory when operating with pressure and/or vacuum applied on multiple ports.
- Pneumatic Actuation:
  - Pressure Range: 50 psi (3.45 bar) to 100 psi (6.89 bar) depending on media pressure conditions
  - Pressure Source: Conditioned Dry Air



PORT TYPE	"A" O' ALL LENGTH	"B" INLET HEIGHT	"C" OUTLET HEIGHT
22P	2.10	.68	.68
21T	2.68	.54	.70
43P	2.10	.68	.68
43T	2.82	.50	.74
42F	3.40	.54	.70

## PTFE High Pressure Valve: ORDERING FORMAT

**HPV2 – 42F – NC – PP**

### HP Valve Type

HPV2 = High Pressure Valve 2-Way

### Porting w/ Max Orifice

22P = 1/8" FNPT & 0.125" Orifice  
 21T = 1/8" TUBE & 0.094" Orifice  
 43P = 1/4" FNPT & 0.188" Orifice  
 43T = 1/4" TUBE & 0.188" Orifice  
 42F = 1/4" FLARE & 0.125" Orifice

### Valve Configuration

NC = Normally Closed  
 NO = Normally Opened

### Actuator Housing

AA = Anodized Aluminum  
 PP = Polypropylene

• These valves are configured with their maximum available port orifice for the given port style and size. Call iPolymer for special constrained orifice & other custom solutions.

**HPV3 – 42F – 123 – PP**

### HP Valve Type

HPV3 = High Pressure Valve 3-Way

### Porting w/ Max Orifice

22P = 1/8" FNPT & 0.125" Orifice  
 21T = 1/8" TUBE & 0.094" Orifice  
 43P = 1/4" FNPT & 0.188" Orifice  
 43T = 1/4" TUBE & 0.188" Orifice  
 42F = 1/4" FLARE & 0.125" Orifice

### Port Orientation (3-Way Only)

Looking Down at the Top of the Coil			
123 C NC ● NO	132 C NO ● NC	213 NO NC ● C	321 NC C ● NO
<b>NC-C-NO</b>	<b>NO-C-NC</b>	<b>NC-NO-C</b>	<b>C-NC-NO</b>

### Actuator Housing

AA = Anodized Aluminum  
 PP = Polypropylene

**STD** = 123 & 132 are our standard port arrangements.

### iPolymer Product Notes:

1. Please email Customer Service at info@ipolymer.com
2. Call us for special applications. We can manufacture our Valves with special mounting and interface dimensions.
3. Upon request, alternate material selection from those listed will allow for expanding temperature ratings or other performance characteristics.
4. Unauthorized disassembly of this product will void the original factory one-year product warranty. For further details please contact your local Distributor or our factory directly.

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# Sub-miniature Pneumatic Valves

Our **iPolymer Sub-miniature Pneumatic Valves** offer precision performance under extreme conditions. Offered as 2-Way and 3-Way Valves with four body port configurations and four sealing methods, our iPolymer Sub-miniature Pneumatic Valves are suitable for a wide range of ultra clean to highly corrosive media applications.

Our PTFE wetted surface design is ideally suited for semiconductor, pharmaceutical, bio-medical and chemical process applications.



The Sub-mini family has four O-Ring seat seal options: FKM (Viton Eq.), FEPM-AFLAS, FFKM (Kalrez Eq. ), and EPDM. Providing unsurpassed chemical compatibility, with a wide range of flowing media, the PTFE valve stem and diaphragm design maintains an inert boundary for ultra-clean and harsh-caustic applications.

### HIGHLIGHTS:

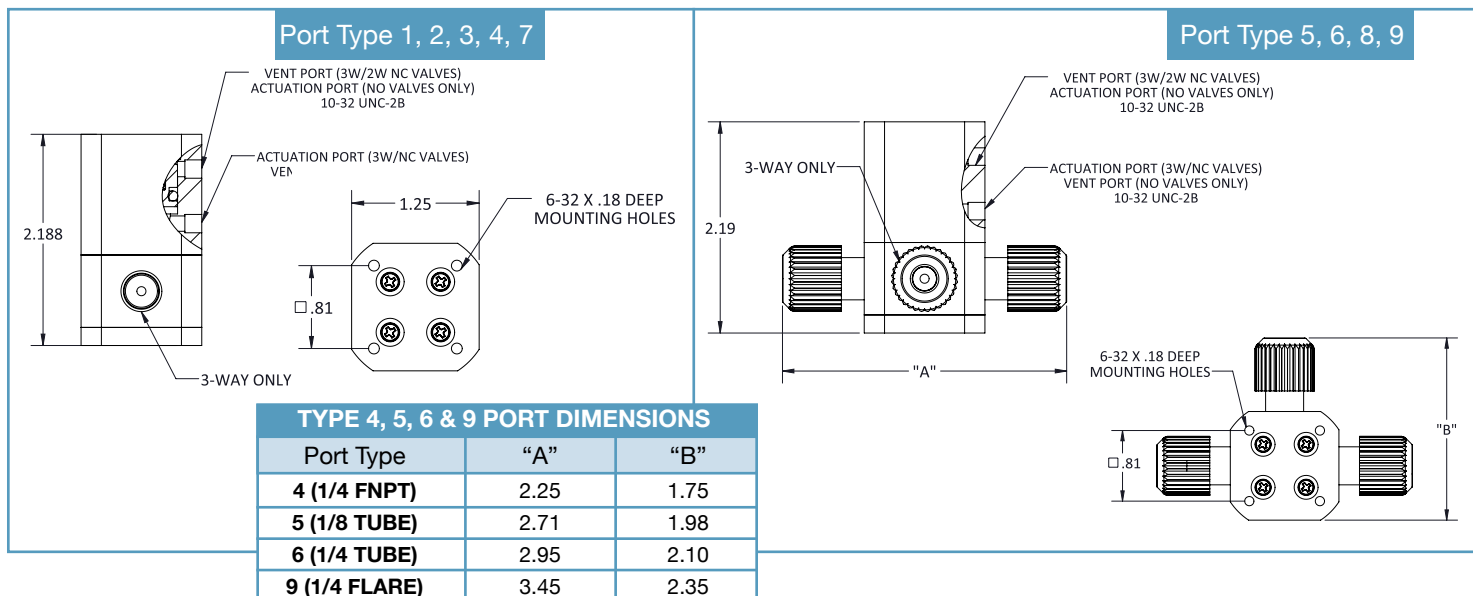
- PTFE design optimized for ultra clean and chemical compatibility.
- Configured with a reliable pneumatic actuator.
- Valve seat and diaphragm designed for positive flushing and tight shut off.
- Non-porous diaphragm isolates actuator from fluid media.
- 100% pneumatic driven – does not require electrical power.
- Designed for aggressive media and elevated temperature.

General Valve Parameters	
0.063" Orifice Cv (2W-NC, 2W-NO, 3W)	0.06 / 0.04 / 0.04
0.094" Orifice Cv (2W-NC, 2W-NO, 3W)	0.12 / 0.10 / 0.10
Common Port Vacuum in-Hg (max)	25
Media Temperature (range)	0 - 80°C / 32 - 176°F
Ambient Temperature (range)	0 - 60°C / 32 - 140°F
Pneumatic Actuator Pressure Range (psi)	40 to 60 psi

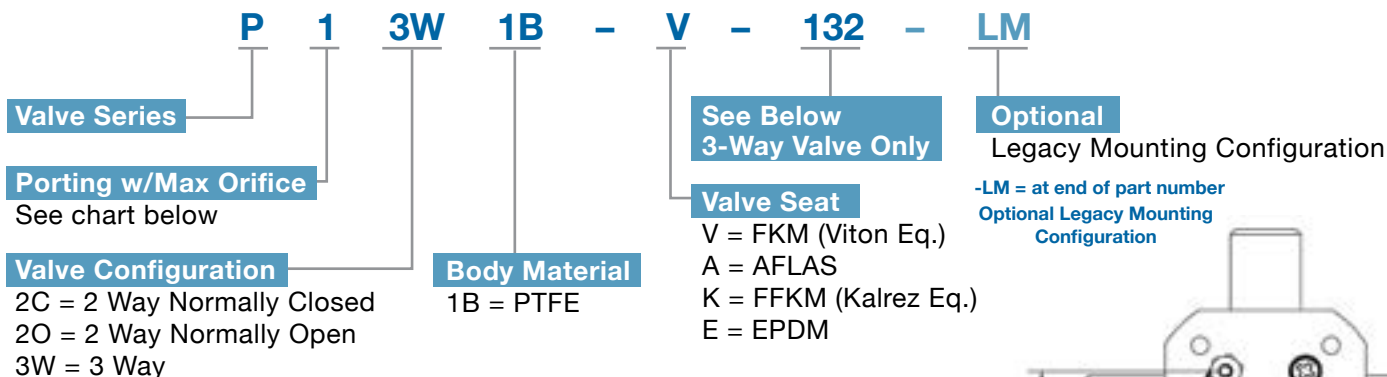
Maximum Port Pressure Rating (psi)	3-Way
Common Port	80
Normally Closed Port	40
Normally Open Port	40
	2-Way
Inlet Port	80
Outlet Port	40







## Pneumatic Valves: ORDERING FORMAT



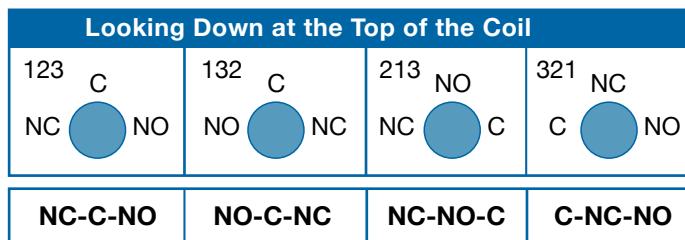
Consult Factory For Custom Configurations.

### Porting w/ Max Orifice

Port Type/Size and Standard Orifice	
1	1/4"-28-UNF Female with 0.063" Orifice
2	1/8" FNPT with 0.094" Orifice
3	#10-32-UNF Female with 0.063" Orifice
4	1/4" FNPT with 0.094" Orifice
5	1/8" Tube with 0.094" Orifice
6	1/4" Tube with 0.094" Orifice
7	1/16" FNPT with 0.063" Orifice
8	1/16" Tube with 0.032" Orifice
9	1/4" Flare with 0.094" Orifice

### Port Arrangements

The port orientation can be arranged in four possible patterns on our 3-Way Pneumatic Valves. Please select one of the four arrangements.



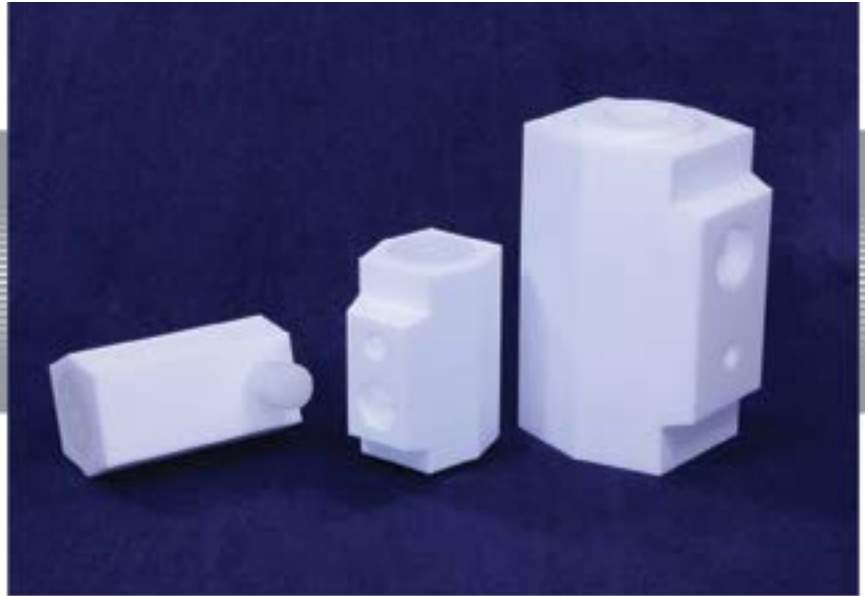
**STD = 123 & 132** are our standard port arrangements.

#### iPolymer Product Notes:

- Please email Customer Service at [info@ipolymer.com](mailto:info@ipolymer.com).
- Call us for special applications. We can manufacture our Valves with special mounting and interface dimensions.
- Upon request, alternate material selection from those listed will allow for expanding temperature ratings or other performance characteristics.
- Unauthorized disassembly of this product will void the original factory one-year product warranty. For further details please contact your local Distributor or our factory directly.

Our **iPolymer Teflon® Pneumatic Valve** (TP Valve) features an all PTFE wetted surface design. The design is ideally suited for harsh chemical and corrosive media and environments.

Polytetrafluoroethylene (PTFE), commonly known by its popular E.I. DuPont trade name Teflon®, is well suited for clean room and deionized water applications.



### Features

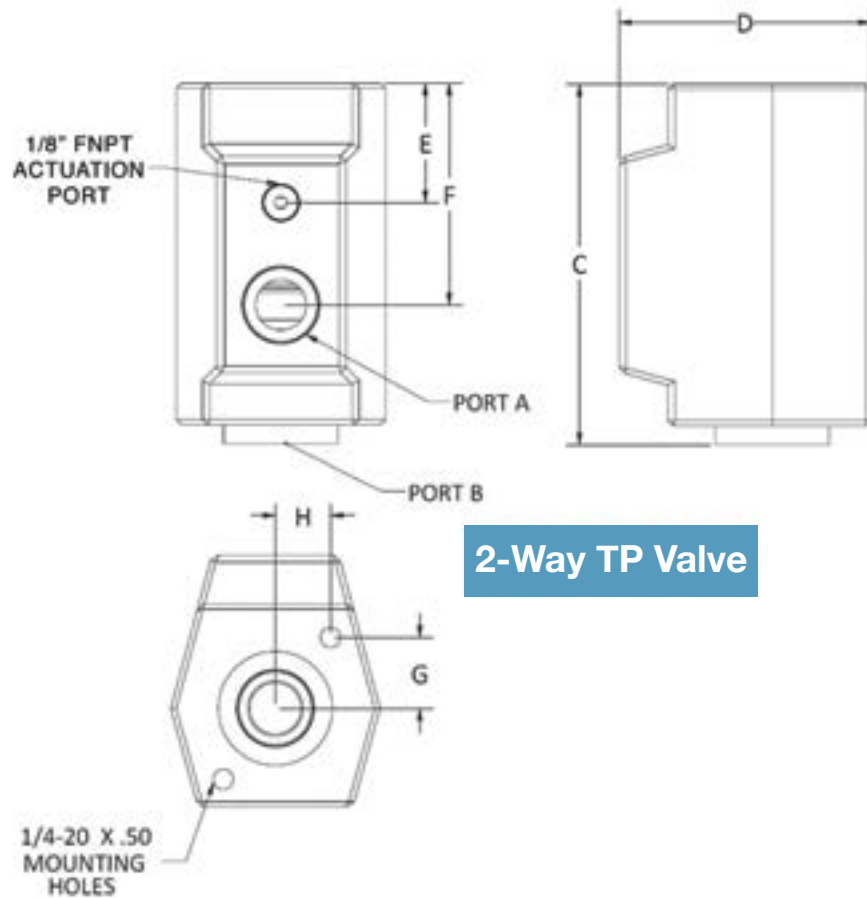
- One Piece PTFE Body
- Optimum Anti-Corrosion Design
- Hi-Temp Version with PVDF Components Also Available
- Complete Media Isolation

### Materials of Construction

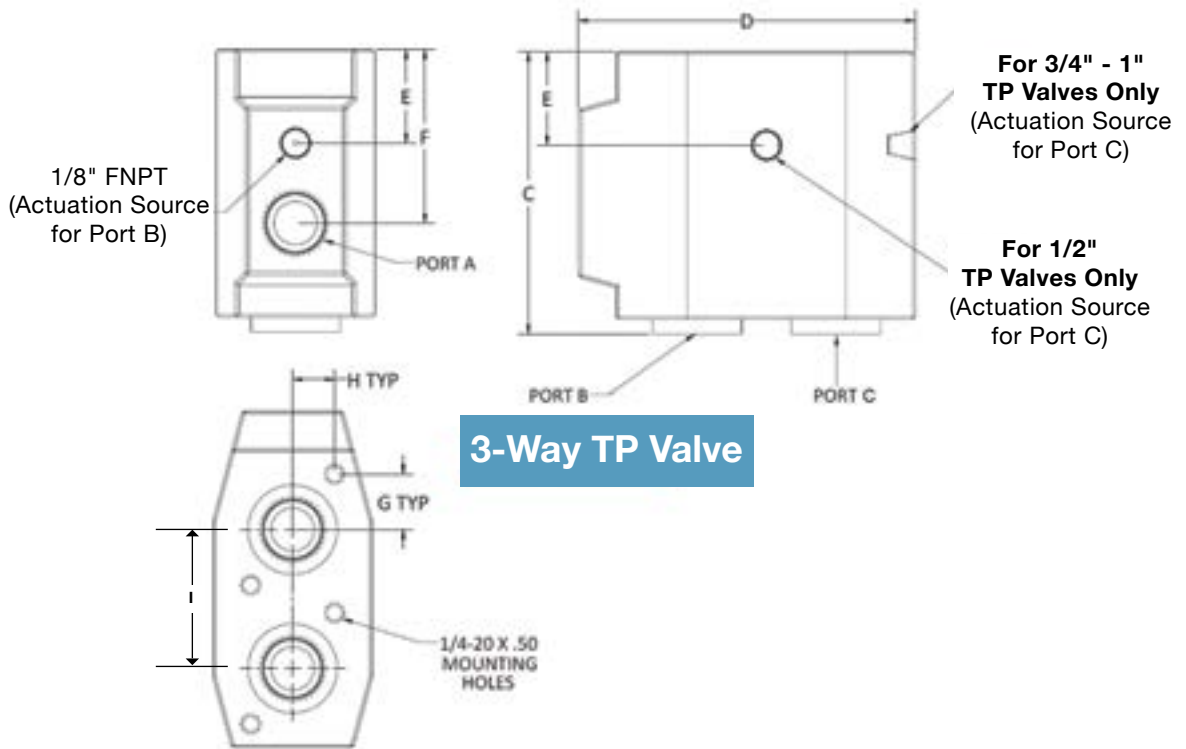
Body.....	PTFE
Bellows/Poppet.....	PTFE
Backing Plate.....	PTFE
Piston.....	Polypropylene
Cap.....	Polypropylene

### Specifications

Size	1/2" Orifice	3/4" Orifice	1" Orifice
<b>C<sub>v</sub></b>	2.2	2.8	7.5
<b>Max Pressure<sup>2</sup></b>			
<b>Port A</b>	75 psi	50 psi	50 psi
<b>Port B &amp; C</b>	45 psi	10 psi	10 psi
<b>Actuator Pressure-psi min/max</b>	50 / 80	50 / 80	50 / 80
<b>Max Media Temperature<sup>2</sup></b>	212° F / 100°C / HT 300°F / 149°C		
1. Specifications applicable for both normally open and normally closed configurations. 2. See Pressure vs. Temperature graph for full range. 3. Port C reference for 3-Way only.			



**2-Way TP Valve**

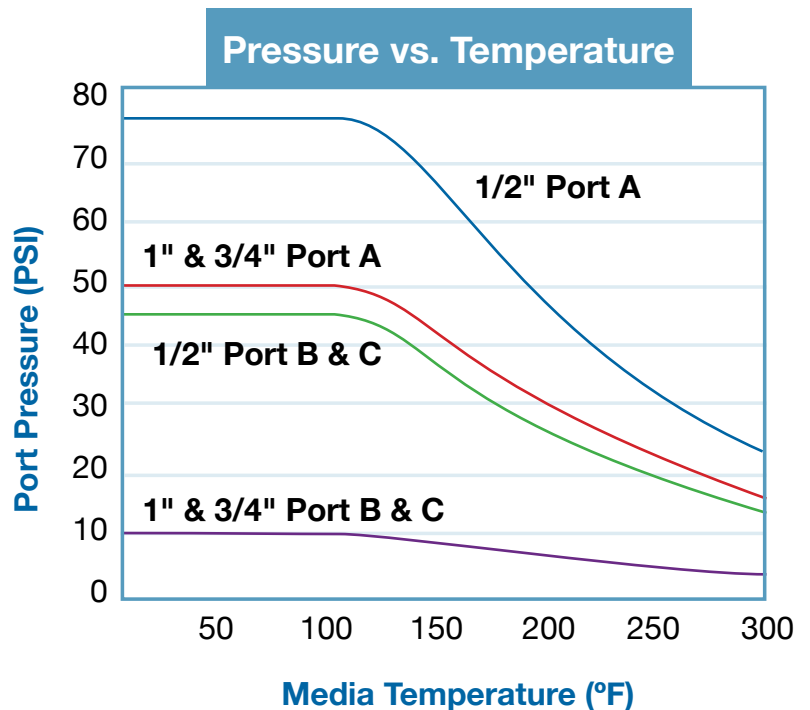


**3-Way TP Valve**

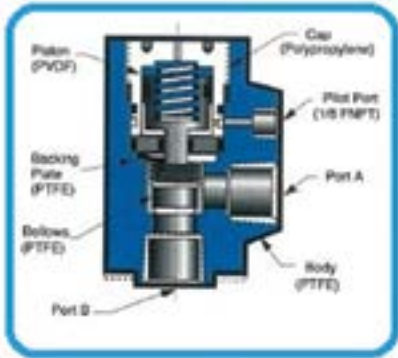
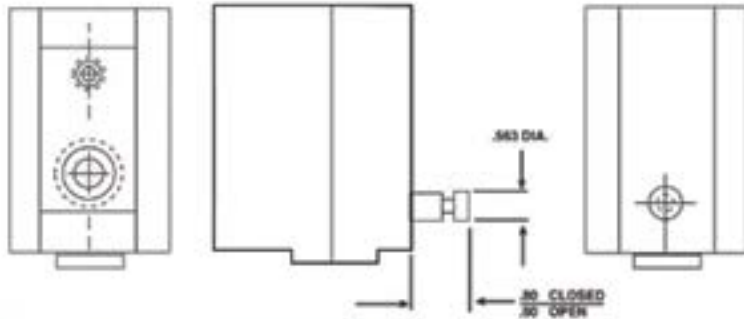
Style	Port A, B, C	C	D	E	F	G	H	I
<b>2 Way</b>	1/2"	3.56	2.48	1.18	2.19	0.70	0.53	n/a
	3/4"	5.61	3.56	1.94	3.65	1.21	0.85	n/a
	1.0"	5.61	3.56	1.94	3.65	1.21	0.85	n/a
<b>3 Way</b>	1/2"	3.56	4.25	1.18	2.19	0.70	0.53	1.75
	3/4"	5.61	6.00	1.93	3.64	1.21	0.85	2.50
	1.0"	5.61	6.00	1.93	3.64	1.21	0.85	2.50

**Application Uses:**

- Chemical Neutralization
- Chemical Delivery
- DI Water Rinse
- Wafer Etching
- Acid Parts Cleaning
- Phosphoric Acid Nitride Removal
- Sulfuric Peroxide Stripping
- Potassium Hydroxide Etching

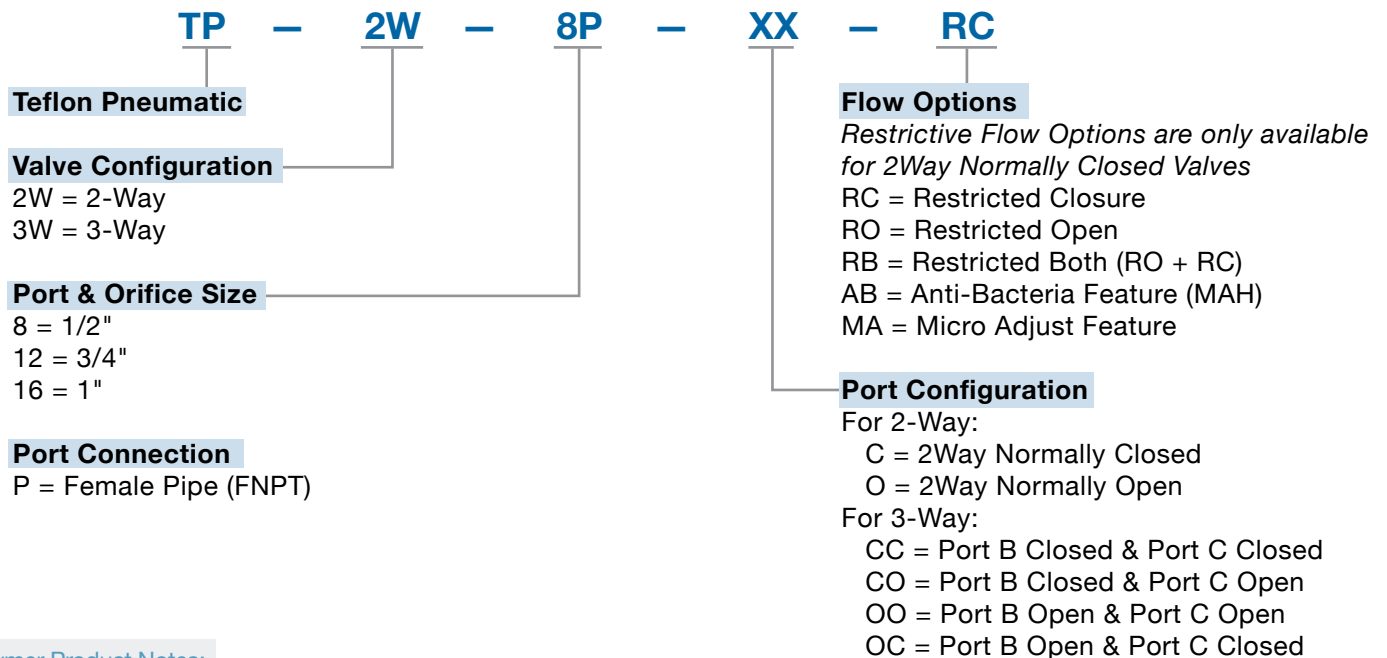


## AB Option



This style TP Valve offer a continuous metered flow path to reduce the potential of chemical and bacteria build-up. Currently only offered in our 2-Way Normally Closed Port Configuration, the "AB" Option adds a metering screw and bleed bypass across the valve seat. This controlled flow rate maintains a continuous system flow which reduces chemistry and bacteria build-up in both the valve gallery and associated plumbing.

## Teflon Pneumatic Valve: ORDERING FORMAT



### iPolymer Product Notes:

1. Please email Customer Service at [info@ipolymer.com](mailto:info@ipolymer.com)
2. Call us for special applications. We can manufacture our Valves with special mounting and interface dimensions.
3. Upon request, alternate material selection from those listed will allow for expanding temperature ratings or other performance characteristics.
4. Unauthorized disassembly of this product will void the original factory one-year product warranty. For further details please contact your local Distributor or our factory directly.

200304



# Chemical Resistant Valves

**Chemical Resistant (CR) Valves** offer chemical and corrosion control through a complete fluoroplastic design and construction. All wetted surfaces are manufactured from virgin PTFE. Pneumatic Actuator, Base and Bands are constructed from PVC, Polypropylene or PVDF. The polymer components selected for our iPolymer CR Valve line are specifically suited for use with ultrapure water, deionized water, solvents, chemicals and liquid flowing bio-matter. Our PTFE Bellows-style valve stem and PTFE valve seat help ensure the valve self-flushes a wide variety of flowing media. Special custom configurations are available on request. These include: manifold valve assemblies with multiple ports and high ambient temperature pneumatic actuators.



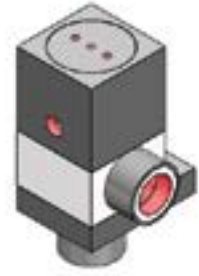
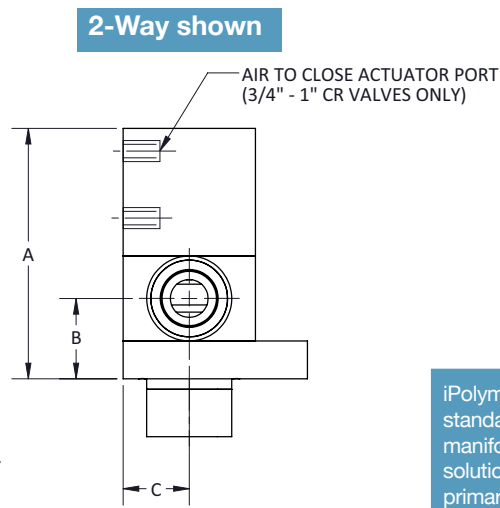
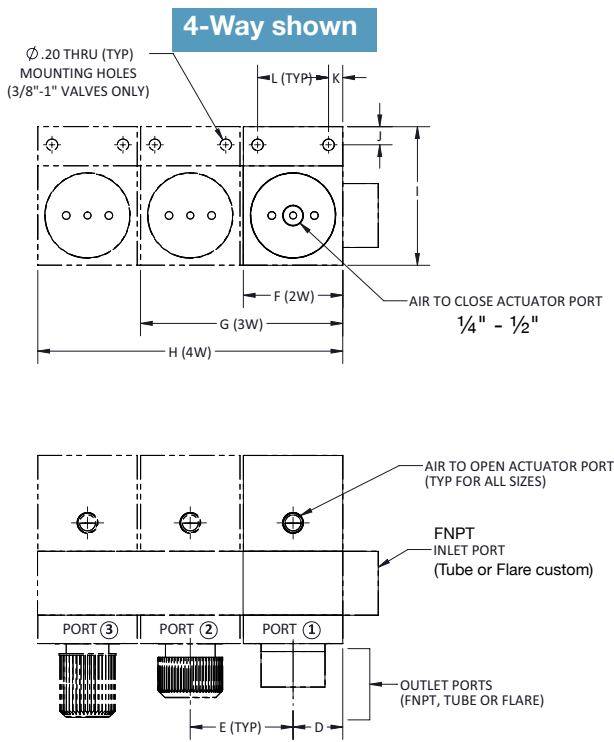
**Flow for distribution (One Inlet & Multiple Outlets) and flow for blending or selection (Multiple Inlets & One Outlet) available.**

- Distribution flow is standard.
- Please specify at time of order.

Size	1/4"	3/8"	1/2"	3/4"	1"
<b>Cv</b>	0.8	1.3	2.8	7.5	13.5
<b>Flow Rate (GPM @ 60 psi)</b>	4.6	6.3	10.7	23	42
<b>Max Pressure (Distribution Flow)<sup>1</sup></b>					
<b>Inlet Port-psi</b>	60	60	60	60	60
<b>Outlet Port-psi</b>	60	50	50	30	20
<b>Actuator Pressure (Min/Max)</b>	40 / 60	40/60	40 / 60	50 / 70	50 / 70
<b>Max Media Temperature (PVDF)</b>	240°F	240°F	240°F	240°F	240°F
<b>Max Ambient Temperature</b>	140°F	140°F	140°F	140°F	140°F
<b>Wetted Surfaces</b>	PTFE	PTFE	PTFE	PTFE	PTFE
<b>Actuator / Base / Bands</b> <i>(see notes on page 2)</i>	PVC, POL, PVDF	PVC, POL PVDF	PVC, POL PVDF	PVC, POL PVDF	PVC, POL PVDF
<b>Actuator Port (see sketch)</b>	10-32 UNF	1/8"FNPT	1/8"FNPT	1/8"FNPT	1/8"FNPT
<b>Inlet Port (FNPT = Standard)</b>	1/4"	3/8"	1/2"	3/4"	1"
<b>Outlet Port (FNPT, Tube or Flare)</b>	1/4"	3/8"	1/2"	3/4"	1"

<sup>1</sup> Pressure listed for Distribution Flow Configuration.  
Call iPolymer Factory for Selection Flow Configuration.





The 1/4" CR Model come complete with Aluminum Baseplate.

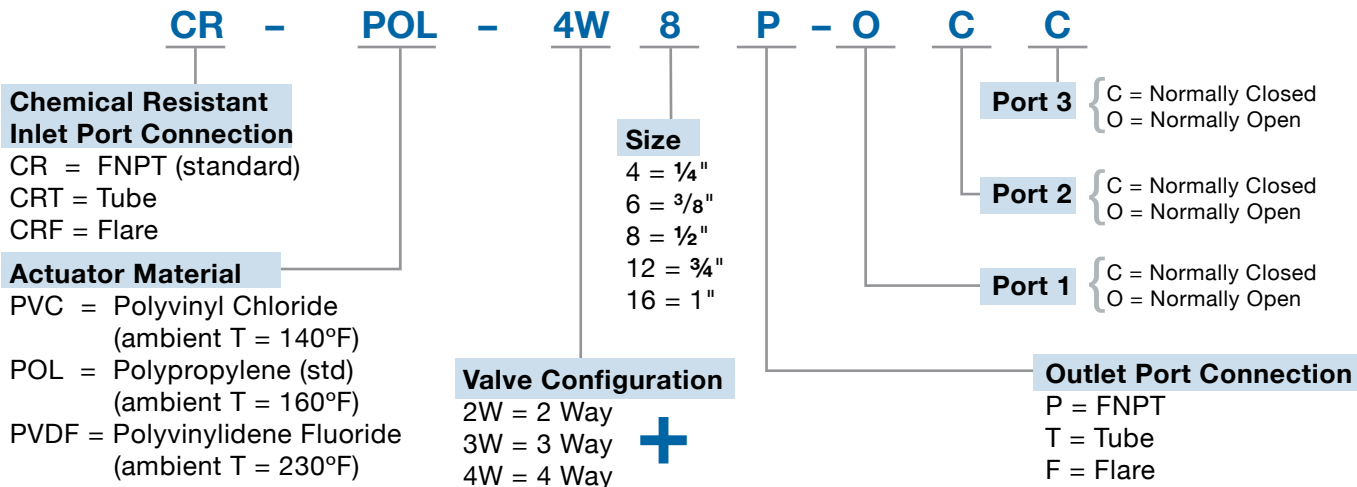
The 3/8" through 1" CR Models come complete with Reinforcing Bands & Baseplates which match the selected Actuator Material (PVC, POL or PVDF).

iPolymer CR Valve is supplied standard ("CR") with a single axial manifold FNPT style port. Custom solutions are available with this primary manifold port configured for Tube or Flared connections ("CRT" and "CRF"). Please call factory.

Flow Options Available for the iPolymer CR Valve: Flow for Distribution (one inlet / multiple outlets) and Reverse Flow for Blending or Selection (multiple inlets / one outlet).

Size	A	B	C	D	E	F	G	H	I	J	K	L	M
1/4"	2.19	0.69	0.69	0.69	1.40	1.38	2.78	4.18	1.38	N/A	N/A	N/A	N/A
3/8" - 1/2"	3.31	1.06	0.88	0.88	1.81	1.75	3.56	5.37	2.44	0.32	0.25	1.25	0.20
3/4" - 1"	5.13	1.44	1.38	1.38	2.81	2.75	5.56	8.37	3.44	0.33	0.33	2.03	0.20

## Chemical Resistant Valves: ORDERING FORMAT



+ Call iPolymer Factory for 5-Way to 14-Way Design Configurations.

### iPolymer Product Notes:

1. Please email Customer Service at [info@ipolymer.com](mailto:info@ipolymer.com)
2. Call our iPolymer Factory for special applications. We can manufacture our CR Valves in multiple port distribution manifolds with a common inlet port and up to 14 outlet ports.
3. Upon request, alternate material selection from those listed will allow for expanding temperature ratings.
4. Unauthorized disassembly of this product will void the original factory one-year product warranty. For further details please contact your local Distributor or our factory directly.

200304

international polymer solutions inc. • manufacturer of high purity fluid handling products  
[www.ipolymer.com](http://www.ipolymer.com) • [info@ipolymer.com](mailto:info@ipolymer.com)





# Inline Diaphragm Valves

**Our Inline Diaphragm Valves (IDF)** feature an all wetted PTFE flow path with a diaphragm design for ultra pure service. Common applications include DI Water, Acid Drain, and Source Chemistry flow shutoff.

- The IDF valve is offered in a two-way normally closed configuration.
- All PTFE wetted flow path.
- Long life diaphragm design.
- Inline flow path reducing cavity corners & dead spots.
- The anti-bacteria (AB) configuration is designated by adding -AB onto the suffix of the model number.

The AB Option (not shown) significantly reduces the potential of bacteria buildup and maintains a consistent flow via an independent mechanism. This control mechanism will allow for precise adjustments and a cleaner cavity.

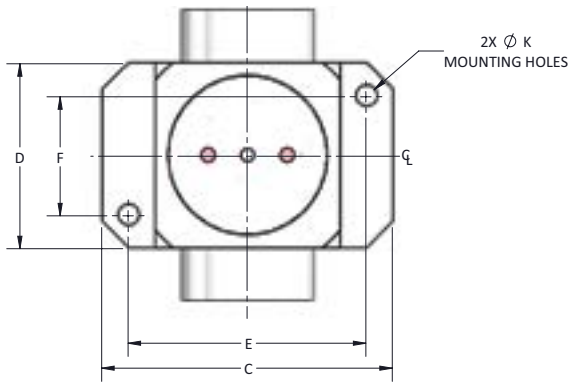
Custom porting & material configurations are available on request (such as, high ambient temperature actuators, sanitary connections and inline filters).



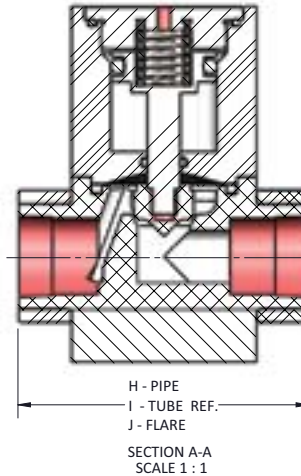
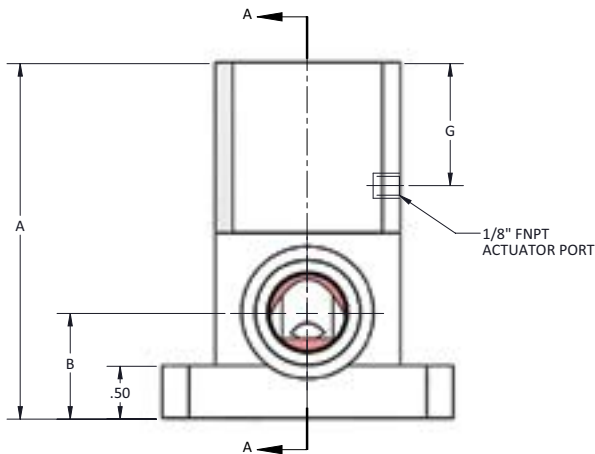
## Specifications

<b>Size</b>	1/2"	3/4"
<b>Cv</b>	2.8	7.5
<b>Max Pressure</b>		
<b>Inlet Port</b>	60 psi	60 psi
<b>Outlet Port</b>	40 psi	40 psi
<b>Actuator Pressure (min./max.)</b>	60 / 80 psi	60 / 80 psi
<b>Max. Media Temperature</b>	212°F	212°F
<b>Max. Ambient Temperature</b>	140°F	140°F
<b>Wetted Surfaces</b>	PTFE	PTFE
<b>Pneumatic Surfaces</b>	Polypropylene	Polypropylene
<b>Inlet Port</b>	1/2"	3/4"
<b>Outlet Port</b>	1/2"	3/4"
<b>Actuator Port (FNPT)</b>	1/8"	1/8"
<b>AB Option: Anti-Bacteria Valve Stem</b>	PVDF	PVDF
<b>AB Option: Adjustment Bleed</b>	0 - .75 GPM	0 - 2.5 GPM



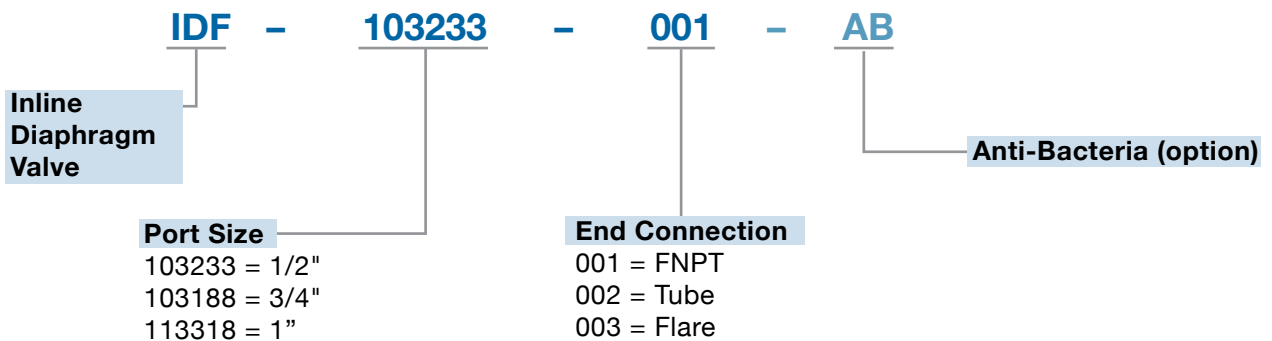


ANTI-BACTERIAL CONFIGURATION  
AB - OPTION



Size	A	B	C	D	E	F	G	H	I	J	K
<b>1/2"</b>	3.37	1.00	2.75	1.75	2.25	1.13	1.28	2.75	2.87	3.95	.20
<b>3/4"</b>	4.58	1.20	3.25	2.30	2.80	1.50	1.87	3.25	3.54	4.80	.26

## Inline Diaphragm Valves: ORDERING FORMAT



### iPolymer Product Notes:

1. Please email Customer Service at info@ipolymer.com
2. Call us for special applications.
3. Upon request, alternate material selection from those listed will allow for expanding temperature ratings or other performance characteristics.
4. Unauthorized disassembly of this product will void the original factory one-year product warranty. For further details please contact your local Distributor or our factory directly.

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**Our iPolymer Suckback Valves**

are ideal for acid, solvent, photoresist solutions and other process dispensed chemistries. The iPolymer Suckback Valve will pull a vacuum and prevent excessive dripping from the dispensing nozzle.

The iPolymer Suckback Valve is constructed of an “all wetted” PTFE media flow path.

Our Suckback Valve incorporates the suckback feature in a Normally Closed pneumatic valve.



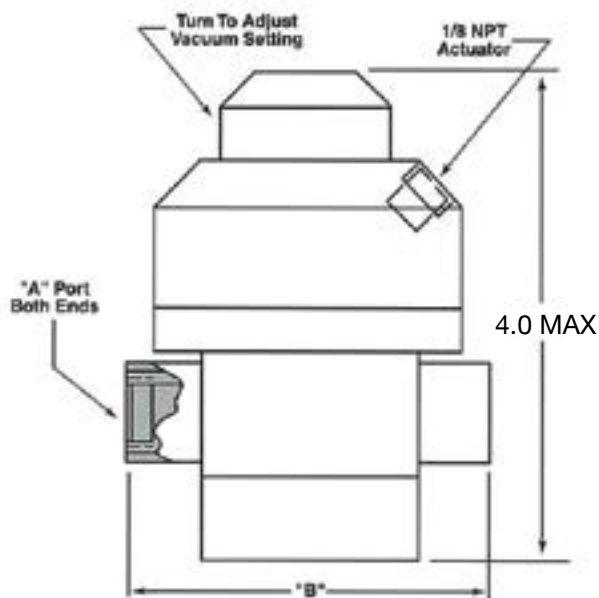
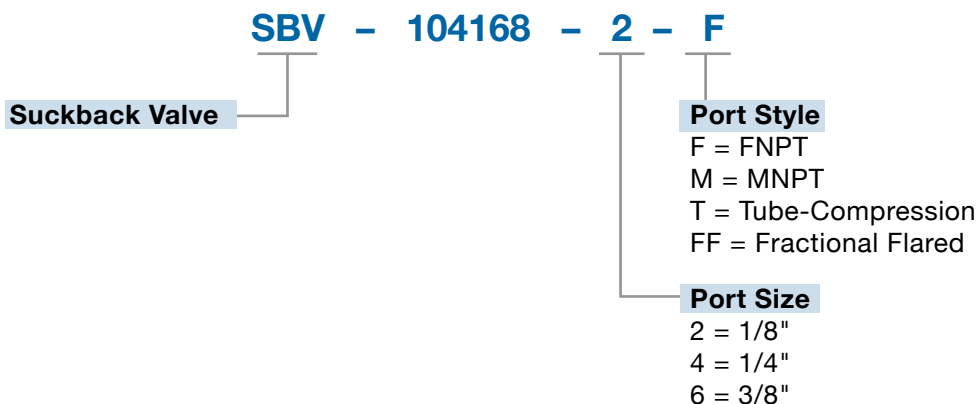
When air pressure is removed from the valve actuator, an internal diaphragm is pushed upward which forms a vacuum in the valve body.

While the valve is closing, the vacuum sucks back the final droplets of process media. Thereafter, the valve completely closes and seals the media flow path.

An additional unique feature of the Suckback Valve is a Vacuum Adjustment Knob which allows the user to set the vacuum level.

Specifications:	
<b>Actuator Pressure (min/max)</b>	45 / 60 psi
<b>Maximum Media Pressure</b>	30 psi
<b>Maximum Media Temperature</b>	176°F / 80°C
<b>Maximum Ambient Temperature</b>	140°F / 60°C
<b>Suckback Amount</b>	0.25 - 0.50 cc @ Room Temp & S.G. = 1.0

## Suckback Valves: ORDERING FORMAT



SBV Port Size & Style	104168 ("B")
1/8" FNPT	2.39
1/8" MNPT	2.39
1/8" Tube	2.39
1/4" FNPT	2.75
1/4" MNPT	2.75
1/4" Tube	2.63
1/4" Flared	3.63
3/8" FNPT	2.75
3/8" MNPT	2.75
3/8" Tube	2.63
3/8" Flared	3.63

### iPolymer Product Notes:

1. Please email Customer Service at [info@ipolymer.com](mailto:info@ipolymer.com)
2. Call us for special applications. We can manufacture our Valves with special mounting and interface dimensions.
3. Upon request, alternate material selection from those listed will allow for expanding temperature ratings or other performance characteristics.
4. Unauthorized disassembly of this product will void the original factory one-year product warranty. For further details please contact your local Distributor or our factory directly.

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**iPolymer DI Water Valves** are perfect 2-Way Valves for wet benches and chemical process facilities where ultrapure water is required.

**Wetted Path is free of...**

- Lubricants
- Elastomers
- Springs

Our iPolymer DI Valve materials of construction include three options for the Body, Piston and Cap Assembly: PVC, Polypropylene or PVDF. For the highest level of chemical inertness and overall fluid handling performance all three configurations include 100% Virgin PTFE for the Bellows and Backing Plate construction.

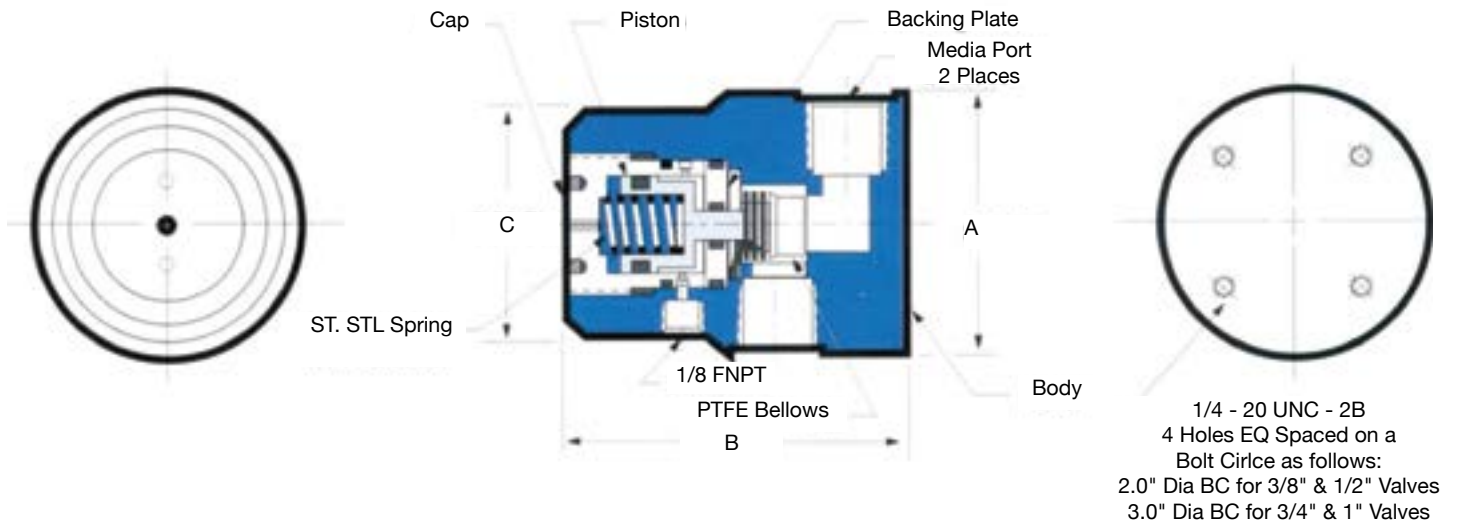
O-Ring Seal options include EP or Viton. All DI Valve come standard with high performance Stainless Steel actuation springs.

The DI Valve is pneumatically actuated to open or close depending on the model selected.



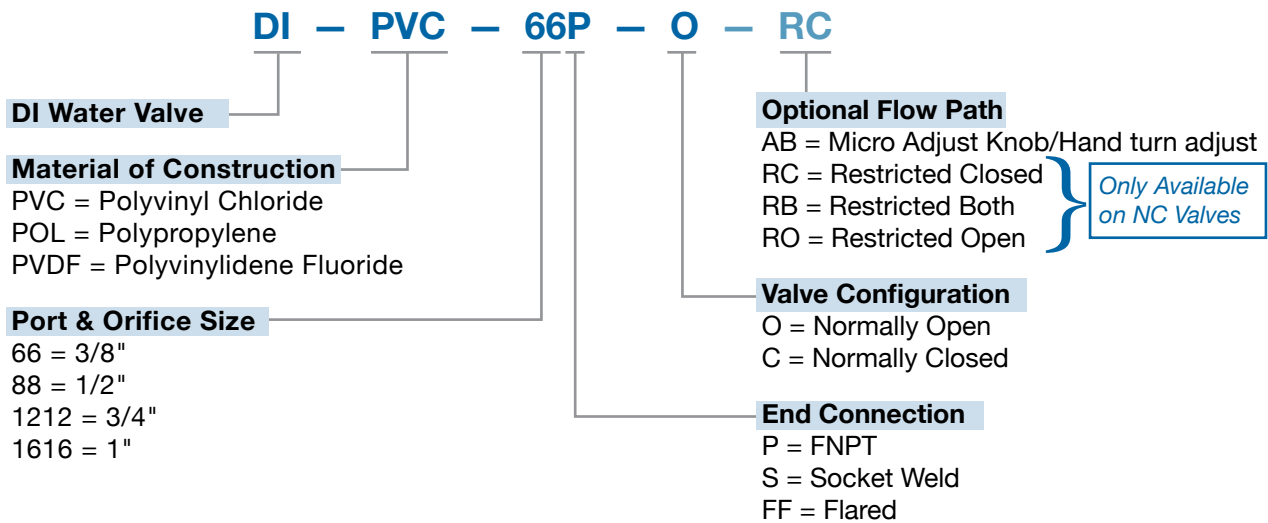
The DI Valve is formally known as the "MP" Multi - Purpose Valve. Call iPolymer for special configurations.

DI Valve Specifications	PVC Model	Polypro Model	PVDF Model
Valve Type	2-Way NO or NC	2-Way NO or NC	2-Way NO or NC
Port & Orifices Available	3/8", 1/2", 3/4" & 1"	3/8", 1/2", 3/4" & 1"	3/8", 1/2", 3/4" & 1"
Fluid Max Pressure (psi) @ 70°F	75 psi	75 psi	75 psi
Media Backpressure (psi) @ 70°F	30 psi	30 psi	30 psi
Fluid Temperature Range	32°F to 140°F	32°F to 160°F	32°F to 212°F
Ambient Temperature Range	32°F to 120°F	32°F to 140°F	32°F to 175°F
Acuation Pressure (psi)	40 psi to 80 psi	40 psi to 80 psi	40 psi to 80 psi



Port & Orifice	Cv Factor	Dim "A"	Dim "B"	Dim "C"
3/8"	2.1	2.75	3.56	2.38
1/2"	2.8	2.75	3.56	2.38
3/4"	7.5	4.00	5.91	3.25
1"	13.5	4.00	5.91	3.25

## DI Water Valve: ORDERING FORMAT



### iPolymer Product Notes:

1. Please email Customer Service at info@ipolymer.com
2. Call us for special applications. We can manufacture our Valves with special mounting and interface dimensions.
3. Upon request, alternate material selection from those listed will allow for expanding temperature ratings or other performance characteristics.
4. Unauthorized disassembly of this product will void the original factory one-year product warranty. For further details please contact your local Distributor or our factory directly.

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**iPolymer Water Valve (WV)** is manufactured in two material choices: Polypropylene or PVDF. The valve has a spring return and is pneumatically actuated to open or close depending upon the model. The valve is compact and comes with four tapped holes on the base for ease of mounting.

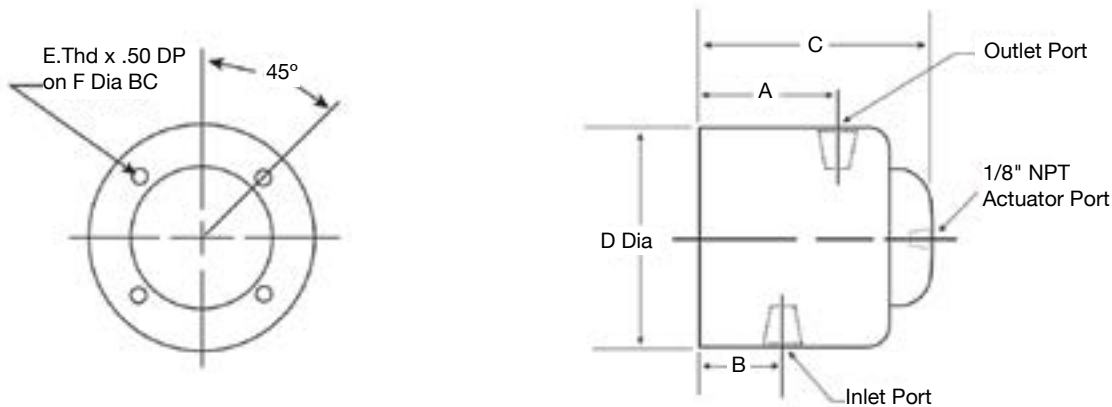
### Applications

The iPolymer Water Valve is primarily used for purified water applications, DI water applications and controlled process tank applications. The Polypropylene and PVDF configurations of this valve can be used for numerous mild chemical applications. These include rinsing, blending, and other pneumatically controlled process applications.



### Specifications

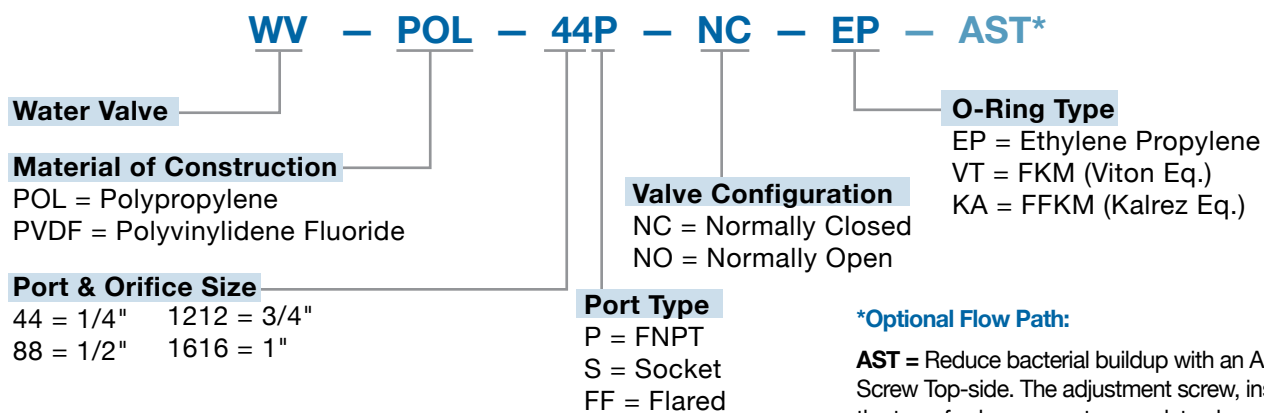
Size	1/4" Orifice	1/2" Orifice	3/4" Orifice	1" Orifice
Cv	0.8	2.8	7.5	13.5
Max Pressure Inlet	80 psi	80 psi	60 psi	60 psi
Max Media Temperature				
Poly		140°F / 60°C		
PVDF		212°F / 100°C		
Actuator Pressure (min/max)		35 / 70 psi		



Size	A	B	C	D Dia	E Thd	F Dia
1/4"	1.52	1.00	2.44	2.25	1/4" - 20 UNC-2B	1.81
1/2"	1.69	.96	2.78	2.75	1/4" - 20 UNC-2B	2.00
<b>1/2"</b>	<b>1.15</b>	<b>1.15</b>	<b>2.25</b>	<b>2.75</b>	<b>1/4" - 20 UNC-2B</b>	<b>2.00</b>
3/4"	2.28	1.33	3.66	3.00	1/4" - 20 UNC-2B	2.50
1"	2.83	1.69	4.43	4.00	1/4" - 20 UNC-2B	3.44

**Low Profile** = Low Profile (in line) water valve - see IWV ordering format information below.

## Water Valve: ORDERING FORMAT



### \*Optional Flow Path:

**AST** = Reduce bacterial buildup with an Adjustment Screw Top-side. The adjustment screw, installed at the top of valve, prevents complete closure thereby allowing a controlled drip. Ideal for DI Water applications. Only available to "NO" configurations.

**ASB** = Create a metering effect with an Adjustment Screw Bottom-side. The adjustment screw, installed at the bottom of the valve, meters the orifice opening. Only available to "NC" configurations.

**ATB** = Combine both optional features into one valve (AST + ASB) with Adjustment Screws Top-side & Bottom-side for both controlled drip and orifice metering. Only available to "NC" configurations.

IWV	POL	2C8	EP
INLINE (Low Profile) WATER VALVE	Materials of Construction POL = Polypropylene PVDF = Polyvinylidene Fluoride	Valve Configuration 1/2" 2 Way Normally Closed	O-Ring Type EP = Ethylene Propylene VT = Viton KA = Kalrez

### iPolymer Product Notes:

- Please email Customer Service at [info@ipolymer.com](mailto:info@ipolymer.com)
- Call us for special applications. We can manufacture our Valves with special mounting and interface dimensions.
- Upon request, alternate material selection from those listed will allow for expanding temperature ratings or other performance characteristics.
- Unauthorized disassembly of this product will void the original factory one-year product warranty. For further details please contact your local Distributor or our factory directly.

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**The iPolymer Drain Valve (DV)** is a large orifice valve capable of handling large volumes of corrosive fluids via an all non-metallic wetted surface. For cost efficiency this valve is fabricated from PVC or Polypropylene. However, it is available in PVDF or PTFE, with Kalrez O-rings.

This valve is also available in 2, 3 and 4 way configurations with each port operating independently. The “DV” can be operated either by air to open/air to close or by spring return. Either operating method can be specified in the ordering format. Custom configurations available.

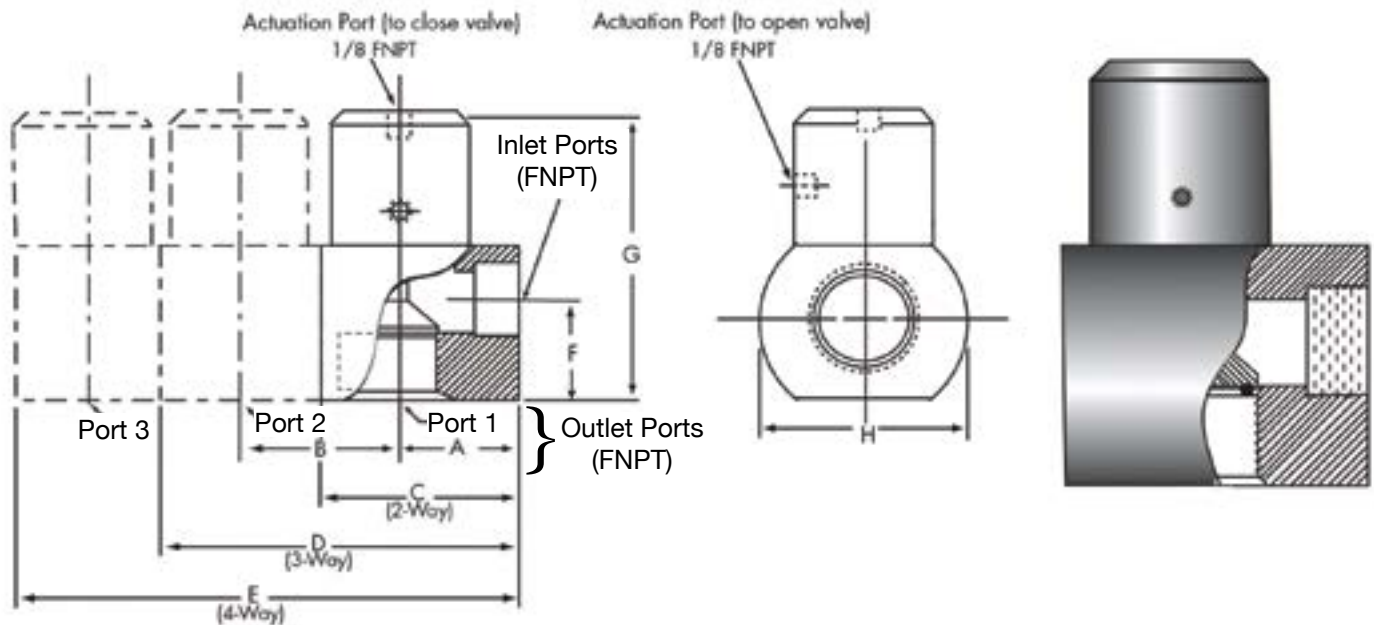


## Applications

Primarily used for quick draining and filling of process tanks which contain mild solutions or DI water. For hard to handle media the “DV” valve, machined from PVDF or PTFE, is the perfect solution.

### Specifications:

<b>Inlet Media Pressure</b>	20 psi
<b>Media Temperature</b>	
PVC	140°F/60°C
Polypropylene	160°F/70°C
PVDF	212°F/100°C
PTFE	284°F/140°C ( <i>consult factory</i> )
<b>Actuation Pressure</b>	45 - 60 psi
<b>O-Ring Material</b>	Ethylene Propylene ( <i>standard</i> ) Viton or Kalrez® FFKM equiv.



Port Size	A	B	C	D	E	F	G	H Dia
3/4"	2.16	2.56	3.50	6.07	8.63	1.88	5.43	4.00
1"	2.16	2.56	3.50	6.07	8.63	1.88	5.43	4.00
1.5"	2.31	3.07	3.88	6.88	9.88	1.97	5.97	4.00
2"	3.00	3.50	4.81	8.31	11.81	2.37	7.70	5.00

## Drain Valve: ORDERING FORMAT

**DV 2 - PVC - 16 - C - EP**

### Drain Valve

### Valve Configuration

2 = 2 Way (1 actuator)  
 3 = 3 Way (2 actuator)  
 4 = 4 Way (3 actuator)

### Material of Construction

PVC = Polyvinyl Chloride  
 POL = Polypropylene  
 PVDF = Polyvinylidene Fluoride  
 PTFE = Polytetrafluoroethylene

### Port & Orifice Size

12 = 3/4"  
 16 = 1"  
 24 = 1 1/2"  
 32 = 2"

### O-Ring Type

EP = Ethylene Propylene  
 VT = FKM (Viton Eq.)  
 KA = FFKM (Kalrez Eq.)

### Porting Configuration

C = Spring to Close, Air to Open  
 O = Spring to Open, Air to Close  
 A = Air to open, Air to Close

### 4-WAY example:

COA = (C=Port 1, O=Port 2, A=Port 3) shown upper left corner

### 3-WAY example:

CO = (C=Port 1, O=Port 2) shown upper left corner

### iPolymer Product Notes:

1. Please email Customer Service at [info@ipolymer.com](mailto:info@ipolymer.com)
2. Call us for special applications. We can manufacture our Valves with special mounting and interface dimensions.
3. Upon request, alternate material selection from those listed will allow for expanding temperature ratings or other performance characteristics.
4. Unauthorized disassembly of this product will void the original factory one-year product warranty. For further details please contact your local Distributor or our factory directly.

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international polymer solutions inc. • manufacturer of high purity fluid handling products  
[www.ipolymer.com](http://www.ipolymer.com) • [info@ipolymer.com](mailto:info@ipolymer.com)

**Our Quick Dump ("QD") Valves**

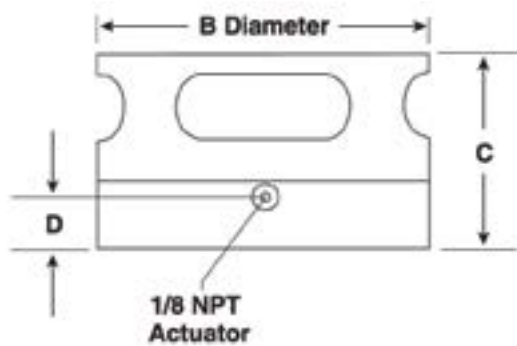
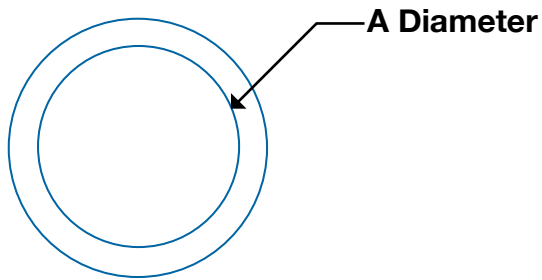
are designed to rapidly drain process tanks. Constructed from high-purity polymers, which are selected to meet your application needs, our Quick Dump Valves are available in Polypropylene (POL) or Polyvinylidene Fluoride (PVDF). These valves are designed to be welded directly to the underside (bottom) of tanks. Our Quick Dump Valves are available con-



figured with either O-Ring Seats or Domed Hard Seats. The Domed Hard Seat design prevents ponding/puddling of media on the valve piston and allows for a slight trickle of fluid. This plunger-style valve is very compact, while still configured with optional Air-to-Open/Spring-to-Close or Air-to-Open/Air-to-Close actuation.

Quick Dump Configuration	2"	4"
<b>Actuation Pressure – PSI (Min / Max)</b>	60 / 70	45 / 55
<b>Media Temperature</b>		
<b>Polypropylene – °F (Min / Max)</b>	30 / 140	30 / 140
<b>PVDF – °F (Min / Max)</b>	20 / 212	20 / 212
<b>Approximate Dump Rate (GPM @ 1ft Head)</b>	30	60

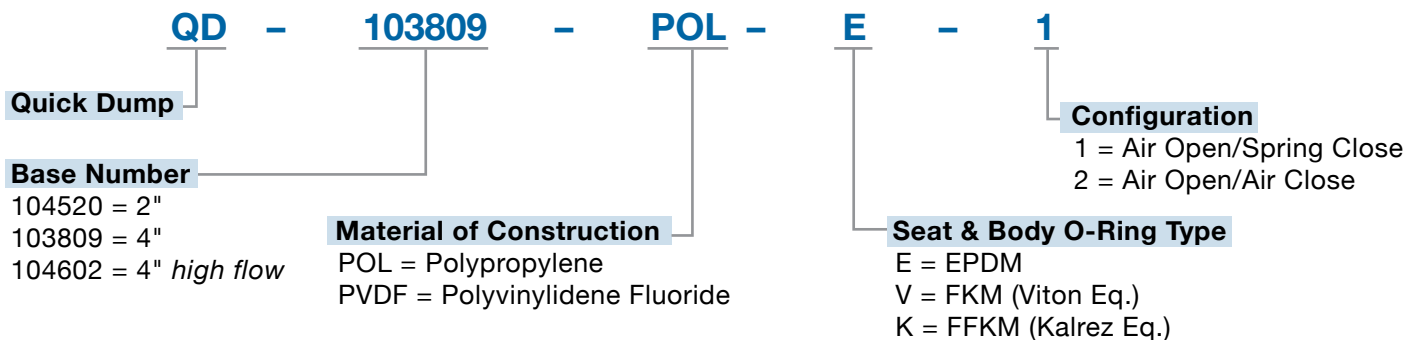
*Installation Instructions:* At time of installation actuate valve at full actuation pressure and hold pressure while welding body in place.



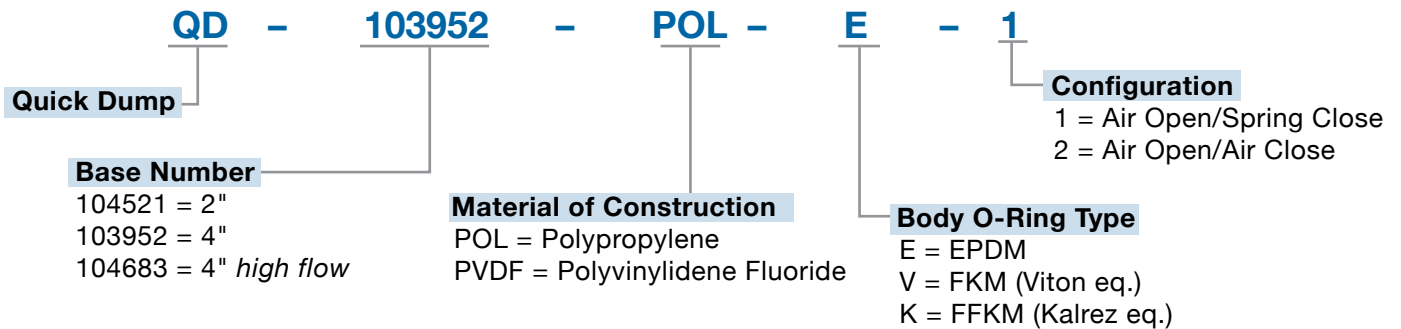
Size	Seat	Base	A	B	C	D
2"	O-Ring	104520	2"	3"	3.0"	.78"
2"	Hard	104521	2"	3"	3.0"	.78"
4"	O-Ring	103809	4"	5"	3.0"	.78"
4"	Hard	103952	4"	5"	3.0"	.78"
4" (high flow)	O-Ring	104602	4"	5"	4.0"	1.43"
4" (high flow)	Hard	104683	4"	5"	4.0"	1.43"

## Quick Dump Valves: ORDERING FORMAT

### O-Ring Seat



### Hard Seat



#### iPolymer Product Notes:

1. Please email Customer Service at [info@ipolymer.com](mailto:info@ipolymer.com)
2. Call us for special applications. We can manufacture our QD Valves with special mounting and interface dimensions.
3. Upon request, alternate material selection from those listed will allow for expanding temperature ratings or other performance characteristics.
4. Unauthorized disassembly of this product will void the original factory one-year product warranty. For further details please contact your local Distributor or our factory directly.

200304

international polymer solutions inc. • manufacturer of high purity fluid handling products  
[www.ipolymer.com](http://www.ipolymer.com) • [info@ipolymer.com](mailto:info@ipolymer.com)





# PTFE PRESSURE REGULATOR

Our **iPolymer PTFE Pressure Regulator** is designed for use in high purity water and aggressive chemical applications.

Designed with a 100% virgin PTFE wetted flow path, the unit is ideal for DI Water Systems and corrosive media found in solar, semiconductor, pharmaceutical and chemical process applications.

All configurations are fitted for Panel Mounting with easy-to-grip Adjustment Knob.

The Teflon coated stainless steel adjustment screw is configured for low torque reliable manual operation.

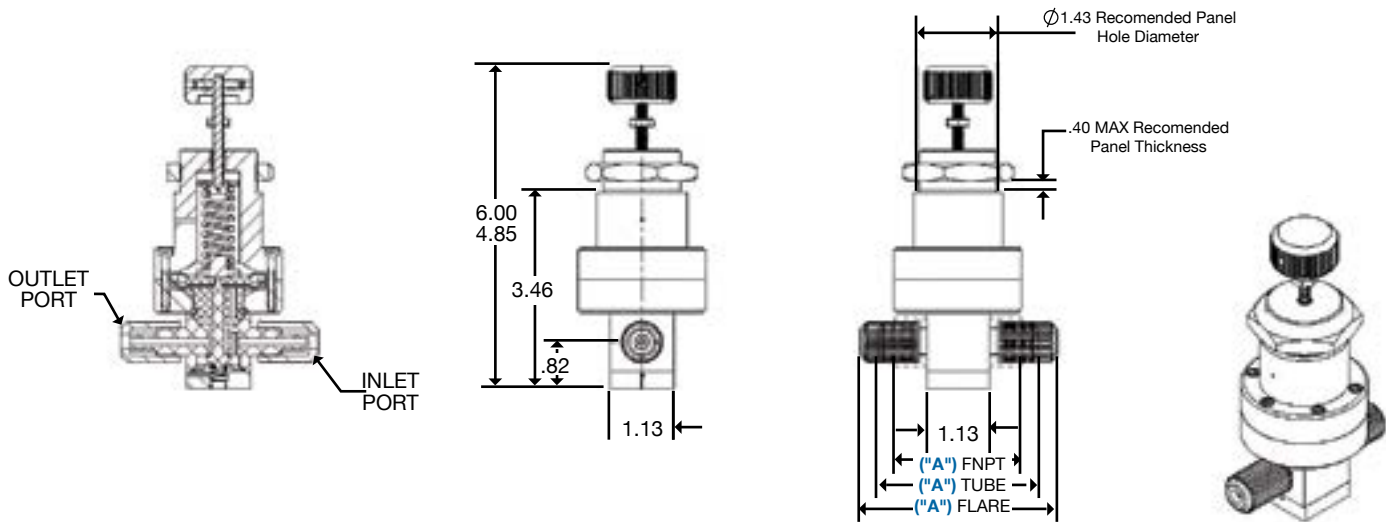


Other sizes and configurations are available on request.

## Specification:

Materials of Construction:	Temperature Ranges:
<ul style="list-style-type: none"> <li>Wetted Surfaces: Machined 100% Virgin PTFE &amp; TFM</li> <li>Non Wetted Materials: PVDF, Brass, Polypro, SS</li> <li>Regulating Springs: Coated Steel</li> </ul>	<ul style="list-style-type: none"> <li>32°F - 140°F (0°C - 60°C) Ambient</li> <li>32°F - 212°F (0°C - 100°C) Media</li> </ul>
Pressure Ranges:	
<ul style="list-style-type: none"> <li>Maximum Inlet Pressure: 90 psi.</li> <li>Minimum Regulated Pressure: 3 psi.</li> <li>Two factory set pressure regulating options: LO = 0 to 40 psi and HI = 30 to 60 psi.</li> <li>Referenced pressure ranges are listed for normal media temperature conditions.</li> <li>Consult factory for pressure ranges when operating with media temperatures greater than 160°F.</li> </ul>	





## PTFE Pressure Regulator: ORDERING FORMAT

**PRG - 2 2 - P - HI** →

LO = Represents the factory set low pressure range of 0 psi to 40 psi.  
HI = Represents the factory set high pressure range of 30 psi to 60 psi.

PORT SIZE & ORIFICE SIZE			PORT TYPE		"A" Dim
Callout	Port Size	Orifice Size	Callout	Port Type	Ref Inches
21	2 = (1/8")	1 = (1/16")	T	TUBE	2.85
43	4 = (1/4")	3 = (3/16")	T	TUBE	2.85
65	6 = (3/8")	5 = (5/16")	T	TUBE	2.95
22	2 = (1/8")	2 = (1/8")	P	FNPT	1.85
44	4 = (1/4")	4 = (1/4")	P	FNPT	2.25
64	6 = (3/8")	4 = (1/4")	P	FNPT	2.25
42	4 = (1/4")	2 = (1/8")	F	FLARE	3.45
64	6 = (3/8")	4 = (1/4")	F	FLARE	3.45

Turn the Adjustment Knob clockwise to increase the regulator outlet pressure.

Turn the Adjustment Knob counter-clockwise to decrease the regulator outlet pressure.

Do not over torque the Adjustment Knob against the travel stop.

### iPolymer Product Notes:

1. Please email Customer Service at [info@ipolymer.com](mailto:info@ipolymer.com)
2. Call us for special applications. We can manufacture our regulators with special mounting and interface dimensions.
3. Upon request, alternate material selection from those listed will allow for expanding temperature ratings or other performance characteristics.
4. Unauthorized disassembly of this product will void the original factory one-year product warranty. For further details please contact your local Distributor or our factory directly.

200304

**Our iPolymer Pressure Relief Valve (PRV)**

is constructed with a 100% pure PTFE Valve Body and Valve Plug. The single O-Ring design allows user selection of EP, FKM (Viton Eq.) or FFKM (Kalrez Eq.) depending on the flowing media.

The iPolymer PRV is factory configured for a 10 psi to 90 psi pressure range.



The relief valve is fully adjustable within this range by simply adjusting the upper Socket Hex Adjustment Screw and locking in place with the associated locking nut.

Our iPolymer Pressure Relief Valve is configured with three Upper Housing and Lower Base options: Polyvinylidene Fluoride (“PVDF”), Polypropylene (“PP”) or Anodized Aluminum (“AA”) as shown.

**Applications**

- Pump Pressure Relief
- Expansion Container Pressure Relief
- Flow Channel Pressure Relief
- Safety Relief from water hammer
- System protection for individual low pressure component in circuit

**Features:**

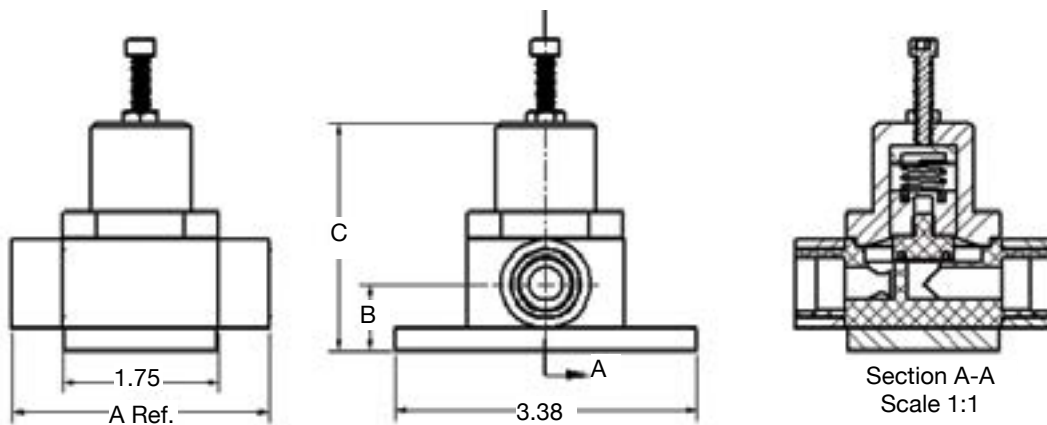
- All Wetted High-Purity Flow Path
- Ideal for Harsh Chemicals
- Fully Adjustable within an 80 psi selected range
- Teflon Coated Spring is isolated from media

**Options:**

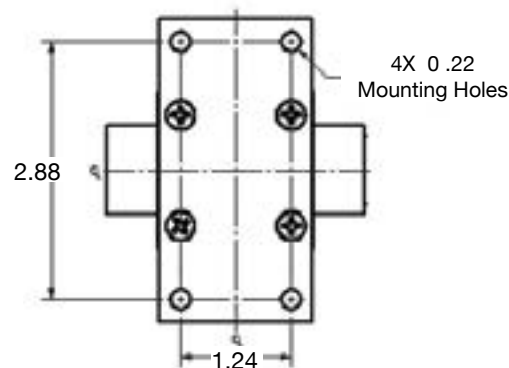
- Low Range Specifications are available (3 - 25 psi range).

Call Factory with Special Requests

Temperature Range	
Ambient	
AA	0°C - 150°C
PVDF	0°C - 100°C
PP	0°C - 60°C
Media	
AA	0°C - 150°C
PVDF	0°C - 100°C
PP	0°C - 60°C



PORT	A	B	C
1/4" Pipe	2.87	0.75	2.55
1/4" Tube	3.44	0.75	2.55
1/4" Flared	4.07	0.75	2.55
3/8" Pipe	2.87	0.75	2.55
3/8" Tube	3.44	0.75	2.55
3/8" Flared	4.09	0.75	2.55
1/2" Pipe	3.25	0.84	2.73
1/2" Tube	3.65	0.84	2.73
1/2" Flared	4.34	0.84	2.73



## Pressure Relief Valve: ORDERING FORMAT

**PRV - 4 4 P - EP - AA - 25**

### Porting w/ Max Orifice

PIPE	
44	1/4" FNPT & 0.250" Orifice
66	3/8" FNPT & 0.375" Orifice
86	1/2" FNPT & 0.375" Orifice
TUBE	
43	1/4" TUBE & 0.188" Orifice
65	3/8" TUBE & 0.313" Orifice
86	1/2" TUBE & 0.375" Orifice
FLARE	
42	1/4" FLARE & 0.125" Orifice
64	3/8" FLARE & 0.250" Orifice
86	1/2" FLARE & 0.375" Orifice

**Low Range Pressure (3-25 psi)**

### Upper Housing & Base Plate

AA = Anodized Aluminum  
 PP = Polypropylene  
 PVDF = Polyvinylidene Fluoride

### O-Ring Type

EP = EPDM  
 KA = FFKM (Kalrez Eq.)  
 VT = FKM (Viton Eq.)

### Port Connection

P = FNPT  
 T = Tube  
 FF = Flare

Sanitary End and Male NPT Connections are available as special orders

### iPolymer Product Notes:

1. Please email Customer Service at [info@ipolymer.com](mailto:info@ipolymer.com)
2. Call us for special applications. We can manufacture our Valves with special mounting and interface dimensions.
3. Upon request, alternate material selection from those listed will allow for expanding temperature ratings or other performance characteristics.
4. Unauthorized disassembly of this product will void the original factory one-year product warranty. For further details please contact your local Distributor or our factory directly.

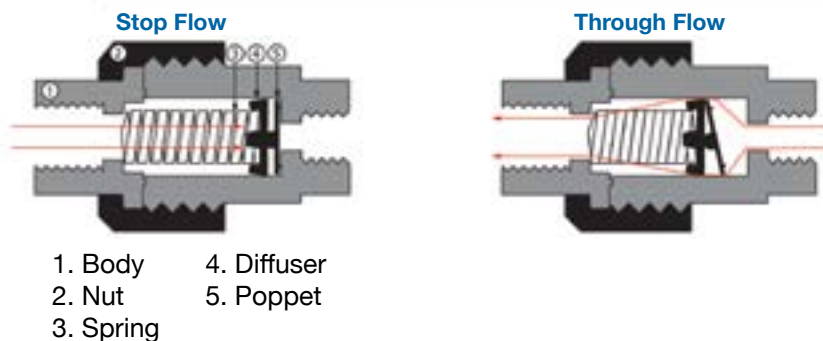
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Our **iPolymer Check Valve** features all PTFE wetted surfaces for excellent performance in all high purity applications. Our PTFE design resists chemical corrosion and other elements within harsh process environments.

iPolymer Check Valves are commonly found as backflow preventers in clean processes. They are a simple and ideal device where directional flow control is a must.

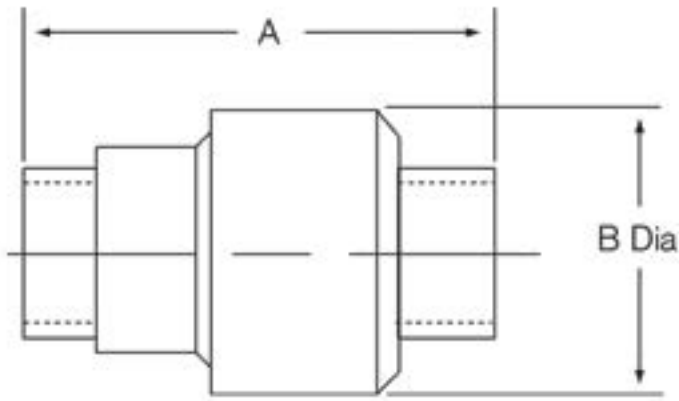
Depending on the check valve size selected and cracking pressure, some external non-wetted components may include Polypropylene or PVDF. The special internal control spring for 3 psi to 6 psi (nominal 5 psi) cracking pressure is machined virgin PTFE for the 1/8" to 1/2" units. Whereas, for higher cracking pressures the spring construction is Teflon Coated 316 Stainless Steel precision ground.

Please contact us with your special application requirements. Special PEEK, PVDF and Polypro configurations are available upon request.



Specifications	- 5	- 10	- 20
<b>Cracking Pressure</b>	3 - 6 psi	7 - 13 psi	17- 23 psi
<b>Max Operating Pressure</b>	50 psi	50 psi	50 psi
<b>Media Temperature</b>	212° F / 100° C	212° F / 100° C	212° F / 100° C
<b>Ambient Temperature</b>	140° F / 60° C	140° F / 60° C	140° F / 60° C
<b>Spring</b>	1/8" - 1/2" PTFE 3/4" - 1" 316 SS Teflon Coated	316 Stainless Steel Teflon Coated	316 Stainless Steel Teflon Coated

\* 1 psi required to reseal



Custom configurations are available

Inlet & Outlet Port Size	Dim A			B
	PIPE	TUBE	FLARE	
1/8"	2.08	2.86	-	1.25
1/4"	2.44	3.01	3.60	1.25
3/8"	2.74	3.34	4.02	1.75
1/2"	3.12	3.52	4.22	1.75
3/4"	4.57	5.31	6.07	2.76
1"	4.95	5.75	6.57	2.76



### Check Valve: ORDERING FORMAT

**CV - 2 - 2 - P - 05**

Check Valve

Cracking Pressure  
 05 = 3 psi to 6 psi  
 10 = 7 psi to 13 psi  
 20 = 17 psi to 23 psi

End Connection  
 P = FNPT  
 T = Tube  
 F = Flared  
 M = MNPT

	Orifice & Port Size		
	PIPE	TUBE	FLARE
<b>2-2</b>	.125" Orifice & 1/8" NPT	.063" Orifice & 1/8" Tube	-
<b>4-4</b>	.250" Orifice & 1/4" NPT	.188" Orifice & 1/4" Tube	.125" Orifice & 1/4" Flare
<b>6-6</b>	.375" Orifice & 3/8" NPT	.313" Orifice & 3/8" Tube	.250" Orifice & 3/8" Flare
<b>8-8</b>	.500" Orifice & 1/2" NPT	.436" Orifice & 1/2" Tube	.375" Orifice & 1/2" Flare
<b>12-12</b>	.750" Orifice & 3/4" NPT	.688" Orifice & 3/4" Tube	.592" Orifice & 3/4" Flare
<b>16-16</b>	1.00" Orifice & 1" NPT	.938" Orifice & 1" Tube	.875" Orifice & 1" Flare

**iPolymer Product Notes:**

1. Please email Customer Service at info@ipolymer.com
2. Call us for special applications.
3. Upon request, alternate material selection from those listed will allow for expanding temperature ratings or other performance characteristics.
4. Unauthorized disassembly of this product will void the original factory one-year product warranty. For further details please contact your local Distributor or our factory directly.

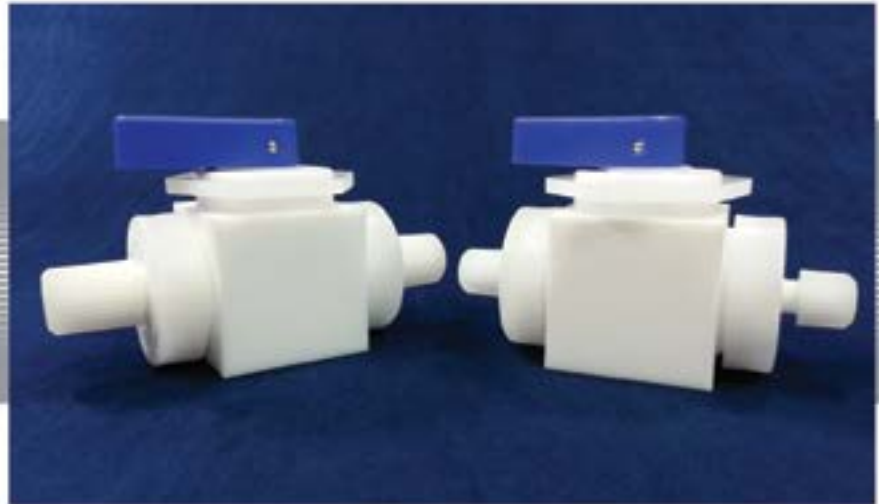
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Our **iPolymer Ball Valve** features an all PTFE wetted surface design. The design is ideally suited for harsh chemical and corrosive media applications.

Polytetrafluoroethylene (PTFE), commonly known by its popular E.I. DuPont trade name TEFLON®, is also well suited to clean room and deionized water applications.

The body, stem, ball and ports are constructed from PTFE. For standard applications, external non wetted components are constructed from Natural PVDF and Polypropylene.



*Contact iPolymer for special applications, including high ambient temperatures and corrosive atmospheres.*

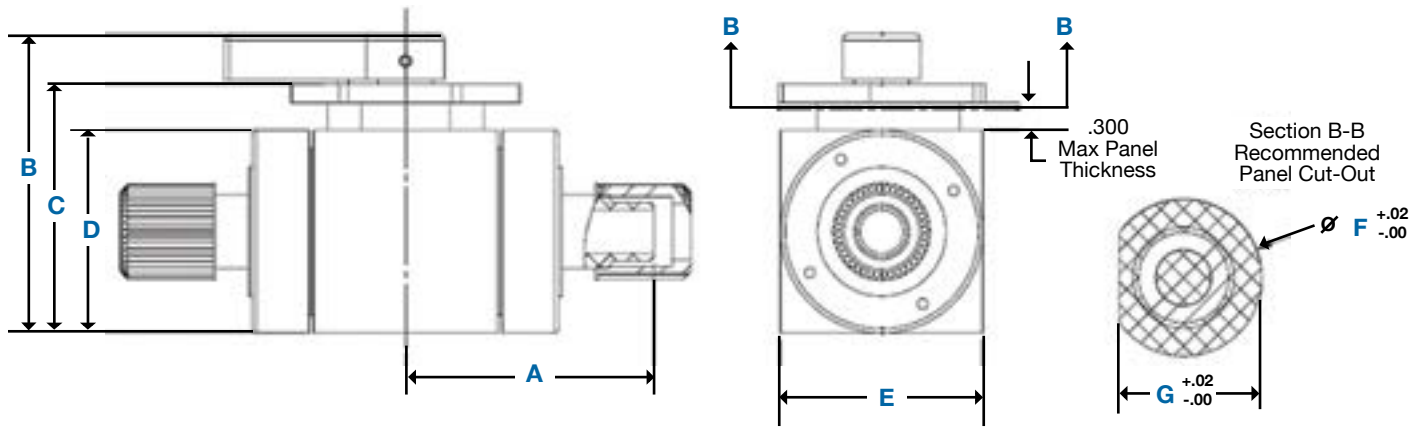
*Metric sizes are available upon request.*

### Features:

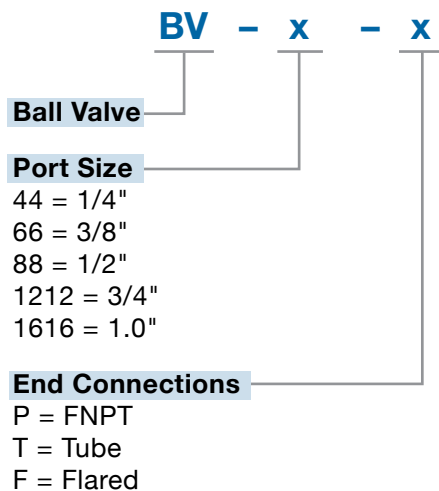
- PTFE construction for media wetted surfaces.
- Reliable low torque manual operation.
- Quarter Turn with Positive Stops.
- Design accommodates partial open position for metered flow.
- All models can be panel mounted.
- All models can be used in high ambient temperature environments.

### Specification:

<b>Standard Port Configurations</b>	1/4" • 3/8" • 1/2" • 3/4" • 1"
<b>Connection Types</b>	Female NPT • Tube • Flared
<b>Media Operating Pressure</b>	120 psi max • 25 in Hg vacuum
<b>Media Operating Temperature</b>	212°F (100°C) max • 32°F (0°C) min
<b>Ambient Temperature</b>	140°F (60°C) max • 32°F (0°C) min



## PTFE Ball Valves: ORDERING FORMAT



Product Configuration	A	B	C	D	E	F	G
1/4" FNPT	1.62	3.18	2.50	2.00	2.00	1.82	1.69
1/4" Tube	2.12	3.18	2.50	2.00	2.00	1.82	1.69
1/4" Flare	2.62	3.18	2.50	2.00	2.00	1.82	1.69
3/8" FNPT	1.62	3.18	2.50	2.00	2.00	1.82	1.69
3/8" Tube	2.12	3.18	2.50	2.00	2.00	1.82	1.69
3/8" Flare	2.62	3.18	2.50	2.00	2.00	1.82	1.69
1/2" FNPT	1.62	3.18	2.50	2.00	2.00	1.82	1.69
1/2" Tube	2.18	3.18	2.50	2.00	2.00	1.82	1.69
1/2" Flare	2.72	3.18	2.50	2.00	2.00	1.82	1.69
3/4" FNPT	2.13	4.06	3.38	2.75	2.75	2.13	1.94
3/4" Tube	2.75	4.06	3.38	2.75	2.75	2.13	1.94
3/4" Flare	3.38	4.06	3.38	2.75	2.75	2.13	1.94
1" FNPT	2.13	4.06	3.38	2.75	2.75	2.13	1.94
1" Tube	3.12	4.06	3.38	2.75	2.75	2.13	1.94
1" Flare	3.62	4.06	3.38	2.75	2.75	2.13	1.94

### iPolymer Product Notes:

1. Please email Customer Service at [info@ipolymer.com](mailto:info@ipolymer.com)
2. Call us for special applications. We can manufacture our Valves with special mounting and interface dimensions.
3. Upon request, alternate material selection from those listed will allow for expanding temperature ratings or other performance characteristics.
4. Unauthorized disassembly of this product will void the original factory one-year product warranty. For further details please contact your local Distributor or our factory directly.

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**Stopcock Valves** are precision machined devices that function in much the same way as a ball valve. When the handle points in the direction of flow, the valve is fully open; when the handle points perpendicular to the direction of flow, the valve is fully closed; and at the 45° position the valve is halfway open and thereby has a metering effect on the media flow.



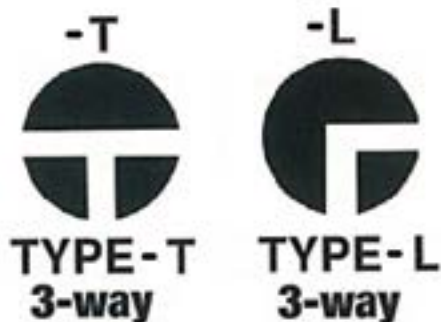
The iPolymer Stopcock features an all PTFE wetted surface design. The design is ideally suited for harsh chemical and corrosive media and environments. Polytetrafluoroethylene (PTFE), commonly known by its popular E.I. DuPont trade name TEFLON®, is also well suited to clean room and deionized water applications.

The body, stem and ports are constructed from PTFE. For standard applications, external non wetted components are constructed from Polypropylene. All configurations are optionally available as Panel Mounted and/or High Ambient Temperature models.

- Call iPolymer for:**
- Metric Tube End options
  - Male Pipe End options
  - Sanitary Connection options

Stopcock Specifications	
Media Pressure	60 psi
Media temperature	100° C / 212° F
Ambient temperature	60° C / 140° F
All Wetted Surfaces	Virgin PTFE

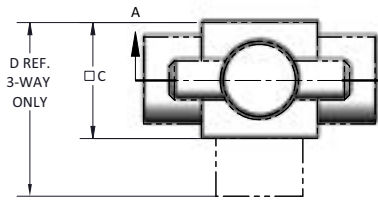
### Valve Stem Configuration



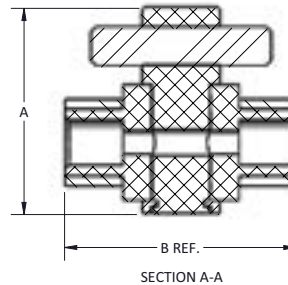
## Stopcock Valve: ORDERING FORMAT

- 4-Way Stopcock Valves are available. Please call iPolymer to properly configure your selection.
- The valve flow orifice is governed by your port end connections (FNPT, Tube or Flared) unless requested otherwise. Please call iPolymer to configure a restrictive Valve Stem Orifice.
- Maximum torque to turn/actuate stop cock approximately 25 in-lbs. Torque varies based on valve size and other factors.

Port Size	Port Type	Orifice	Body Style	Part No.
1/8"	FNPT	0.11	2-WAY	SC-400
			3-WAY	SC-401
	TUBE	0.09	2-WAY	SC-403
			3-WAY	SC-404
1/4"	FNPT	0.23	2-WAY	SC-500
			3-WAY	SC-501
	TUBE	0.19	2-WAY	SC-503
			3-WAY	SC-504
	FLARE	0.13	2-WAY	SC-506
			3-WAY	SC-507
3/8"	FNPT	0.28	2-WAY	SC-600
			3-WAY	SC-601
	TUBE	0.27	2-WAY	SC-609
			3-WAY	SC-610
	FLARE	0.25	2-WAY	SC-612
			3-WAY	SC-613
1/2"	FNPT	0.44	2-WAY	SC-700
			3-WAY	SC-701
	TUBE	0.39	2-WAY	SC-709
			3-WAY	SC-710
	FLARE	0.38	2-WAY	SC-712
			3-WAY	SC-713
3/4"	FNPT	0.45	2-WAY	SC-800
			3-WAY	SC-801
	TUBE	0.45	2-WAY	SC-809
			3-WAY	SC-810
	FLARE	0.45	2-WAY	SC-812
			3-WAY	SC-813



3-WAY SC VALVE



PANEL MOUNT OPTION

### Basic Dimensions

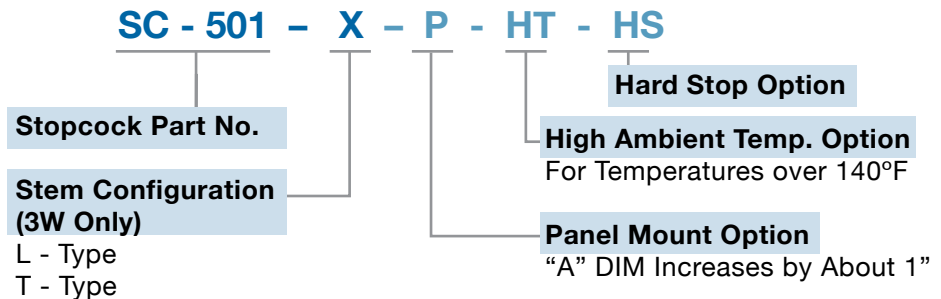
Series	Dim A	Dim B	Dim C	Dim D	PM Hole Size	Max Panel Thickness
SC-400	1.63	1.76	1.00	1.38	0.70	0.30
SC-500	2.00	2.25	1.13	1.69	0.90	0.30
SC-600	2.13	2.62	1.50	2.06	1.03	0.43
SC-700	2.33	3.25	1.88	2.57	1.40	0.43
SC-800	3.25	3.75	2.25	3.00	1.78	0.43

- For Flared Connections add ~3/8" per port.

#### Options:

- Add "-P" to the end of the Part Number to specify a Panel Mount configuration.
- Add "-HT" to the end of the Part Number for high ambient temperature conditions. This is only required for room temperatures above 140°F. The external non wetted components are changed to PVDF.
- Add "-HS" to the end of the Part Number for quarter turn hard stop.

## PTFE Stopcocks: ORDERING FORMAT



#### iPolymer Product Notes:

1. Please email Customer Service at info@ipolymer.com
2. Call us for special applications. We can manufacture our Valves with special mounting and interface dimensions.
3. Upon request, alternate material selection from those listed will allow for expanding temperature ratings or other performance characteristics.
4. Unauthorized disassembly of this product will void the original factory one-year product warranty. For further details please contact your local Distributor or our factory directly.

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### iPolymer Metering Valves (MV)

use a tapered plug-stem to give a fine adjustment to the flow in addition to a full, open, or positive shutoff position.

Our Metering Valves come in two configurations: Straight Flow Pattern (standard) and Angled Flow Pattern (special). iPolymer Metering Valves are considered low pressure valves.

The PTFE all-wetted surface design works equally well with ultra clean DI water and harsh chemical media. As with all Metering Valves, we recommend filtering the media prior to entering the valve.



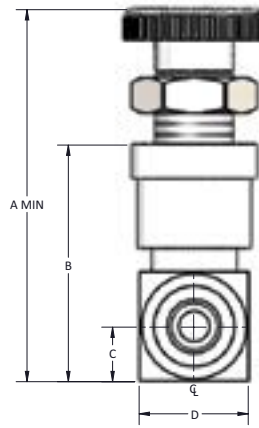
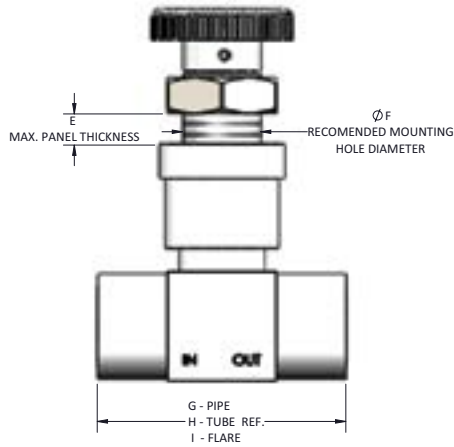
### Specifications:

<b>Media Pressure</b>	25 in -Hg to 60 psi maximum
<b>Media Temperature</b>	0°C (32°F) to 100°C (212°F)
<b>Ambient Temperature</b>	0°C (32°F) to 60°C (140°F)

### Metering Valve Flow Characteristics:

Metering Valve Orifice	Maximum Flow H2O (gpm)	Maximum Flow Air (scfm)	Turns Full Open Valve
0.094" Orifice	0.24	1.42	5 ±1
0.125" Orifice	0.50	2.95	5 ±1
0.188" Orifice	0.99	5.10	10 ±1
0.250" Orifice	1.05	5.53	10 ±1
0.313" Orifice	3.55	18.93	10 ±1
0.375" Orifice	4.12	22.38	10 ±1
0.438" Orifice	7.40	38.88	10 ±1
0.500" Orifice	8.07	41.02	10 ±1

H2O & Air Flow based on nominal 70°F DI Water & Shop Air at 50 psi



STRAIGHT FLOW PATTERN



ANGLED FLOW PATTERN

Size	A	B	C	D	E	F	G	H	I
1/8"	2.92	1.77	0.38	0.75	0.25	0.64	1.50	1.50	n/a
1/4"	3.05	1.90	0.44	0.88	0.25	0.64	2.00	2.00	2.88
3/8"	4.56	2.61	0.60	1.62	0.69	1.13	2.75	2.75	3.63
1/2"	4.81	2.75	0.72	1.62	0.69	1.13	3.13	2.75	3.82

## Metering Valve: ORDERING FORMAT

**MV - 22 P - A**

**Metering Valve**

**Port & Orifice Size**

### Porting w/ Max Orifice

PIPE	
22	1/8" NPT & 0.125" Orifice
44	1/4" NPT & 0.250" Orifice
66	3/8" NPT & 0.375" Orifice
88	1/2" NPT & 0.500" Orifice
TUBE	
21	1/8" TUBE & 0.094" Orifice
43	1/4" TUBE & 0.188" Orifice
65	3/8" TUBE & 0.313" Orifice
87	1/2" TUBE & 0.438" Orifice
FLARE	
42	1/4" FLARE & 0.125" Orifice
64	3/8" FLARE & 0.250" Orifice
86	1/2" FLARE & 0.375" Orifice

### Orientation

A = Straight Flow Pattern  
B = Angled Flow Pattern

### Port Configuration

P = Pipe Female NPT  
M = Pipe Male NPT  
T = Tube  
FF = Fractional Flare

If you do not find your configuration available please call the iPolymer factory

### iPolymer Product Notes:

1. Please email Customer Service at [info@ipolymer.com](mailto:info@ipolymer.com)
2. Call us for special applications. We can manufacture our Valves with special mounting and interface dimensions.
3. Upon request, alternate material selection from those listed will allow for expanding temperature ratings or other performance characteristics.
4. Unauthorized disassembly of this product will void the original factory one-year product warranty. For further details please contact your local Distributor or our factory directly.

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[www.ipolymer.com](http://www.ipolymer.com) • [info@ipolymer.com](mailto:info@ipolymer.com)



The **iPolymer Precision Plug Valve (PPV)** is a precision machined manual valve manufactured from 100% virgin PTFE (all wetted surfaces) with PVDF Stem Nut. The PTFE body and stem perform equally well with harsh chemicals and ultra clean DI water.

The valve construction includes a tapered body which matches a tapered plug for improved positive shut-off.

Various orifice and port sizes are available as standard items. Other sizes and configurations are available on request.



Our Precision Plug Valve are supplied in two configurations:

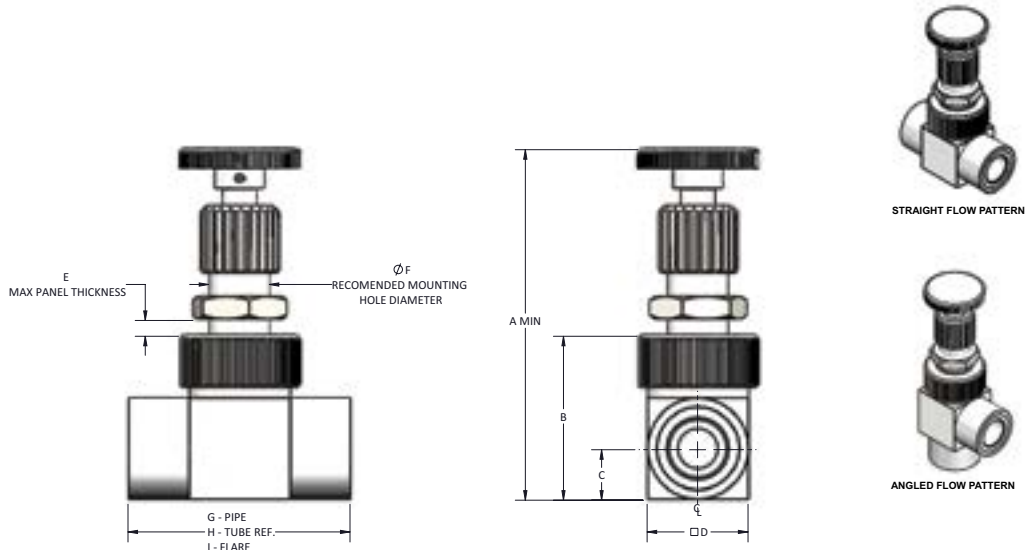
- Straight Flow Pattern (“A” = standard)
- Angled Flow Pattern (“B” = special)

## Specification:

<b>Operating Pressure</b>	0 – 60 psi	
<b>Temperature Range</b>	Line Media:	0°C to + 100°C (32°F to + 212°F)
	Ambient:	0°C to + 60°C (32°F to + 140°F)
<b>Leak Rating</b>	Bubble Tight	

## PPV DIMENSIONS

Size	A	B	C	D	E	F	G	H	I
1/8" - 1/4"	2.96	1.45	0.41	0.75	0.15	0.51	1.87	1.75	2.75
3/8" - 1/2"	4.40	2.03	0.63	1.25	0.45	0.76	2.75	2.37	3.45



## Precision Plug Valve: ORDERING FORMAT

**PPV - X X X - X**

### Porting w/ Max Orifice

PIPE	
22	1/8" FNPT & 0.125" Orifice
44	1/4" FNPT & 0.250" Orifice
66	3/8" FNPT & 0.375" Orifice
88	1/2" FNPT & 0.500" Orifice
TUBE	
21	1/8" TUBE & 0.063" Orifice
43	1/4" TUBE & 0.188" Orifice
65	3/8" TUBE & 0.313" Orifice
87	1/2" TUBE & 0.436" Orifice
FLARE	
42	1/4" FLARE & 0.125" Orifice
64	3/8" FLARE & 0.250" Orifice
86	1/2" FLARE & 0.375" Orifice

### Model Designation

A - Straight Pattern Valve  
B - Angle Body Valve

### End Connections

P = FNPT  
T = Tube  
FF = Fractional Flared

Orifice (in)	Max GPM H <sub>2</sub> O at 22°C	Max Air CFM at 20 psi
0.063	1.0	4.2
0.125	1.6	7.1
0.188	2.1	9.2
0.250	2.6	9.3
0.313	3.0	11.1
0.375	3.4	12.8
0.500	4.0	16.0

**PPV valves have a 6 (+/-1) Manual Turn Range**

### iPolymer Product Notes:

1. Please email Customer Service at [info@ipolymer.com](mailto:info@ipolymer.com)
2. Call us for special applications. We can manufacture our Valves with special mounting and interface dimensions.
3. Upon request, alternate material selection from those listed will allow for expanding temperature ratings or other performance characteristics.
4. Unauthorized disassembly of this product will void the original factory one-year product warranty. For further details please contact your local Distributor or our factory directly.

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# Sampling Metered Valve

Our **iPolymer PTFE Sampling Metered Valve (SMV)** is designed for use in high purity water and aggressive chemical applications.

Designed with a 100% virgin PTFE wetted flow path, the unit is ideal for DI Water Systems and corrosive media found in solar, semiconductor, pharmaceutical and chemical process applications.

This Panel Mount unit functions with a manual push level to actuate a metered flow.

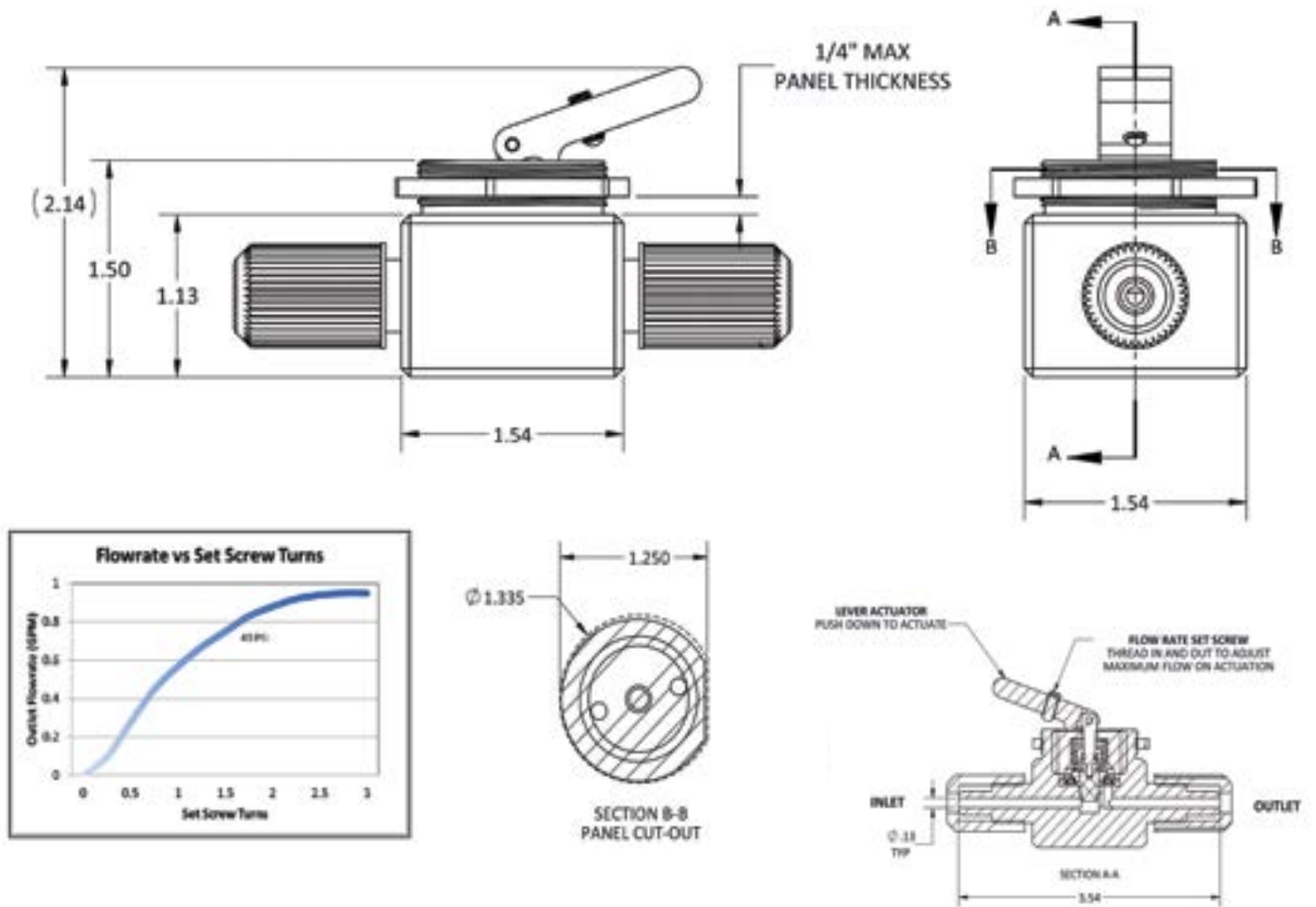
The metered flow ensures a controlled dispensing of fluid for manual sampling.

Commonly used for dispensing controlled amounts of media for element verification tests; for manual dispensing of DI Water into carboy and other transport containers; and for dispensing metered amounts of chemicals to blend and balance process chemistries.



Other sizes and configurations are available on request.

Specifications:	
<p><b>Materials of Construction:</b></p> <ul style="list-style-type: none"> <li>Wetted Surfaces: Machined 100% Virgin PTFE &amp; M-112</li> <li>Non Wetted Materials: Polypro, PVDF, SS</li> </ul>	<p><b>Temperature Ranges:</b></p> <ul style="list-style-type: none"> <li>32°F - 140°F (0°C - 60°C) Ambient</li> <li>32°F - 200°F (0°C - 93°C) Media</li> </ul>
<p><b>Pressure Ranges:</b></p> <ul style="list-style-type: none"> <li>Maximum Inlet Pressure: 60 psi (414 kPa   4.14 bar)</li> <li>The unit is metered to reduce the Inlet Pressure. Depending on the media conditions (pressure, temperature, viscosity and specific gravity) the valve will produce a 25% to 50% pressure drop.</li> </ul>	



## Sampling Metered Valve: ORDERING FORMAT

### SMV – 42F – P

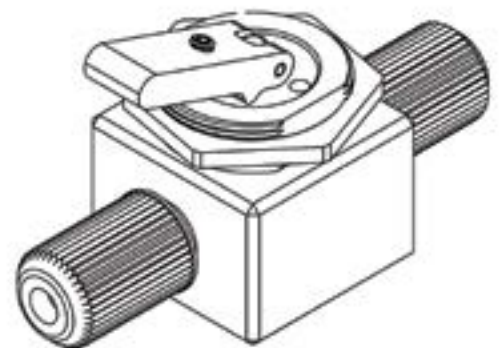
#### Porting w/ Max Orifice

- 22P = 1/8" FNPT & 0.125" Orifice
- 21T = 1/8" TUBE & 0.063" Orifice
- 44P = 1/4" FNPT & 0.250" Orifice
- 43T = 1/4" TUBE & 0.188" Orifice
- 42F = 1/4" FLARE & 0.125" Orifice

#### Mounting

P = Panel Mount

• These valves are configured with their maximum available port orifice for the given port style and size. Call iPolymer for special constrained orifice & other custom solutions.



#### iPolymer Product Notes:

1. Please email Customer Service at [info@ipolymer.com](mailto:info@ipolymer.com)
2. Call us for special applications. We can manufacture our Valves with special mounting and interface dimensions.
3. Upon request, alternate material selection from those listed will allow for expanding temperature ratings or other performance characteristics.
4. Unauthorized disassembly of this product will void the original factory one-year product warranty. For further details please contact your local Distributor or our factory directly.

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The **Dilution Drain Valve** is ideal for cooling and diluting solutions while draining. The valve is designed to shut off the drain automatically if the water flow is interrupted. The DDV fits tanks with 3/8", 1/2" and 3/4" main drain ports.

### Features:

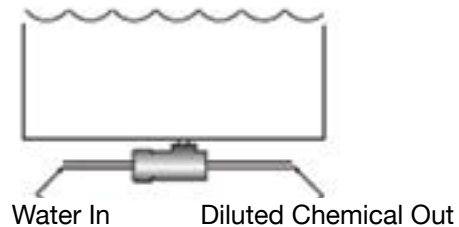
- With a focus on high purity applications, our PTFE and PVDF all wetted surface designs resist chemical corrosion and other harsh process environments.
- Configured for easy facility hookup which only requires water pressure. Dilution Water Pressure Range: 30 psi to 90 psi.
- The Fail Safe design will close the valve when dilution water is interrupted.
- The Main Drain Port is protected from chips and debris with a screened Baffle Plate.
- Media Operating Temperature Range is 32°F to 212°F (0°C to 100°C).

**Note:** High dilution rates will cause slow drain rates.



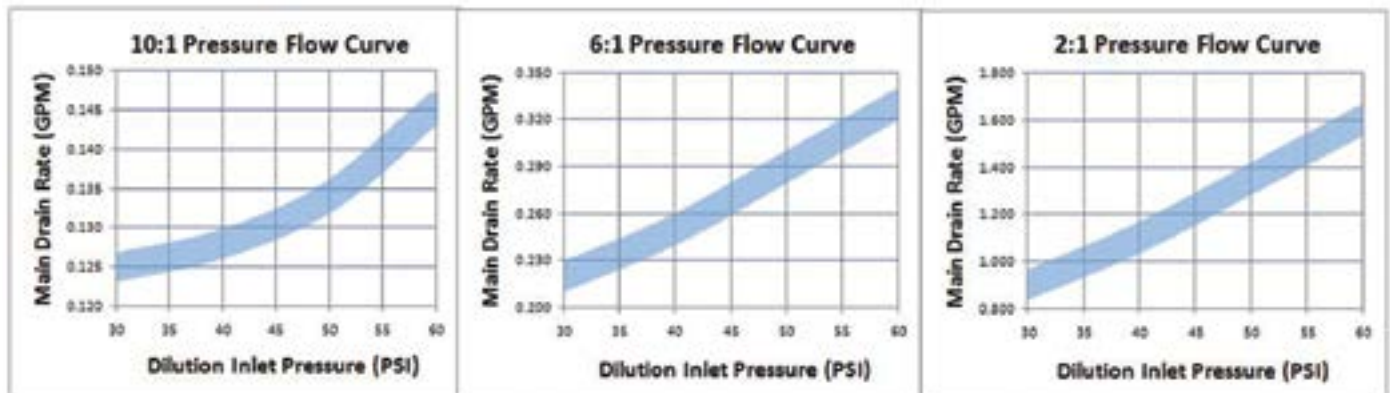
### Application

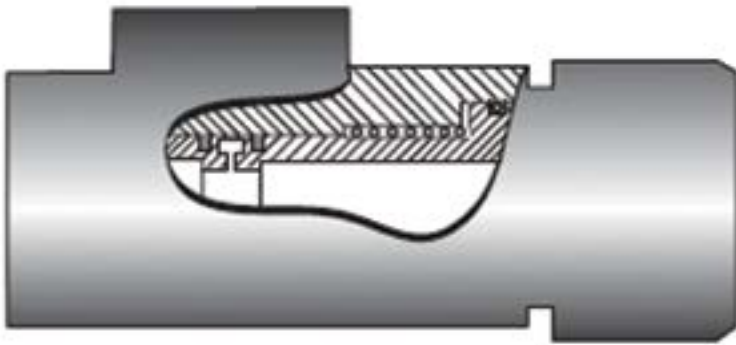
Used to drain a tank while diluting and cooling the media.



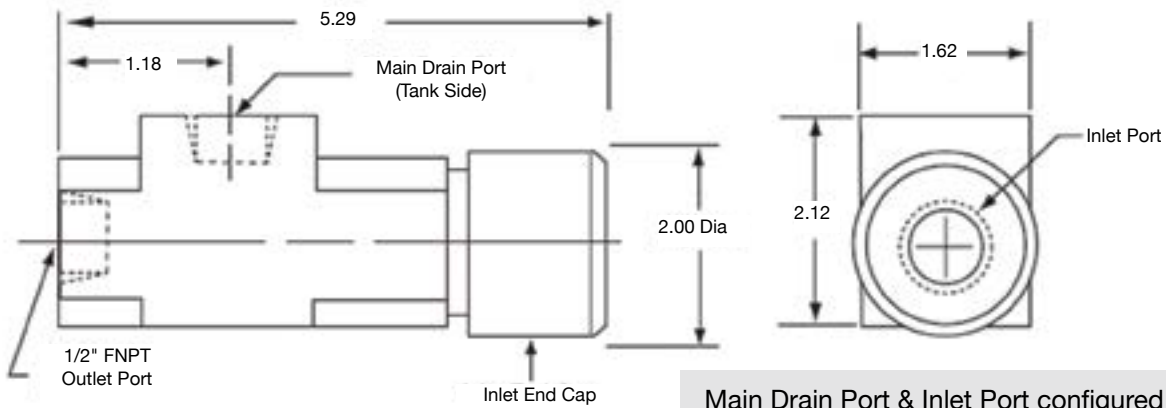
### How does it work?

- When water pressure is activated, a unique spool valve design moves forward and aspirates the tank dry.
- When water pressure is deactivated, a PTFE coated isolated return spring automatically shuts off the valve.



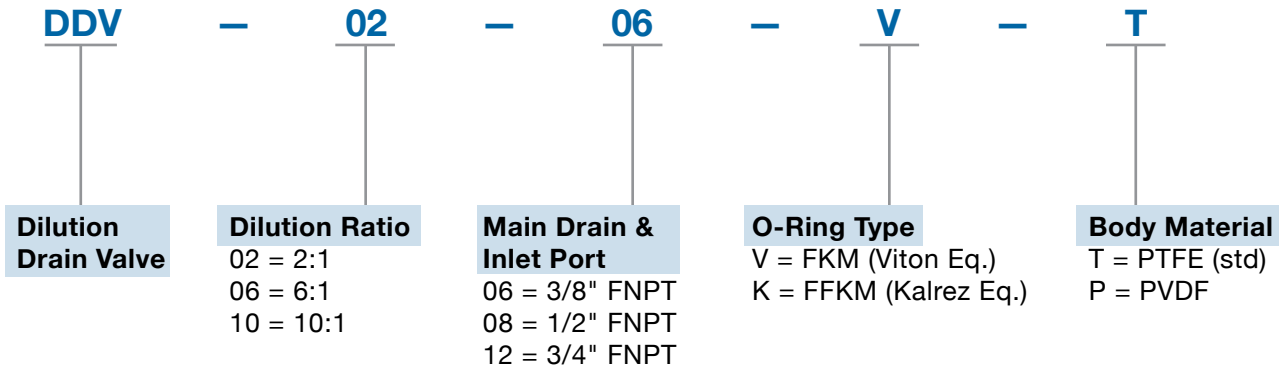


Please contact us with your special application requirements. PEEK, PVDF & Polypro configurations are available on request.



Main Drain Port & Inlet Port configured to match (see below)

## Dilution Drain Valves: ORDERING FORMAT



### iPolymer Product Notes:

1. Please email Customer Service at info@ipolymer.com
2. Call us for special applications. We can manufacture our DDV Valves with special mounting and interface dimensions.
3. Upon request, alternate material selection from those listed will allow for expanding temperature ratings or other performance characteristics.
4. Unauthorized disassembly of this product will void the original factory one-year product warranty. For further details please contact your local Distributor or our factory directly.

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The **iPolymer PTFE Air & Liquid Aspirators** are manufactured from virgin PTFE (Teflon® - E.I. Dupont) and are designed for efficient and rapid siphoning of hard to handle chemicals.

Our iPolymer Air Aspirator uses clean dry shop air (CDA) or Nitrogen to initiate and sustain a natural or forced siphon. Applications include the draining and mixing of containment vessels and the removal of saturated waste chemistry. Air Aspirators are also used where recovery recirculation is desired in process chemistries.

Our iPolymer Liquid Aspirators use common city water or DI Water to aspirate and dilute harsh chemical baths. One common application is the dilution siphoning of Sulfuric Acid (H<sub>2</sub>SO<sub>4</sub>) used for chemical cleaning and etching.

Air & Liquid Aspirators are sold as standalone siphoning bodies or as Aspirator Kits. Kits include 8 feet of PTFE Tubing and Compression Fittings. Our CHK Kit includes a special PTFE check valve mounted on the siphon port to prevent possible back flow.

Essentially, an iPolymert Aspirator is a low cost 100% PTFE Venturi vacuum pump.



### Performance Specification:

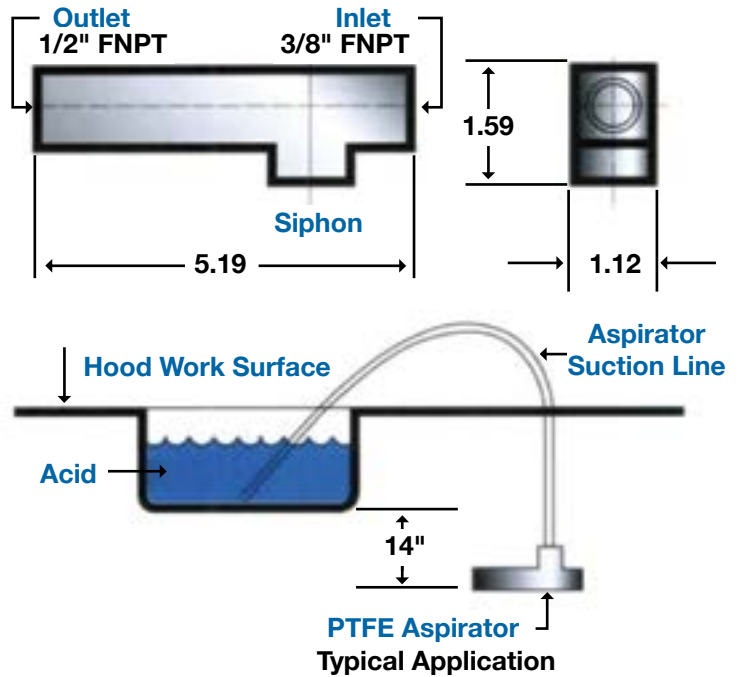
General Specification:	
<b>Pressure Rating</b>	10 - 60 psi
<b>Temperature Rating</b>	
<b>Ambient</b>	32°F - 140°F (0°C - 60°C)
<b>Media</b>	32°F - 212°F (0°C - 100°C)

Inlet Pressure	Air 3/8" Suction	Air 1/2" Suction	Liq. 3/8" Suction	Liq. 1/2" Suction
50 psi	6.3	7.2	13.0	13.3
40 psi	5.3	5.8	11.3	11.5
30 psi	4.0	4.5	8.9	8.9
20 psi	3.0	3.0	6.4	6.5
10 psi	1.5	1.5	3.8	3.8

*Value represented in inches of Mercury*

**PERFORMANCE RECOMMENDATIONS:**

- The Minimum Pressure to initiate a siphon is 5 psi. This pressure is a function of the fluid viscosity and ambient conditions.
- The 1/2" Aspirator will siphon with a slightly greater vacuum compared to the 3/8" Aspirator.
- Overall performance will vary based on the viscosity of the media being siphoned.
- Air Aspirators must be mounted at least 14" below the suction point (siphon point). Liquid Aspirators can be mounted level with the suction/siphon point.
- For continuous flow applications, it is best to actuate an Air Aspirator with 30 to 50 psi of CDA for 10 to 15 seconds then turn off the air supply and allow the Air Aspirator to work by pure suction (siphoning action only).
- Back pressure on the Outlet Port will decrease the ability of the Aspirators to create a proper siphon.



**PTFE Aspirator: ORDERING FORMAT**

xx - A - 18 x 6 - XX - xxx

**Aspirator Type**

- A = Air (aspirator body only)
- KA = Air Kit (see description below)
- L = Liquid (aspirator body only)
- KL = Liquid Kit (see description below)

**Siphon Port Size (FNPT)**

- 6 = 3/8" Siphon with a 3/8" Inlet & 1/2" Outlet
- 8 = 1/2" Siphon with a 3/8" Inlet & 1/2" Outlet

**Additional Options for Kit**

- CHK = Kit with Check Valve
- PRO = Kit with Poly Fittings

**DESCRIPTION OF ASPIRATOR KITS:**

**Standard Kit includes:** Aspirator Body & Handle, 8 ft of PTFE Tubing and 3 PTFE Compression Fittings for Inlet, Outlet & Siphon Ports (one each).

**Check Valve Kit includes:** Aspirator Body & Handle, 8 ft of PTFE Tubing, 2 PTFE Compression Fittings for Inlet & Outlet, and PTFE Check Valve mounted on Siphon Port.

**Poly Fitting Kit includes:** Aspirator Body & Handle, 8 ft of PTFE Tubing, 2 Poly Compression Fittings for Inlet & Outlet, and PTFE Compression Fitting for Siphon Port.

**OPTIONAL LIQUID ASPIRATOR DILUTION ORIFICE PLATE:**

Add to end of Part No.	PTFE Orifice Plate at Siphon Port
-02	(2 - 3): 1 Dilution Orifice
-05	(4 - 6): 1 Dilution Orifice
-10	(8-12): 1 Dilution Orifice

These Dilution Ratios are approximate. Field results will vary with fluid viscosity, temperatures, orientation of the Liquid Aspirator device. The addition of an orifice plate decreases the siphoning rate.

Spare Part No.	Accessory Description
AH-1	Handle - 3/8" Suction Port
AH-2	Handle - 1/2" Suction Port

**iPolymer Product Notes:**

1. Please email Customer Service at info@ipolymer.com
2. Call us for special applications.
3. Unauthorized disassembly of this product will void the original factory one-year product warranty. For further details please contact your local Distributor or our factory directly.

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The **iPolymer Teflon Disc Filter (TDF)** has been designed to fulfill the special requirements of inline microfiltration for sensitive media. All contact surfaces are constructed so that nothing but PTFE comes into contact with the media being filtered. The Disc Filter utilizes replaceable Zitex™ filter elements which form a continuous mat of PTFE fibers. These fibers are fused together to form a screen-like membrane structure. The resultant membrane is hydrophobic and hence aqueous suspensions must be filtered at high rates to overcome surface tension. Because of the non-stick characteristics of PTFE, the natural lubricity of all wetted surfaces, and the easy replacement of filter elements, entrapped contaminants may be easily removed.



Specifications:	
<b>Pressure Rating</b>	0 - 35 psi
<b>Temperature Rating</b>	
<b>Ambient</b>	32°F - 140°F (0°C - 60°C)
<b>Media</b>	32°F - 212°F (0°C - 100°C)

PTFE Zitex Disc Filter	Size	Nominal Pore (MICRONS)
Ultra Fine Zitex PTFE Disc Filter	47mm	1.5
Fine Zitex PTFE Disc Filter	47mm	4.5

P/N	DESCRIPTION	INLET/OUTLET
TDF-47-XXX-4T	Filter Assembly 47mm (1.85)	1/4 Tube
TDF-47-XXX-4FP	Filter Assembly 47mm (1.85)	1/4 FNPT
TDF-47-XXX-4MP	Filter Assembly 47mm (1.85)	1/4 MNPT
TDF-47-XXX-4FF	Filter Assembly 47mm (1.85)	1/4 Flared

**NOTE:** "-XXX" REPRESENTS THE LAST 3 DIGITS OF THE FILTER MEMBRANE PART NUMBER.

**EXAMPLE:** FOR 1/4 FNPT ASSEMBLY WITH FM104 MEMBRANE. THE P/N IS: TDF-47-104-4FP

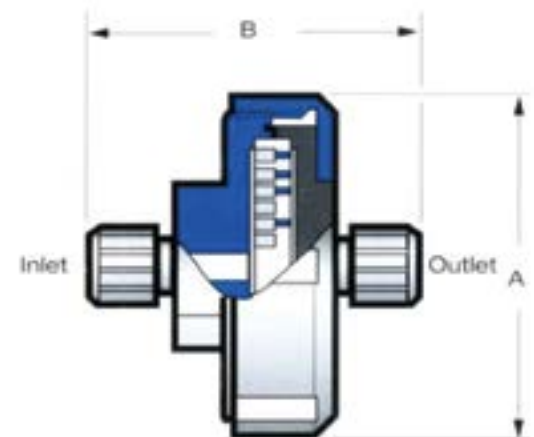
iPolymer No.	Max. Function Pore Size (microns)	Nominal Thickness in	Flow Rates			Initiation Pressure for Water psi	Ethanol Bubble Point psi	Approx. Pore Vol. %	Pore Density
			Water*		Air**				
			A	B	secs				
G-110	1 - 2	0.010	20 - 30	80 - 120	5 - 6	5.5 - 6.5	1.00 - 1.40	40	Ultra Fine
G-108	3 - 5	0.008	30 - 50	120 - 200	4 - 5	3.5 - 4.5	0.80 - 1.20	45	Fine

\*Water Flow Rate: A = Gallons/minute/ft<sup>2</sup> @ 13.5 psi., B = MI/minute/cm<sup>2</sup> @70 cmHg.

\*\*Air Flow Rate: G-Series = 100 cc/1.0 in<sup>2</sup>/20 oz. (Gurley Test), A-Series = 100cc/1.0 in<sup>2</sup>/@Δ P 0.176 psi (Gurley Test). Pressure differential necessary to overcome hydrophobic and internal resistance.

Data shown is representative and not to be used as material specifications.

SIZE	A	B
4T	2.50	2.17
4FP	2.50	2.29
4MP	2.50	2.29
4FF	2.50	3.17



Zitex™ is the registered trademark of Saint-Gobain.

#### iPolymer Product Notes:

1. Please email Customer Service at info@ipolymer.com
2. Call us for special applications. We can manufacture our Disc Filters with special mounting and interface dimensions.
3. Upon request, alternate material selection from those listed will allow for expanding temperature ratings or other performance characteristics.
4. Unauthorized disassembly of this product will void the original factory one-year product warranty. For further details please contact your local Distributor or our factory directly.

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Our **iPolymer PTFE Body Gauge Isolator** protects (Isolates) a pressure gauge or other pressure sensor from the effects of corrosive media and prevents contamination of ultra-pure liquids.

The Gauge Isolator consists of an All-PTFE body, containing a close tolerance machined cavity and a FEP diaphragm. The upper portion of the cavity is filled with a solution, such as glycerin, silicone or DI water.

Media pressure applied to the bottom side of the FEP diaphragm is transmitted through the solution filled cavity to the gauge, providing accurate readings while isolating the gauge from the media. Gauge fluctuation is minimized by the combination of the diaphragm design and the solution filling the upper portion of the Gauge Isolator.

### Features:

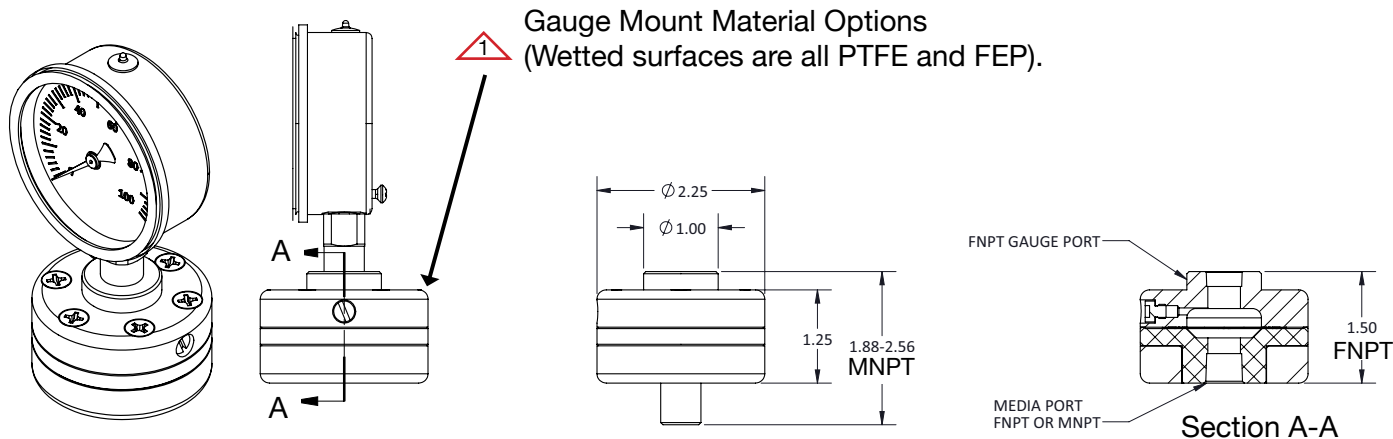
- PTFE and FEP Wetted Parts
- Chemically Inert
- Corrosion-Resistant
- Supplied with or without Gauge
- Highly Sensitive
- User specified upper body material

• Call iPolymer with your special application. We can custom fit most any Pressure Transducer to our Gauge Isolator.



### Specification:

<b>Sensitivity</b>	6.9 kPa	1 psi (2" Hg)
<b>Diaphragm Displacement</b>	0.5 ml	0.02 oz
<b>Internal Fill Volume</b>	4.0 ml	0.14 oz
<b>Ambient Temperature (for Glycerin &amp; DI Water fill)</b>	4°C to 93°C	40°F to 200°F
<b>Ambient Temperature (for Silicon &amp; Glycol)</b>	-10°C to 110°C	15°F to 230°F
<b>Maximum Media Temperature</b>	-30°C to 160°C	-22°F to 320°F
<b>Maximum Operating Pressure (see installed gauge for rating)</b>	6.9 bar	100 psi



Gauge Mount Material Options  
(Wetted surfaces are all PTFE and FEP).

## Gauge Isolator: ORDERING FORMAT

**GI - POL - 4 4 - DI - 100**

Only to be used when ordering  
an Isolator with Gauge

### Gauge Mounting

POL = Polypropylene  
PVDF = Polyvinylidene fluoride  
PVC = Polyvinylchloride  
TFM = Dyneon-1600 Enhanced PTFE

### Gauge Port & Mounting Orifice

### Gauge Type (psi)

Top Mounted:

03C = 0 to 30 psi Copper Alloy (113.13)  
06C = 0 to 60 psi Copper Alloy (612.20)  
06S = 0 to 60 psi Stainless Steel (131.11)  
01C = 0 to 100 psi Copper Alloy (111.11)  
01S = 0 to 100 psi Stainless Steel (232.30)

Center Back Mounted:

01CBM = 0 to 100 psi (111.12)

### Fluid Designator

S = Silicon  
G = Glycerin  
DI = DI Water  
E = Ethylene Glycol

Our standard gauges  
are WIKA brand and  
Glycerin filled unless  
requested otherwise.

REF	@ Media Port	@ Gauge Port
4 4	1/4" FNPT	1/4" FNPT
4 2	1/4" FNPT	1/8" FNPT
2 4	1/8" FNPT	1/4" FNPT
2 2	1/8" FNPT	1/8" FNPT
4M 4	1/4" MNPT	1/4" FNPT
4M 2	1/4" MNPT	1/8" FNPT
2M 4	1/8" MNPT	1/4" FNPT
2M 2	1/8" MNPT	1/8" FNPT

### iPolymer Product Notes:

1. Please email Customer Service at [info@ipolymer.com](mailto:info@ipolymer.com)
2. Call us for special applications. We can manufacture our Gauge Isolators with special mounting and interface dimensions.
3. Upon request, alternate material selection from those listed will allow for expanding temperature ratings or other performance characteristics.
4. Unauthorized disassembly of this product will void the original factory one-year product warranty. For further details please contact your local Distributor or our factory directly.

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**iPolymer Air Cylinders** are frequently used where splash-back or fumes from highly aggressive chemicals are prime considerations. Often used near corrosive chemicals these PVC, Polypropylene and PVDF cylinders are just the right answer for providing strength, durability and reliability in your severe service actuation application.

Our air cylinders are available in strokes from 1 – 16 inches and have standard easy-to-use mounting and optional position sensors. We are also happy to discuss customizing air cylinders to fit your individual needs.

The weight an iPolymer Air Cylinder can push & pull depends on many factors, including but not limited to; orientation, sliding surface friction, effect of gravity, rate of speed, distance of travel, available compressed air, and design of the pneumatic circuit. In general, our iPolymer Air Cylinders are design to drive: 90 lbf | 400 N | 40.8 kg



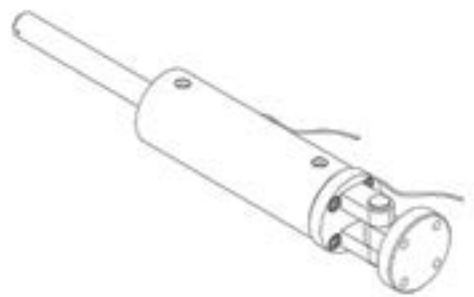
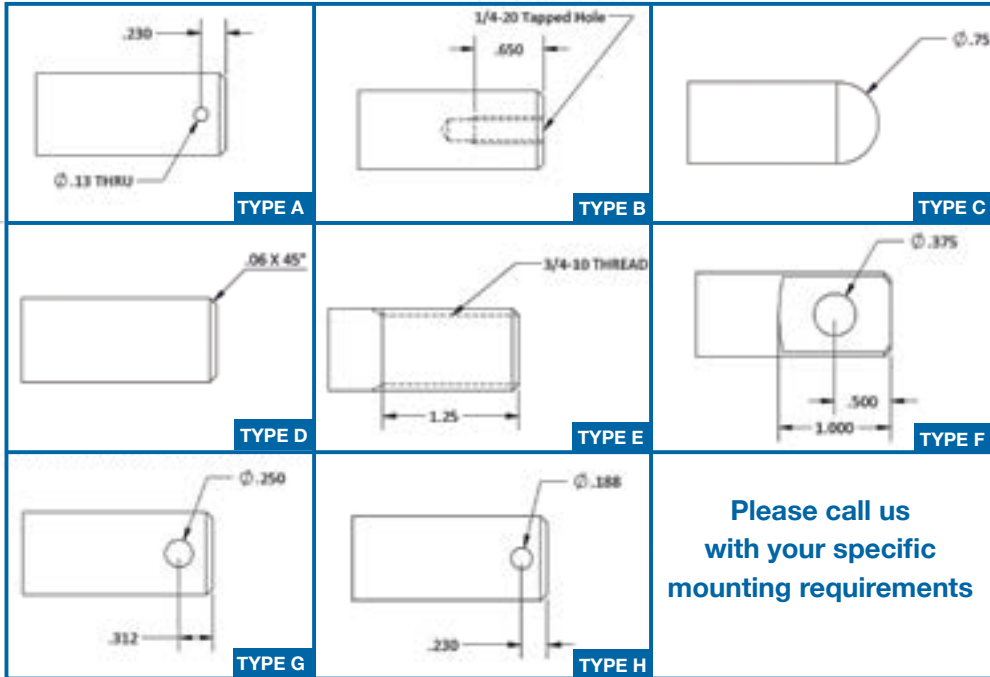
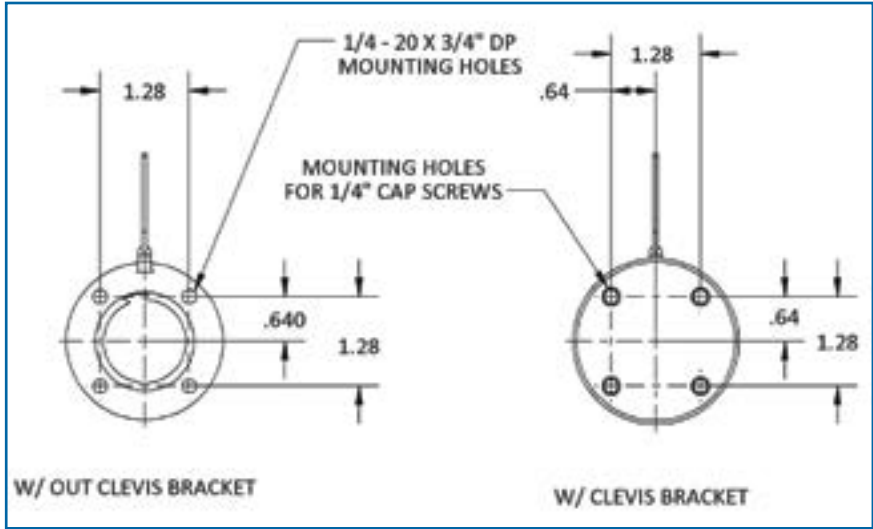
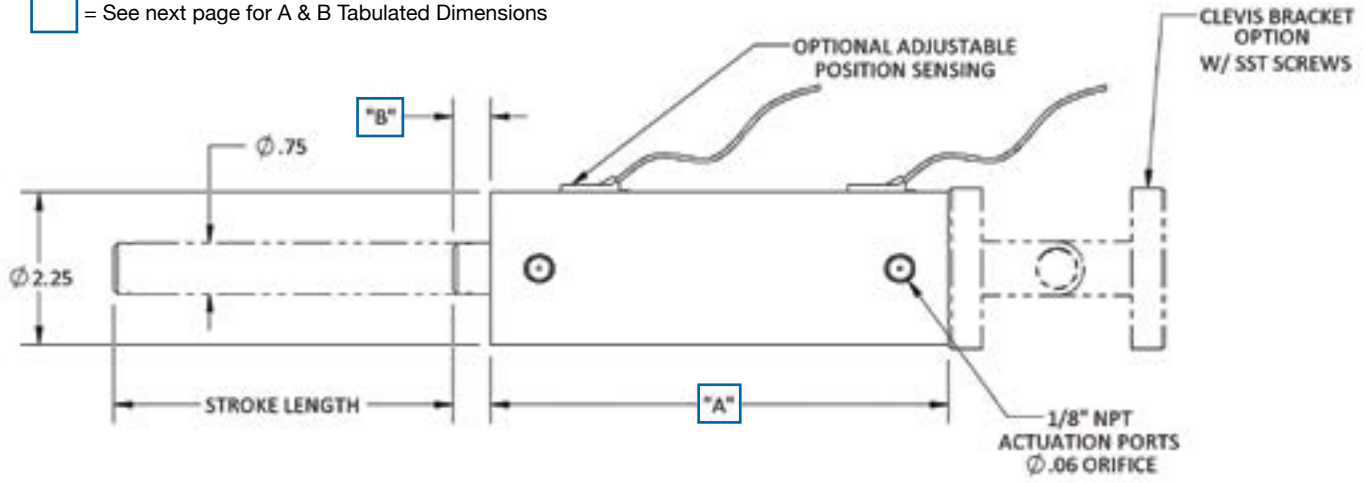
### Applications

- Remote pneumatic controlled actuation for opening and closing doors and drawers
- Actuating drains and vents
- Continuous repositioning of process loads

Specifications		
<b>Cylinder Bore</b>	1.25"	
<b>Port Connections</b>	1/8 FNPT	
<b>Actuation Pressure</b>	Min.	Max.
<b>1" - 16"</b>	20 psi	80 psi
<b>Maximum Ambient Temperature</b>		
<b>PVC</b>	140° F / 60° C	
<b>Polypropylene</b>	160° F / 70° C	
<b>PVDF</b>	212° F / 100° C	



= See next page for A & B Tabulated Dimensions



STROKE LENGTH	"A"
1"	2.57
2"	3.57
3"	4.57
4"	5.57
5"	6.75
6"	7.75
7"	8.75
8"	9.75
9"	10.75
10"	11.75
11"	12.75
12"	13.75
13"	14.75
14"	15.75
15"	16.75
16"	17.75

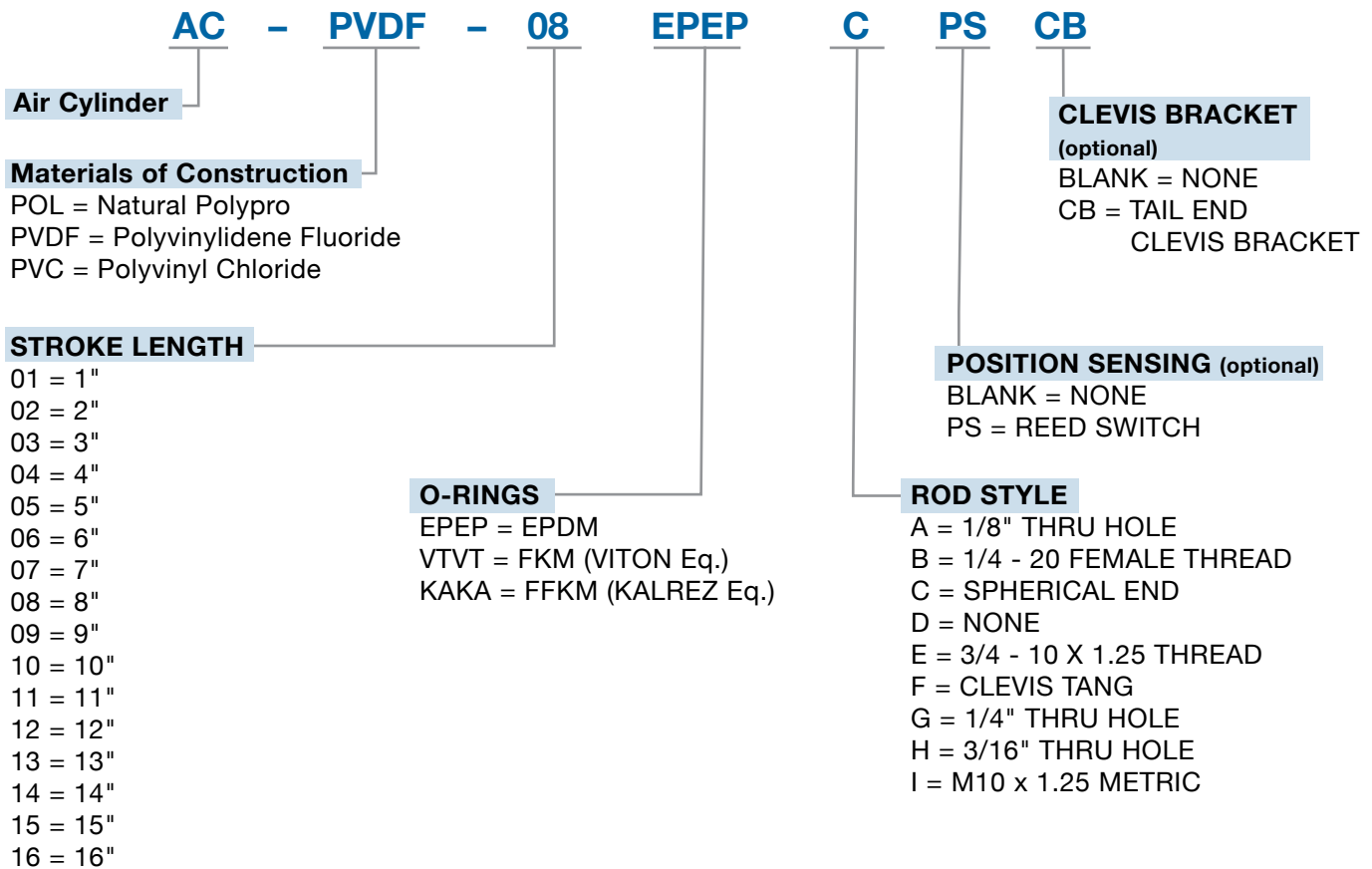
ROD TYPE	"B"
A	.55
B	.55
C	.55
D	.55
E	1.3
F	1.3
G	.55
H	.55



**Call iPolymer for:**

- Special end & trunnion mounting configurations
- Special porting & manifold configurations
- Applications requiring larger bore cylinders
- Special configured cylinder with Spring to Extend
- Special configured cylinder with Spring to Retract

**Air Cylinders: ORDERING FORMAT**



Plastic Air Cylinder

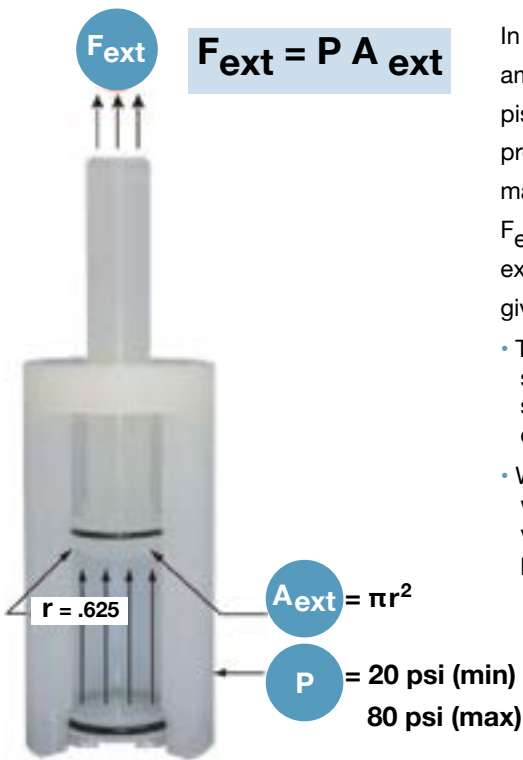
# Polymers are Better!

Metal Air Cylinder



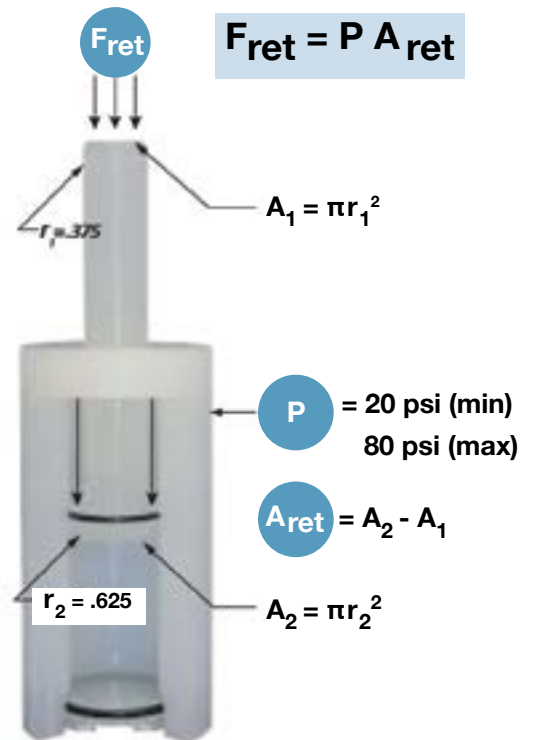
## High Quality Plastic Air Cylinder

- Our High Purity Plastic Air Cylinders are corrosion resistant, durable and light weight.
- Please call us to discuss customizing our air cylinders to fit your individual specification.
- Plastic air cylinders are the logical next step for your harsh process environment.



In these equations, F equals the amount of force exerted by the piston depending on the actuation pressure. The Air Cylinder has a min/ max actuation pressure of 20-80 psi.  $F_{ext}$  is the variable given for the force extending the piston.  $F_{ret}$  is the variable given for the force retracting the piston.

- The rod & head o-rings will create a slight amount of static and dynamic seal friction (breakaway and running drag).
- Without the applied load, the cylinder will travel its complete stroke length very rapidly under minimum applied pressure (20 psi).

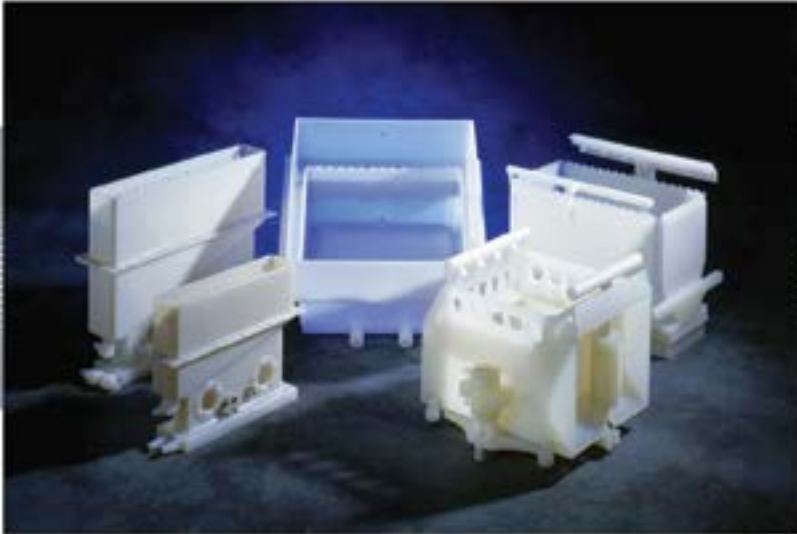


### iPolymer Product Notes:

1. Please email Customer Service at [info@ipolymer.com](mailto:info@ipolymer.com)
2. Call us for special applications. We can manufacture our Air Cylinders with special mounting and interface dimensions.
3. Unauthorized disassembly of this product will void the original factory one-year product warranty. For further details please contact your local Distributor or our factory directly.

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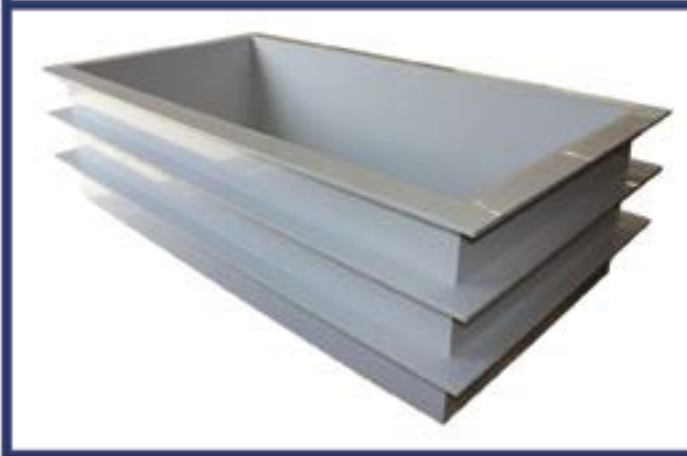
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[www.ipolymer.com](http://www.ipolymer.com) • [info@ipolymer.com](mailto:info@ipolymer.com)



- High Purity Plastic Fabrication
- 30+ years plastic fabrication experience
- Full Plastic Machine Shop with CNC Capabilities
- Large process facility for plastic machining, routing and welding
- Engineering Support – SolidWorks, MasterCAM, CFD and FEA Capabilities
- In-house turnkey design or contract fabrication building to customer specifications
- *Projects:* Tanks, Cabinets, Enclosures, Benches, Plenums, and other High Purity plastic products
- *We stock:* PTFE, PFA, PVDF, Halar, Fire Rated FM4910, Acrylic, Polypropylene, Polycarbonate, PVC and many other materials







iPolymer Product Notes:

1. Please email Customer Service at [info@ipolymer.com](mailto:info@ipolymer.com)
2. Call us with your special applications.
3. Alternate materials from those listed on the front page are available.

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# iPolymer

The company  
for all your High-Purity  
Fluid Handling needs.

**International Polymer Solutions Inc. (iPolymer)**  
is a merger of TEQQOM Industries and BECO  
Manufacturing, two proud Southern California brand  
names providing more than a quarter-century of  
quality service to the marketplace.

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Solutions for use in semiconductor, solar,  
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Spray Guns

**International Polymer Solutions**

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Commonly Used Chemicals	Materials									
	EPDM	Viton	Kalrez	AFLAS	CPVC	PEEK	Polypro	PVC	PVDF	PTFE
<b>LEGEND:</b> E = Excellent - Recommended G = Good - Minor Effects x = Not Recommended * = No References Available										
Acetic Acid	E	G	x	x	x	E	G	x	x	E
Acetone	E	x	E	x	x	E	E	x	x	E
Ammonia	E	x	*	*	E	G	E	E	E	E
Antifreeze	E	E	E	*	E	E	x	E	*	*
Benzene	x	E	E	x	x	E	x	x	E	E
Boric Acid	E	E	E	*	E	E	E	E	E	E
Bromine	x	E	E	*	x	x	x	x	E	E
Butanol	E	E	E	E	E	E	E	x	E	E
Chlorine	E	E	E	*	x	E	x	x	E	E
Citric Acid	E	E	E	*	G	E	E	G	E	E
Detergents - Mild	E	E	E	*	E	E	E	E	E	E
Diesel Fuel	x	E	E	*	E	E	E	E	E	E
Ethanol	E	E	E	E	G	E	E	x	*	E
Gasoline	x	E	E	*	x	*	x	x	E	E
Hydraulic Oil	x	E	E	*	*	E	x	E	E	E
Hydrochloric Acid (100%)	x	E	E	*	E	E	x	x	E	E
Hydrogen Gas	E	E	E	*	E	*	E	E	E	E
Hydrogen Peroxide	x	E	E	*	E	E	G	E	E	E
Hydrofluoric Acid (< 50%)	x	G	E	*	x	x	E	G	E	E
Hydrofluoric Acid (100%)	x	G	E	*	x	x	x	x	E	E
Isopropyl Alcohol	E	E	E	*	x	E	E	E	*	E
Methane	x	E	E	*	*	E	E	G	E	E
Natural Gas	x	E	E	*	*	E	E	E	*	E
Ozone	E	E	E	*	E	E	G	G	E	E
Petroleum	x	E	E	*	E	E	G	*	E	E
Phosphoric Acid (< 40%)	G	E	E	*	E	E	E	G	G	E
Phosphoric Acid	G	E	*	*	*	E	G	G	E	E
Propane (liquid)	x	E	E	*	E	E	E	E	E	E
Sodium Hypochlorite (Bleach)	G	E	E	*	x	G	G	G	E	E
Sulfuric Acid (< 75%)	G	E	E	*	E	x	E	E	E	E
Sulfuric Acid (75-100%)	G	E	E	*	x	x	x	x	E	E
Tetrahydrofuran	x	x	E	x	x	E	x	x	G	E
Toluene	x	x	E	x	x	E	x	x	E	E
Trichloroethane	x	E	E	x	*	E	x	x	E	E
Trichloroethylene	x	E	E	x	x	E	x	x	G	E
Water - Deionized	E	E	*	*	E	*	E	E	E	E
Water - Fresh or Salt	E	E	*	*	E	E	E	G	E	E
Zinc Chloride	E	E	E	*	E	E	E	G	E	E

## Fitting Description & Uses

**Pipe:** National Pipe Thread (NPT) threads are tapered at a rate of 1/16"/inch. The threads should be treated with joint compound or Teflon Tape. These connections are common for day-to-day use of low pressure gas and liquids.



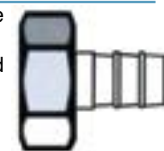
**Flared:** Flared connections offer long term reliability and high pressure sealing. Mission critical connection. Considered an ultra clean connection. Requires field flaring of tube with special tool after mating nut is installed.



**Compression:** This fitting accepts straight tube with ferrule & nut (with/without gripper). Compression Tube fittings are the most common connection for plastic applications. They accommodate fast assembly. Nut can include an integral gripper or external gripper.



**Barbed:** Low pressure fitting to mate with hose and tube connections. The angled barbs grab the ID of the hose or tube. Fast connection and reusable. Not intended for corrosive fluids and gases.



## Common Polymers & their Descriptive Use

**PTFE polytetrafluoroethylene:** Material of choice for low friction applications. Excellent heat and chemical resistance. Suited for most corrosive and high temperature 240°C (460°F) applications. Chemical inertness makes it difficult to bond and weld. See TFM-1600 & PFA as high performance alternatives.

**TFM Dyneon-1600 Enhanced PTFE:** TFM is a modified PTFE blend. Designed for molding with good free flowing properties. Commonly used as liners for the Chemical Industry. Excellent material for sealing and seating in valve components. Good weld ability with service temperatures up to 260°C (500°F).

**PFA perfluoroalkoxy:** PFA has exceptional heat resistance, excellent chemical and weather resistance. Ideal for corrosive and high temperature 260°C (500°F) applications. Suitable for molding and critical components in valves and pumps.

**PVDF polyvinylidene fluoride:** PVDF is ideal for a variety of applications such as pumps, valves, sheet products, pipes, tubes and fittings needing excellent chemical resistance and operating temperatures up to 150°C (300°F).

**PEEK polyetheretherketone:** PEEK is a strong, chemical and heat-resistant thermoplastic. Biocompatibility allows for use in medical applications. Frequently used as bearing material and as structural components in high performance plastic devices. Service temperatures up to 150°C (300°F).

**POL polypropylene:** POL is a common thermoplastic polymer. One of most versatile high purity polymers used in a wide variety of clean and corrosive applications. It is rugged and resistant to many chemical solvents, bases and acids. Service temperatures up to 60°C (140°F).

**Hard PVC polyvinylchloride:** PVC is a rigid strong polymer. The work horse of daily-use plastics. PVC is common for enclosures, plumbing and flow devices. However, it will degrade with UV exposure and is susceptible to chemical corrosive attack. Service temperatures up to 70°C (160°F).





# *i*Polymer

international polymer solutions

*manufacturer of high-purity fluid handling products*

iPolymer is located in Irvine, California, just 20 minutes south of the Orange County/Santa Ana Airport (SNA).

For application support, please send us your product and fabrication requirements via email ([info@ipolymer.com](mailto:info@ipolymer.com)) or give us a call!

The iPolymer team is ready to help you find your next solution!



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