

# ECO Valve

*...because we all live downstream*

## Back Pressure / Pressure Relief Valves



- *available in PVC, CPVC, PVDF, polypropylene and 316L stainless steel*
- *long life single sealing diaphragm (laminated PTFE, Viton, EPDM or PVC)*
- *field adjustable pressure setting 7 - 150 PSIG (48 - 1034 kPa)*
- *CPVC bonnet for higher temperature and chemical resistance rating*

# ECO Valve Back Pressure/Pressure Relief Valve

## Description:

### Back Pressure/Pressure Sustaining/Anti Syphon

ECO Valve is a diaphragm style two port back pressure/pressure sustaining valve designed to provide and control a continuous pressure on the discharge side of a positive discharge style pump, such as metering pumps. ECO Valve assists with the proper seating of the valve check assembly and accurate filling of the pump housing chamber for a more efficient and accurate running pump. (Factory set @ 50 psig / 345kPa)

### Pressure Relief

ECO Valve is also designed to be used as a 2 port off line pressure relief valve to help protect the discharge side of positive displacement pumps from system failure due to over pressure caused by a blockage or accidental valve closure on the downstream side of the pump. (Factory set @ 50 psig / 345kPa)



Flanged



NPT/BSPT

## Features

- no moving parts in wetted chamber; superior choice for “dirty” fluid applications
- high flow capacity with lower pressure drop
- optional diaphragm materials
- colour coded caps indicate size
- sizes from 1/4” to 4” (DN 8 to DN 100)
- 10 configurations: threaded, socket, union and flanged
- injection mould design with fewer moving parts
- high ambient temperature range
- gauge port available in either flow direction



Union



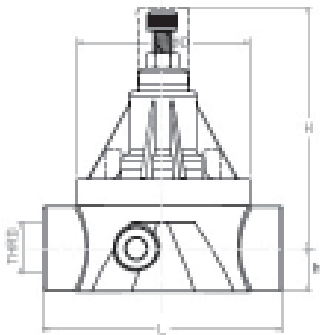
Socket

**Ideal for metering pump/chemical dosing applications**

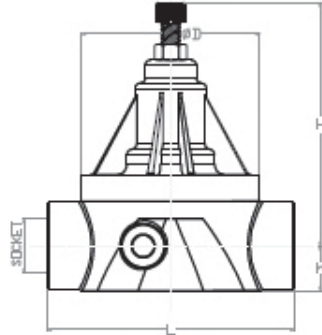
**Designed for long life and ease of installation and maintenance**

**Exceptional 3 year warranty**

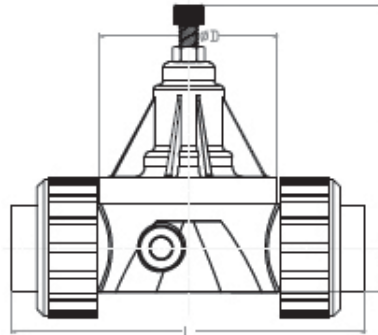
# Body Configuration Models ECO-25, ECO-38, ECO-50



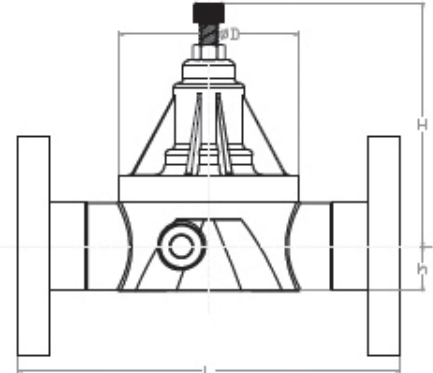
**Threaded Female**



**Socket**



**Union**



**Flanged**

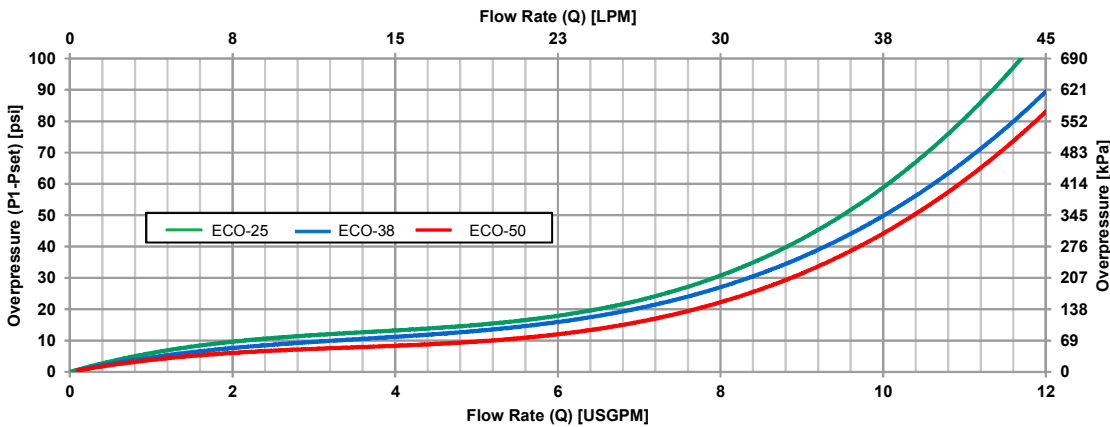
Nominal Size		PVC, CPVC, PP & PVDF							
NPS	DIN	ØD	h	H	L	L	L	L	
inch	DN	inch	inch	inch	inch	inch	inch	inch	
		mm	mm	mm	mm	mm	mm	mm	
Series A					Thread	Socket	Flanged	Union	
1/4"		2.50	0.66	4.48	3.40	3.40	N/A	6.00	
	8	63.5	16.7	113.9	86.4	86.4	N/A	152.4	
3/8"		2.50	0.66	4.48	3.40	3.40	N/A	6.00	
	10	63.5	16.7	113.9	86.4	86.4	N/A	152.4	
1/2"		2.50	0.66	4.48	3.40	3.40	5.40	6.00	
	15	63.5	16.7	113.9	86.4	86.4	137.2	152.4	

Nominal Size		316L Stainless Steel							
NPS	DIN	ØD	h	H	L	L	L	L	
inch	DN	inch	inch	inch	inch	inch	inch	inch	
		mm	mm	mm	mm	mm	mm	mm	
Series A					Thread	Socket	Flanged		
1/4"		2.50	0.60	4.47	2.50	2.50	N/A		
	8	63.5	15.2	113.5	63.5	63.5	N/A		
3/8"		2.50	0.49	4.58	2.50	2.50	N/A		
	10	63.5	12.4	116.3	63.5	63.5	N/A		
1/2"		2.50	0.60	4.72	2.50	2.50	6.25		
	15	63.5	15.2	119.9	63.5	63.5	158.8		

## Overpressure vs. Flow Rate

### ECO Valve

1/4" (ECO-25), 3/8" (ECO-38) and 1/2" (ECO-50)



The overpressure vs. flow rate curve is based on a valve spring pressure of 50 PSIG (345 kPa).

P1 = working pressure  
P set = 50 PSIG (345 kPa)

### Example:

ECO-25  
100 PSIG - 50 PSIG = 50 PSIG = 9.5 USGPM

690 kPa - 345 kPa = 345 kPa = 36 LPM

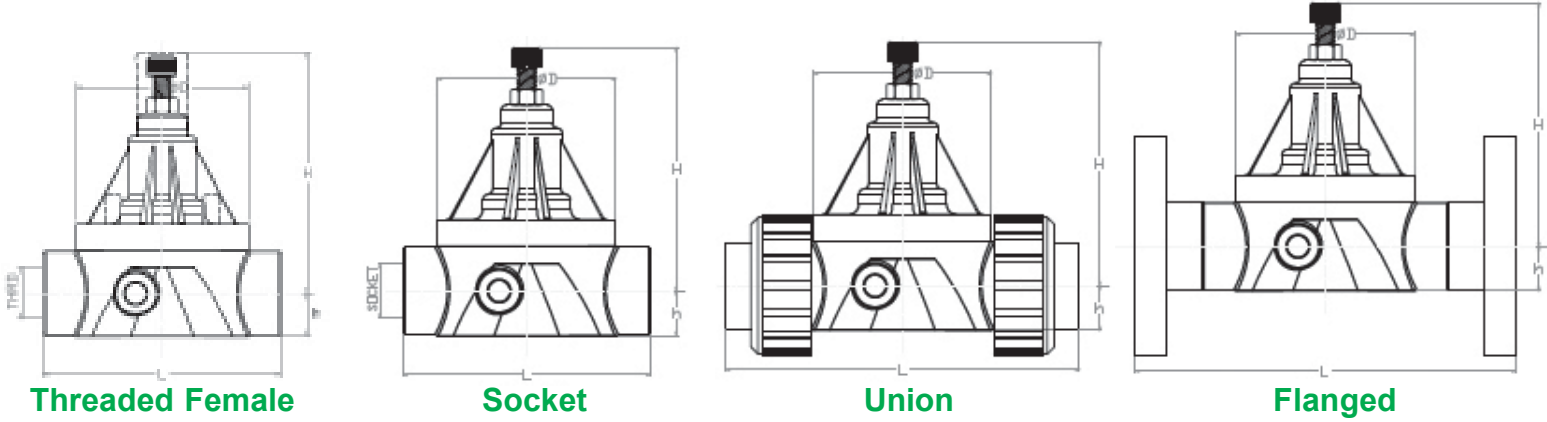
## Maximum Pressure PSIG (kPa) vs. Temperature

Temperature		Valve Material							
C°	F°	PVC		CPVC		PP		PVDF	
		PSIG	kPa	PSIG	kPa	PSIG	kPa	PSIG	kPa
20	68	150	1034	150	1034	150	1034	150	1034
30	86	110	758	150	1034	150	1034	150	1034
40	104	70	483	150	1034	100	689	150	1034
50	122	30	207	140	965	65	448	150	1034
60	140	NR	NR	130	896	36	248	150	1034
70	158	NR	NR	105	724	NR	NR	135	931
80	176	NR	NR	75	517	NR	NR	120	827

The maximum pressure rating for valves regardless of size is 150 PSIG (1034 kPa) at 73° F (22°C)

NR = not recommended

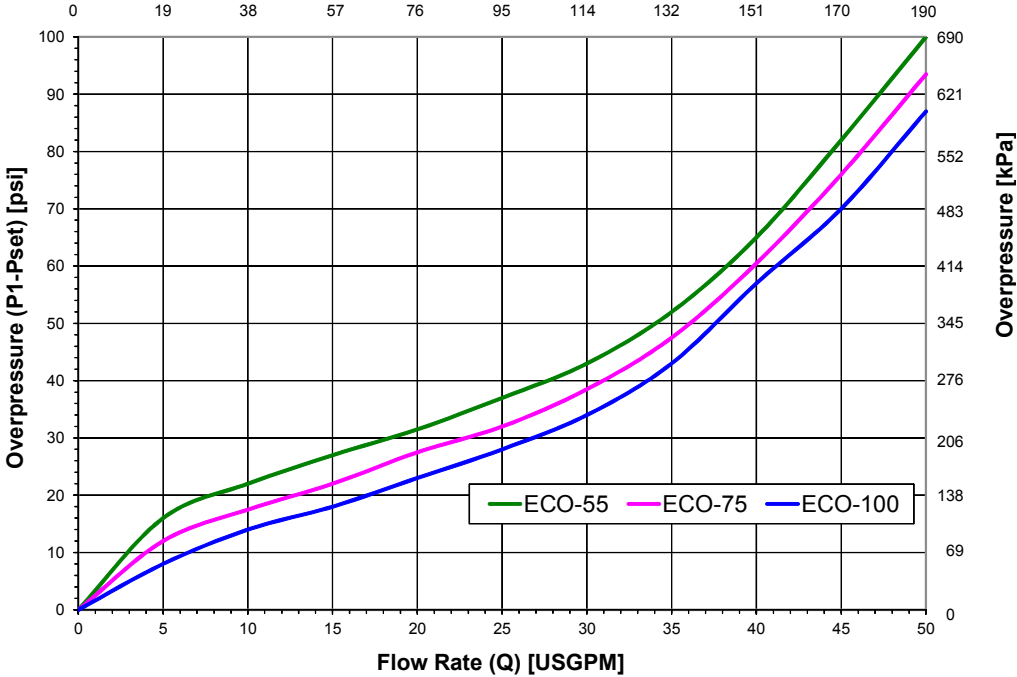
# Body Configuration Models ECO-55, ECO-75, ECO-100



Nominal Size		PVC, CPVC, PP & PVDF						
NPS	DN	Ø D	h	H	L	L	L	L
inch		inch	inch	inch	inch	inch	inch	inch
		mm	mm	mm	mm	mm	mm	mm
Series B					Thrd	Soc	Flg	Union
1/2"	15	3.5	0.88	4.8	4.85	4.85	6.93	6.96
High Flow		88.9	22.4	121.9	123.2	123.2	176.0	176.8
3/4"	20	3.5	0.88	4.8	4.85	4.85	7.365	6.96
		88.9	22.4	121.9	123.2	123.2	187.07	176.8
1"	25	3.5	0.88	4.8	4.85	4.85	7.48	6.96
		88.9	22.4	121.9	123.2	123.2	190.0	176.8

Nominal Size		316L Stainless Steel						
NPS	DN	Ø D	h	H	L	L	L	L
inch		inch	inch	inch	inch	inch	inch	inch
		mm	mm	mm	mm	mm	mm	mm
Series B					Thrd	Soc	Flg	
1/2"	15	3.500	0.630	4.800	3.500	3.500	7.115	
High Flow		88.900	16.000	121.900	88.900	88.900	180.720	
3/4"	20	3.500	0.730	4.800	3.500	3.500	7.484	
		88.900	18.500	121.900	88.900	88.900	190.090	
1"	25	3.500	0.860	5.100	3.500	3.500	7.632	
		88.900	21.800	129.500	88.900	88.900	193.850	

**Overpressure vs. Flow Rate  
ECO Valve  
1/2" (ECO-55), 3/4" (ECO-75) and 1" (ECO-100)**



The overpressure vs. flow rate curve is based on a valve spring pressure of 50 PSIG (345 kPa).

P1 = working pressure  
P set = 50 PSIG (345 kPa)

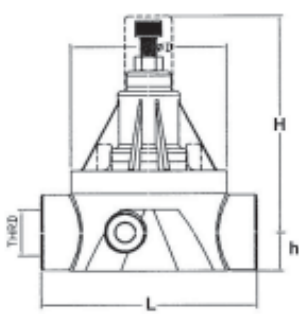
Example:  
ECO-55  
100 PSIG - 50 PSIG = 50 PSIG = 34 USGPM  
690 kPa - 345 kPa = 345 kPa = 128.4 LPM

Maximum Pressure PSIG (kPa) vs. Temperature									
Temperature		Valve Material							
C°	F°	PVC PSIG	kPa	CPVC PSIG	kPa	PP PSIG	kPa	PVDF PSIG	kPa
20	68	150	1034	150	1034	150	1034	150	1034
30	86	110	758	150	1034	150	1034	150	1034
40	104	70	483	150	1034	100	689	150	1034
50	122	30	207	140	965	65	448	150	1034
60	140	NR	NR	130	896	36	248	150	1034
70	158	NR	NR	105	724	NR	NR	135	931
80	176	NR	NR	75	517	NR	NR	120	827

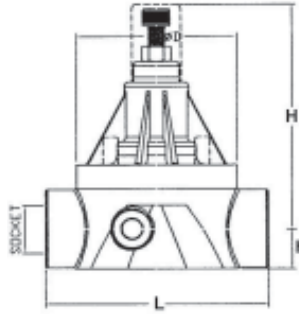
The maximum pressure rating for valves regardless of size is 150 PSIG (1034 kPa) at 73° F (22°C)

NR = not recommended

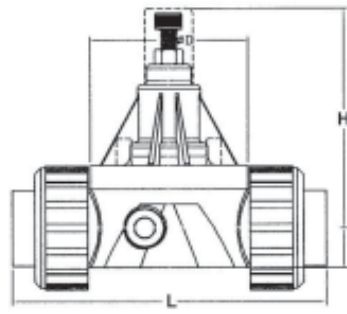
# Body Configuration Models ECO-110, ECO-125, ECO-150 & ECO-200



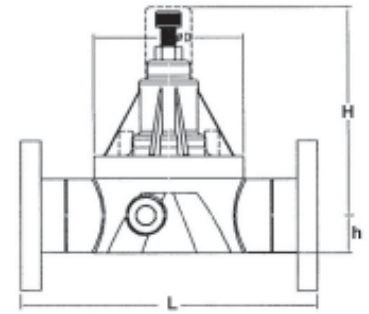
**Threaded Female**



**Socket**



**Union**



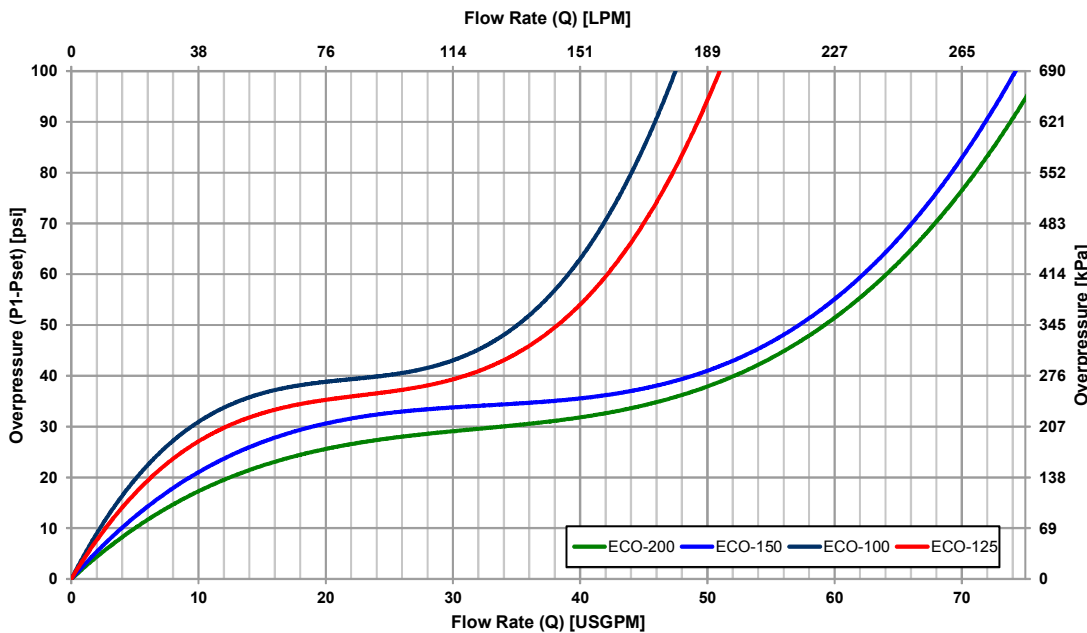
**Flanged**

Nominal Size		PVC, CPVC, PP & PVDF						
NPS inch	DIN DN	ØD inch mm	h inch mm	H inch mm	L inch mm	L inch mm	L inch mm	L inch mm
Series C				Thread	Socket	Flanged	Union	
1"	25	4.0	1.47	5.75	1.9	4.9	7.54	9.4
1 1/4"	32	4.0	1.47	5.75	4.9	4.9	7.80	9.4
1 1/2"	40	4.0	1.47	5.75	6.1	6.1	9.2	9.4
		4	1.47	5.75	6.1	6.1	9.54	9.36
2"	50	101.6	37.3	146.1	154.9	154.9	242.3	237.7

Nominal Size		316L Stainless Steel					
NPS inch	DIN DN	ØD inch mm	h inch mm	H inch mm	L inch mm	L inch mm	L inch mm
Series C				Thread	Socket	Flanged	
1"	25	4.00	1.05	5.77	4.00	4.00	8.26
1 1/4"	32	4.00	1.05	5.77	4.00	4.00	8.29
1 1/2"	40	4.00	1.45	5.82	4.72	4.72	9.59
		101.6	36.8	147.8	119.9	119.9	243.6
2"	50	4.00	1.45	5.82	4.72	4.72	9.72
		101.6	36.8	147.8	119.8	119.9	246.9

## Overpressure vs. Flow Rate ECO VALVE

1" (ECO-110), 1 1/4" (ECO-125), 1 1/2" (ECO-150) and 2" (ECO-200)



The overpressure vs. flow rate curve is based on a valve spring pressure of 50 PSIG (345 kPa).

P1 = working pressure  
P set = 50 PSIG (345 kPa)

### Example:

ECO-110  
100 PSIG - 50 PSIG = 50 PSIG  
= 36 USGPM

690 kPa - 345 kPa = 345 kPa  
= 136 LPM

## Maximum Pressure PSIG (kPa) vs. Temperature

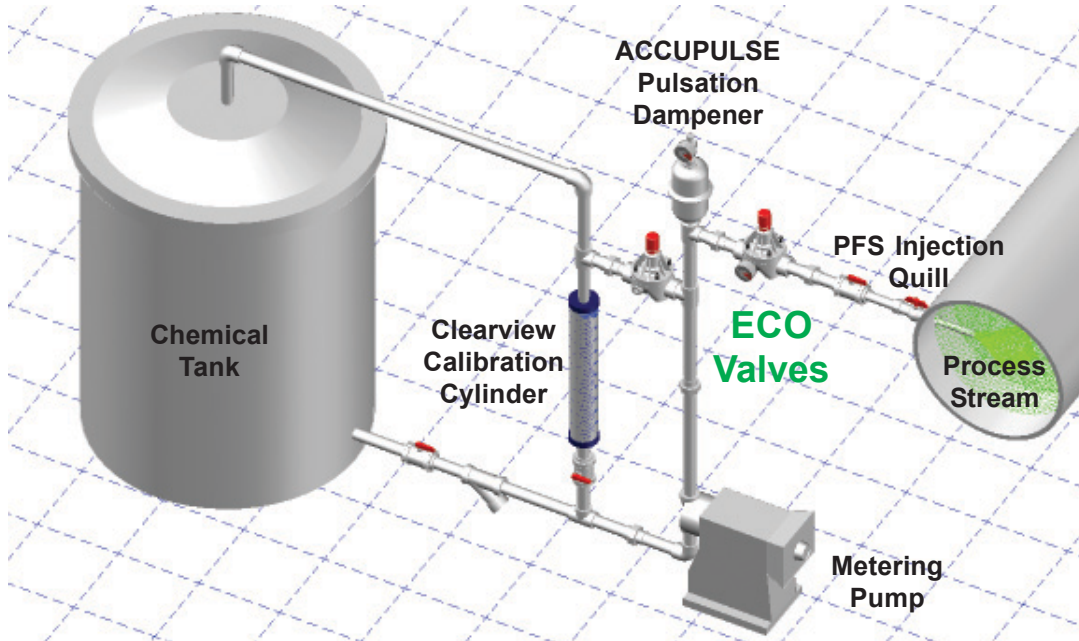
Temperature		Valve Material							
C°	F°	PVC		CPVC		PP		PVDF	
		PSIG	kPa	PSIG	kPa	PSIG	kPa	PSIG	kPa
20	68	150	1034	150	1034	150	1034	150	1034
30	86	110	758	150	1034	150	1034	150	1034
40	104	70	483	150	1034	100	689	150	1034
50	122	30	207	140	965	65	448	150	1034
60	140	NR	NR	130	896	36	248	150	1034
70	158	NR	NR	105	724	NR	NR	135	931
80	176	NR	NR	75	517	NR	NR	120	827

The maximum pressure rating for valves regardless of size is 150 PSIG (1034 kPa) at 73° F (22°C)

NR = not recommended



# ECO Valve Back Pressure/Pressure Relief Valve



Typical Installation

## Ordering Information

Example: Part # ECO - 50A - PVC - P - NL

**Back Pressure/Pressure Relief Valve  
2 Port Design**

### Sizes Available:

25 = DN 8 = 1/4"  
 38 = DN 10 = 3/8"  
 50 = DN 15 = 1/2"  
 55 = DN 15 = 1/2" (High Flow)  
 75 = DN 20 = 3/4"  
 100 = DN 25 = 1"  
 110 = DN 25 = 1" (High Flow)  
 125 = DN 32 = 1 1/4"  
 150 = DN 40 = 1 1/2"  
 200 = DN 50 = 2"  
 220 = DN 50 = 2" (High Flow)  
 300 = DN 75 = 3"  
 400 = DN 100 = 4"

### Connections Available:

A = NPT  
 B = BSPT  
 C = Socket (ANSI)  
 D = Socket (DIN)  
 E = Flanged (ANSI)  
 F = Flanged (DIN)  
 G = Union X NPT (plastic only)  
 H = Union X BSPT (plastic only)  
 I = Union X Socket (ANSI) (plastic only)  
 J = Union X Socket (DIN) (plastic only)

### Options

NL = gauge port - NPT (left to right flow)  
 BL = gauge port - BSP (left to right flow)  
 NR = gauge port - NPT (right to left flow)  
 BR = gauge port - BSP (right to left flow)

### Diaphragms

P = PVC (standard on all PVC valves)  
 T = PTFE backed EPDM (standard on all except PVC valves)  
 E = EPDM  
 V = Viton

### Body Materials

PVC = polyvinylchloride  
 PP = polypropylene  
 PVDF = polyvinylidene fluoride  
 CPVC = chlorinated polyvinyl chloride (Corzan)  
 S/S = 316L Stainless Steel

Note: Viton "O" ring seals are standard on all union style valves. EPDM and PTFE encapsulated rings are available for an additional charge. Please contact our sales order desk for pricing.

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