

PVC and CPVC True Union Ball Check, Foot, and Vent Valves

Chemtrol Figure Numbers

Type Valve	End Conn	Elastomeric Trim	Materials	
Ball Check Valve			PVC	CPVC
	Soc.	FKM EPDM	U45BC-V ¹ U45BC-E ¹	U51BC-V ¹ U51BC-E ¹
	Thd.	FKM EPDM	U45BC-V ¹ U45BC-E ¹	U51BC-V ¹ U51BC-E ¹
	Flgd.	FKM EPDM	F45BC-V F45BC-E	F51BC-V F51BC-E

1 1/2"-2" PVC and CPVC TU ball check figures are supplied with universal connection components (i.e., a set of both socket and threaded end connectors). For 3" and 4" sizes of PVC and CPVC BC valves, replace U in the figure no. with S or T for socket or threaded units respectively.

Construction Materials

Components ¹	PVC	CPVC
1. Union Nut	PVC	CPVC
2. End Connector	PVC	CPVC
3. Ball – Standard for Check or Foot Valve – Floater Ball for Vent Valve ²	PVC Natural PP Floater Ball	CPVC
4. Body ¹	PVC	CPVC
5. C.V. Seat-Carrier	PVC	CPVC
6. O-ring ³ Body & Carrier; End Seal	FKM or EPDM	
7. O-ring ³ Seat-Carrier, OD Seal	FKM or EPDM	
8. O-ring ³ Seat Seal	FKM or EPDM	
9. Plain End Pipe Nipple for Flanged Valve	PVC	CPVC
10. Flange–Socket for Flanged Valve	PVC	CPVC
11. Foot Valve Screen Housing Assembly ⁴	PVC	CPVC

1 All components except valve bodies are available as replacement parts.

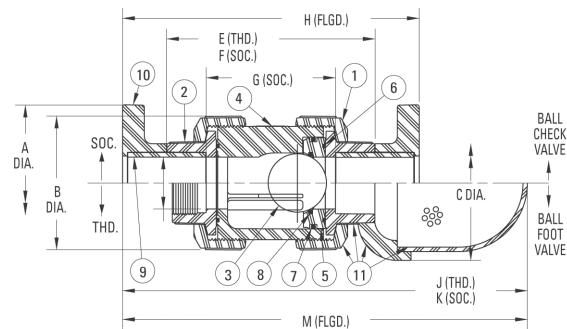
2 Gravity ball check valves are converted to vent valves by replacing the standard ball with a floater ball and inverting the valve at installation—with seat up.

3 Each replacement O-ring kit contains all the O-rings required to refurbish any True Union Check or Ball Valve (regardless of model or style), or a minimum of two pipe unions.

4 Gravity ball check valves are converted to foot valves by replacing the union nut and end connector on the receiving end – seat end – of the body with an F.V. screen housing assembly.

Features

- Rated at 150 psi with non-shock service at 73°F.
- Gravity ball check may be converted for air or gas venting by replacement of standard ball with natural polypropylene floater ball. Then install valve upside down for fluid to lift ball into seat.
- For foot valve, replace inlet end connection with a foot valve screen housing assembly.
- Free oscillation of ball in guide ribs facilitates full port flow with minimum turbulence and chatter.
- Equally effective in checking back flows from head pressure on the discharge or suction sides of pump.



Maximum Operating Pressure (psi) vs. Temperature

"Operating Temperature (F)"	PVC	CPVC
100	150	150
110	135	140
120	110	130
130	75	120
140	50	110
150	N.R.	100
160	N.R.	90
170	N.R.	80
180	N.R.	70
190	N.R.	60
200	N.R.	50
250	N.R.	N.R.
280	N.R.	N.R.

N.R. - Not recommended

Dimensions¹–Weights³–Fluid Flow Coefficients

Valve Size	Ball Check/Foot				Ball Check Valve					Ball Foot Valve				Seating Head Ft – H ₂ O		Fluid Flow Coefficient
	A	B	C	D	E Thd.	F Soc.	G Soc.	H Flgd.	Approx. ² Wt. Lbs.	J Thd.	K Soc.	M Flgd.	Approx. ³ Wt. Lbs.	Vert.	Horiz.	C _v ³
1/2	3.50	1.98	2.63	0.50	3.94	4.13	2.36	6.27	0.42	6.13	6.19	7.25	0.23	6	7	5
3/4	3.88	2.44	2.63	0.75	4.65	5.02	3.00	7.38	0.72	6.88	7.13	8.25	0.29	6	7	10
1	4.26	2.83	3.63	1.00	5.08	5.40	3.12	7.99	1.05	8.13	8.25	9.63	0.37	4	5	19
1 1/4	4.62	4.08	5.50	1.25	6.38	6.75	4.22	9.65	2.46	11.13	11.25	12.75	1.34	4	5	37
1 1/2	5.00	4.08	5.50	1.50	6.38	6.99	4.21	10.18	2.62	11.13	11.50	13.13	1.34	4	5	56
2	6.00	5.23	5.50	2.00	7.36	8.02	4.99	11.45	4.76	11.75	12.13	13.75	1.88	4	5	101
3	7.50	7.17	5.50	3.00	9.98	9.98	6.17	14.22	9.21	13.38	13.38	15.63	3.00	3	4	251
4"	9.00	7.17	5.50	3.00	20.76	20.76	16.20	16.14	14.18	18.50	18.50	16.25	3.00	3	4	251

1 Foot valve screen housing assemblies are available for the field conversion of PVC and CPVC TU ball check valves in sizes 1/2" - 4".

2 Weights shown for ball valve figures are PVC threaded models. For an approximation of CPVC check valve weights, the PVC weight may be multiplied by factor of 1.123. Weights shown for foot valves are actually those for PVC F.V. screen housing assemblies. So, the weight for a CPVC F.V. screen housing assy. may be found by multiplying the PVC weight by the 1.123 factor. These must be added to check valve weight for full foot valve weight.

3 C_v values are based on the basic valve laying length (G).

4 The 4" PVC and CPVC check valves are fabricated by solvent cementing either reducing flanges or reducing couplings onto the ends of a 3" valve with plain-end nipples.

WARNING: DO NOT USE OR TEST THE PRODUCTS IN THIS CATALOG WITH COMPRESSED AIR OR OTHER GASES. FAILURE TO FOLLOW THIS WARNING CAN RESULT IN PERSONAL INJURY OR DAMAGE TO PROPERTY.

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