

## Model D True Union Ball Valve PVC

U45TB-E/V Universal EPDM or FKM

F45TB-E/V Flange EPDM or FKM

## Corzan® HP CPVC

U51TB-E/V Universal EPDM or FKM

F51TB-E/V Flange EPDM or FKM

### APPLICATIONS

- Water and waste water treatment
- OEM's
- Chemical processing
- Swimming pools, aquariums, theme parks
- Mining
- Pharmaceutical
- Pulp & paper
- Marine & corrosive environments
- Metal finishing/plating

### MATERIALS & CONSTRUCTION

- PVC Cell Class 12454 per ASTM D1784, Corzan® HP CPVC Cell Class 23447 per ASTM D1784
- Heavy-duty EPDM and FKM O-Ring seals for stem, seat carrier and end piece

### DESIGN CRITERIA

- Tru-Bloc design
- Rated at 250 psi with non-shock water service at 73°F
- Corzan® HP CPVC is pressure-rated by PPI (Plastic Piping Institute)
- Tested & Certified by NSF. Complies with: ASTM F1970, NSF/ANSI 14 & NSF/ANSI 61-G
- Double O-ring stem
- Interchangeable with Model C cartridge, nuts and end connectors
- Ergonomic handle with built-in carrier wrench
- Double union connections - offering socket, threaded and flanged ends; applications with flanges are de-rated to 150 psi
- Same face-to-face length of the Model C
- Grip style nuts and end connectors to better utilize strap wrench when tightening threaded connections
- Socket end connectors per ASTM D2467 and F439 for Schedule 80 pressure fittings
- Rated for full vacuum service



**Model D, PVC/CPVC  
Tru-Bloc® True Union  
Ball Valve**  
1/2" - 2"

As with all other thermoplastic piping components, the maximum pressure rating for Chemtrol® Model D Ball Valves, regardless of size, is related to temperature as per Figure 1.

**Figure 1.  
MODEL D Ball Valve –  
Pressure Temperature Chart**

Operating Temperature (°F)	Model D Ball Valve	
	PVC	CPVC
70	250	250
80	250	250
90	225	250
100	200	240
110	180	220
120	165	190
130	140	180
140	130	170
150	NR	160
160	NR	150
170	NR	140
180	NR	130
200	NR	65
210	NR	30
220	NR	NR
240	NR	NR
260	NR	NR
280	NR	NR

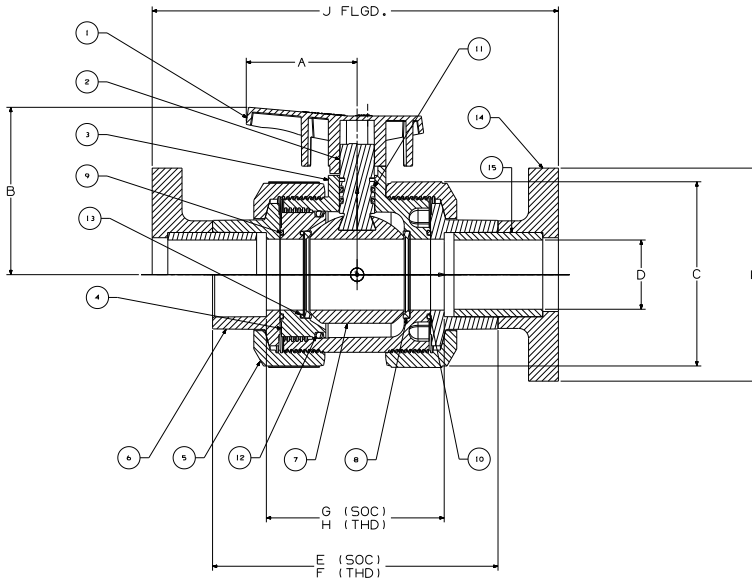
NR – Not Recommended

C <sub>v</sub> (GPM/1PSI)	
Size	C <sub>v</sub>
1/2"	6.4
3/4"	38.7
1"	58.2
1-1/4"	61.7
1-1/2"	117.4
2"	178.4

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# Model D True Union Ball Valve

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**MODEL D TRU-BLOC  
TRUE UNION BALL VALVE**

- Rated 250 psi at 73°F • Non-shock • Full-Port  
 • Tru-Bloc® Design • Double O-ring Stem  
 • NSF-61-G Listed • Blowout-Proof Stem

## MATERIAL LIST

PART	SPECIFICATION
1. Handle - Lever	Orange PVC
2. Stem	PVC, Corzan® HP CPVC
3. Body	PVC, Corzan® HP CPVC
4. Seat Carrier	PVC, Corzan® HP CPVC
5. Union Nut	PVC, Corzan® HP CPVC
6. End Connector	PVC, Corzan® HP CPVC
7. Ball	PVC, Corzan® HP CPVC
8. Seat	PTFE
9. O-Ring - Seat Carrier; End Seal	FKM or EPDM
10. O-Ring - Body; End Seal	FKM or EPDM
11. O-Ring - Stem; OD Seal	FKM or EPDM
12. O-Ring - Seat Carrier; OD Seal	FKM or EPDM
13. O-Ring - Seat Carrier; Seat Energizer	FKM or EPDM
14. Flange	PVC, Corzan® HP CPVC
15. Plain End Pipe Nipple	PVC, Corzan® HP CPVC

## DIMENSIONS—WEIGHTS—QUANTITIES

Nominal Size	Dimensions											
	A	B	C	D	E Soc.	F Thd.	G Soc.	H Thd.	J Flgd.	K Flgd.	PVC • Wt./Lbs	CPVC • Wt./Lbs
1/2	2.07	2.16	1.82	0.50	4.20	4.10	2.42	2.44	6.30	3.50	0.350	0.370
3/4	2.74	2.90	2.36	0.75	5.02	4.62	3.02	3.05	7.34	3.88	0.690	0.730
1	2.74	3.07	2.73	1.00	5.47	5.32	3.22	3.40	8.17	4.26	0.960	1.000
1 1/4	2.62	3.91	4.07	1.25	6.53	6.07	4.01	4.06	9.41	4.62	2.155	2.255
1 1/2	2.62	3.91	4.07	1.50	6.89	6.23	4.10	4.18	10.05	5.00	2.190	2.315
2	3.12	4.71	5.23	2.00	8.04	7.39	5.01	5.19	11.44	6.00	4.410	4.670

## PRODUCT SPECIFICATION: CHEMTROL® MODEL D BALL VALVE

**Scope:** This specification establishes the requirements for dual blocking (Tru-Bloc) quarter-turn ball valves of PVC and CPVC materials intended for use in industrial, commercial, and residential pressure-piping systems, where cost-effective, long-term resistance to corrosion is of prime importance, and the service temperature does not exceed: PVC, 140°F; CPVC, 210°F.

Major component parts shall be constructed from one of the following:

NPS ½" – 2" PVC (polyvinyl chloride), Cell Classification 12454 per ASTM D1784, industrial gray in color, and the valve shall be full-port Tru-Bloc.

NPS ½" – 2" Corzan® HP CPVC (Chlorinated polyvinyl chloride), Cell Class 23447 per ASTM D1784, industrial light-port gray in color, and the valve shall be full Tru-Bloc, with the material being pressure rated by an independent third party organization such as PPI (Plastic Piping Institute).

**Standard Dimensions:** PVC and CPVC socket-end connections shall conform to the dimensional requirements of ASTM D2467 (PVC) and F439 (CPVC) for Schedule 80 pressure fittings.

All threaded-end connections shall conform to the dimensional requirements of ASTM D2467 (PVC) and F439 (CPVC) as well as ASTM F1498.

**Performance:** Valves shall be rated for 250 psi non-shock water service at 73°F and have a minimum burst rating of 3.3 times rated working pressure.

PVC Valves shall be rated at 165 psi non-shock water service at 120°F, with a minimum burst rating of 3.3 times rated working pressure.

CPVC Valves shall be rated to 190 psi non-shock water service at 120°F and 130 psi at 180°F, with a minimum burst rating of 3.3 times rated working pressure.

Valves shall be certified to ASTM D1970 by a recognized third-party agency such as NSF International

**Markings:** Valves shall be clearly marked with the manufacturer's name or trademark, nominal size, material designation, ASTM D1970, Country of origin, and bare the NSF-PW-G (verifying listings for conveying potable water, de-zincification resistant, and lead free).

**Installation and Operation:** Installation and operation shall be as specified by the manufacturer's printed instructions.

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