

Ball Check & Foot Valves



SERIES: BT: True Union Check
 BC: Single Union Check
 FT: True Union Check
 FV: Single Union Check

SIZES: 1/2" – 4"

ENDS: Threaded, Socket, Flanged, Butt¹ or ChemFlare™²

SEAT/SEALS: EPDM, FKM (Viton®), PTFE coated FKM (Viton®)

CRN
 Registered
 Consult Chemist³



True Union Check
 1/2" to 2" in all materials



Single Union Check
 1/2" to 4" in PVC
 2-1/2" to 4" in CPVC, PP and PVDF



Foot Valve is light weight and has a low profile basket

The economical and versatile Ball Check Valve is the most popular type of non-return valves for pipe sizes under 6". A wide selection of body and seat materials, and end connections are available for many different applications. It has good flow capacity and will handle many slurry and suspended solid services. This valve works in both horizontal and vertical lines. The Foot Valve is for end of line services such as sumps.

Features

- True Union to 2"
- Full Port to 4"
- NSF Certified³
- May be used either horizontally or vertically
- Excellent flow characteristics
- Low seating and opening pressures

Built-in Union Design

- For easy installation and maintenance

Free Floating Ball

- The only moving part

Uniseat/Seal

- Easily removable

CRN Registration numbers by province

- Ontario: OC11045.5
- Newfoundland: OC11045.50
- Saskatchewan/Manitoba/Quebec: OC11045.56
- New Brunswick: OC11045.57
- Nova Scotia: OC11045.58
- P.E.I.: OC11045.59
- British Columbia: not required
- Alberta: not required⁴

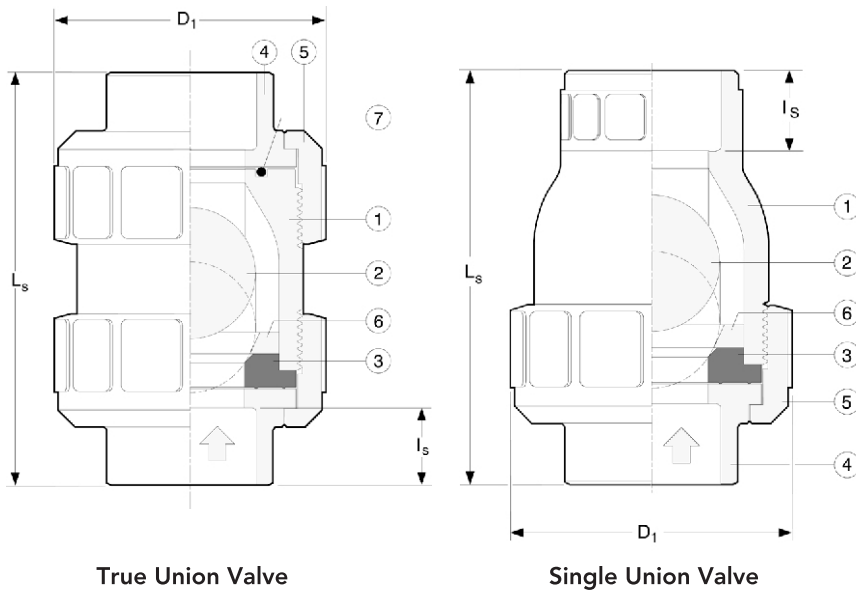
¹ PP and PVDF Butt fusion ends (available 1/2" to 2") connect to PP and PVDF piping systems.

² For end connectors, consult JJ DOWN'S INDUSTRIAL PLASTICS INC.

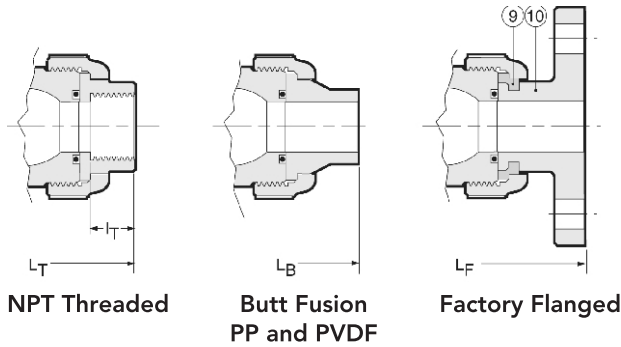
³ PVC valves with EPDM or FKM (Viton®) seals are certified under NSF/ANSI Standard 61 for contact with drinking water.

⁴ Not required for non-expandable fluids.

Ball Check Valves



UNION END CONNECTIONS



PARTS

▲ Recommended Spare Parts

No.	Part	Pcs. T/U/S/U	Materials
1	Body	1 1	PVC, CPVC, PP, PVDF
2	Ball	1 1	PVC, CPVC, PP, PVDF
3▲	Uniseat/Seal ¹	1 1	EPDM, FKM(Viton®), PTFE coated FKM (Viton®)
4	End Connector	2 1	PVC, CPVC, PP, PVDF
5	Union Nut	2 1	PVC, CPVC, PP, PVDF
6	Stop Ring	1 1	PVC, CPVC, PP, PVDF
7	Face O-Ring	1 1	EPDM, FKM(Viton®)
9	Flange Retainer ²	2 1	PVDF
10	Factory Flange ³	2 1	PVC, CPVC, PP, PVDF

¹ Standard seals are EPDM in PVC, CPVC and PP valves, PTFE coated FKM (Viton®) in PVDF valves. Coating is .002" thick.

² True Union: 2 pcs 1/2" to 2", 6 pcs 1-1/2" to 4"
Single Union: 1 pcs 1/2" to 2", 3 pcs 2-1/2" to 4".

³ True Union flanged valves have two factory flanges. Single Union valves have one factory flange and one fabricated flange. Consult JJD for details on fabricated type.



DIMENSIONS INCHES

WEIGHTS LB.

Size	True Union			Single Union			True Union Socket or Butt				Single Union						
							PVC & CPVC		PP & PVDF		PVC	CPVC	PP	PVDF	PVC		
							L _T	L _S	L _F	L _T						L _S	L _F
1/2	1.9	0.69	0.59	3.4	3.4	5.1	3.4	4.0	5.1	3.2	3.4	5.6	0.3	0.3	0.2	0.3	0.2
3/4	2.4	0.72	0.67	4.1	3.9	6.1	4.1	4.4	6.1	3.8	3.7	6.6	0.5	0.5	0.3	0.6	0.4
1	2.8	0.88	0.79	4.5	4.4	6.5	4.5	4.8	6.5	4.2	4.3	7.3	0.7	0.8	0.4	0.9	0.6
1-1/4	3.1	0.94	0.87	5.0	4.9	6.6	5.0	5.9	6.6	6.2	6.3	12.3	1.1	1.2	0.7	1.5	1.5
1-1/2	3.7	1.09	0.98	5.9	5.9	7.6	5.9	5.8	7.6	5.6	5.7	9.1	1.6	1.7	1.0	2.0	1.3
2	4.2	1.16	1.10	7.0	6.8	8.4	7.0	6.5	8.4	6.5	6.5	10.5	2.2	2.4	1.4	2.7	1.8

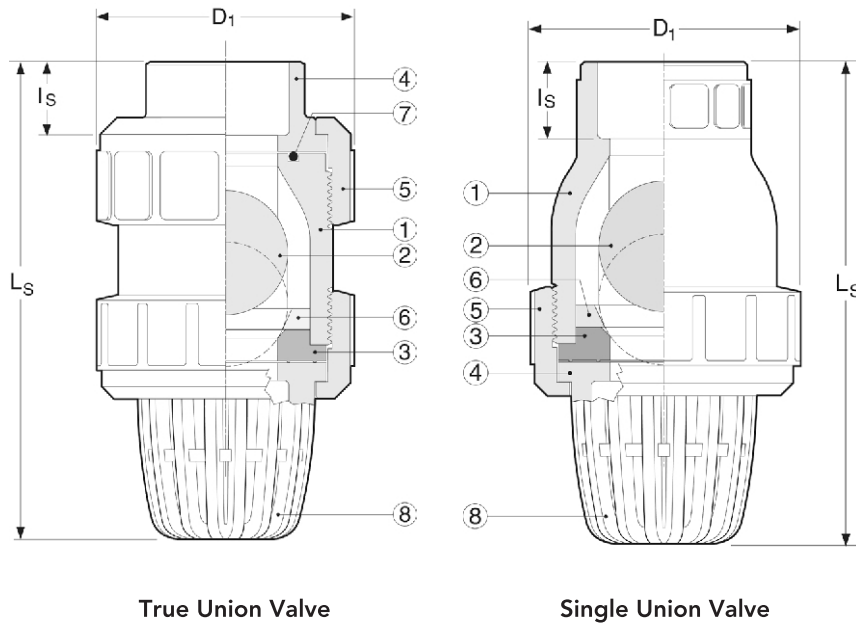
DIMENSIONS INCHES

WEIGHTS LB.

Size	Single Union			Single Union									
				PVC & CPVC			PP & PVDF			Single Union			
				L _T	L _S	L _F	L _T	L _B	L _F	PVC	CPVC	PP	PVDF
2-1/2	6.0	2.10	2.17	10.0	10.4	14.3	8.7	*	*	5.7	6.2	*	*
3	6.0	1.88	1.38	8.7	9.6	12.2	8.7	*	*	5.1	5.5	3.3	6.3
4	8.3	2.00	1.77	12.1	12.2	15.0	12.1	*	*	12.7	13.9	8.1	15.7

⁴ Consult JJD

Foot Valves



PARTS

▲ Recommended Spare Parts

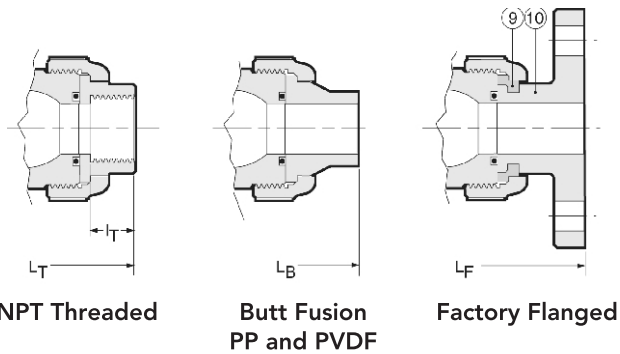
No.	Part	Pcs. T/U;S/U	Materials
1	Body	1 1	PVC, CPVC, PP, PVDF
2	Ball	1 1	PVC, CPVC, PP, PVDF
3▲	Uniseat/Seal ¹	1 1	EPDM, FKM(Viton®), PTFE coated FKM (Viton®)
4	End Connector	2 1	PVC, CPVC, PP, PVDF
5	Union Nut	2 1	PVC, CPVC, PP, PVDF
6	Stop Ring	1 1	PVC, CPVC, PP, PVDF
7	Face O-Ring	1 1	EPDM, FKM(Viton®)
8	Foot Valve Basket	1 1	PVC, CPVC, PP, PVDF
9	Flange Retainer ²	3 0	PVDF
10	Factory Flange ³	1 0	PVC, CPVC, PP, PVDF

¹ Standard seals are EPDM in PVC, CPVC and PP valves, PTFE coated FKM (Viton®) in PVDF valves. Coating is .002" thick.

² True Union: 1 pc 1/2" to 2", 3 pcs 2-1/2" to 4".

³ True Union valves have factory flanges. Single Union have fabricated flanges. Consult JJD for details on fabricated type.

END CONNECTIONS FOR TRUE UNION VALVE



DIMENSIONS INCHES

WEIGHTS LB.

Size	D ₁	I _s Soc	I _T Thd	True Union PVC & CPVC			Single Union PVC			Single Union
				L _T	L _S	L _F	L _T	L _S	L _F	PVC Socket
1/2	1.9	0.69	0.59	2.8	2.9	3.7	3.5	3.7	4.8	0.3
3/4	2.4	0.72	0.67	3.3	3.3	4.4	4.1	4.2	5.4	0.4
1	2.8	0.88	0.79	3.7	3.7	4.8	4.5	4.8	6.1	0.8
1-1/4	3.7	0.94	0.87	*	*	*	7.1	7.3	8.8	1.8
1-1/2	3.7	1.09	0.98	5.4	5.4	6.3	6.8	7.0	8.6	1.7
2	4.2	1.16	1.10	6.4	6.4	7.2	7.4	7.6	9.4	2.1
2-1/2	6.0	2.10	2.17	-	-	-	11.9	12.5	14.4	7.4
3	6.0	1.88	1.38	-	-	-	11.6	12.0	14.2	7.1
4	8.3	2.00	1.77	-	-	-	14.7	15.0	17.4	15.7

* Consult JJD for dimensions.

For CPVC (2-1/2" to 4"), PP and PVDF Foot Valve lengths, consult JJD.

Ball Check & Foot Valves

WORKING PRESSURES PSI

Size	PVC	CPVC				Polypropylene			PVDF			
	0-50°C 32-122°F	0-50°C 32-122°F	60°C 140°F	80°C 176°F	90°C 194°F	-20-30°C -4-90°F	60°C 140°F	80°C 176°F	-20-60°C -4-140°F	80°C 176°F	90°C 194°F	100°C 212°F
1/2	150	150	115	85	60	150	90	60	150	120	110	85
3/4	150	150	115	85	60	150	90	60	150	120	110	85
1	150	150	115	85	60	150	90	60	150	120	110	85
1-1/4	150	150	115	85	60	150	90	60	150	120	110	85
1-1/2	150	150	115	85	60	150	90	60	150	120	110	85
2	150	150	115	85	60	150	90	60	150	120	110	85
2-1/2	100	100	90	60	45	100	60	45	100	90	60	45
3	100	100	90	60	45	100	60	45	100	90	60	45
4	100	100	90	60	45	100	60	45	100	90	60	45

Maximum Temperatures: PVC 0 to 60°C (32 to 140°F), CPVC 0 to 95°C (32 to 203°F), PP -20 to 90°C (-4 to 194°F), PVDF -40 to 100°C (-40 to 212°F)

MINIMUM SEATING AND OPENING PRESSURE PSI

Size	Vertical Piping		Horizontal Piping		Check Valves
	Open	Seating	Open	Seating	
1/2	0.7	2.8	0.1	2.8	6.5
3/4	0.7	4.3	0.1	4.3	17.
1	0.7	4.3	0.1	4.3	25.
1-1/4	1.4	4.3	0.3	4.3	86.
1-1/2	1.4	4.3	0.3	4.3	86.
2	1.4	4.3	0.3	4.3	130.
2-1/2	1.4	2.8	0.3	2.8	280.
3	1.4	2.8	0.3	2.8	280.
4	1.4	2.8	0.3	2.8	500.

Cv VALVES

VACUUM RATING

- 29.9 inches mercury
- Maximum recommended velocity 5 m/s

INSTALLATION RECOMMENDATIONS

- at least 5 pipe diameters from fittings, valves, etc.
- at least 10 pipe diameters from pumps

SAMPLE SPECIFICATION

All Ball Check valves in PVC, CPVC, PP or PVDF shall be BT or BC Series or equal with EPDM [FKM (Viton®) or PTFE coated FKM (Viton®)] seats and union ends. Sizes 1/2" to 2" shall be slip-out True Union style, sizes 2-1/2" to 4" shall be single union. The elastomer uniseat/seal shall function as both the ball seat and the union seal. Ball Check valves shall be rated 150 psi up to 2" and 100 psi for sizes 2-1/2" to 4".

ORDERING EXAMPLE

Ball Check/Foot Valves	BT	A	020	E	S
Valve Type	BT – True Union Ball Check BC – Single Union Ball Check FV – Single Union Foot Valve FT – True Union Foot Valve				
Body Material	A – PVC C – CPVC B – PP K – PVDF				
Size	005 – 1/2" 007 – 3/4" 010 – 1" 012 – 1-1/4" 015 – 1-1/2" 020 – 2" 025 – 2-1/2" 030 – 3" 040 – 4"				
Seals	E – EPDM V – FKM (Viton®) P – PTFE coated FKM (Viton®)				
Ends	S – Socket T – Threaded F – Flanged B – Butt ¹ CF – ChemFlare™				

Example: Ball Check Valve, PVC, 2", with EPDM seat, socket ends.

¹ PP and PVDF metric butt fusion ends (1/2" to 2") connect to PP and PVDF piping systems.

OPTIONS & ACCESSORIES

- PTFE coated Uniseat/Seal
- Spring Loaded Ball – Assists ball to seat faster



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