

# VB Series

## True Union Blocking Ball Valve

<b>Material:</b>	PVC, CPVC, PP, PVDF
<b>Size:</b>	1/2" - 4"
<b>Pressure Rating:</b>	230 psi 1/2" - 2"; 150 psi 2 1/2" - 4"
<b>Seats:</b>	PTFE
<b>Seals:</b>	EPDM or VITON
<b>Connections:</b>	IPS Socket Metric Socket NPT Threaded ANSI 150 Flanged Metric Butt Fusion



**ISO 9002 CERTIFIED**

## Engineering Guide Specification

### Materials of Construction:

- PVC:** Type 1, Class 12454B per ASTM D1784
- CPVC:** Type 4, Class 23447 per ASTM D1970
- PP:** Class PP 110B76383 per ASTM D4101
- PVDF:** Type 1 per ASTM D3222
- Seals:** EPDM or Viton
- Seats:** PTFE

**Guide Specification:** All ball valves constructed of the materials indicated. Valves shall be manufactured with an adjustable carrier, threaded into the body to ensure the valve is blocking in both directions. Valve stem shall be a safety shear stem with double O-ring seals. Body shall have unions on both ends and handle shall incorporate a spanner for adjusting and removing the carrier, teflon seat shall be energized by O-ring, ball shall be machined and tumbled to ensure roundness, as manufactured by SIMTECH.

## Special Features

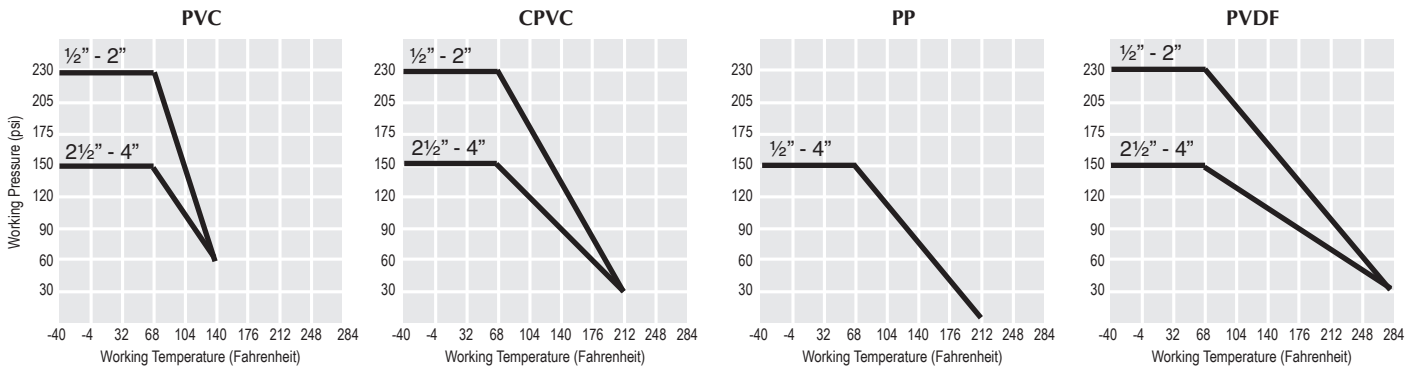
- Full port
- Bidirectional flow
- Low maintenance and extended operational life
- Handle equipped as a spanner device to adjust carrier
- Teflon seat energized by O-ring
- Ball machined and tumbled to ensure roundness
- Special mounting pads are molded on body for actuator mounting or valve anchoring
- Blowout proof stem
- Safety shear stem design
- Double O-Ring Seal on Stem

## Flow Rate in Gallons Per Minute

ND	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4
<b>Bore Size</b>	.512	.709	.910	1.18	1.50	1.89	2.36	2.72	3.94
<b>C<sub>v</sub></b>	12.5	28	50.9	81	150	230	360	485	768

*C<sub>v</sub> is the number of gallons per minute of water at a temperature of 68°F that will flow through a valve with a 1 psi pressure differential at a specified travel.*

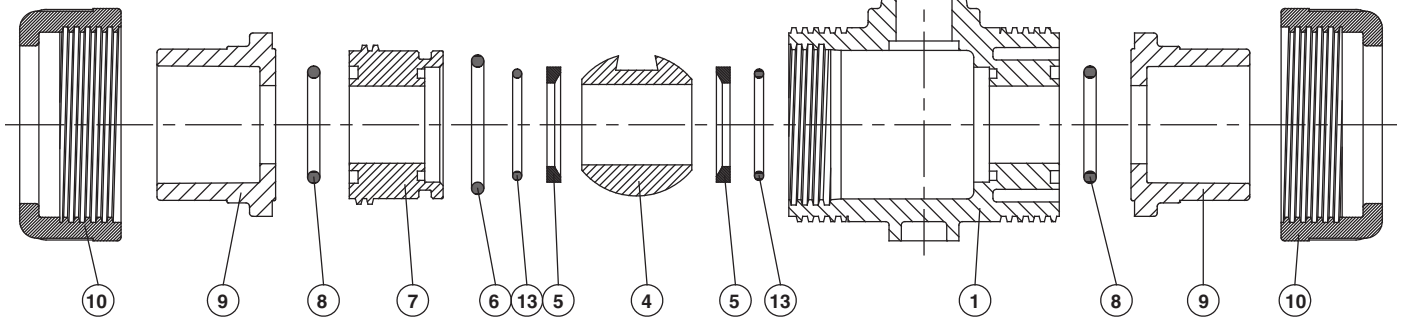
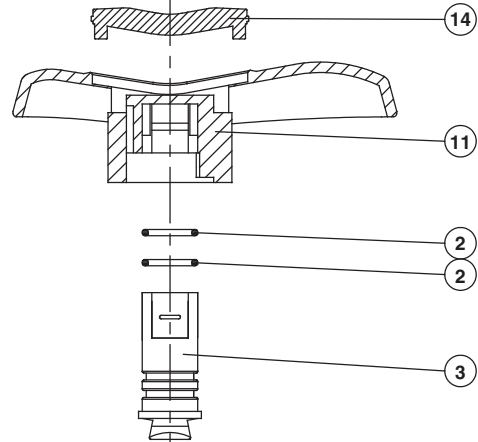
## Pressure/Temperature Graph: Working PSI/Fahrenheit



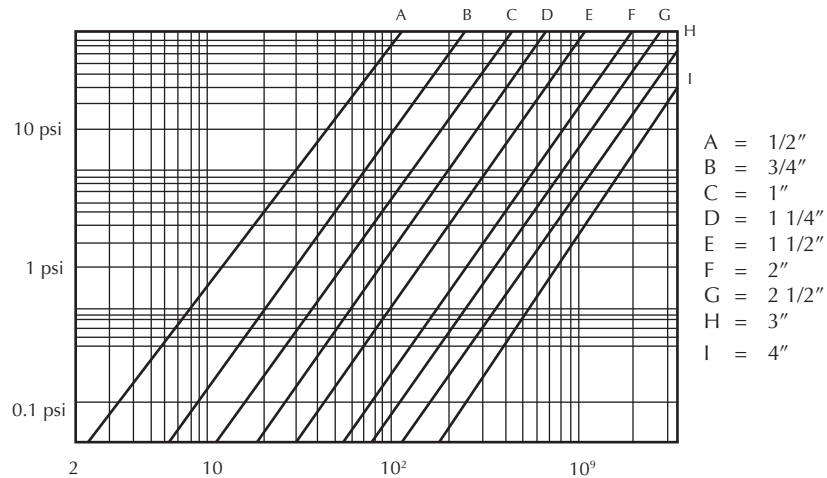
# VB Series

## Parts Listing

NO.	PART	MATERIAL	QTY
1	BODY	PVC, CPVC, PP, PVDF	1
2	STEM O-RING	EPDM, FPM	2
3	STEM	PVC, CPVC, PP, PVDF	1
4	BALL	PVC, CPVC, PP, PVDF	1
5	SEAT SEAL	PTFE	2
6	CARRIER O-RING	EPDM, FPM	1
7	SEAL CARRIER	PVC, CPVC, PP, PVDF	1
8	UNION O-RING	EPDM, FPM	2
9	END CONNECTOR	PVC, CPVC, PP, PVDF	2
10	UNION NUT	PVC, CPVC, PP, PVDF	2
11	HANDLE	ABS	1
12	INSERTED NUT	BRASS	2
13	BODY O-RING	EPDM, FPM	2
14	HANDLE COVER	ABS	1



## Pressure Loss—Flow Diagram



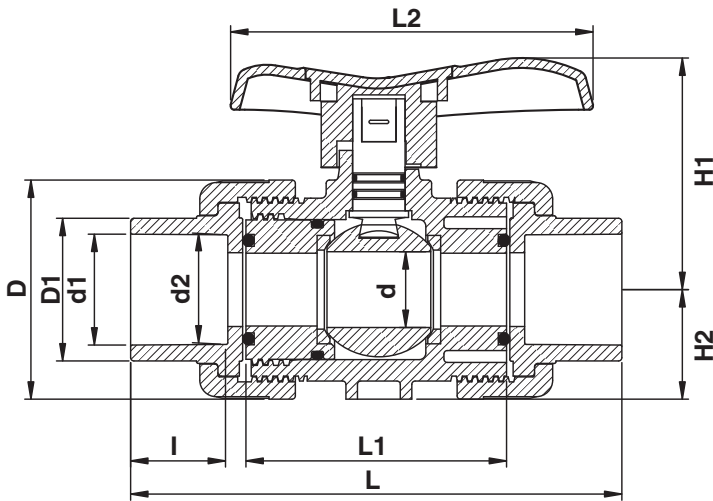
# VB Series

## Dimensional Data - True Union

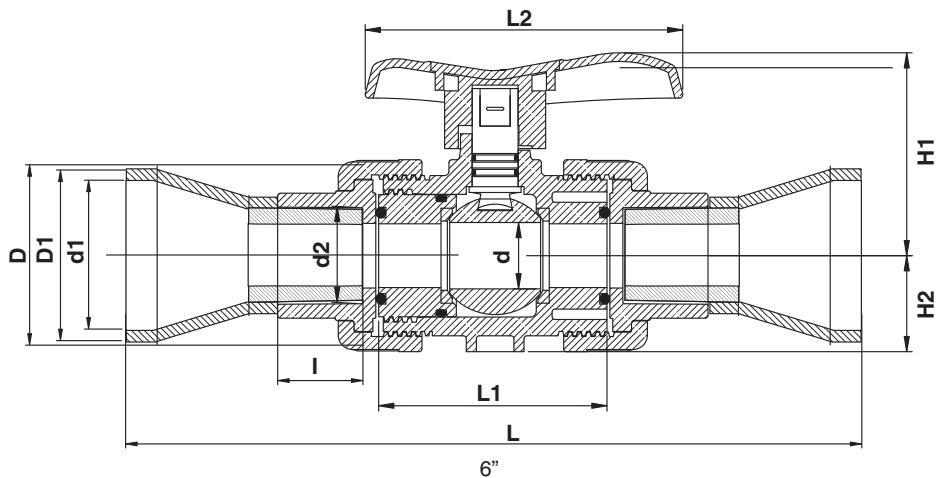
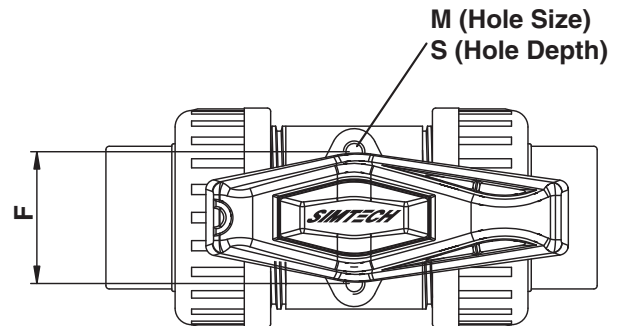
Nom. Size	PVC & CPVC				PP & PVDF				D	D1	L1	L2	H1	H2	F	M	S
	I	d1	d2	L	I	d1	d2	L									
½"	0.87	0.85	0.84	4.49	0.58	0.76	0.75	4.27	1.82	1.19	2.36	3.03	1.81	0.83	1.18	0.20	0.28
¾"	1.00	1.06	1.05	5.31	0.64	0.94	0.94	4.87	2.19	1.43	2.87	3.74	2.24	1.02	1.30	0.24	0.31
1"	1.13	1.32	1.31	5.87	0.74	1.23	1.22	5.45	2.62	1.70	3.11	4.33	2.76	1.30	1.57	0.24	0.43
1¼"	1.25	1.67	1.66	6.69	0.85	1.53	1.53	6.10	3.23	2.08	3.46	5.00	2.95	1.54	1.85	0.31	0.43
1½"	1.38	1.91	1.89	6.93	0.96	1.92	1.91	6.10	3.88	2.46	3.74	5.63	3.58	1.61	2.05	0.31	0.43
2"	1.50	2.39	2.37	8.15	1.12	2.44	2.43	7.20	4.72	3.01	4.49	6.46	4.45	2.05	2.76	0.31	0.59
2½"	1.75	2.89	2.87	10.83	1.22	2.90	2.90	9.57	5.51	3.62	5.35	7.09	4.57	2.56	-	-	-
3"	1.88	3.52	3.49	11.97	1.41	3.50	3.50	10.59	6.42	4.25	6.22	8.82	5.12	2.95	-	-	-
4"	2.25	4.52	4.49	13.07	1.63	4.29	4.28	11.30	8.86	5.75	6.93	10.94	7.01	4.06	-	-	-
6" *	2.25	6.63	4.49	26.59	-	-	-	-	8.86	7.63	6.93	10.94	7.01	4.06	-	-	-

\*4" Valve Ventured to 6"

\* For metric spigot dimensions, contact factory



½" Through 4"



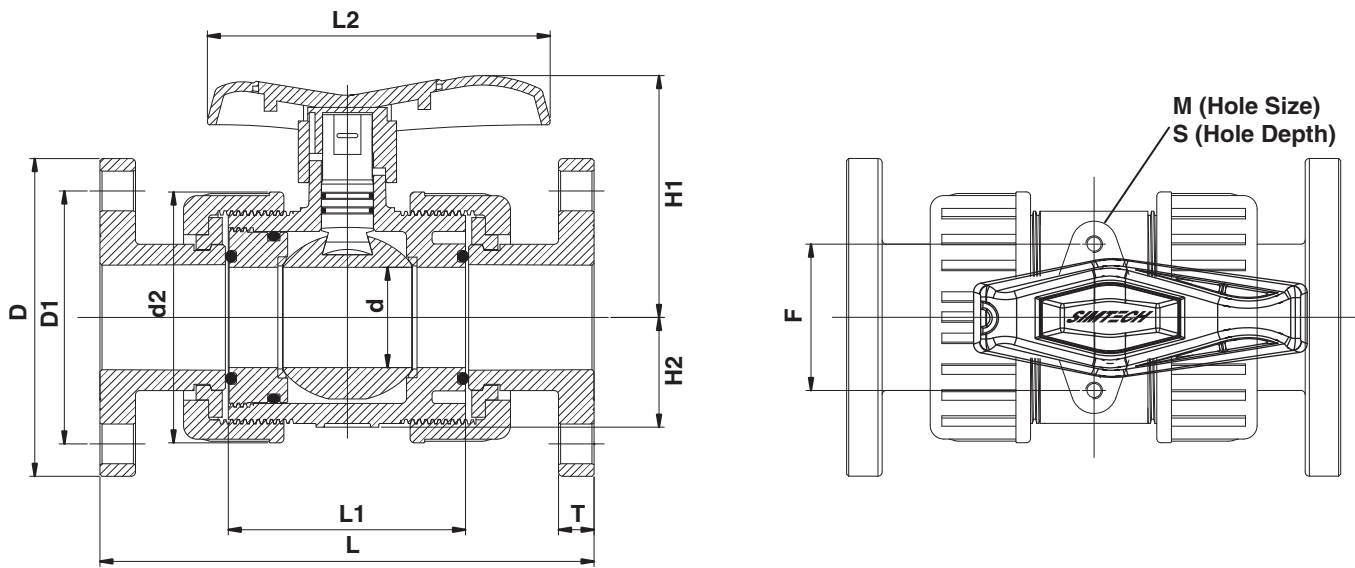
6"

# VB Series

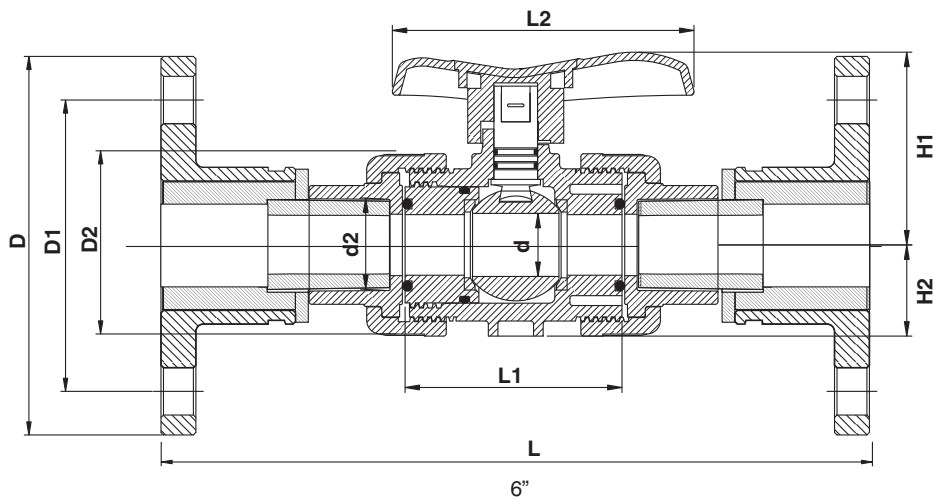
## Dimensional Data - Flanged

Nom. Size	PVC & CPVC L	PP & PVDF L	d2	d	D	D1	L1	L2	H1	H2	F	M	S	T	# Holes	Hole Size
1/2"	5.63	6.20	1.82	0.51	3.50	2.40	2.36	3.03	1.81	0.83	1.18	0.20	0.28	0.51	4	0.63
3/4"	6.77	6.82	2.19	0.71	3.86	2.76	2.87	3.74	2.24	1.02	1.30	0.24	0.31	0.59	4	0.63
1"	7.36	7.64	2.62	0.91	4.25	3.11	3.11	4.33	2.76	1.30	1.57	0.24	0.43	0.59	4	0.63
1 1/4"	7.48	8.54	3.23	1.18	4.61	3.50	3.46	5.00	2.95	1.54	1.85	0.31	0.43	0.63	4	0.63
1 1/2"	8.35	8.90	3.88	1.50	5.00	3.90	3.74	5.63	3.58	1.61	2.05	0.31	0.43	0.67	4	0.63
2"	9.21	10.33	4.72	1.89	5.98	4.76	4.49	6.46	4.45	2.09	2.76	0.31	0.59	0.67	4	0.75
2 1/2"	10.20	12.58	5.51	2.40	7.01	5.51	5.31	7.09	4.57	2.56	-	-	-	0.71	4	0.75
3"	11.97	14.27	6.30	2.72	7.52	5.98	6.14	8.82	5.12	2.95	-	-	-	0.71	4	0.75
4"	14.65	15.20	8.86	3.90	9.02	7.52	6.93	10.94	7.01	4.06	-	-	-	0.71	8	0.75
6"*	22.02	-	8.86	3.90	11.00	9.50	6.93	10.94	7.01	4.06	-	-	-	1.09	8	0.75

\*4" Valve Ventured to 6"



1/2" Through 4"



6"