

# True Union Ball Valves

PVC and CPVC



## Corrosion Resistant Thermoplastic Valves:

Parker Hannifin, Veriflo Division, Partek Operation has a complete line of thermoplastic valves which provide superior chemical resistance. Since they are made from a variety of engineering plastics, corrosion becomes a thing of the past when using the appropriate products.

Parker's true union ball valves are used in many applications where acids and corrosive chemicals are used in place of stainless systems when a greater corrosion resistance is desired. They are used in a variety of applications such as chemical production, water, industrial water treatment, plating & metal treatment, pulp & paper, refinishing and power plants.



## Contact Information:

Parker Hannifin Corporation  
Veriflo Division  
**Partek Operation**  
7075 East Southpoint Road  
Tucson, Arizona 85706

phone 520 574 2600  
fax 520 574 2700

[www.parker.com/partek](http://www.parker.com/partek)

## Product Features:

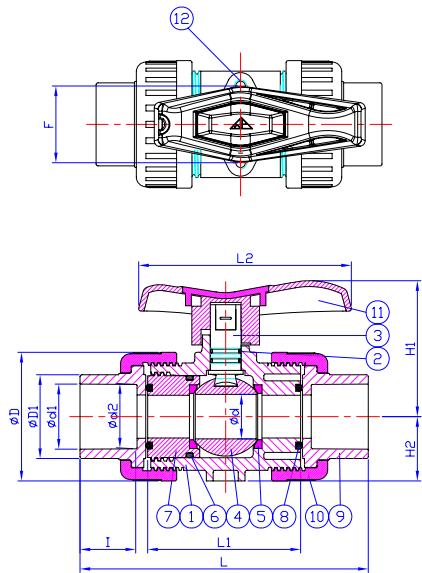
- NSF certified for Potable water use
- Pressures up to 222 psig
- Full bore flow through
- Bubble tight shut off
- True union design allows easy installation into existing piping
- Full rated back pressure
- PTFE and EPDM or FPM seals
- Pneumatic and electric option available
- Fully serviceable, replaceable components



ENGINEERING YOUR SUCCESS.

# True Union Ball Valve

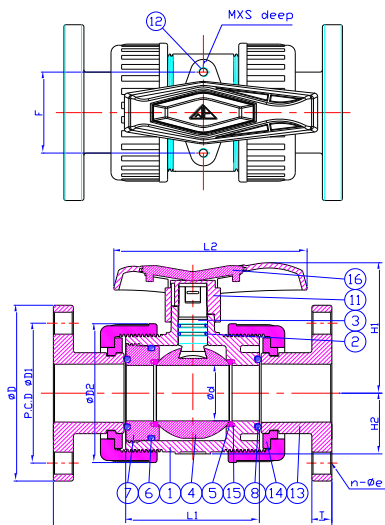
## Dimensional Drawings



Part Number	Size	1/2" (15mm)	3/4" (20mm)	1" (25mm)	1-1/2" (40mm)	2" (50mm)
MB1S & MB2S	ANSI	Ød1	21.54	26.87	33.65	48.56
		Ød2	21.23	26.57	33.27	48.11
		I	22.22	25.4	28.58	34.93
	thd./ in	NPT	14	14	11.5	11.5
		BSPT	14	14	11	11
	ØD	46.3	55.5	66.5	98.5	120
	ØD1	30.3	36.3	43.3	62.5	76.5
	Ød	13	18	23	38	48
	L	114	135	149	176	207
	L1	60	73	79	95	114
	L2	77	95	110	143	164
	H1	46	57	70	91	113
	H2	21	26	33	41	52
	F	30	33	40	52	70
	M	M5	M6	M6	M8	M8
	S	7	8	11	11	15

No.	Part	Material	Q'ty
1	Body	UPVC, CPVC	1
2	Stem O-Ring	EPDM, FPM	2
3	Stem	UPVC, CPVC	1
4	Ball	UPVC, CPVC	1
5	Seat Seal	PTFE	2
6	Carrier O-Ring	EPDM, FPM	1

No.	Part	Material	Q'ty
7	Seal Carrier	UPVC, CPVC	1
8	Union O-Ring	EPDM, FPM	2
9	End Connector	UPVC, CPVC	2
10	Union Nut	UPVC, CPVC	2
11	Handle	ABS, PP	1
12	Inserted Nut	C3604	2,4



Part Number	Size	1/2" (15mm)	3/4" (20mm)	1" (25mm)	1-1/2" (40mm)	2" (50mm)
MB1S-F & MB2S-F	ANSI	ØD	89	98	108	127
		ØD1	61	70	79	99
		L	143	172	187	212
		n-Øe	4-16	4-16	4-16	4-16
		T	13	15	15	17
	ØD2	46.3	55.5	66.5	98.5	120
	Ød	13	18	23	38	48
	L1	60	73	79	95	114
	L2	77	95	110	143	164
	H1	46	57	70	94	113
	H2	21	26	33	41	53
	F	30	33	40	52	70
	M	M5	M6	M6	M8	M8
	S	7	8	11	11	15

No.	Part	Material	Q'ty
1	Body	UPVC, CPVC	1
2	Stem O-Ring	EPDM, FPM	2
3	Stem	UPVC, CPVC	1
4	Ball	UPVC, CPVC	1
5	Seat Seal	PTFE	2
6	Carrier O-Ring	EPDM, FPM	1
7	Seal Carrier	UPVC, CPVC	1
8	Union O-Ring	EPDM, FPM	2

No.	Part	Material	Q'ty
10	Union Nut	UPVC, CPVC	2
11	Handle	ABS, PP	1
12	Inserted Nut	C3604	2,4
13	Flange	UPVC, CPVC	2
14	Set Ring	UPVC, CPVC	2
15	Body O-Ring	EPDM, FPM	2
16	Handle Cover	ABS	1

**\*\* Do not recommend to service or test with compressed air \*\***

# True Union Ball Valve

## Ordering Information

Part Number	Size	Standard	Material	Seat	O-Ring	End Type
MB1S08	1/2"	ANSI	PVC	PTFE	EPDM, FPM	Socket, Threaded, Flanged
MB2S08	1/2"	ANSI	CPVC	PTFE	EPDM, FPM	Socket, Threaded, Flanged
MB1S12	3/4"	ANSI	PVC	PTFE	EPDM, FPM	Socket, Threaded, Flanged
MB2S12	3/4"	ANSI	CPVC	PTFE	EPDM, FPM	Socket, Threaded, Flanged
MB1S16	1"	ANSI	PVC	PTFE	EPDM, FPM	Socket, Threaded, Flanged
MB2S16	1"	ANSI	CPVC	PTFE	EPDM, FPM	Socket, Threaded, Flanged
MB1S24	1-1/2"	ANSI	PVC	PTFE	EPDM, FPM	Socket, Threaded, Flanged
MB2S24	1-1/2"	ANSI	CPVC	PTFE	EPDM, FPM	Socket, Threaded, Flanged
MB1S32	2"	ANSI	PVC	PTFE	EPDM, FPM	Socket, Threaded, Flanged
MB2S32	2"	ANSI	CPVC	PTFE	EPDM, FPM	Socket, Threaded, Flanged

To order with flange, use -F.

Base part number includes both socket and female threads.

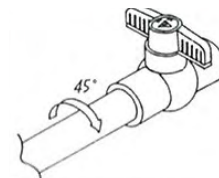
## Weight (pounds)

Nominal Size		Socket Threaded	Flanged
Inches	MM		
1/2	15	0.44	1.10
3/4	20	0.66	1.54
1	25	1.10	2.70
1 1/2	40	2.64	4.40
2	50	4.40	8.15

## Cv Values

Nominal Size		Cv
Inches	MM	
1/2	15	14
3/4	20	29
1	25	47
1 1/2	40	155
2	50	190

## Installation Instructions



**1.** Apply sufficient cement on the inner wall of valve and outside wall of pipe, please do not apply too much cement, for it may obstruct the fluid flowing in the valve.

**2.** Immediately join the valve and pipe while the surfaces are still wet, and turn 45°. Hold the valve and pipe together for approximately 10 seconds.

**3.** As our compact ball valves are NSF certified products, we recommend to use NSF certified cement only.

\*Installation Instructions are supplied as reference only. For complete instructions see supplier of cement.

**\*\* Do not recommend to service or test with compressed air \*\***

# True Union Ball Valve

## Product Properties

### CHEMICAL RESISTANCE OF MATERIAL

Chemicals	Concentration (%)	Temperature (°C)	Material	
			PVC	CPVC
Sodium Chloride	Saturated Water Solution	40	⊙	⊙
		60	⊙	⊙
		80	⊙	⊙
Hydrochloric Acid	35	40	⊙	⊙
		60	○	⊙
		80		○
Caustic Soda	50	40	⊙	⊙
		60	⊙	⊙
		80		⊙
Chromic Acid	20	40	⊙	○
		60	○	△
		80		
Acetic Acid	50	40	⊙	○
		60	○	△
		80		x
Soda Hypochlorite	13	40	⊙	⊙
		60	○	○
		80		
Nitric Acid	50	40	○	○
		60	○	△
		80		x
Toluene		40		
		60		
		80		
Hydrogen Sulfide	Aqueous Solution	40	⊙	⊙
		60	⊙	⊙
		80		⊙
Sulfuric Acid	90	40	○	⊙
		60	○	○
		80		△

⊙ Not affected  
 ○ Negligibly affect  
 △ Slightly affected but serviceable  
 x Not serviceable

The above table is intended as a guide to the user and the selection of matter for fluid compatibility. The information in this table is based on chemical resistance ratings at different temperatures. Generally resistance decreases at higher temperatures. Consult factory for details.

No one material can be expected to be compatible with the wide variety of fluids found in the world today. Users must test under their own operating conditions to determine the suitability of any materials in a particular application.

Parker Hannifin corporation is not responsible for the accuracy of this data and assumes no obligations or liability in connection with it's use. This information is accepted at the user's sole risk.

### REFERENCE RANGE OF TEMPERATURE

Material		Polyvinyl Chloride	Chlorinated Polyvinyl Chloride
Abbreviation		PVC	CPVC
General chemical resistance		Resistant against most of acids, alkalis and salts of high to low concentration level. However, the material tends to be attacked by some chemicals - such as aromatic hydrocarbon, ketones, esters and chlorinated hydrocarbon.	Resistance properties are nearly the same as PVC. Having a high heat-resistance, this is serviceable in the temperature range higher than the former's.
Max. Service temperature	Continuous	5° ~ 50°C	0° ~ 90°C
	Short hours	60°C	100°C

### BASIC PROPERTIES OF PLASTICS

Item	Unit	Rigid PVC (UPVC)	Heat Resistant (CPVC)
Specific gravity	-	1.40	1.55
Tensile strength	kgf/cm²	480 and over	500 and over
Tensile strength (at 90°C)	kgf/cm²	-	250 and over
Tensile Modulus	kgf/cm²	3x10 <sup>4</sup>	3.2x10 <sup>4</sup>
Bending Strength	kgf/cm²	800 and over	900 and over
Poisson's ratio	-	0.38	0.38
Heat distortion temperature (4.6kg t/w)	°C	74	110
Temperature limit for continuous service	°C	50	90
Linear thermal coefficient of expansion	/°C	3x10 <sup>-5</sup>	3x10 <sup>-5</sup>
Thermal conductivity	kcal/mh°C	0.13	0.12

### OFFER OF SALE:

The items described in this document are hereby offered for sale by Parker-Hannifin Corporation, its subsidiaries or its authorized distributors. This offer and its acceptance are governed by the provisions stated in the detailed "Offer of Sale" elsewhere in this document or available at [www.parker.com/partek](http://www.parker.com/partek)



### WARNING USER RESPONSIBILITY

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE. THIS DOCUMENT IS FOR REFERENCE ONLY. PLEASE CONSULT FACTORY FOR LATEST PRODUCT DRAWINGS AND SPECIFICATIONS

This document and other information from Parker-Hannifin Corporation, its subsidiaries and authorized distributors provide product or system options for further investigation by users having technical expertise.

The user, through its own analysis and testing, is solely responsible for making the final selection of the system and components and assuring that all performance, endurance, maintenance, safety and warning requirements of the application are met. The user must analyze all aspects of the application, follow applicable industry standards, and follow the information concerning the product in the current product catalog and in any other materials provided from Parker or its subsidiaries or authorized distributors.

To the extent that Parker or its subsidiaries or authorized distributors provide component or system options based upon data or specifications provided by the user, the user is responsible for determining that such data and specifications are suitable and sufficient for all applications and reasonably foreseeable uses of the components or systems.