Valves Technical

Utility Ball Valves



Sample Engineering Specification

All thermoplastic ball valves shall be Utility sealed unit type constructed from PVC Type I, ASTM D 1784 Cell Classification 12454 or CPVC Type IV, ASTM D 1784 Cell Classification 23447. All O-rings shall be EPDM. All valves shall have Safe-T-Shear® stem and Polypropylene handle. All valves shall be certified by NSF International for use in potable water service. All valves shall be pressure rated at 150 psi for water at 73°F, as manufactured by Spears® Manufacturing Company.

Features - PVC White, PVC Gray & CPVC

A high quality, economical quarter-turn shutoff valve designed for irrigation, pool and spa, and general purpose applications. IPS sizes 1/2" - 3" available in PVC White, PVC Gray or CPVC with socket or threaded end connectors. Size 4" available in PVC White with socket or threaded end connectors. 6" size available in PVC White with socket end connectors and high-efficiency lever style handle for easier operation.

- Chemical & Corrosion Resistant PVC or CPVC Construction
- · Economical Sealed Unit
- · Schedule 80 Full-Port Design
- · High Impact Polypropylene Handle
- Spears[®] Single O-ring Safe-T-Shear[®] Stem Design
- · EPDM O-rings
- PTFE/HDPE Floating Seat Design
- Sizes 1/2" 6" Pressure Rated to 150 psi @ 73°F
- NSF® Certified for Potable Water use
- Assembled with Silicone-Free, Water Soluble lubricant

Note: Valve sizes 4" and 6" are not available in CPVC.

Refer to Compact Ball Valve Valve size 6" uses Lever Handle (not shown)

Quick-View Valve Selection Chart

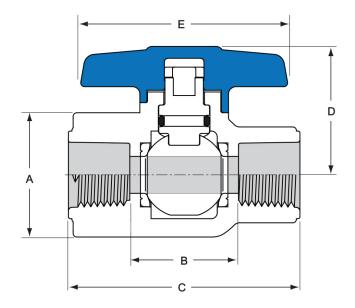
Valve	O-ring	PVC Part	Pressure				
Size	Material	aterial Socket Threaded		Rating			
1/2	EPDM	2622-005	2621-005				
3/4	EPDM	2622-007	2621-007				
1	EPDM	2622-010	2621-010				
1-1/4	EPDM	2622-012	2621-012	150 psi			
1-1/2	EPDM	2622-015	2621-015	Non-Shock			
2	EPDM	2622-020	2621-020	Water			
2-1/2	EPDM	2622-025	2621-025	@ 73°F			
3	EPDM	2622-030	2621-030				
4	EPDM	2622-040	2621-040				
6	EPDM	2622-060					

^{1:} For CPVC valves, add the letter "C" to part numbers listed (e.g., 2621-005**C**).

^{2:} For PVC Gray, add the letter "G" to part numbers listed (e.g. 2621-005G).

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Dimensions, Weights & C_v Values

Nominal Size		Dim	ension Referenc	Approx.						
	Α	B ¹		С	D	E ³	PVC	CPVC	C _v ² Values	
		Socket	Threaded	C	U	E'	PVC	GFVG		
1/2	1-7/16	1-3/16	1-7/32	2-5/8	1-11/16	2-3/4	.16	.17	46	
3/4	1-25/32	1-7/16	1-7/16	2-15/16	2-1/32	3-1/4	.25	.27	91	
1	2-1/32	1-5/8	1-5/8	3-3/8	2-7/16	3-1/2	.34	.36	160	
1-1/4	2-9/16	1-31/32	2	3-7/8	2-3/4	3-3/4	.57	.60	306	
1-1/2	2-15/16	2-1/2	2-15/32	4-5/8	3-1/8	4-1/4	.88	.90	429	
2	3-9/16	2-13/16	3-3/16	5-3/16	3-7/8	5	1.34	1.34	755	
2-1/2	4-5/16	3-1/2	4-7/16	7	4-1/8	5-5/8	2.31	2.41	1126	
3	5-11/32	4-5/32	5-3/16	8	5-9/16	7-3/4	4.18	4.67	1660	
4	6-11/16	5-1/8	6-7/32	9-3/16	6-5/32	9-1/8	8.00	N/A	3129	
6 ³	10-3/16	8-3/32		14-3/16	8-5/32	14-3/32	23.24	N/A	7942	

1: Valve Lay Length
2: Gallons per minute at 1 psi pressure drop. Values calculated from valve laying length, based on derivative of Hazen-Williams equation with surface roughness factor of C=150.
3: 6" valve has lever handle, dimension is from valve stem centerline (not illustrated)

Temperature Pressure Rating

System Operating		73	100	110	120	130	140	150	160	170	180	190
Temperature °F (°C)		(23)	(38)	(43)	(49)	(54)	(60)	(66)	(71)	(77)	(82)	(88)
Valve Pressure	PVC	150 (1.03)	93 (.64)	75 (.52)	60 (.41)	45 (.31)	33 (.23)	-0- (-0-)	-0- (-0-)	-0- (-0-)	-0- (-0-)	-0- (-0-)
Rating	CPVC	150	23	110	98	86	75	68	60	48	38	-0-
psi (MPa)		(1.03)	(.85)	(.76)	(.68)	(.58)	(.52)	(.47)	(.41)	(.33)	(.26)	(-0-)