



# PVC SINGLE ENTRY BALL VALVES

SE-2-0809

## Economical Industrial Grade Valve



This quarter-turn shut off valve is widely chosen for heavy duty use in industrial & chemical, turf & irrigation, and pool & spa applications. Available in IPS sizes 1/2" through 4" with choice of socket or threaded end connectors.

### Heavy Bodied PVC Gray or White Construction

Spears® Single Entry Ball Valves never rust, scale or pit, providing exceptional chemical and corrosion resistance.

### Buttress Threaded External Adjustment Nut

Strong buttress type threads on adjustment nut allow higher pressure handling capability and quick external adjustment for seat wear compensation.

### PTFE Ball Seats

Spears® PTFE floating seat design reduces seat wear for extended valve life, smooth operation, and bubble-tight shut-off. 100% factory tested.

### Buna-N, EPDM or Viton® O-ring Options

Choice of high grade, abrasion resistant Buna-N, EPDM or Viton® O-rings allows application specific selection for optimum chemical resistance.

### High Impact Polypropylene Handle

Features double stop engagement and exhibits excellent resistance to most chemical environments.

### Full Schedule 80 Bore

In full open position, full bore virtually eliminates pressure drop, providing optimum flow.

For additional information, please refer to Spears® THERMOPLASTIC VALVES & ACCESSORIES PRODUCT GUIDE & ENGINEERING SPECIFICATIONS, V-4, or THERMOPLASTIC VALVES & ACCESSORIES Price Schedule V-1.



### Safe-T-Shear® Stem

Developed to help prevent line fluids from leaking out in the event of ball valve stem damage. Engineered for high strength, the stem incorporates a special shear point to control accidental breakage. Over torquing breaks occur above the stem O-ring leaving the seal intact until repair or replacement can be made.

### Full 235 psi Pressure Rating

Maximum Internal Pressure at 73°F for the most demanding applications for 1/2" - 2" valves, 150 psi for 3" & 4" valves.

### Suitable For Vacuum Service

Spears® Single Entry Ball Valves are tested at 26 in. Hg vacuum for one hour with less than 1 in. Hg loss.

### NSF Certified for Potable Water

All Single Entry Ball Valves with Buna-N or EPDM O-rings are NSF Certified for potable water use.

### Fully Repairable, Non-Blocked Valve

Convenient Seat & O-ring Replacement Kits, for easy ordering, servicing and extended valve life. Requires system shutdown for service.

### Optional Accessories

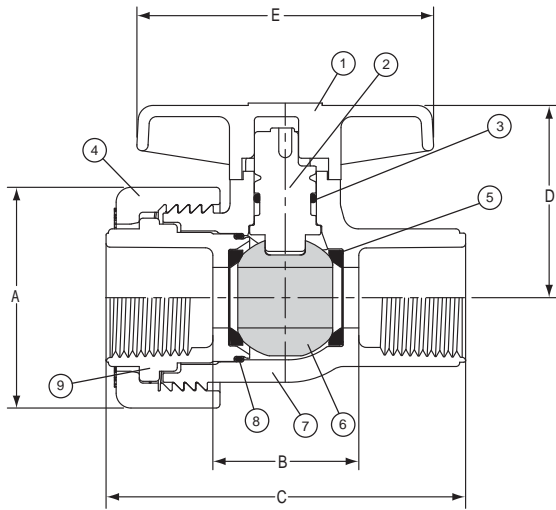
- Round Safety Handle
- Stem Extension Kit
- Mini-Mount Actuation Mounting Kit
- 2" Square/T-Style Operator Nut

### Sample Engineering Specifications

All thermoplastic ball valves shall be Single Entry type constructed from PVC Type I Cell Classification 12454. All O-rings shall be Buna-N, EPDM or Viton®. All valves shall have Safe-T-Shear® stem and double stop Polypropylene handle. All valve union nuts shall have Buttress threads. All valve components shall be replaceable. All valves with Buna-N or EPDM O-rings shall be certified for potable water use by the NSF International. All 1/2" through 2" valves shall be pressure rated at 235 psi and all 3" and 4" valves shall be pressure rated at 150 psi for water at 73°F, as manufactured by Spears® Manufacturing Company.

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## Replacement Parts

No.	Component	Qty.	Material
1	Handle	1	PP
2	Stem	1	PVC
3	Stem O-ring	1	Buna-N/EPDM/Viton®
4	Union Nut	1	PVC
5	Seat	2	PTFE
6	Ball	1	PVC
7	Body	1	PVC
8	Carrier O-ring	1	Buna-N/EPDM/Viton®
9	End Connector	1	PVC

Seat O-rings (not Shown) on sizes 3" and larger.

## Dimensions, Weights, Operating Torque & Cv Values

Nominal Size	Dimension Reference (inches, ± 1/16)						Approx. Wt. (Lbs.)	Oper. <sup>2</sup> Torque (in.-lb.)	C <sub>v</sub> <sup>3</sup> Values
	A	B <sup>1</sup>		C	D	E			
		Socket	Thread						
1/2	1-15/16	1-1/4	1-5/8	3-1/16	1-5/8	2-1/2	.22	20	38
3/4	2-3/8	1-7/16	2-1/8	3-9/16	2	3	.36	30	76
1	2-5/8	1-5/8	2-1/8	3-7/8	2-5/16	3-15/16	.50	40	146
1-1/4	3-1/8	1-15/16	2-1/4	4-1/8	2-13/16	3-1/2	.75	60	292
1-1/2	3-9/16	2-3/8	2-3/4	4-5/8	3-1/16	3-7/8	1.00	80	412
2	4-5/16	3-1/16	3-5/8	5-1/2	3-3/4	5	2.00	90	720
3	6-3/16	4-3/8	5-3/8	8-1/8	5-1/2	7-5/8	7.00	300	1660
4	7-3/4	5-11/16	6-7/8	9-3/4	6-1/8	9-1/16	12.00	400	3104

1: Valve Lay Length

2: Torque required at valve maximum internal pressure rating, 5 ft./sec. flow velocity; due to adjustment differences during installation, actual values may vary.

3: 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.

## Temperature Pressure Rating

System Operating Temperature °F (°C)			73 (23)	100 (38)	110 (43)	120 (49)	130 (54)	140 (60)	150 (66)
Valve Pressure Rating psi (MPa)	1/2" - 2"	PVC	235 (1.62)	146 (1.01)	118 (.81)	94 (.65)	71 (.49)	52 (.36)	-0- (-0-)
	3" - 4"	PVC	150 (1.03)	93 (.64)	75 (.52)	60 (.41)	45 (.31)	33 (.23)	-0- (-0-)

### NOT FOR USE WITH COMPRESSED AIR OR GASES

Spears® Manufacturing Company DOES NOT RECOMMEND the use of thermoplastic piping products for systems to transport or store compressed air or gases, or the testing of thermoplastic piping systems with compressed air or gases in above and below ground locations. The use of our product in compressed air or gas systems automatically voids any warranty for such products, and its use against our recommendation is entirely the responsibility and liability of the installer.

**WARNING:** DO NOT USE COMPRESSED AIR OR GAS TO TEST ANY PVC OR CPVC THERMOPLASTIC PIPING PRODUCT OR SYSTEM, AND DO NOT USE DEVICES PROPELLED BY COMPRESSED AIR OR GAS TO CLEAR SYSTEMS. THESE PRACTICES MAY RESULT IN EXPLOSIVE FRAGMENTATION OF SYSTEM PIPING COMPONENTS CAUSING SERIOUS OR FATAL BODILY INJURY.



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