



# 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 FKM O-ring Options

Choice of high grade, abrasion resistant Buna-N, EPDM or FKM 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

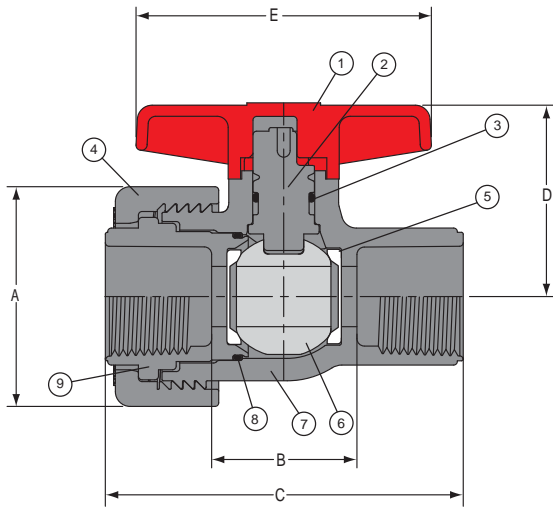
- Round Safety Handle
- Stem Extension Kit
- Mini-Mount Actuation Mounting Kit
- 2" Square/T-Style Operator Nut

### 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 FKM. 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/FKM
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/FKM
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, $\pm 1/16$ )						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-)



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