



# PVC & CPVC COMPACT BALL VALVES

CB-2-0200

## Industrial Grade Sealed Unit



This heavy bodied, quarter-turn shut off valve is popular where maintenance-free installations are desired for a variety of chemical, industrial and OEM applications. Factory-adjusted sealed units are available in IPS sizes 1/2" through 2", with choice of either socket or threaded end connectors.

### Heavy Bodied PVC or CPVC Construction

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

### 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.

### EPDM or Viton® O-ring Options

Choice of high grade, abrasion resistant EPDM or Viton® elastomer 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.

### 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 replacement can be made.

### Full 235 psi Pressure Rating

Maximum Internal Pressure at 73°F for the most demanding applications.

### Suitable For Vacuum Service

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

### NSF Listed for Potable Water

All Compact Ball Valves are NSF Listed for potable water use.

### 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 Compact sealed unit type constructed from PVC Type I Cell Classification 12454 or CPVC Type IV Cell Classification 23447. All O-rings shall be EPDM or Viton®. All valves shall have Safe-T-Shear® stem and double stop Polypropylene handle. All valves shall be listed for potable water use by the National Sanitation Foundation (NSF). All valves shall be pressure rated at 235 psi for water at 73°F, as manufactured by Spears Manufacturing Company.

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



Quality Systems Certificate No. 293  
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**Assessed to ISO 9001**

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## Quick-View Valve Selection Chart

## C<sub>v</sub> Values

Valve Size	O-ring Material	PVC Part Number <sup>1</sup>		Pressure Rating	Accessories Available		
		Threaded	Socket				
1/2	EPDM	2121-005	2122-005	230 psi Non-Shock  Water @ 73°F	Round Safety Handle		
	Viton®	2131-005	2132-005				
3/4	EPDM	2121-007	2122-007			Stem Extension Kit	
	Viton®	2131-007	2132-007				
1	EPDM	2121-010	2122-010				Mini Mount Actuation Mounting Kit
	Viton®	2131-010	2132-010				
1-1/4	EPDM	2121-012	2122-012		2" Square / T-Style Operator Nut		
	Viton®	2131-012	2132-012				
1-1/2	EPDM	2121-015	2122-015				
	Viton®	2131-015	2132-015				
2	EPDM	2121-020	2122-020				
	Viton®	2131-020	2132-020				

Valve Size	C <sub>v</sub>
1/2	36
3/4	74
1	141
1-1/4	284
1-1/2	402
2	706

Values calculated from valve laying length, based on derivative of Hazen-Williams equation with surface roughness factor of C=150.

**1: For CPVC valves**, add the letter "C" to part numbers listed (e.g., 2131-005C) Viton® O-rings are standard on CPVC Valves. Flanged and custom end connections available upon request.

## Temperature Pressure Rating

System Operating Temperature °F (°C)		100 (38)	110 (43)	120 (49)	130 (54)	140 (60)	150 (66)	160 (71)	170 (77)	180 (82)	190 (88)	200 (93)	210 (99)
Valve Pressure Rating psi (MPa)	PVC	235 (1.62)	211 (1.45)	150 (1.03)	75 (.52)	50 (.34)	-0- (-0-)	-0- (-0-)	-0- (-0-)	-0- (-0-)	-0- (-0-)	-0- (-0-)	-0- (-0-)
	CPVC	235 (1.62)	219 (1.51)	170 (1.17)	145 (1.00)	130 (.90)	110 (.76)	90 (.62)	80 (.55)	70 (.48)	60 (.41)	50 (.34)	-0- (-0-)

**NOTE:** Threaded Valves should not be used at temperatures above 110°F (43°C) for PVC, and 150°F (66°C) for CPVC.

## 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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