



# PVC & CPVC GATE VALVES

GV-2-0199



## Performance Engineered

This solid, proven design is well suited for a variety of chemical, industrial and irrigation applications. Spears Gate Valves are feature-packed with multiple end connector options. Individual special features are found in each size range 1/2" through 2", 2-1/2" & 3" and in the full featured Heavy Industrial 4" valve.

### Heavy Bodied PVC or CPVC Construction

Computer engineered, heavy bodied PVC or CPVC construction adds extra strength with superior chemical and corrosion resistance.

### Non-Rising Stem

Non-rising stem reduces clearance requirements and incorporates an o-ring stem seal which eliminates the need to retighten the stem nut, as required with traditional stem packings in order to stop leaks.

### Specially Designed Sealing Surface

Specially designed sealing surface and tapered wedge promote positive sealing and smooth operation with minimal tightening.

### Exclusive Strain-Equalizing Thread

Special strain-equalizing thread is used to couple the stem and wedge. This exclusive feature reduces the chances of stripping wedge threads in the event of accidental over tightening.

### High Impact Polypropylene Handle

Wheel style, high impact polypropylene handle is sized for a solid grip to effect positive opening and closing.

### Fully Repairable In-Line

Replaceable components are accessible without removing valve from line. Convenient o-ring replacement kits provide for easy ordering, servicing and extended valve life.

### Vacuum Service

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

### 1/2" through 2" Heavy Duty Gate Valves

- Available with either socket, threaded or flanged end connectors. Also available in 20mm through 63mm metric sockets or 1/2" through 2" BSP threads.
- Buna-N, EPDM or Viton® o-rings.
- 200 psi Maximum Internal Pressure Rating @ 73°F.
- NSF Certified for potable water service.

### 2-1/2"\* & 3" Heavy Duty Gate Valves

- Available with either socket, steel reinforced (SR) threaded or flanged end connectors.
- Buna-N, EPDM or Viton® o-rings.
- 150 psi Maximum Internal Pressure Rating @ 73°F.
- Optional 2" Square or T-Style Operator Nuts available.
- Manufactured from NSF Certified materials.

\*reducer bushed 3" valve

### 4" Heavy Industrial Gate Valves

- Designed for the most demanding of industrial applications with heavy, type 316 stainless steel exterior bonnet.
- Special Quick-View stem position indicator shows gate position at a glance.
- Available with either socket, steel reinforced (SR) threaded or flanged end connectors.
- Buna-N, EPDM or Viton® o-rings.
- 235 Maximum Internal Pressure Rating @73°F.
- Optional 2" Square or T-Style Operator Nuts available.
- Manufactured from NSF Certified materials.

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



### Sample Engineering Specification

All thermoplastic Gate Valves shall be constructed from PVC Type I Cell Classification 12454 or CPVC Type IV Cell Classification 23447. All O-rings shall be Buna-N, EPDM or Viton®. All valves shall have non-rising stem and Polypropylene handwheel. All gate valve wedges shall have Strain-Equalizing threads. PVC valves shall have Polypropylene Wedge and CPVC valves shall have CPVC Wedge. All valve components shall be replaceable. All 1/2" through 2" valves shall be pressure rated at 200 psi, all 2-1/2" through 3" valves shall be pressure rated at 150 psi, and all 4" valves shall be pressure rated at 235 psi for water at 73°F, as manufactured by Spears Manufacturing Company.

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PROGRESSIVE PRODUCTS FROM SPEARS INNOVATION & TECHNOLOGY

# Quick-View Valve Selection Chart

Valve Size	O-Ring Material	PVC Part Number*			Pressure Rating
		Threaded	Socket	Flanged <sup>1</sup>	
1/2	Buna-N	2011-005	2012-005	2013-005	200 psi <sup>1</sup> Non-Shock Water @73°F
	EPDM	2021-005	2022-005	2023-005	
	Viton®	2031-005	2032-005	2033-005	
3/4	Buna-N	2011-007	2012-007	2013-007	
	EPDM	2021-007	2022-007	2023-007	
	Viton®	2031-007	2032-007	2033-007	
1	Buna-N	2011-010	2012-010	2013-010	
	EPDM	2021-010	2022-010	2023-010	
	Viton®	2031-010	2032-010	2033-010	
1-1/4	Buna-N	2011-012	2012-012	2013-012	
	EPDM	2021-012	2022-012	2023-012	
	Viton®	2031-012	2032-012	2033-012	
1-1/2	Buna-N	2011-015	2012-015	2013-015	
	EPDM	2021-015	2022-015	2023-015	
	Viton®	2031-015	2032-015	2033-015	
2	Buna-N	2011-020	2012-020	2013-020	
	EPDM	2021-020	2022-020	2023-020	
	Viton®	2031-020	2032-020	2033-020	
2-1/2	Buna-N	2011-025 <sup>2</sup>	2012-025 <sup>2</sup>	2013-025 <sup>2</sup>	150 psi Non-Shock Water @ 73°F
	EPDM	2021-025 <sup>2</sup>	2022-025 <sup>2</sup>	2023-025 <sup>2</sup>	
	Viton®	2031-025 <sup>2</sup>	2032-025 <sup>2</sup>	2033-025 <sup>2</sup>	
3	Buna-N	2011-030SR	2012-030	2013-030	
	EPDM	2021-030SR	2022-030	2023-030	
	Viton®	2031-030SR	2032-030	2033-030	
4	Buna-N	2011-040SR	2012-040	2013-040	235 psi <sup>1</sup> Non-Shock Water @ 73°F
	EPDM	2021-040SR	2022-040	2023-040	
	Viton®	2031-040SR	2032-040	2033-040	

1: Flanged end connectors have a Maximum Internal Pressure Rating of 150 psi @ 73°F.  
 2: Size 2-1/2" is a reducer bushed 3" valve, Cv not available.  
 \* For CPVC valves, add the letter "C" to the part numbers (e.g., 2031-005C).

# C<sub>v</sub> Values

Normal Size	C <sub>v</sub>	
	Thd/Soc	Flanged
1/2	19	15
3/4	37	29
1	44	39
1-1/4	128	105
1-1/2	144	127
2	333	279
2-1/2	See Note 2	
3	335	323
4	583	566

Values based on independent testing by California State Polytechnic University. Flanged values calculated for additional laying length of flanged valve.

## 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.**

# 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)	1/2" - 2"	PVC	200 (1.38)	135 (.93)	120 (.83)	75 (.52)	50 (.34)	-0 (-0)	-0 (-0)	-0 (-0)	-0 (-0)	-0 (-0)	-0 (-0)	
		CPVC	200 (1.38)	155 (1.07)	140 (.97)	125 (.86)	110 (.76)	100 (.69)	90 (.62)	80 (.55)	70 (.48)	60 (.41)	50 (.34)	-0 (-0)
	2-1/2" - 3"	PVC	150 (1.03)	130 (.90)	110 (.76)	60 (.41)	50 (.34)	-0 (-0)	-0 (-0)	-0 (-0)	-0 (-0)	-0 (-0)	-0 (-0)	-0 (-0)
		CPVC	150 (1.03)	140 (.97)	130 (.90)	120 (.83)	110 (.76)	100 (.69)	90 (.62)	80 (.55)	70 (.48)	60 (.41)	50 (.34)	-0 (-0)
	4"	PVC	235 (1.62)	140 (.97)	130 (.90)	90 (.62)	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)	95 (.66)	80 (.55)	70 (.48)	60 (.41)	50 (.34)	-0 (-0)



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