

PVC & CPVC GATE VALVES

GV-2-1105

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

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 chance 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 26in. Hg vacuum for one hour with less than 1 in. Hg loss.

1/2" through 2" Heavy Duty Gate Valves

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

See Spears® Plug Gate Valves for 6" size.

Sample Engineering Specifications

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 genuine 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.



Viton® is a registered trademark of Dupont Dow Elastomers.

Quick-View Valve Selection Chart

| Valve Size | O-ring Material | PVC Part Number* | | | Pressure Rating | |
|------------|-----------------|-----------------------|-----------------------|-----------------------|---|---|
| | | Threaded | Socket | Flanged ¹ | | |
| 1/2 | Buna-N | 2011-005 | 2012-005 | 2013-005 | 200 psi ¹ 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 ² | 2012-025 ² | 2013-025 ² | 150 psi Non-Shock Water @ 73°F | |
| | EPDM | 2021-025 ² | 2022-025 ² | 2023-025 ² | | |
| | Viton® | 2031-025 ² | 2032-025 ² | 2033-025 ² | | |
| 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 ¹ 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 150psi @ 73°F.

2. Size 2-1/2" is a reducer bushed 3" valve C_v not available.

* For CPVC valves, add the letter "C" to the part numbers (e.g., 2031-005C).

C_v Values

| Normal Size | C _v | |
|-------------|----------------|---------|
| | 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 | Not Available | |
| 3 | 335 | 323 |
| 4 | 583 | 566 |

NOTE: Valves, Unions and Specialty Products have different elevated temperature ratings than pipe.

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-) |