# Ball Valves

# 2-Way Series

*Pressures to 20,000 psi (1379 bar)*

Parker Autoclave Engineers high-pressure ball valves have been designed to provide superior quality for maximum performance within a variety of valve styles, sizes, and process connections. Some of the more unique design innovations include an integral one-piece trunnion mounted style ball and stem that eliminates the shear failure common in two piece designs, re-torqueable seat glands that result in longer seat life, and a low friction stem seal that reduces actuation torque and enhances cycle life.

These ball valves can also be modified to incorporate the use of special materials, seals for high temperature applications, subsea models, and valve actuators.

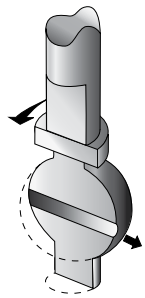
When it comes to high-pressure applications, these ball valves with the associated high-pressure components, provide the critical performance demanded by the high pressure market.

## *Ball Valve Features:*

- One-piece, trunnion mounted style, stem design eliminates shear failure and reduces the effects of side loading found in two piece designs.
- Re-torqueable seat glands for longer seat life.
- PEEK seats offer excellent resistance to chemicals, heat, and wear/abrasion.
- Full-port flow path minimizes pressure drop.
- 316 cold worked stainless steel construction.
- Low friction pressure assisted graphite filled PTFE stem seal increases cycle life and reduces operating torque.
- Quarter turn from open to close with positive stop.
- Viton o-rings for operation from 0°F (-17.8°C) to 400°F (204°C).
- Optional o-rings available for high-temperature applications.
- Optional wetted materials.
- Wide selection of tube and pipe end fittings available.
- Electric and pneumatic actuator options.



Flow Configuration



**Two-Way Shut-Off**

## *Applications:*

- Laboratories
- Test Stands
- Control Panels
- Chemical Research
- Pilot Plants
- Water Blast Pumping Units
- High volume chemical injection skids.

Parker

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**Ball Valves - 2-Way Series**

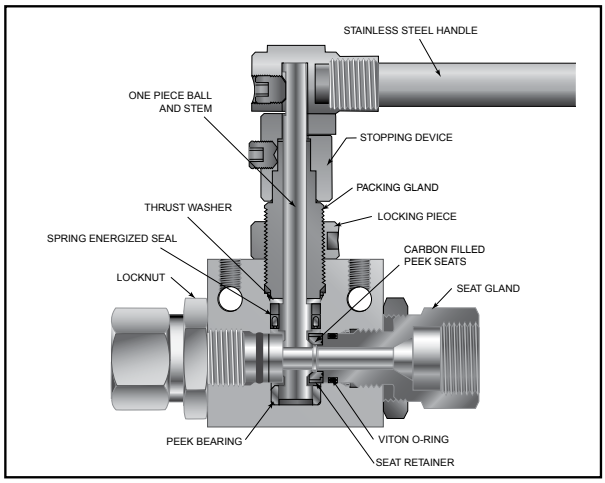
# Ball Valves - 2-Way Series (3/8" Orifice)

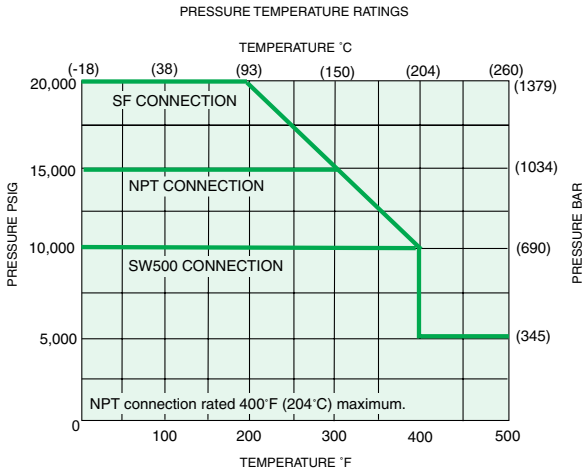
## Pressures to 20,000 psi (1379 bar) .375" (9.52mm) Orifice

| Connection | MAWP @ Room Temperature | Minimum Orifice inches(mm) |
|---|---|---|
| SW500 | 10,000 psi (690 bar) | .375 (9.52) |
| SF375CX20 | 20,000 psi (1379 bar) | .203 (5.16) |
| SF562CX20 | 20,000 psi (1379 bar) | .312 (7.92) |
| SF750CX20 | 20,000 psi (1379 bar) | .328 (8.33) |
| 1/4" NPT | 15,000 psi (1034 bar) | .375 (9.52) |
| 3/8" NPT | 15,000 psi (1034 bar) | .375 (9.52) |
| 1/2" NPT | 15,000 psi (1034 bar) | .375 (9.52) |
| | Valve $C_V$=3.51 | |

MAWP: Maximum Allowable Working Pressure
$C_V$ listed is for maximum orifice size of .375 inches only.
Consult factory for $C_V$ of valves with reduced orifice sizes.




Pressure ratings are determined by the end connections chosen, see chart.

**NOTE: Ball valves are not recommended for critical gas applications such as Hydrogen, Helium or other small molecular gases.**

## Ordering Procedure

For complete information on available end connections and material options, see next page. 2-way ball valves are furnished complete with tube or pipe connections.

Typical catalog number: **2B 6 S 20 M9**

| 2B | 6 | S | 20 | M9 | — | XXX |
|---|---|---|---|---|---|---|
| **Valve Series** **2B:** 2-way | **Ball Orifice Diameter** **6**-3/8" (9.52 mm) | **Material** **S** - 316SS (For material options contact factory) | **Pressure (X 1000 psi)** | **End Connection** **M9** - SF562CX20 (See Chart on next page) | | **Options** **HT** - High Temperature (Ball Valve Acutators, see next page.) |



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## End Connection Options

| Catalog Number | End Connection Number | Connection | MAWP @ Room Temperature | Seat Gland Hex Inches(mm) |
|---|---|---|---|---|
| 2B6S10L8 | L8 | SW500 | 10,000 psi (690 bar) | 1.38 (35.05) |
| 2B6S20M6 | M6 | SF375CX20 | 20,000 psi (1379 bar) | 1.38 (35.05) |
| 2B6S20M9 | M9 | SF562CX20 | 20,000 psi (1379 bar) | 1.38 (35.05) |
| 2B6S20M12 | M12 | SF750CX20 | 20,000 psi (1379 bar) | 1.38 (35.05) |
| 2B6S15P4 | P4 | 1/4" NPT | 15,000 psi (1034 bar) | 1.38 (35.05) |
| 2B6S15P6 | P6 | 3/8" NPT | 15,000 psi (1034 bar) | 1.38 (35.05) |
| 2B6S15P8 | P8 | 1/2" NPT | 15,000 psi (1034 bar) | 1.38 (35.05) |

MAWP: Maximum Allowable Working Pressure

See ball valve option/details section for end connection details, material, and high temperature options.

## Ball Valve Options

**Pneumatic Actuator**

AO - Air-to-open/spring to close
AC - Air-to-close/spring to open
AOC - Air-to-open-and-close (double action)

**Electric Actuator**

EO1 - 120 volt AC 50/60 Hz
EO2 - 220 volt AC 50/60 Hz
EO3 - 24 VDC

**Actuator Operating Temperature:**

Pneumatic: 0˚F to 175˚F (-17˚C to 79˚C)
Electric: 0˚F to 160˚F (-17˚C to 71˚C)

**High Temperature Option:**

HT - for media temperature up to 500˚F (260˚C)

See ball valve actuator section for full description, additional information, and options.

## Valve Maintenance

**Repair Kits:** add "**R**" to the front of valve catalog first 4 numbers for proper repair kit. (Example: **R2B6S**)

Consult your Parker Autoclave Engineers representative for pricing on repair kits. Refer to the Operation and Maintenance manual for proper maintenance procedures.

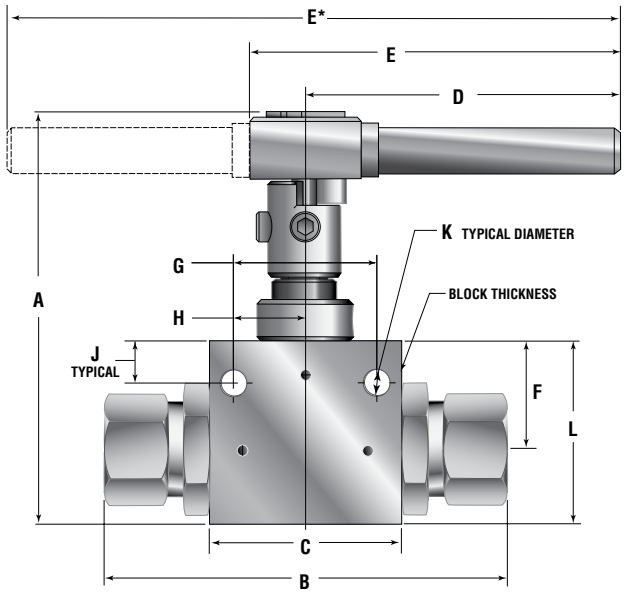
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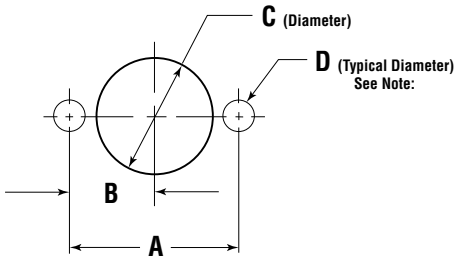
## Ball Valve Dimensions - inches (mm)

| | VALVE MODELS | | |
|---|---|---|---|
| | 2B4S | 2B6S | 2B8S |
| A | 4.33 (109.99) | 4.97 (126.30) | 5.97 (151.64) |
| B | 4.19 (106.49) | 5.53 (140.41) | 7.73 (196.46) |
| C | 2.00 (50.80) | 3.00 (76.20) | 4.13 (104.78) |
| D | 3.37 (85.55) | 4.99 (126.82) | 5.12 (130.04) |
| E | 3.90 (99.02) | 5.52 (140.32) | ✱10.25 (260.35) |
| F | 1.13 (28.58) | 1.38 (34.92) | 1.76 (44.70) |
| G | 1.50 (38.10) | 2.00 (50.80) | 3.00 (76.20) |
| H | 0.75 (19.05) | 1.00 (25.40) | 1.50 (38.10) |
| J | 0.43 (10.92) | 0.41 (10.31) | 0.50 (12.70) |
| K | 0.28 (7.11) | 0.28 (7.11) | 0.28 (7.11) |
| L | 1.91 (48.41) | 2.50 (63.50) | 3.09 (78.58) |
| Block Thickness | 1.00 (25.40) | 1.38 (34.92) | 1.75 (44.45) |




## Ball Valve Panel Mounting Dimensions - inches (mm)

| | VALVE MODELS | | |
|---|---|---|---|
| | 2B4S | 2B6S | 2B8S |
| A | 1.500 (38.10) | 2.000 (50.80) | 3.000 (76.20) |
| B | 0.750 (19.05) | 1.000 (25.40) | 1.500 (38.10) |
| C | 1.06 (26.92) | 1.50 (38.10) | 1.88 (47.63) |
| D | 0.28 (7.11) | 0.28 (7.11) | 0.28 (7.11) |




All dimensions are for reference only and are subject to change without notice.

Note: Body mounting 1/4" - 20 thread



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