

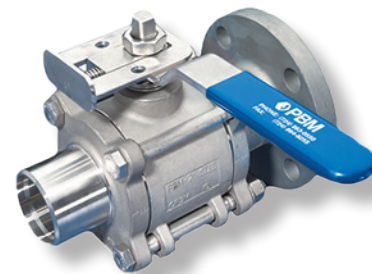
PBM INDUSTRIAL 2-WAY BALL VALVES

SP Series 5, 1/4" - 6"



DESIGN FEATURES:

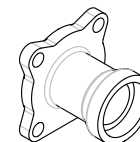
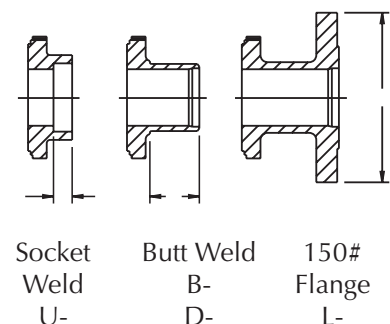
- Unique Adjust-O-Seal® feature allows in-line valve adjustment to compensate for normal wear on valve seats. Note: **SP Series valves DO NOT have o-rings.**
- Valve shall be a three-piece "swing-out" body design.
- Upstream and downstream bubble-tight sealing capability allows valve body cleaning, purging, and draining.
- Stem assembly accommodates PBM Direct Mount Actuation for accurate alignment and increased cycling life.
- Full port design
- Valves are rated to full vacuum.
- Valves shall be a non-firesafe design unless otherwise specified.
- Solder Joint and Sil-brazed ends are bronze only.
- Socket weld ends for bronze valves must be 90/10 CuNi or 70/30 CuNi.



| SPECIFICATIONS | 2-Way Valves |
|--------------------------|---|
| Sizes | 1/4" - 6" Series 5 |
| Material | 316/316L, Hastelloy™ C-276, Carbon Steel, Bronze Alloy 922, 89833 Bronze or other |
| Temperatures | Ambient for V-TEF™ to 400° F, S-TEF® to 450°F, PEEK to 500°F |
| End Connections | Flange, NPT, Butt weld for pipe, Sil-braze for pipe, Extended Socket Weld for pipe, Solder Joint for tube |
| Seats & Seals | White V-TEF™ standard, others available |
| Stem Packing Material | V-TEF™ and S-TEF® |
| Body Bolts & Nuts | 18-8 Stainless Steel |
| Maximum Working Pressure | up to 900 psig CWP depending on valve series, size and temperature |

| CV Values (gpm) | |
|-----------------|----------|
| Size | Series 5 |
| 1/4" | 5 |
| 3/8" | 10* |
| 1/2" | 12 |
| 3/4" | 42 |
| 1" | 73 |
| 1-1/2" | 170 |
| 2" | 360 |
| 2-1/2" | 650 |
| 3" | 935 |
| 4" | 1,900 |
| 6" | 4,800 |

| End Fitting Length or Diameter | | | |
|--------------------------------|--------|------|-------|
| Size | J-, U- | B-D- | L- |
| 1/4", 3/8" | 0.41 | 1.50 | — |
| 1/2" | 0.41 | 1.50 | 3.50 |
| 3/4" | 0.53 | 1.50 | 3.88 |
| 1" | 0.53 | 1.50 | 4.25 |
| 1-1/2" | 0.53 | 1.50 | 5.00 |
| 2" | 0.66 | 1.75 | 6.00 |
| 2-1/2" | 0.69 | 2.31 | 7.00 |
| 3" | 0.69 | 2.31 | 7.50 |
| 4" | 0.81 | 2.31 | 9.00 |
| 6" | NA | 3.75 | 11.00 |



Extended Socket Weld J-

How To Order:

| PRODUCT (1-2) | | SIZE (5) | | END CONN. | | SEAT & SEAL | | PURGES | | BALL & STEM | | OPERATOR | | POLISH | | | |
|----------------|----|-------------------|---|-----------|---|-------------|----------------------|---------|---|-------------|--|----------|-------------------------------|---------|-------------------------------------|---|--------------------------------------|
| MATERIAL (3-4) | | SERIES (6) | | (7-8) | | (9) | | (10-11) | | (12) | | (13-14) | | (15-16) | | | |
| SP | H- | Cast 316/316L S/S | C | 1/2" | 5 | B- | Sch. 40 Butt Weld | G | V-TEF™ Seats / Seals | -- | No Purge Port or Ball Option | - | Standard Ball and Stem | -- | W/ Standard Lever Handle | - | 125 Ra ID Standard |
| | HL | Cast 316L S/S | D | 3/4" | | D- | Sch. 10 Butt Weld | J | V-TEF™ Seats / Seals VTFE Cavity Fillers | - 8 | Self Flushing Ball | F | Internal / External Grounding | 02 | W/O Handle W/ Stem Actuator Prep | A | 20 Ra ID |
| | E- | Carbon Steel | E | 1" | | J- | Extended Socket Weld | H | S-TEF® Seats / Seals | - V | Slotted V-Ball | G | 17-4PH Stem | 04 | Locking Lever Handle | C | 20 Ra ID / 32 Ra OD |
| | C- | Hastelloy C-276 | G | 1-1/2" | | L- | 150# Flange* | I | S-TEF® Seats / Seals VTFE Cavity Fillers | - W | 30° V-Ball | | | 08 | Gear Operator (Req'd for 6") | F | 20 Ra ID after Electro Polish |
| | Y- | Hastelloy C-22 | J | 2-1/2" | | M- | 300# Flange* | | | - X | 45° V-Ball | | | 18 | Extended Handle (1/2" thru 4") | | |
| | P- | AL6XN | K | 3" | | P- | Male NPT | | | - Y | 60° V-Ball | | | 20 | DA 80psig actuator | | |
| | N- | 922 Bronze | L | 4" | | Q- | Female NPT | K | UHMWPE Seats / Seals | | Other Purge Port & Ball Options - Contact PBM. | | | 27 | DA 60psig actuator | | More polish available - Contact PBM. |
| | G- | 89833 Bronze | M | 6" | | S- | Sil Braze 1 Groove | L | UHMWPE Seats / Seals VTFE Cavity Fillers | | | | | 34 | SR 80psig actuator | | |
| | | | | | | T- | Solder Joint | | | | | | | 41 | SR 60psig actuator | | |
| | | | | | | U- | Socket Weld | | | | | | | | | | |

Other material options available - Contact PBM.

* Flat faced for Bronze. All others are raised face.

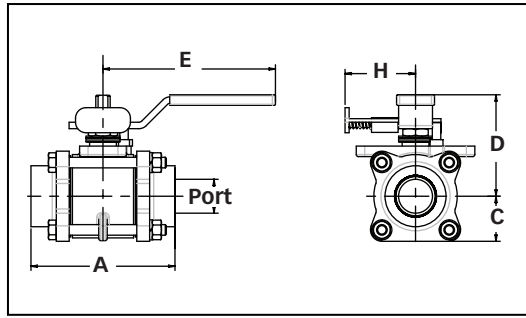
Other seat/seal options available - Contact PBM.

http://pbmvalve.com/build-a-part-number

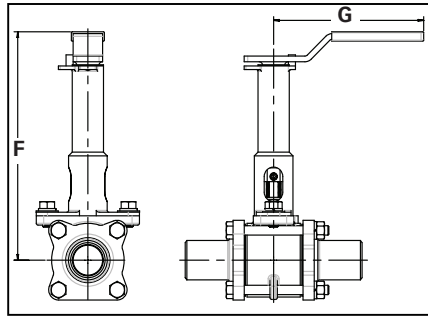
Other operator options available - Contact PBM.

PBM Industrial 2-Way Ball Valves Manual

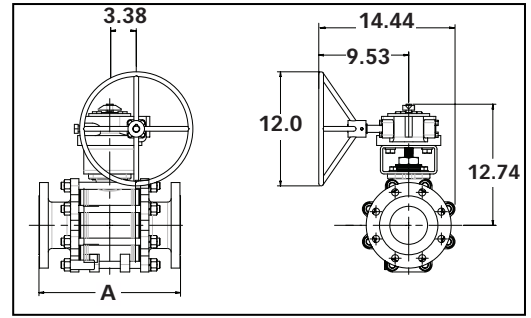
2-Way Valve with Locking Handle



2-Way Valve with Ext. Locking Handle



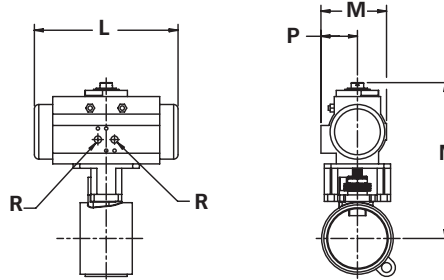
2-Way Valve with Gear Operator (6" only)



| Valve Size | Size Code | Port Dia. | A | | | | C C to Bottom B- D- Q- S- T- U | D C to Top of Handle | E Handle Length from C | Ext. Locking Handle | | Locking Handle | | Approx. Weights | |
|------------|-----------|-----------|--------------|-------|-------|------|---|----------------------------|------------------------------|---------------------|-------|----------------|--------------------|-----------------|-----------|
| | | | Face to Face | | | | | | | F | G | H | Hole Dia. for Lock | B- D- Q- U- | L- |
| | | | Q- U- S- T- | B- D- | J- | L- | | | | | | | | | |
| 1/4", 3/8" | A,B | 0.5 | 3.12 | 5.5 | NA | NA | 0.92 | 2.63 | 4.15 | 7.19 | 5.09 | 1.62 | .25 | 1.7 lbs. | 4.0 lbs. |
| 1/2" | C | 0.5 | 3.12 | 5.5 | 6.34 | 5.5 | 0.92 | 2.63 | 4.15 | 7.19 | 5.09 | 1.62 | .25 | 1.7 lbs. | 4.0 lbs. |
| 3/4" | D | 0.75 | 3.44 | 5.5 | 6.57 | 5.8 | 1 | 2.78 | 4.15 | 7.34 | 5.09 | 1.62 | .25 | 2.0 lbs. | 5.2 lbs. |
| 1" | E | 1 | 4.25 | 6 | 7.05 | 6.5 | 1.33 | 3.03 | 5.09 | 7.62 | 5.09 | 2.08 | .28 | 4.5 lbs. | 8.7 lbs. |
| 1-1/2" | G | 1.5 | 5.5 | 7.5 | 8.56 | 8 | 1.78 | 4.1 | 8.68 | 9.45 | 8.00 | 2.58 | .38 | 10.2 lbs. | 17.4 lbs. |
| 2" | H | 2 | 6 | 8 | 9.26 | 9.8 | 2.15 | 4.41 | 8.68 | 9.76 | 8.00 | 2.58 | .38 | 15.4 lbs. | 26.5 lbs. |
| 2-1/2" | J | 2.5 | 8 | 11.5 | CF | 11.5 | 2.79 | 6.45 | 12.44 | 11.36 | 12.06 | 3.47 | .38 | 36.0 lbs. | 53.5 lbs. |
| 3" | K | 3 | 9 | 13.5 | 14.88 | 12.8 | 3.14 | 6.78 | 12.44 | 11.69 | 12.06 | 3.47 | .38 | 48 lbs. | 68 lbs. |
| 4" | L | 4 | 12 | 16 | CF | 15 | 4.91 | 7.34 | 24.4 | 13.97 | 24.06 | NA | .44 | 109 lbs. | 157 lbs. |
| 6"* | M | 6 | NA | 22 | CF | 20 | 7.25 | NA | NA | NA | NA | NA | NA | 320 lbs.* | 357 lbs.* |

*Weight with gear operator.

Unit of Measure = inches
Dimensions based on actuators used with V-TEF™ seats.



| Size | 80 PSI Double Acting | | | | | 60 PSI Double Acting | | | | | 80 PSI Spring Return | | | | | 60 PSI Spring Return | | | | |
|--------|----------------------|------|-------|------|-----|----------------------|------|-------|------|-----|----------------------|------|-------|------|-----|----------------------|------|-------|------|-----|
| | L | M | N | P | R | L | M | N | P | R | L | M | N | P | R | L | M | N | P | R |
| 1/2" | 5.55 | 2.79 | 5.84 | 1.61 | 1/8 | 6.46 | 3.17 | 6.29 | 1.77 | 1/8 | 5.55 | 2.79 | 5.84 | 1.61 | 1/8 | 5.55 | 2.79 | 5.84 | 1.61 | 1/8 |
| 3/4" | 6.46 | 3.17 | 6.44 | 1.77 | 1/8 | 6.46 | 3.17 | 6.44 | 1.77 | 1/8 | 5.55 | 2.79 | 5.99 | 1.61 | 1/8 | 5.55 | 2.79 | 5.99 | 1.61 | 1/8 |
| 1" | 8.27 | 3.72 | 7.80 | 2.07 | 1/8 | 8.27 | 3.72 | 7.80 | 2.07 | 1/8 | 5.55 | 2.79 | 6.64 | 1.61 | 1/8 | 5.55 | 2.79 | 6.64 | 1.61 | 1/8 |
| 1-1/2" | 10.83 | 4.85 | 10.16 | 2.68 | 1/4 | 10.83 | 4.85 | 10.16 | 2.68 | 1/4 | 6.46 | 3.17 | 8.39 | 1.77 | 1/8 | 8.27 | 3.72 | 9.10 | 2.07 | 1/8 |
| 2" | 10.83 | 4.85 | 10.47 | 2.68 | 1/4 | 13.12 | 5.39 | 11.82 | 2.87 | 1/4 | 8.27 | 3.72 | 9.42 | 2.07 | 1/8 | 8.27 | 3.72 | 9.42 | 2.07 | 1/8 |
| 2-1/2" | 13.12 | 5.39 | 13.48 | 2.87 | 1/4 | 14.65 | 5.83 | 13.96 | 3.15 | 1/4 | 13.12 | 5.39 | 13.48 | 2.87 | 1/4 | 13.12 | 5.39 | 13.48 | 2.87 | 1/4 |
| 3" | 14.65 | 5.83 | 14.29 | 3.15 | 1/4 | 17.13 | 6.46 | 15.16 | 3.44 | 1/4 | 13.12 | 5.39 | 13.81 | 2.87 | 1/4 | 13.12 | 5.39 | 13.81 | 2.87 | 1/4 |



<http://www.pbmvalve.com/valves/2-way-ball-valve-industrial>

<http://pbmvalve.com/maintenance-instructions>

www.PBMValve.com

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