

# PBM FIRE RATED 2-WAY BALL VALVES

## SP Series 6, 1/2" - 3"



### DESIGN FEATURES:

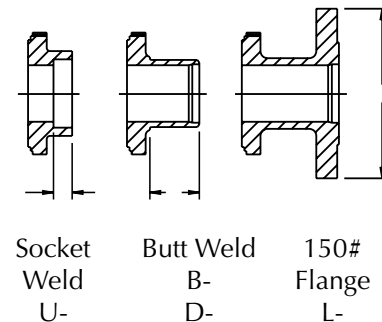
- Fire Rated, tested to API-607
- Valve shall be a three-piece "swing-out" body design
- Valves meet ASME B16.34
- Upstream and downstream bubble-tight sealing capability allows valve body cleaning and draining.
- Stem assembly accommodates PBM Direct Mount Actuation for accurate alignment and increased cycling life.
- Full port design
- Valves are rated to full vacuum.
- Optional Fusible Link – A Spring Return Handle unit can be equipped with an optional fusible link specified to a customer's required melt temperature, which closes the valve during fire conditions.
- Direct mount automation with fusible links and/or electro thermal links



| SPECIFICATIONS           | Fire Rated 2-Way Valves   |
|--------------------------|---|
| Sizes                    | 1/2" - 3" Series 6  |
| Material                 | 316L, (ASTM A351 CF3M), Hastelloy® C276 and other ASME B16.34 materials |
| Temperatures             | Ambient for TFM™ to 400° F, S-TEF® to 450°F                             |
| End Connections          | Flange, NPT, Butt weld for pipe, Socket weld                            |
| Seats & Seals            | TFM™ or S-TEF® Seats, Graphite seals, O-rings (EPR, Viton standard)     |
| Stem Packing Material    | TFM™ or S-TEF®, Graphite seals  |
| Body Bolts & Nuts        | 18-8 Stainless Steel, Fully encapsulated                                |
| Maximum Working Pressure | up to 700 psig CWP depending on valve series, size and temperature      |
| Polish                   | Standard internal polish of 125 Ra ID                                   |

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

| End Fitting Length or Diameter |      |      |      |
|--------------------------------|------|------|------|
| Size                           | U-   | B-D- | L-   |
| 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 |



### How To Order:

| PRODUCT (1-2) |    | SIZE (5)          |   | END CONNECTION (7-8) |   | SEAT & SEAL (9) |                   | PURGE/BALL (10-11) |  | BALL & STEM (12) |  | OPERATOR (13-14) |                        | POLISH (15-16) |                                    |   |                                     |
|---------------|----|-------------------|---|----------------------|---|-----------------|-------------------|--------------------|--|------------------|--|------------------|------------------------|----------------|------------------------------------|---|-------------------------------------|
| SP            | H- | Cast 316/316L S/S | C | 1/2"                 | 6 | B-              | Sch. 40 Butt Weld | G                  | TFM™ Seats / Graphite Seals / FKM O-Rings                | --               | 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                  | TFM Seats / Graphite Seals / VTFE Cav Fill / FKM O-Rings | - 8              | Self Flushing Ball                               | G                | 17-4PH Stem            | 02             | W/O Handle / W/ Stem Actuator Prep | A | 20 Ra ID                            |
|               | E- | Carbon Steel      | E | 1"                   |   | J-              | Ext. Socket Weld  | Z                  | TFM Seats / Graphite Seals / EPR O-Rings                 | - V              | Slotted V-Ball                                   |                  |                        | 04             | Locking Lever Handle               | C | 20 Ra ID / 32 Ra OD                 |
|               | C- | Hastelloy C-276   | G | 1-1/2"               |   | L-              | 150# Flange       | 2                  | TFM Seats / Graphite Seals / VTFE Cav Fill / EPR O-Rings | - W              | 30° V-Ball                                       |                  |                        | 18             | Extended Handle (1/2" thru 3")     | F | 20 Ra ID after Electro Polish       |
|               | Y- | Hastelloy C-22    | H | 2"                   |   | M-              | 300# Flange       |                    | S-TEF® Seats / Graphite Seals / FKM O-Rings              | - X              | 45° V-Ball                                       |                  |                        | 20             | DA 80psig actuator                 |   |                                     |
|               |    |                   | J | 2-1/2"               |   | P-              | Male NPT          |                    | S-TEF® Seats / Graphite Seals / FKM O-Rings              | - Y              | 60° V-Ball                                       |                  |                        | 27             | DA 60psig actuator                 |   |                                     |
|               | P- | ALGXN             | K | 3"                   |   | Q-              | Female NPT        | H                  | S-TEF® Seats / Graphite Seals / FKM O-Rings              |                  | Other Purge Port & Ball Options - Contact PBM.   |                  |                        | 34             | SR 80psig actuator                 |   | More polish available - Contact PBM |
|               |    |                   |   |                      |   | U-              | Socket Weld       | 0                  | S-TEF® Seats / Graphite Seals / EPR O-Rings              |                  |  |                  |                        | 41             | SR 60psig actuator                 |   |                                     |
|               |    |                   |   |                      |   |                 |                   | 9                  | TFM Seats / Seals / FEP Encaps. FKM O-Rings              |                  | Other Seat/seal options available - contact PBM. |                  |                        |                |                                    |   |                                     |

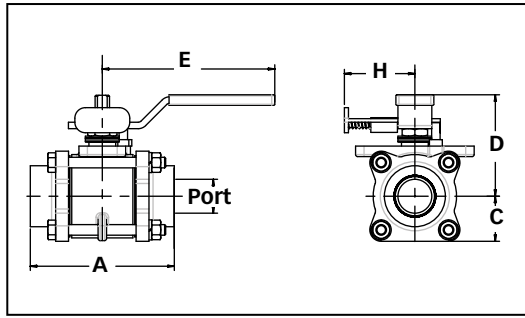
Other material options available - Contact PBM.

Other operator options available - Contact PBM.

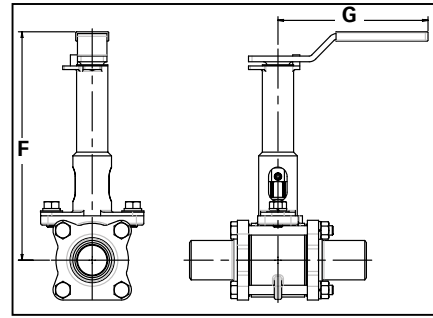
<http://pbmvalve.com/build-a-part-number>

# PBM Industrial Fire Rated 2-Way Ball Valves Manual

2-Way Valve with Locking Handle



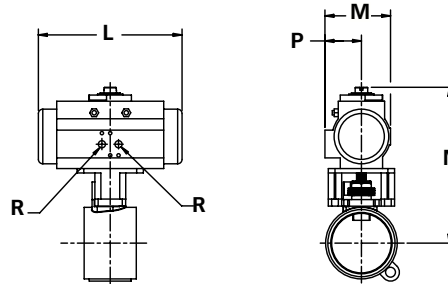
2-Way Valve with Ext. Locking Handle



| Valve Size | Size Code | Port Dia. | A              |          |      | C<br>Q to Bottom<br>B- D- Q-<br>S- T- U | D<br>Q to Top<br>of Handle | E<br>Handle Length<br>from Q | Ext. Locking Handle |       | Locking Handle |                       | Approx. Weights      |           |
|------------|-----------|-----------|----------------|----------|------|---|----------------------------|------------------------------|---------------------|-------|----------------|-----------------------|----------------------|-----------|
|            |           |           | Face to Face   |          |      |   |                            |                              | F                   | G     | H              | Hole Dia.<br>for Lock | B-<br>D-<br>Q-<br>U- | L-        |
|            |           |           | Q- U-<br>S- T- | B-<br>D- | L-   |   |                            |                              |                     |       |                |                       |                      |           |
| 1/2"       | C         | 0.5       | 3.12           | 5.5      | 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      | 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           | 5.99     | 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    | 1.78                                    | 4.1                        | 8.68                         | 9.45                | 8.00  | 2.58           | .38                   | 10.2 lbs.            | 17.4 lbs. |
| 2"         | H         | 2         | 6              | 8        | 9.8  | 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     | 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     | 12.8 | 3.14                                    | 6.78                       | 12.44                        | 11.69               | 12.06 | 3.47           | .38                   | 48 lbs.              | 68 lbs.   |

## ACTUATED DIMENSIONS

Unit of Measure = inches  
Dimensions based on actuators used with TFM™ 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                 | 2.8  | 5.84  | 1.61 | 1/8 | 5.55                 | 2.8  | 5.84  | 1.61 | 1/8 | 5.55                 | 2.8  | 5.84  | 1.61 | 1/8 | 6.46                 | 3.17 | 6.29  | 1.77 | 1/8 |
| 3/4"   | 5.55                 | 2.8  | 5.99  | 1.61 | 1/8 | 5.55                 | 2.8  | 5.99  | 1.61 | 1/8 | 6.46                 | 3.17 | 6.44  | 1.77 | 1/8 | 6.46                 | 3.17 | 6.44  | 1.77 | 1/8 |
| 1"     | 5.55                 | 2.8  | 6.64  | 1.61 | 1/8 | 5.55                 | 2.8  | 6.64  | 1.61 | 1/8 | 8.27                 | 3.72 | 7.8   | 2.07 | 1/8 | 8.27                 | 3.72 | 7.80  | 2.07 | 1/8 |
| 1-1/2" | 6.46                 | 3.17 | 8.39  | 1.77 | 1/8 | 8.27                 | 3.72 | 9.1   | 2.07 | 1/8 | 10.83                | 4.84 | 10.15 | 2.68 | 1/4 | 10.83                | 4.84 | 10.15 | 2.68 | 1/4 |
| 2"     | 8.27                 | 3.72 | 9.41  | 2.07 | 1/8 | 8.27                 | 3.72 | 9.41  | 2.07 | 1/8 | 10.83                | 4.84 | 10.46 | 2.68 | 1/4 | 13.11                | 5.39 | 11.82 | 2.87 | 1/4 |
| 2-1/2" | 13.11                | 5.39 | 13.48 | 2.87 | 1/4 | 13.11                | 5.39 | 13.48 | 2.87 | 1/4 | 13.11                | 5.39 | 13.48 | 2.87 | 1/4 | 14.65                | 5.83 | 13.96 | 3.15 | 1/4 |
| 3"     | 13.11                | 5.39 | 13.81 | 2.87 | 1/4 | 13.11                | 5.39 | 13.81 | 2.87 | 1/4 | 14.65                | 5.83 | 14.29 | 3.15 | 1/4 | 17.15                | 6.46 | 15.18 | 3.44 | 1/4 |



<http://www.pbmvalve.com/valves/fire-rated-valves>

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

[www.PBMValve.com](http://www.PBMValve.com)

PBM, Inc. • 1070 Sandy Hill Road, Irwin, PA 15642

Phone: 800.967.4PBM • 724.863.0550

E-mail: [info@pbmvalve.com](mailto:info@pbmvalve.com)

