

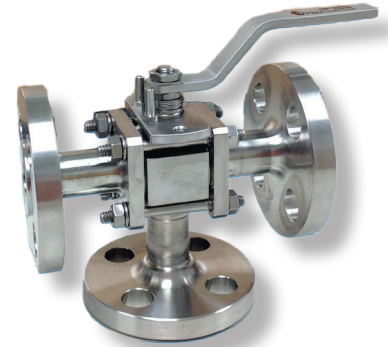
PBM INDUSTRIAL DIVERTER STEAM VALVES

3-Way DD Series 5, 1/2" - 6"



DESIGN FEATURES:

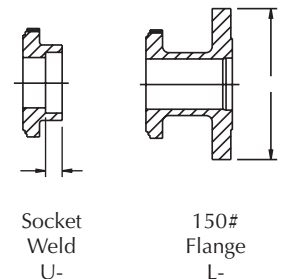
- Unique Adjust-O-Seal® feature allows in-line valve adjustment to compensate for normal wear on valve seats. Note: DD valves have o-rings.
- Integral side-entry or bottom entry common port. Seats shall provide both upstream and downstream bubble-tight seal and be adjustable for inline wear.
- A single Diverter valve can replace two or three 2-Way valves to reduce cost and space.
- Full-port diameters minimize pressure drops (1/2 - 6")
- Stem assembly accommodates PBM Direct Mount Actuation for accurate alignment and increased cycling life.
- A Diverter Port ball valve can be an economical alternative to a 3-Way Multi-port valve depending on the sealing requirements.
- Valves are full vacuum
- Specify PBM flow pattern
- Using a welded connection on the common port of a DP valve may complicate maintenance. Provisions must be made to allow removal of end fittings and body from the line. PBM recommends Female NPT (Q-) or flanged end fittings for common port connection for ease of valve maintenance.



| SPECIFICATIONS | DIVERTER VALVES |
|--------------------------------|--|
| Sizes | 1/2" - 6" Series 5 |
| Material | 316/316L, Hastelloy™ C-276, Carbon Steel, others available |
| Temperatures | Ambient for TFM™ to 400° F, S-TEF® to 450°F |
| End Connections | Flange, NPT, Socket weld |
| O-rings | EPR O-ring energizer (Viton V1274-75/80, EPR E3608-70, others available) |
| Seats, Seals and Stem Packings | TFM™ 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 | L-Port | T-Port | |
| | | Straight | Branch |
| 1/2" | 6.6 | 7.4 | 5.2 |
| 3/4" | 17 | 20 | 13 |
| 1" | 33 | 39 | 24 |
| 1-1/2" | 79 | 93 | 58 |
| 2" | 149 | 180 | 110 |
| 3" | 350 | 415 | 250 |
| 4" | 640 | 770 | 465 |
| 6" | 1,550 | 1,860 | 1,110 |

| Socket Weld Depth or Flange Diameter | | |
|--------------------------------------|------|-------|
| Size | U- | L- |
| 1/2" | 0.41 | 3.50 |
| 3/4" | 0.53 | 3.88 |
| 1" | 0.53 | 4.25 |
| 1-1/2" | 0.53 | 5.00 |
| 2" | 0.66 | 6.00 |
| 3" | 0.69 | 7.50 |
| 4" | 0.81 | 9.00 |
| 6" | NA | 11.00 |



How To Order:

| PRODUCT (1-2) | | SIZE (5) | | END CONN. | | SEAT & SEAL | | FLOW PATTERNS | | BALL & STEM | | OPERATOR | | POLISH | | | |
|----------------|----|---------------------|---|-----------|---|-------------|-------------|---------------|--|-------------|--------------------------------------|----------|----------------------------------|---------|---|---|--|
| MATERIAL (3-4) | | SERIES (6) | | (7-8) | | (9) | | (10-11) | | (12) | | (13-14) | | (15-16) | | | |
| DD | H- | Cast 316/316L S / S | C | 1/2" | 5 | L- | 150# Flange | G | TFM Seats / Seals Viton O-Rings | 03 | 3-Way Side Entry T-Port Ball 90° | - | Standard Ball and Stem | -- | W/ Standard Lever Handle | - | 125 Ra ID Standard |
| | HL | Cast 316L S / S | D | 3/4" | | Q- | Female NPT | J | TFM Seats / Seals / VTFE Cav Fill / Viton O-Rings | 04 | 3-Way Side Entry T-Port Ball 90° | F | Internal / External Grounding | 02 | W/O Handle W/ Stem Actuator Prep | A | 20 Ra ID |
| | C- | Hastelloy C-276 | E | 1" | | U- | Socket Weld | Z | TFM Seats / Seals EPR O-Rings | 06 | 3-Way Side Entry T-Port Ball 180° | G | 17-4PH Stem | 04 | Locking Lever Handle (1/2" thru 2") | C | 20 Ra ID / 32 Ra OD |
| | | | G | 1-1/2" | | | | | | | | | | 08 | Gear Operator (Req'd for 4") | | |
| | Y- | Hastelloy C-22 | H | 2" | | | | 2 | TFM Seats / Seals / VTFE Cav Fill / EPR O-Rings | 10 | 3-Way Side Entry L-Port Ball 90° | | | 20 | DA 80psig actuator | F | 20 Ra ID after Electro Polish |
| | | | K | 3" | | | | | | | | | | 27 | DA 60psig actuator | | |
| | P- | AL6XN | L | 4" | | | | H | S-TEF® Seats / Seals Viton O-Rings | 15 | 3-Way Btm. Entry L-Port Ball 180° | | | 34 | SR 80psig actuator - Fail Position must be specified | | More polish available - Contact PBM |
| | | | | | | | | 0 | S-TEF® Seats / Seals EPR O-Rings | 18 | 3-Way Btm. Entry LL-Port Ball 90° | | | 41 | SR 60psig actuator - Fail Position must be specified | | |

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

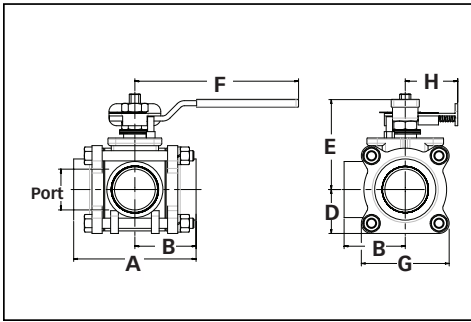
Other seat/seal options available -
Contact PBM

Other Flow Pattern Options
available - Contact PBM

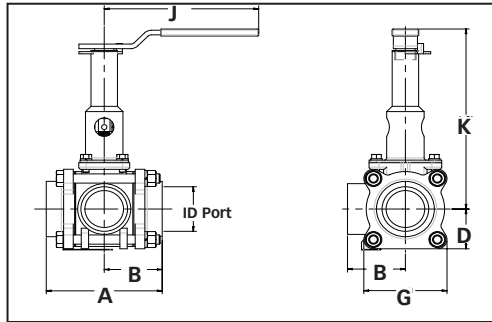
Other operator options available -
Contact PBM

PBM Industrial Diverter Port Steam Valves Series 5

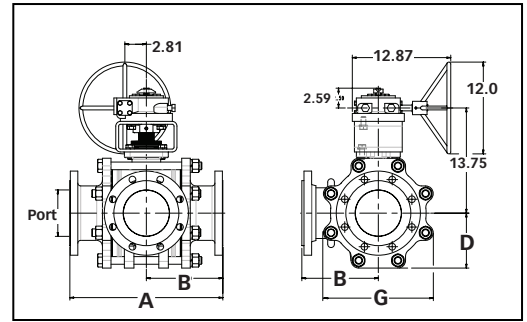
Diverter Port with Locking Handle



Diverter Port with Butt Weld Ends



Diverter Port with Gear Operator (6" only)

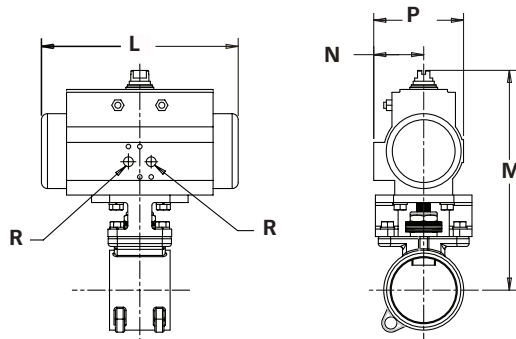


| 3-Way Diverter Port Dimensioned valves in inches | | | | | | | | | | | | | Locking Handle | | Ext. Locking Handle | | |
|--|-----------|-----------|--------|-------|--------|-------|------|------|-------|-------|-----------------------|------|----------------|--------------------|---------------------|-------|--------------------|
| Valve Size | Size Code | Port Dia. | A | | B | | D | E | F | G | Approx. Weight (lbs.) | | H | Hole Dia. for Lock | J | K | Hole Dia. for Lock |
| | | | Q-, U- | L- | Q-, U- | L- | | | | | Q-, U- | L- | | | | | |
| 1/2" | C | 0.50 | 3.12 | 5.50 | 1.56 | 2.75 | .92 | 2.63 | 4.15 | 1.84 | 2 | 5.2 | 1.55 | .28 | 5.09 | 7.18 | 0.31 |
| 3/4" | D | 0.75 | 3.44 | 5.75 | 1.72 | 2.88 | 1.0 | 2.78 | 4.15 | 2.00 | 2.5 | 7 | 1.55 | .28 | 5.09 | 7.34 | 0.31 |
| 1" | E | 1.00 | 4.25 | 6.50 | 2.13 | 3.25 | 1.33 | 3.03 | 5.09 | 2.66 | 5.0 | 11 | 1.62 | .25 | 5.09 | 7.62 | 0.31 |
| 1-1/2" | G | 1.50 | 5.50 | 8.00 | 2.75 | 4.00 | 1.78 | 4.10 | 8.68 | 3.56 | 11.5 | 21.5 | 2.57 | .38 | 8.00 | 9.45 | 0.38 |
| 2" | H | 2.00 | 6.00 | 9.75 | 3.00 | 4.88 | 2.15 | 4.41 | 8.68 | 4.38 | 16.5 | 33 | 2.57 | .38 | 8.00 | 9.76 | 0.38 |
| 3" | K | 3.00 | 9.00 | 12.75 | 4.50 | 6.38 | 3.14 | 6.78 | 12.44 | 6.28 | 50.0 | 80.0 | 3.47 | .38 | 12.06 | 11.69 | 0.44 |
| 4" | L | 4.00 | 12.00 | 15.00 | 6.00 | 7.50 | 4.91 | 7.34 | 24.40 | 9.82 | 123 | 155 | 3.47 | .38 | 24.06 | 13.97 | 0.44 |
| 6"* | M | 6.00 | NA | 20.00 | NA | 10.00 | 7.18 | NA | NA | 14.36 | NA | 378 | NA | NA | NA | NA | NA |

* Weight without handle

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 NPT | 5.55 | 2.8 | 5.84 | 1.61 | 1/8 NPT | 5.55 | 2.8 | 5.84 | 1.61 | 1/8 NPT | 6.46 | 3.17 | 6.29 | 1.77 | 1/8 NPT |
| 3/4" | 5.55 | 2.8 | 5.99 | 1.61 | 1/8 NPT | 5.55 | 2.8 | 5.99 | 1.61 | 1/8 NPT | 6.46 | 3.17 | 6.44 | 1.77 | 1/8 NPT | 6.46 | 3.17 | 6.44 | 1.77 | 1/8 NPT |
| 1" | 5.55 | 2.8 | 6.64 | 1.61 | 1/8 NPT | 5.55 | 2.8 | 6.64 | 1.61 | 1/8 NPT | 8.27 | 3.72 | 7.8 | 2.07 | 1/8 NPT | 8.27 | 3.72 | 7.8 | 2.07 | 1/8 NPT |
| 1-1/2" | 6.46 | 3.17 | 8.39 | 1.77 | 1/8 NPT | 8.27 | 3.72 | 9.1 | 2.07 | 1/8 NPT | 10.83 | 4.84 | 10.15 | 2.68 | 1/4 NPT | 10.83 | 4.84 | 10.15 | 2.68 | 1/4 NPT |
| 2" | 8.27 | 3.72 | 9.41 | 2.07 | 1/8 NPT | 8.27 | 3.72 | 9.41 | 2.07 | 1/8 NPT | 10.83 | 4.84 | 10.46 | 2.68 | 1/4 NPT | 13.11 | 5.39 | 11.82 | 2.87 | 1/4 NPT |
| 3" | 13.11 | 5.39 | 13.81 | 2.87 | 1/4 NPT | 13.11 | 5.39 | 13.81 | 2.87 | 1/4 NPT | 14.65 | 5.83 | 14.29 | 3.15 | 1/4 NPT | 17.15 | 6.46 | 15.18 | 3.44 | 1/4 NPT |
| 4" | 17.15 | 6.46 | 17.34 | 3.44 | 1/4 NPT | 17.15 | 6.46 | 17.34 | 3.44 | 1/4 NPT | 19.69 | 7.36 | 18.28 | 3.94 | 1/4 NPT | 19.69 | 7.36 | 18.28 | 3.94 | 1/4 NPT |
| 6" | 22.78 | 8.58 | 24.13 | 4.29 | 1/4 NPT | 22.78 | 8.58 | 24.13 | 4.29 | 1/4 NPT | 22.78 | 8.58 | 24.13 | 4.29 | 1/4 NPT | 26.46 | 11.42 | 28.89 | 5.71 | 1/4 NPT |



<http://www.pbmvalve.com/valves/3-way-diverter-port-valve>

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



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