

IMI PBM IGENIX® DIVERTER BALL VALVES

3-Way, Cast Series 9 or Forged Series 8, 1/2" - 6"



DESIGN FEATURES:

- Unique Adjust-O-Seal® feature allows in-line valve adjustment to compensate for normal wear on valve seats.
- **DI Series Divertor Ball valves DO NOT 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 Divertor valve can replace two or three 2-Way valves to reduce cost and space.
- Full-port diameters minimize pressure drops (1/2 - 6")
- True-Bore® (tube) for sanitary valves
- Stem assembly accommodates IMI PBM Direct Mount Actuation for accurate alignment and increased cycling life.
- A Divertor Port ball valve can be an economical alternative to a 3-Way Multi-port valve depending on the sealing requirements.
- Full port design
- Valves are rated to full vacuum.
- Specify IMI PBM flow pattern.
- Certified Material Test Report (CMTRS) provided for wetted components.
- Surface finishes are achieved without the use of ADIs (Animal Derived Ingredients).



| SPECIFICATIONS | SANITARY DIVERTER VALVES |
|--------------------------------|---|
| Sizes | 1/2" - 6" |
| Material | 316L Stainless Steel with low controlled ferrite, Hastelloy® C276 or C22®, others |
| Temperatures | Ambient for V-TEF™ to 450° F depending on seat and seal material |
| End Connections | Extended tube, hygienic clamp, or others |
| Seats, Seals and Stem Packings | V-TEF™ or S-TEF® material |
| Body Bolts & Nuts | 18-8 Stainless Steel |
| Maximum Working Pressure | up to 900 psig CWP depending on valve size and temperature |
| Polish | Standard internal polish of 20 Ra ID Series 8, 30 Ra ID Series 9 |

| Size | CV Values (gpm) | | |
|--------|-----------------|----------|--------|
| | L-Port | T-Port | |
| | | Straight | Branch |
| 1/2" | 4.0 | 4.7 | 3.0 |
| 3/4" | 12 | 15 | 9.0 |
| 1" | 25 | 29 | 18 |
| 1-1/2" | 68 | 81 | 49 |
| 2" | 133 | 160 | 92 |
| 3" | 324 | 390 | 233 |
| 4" | 590 | 715 | 430 |
| 6" | 1,450 | 1,750 | 1,040 |

| ID Surface Finish, Ra Readings for Valves per ASME BPE | | | |
|--|---------------------|-----------|------|
| Surface Finish | IMI PBM Polish Code | μ-in. | μ-m. |
| Mechanical Polish | | | |
| SF 1 | A | 20 Ra max | 0.51 |
| SF 2 | A | 25 Ra max | 0.64 |
| SF 3 | - | 30 Ra max | 0.76 |
| Mechanical Polish and Electropolish | | | |
| SF 4 | G | 15 Ra max | 0.38 |
| SF 5 | F | 20 Ra max | 0.51 |
| SF 6 | F | 25 Ra max | 0.64 |

How To Order:

| PRODUCT (1-2) MATERIAL (3-4) | | SIZE (5) SERIES (6) | | END CONN. (7-8) | | SEAT & SEAL (9) | | FLOW PATTERNS (10-11) | | BALL & STEM (12) | | OPERATOR (13-14) | | POLISH (15-16) | | | |
|---------------------------------|----|--|---|--------------------|--------|---------------------------|----------------------------|--------------------------|---|---------------------|--------------------------------------|---------------------|----------------------------------|-------------------|---|---|----------------------------------|
| DI | HL | Cast (Ser. 9) 316L S / S | C | 1/2" | 8 | X- | Hygienic Clamp | G | V-TEF™ Seats / Seals | 10 | 3-Way Side Entry L-Port Ball 90° | - | Standard Ball and Stem | -- | W/ Standard Lever Handle (1/2" thru 4") | - | 30 Ra ID (Std. Series 9) |
| | HF | Forged 316L S / S | D | 3/4" | 9 | F- | Ext. Butt-weld for Tube | J | V-TEF™ Seats / Seals VTFE Cavity Fillers | 03 | 3-Way Side Entry T-Port Ball 90° | F | Internal / External Grounding | 02 | W/O Handle W/ Stem Actuator Prep | A | 20 Ra ID (Std. Series 8) |
| | | Other material options available - Contact PBM. | | E | 1" | | | H | S-TEF® Seats / Seals | 04 | 3-Way Side Entry T-Port Ball 90° | G | 17-4PH Stem | 04 | Locking Lever Handle (1/2" thru 4") | D | 15 Ra ID |
| | | | | G | 1-1/2" | | | I | S-TEF® Seats / Seals VTFE Cavity Fillers | 14 | 3-Way Btm. Entry L-Port Ball 360° | | | 08 | Gear Operator (Req'd for 6") | E | 10 Ra ID |
| | | | | H | 2" | | | K | UHMWPE Seats / Seals | 15 | 3-Way Btm. Entry L-Port Ball 180° | | | 20 | DA 80psig actuator | F | 20 Ra ID after Electro Polish |
| | | | | K | 3" | | | L | UHMWPE Seats / Seals VTFE Cavity Fillers | 18 | 3-Way Btm. Entry LL-Port Ball 90° | | | 27 | DA 60psig actuator | G | 15 Ra ID after Electro Polish |
| | | | | L | 4" | | | | | | | | | 34 | SR 80psig actuator - Fail Position must be specified | H | 10 Ra ID after Electro Polish |
| | | | | M* | 6" | * Not available in forged | | | | | | | | 41 | SR 60psig actuator - Fail Position must be specified | | |

Other seat/seal options available -
Contact PBM.

Other Flow Pattern Options
available - Contact PBM.

Other operator options available -
Contact PBM.

More polish available -
Contact PBM.

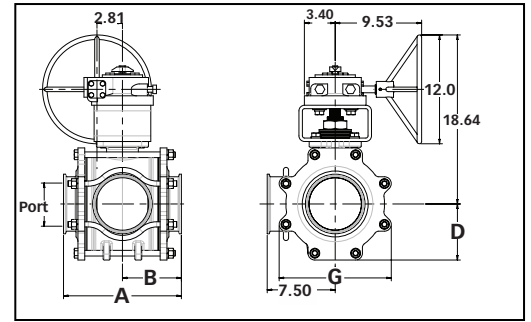
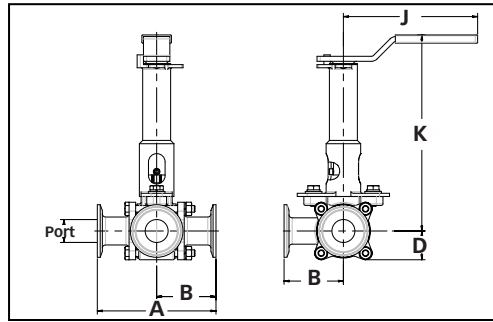
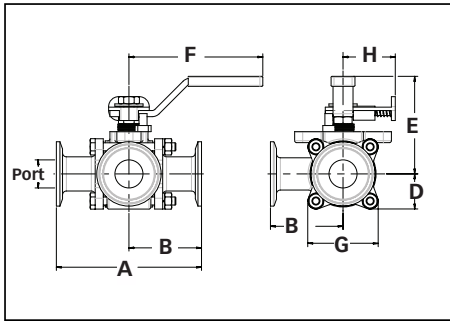
<http://pbmvalve.com/build-a-part-number>

IMI PBM Igenix® Cast Series 9 or Forged Series 8 Diverter Valves

Diverter Port with Locking Handle

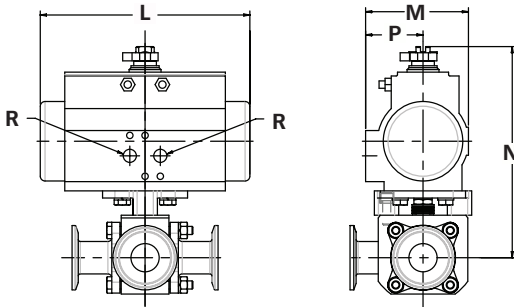
Diverter Port with Butt Weld Ends

Diverter Port with Gear Operator (6" only)



| 3-Way Diverter Port Dimensioned valves in inches | | | | | | | | | | | | Locking Handle | | Ext. Locking Handle | | |
|--|-----------|-----------|-------|-------|------|------|------|------|-------|-------|-------------------|----------------|--------------------|---------------------|-------|--------------------|
| Valve Size | Size Code | I.D. Port | A | | B | | D | E | F | G | Approx. Wgt (lbs) | H | Hole Dia. for Lock | J | K | Hole Dia. for Lock |
| | | | F- | X- | F- | X- | | | | | | | | | | |
| 1/2" | C | 0.37 | 5.50 | 3.50 | 2.75 | 1.75 | 0.75 | 2.05 | 4.00 | 1.50 | 1.6 | 1.55 | .28 | 5.09 | 4.00 | 0.31 |
| 3/4" | D | 0.62 | 6.00 | 4.00 | 3.00 | 2.00 | 0.85 | 2.23 | 4.00 | 1.68 | 2.0 | 1.55 | .28 | 5.09 | 4.14 | 0.31 |
| 1" | E | 0.87 | 6.50 | 4.50 | 3.25 | 2.25 | 1.09 | 3.01 | 4.15 | 2.18 | 3.6 | 1.62 | .25 | 5.09 | 5.44 | 0.31 |
| 1-1/2" | G | 1.37 | 7.50 | 5.50 | 3.75 | 2.75 | 1.68 | 5.02 | 8.81 | 3.31 | 12.0 | 2.57 | .38 | 8.00 | 7.46 | 0.38 |
| 2" | H | 1.87 | 8.00 | 6.25 | 4.00 | 3.13 | 2.15 | 4.47 | 8.03 | 4.30 | 22.0 | 2.57 | .38 | 8.00 | 7.74 | 0.38 |
| 3" | K | 2.87 | 10.50 | 8.00 | 5.25 | 4.00 | 2.78 | 6.77 | 12.06 | 5.58 | 33.0 | 3.47 | .38 | 12.06 | 11.61 | 0.44 |
| 4" | L | 3.84 | 13.00 | 10.00 | 6.5 | 5.00 | 3.66 | 7.53 | 12.06 | 7.33 | 67.0 | 3.47 | .38 | 12.06 | 12.38 | 0.44 |
| 6"* | M | 5.78 | 17.00 | 13.00 | 8.5 | 6.5 | 6.18 | NA | NA | 12.37 | 177.0** | NA | NA | NA | NA | NA |

* Series 9 Only ** Weight without handle



| Code (#) | DIVERTER PORT • 3-way • SIDE ENTRY | | | | DIVERTER PORT • 3-way • BOTTOM ENTRY | | | | |
|------------|------------------------------------|-------------|--------------|-------------|--------------------------------------|--------------|-------------|---------------|--------------|
| | 03 T-90° | 04 T-90° | 06 T-180° | 10 L-90° | 14 L-360° | 15 L-180° | 16 T-90° | 17 TT-180° | 18 LL-90° |
| Port Style | | | | | | | | | |
| Position A | | | | | | | | | |
| Position B | | | | | | | | | |
| Position C | | | | | | | | | |
| Position D | | | | | | | | | |

ACTUATED DIMENSIONS

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

| Size | 80 PSI Spring Return | | | | | 60 PSI Spring Return | | | | | 60, 80 PSI Double Acting | | | | |
|--------|----------------------|------|-------|------|---------|----------------------|-------|-------|------|---------|--------------------------|------|-------|------|---------|
| | L | M | N | P | R | L | M | N | P | R | L | M | N | P | R |
| 1/2" | 5.55 | 2.80 | 5.45 | 1.61 | 1/8 NPT | 5.55 | 3.17 | 5.90 | 1.77 | 1/8 NPT | 5.55 | 2.80 | 5.45 | 1.61 | 1/8 NPT |
| 3/4" | 5.55 | 2.80 | 5.59 | 1.61 | 1/8 NPT | 6.46 | 3.17 | 6.04 | 1.77 | 1/8 NPT | 5.55 | 2.80 | 5.59 | 1.61 | 1/8 NPT |
| 1" | 6.46 | 3.17 | 6.51 | 1.77 | 1/8 NPT | 8.27 | 3.72 | 7.22 | 2.07 | 1/8 NPT | 5.55 | 2.80 | 6.06 | 1.61 | 1/8 NPT |
| 1-1/2" | 9.47 | 4.17 | 9.65 | 2.30 | 1/8 NPT | 10.83 | 4.84 | 9.65 | 2.68 | 1/4 NPT | 8.27 | 3.72 | 9.10 | 2.07 | 1/8 NPT |
| 2" | 10.83 | 4.84 | 10.45 | 2.68 | 1/4 NPT | 13.11 | 5.39 | 11.80 | 2.87 | 1/4 NPT | 8.27 | 3.72 | 9.39 | 2.07 | 1/8 NPT |
| 3" | 14.65 | 5.83 | 14.21 | 3.15 | 1/4 NPT | 17.13 | 6.46 | 15.10 | 3.44 | 1/4 NPT | 13.11 | 5.39 | 13.73 | 2.87 | 1/4 NPT |
| 4" | 17.13 | 6.46 | 15.86 | 3.44 | 1/4 NPT | 19.69 | 7.32 | 16.80 | 3.90 | 1/4 NPT | 13.11 | 5.39 | 14.51 | 2.87 | 1/4 NPT |
| 6" | 22.78 | 8.54 | 23.02 | 4.29 | 1/4 NPT | 22.64 | 11.42 | 27.78 | 5.71 | 1/4 NPT | 22.78 | 8.54 | 23.02 | 4.29 | 1/4 NPT |

| Manual Valves with Tube Ends when used with insulation | | |
|--|----------------------------------|-------------------------------|
| Tube OD | Insulation max with no extension | Insulation max with extension |
| 0.50 | 0.76 | 2.68 |
| 0.75 | 0.79 | 2.72 |
| 1.00 | 1.45 | 3.88 |
| 1.50 | 3.10 | 5.57 |
| 2.00 | 2.31 | 5.60 |
| 3.00 | 4.08 | 8.88 |
| 4.00 | 4.35 | 9.12 |