

PBM IND. TANK BOTTOM STEAM VALVES

FD Series 5, 1/2" - 6"



DESIGN FEATURES:

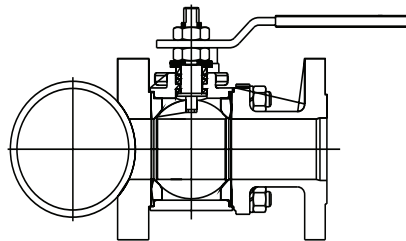
- Unique Adjust-O-Seal® feature allows in-line valve adjustment to compensate for normal wear on valve seats. Note: **FD Series Tank Bottom Steam valves have o-rings.**
- Pad radius facilitates efficient drainage and reduces the pocket area above the ball.
- Upstream and downstream bubble-tight sealing capability allows valve body cleaning, purging, and draining.
- Stem assembly accommodates PBM Direct Mount Actuation for accurate alignment and increased cycling life.
- Available in Angle Stem versions for applications where automation may interfere with tank head or jacket.
- Valves are rated for full vacuum.
- Standard bottom-entry stem provides protection from inadvertent stem removal. Engagement between the slot and ball is specially designed for high torque applications.



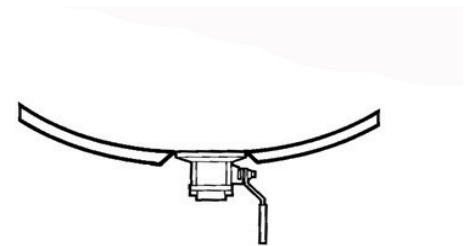
| SPECIFICATIONS | 2-Way Tank Bottom Valves |
|--------------------------|--|
| Sizes | 1/2" - 6" depending on series |
| Material | 316L, Hastelloy™, AL6XN, others |
| Temperatures | Ambient for V-TEF™ to 400° F, S-TEF® to 450°F |
| End Connections | Buttweld, Flange, NPT, Socket Weld, others |
| Seats & Seals | White V-TEF™ standard, others available |
| Stem Packing Material | V-TEF™ and S-TEF® |
| O-rings | EPR O-ring energizer (Viton V1274-75/80, EPR E3608-70, others available) |
| Body Bolts & Nuts | 18-8 Stainless Steel |
| Maximum Working Pressure | up to 720 psig (49.6 bar) depending on valve series, size and temperatures |
| Temperatures | up to 450°F (232.2°C), depending on seat and seal material |

| CV Values (gpm), FD Series 5 | |
|---------------------------------|----------------|
| Size | End Connection |
| 1/2" | 14 |
| 3/4" | 42 |
| 1" | 70 |
| 1-1/2" | 190 |
| 2" | 370 |
| 3" | 900 |
| 4" | 1,650 |
| 6" | 3,900 |

Custom pads for special applications



Cylindrical radius pads or reduced pocket cylindrical radius pads accommodate customer-specified or existing valve products.



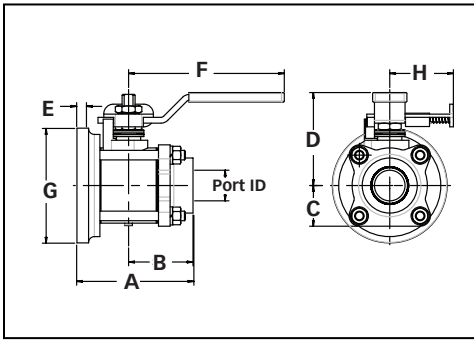
Spherical radius pads or reduced pocket spherical radius pads facilitate efficient drainage and reduces the pocket area above the ball.

How To Order:

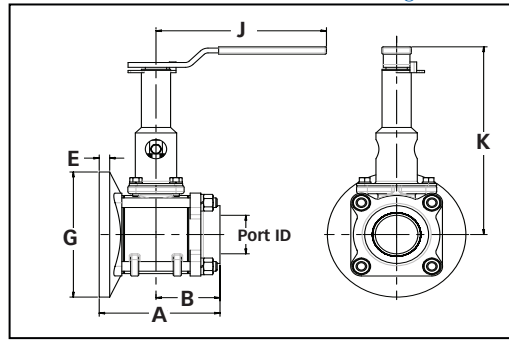
| PRODUCT (1-2) MATERIAL (3-4) | | SIZE (5) SERIES (6) | | END CONN. (7-8) | SEAT & SEAL (9) | Weld Pad (10-11) | BALL & STEM (12) | OPERATOR (13-14) | POLISH (15-16) | | | | | | | |
|---------------------------------|---|------------------------|------|--------------------|----------------------|---------------------|---|---|------------------------------|----|-------------------------------|--------------------------------|-------------------------------------|----------------------|--------------------------------------|--|
| FD | H- Cast 316/316L S / S | C | 1/2" | 5 | B- Sch. 40 Butt Weld | G | V-TEF™ Seats / Seals FKM O-Rings | -- | Standard Weld Pad | - | 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 Cav Fill / FKM O-Rings | 02 | w/o weld pad w/ shipping pad | F | Internal / External Grounding | 02 | W/O Handle W/ Stem Actuator Prep | A | 20 Ra ID | |
| | C- Hastelloy C-276 | E | 1" | | L- 150# Flange | Z | V-TEF™ Seats / Seals EPR O-Rings | Other Weld Pad Options available - Contact PBM. | | | G | 17-4PH Stem | 04 | Locking Lever Handle | C | 20 Ra ID / 32 Ra OD |
| | Y- Hastelloy C-22 | H | 2" | | M- 300# Flange | 2 | V-TEF™ Seats / Seals / VTFE Cav Fill / EPR O-Rings | | | | 18 | Extended Handle (1/2" thru 4") | 20 | DA 80psig actuator | F | 20 Ra ID after Electro Polish |
| | P- AL6XN | L | 4" | | Q- Female NPT | H | S-TEF® Seats / Seals FKM O-Rings | 27 | DA 60psig actuator | 34 | SR 80psig actuator | 41 | SR 60psig actuator | | More polish available - Contact PBM. | |
| | Other material options available - Contact PBM. | M | 6" | | U- Socket Weld | 0 | S-TEF® Seats / Seals EPR O-Rings | | | | | | | | | Other operator options available - Contact PBM. |
| | | | | | | 9 | V-TEF™ Seats / Seals FEP Encaps. FKM O-Rings | | | | | | | | | Other Seat/seal options available - contact PBM. |

PBM Flush Tank Steam Valves Series 5 Manual

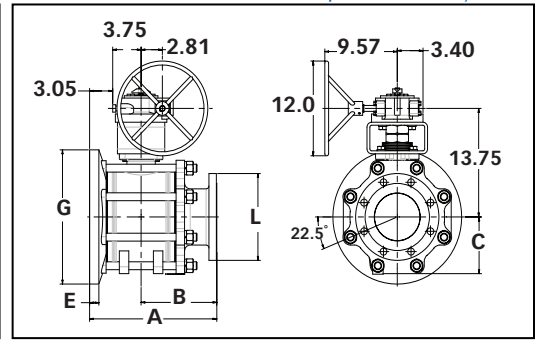
Flush Tank Valve with Locking Handle



Flush Tank Valve with Ext. Locking Handle



Flush Tank Valve with Gear Operator (6" only)



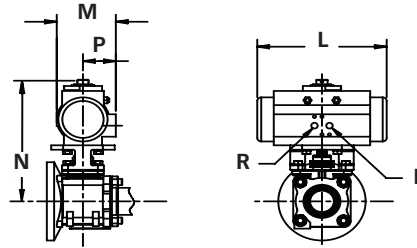
Industrial Flush Tank Dimensioned Valves in inches

| Valve Size | Size Code | I.D. Port | A | | B | | Q to Bottom | Q to Top | Pad Thick. | Length from Q | Pad Dia. | End Fitting | Locking Handle | | Ext Lock Handle | | Approx Weight | |
|------------|-----------|-----------|-------|-------|------|-------|-------------|----------|------------|---------------|----------|-------------|----------------|-----|-----------------|-------|---------------|-----------|
| | | | Q- | L- | Q- | L- | C | D | | | | | E | F | G | L | Q- | Hole Dia. |
| 1/2" | C | 0.5 | 2.83 | 4.02 | 1.56 | 2.75 | 0.98 | 2.63 | 0.28 | 4.15 | 2.75 | 3.50 | 2.75 | .25 | 7.19 | 5.09 | 2 lbs. | 3 lbs. |
| 3/4" | D | 0.75 | 3.07 | 4.23 | 1.72 | 2.88 | 1 | 2.78 | 0.31 | 4.15 | 3 | 3.88 | 3 | .25 | 7.19 | 5.09 | 2.5 lbs. | 4 lbs. |
| 1" | E | 1.0 | 3.84 | 4.96 | 2.13 | 3.25 | 1.33 | 3.1 | 0.32 | 5.09 | 3.75 | 4.25 | 3.75 | .28 | 7.34 | 5.09 | 5 lbs. | 7 lbs. |
| 1-1/2" | G | 1.5 | 5.07 | 6.32 | 2.75 | 4.00 | 1.78 | 4.41 | 0.46 | 8.68 | 5.5 | 5.00 | 5.5 | .38 | 7.62 | 5.09 | 13 lbs. | 16 lbs. |
| 2" | H | 2.0 | 5.66 | 7.54 | 3.00 | 4.88 | 2.2 | 4.7 | 0.49 | 8.68 | 6.5 | 6.00 | 6.5 | .38 | 9.76 | 8.00 | 19 lbs. | 25 lbs. |
| 3" | K | 3.0 | 8.38 | 10.26 | 4.50 | 6.38 | 3.1 | 6.78 | 0.77 | 12.44 | 9 | 7.50 | 9 | .38 | 11.69 | 12.06 | 57 lbs. | 68 lbs. |
| 4" | L | 4.0 | 10.81 | 12.31 | 6.00 | 7.50 | 4.9 | 7.34 | 0.9 | 24.44 | 11.5 | 9.00 | 11.5 | .44 | 13.97 | 24.06 | 120 lbs. | 133 lbs. |
| 6" | M | 6.0 | NA | 16.80 | NA | 10.00 | 7.2 | Note 2 | 1.23 | CF | 17 | 11.00 | 17 | NA | NA | NA | CF | CF |

*Weight with gear operator.

ACTUATED DIMENSIONS

Unit of Measure = inches
Dimensions based on actuators used with V-TEFT™ 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/tank-bottom-valve-0>

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

www.PBMValve.com

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