

IMI PBM ANSI CL150 & CL300 CRYOGENIC VALVES

2-Way, Full Port, Sizes 3/4" - 4", Flanged Ends



DESIGN FEATURES:

- Valve has been shown to exceed leakage performance per BS6364 and MSS SP-134
- **CN Series Cryogenic valves DO NOT have o-rings.**
- Live-loaded stem packings
- Fire Tested to API-607
- Designed and tested in accordance with ASME B31.1 and B16.34
- Cleaned for oxygen service.
- Optional API-622 Low-e Packing (cannot be cleaned for oxygen service)
- Quarter turn operation
- Locking lever handle or optional oval locking handwheel with special request
- Automation available
- Internal and external grounding
- Uni-directional flow and vented ball, marked HP (high pressure) & LP (low pressure) on valve body
- With or without extended stem



| SPECIFICATIONS | CN - 2-Way, Full Port, Split Body Flanged Class 150 or 300 |
|-------------------------------------|--|
| Sizes | 3/4" - 4" |
| Body, Ball, End Fitting Material | 316 Stainless Steel |
| Stem Material | 17-4 PH Stainless Steel |
| Seats & Lower Stem Packing Material | V-TEF™ |
| Body Gaskets & Upper Stem Packing | Graphite |
| Handle | 300 Stainless Steel |
| Maximum Working Pressure | 275 psig CWP (ANSI CL150) 720 psig CWP (ANSI CL300) Flanged end connections. |

| CV and WEIGHTS | | | |
|----------------|----------|---------------------|---------------------|
| Size | CV (gpm) | Weight CL150 (lbs.) | Weight CL300 (lbs.) |
| 3/4" | 52 | 7 | 10 |
| 1" | 80 | 12 | 15 |
| 1-1/2" | 190 | 25 | 32 |
| 2" | 400 | 34 | 39 |
| 3" | 1,100 | 70 | 92 |
| 4" | 2,400 | 118* | 156* |

| CRYOGENIC ALLOWABLE LEAKAGE RATE COMPARISON | | |
|---|-----------------|--------------|
| NPS | MSS-SP-134-2010 | BS 6364-1984 |
| 3/4" | 56.25 | 120 |
| 1" | 75 | 150 |
| 1-1/2" | 112.50 | 240 |
| 2" | 150 | 300 |
| 3" | 225 | 480 |
| 4" | 300 | 600 |

*Stem prep for automation

HOW TO ORDER:

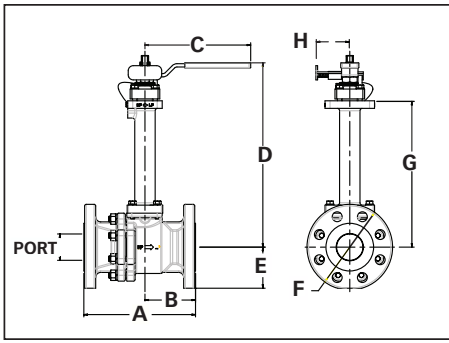
| PRODUCT (1-2) MATERIAL (3-4) | | | SIZE (5) SERIES (6) | | | END CONN. (7-8) | | SEAT & SEAL (9) | | PURGE PORT OPTIONS (10-11) | | BONNET (12) | | OPERATOR (13-14) | | OXYGEN CLEAN (15-16) | | | |
|---|---|---------|---------------------|--------|--|-----------------|-----------------|---|---|----------------------------|----------------|-----------------|-----------------|--|-------------------------------|--|---|--|--|
| CN | H | 316 S/S | D | 3/4" | 6 | L | CL150 RF Flange | G | V-TEF™/Graphite Seals Spiral wound graphite stem packing | -- | No Purge Ports | - | Standard Bonnet | 02 | No Handle, Stem Actuator Prep | -L | Oxygen Clean Per PBM Procedure "G" seat / seal code only | | |
| Other material options available - Contact PBM. | | | E | 1" | M | CL300 RF Flange | Z | V-TEF™/Graphite Seals Low Emission graphite stem packing | | | V | 12" Tall Bonnet | 04 | Locking Lever Handle - Std. 3/4" thru 2" Only | -- | NO Oxygen Clean "Z" seat / seal code only | | | |
| | | | G | 1-1/2" | Note: Valves with "Z" code will not be oxygen cleaned. | | | | | | | | | | | | | | |
| | | | H | 2" | | | | | | | | | | | | | | | |
| | | | K | 3" | | | | | | | | | | | | | | | |
| | | | L | 4" | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | 08 | Gear Operator Std. - 4" Only | | |
| | | | | | | | | | | | | | | | | 09 | Locking "T" Handle - Std. 3" Only | | |
| | | | | | | | | | | | | | | | | 20 | DA 80psig actuator | | |
| | | | | | | | | | | | | | | | | 27 | DA 60psig actuator | | |
| | | | | | | | | | | | | | | | | 34 | SR 80psig actuator | | |
| | | | | | | | | | | | | | | | | 41 | SR 60psig actuator | | |

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

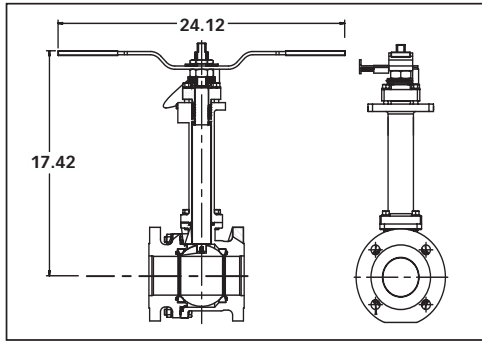
Other operator options available - Contact PBM.

IMI PBM ANSI CL150 & CL300 CRYOGENIC BALL VALVE DIMENSIONS

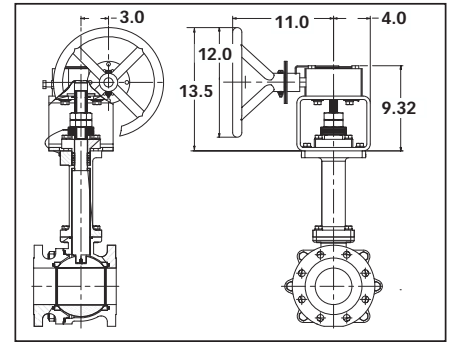
CN with Lever Handle



3" CN with T-Handle



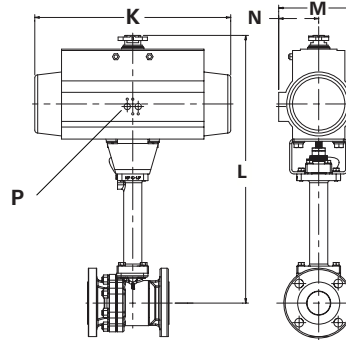
4" CN with Gear Operator



| Size | Port Dia. | Pressure Class | A | B | C | D | E | F | G | H | Hole Dia. for Lock |
|--------|-----------|----------------|----------------|----------------|---------------|-------------------------|---------------------|-------------|---------------------|------|--------------------|
| | | | Overall Length | CL to End Face | Handle Length | Handle Height Std. Ext. | CL to Bottom Flange | Flange Dia. | CL to Top of Bonnet | | |
| 3/4" | .75 | 150# | 4.62 | 2.12 | 6.15 | 9.86 | 1.80 | 3.88 | 7.78 | 1.55 | .28 |
| | .75 | 300# | 6.00 | 2.90 | 6.15 | 9.86 | 2.15 | 4.62 | 7.78 | 1.55 | .28 |
| 1" | 1.00 | 150# | 5.00 | 2.25 | 8.09 | 10.08 | 2.06 | 4.25 | 7.71 | 1.64 | .25 |
| | 1.00 | 300# | 6.50 | 3.15 | 8.09 | 10.08 | 2.38 | 4.88 | 7.71 | 1.64 | .25 |
| 1-1/2" | 2.00 | 150# | 6.50 | 2.68 | 18.03 | 13.70 | 2.38 | 5.00 | 10.81 | 2.57 | .38 |
| | 2.00 | 300# | 7.50 | 3.18 | 18.03 | 13.70 | 3.00 | 6.12 | 10.81 | 2.57 | .38 |
| 2" | 2.00 | 150# | 7.00 | 3.12 | 18.03 | 14.00 | 2.88 | 6.00 | 11.12 | 2.57 | .38 |
| | 2.00 | 300# | 8.50 | 3.84 | 18.03 | 14.00 | 3.12 | 6.50 | 11.12 | 2.57 | .38 |
| 3" | 3.00 | 150# | 8.00 | 3.57 | NA | NA | 3.50 | 7.50 | 13.41 | 3.84 | .38 |
| | 3.00 | 300# | 11.12 | 5.19 | NA | NA | 4.00 | 8.25 | 13.41 | 3.84 | .38 |
| 4" | 4.00 | 150# | 9.00 | 3.84 | NA | NA | 4.38 | 9.00 | 14.83 | NA | NA |
| | 4.00 | 300# | 12.00 | 5.34 | NA | NA | 4.75 | 10.00 | 14.83 | NA | NA |

ACTUATED DIMENSIONS

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



| Size | 60 psi Double Acting | | | | | 80 psi Double Acting | | | | | 60 psi Spring Return | | | | | 80 psi Spring Return | | | | |
|--------|----------------------|-------|------|------|-----|----------------------|-------|------|------|-----|----------------------|-------|-------|------|-----|----------------------|-------|-------|------|-----|
| | K | L | M | N | P | K | L | M | N | P | K | L | M | N | P | K | L | M | N | P |
| 3/4" | 6.46 | 13.73 | 3.17 | 1.77 | 1/8 | 5.55 | 13.28 | 2.79 | 1.61 | 1/8 | 9.48 | 14.99 | 4.17 | 2.30 | 1/8 | 8.27 | 14.44 | 3.72 | 2.07 | 1/8 |
| 1" | 6.46 | 14.16 | 3.17 | 1.77 | 1/8 | 6.46 | 14.16 | 3.17 | 1.77 | 1/8 | 10.83 | 15.92 | 4.85 | 2.68 | 1/4 | 9.48 | 15.42 | 4.17 | 2.30 | 1/8 |
| 1-1/2" | 10.83 | 20.02 | 4.85 | 2.68 | 1/4 | 9.48 | 19.52 | 4.17 | 2.30 | 1/8 | 14.65 | 21.86 | 5.83 | 3.15 | 1/4 | 13.12 | 21.38 | 5.39 | 2.87 | 1/4 |
| 2" | 13.12 | 21.69 | 5.39 | 2.87 | 1/4 | 10.83 | 20.33 | 4.85 | 2.68 | 1/4 | 19.68 | 24.00 | 7.36 | 3.90 | 1/4 | 17.13 | 23.06 | 6.45 | 3.44 | 1/4 |
| 3" | 14.65 | 25.46 | 5.83 | 3.15 | 1/4 | 13.12 | 24.98 | 5.39 | 2.87 | 1/4 | 22.78 | 29.54 | 8.54 | 4.29 | 1/4 | 19.68 | 27.29 | 7.36 | 3.90 | 1/4 |
| 4" | 22.78 | 32.96 | 8.54 | 4.29 | 1/4 | 22.78 | 32.96 | 8.54 | 4.29 | 1/4 | 26.46 | 35.04 | 11.42 | 5.71 | 1/4 | 26.46 | 35.04 | 11.42 | 5.71 | 1/4 |

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