



PBM VALVE SOLUTIONS

Chemical & Petrochemical
Food & Beverage
LNG & Cryogenic
Marine & Offshore
Mining
NQA-Qualified
Oil & Gas
Paint & Resins
Personal Care
Pharmaceutical & Biotech
Power
Pulp & Paper
Refining
Steel





PBM has solutions to your valve application needs.



PBM (PITTSBURGH BRASS MANUFACTURING) is a company that began as a non-ferrous foundry in 1899 along the Monongahela River in Pittsburgh. The first ball valve was shipped in 1960. In 1968 PBM moved to its present site in Irwin, 20 miles southeast of Pittsburgh, PA. PBM Valves combine specific application requirements with creative engineering and quality manufacturing practices. PBM valves offer the convenience of standard features with the option of customizing for a specific process. Most PBM valves incorporate PBM's Adjust-O-Seal® design and many include the True-Bore® design. PBM has the ability to provide clean-in-place/steam-in-place capability without process interruption. These are just a few of the innovations that help reduce processing costs and improve efficiency for our customers.

INDUSTRIAL VALVES

- 2-Way Ball Valves
- ANSI Ball Valves
- Tank Bottom Valves
- Trunnion Mounted
- Diverter Port Ball Valve
- Multi-Port Ball Valves
- Control Valves

SANITARY VALVES

- BPE COMPLIANT**
- Clean Steam Valves
 - Self Cleaning Ball Valves
 - 2-Way Ball Valves
 - Tank Bottom Valves
 - Diverter Port Ball Valve
 - Multi-Port Ball Valves
 - Pinch Valves
 - Spray Ball Valves

SPECIALTY VALVES

- Marine valves
- Check Valves
- Cryogenic Valves
- Instrument Valves
- Manifold Assemblies
- NQA-1 COMPLIANT
- Radial Diaphragm
- Rising Stem Sampling

AUTOMATION

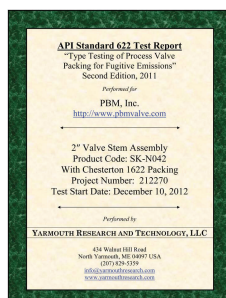
- Electric & Pneumatic
- Direct Mount Pneumatic
- Torque outputs accommodate full range of valve sizes
- Bi-Directional Travel Stop Adjustments
- Position monitors with Visual Indication
- Full range of solenoid valves direct mount, tube mount, or mounted in switchbox



ISO 9001:2015



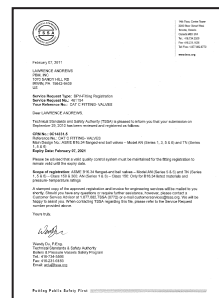
SIL 3 CAPABLE



API 622
Low e Testing



ABS Approval



CRN Registrations



PED 2014/68/EU

DESIGN FEATURES

Clean Steam Ball Valves

Features	Benefits
1. Metal Encapsulated Ring	→ Minimize effects of thermal cycling
2. O-ring primary seal	→ Provides spring effect to combat teflon's lack of memory property
3. Metal encapsulated V-TEF™	→ Body gasket and seat are two body seal separate items that lets the seat move independent of gasket.
4. Belleville Washers	→ Help maintain pre-load on body bolts during thermal cycling

Adjustable Sealing

Clean-in-place/Steam-in-place

Steam/Cleaning Fluid

Inlet Purge Port

Milled Flat

Adjustable Seats

Cavity Fillers

Cavity Fillers

Locking Lever Handle

Direct Mount Actuation

True-Bore®
port diameter same as pipe or tube diameter

Cylindrical Radius Pad

Pipe or Vessel

Minimal Dead Space

Custom Radius Pad

Ball



INDUSTRIAL VALVES

Whether the application is in a chemical plant, paper mill, food plant, manufacturing environment, or other industrial setting, PBM'S line of Industrial valves can handle all types of rigorous and general purpose applications.

Materials:

- 316/316L S/S
- Carbon Steel
- Bronze
- Hastelloy[®]
- AL6XN[®]
- Others

End Connections:

- Threaded
- Extended Butt Weld
- Socket Weld
- Flanged
- Compression
- Others

Options:

- Actuation
- Fire-Rated
- CIP/SIP
- Cavity Fillers
- Locking Handle
- Steam Seats
- Polishing & Electropolishing
- Special Pads (Flush Tank)
- Multiple Flow Patterns (Diverter & Multi-Port)
- V-ball for flow control
- Variety of Soft and Metal Seats

2-Way Ball Valve



- Sizes:
- 1/4" - 10"
 - DN8 - DN250

Diverter Port Ball Valve



- Sizes:
- 1/2" - 6"
 - DN15 - DN150



Angle Stem Flush Tank Ball Valve

- Sizes:
- 1" - 6"
 - DN25 - DN150

Tank Bottom Ball Valves



- Sizes:
- 1/2" - 6"
 - DN15 - DN150



Multi-ported Ball Valve

- Sizes:
- 1/2" - 6"
 - DN15 - DN150

Control Ball Valves



V-balls for Control Valves feature characterized balls with various port shapes.

ANSI ball valve, ASME B16.10 Full Port, 150# Flanged valves is used for heavy duty industrial applications. Adjustable sealing standard.

Sizes:

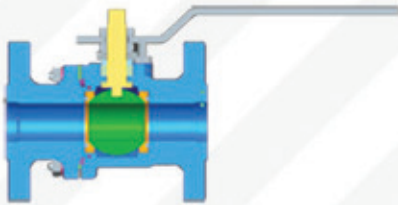
- 1/2" - 10" DN15 - DN250
Class 150 & 300



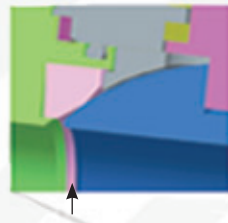
ANSI Ball Valves



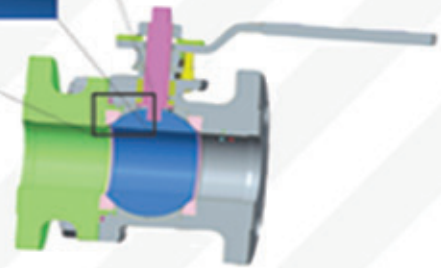
NQA-1 RATED Valves are manufactured, tested, and certified in strict accordance with ASME NQA-1. PBM's quality assurance program is in accordance with 10 CFR 50 Appendix B, ASME NQA-1.0



Metal Seats



Metal Encapsulated Seat Rings facilitate performance in high velocity applications and contain seats in high temperature applications.



Cryogenic Valves

Cryogenic valves have a unique design that accommodate leak-free operation through cooling and heating cycles.

Sizes:

- 1/2" - 4"
DN15 - DN100

Materials:

- 316/316L S/S
- Others

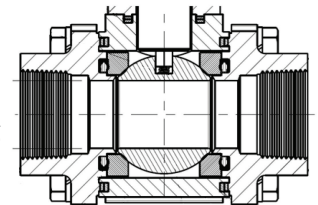
Features:

- Fire Safe to API 607
- Temperatures from 400°F, 205°C down to -320°F, -200°C
- ANSI 300# Class



What Makes It Work

An extended bonnet with an upper set of **live loaded** stem packings. As metal shrinks, it keeps pressure on seals as temperature goes through cooling and heating cycles. A vented ball allows explosive gas expansion to vent upstream.



Leakage Rate Comparison

Cryogenic Allowable Leakage Rate Comparison Allowable He scc/min			
NPS	DN	MSS-SP134-2010	BS 6364-1984
1/2	15	37.5	90
3/4	20	56.25	120
1	25	75	150
1-1/2	40	112.5	240
2	50	150	300
3	80	225	480
4	100	300	600



Igenix[®] Sanitary Valves

Instrument Valves are used for Isolation for pressure gauges, orifice plates, flush rings and various measurement instruments.

Sizes:

- 1/2" and 3/4" sizes with 0.41 bore

Pressure Class:

- 1/4" - 3/4" Up to ANSI Class 2500 (Class 1500 Standard)

Features:

- Quarter Turn Operation
- Optional Extended Handle
- Bleed or Gauge Ports
- Low-E Packing to API 622
- SIL-3 Capable per IEC 61508

Obtain accurate transmitter readings and replace leaky knife gate valves with PBM's **Transmitter Isolation valve**. Ideal for Pulp & Paper and Chemical applications, these 2-Way ball valves feature minimal dead space and positive shut-off. Calibration Port, CIP Port, 150# Flange, and Locking Handle.

Sizes:

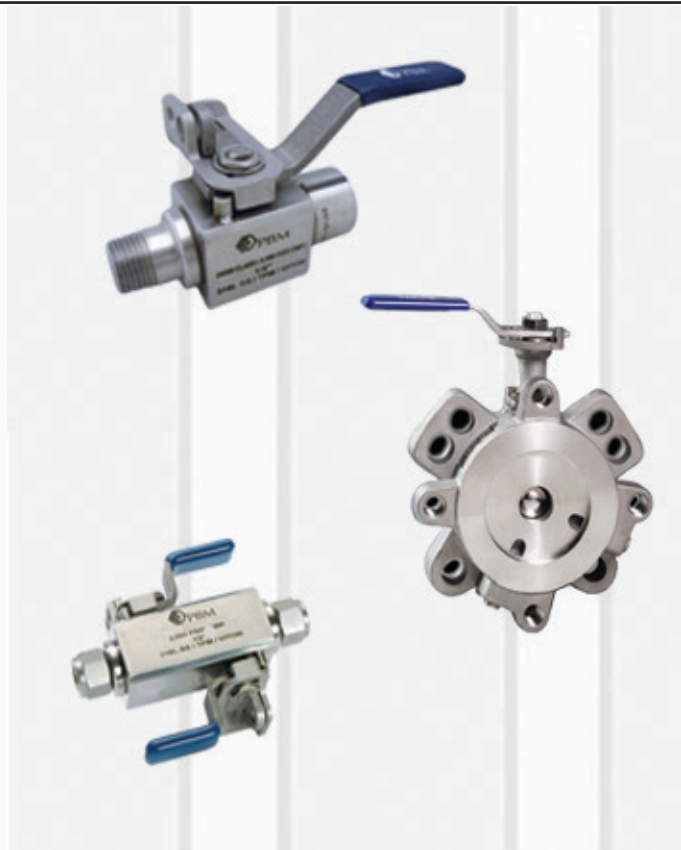
- 2" with 1" Port
- 3" with 2-1/2" Port
- 3" with 1" Port
- Others

Materials:

- 316 L S/S
- Hastelloy[®]
- Carbon Steels
- Duplex
- Inconel
- Others

Materials:

- 316 & 317L S/S
- Hastelloy[®]
- Titanium
- Others



Double Block & Bleed Valves

PBM double block and bleed valves are custom engineered from standard components in a variety of alloys and pressure classifications to meet customer specifications. PBM valves are trusted by major oil refineries where safety and reliability are critical. Valves are designed to ASME B16.34. Optional Low E to Api 622.

Sizes:

- 1/4" - 10" DN8 - DN250



Fabflex[®] Manifold Assemblies

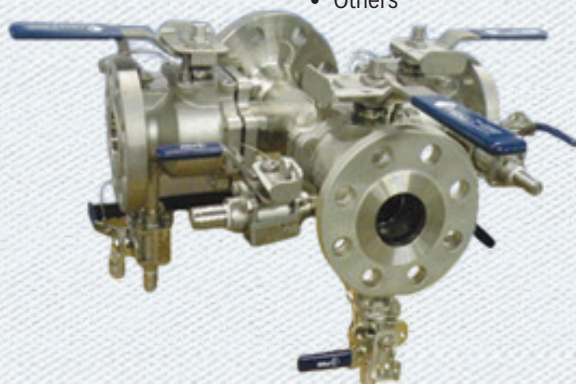
Fabflex Manifolds are space-saving pipe and valve configurations designed to accommodate special applications. Can be shipped in lengths up to 18' with multiple manual and automated valves pre-installed. 100% tested before shipment ensures proper performance.

Sizes:

- 1/4" - 6" DN8 - DN150

Materials:

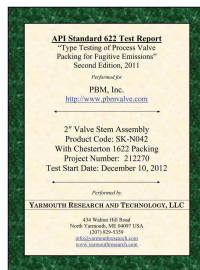
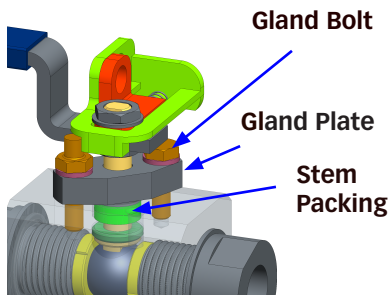
- 316/316L S/S
- Carbon Steel
- Hastelloy[®]
- Others



PBM valves with Low-E Packing offer solutions to emission reduction.

Design Features:

- Average stem packing leakage ≤ 10 ppmv for the duration of the test (100 ppm allowable)
- Stem packing is suitable for service at temperatures of -400° to 850° F (-240° to 450° C)
- API 607 fire tested
- ASME Class 1500 Weld Design standard



**API 622
Low E Testing**

PBM's bolted Instrument Valve design allows end connection design and fabrication flexibility. It is available in a wide range of materials for a variety of temperature and pressure classes to meet your most stringent process applications.

Sizes:

- 1/2" - 2"
- DN15 - DN50
- Class 600#, 900# and 1500#



Features:

- Full & Reduced Port
- Braided Graphite Packing
- API-607 Fire Rated
- API-622 Low-E Stem Packing Standard
- Bleed or Gauge Ports Available
- Gear Operator recommended for 1-1/2" and above

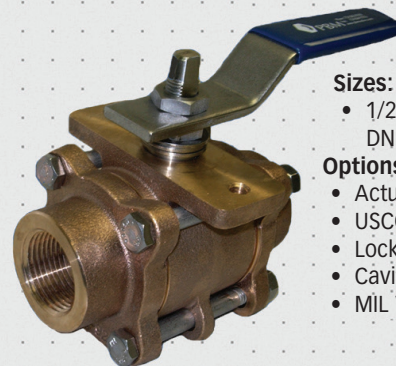
Custom Configurations



**3-Way 120°
Pigging Valve**



Pig Launcher



Sizes:

- 1/2" - 10"
- DN15 - DN250

Options:

- Actuation
- USCG Category A
- Locking Handle
- Cavity Fillers
- MIL V 24509

**Bronze 2-Way
Valves**



**ANSI Trunnion
Ball Valve**



Igenix[®] Sanitary Valves

SANITARY VALVES

PBM's Igenix[®] line of sanitary valves is ideally suited for pure process applications where dead space within the valve need to be minimized. PBM valves exhibit high performance in pharmaceutical, biotechnological, food, beverage, cosmetic, and other sanitary and clean steam applications and validation systems.

Sizes:

- 1/4" - 6"
- DN8 - DN150

Materials:

- 316L S/S Forged and Low Ferrite Castings
- Hastelloy[®]
- AL6XN[®]
- Others

End Connections:

- Hygienic Clamp
- Extended Butt Weld Tube
- Compression
- Others

Options:

- Actuation
- Fire-Rated
- Compression Ends
- CIP/SIP
- Steam Seats
- Cavity Fillers
- Locking Handle
- Polishing & Electropolishing
- Special Pads (Flush Tank)
- Multiple Flow Patterns (Diverter & Multi-Port)

Igenix[®] 2-Way Ball Valves



2-Way Firesafe Ball Valves



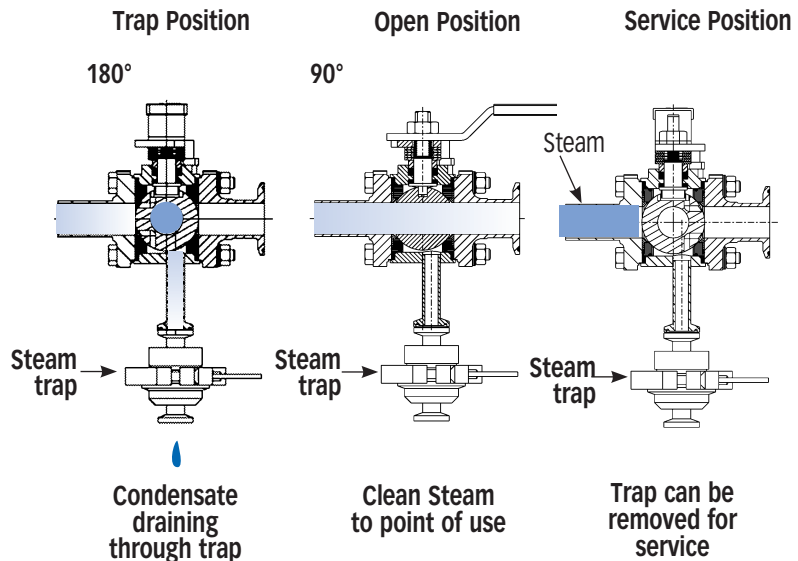
Clean Steam Ball Valves

2-Way Clean Steam Trap Ball Valves

2-Way sanitary Steam Trap valve uses body purge port and ball purge holes to direct flow to the trap while shutting off flow downstream. Permits sampling of steam for purity and safely isolates trap for ease of maintenance. Low Ferrite Cast or Forged. True-Bore[®] standard. Vertical or horizontal installation available.

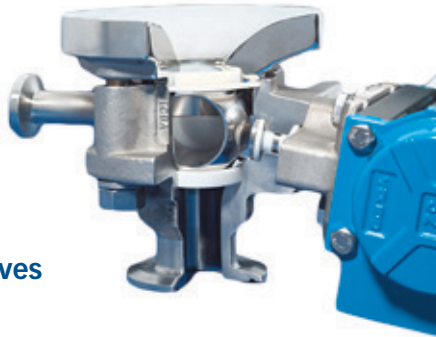
Sizes:

- 1/2" - 6" DN 15 - DN150



**Angle Stem
Flush Tank
Ball Valves**

Sizes:
• 1/2" - 6" DN15- DN150



Spray Ball Valves

Sizes:
• 1/2" - 6" DN15 - DN150



Thoroughly clean the insides of tanks, mixers, and other vessels with PBM's Spray Ball Valve. Design minimizes nozzle exposure and potential for clogging, and accommodates many standard spray nozzles.

**Spring-less Sanitary
Check Valves**

Patented

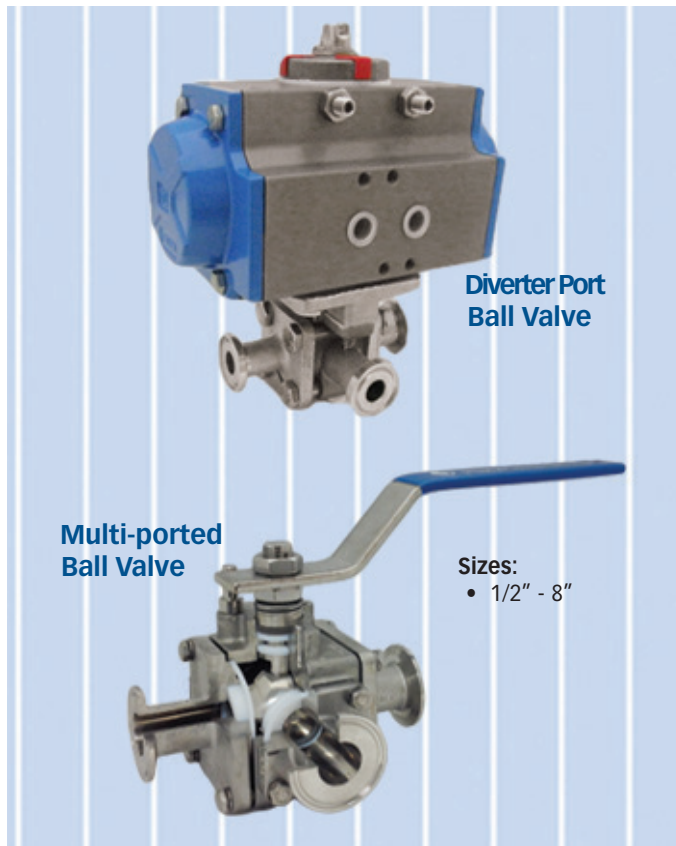
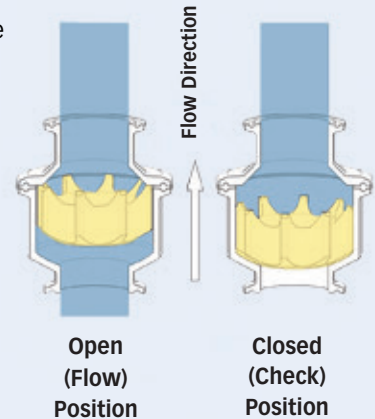


- Horizontal or Vertical Installation Models
- Hygienic Clamp & Ext. Butt Weld for Tube
- Polishing & Electropolishing

Sizes:
• 1/2" - 4"
DN15 - DN100

- Materials:**
- 316L S/S
 - Hastelloy®
 - Others

Optional drain port or drain holes for vertical installations



**Diverter Port
Ball Valve**

**Multi-ported
Ball Valve**

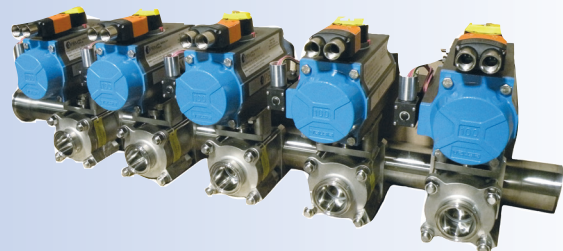
Sizes:
• 1/2" - 8"

Fabflex® Manifold Assemblies are space-saving pipe and valve configurations designed to accommodate special industrial and sanitary applications. Can be shipped in lengths up to 18', with multiple manual and automated valves pre-installed. 100% tested before shipment ensures proper performance. Minimal dead space reduces areas where media could become trapped. Blank valve pads can be provided to accommodate future process expansion.

Valve Sizes:
• 1/4" - 6"
DN8 - DN150

- Materials:**
- 316/316L S/S
 - Carbon Steel
 - Hastelloy®

- Options:**
- Actuation
 - Fire-Rated
 - CIP/SIP
 - Cavity Fillers
 - Steam Seats
 - Polishing & Electropolishing





PBM Igenix® Sanitary Valves

Igenix® Radial Diaphragm Tank Outlet Valves

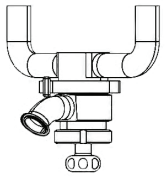
Sizes:

- 1/2" - 3"
DN15 - DN80

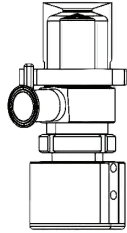


- Smooth sloping design for complete drainage
- 1/2" through 3", DN 15 through DN 80
- 45° and 2° sloped outlet
- Pressure rating 175 psi/12 bar
- Machined by PBM from wrought material
- Standard finish 15 Ra with EP (BPE SF4)
- Optional purge port and tank connections available
- Platinum cured Silicone or V-TEF™ diaphragms

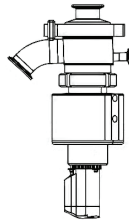
RDV Configurations



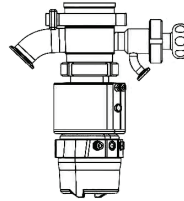
Point of use



Extended Weld Pad



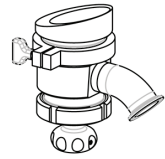
Clamp on with purge port



Standard Weld Pad with satellite valve



Tangential



PBM's Igenix® Satellite Valve offers seating against the body of our Radial Diaphragm Valve eliminating dead leg and allowing the introduction of CIP / SIP into the valve.



Point of Use Valve Zero Dead Leg



Pinch Valves

- True "Fail Closed"
- Modular Safety Cover
- Fits over existing silicone clear and braided tubing
- No contact with any process media
- Manual or Automated
- Optional manual override and position indicators
- Actuator pressure as low as 60 psig with a variety of limit switches



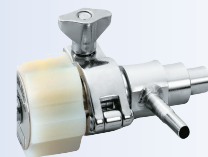
Self-Cleaning Ball Valves



Sizes:

- 1/2" - 6"
DN15 - DN150

Rising Stem Sampling Valves



Sizes:

- 1/4" bore diameter

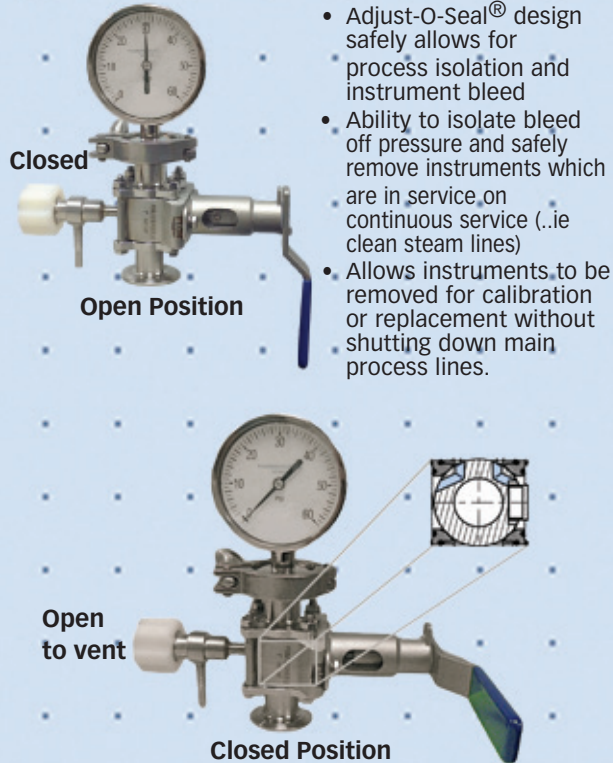
Materials:

- 316L S/S
- Others

Options:

- Actuation
- Polishing
- Butt Weld
- Swickle (1/4" only)
- Hose Barb
- Clamp Outlet

Sanitary Block & Bleed



2-Way Valves with Compression Ends

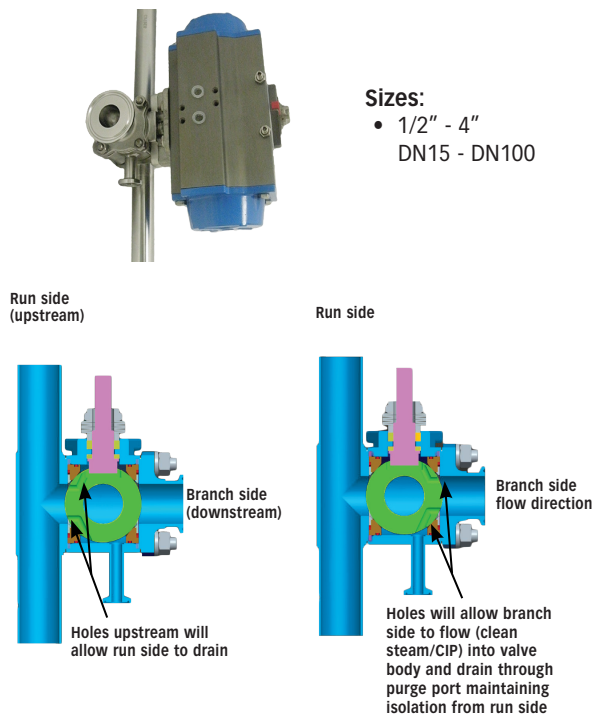
- Sizes:**
- 1/2" - 1"
DN15 - DN25

Process Break Valve

- Sizes:**
- 1/2" - 2"
DN15 - DN50



Z-ball® Zero Dead Leg Design



PBM Automation Completes the Solution

- Pneumatic and electric (multiple voltages and area classifications)
- Direct mount pneumatic actuator eliminates tube bracket and couplings
- Direct mount adapts to ISO bolt patterns
- Torque outputs to accommodate full range of valve sizes
- Bi-directional travel stop adjustments
- Full range of solenoid valves, direct mount, tube mount, or mounted in switchbox
- Position monitors with visual indication in multiple area classifications
- Pneumatic and electro-pneumatic positioners for flow control





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