Chemical & Petrochemical
Food & Beverage
LNG & Cryogenic
Marine & Offshore
Mining
NQA-Qualified
Oil & Gas
Paint & Resins
Personal Care
Pharmaceutical & Biotech
Power
Pulp & Paper
Refining
Steel
IMI 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 IMI PBM moved to its present site in Irwin, 20 miles southeast of Pittsburgh, PA. IMI PBM Valves combine specific application requirements with creative engineering and quality manufacturing practices. IMI PBM valves offer the convenience of standard features with the option of customizing for a specific process. Most IMI PBM valves incorporate IMI PBM’s Adjust-O-Seal® design and many include the True-Bore® design. IMI 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

IMI PBM has solutions to your valve application needs.
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

Clean Steam Ball Valves

**Features**
- Metal Encapsulated Ring
- O-Ring
- Metal Encapsulated V-TEF™
- Belleville Washers

**Benefits**
- Minimize effects of thermal cycling
- Provides spring effect to combat teflon’s lack of memory property
- Body gasket and seat are two body seal separate items that lets the seat move independent of gasket.
- Help maintain pre-load on body bolts during thermal cycling

Cavity Fillers

Locking Lever Handle

Direct Mount Actuation

Adjustable Sealing

Clean-In-Place/Steam-In-Place

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

Pipe or Vessel

Cylindrical Radius Pad

Minimal Dead Space

Custom Radius Pad

www.PBMVALVE.com
Whether the application is in a chemical plant, paper mill, food plant, manufacturing environment, or other industrial setting, IMI 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

**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

**End Connections:**
- Threaded
- Extended Butt Weld
- Socket Weld
- Flanged
- Compression
- Others

**Sizes:**
- 1/4” - 10”
  DN8 - DN250

**2-Way Ball Valve**

**Sizes:**
- 1/2” - 6”
  DN15 - DN150

**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

**Control Ball Valves**

**Multi-Ported Ball Valve**

**Sizes:**
- 1/2” - 6”
  DN15 - DN150

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

Metal Seats

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

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

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.

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

Leakage Rate Comparison

<table>
<thead>
<tr>
<th>NPS</th>
<th>DN</th>
<th>MSS-SP134-2010</th>
<th>BS 6364-1984</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2</td>
<td>15</td>
<td>37.5</td>
<td>90</td>
</tr>
<tr>
<td>3/4</td>
<td>20</td>
<td>56.25</td>
<td>120</td>
</tr>
<tr>
<td>1</td>
<td>25</td>
<td>75</td>
<td>150</td>
</tr>
<tr>
<td>1-1/2</td>
<td>40</td>
<td>112.5</td>
<td>240</td>
</tr>
<tr>
<td>2</td>
<td>50</td>
<td>150</td>
<td>300</td>
</tr>
<tr>
<td>3</td>
<td>80</td>
<td>225</td>
<td>480</td>
</tr>
<tr>
<td>4</td>
<td>100</td>
<td>300</td>
<td>600</td>
</tr>
</tbody>
</table>
**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 IMI 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 & 317L S/S
- Hastelloy®
- Titanium
- Others

**Double Block & Bleed Valves**

IMI PBM double block and bleed valves are custom engineered from standard components in a variety of alloys and pressure classifications to meet customer specifications. IMI 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
- Hastelloy®
- Others
IMI 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˚F to 850˚F (-240˚C to 450˚C)
- API 607 fire tested
- ASME Class 1500 Weld Design standard

IMI 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

Pig Launcher

3-Way 120˚ Pigging Valve

Bronze 2-Way Valves

ANSI Trunnion Ball Valve
IMI PBM’s Igenix® line of sanitary valves is ideally suited for pure process applications where dead space within the valve need to be minimized. IMI 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)

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

Spray Ball Valves
Sizes:
• 1/2” - 6” DN15 - DN150

Spring-less Sanitary Check Valves
Sizes:
• 1/2” - 4” DN15 - DN100
Materials:
• 316L S/S
• Hastelloy®
• Others
Optional drain port or drain holes for vertical installations

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

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:
• 1/2” - 8” DN 5 - DN200
Options:
• Actuation
• Fire-Rated
• CIP/SIP
• Cavity Fillers
• Steam Seats
• Polishing & Electropolishing

www.PBMVALVE.com
**Igenix® Radial Diaphragm Tank Outlet Valves**

Sizes:
- ½” - 4”
- DN15 - DN100

**RDV Configurations**

- Point of use
- Extended Weld Pad
- Clamp on with purge port
- Standard Weld Pad with satellite valve
- Tangential

**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:
- ½” bore diameter

Materials:
- 316L S/S
- Others

Options:
- Actuation
- Polishing
- Butt Weld
- Swickel (1/4” only)
- Hose Barb
- Clamp Outlet

**IMI 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.
Sanitary Block & Bleed

- Adjust-O- Seal® design safely allows for process isolation and instrument bleed
- Ability to isolate bleed off pressure and safely remove instruments which are in service on continuous service (i.e., clean steam lines)
- Allows instruments to be removed for calibration or replacement without shutting down main process lines.

Z-ball® Zero Dead Leg Design

Sizes:
- 1/2” - 4”
  DN15 - DN100

Run side
(upstream)

Branch side
(downstream)

Holes upstream will allow run side to drain

Run side

2-Way Valves with Compression Ends

Sizes:
- 1/2” - 1”
  DN15 - DN25

Process Break Valve

Sizes:
- 1/2” - 2”
  DN15 - DN50

IMI 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

www.PBMVALVE.com

Open Position

Closed Position

Open to vent

Closed

11