Hi-Pro Ball Valve for High Performance Process Isolation
Catalog 4190-HBV
Hi-Pro Ball Valve

for up to 10,000 psi/689 bar operations

Product Description
These high performance two piece bi-directional Ball Valves offer the user full cold working pressure ratings up to 10,000 psi (689 bar), giving 100% bubble tight shut off and continuous repeatable performance. The Ball Valves are suitable for the most demanding applications in the oil, gas and process control industries. All valves also meet the requirements of ANSI B31.1 for use in power plants.

By offering a true two piece design, body leakage paths are reduced to a minimum. With the added opportunity to select integral compression ends the user can eliminate the use of taper threads and thread sealant. This avoids system contamination, reduces leakage paths, installation costs, weight and space.

Specifications
- 316 Stainless steel construction
- Maximum cold working pressure rating 6,000 psi (414 bar) with P.T.F.E. seats*
- Temperature rating PTFE seats -54˚C to +204˚C (-65˚F to +400˚F) *
- Maximum cold working pressure rating 10,000 psi (689 bar) with PEEK seats†
- Temperature rating PEEK seats -54˚C to +232˚C (-65˚F to +450˚F) *
- Cv values - 10mm, 15mm, 20mm and 25mm
  * Always refer to P/T graph
  † All B31.1 compliant valves are limited to a maximum working pressure of 6000psi (414 bar)

Features
- Two piece body design - minimal leakage paths
- 4:1 Pressure boundary designed safety factor
- Designed to comply with requirements of ANSI/ASME B16.34 where applicable
- Bi-directional
- PEEK and PTFE standard ball seat materials
- PHflex seats available for 25mm bore
- PTFE and Graphoil gland packings
- Bubble tight shutoff
- Floating ball principal with dynamic response seats featuring inherent self relief
- Anti blowout stem
- Integral compression ends available eliminating taper threads and thread sealants
- Low torque operation
- Quarter turn positive stop handle with ergonomically designed protective sleeve
- Full hydrostatic and low pressure air tested
- Connector thread environmentally sealed
- Anti static
- Firesafe designed to meet API 607, BS6755 Pt2 (optional)

WARNING
FAILURE, IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

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**Hi-Pro Ball Valve**

for up to Class 4500 (10,000 psi/689 bar) operations (10mm bore)

### Standard range part numbers 10mm bore

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inlet</th>
<th>Outlet</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 2500</td>
<td>Class 4500 Female</td>
<td>Female</td>
<td>A mm (inch)</td>
</tr>
<tr>
<td>HPBY*4FF</td>
<td>HPBY*4FFHP 1/4&quot; Female</td>
<td>1/4&quot; Female</td>
<td>70.0 (2.76)</td>
</tr>
<tr>
<td>HPBY*6FF</td>
<td>HPBY*6FFHP 3/8&quot; Female</td>
<td>3/8&quot; Female</td>
<td>71.0 (2.80)</td>
</tr>
<tr>
<td>HPBY*8FF</td>
<td>HPBY*8FFHP 1/2&quot; Female</td>
<td>1/2&quot; Female</td>
<td>85.0 (3.35)</td>
</tr>
<tr>
<td>HPBY*4M4F</td>
<td>HPBY*4M4FHP 1/4&quot; Male</td>
<td>1/4&quot; Female</td>
<td>70.0 (2.76)</td>
</tr>
<tr>
<td>HPBY*8M8F</td>
<td>HPBY*8M8FHP 1/2&quot; Male</td>
<td>1/2&quot; Female</td>
<td>85.0 (3.35)</td>
</tr>
</tbody>
</table>

**Standard product specification:** PTFE packing with PTFE seats, 10mm bore ball 6,000 psi (414 bar).

**Available options:**
- Graphoil packing
- PEEK seats
- Secured end connector
- Handle locking
- Spanner actuation
- Panel mounting
- Fire safe design - Graphoil packing (std)
- NACE compliant materials
- Retro-fit handle locking kit (for site assembly)
- Pflex seats
- Base mounting holes (consult Parker)

**Note:** Heat Code Trace (HCT) material traceability certificates available on request. **Does not apply for A-lok/CPI ended valves in 316 stainless steel.

**Cold working pressures (psi/bar) in accordance with ANSI/ASME B16.34**

<table>
<thead>
<tr>
<th>Material</th>
<th>*Insert</th>
<th>Class Rating</th>
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<tbody>
<tr>
<td>316 Stainless steel std</td>
<td>B</td>
<td>3600/248</td>
</tr>
<tr>
<td>Alloy 400</td>
<td>D</td>
<td>5000/345</td>
</tr>
<tr>
<td>Duplex</td>
<td>E</td>
<td>3600/248</td>
</tr>
<tr>
<td>Super Duplex</td>
<td>F</td>
<td>6000/414</td>
</tr>
<tr>
<td>Hasteloy</td>
<td>G</td>
<td>6000/414</td>
</tr>
<tr>
<td>6Mo</td>
<td>K</td>
<td>6000/414</td>
</tr>
<tr>
<td>Alloy 625</td>
<td>M</td>
<td>6000/414</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Material</th>
<th>*Insert</th>
<th>Class Rating</th>
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</thead>
<tbody>
<tr>
<td>316 Stainless steel std</td>
<td>B</td>
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<tr>
<td>Super Duplex</td>
<td>F</td>
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<tr>
<td>6Mo</td>
<td>K</td>
<td>6000/414</td>
</tr>
<tr>
<td>Alloy 625</td>
<td>M</td>
<td>6000/414</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Available options</th>
<th>Part number</th>
<th>Suffix</th>
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<tbody>
<tr>
<td>Graphoil packing</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PEEK seats</td>
<td>PK</td>
<td></td>
</tr>
<tr>
<td>Secured end connector</td>
<td>LC</td>
<td></td>
</tr>
<tr>
<td>Handle locking</td>
<td>HL</td>
<td></td>
</tr>
<tr>
<td>Spanner actuation</td>
<td>SA</td>
<td></td>
</tr>
<tr>
<td>Panel mounting</td>
<td>PM</td>
<td></td>
</tr>
<tr>
<td>Fire safe design - Graphoil packing (std)</td>
<td>FS</td>
<td></td>
</tr>
<tr>
<td>NACE compliant materials</td>
<td>NC</td>
<td></td>
</tr>
<tr>
<td>Retro-fit handle locking kit (for site assembly)</td>
<td>HPHKIT</td>
<td></td>
</tr>
<tr>
<td>Pflex seats</td>
<td>PH</td>
<td></td>
</tr>
<tr>
<td>Base mounting holes (consult Parker)</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

Note: Heat Code Trace (HCT) material traceability certificates available on request. **Does not apply for A-lok/CPI ended valves in 316 stainless steel.
## Standard range part numbers 15mm bore

<table>
<thead>
<tr>
<th>Part number</th>
<th>Part number</th>
<th>Inlet</th>
<th>Outlet</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 2500</td>
<td>Class 4500</td>
<td>Female A mm (inch)</td>
<td>Female B mm (inch)</td>
<td></td>
</tr>
<tr>
<td>HPBX*8FF</td>
<td>HPBX*8FFHP</td>
<td>1/2” Female</td>
<td>1/2” Female</td>
<td>97.2 (3.83) 207.9 (8.18)</td>
</tr>
<tr>
<td>HPBX*8M8F</td>
<td>HPBX*8M8FHP</td>
<td>1/2” Male</td>
<td>1/2” Female</td>
<td>102.9 (4.05) 213.6 (8.41)</td>
</tr>
<tr>
<td>HPBX*10A</td>
<td>—</td>
<td>5/8” A-LOK®</td>
<td>5/8” A-LOK®</td>
<td>118.0 (4.65) 212.6 (8.37)</td>
</tr>
<tr>
<td>HPBX*12A</td>
<td>—</td>
<td>3/4” A-LOK®</td>
<td>3/4” A-LOK®</td>
<td>121.9 (4.80) 214.6 (8.45)</td>
</tr>
<tr>
<td>HPBX*M16A</td>
<td>—</td>
<td>16mm A-LOK®</td>
<td>16mm A-LOK®</td>
<td>120.0 (4.72) 214.2 (8.43)</td>
</tr>
<tr>
<td>HPBX*M18A</td>
<td>—</td>
<td>18mm A-LOK®</td>
<td>18mm A-LOK®</td>
<td>120.0 (4.72) 214.2 (8.43)</td>
</tr>
<tr>
<td>HPBX*M20A</td>
<td>—</td>
<td>20mm A-LOK®</td>
<td>20mm A-LOK®</td>
<td>120.0 (4.72) 214.2 (8.43)</td>
</tr>
</tbody>
</table>

*Insert material code - select from material matrix (B = Standard 316 Stainless Steel). For CPI™ change A to Z. *A* dimensions given for finger tight nuts. For compression ended valve pressure ratings consult tube ratings table. Combination ends are available.

### Standard product specification:
- PTFE packing with PTFE seats, 15mm bore ball 6,000 psi (414 bar).
- PTFE packing with PEEK seats, 15mm bore ball 10,000 psi (689 bar).

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Materials and options as per page 3
Hi-Pro Ball Valve

**Standard range part numbers 20mm bore**

<table>
<thead>
<tr>
<th>Part number</th>
<th>Part number</th>
<th>Inlet</th>
<th>Outlet</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 1500</td>
<td>Class 2500</td>
<td>NPT</td>
<td>NPT</td>
<td>A mm (inch)</td>
</tr>
<tr>
<td>HPBW*12FFLP</td>
<td>HPBW*12FF</td>
<td>3/4&quot; Female</td>
<td>3/4&quot; Female</td>
<td>89.8 (3.54)</td>
</tr>
<tr>
<td>HPBW*12M12FLP</td>
<td>HPBW*12M12F</td>
<td>3/4&quot; Male</td>
<td>3/4&quot; Female</td>
<td>102.5 (4.04)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A-LOK®</td>
<td>A-LOK®</td>
<td></td>
</tr>
<tr>
<td>HPBW*14ALP</td>
<td>—</td>
<td>7/8&quot; A-LOK®</td>
<td>7/8&quot; A-LOK®</td>
<td>134.0 (5.28)</td>
</tr>
<tr>
<td>HPBW*16ALP</td>
<td>—</td>
<td>1&quot; A-LOK®</td>
<td>1&quot; A-LOK®</td>
<td>137.6 (5.42)</td>
</tr>
<tr>
<td>HPBW*M22ALP</td>
<td>—</td>
<td>22mm A-LOK®</td>
<td>22mm A-LOK®</td>
<td>133.3 (5.25)</td>
</tr>
<tr>
<td>HPBW*M25ALP</td>
<td>—</td>
<td>25mm A-LOK®</td>
<td>25mm A-LOK®</td>
<td>137.1 (5.40)</td>
</tr>
</tbody>
</table>

*Insert material code - select from material matrix (B = Standard 316 Stainless Steel). For CPI™ change A to Z. “A” dimensions given for finger tight nuts.

**Standard product specification:** PTFE packing with PTFE seats, 20mm bore ball 3,600 psi (247 bar).

**Standard product specification:** PTFE packing with PEEK seats, 20mm bore ball 6,000 psi (414 bar).

**Standard range part numbers 25mm bore**

<table>
<thead>
<tr>
<th>Part number</th>
<th>Part number</th>
<th>Inlet</th>
<th>Outlet</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 1500</td>
<td>Class 2500</td>
<td>NPT</td>
<td>NPT</td>
<td>A mm (inch)</td>
</tr>
<tr>
<td>HPBW*16FFLP</td>
<td>HPBW*16FF</td>
<td>1&quot; Female</td>
<td>1&quot; Female</td>
<td>128.4 (5.05)</td>
</tr>
<tr>
<td>HPBW*16M16FLP</td>
<td>HPBW*16M16F</td>
<td>1&quot; Male</td>
<td>1&quot; Female</td>
<td>132.2 (5.20)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A-LOK®</td>
<td>A-LOK®</td>
<td></td>
</tr>
<tr>
<td>HPBW*16ALP</td>
<td>—</td>
<td>1&quot; A-LOK®</td>
<td>1&quot; A-LOK®</td>
<td>153.2 (6.03)</td>
</tr>
<tr>
<td>HPBW*M25ALP</td>
<td>—</td>
<td>25mm A-LOK®</td>
<td>25mm A-LOK®</td>
<td>153.2 (6.03)</td>
</tr>
</tbody>
</table>

*Insert material code - select from material matrix (B = Standard 316 Stainless Steel). For CPI™ change A to Z. “A” dimensions given for finger tight nuts.

**Standard product specification:** PTFE packing with PTFE or PEEK seats, 25mm bore ball 3,600 psi (247 bar).

PTFE packing with PHflex seats, 25mm bore ball 6,000 psi (414 bar).

**Materials and options as per page 3**
Hi-Pro Multi Port Gauge Valve

for up to Class 4500 (10,000 psi/689 bar) operations (10mm bore)

Standard Product Specifications

Part No. HPBYGV8: 316 Stainless Steel construction, PTFE packing, PTFE seats, 10mm bore ball, 6,000 psi (414 bar), 1/2” NPT male inlet x 3 – 1/2” NPT female outlets.

Part No. HPBYGV12: 316 Stainless Steel construction, PTFE packing, PTFE seats, 10mm bore ball, 6,000 psi (414 bar), 3/4” NPT male inlet x 3 – 1/2” NPT female outlets.

Part No. HPBYGV8HP: 316 Stainless Steel construction, PTFE packing, PEEK seats, 10mm bore ball, 10,000 psi (689 bar), 1/2” NPT male inlet x 3 – 1/2” NPT female outlets.

Part No. HPBYGV12HP: 316 Stainless Steel construction, PTFE packing, PEEK seats, 10mm bore ball, 10,000 psi (689 bar), 3/4” NPT male inlet x 3 – 1/2” NPT female outlets.

Note: To obtain optional bleed valve and/or blank plug with the gauge valve the above part number must be suffixed accordingly. If these parts are required they will be shipped loose in the box for customer assembly using their preferred thread sealant.

<table>
<thead>
<tr>
<th>Part number</th>
<th>Part number</th>
<th>Inlet</th>
<th>Outlet</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPBYGV8</td>
<td>HPBYGV8HP</td>
<td>1/2” NPT</td>
<td>3x1/2” NPT</td>
<td>A mm (inch)</td>
</tr>
<tr>
<td>HPBYGV12</td>
<td>HPBYGV12HP</td>
<td>3/4” NPT</td>
<td>3x1/2” NPT</td>
<td>116.5 (4.59)</td>
</tr>
</tbody>
</table>

*Insert material code - select from material matrix (B = Standard 316 Stainless Steel).

Materials and options as per page 3
Hi-Pro Ball Valve

for up to Class 4500 (10,000 psi/689 bar) operations

Part description

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>End Connector</td>
</tr>
<tr>
<td>2</td>
<td>E-seal™</td>
</tr>
<tr>
<td>3</td>
<td>Sealing washer</td>
</tr>
<tr>
<td>4</td>
<td>Seats</td>
</tr>
<tr>
<td>5</td>
<td>Body</td>
</tr>
<tr>
<td>6</td>
<td>Ball</td>
</tr>
<tr>
<td>7</td>
<td>Anti blowout stem</td>
</tr>
<tr>
<td>8</td>
<td>Thrust Seal</td>
</tr>
<tr>
<td>9</td>
<td>Gland packing</td>
</tr>
<tr>
<td>10</td>
<td>Upper gland packing</td>
</tr>
<tr>
<td>11</td>
<td>Thrust bush</td>
</tr>
<tr>
<td>12</td>
<td>Stop pin</td>
</tr>
<tr>
<td>13</td>
<td>Thrust bush</td>
</tr>
<tr>
<td>14</td>
<td>Lock nut</td>
</tr>
<tr>
<td>15</td>
<td>Locking dome nut</td>
</tr>
<tr>
<td>16</td>
<td>Handle</td>
</tr>
<tr>
<td>17</td>
<td>Handle grip</td>
</tr>
</tbody>
</table>

Handle locking (padlock not supplied)

Secured end connector (double pin)

Spanner actuation

Panel mounting (c/w nuts & bolts)
Parker Worldwide

AE – UAE, Dubai
Tel: +971 4 8875600
parker.me@parker.com

AR – Argentina, Buenos Aires
Tel: +54 3327 44 4129

AT – Austria, Wiener Neustadt
Tel: +43 (0)2622 23501-0
parker.austria@parker.com

AT – Eastern Europe, Wiener Neustadt
Tel: +43 (0)2622 23501 970
parker.easternurope@parker.com

AU – Australia, Castle Hill
Tel: +61 (0)2-9634 7777
Tel: +61 (0)2-9634 7777
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Tel: +994 50 2233 458
parker.azerbaijan@parker.com

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parker.belgium@parker.com

BR – Brazil, Cachoeirinha RS
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parker.spain@parker.com

FI – Finland, Vantaa
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parker.finland@parker.com

FR – France, Contamine s’Arve
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parker.korea@parker.com

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parker.malaysia@parker.com

NL – The Netherlands, Oldenzaal
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parker.nl@parker.com

NO – Norway, Stavanger
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parker.sweden@parker.com

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parker.singapore@parker.com

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parker.slovakia@parker.com

SL – Slovenia, Novo Mesto
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parker.taiwan@parker.com

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parker.ukraine@parker.com

UK – United Kingdom, Barnstaple
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parker.uk@parker.com

US – USA, Cleveland
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parker.usa@parker.com

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parker.venezuela@parker.com

ZA – South Africa, Kempton Park
Tel: +27 (0)11 961 0700
parker.southafrica@parker.com

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