**General Description:** Parker High Pressure HB4 Series Ball Valves provide reliable shut-off or switching functions. The upper and lower trunnion bearings enhance the resistance of the trunnions against seizure, and increase the valve life in extreme applications. The compact and rugged design employs spring-loaded seats for high cycle life and low operating torques at pressures up to 10,000 psig.

**Features:**

- PEEK trunnion bearings for longer cycle life
- Two-way and three-way designs
- Compact FNPT version for tight work areas
- Blow-out resistant two-piece ball/stem
- Full operating pressure at any port
- Low operating torque
- Manual, electric or pneumatic actuation
- Panel mountable to 3/8″ thickness
- No packing to adjust
- Handle indicates direction of flow
- Top of stem marked to indicate flow direction
- Heat code traceability

## SPECIFICATIONS:

- Pressure rating: 10,000 psig CWP with PEEK (PKR) Seats; 6,000 psig CWP with PCTFE (K) Seats
- Temperature rating: -65˚F to 400˚F
- Body material: Stainless steel
- Body configurations: Two-way and three-way
- Port connections: Tube compression (CPI™ / A-LOK®); short and long female NPT
- Port size: 1/8″ – 1/2″

## FLOW DATA

- Two-way HB4L: $C_v = 1.02$; $x_T = 0.42$; orifice = 0.188″
- Three-way HB4X: $C_v = 0.62$; $x_T = 0.71$; orifice = 0.188″

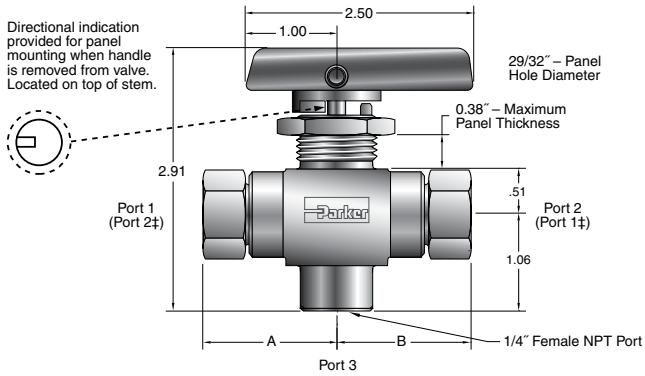
Tested in accordance with ISA S75.02. Gas flow will be choked when $P_1 - P_2 / P_1 = x_T$.

## TESTING

Standard production testing – valves are 100% factory tested with nitrogen at 1,000 psig for leakage at the seats and body seals. Both areas are required to have less than 0.1 SCCM leakage. Optional testing is available upon request. Consult your authorized Parker Instrumentation Distributor for further information.

## BALL VALVES

### HB SERIES




**Model shown: 4F-HB4XPKR-SSP**

‡ For two-way valves, Port 1 is the inlet port and Port 2 is the outlet port.

| Part No.* | Pressure Rating @100°F psig | End Connection Port 1 | Port 2 | Dimensions A†† in. | B†† in. |
|---|---|---|---|---|---|
| 2F-HB4 | 10,000 | 1/8″ Female NPT | | 1.47 | 1.47 |
| 4F-HB4** | 10,000 | 1/4″ Female NPT | | 1.47 | 1.47 |
| 4FL-HB4 | 10,000 | 1/4″ Female NPT | | 1.97 | 1.97 |
| 4A-HB4 | 10,000 | 1/4″ A-LOK® Compression | | 2.07 | 2.07 |
| 4Z-HB4 | 10,000 | 1/4″ CPI™ Compression | | 2.07 | 2.07 |
| 6A-HB4 | 6,600† | 3/8″ A-LOK® Compression | | 2.19 | 2.19 |
| 6Z-HB4 | 6,600† | 3/8″ CPI™ Compression | | 2.19 | 2.19 |
| 8A-HB4 | 6,300† | 1/2″ A-LOK® Compression | | 2.30 | 2.30 |
| 8Z-HB4 | 6,300† | 1/2″ CPI™ Compression | | 2.30 | 2.30 |

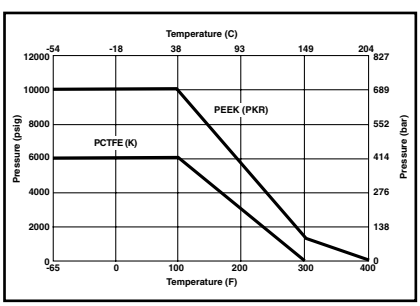
* Flow configurations are two-way (HB4L) and three-way (HB4X); Seat materials are PEEK (Polyetheretherketone) and PCTFE (Polychlorotrifluoroethylene).

** Designed with shorter end-to-end dimensions than the 4FL model to save space.

† Reduced pressure rating is determined by the maximum rated pressure of the tubing. The working pressure ratings are limited by the seat material: PCTFE – 6,000 psig maximum and PEEK – 10,000 psig and the temperature of the application.

†† For CPI™ and A-LOK® , dimensions are measured with nuts in the finger tight position.

## PRESSURE VS. TEMPERATURE




**Note:** To determine MPa, multiply bar by 0.1

This pressure vs. temperature chart reflects the maximum temperature range of indicated materials.

When combining seat and seal materials, the most restrictive temperature rating of the seats or seals becomes the limiting factor on valve temperature range.

**Temperature Ratings:**
Buna-N (Nitrile) Rubber: -40˚F to 250˚F
Ethylene Propylene Rubber: -65˚F to 300˚F
Fluorocarbon Rubber: -15˚F to 400˚F

## HOW TO ORDER

The correct part number is easily derived by following the circled number sequence. The six product characteristics required are coded as shown.

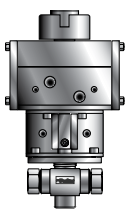
*Note: If ports 1 and 2 are the same, eliminate the port 2 designator.

| 4Z | – | * | – | HB4XPKR | – | | – | SSP |
|---|---|---|---|---|---|---|---|---|
| ① Port 1 | | ② Port 2 | | ③ Valve Series | ④ Seat Material | ⑤ Seal Material | | ⑥ Body Material |

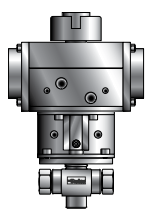
Describes a HB4X, three-way ball valve with 1/4″ CPI™ compression end connections for ports 1 and 2, PEEK seats and fluorocarbon rubber seals, stainless steel body construction, and a panel mounting nut. Port 3 is always a 1/4″ FNPT port.

| ① Port 1 | | ② Port 2 | | ③ Valve Series | ④ Seat Material | ⑤ Seal Material | ⑥ Body Material |
|---|---|---|---|---|---|---|---|
| **2F** | 1/8″ Female NPT | **2F** | 1/8″ Female NPT | | | | |
| **4F** | 1/4″ Female NPT | **4F** | 1/4″ Female NPT | | | | |
| **4FL** | 1/4″ Female NPT (Long) | **4FL** | 1/4″ Female NPT (Long) | | | **Blank-** | |
| **4A** | 1/4″ A-LOK® Compression | **4A** | 1/4″ A-LOK® Compression | | **PKR** | (Fluorocarbon | |
| **4Z** | 1/4″ CPI™ Compression | **4Z** | 1/4″ CPI™ Compression | **HB4L** (2-way) | (PEEK– | Rubber) | |
| **6A** | 3/8″ A-LOK® Compression | **6A** | 3/8″ A-LOK® Compression | | Polyether- | | |
| **6Z** | 3/8″ CPI™ Compression | **6Z** | 3/8″ CPI™ Compression | | etherketone) | | |
| **8A** | 1/2″ A-LOK® Compression | **8A** | 1/2″ A-LOK® Compression | | | **BN** | **SSP** |
| **8Z** | 1/2″ CPI™ Compression | **8Z** | 1/2″ CPI™ Compression | | | (Buna-N | (Stainless Steel |
| **M6A** | 6 mm A-LOK® Compression | **M6A** | 6 mm A-LOK® Compression | | | Rubber) | with Panel Nut) |
| **M6Z** | 6 mm CPI™ Compression | **M6Z** | 6 mm CPI™ Compression | | **K-** | | |
| **M8A** | 8 mm A-LOK® Compression | **M8A** | 8 mm A-LOK® Compression | **HB4X** (3-way) | (PCTFE, Poly- | | |
| **M8Z** | 8 mm CPI™ Compression | **M8Z** | 8 mm CPI™ Compression | | chloro- | **EPR** | |
| **M10A** | 10 mm A-LOK® Compression | **M10A** | 10 mm A-LOK® Compression | | trifluoro- | (Ethylene | |
| **M10Z** | 10 mm CPI™ Compression | **M10Z** | 10 mm CPI™ Compression | | ethylene) | Propylene | |
| **M12A** | 12 mm A-LOK® Compression | **M12A** | 12 mm A-LOK® Compression | | | Rubber) | |
| **M12Z** | 12 mm CPI™ Compression | **M12Z** | 12 mm CPI™ Compression | | | | |

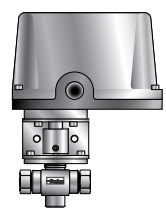
## ACTUATOR OPTIONS



Double Acting (61AD)
Pneumatic Actuator



Spring Return (61AC & AO)
Pneumatic Actuator



70 and 80 Series
Electric Actuator