

# Hi-Pro Ball Valve for High Performance Process Isolation

Catalog 4190-HBV

aerospace  
climate control  
electromechanical  
filtration  
fluid & gas handling  
hydraulics  
pneumatics  
process control  
sealing & shielding



ENGINEERING YOUR SUCCESS.

## 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: 6.4 (10mm bore), 15 (15mm bore), 31 (20mm bore) and 39 (25mm bore)

\* 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

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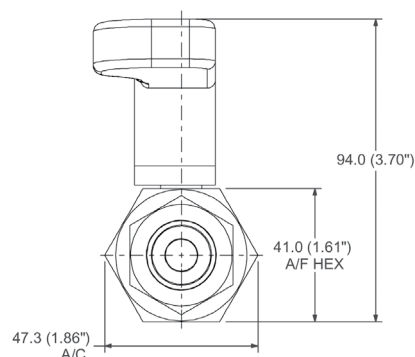
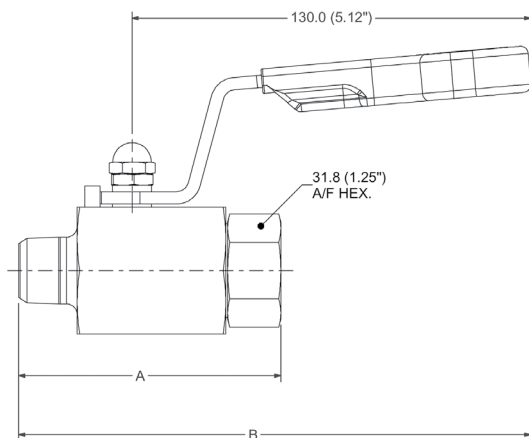
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for up to Class 4500 (10,000 psi/689 bar)  
operations (10mm bore)

## Hi-Pro Ball Valve



### Standard range part numbers 10mm bore

Part number	Part number	Inlet	Outlet	Dimensions	
Class 2500	Class 4500	Female	Female	A mm (inch)	B mm (inch)
HPBY*4FF	HPBY*4FFHP	1/4" Female	1/4" Female	70.0 (2.76)	161.5 (6.36)
HPBY*6FF	HPBY*6FFHP	3/8" Female	3/8" Female	71.0 (2.80)	162.0 (6.38)
HPBY*8FF	HPBY*8FFHP	1/2" Female	1/2" Female	85.0 (3.35)	166.5 (6.56)
		Male	Female		
HPBY*4M4F	HPBY*4M4FHP	1/4" Male	1/4" Female	70.0 (2.76)	161.5 (6.36)
HPBY*8M8F	HPBY*8M8FHP	1/2" Male	1/2" Female	85.0 (3.35)	166.5 (6.56)
		A-LOK®	A-LOK®		
HPBY*4A	—	1/4" A-LOK®	1/4" A-LOK®	95.0 (3.74)	165.5 (6.52)
HPBY*6A	—	3/8" A-LOK®	3/8" A-LOK®	99.1 (3.90)	167.4 (6.59)
HPBY*8A	—	1/2" A-LOK®	1/2" A-LOK®	104.7 (4.12)	170.2 (6.70)
HPBY*M6A	—	6mm A-LOK®	6mm A-LOK®	95.0 (3.74)	165.5 (6.52)
HPBY*M8A	—	8mm A-LOK®	8mm A-LOK®	96.6 (3.80)	166.3 (6.55)
HPBY*M10A	—	10mm A-LOK®	10mm A-LOK®	99.5 (3.92)	167.6 (6.60)
HPBY*M12A	—	12mm A-LOK®	12mm A-LOK®	104.7 (4.12)	170.2 (6.70)

\*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, 10mm bore ball 6,000 psi (414 bar).

**Standard product specification:** PTFE packing with PEEK seats, 10mm bore ball 10,000 psi (689 bar).

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

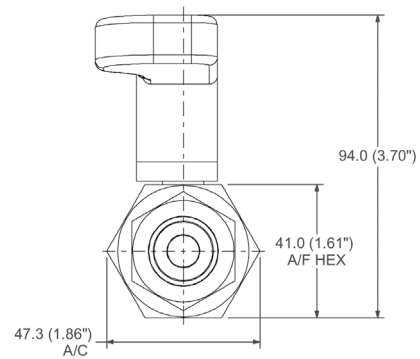
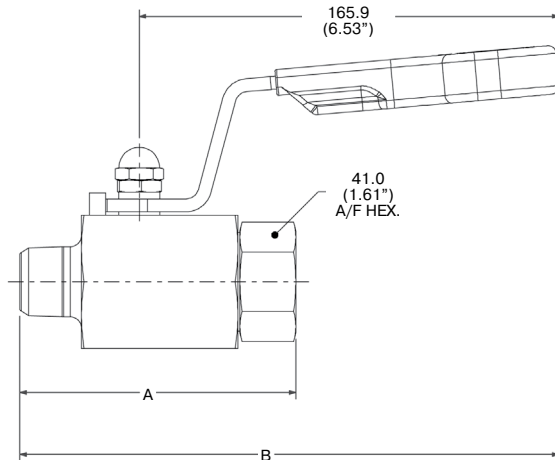
Class Rating				
Material	*Insert	1500	2500	4500
316 Stainless steel std	B	3600/248	6000/414	10000/689
Alloy 400	D		5000/345	9000/620
Duplex	E	3600/248	6000/414	10000/689
Super Duplex	F		6000/414	10000/689
Hasteloy	G		6000/414	10000/689
6Mo	K		6000/414	10000/689
Alloy 625	M		6000/414	10000/689

Available options	Part number Suffix
Graphoil packing	3
PEEK seats	PK
Secured end connector	LC
Handle locking	HL
Spanner actuation	SA
Panel mounting	PM
Fire safe design - Graphoil packing (std)	FS
NACE compliant materials**	NC
Retro-fit handle locking kit (for site assembly)	HPHLKIT
PHlex seats	PH
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.

# Hi-Pro Ball Valve

for up to Class 4500 (10,000 psi/689 bar)  
operations (15mm bore)

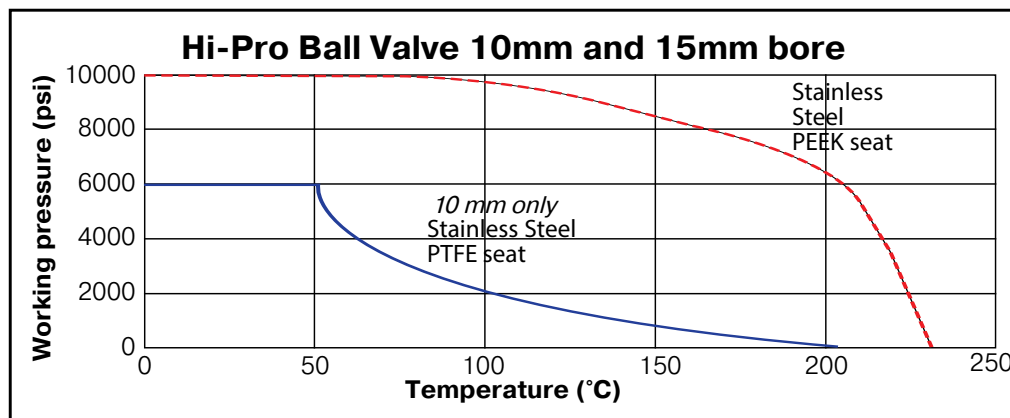


## Standard range part numbers 15mm bore

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

\*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.

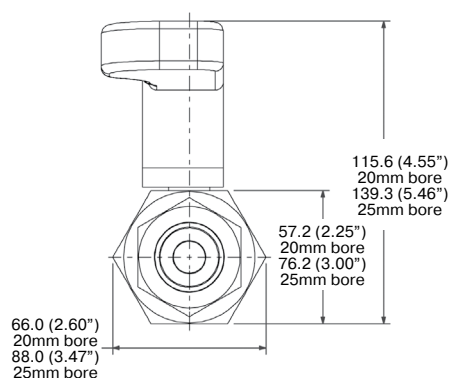
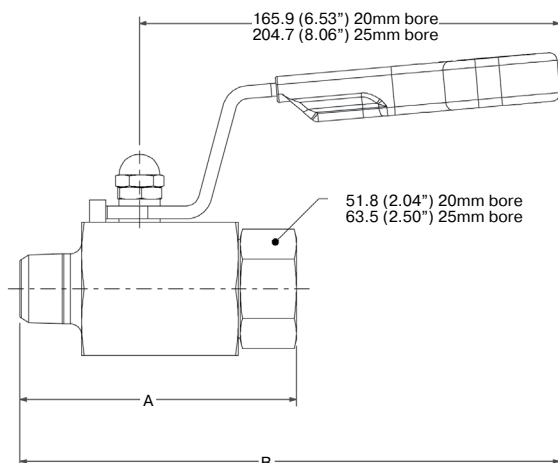
**Standard product specification:** PTFE packing with PEEK seats, 15mm bore ball - 6,000 (414 bar) and 10,000 psi (689 bar).



Materials and options as per page 3

for up to Class 2500 (6,000 psi/414 bar)  
operations (20 & 25mm bore)

## Hi-Pro Ball Valve



### Standard range part numbers 20mm bore

Part number	Part number	Inlet	Outlet	Dimensions	
Class 1500	Class 2500	NPT	NPT	A mm (inch)	B mm (inch)
HPBW*12FFLP	HPBW*12FF	3/4" Female	3/4" Female	89.8 (3.54)	204.1 (8.03)
HPBW*12M12FLP	HPBW*12M12F	3/4" Male	3/4" Female	102.5 (4.04)	216.8 (8.53)
		A-LOK®	A-LOK®		
HPBW*14ALP	—	7/8" A-LOK®	7/8" A-LOK®	134.0 (5.28)	221.1 (8.71)
HPBW*16ALP	—	1" A-LOK®	1" A-LOK®	137.6 (5.42)	222.9 (8.77)
HPBW*M22ALP	—	22mm A-LOK®	22mm A-LOK®	133.3 (5.25)	220.8 (8.69)
HPBW*M25ALP	—	25mm A-LOK®	25mm A-LOK®	137.1 (5.40)	222.7 (8.77)

\*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, 20mm bore ball 3,600 psi (247 bar).

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

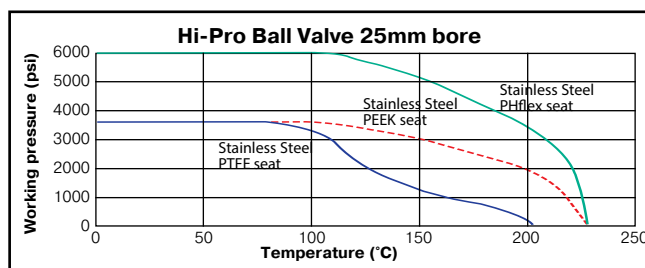
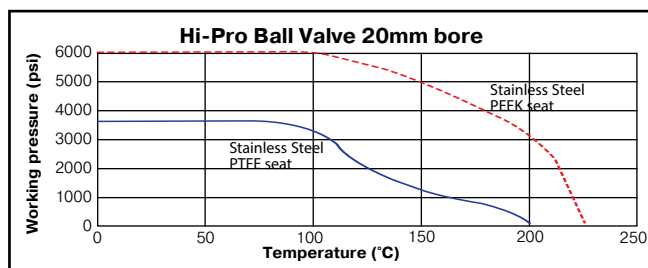
### Standard range part numbers 25mm bore

Part number	Part number	Inlet	Outlet	Dimensions	
Class 1500	Class 2500	NPT	NPT	A mm (inch)	B mm (inch)
HPBV*16FFLP	HPBV*16FF	1" Female	1" Female	128.4 (5.05)	260.3 (10.23)
HPBV*16M16FLP	HPBV*16M16F	1" Male	1" Female	132.2 (5.20)	264.1 (10.40)
		A-LOK®	A-LOK®		
HPBV*16ALP	—	1" A-LOK®	1" A-LOK®	179.0 (7.05)	269.8 (10.62)
HPBV*M25ALP	—	25mm A-LOK®	25mm A-LOK®	178.8 (7.04)	269.8 (10.62)

\*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 or PEEK seats, 25mm bore ball 3,600 psi (247 bar).

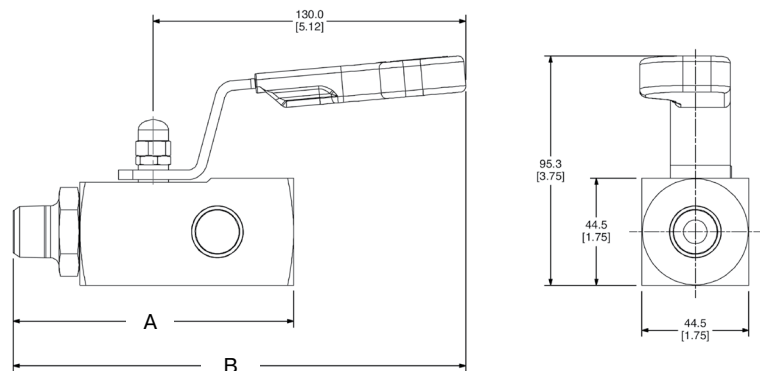
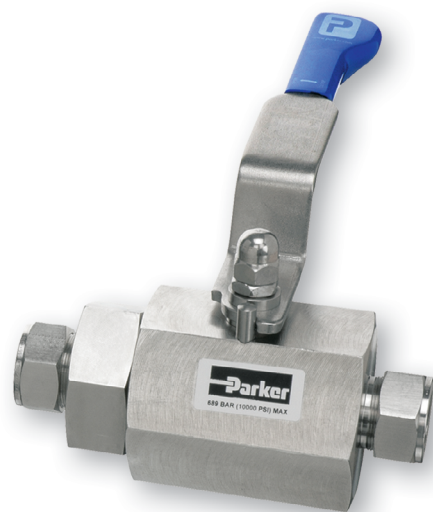
PTFE packing with PHflex seats, 25mm bore ball 6,000 psi (414 bar).



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. HPBYGVB8:** 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. HPBYGVB12:** 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. HPBYGVB8HP:** 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. HPBYGVB12HP:** 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.

Part number	Part number	Inlet	Outlet	Dimensions	
6000 psi (414 bar)	10000 psi (689 bar)	Male	Female	A mm (inch)	B mm (inch)
HPBYGV*8	HPBYGV*8HP	1/2" NPT	3x1/2" NPT	116.5 (4.59)	188.1 (7.41)
HPBYGV*12	HPBYGV*12HP	3/4" NPT	3x1/2" NPT	119.5 (4.71)	191.1 (7.52)

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



Bleed valve



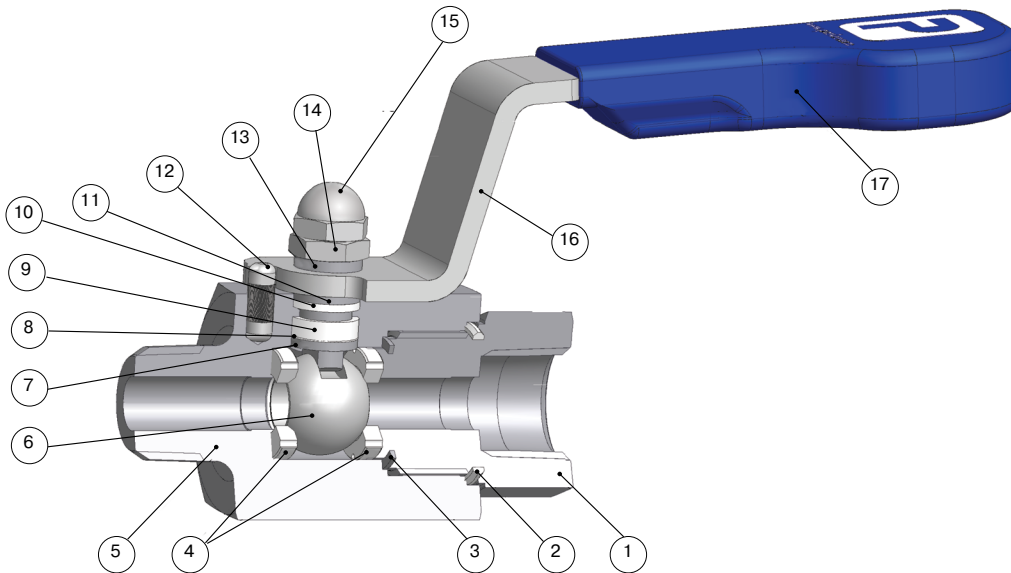
Plug

Materials and options as per page 3

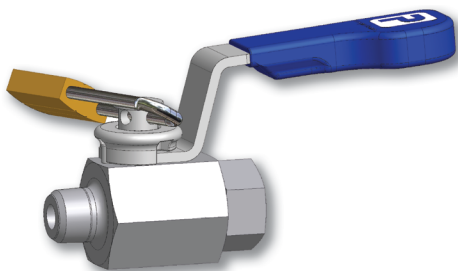
for up to Class 4500 (10,000 psi/  
689 bar) operations

## Hi-Pro Ball Valve

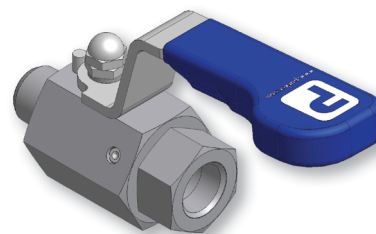
### Part description



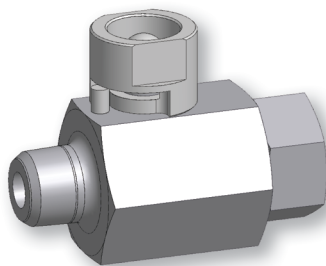
Item	Description
1	End Connector
2	E-seal™
3	Sealing washer
4	Seats
5	Body
6	Ball
7	Anti blowout stem
8	Thrust Seal
9	Gland packing
10	Upper gland packing
11	Thrust bush
12	Stop pin
13	Thrust bush
14	Lock nut
15	Locking dome nut
16	Handle
17	Handle grip



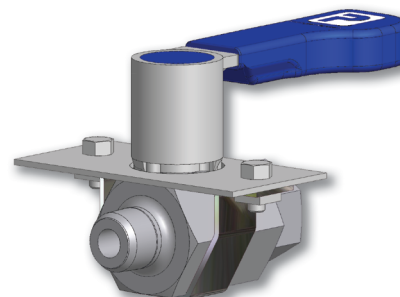
Handle locking  
(padlock not supplied)



Secured end connector  
(double pin)



Spanner actuation



Panel mounting  
(c/w nuts & bolts)





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