

HB Series HYBRID Fluoropolymer Lined Ball Valves



CRN REGISTRATION
PENDING

SERIES: HB
SIZES: 1" & 1-1/2"
ENDS: Flanged
LINING: PFA or PVDF
STEM SEAL: PTFE
OPERATION: Manual, Electrically or Pneumatically Actuated



The Chemline **HB Series HYBRID** ball valve is a composite valve with internal steel reinforcement, fully lined with PFA or PVDF. These full port valves are perfect for composite, alloy or lined steel piping. The plastic/metal hybrid construction offers the chemical resistance and toughness of plastic along with the strength of metal.

Features

High Working Temperatures

- PPG valves maximum 266°F (130°C)
- PPSG valves maximum 320°F (160°C)

150 psi Pressure Rated

- See pressure/temperature graph

Corrosion Resistant Inside and Out

- All inside wetted parts are fluoropolymer
- Valve exterior is composite

For Composite Alloy and Lined Steel Piping

- Light enough for composite piping systems
- Strong enough for alloy or lined steel piping

Easily Serviceable

- Two piece design
- Easy disassembly to replace parts

Easy to Actuate

- Valve top flange and shaft dimensions are to ISO 5211 dimensions
- Electric or pneumatic actuator may be direct mounted without brackets and couplings

Technical Standards

Flange Connections

- ASME/ANSI B16.5 Class 150
- DIN and JIS standard valves are available

Face-to-Face Dimensions

- Conform to ASME B16.10 Class 150

Operator Mounting Flange

- ISO 5211 standard actuator mounting dimensions

Shaft Dimensions

- Double D, dimensions are according to ISO 5211

Liner Thickness

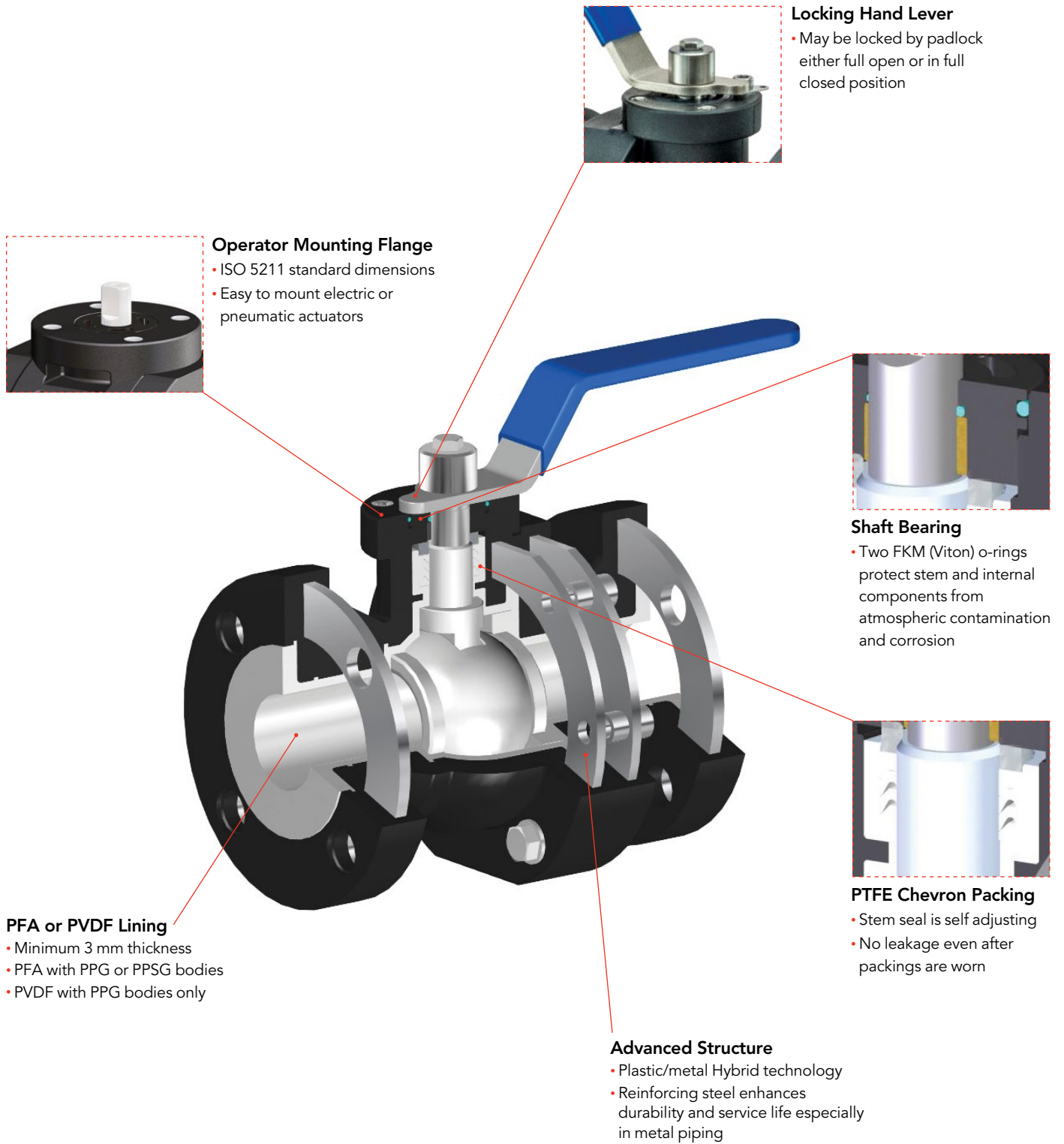
- Minimum 3 mm in compliance with ASTM F1545

Leakage Testing

- To confirm zero leakage before shipment, each valve is factory tested according to API 598



Features



Operator Mounting Flange

- ISO 5211 standard dimensions
- Easy to mount electric or pneumatic actuators

Locking Hand Lever

- May be locked by padlock either full open or in full closed position

Shaft Bearing

- Two FKM (Viton) o-rings protect stem and internal components from atmospheric contamination and corrosion

PTFE Chevron Packing

- Stem seal is self adjusting
- No leakage even after packings are worn

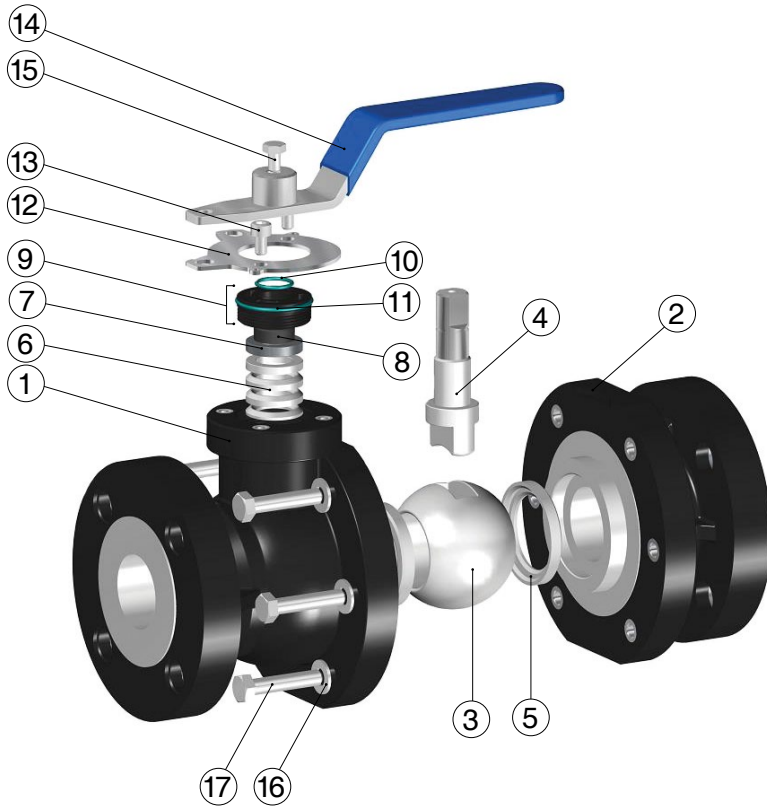
Advanced Structure

- Plastic/metal Hybrid technology
- Reinforcing steel enhances durability and service life especially in metal piping

PFA or PVDF Lining

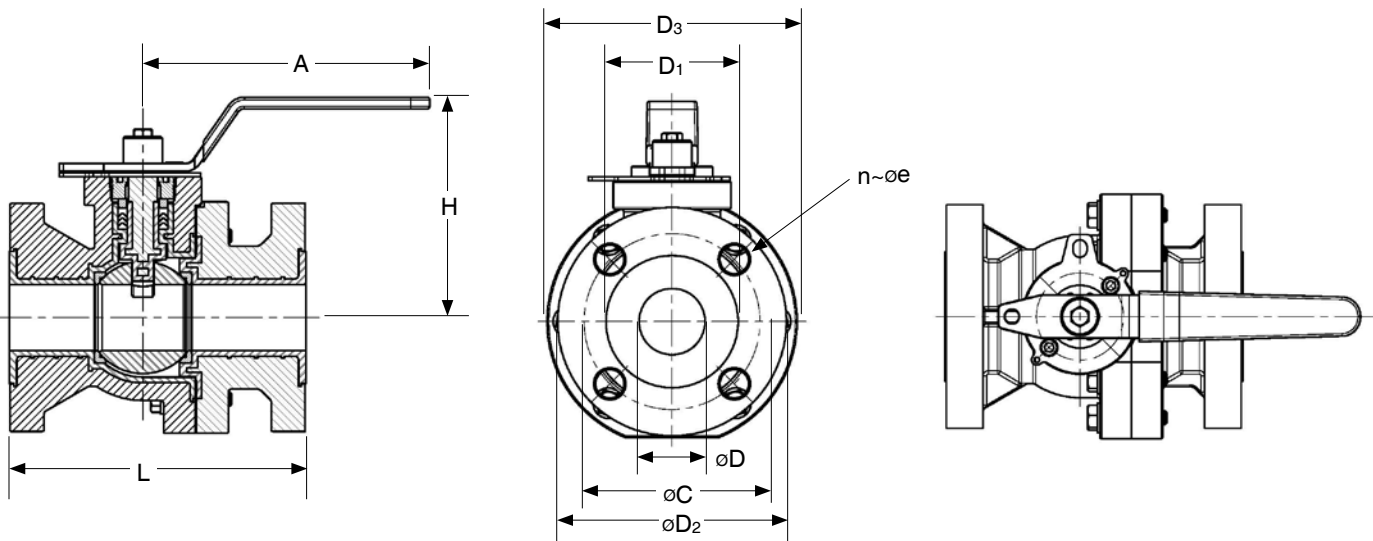
- Minimum 3 mm thickness
- PFA with PPG or PPSG bodies
- PVDF with PPG bodies only

HB Series HYBRID Fluoropolymer Lined Ball Valves



PARTS

No.	Part	Pcs.	Materials
1	Body	1	PPG w/PFA Lining PPG w/PVDF Lining PPSG w/PFA Lining
2	Tail Piece	1	PPG w/PFA Lining PPG w/PVDF Lining PPSG w/PFA Lining
3	Ball	1	Solid PFA
4	Stem	1	PFA covered 304 SS
5	Ball Seat	2	PTFE
6	Stem Packing	3	PTFE
7	Support Ring	1	304 SS
8	Bearing	1	Technopolymer
9	Gland	1	PPSG
10	Inner O-Ring	1	FKM (Viton®)
11	Outer O-Ring	1	FKM (Viton®)
12	Lever Lock Plate	1	304 SS
13	Lever Stop	1	304 SS
14	Handle lever	1	304 SS/PVC
15	Handle lever Bolt	1	304 SS
16	Flat Washer	6	304 SS
17	Hex Bolt	6	304 SS



DIMENSIONS INCHES

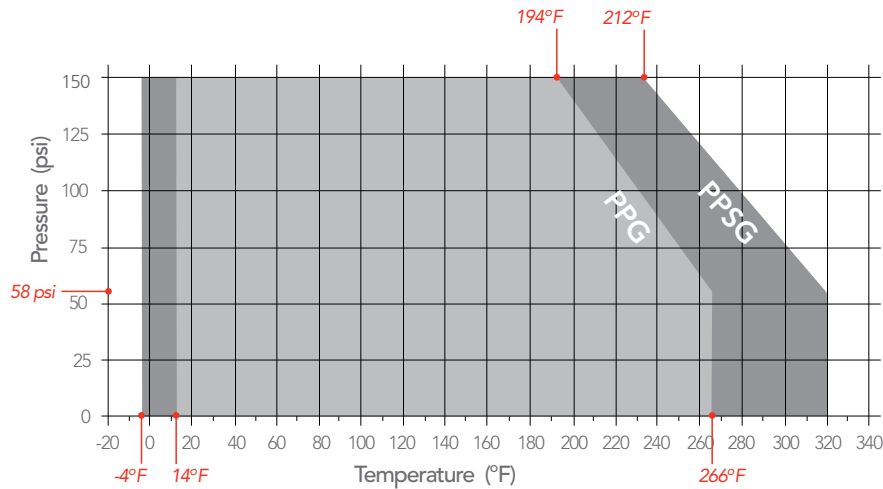
Cv VALUES

NET WEIGHTS LBS.

Size	A	C	n	e	D	D ₁	D ₂	D ₃	H	L	USGPM@1 psi Pressure Drop	PPG Valves
1"	6.3	3.13	4	5/8	0.95	2.20	4.25	4.90	4.25	5.00	60	4.41
1-1/2"	6.3	3.80	4	5/8	1.46	2.91	5.00	5.50	4.84	6.50	213	6.61



WORKING PRESSURES VS. TEMPERATURE



SAMPLE SPECIFICATION

Note: Specification below is for:

- valves with PPG bodies, suitable for temperatures up to 266°F/130°C *, and for
- valves with PPSG bodies, suitable for temperatures up to 320°F/160°C.*

- All composite fluoropolymer lined ball valves 1" and 1-1/2" will be Chemline HB Series HYBRID ball valves or equal, pressure rated 150 psi.
- Composite ball valves will have interior steel reinforcement of flanges for durability.
- Composite body material will be (either)
PPG engineering plastic – Polypropylene with 30% glass fiber (OR)
PPSG high performance plastic – glass-filled Polyphenylene Sulfide
- Body will be "split" design, permitting disassembly and replacement of parts.
- Flange dimensions will be according to ASME/ANSI B16.5 Class 150.
- PFA lining will be minimum 3.0 mm thickness in compliance with ASTM F1545.
- Stem sealing will be PTFE chevron packing.
- Valve seats will be PTFE.
- All interior wetted parts will be of PFA or PTFE. Any exposed external parts will be minimum grade 304 stainless steel.
- Hand lever operator will be lockable, open or closed position.
- Operator mounting flange will be integral to the body. Fasteners used to mount operators will not be pressure retaining. Mounting flange and exposed stem dimensions will be according to ISO 5211.
- All valves will be factory pressure tested according to API 598.

* At maximum temperatures, pressure ratings are lower than the maximum 150 psi. Refer to manufacturer's data.

ORDERING EXAMPLE

Chemline HB Series HYBRID Ball Valves	HB1	G	P	010	F
Body	G – PPG	S – PPSG			
Lining	P – PFA	K – PVDF			
Size	010 – 1"	015 – 1-1/2"			
Ends	F – Flanged				

Example: Chemline HB Series HYBRID Ball Valve, PPG, 1", PFA lining, flanged end connectors