SBC PFA-Lined Ball Check Valves

NPS ½" – 6" · Class 150 flanged · sight-glass body · horizontal or vertical

swissfluid USA

A lined ball check valve for reliable non-return control of liquid process media. Cast WCB or CF8M body with a PFA or PFA-AS lining, a solid PTFE ball running in PTFE-R guides, borosilicate sight-glass plates to DIN 7080 on both sides of the body, and wide, chambered flange faces that need no additional gaskets.



Design

Sizes	NPS ½" – 6".
Body	Cast steel WCB (1.0619), RAL 5005 signal-blue epoxy coated, body and flanges; CF8M (1.4408) stainless steel to order. SS304 (A2-70) hex head screws and name plate.
Lining	PFA standard; PFA-AS (conductive) to order. Every lining high-voltage tested at 35 kV for freedom from pores.
Ball and guides	Solid PTFE ball; PTFE hollow ball to order. Two ball guides in glass-fiber-reinforced PTFE-R. PTFE-AS, PP and UHMWPE balls per the ordering code.
Sight glass	Two borosilicate 8488 glass plates to DIN 7080 with C-4400 asbestos-free gaskets. Metal-reinforced and quartz glass to order.
Connections	Flanges to ASME B16.5 Class 150, horizontal or vertical installation; DIN PN16 to order. Face-to-face to ASME B16.10 (see the dimension note); 2½", 3" and 6" also in DIN lengths. 2½" and 3" flanges tapped 5/8" UNC, 6" tapped 3/4" UNC.
Pressure	0.01 psia to 145 psig, derated with temperature. PTFE hollow ball: 87 psig to 32 °F (0 °C), about 15 psig at 320 °F (160 °C), not for service above 320 °F (160 °C). Pressure-temperature chart on the Swissfluid sheet.
Temperature	−40 °F to +400 °F (−40 °C to +204 °C) depending on lining. Low-temperature or austenitic steels required below +14 °F (−10 °C).
Compliance	FDA-compliant; Pressure Equipment Directive (PED); testing to EN 12266-1 leakage rate A / API 598; marking to EN 19; certificates to EN 10204 3.1, 2.2 or 2.1.

Source: Swissfluid USA PM 41 us 2018-9 and 2025-05.

Main features

- Heavy-duty, proven construction, maintenance-free
- Horizontal or vertical installation, Class 150 flanges
- No additional flange gaskets: wide, chambered flange sealing surface
- PTFE solid or hollow balls, guides in PTFE-R
- Standard drip ledge indicating even minute flows
- Large observation opening

LinedPipe.Com note. Hydrofluoric acid, hot phosphoric acid and caustic attack the glass plates; where glass does not suit the medium, the SBC takes blanking plates in place of the glass. Its glass-fiber-reinforced PTFE-R ball guides are attacked by hydrofluoric and other fluoride-bearing acids, hot phosphoric acid and hot caustic. Not for HF or fluoride-bearing acids: use a lined swing check valve (SSC). Caution with hot phosphoric acid or hot caustic: ask us, or use the SSC. PP and UHMWPE balls: ask us about temperature.

Options

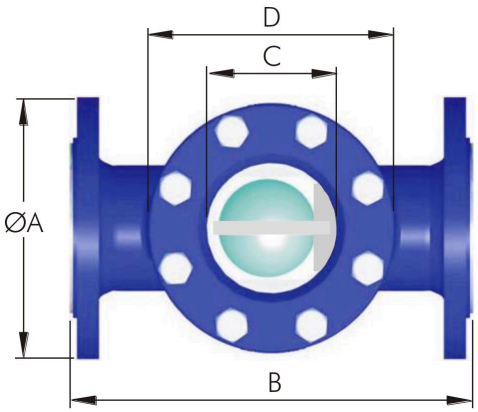
- **PTFE hollow ball** 87 psig to 32 °F (0 °C), about 15 psig at 320 °F (160 °C); not above 320 °F (160 °C).
- **Glass plates** Metal-reinforced glass plates, quartz glass, FEP glass protection sheet, PN 40 glass plate, or blanking plates
- **Body** CF8M stainless steel
- **Lining** PFA-AS conductive; grounding cable, code GC
- **Balls** PTFE-AS, PP, UHMWPE
- **Flanges** PN 16, JIS 10K
- **Bolting** B7 body bolts
- **Special paint** RAL color to order

Construction. PFA-lined WCB body with two WCB flanges, RAL 5005; two borosilicate glass plates to DIN 7080 with C-4400 gaskets; solid PTFE ball in two PTFE-R guides; A2-70 stainless hex head screws; stainless name plate.

Typical service. Non-return flow control of liquid process media, installed horizontally or vertically. *LinedPipe.Com note: not for HF or fluoride-bearing acids; caution with hot phosphoric acid or hot caustic.*

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Dimensions and ordering code



Dimensions, inches

Size	B face-to-face	Ø A flange	Ø C	D	Glass Ø × thickness	Weight lbs
½"	5.12*	3.74‡	1.30	☐ 2.76	1.77×0.39	8.14
¾"	5.91*	4.13‡	1.30	☐ 2.76	1.77×0.39	9.46
1"	6.00*	4.25	1.89	☐ 3.35	2.48×0.39	11.22
1½"	7.00*	5.00	2.56	☐ 4.33	3.15×0.47	17.16
2"	8.00	6.00	3.15	☐ 4.72	3.94×0.59	26.62
2½"	8.50	7.00	3.15	Ø 6.89	3.94×0.59	41.14
3"	9.50	7.50	3.94	Ø 7.48	4.92×0.79	56.32
4"	11.50	9.00	4.92	Ø 8.27	5.91×0.98	102.52
6"	14.00	11.00	7.87	Ø 11.42	8.86×1.18	131.56

Face-to-face to ASME B16.10; * ½" and ¾" are EN 558-1 range 1 lengths, 1" and 1½" Swissfluid lengths that match neither standard. 2½", 3" and 6" also in DIN lengths. Flanges to ASME B16.5 Class 150; 2½" and 3" with tapped holes 5/8" UNC, 6" with 3/4" UNC. ‡ DIN-size flange diameter, as Swissfluid's sheet gives it. Source: Swissfluid USA PM 41 us 2018-9.

Note. Pressure-temperature derating per the Swissfluid chart: PFA/PFA-AS 145 psig to 176 °F (80 °C), falling in a straight line to about 29 psig at 392 °F (200 °C); PTFE hollow ball 87 psig to 32 °F (0 °C), about 15 psig at 320 °F (160 °C), not above 320 °F (160 °C).

Ordering code

Build a code from left to right; a standard valve is **SBC · 2" · 150# · G10 · A85 · B80 · Gb**. Some selections require or exclude others; we check every code before it goes to the factory.

Size	**½"–6"** NPS ½" – 6" (DN 15 – 150)
Flange connection	**150#** ASME Class 150 · **PN16** PN 16 · **JIS 10K** JIS 10K
Body	**G10** WCB carbon steel (1.0619) · **G15** CF8M stainless (1.4408)
Body lining	**A85** PFA · **A86** PFA-AS conductive
Ball	**B80** PTFE · **B82** PTFE-AS · **B89** PP · **B90** UHMWPE
Glass plate	**Gb** glass plate PN 16 · **Gb40** glass plate PN 40 · **Gr** reinforced glass · **Gq** quartz glass
Options	**B7** B7 body bolts · **Hb** PTFE hollow ball · **RAL** special paint · **GC** grounding cable · **Gf** FEP protective film

Data and codes: Swissfluid USA PM 41 us 2018-9; 35 kV test, FDA and code GC from PM 41 us 2025-05; code Gf as on the SSP (PM 31 us 2025-05).

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Ordering from LinedPipe.Com

Size, series, lining, class and quantity are enough to start. For a quotation send the service conditions (media, concentration, temperature, pressure, flow), the end connections and, for a valve, the actuation you need; we will confirm the ordering code, the installation dimensions and a delivery time.

Request a quote

(251) 625-4949 · info@linedpipe.com · linedpipe.com/contact/
(the online quote form takes valves line by line and attachments).

What to tell us

- Series and size, flange class, and full or reduced port where the series offers both
- Lining, and the ball, disc, glass, seat and elastomer materials where the series has them
- Body material: carbon steel or stainless, as the series offers
- For a valve, the topworks: bare stem, lever, gearbox, pneumatic or electric actuator, fail position, accessories
- Options from the series' ordering code, such as a conductive lining or special bolting
- Certificates: EN 10204 3.1 material certificates and test reports on request

Dimensions

Face-to-face lengths in our valve catalog are stated against ASME B16.10, MSS SP-88, EN 558-1 or EN 12982, as the note under each table says; where a table mixes standards, lengths marked * are not to the US standard. Confirm the installation length on the order acknowledgement before cutting pipe.

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Version 1.25 · Released 11-17-2026. Product data from Swissfluid literature as cited under each table; subject to change without notice. **Confirm critical dimensions with the order acknowledgement.**