SBV PFA-Lined Ball Valves

NPS ½" – 10" full port · 5" – 10" reduced port · Class 150 · SBV 300 in 1" – 3"

swissfluid USA

A lined ball valve for positive shut-off, flow control and throttling of corrosive or toxic media, liquid or gas: two-piece cast body with metal-to-metal locking joints, one-piece PFA-encapsulated ball and stem, live-loaded stem sealing and an ISO 5211 top flange.

Design

Sizes	NPS ½" – 10" full port; 5" – 10" reduced port. Class 300 (SBV 300) in 1", 1½", 2" and 3".
Body	ASTM A216 WCB carbon steel, RAL 5005 signal-blue epoxy coated, or ASTM A351 CF8M stainless steel.
Lining	PFA standard; PFA-AS (conductive), ETFE and PVDF to order. Castellated joints lock the liner to the body.
Ball and stem	One piece: A890 steel core with mechanically locked PFA encapsulation; PFA-AS, PVDF or ETFE encapsulation, or solid titanium Gr. 2 and Gr. 7 or alloy C-276 balls, to order; ceramic per Swissfluid's separate data sheet.
Seats	PTFE; PTFE-T, PTFE-AS and FFKM-energized to order. Belleville springs in spring steel or alloy 718.
Connections	Flanges to ASME B16.5 Class 150 (Class 300 for SBV 300). Face-to-face to ASME B16.10 except where marked.
Pressure	Full vacuum to 232 psig (½" – 8" RP), 145 psig (8" – 10"); 725 psig for SBV 300. Full vacuum holds to 212 °F; at 400 °F the vacuum limit is 1.5 psia (½" – 8" RP) and 3.5 psia (8" – 10"). See the pressure-temperature chart.
Temperature	−40 °F to +400 °F depending on size and lining. CF8M bodies with silicone packing below +14 °F.
Compliance	FDA-compliant materials; bubble-tight shut-off (Class VI); testing to EN 12266-1 leakage rate A / API 598; marking to EN 19; certificates to EN 10204 3.1 on request.

Source: Swissfluid USA PM 27 us 2026-06 and 2025-04; PM 23.1 us 2019-11 (SBV 300).

Main features

- Heavy-duty, maintenance-free construction
- Body halves metal-to-metal, live-loaded
- Bubble-tight across the full pressure and temperature range
- One-piece ball and stem, PFA-encapsulated
- Live-loaded stem seal: zero stem leakage, no field adjustment
- Consistent low operating torque, maximum Cv at lowest pressure drop
- Integrated ISO 5211 flange, square stem (keyed from 8" full port): no brackets or couplings
- Padlock provision on every handle for lockout/tagout

Construction

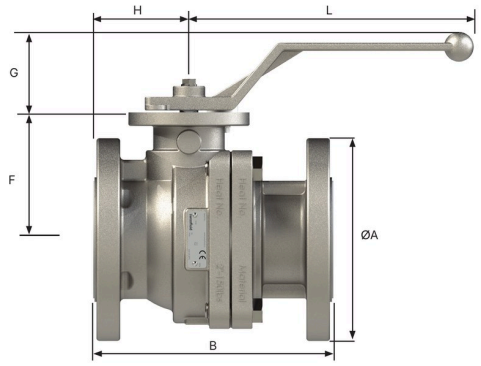
Body halves in WCB or CF8M, liner, PFA-encapsulated ball and stem, PTFE seats, live-loaded stem packing with Belleville springs and a stainless gland, stainless hand lever on the ISO 5211 flange, A2-70 stainless body bolting.

Typical service

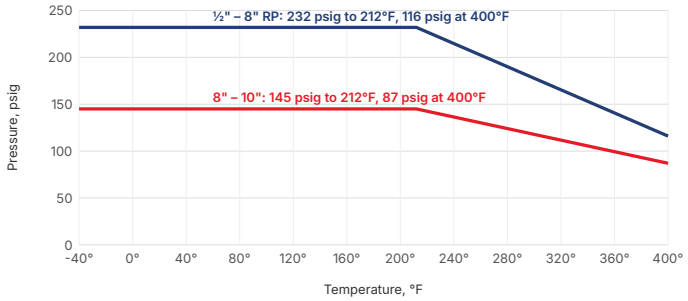
Chlor-alkali and hypochlorite, sulfuric and hydrochloric acid, chlorinated solvents, pulp and paper bleach plant, fertilizer and phosphoric acid, pharmaceutical and semiconductor high-purity lines, water treatment and lithium processing. Chlorine gas, hypochlorite, bromine and hydrogen peroxide call for a vented ball.

SBV PFA-Lined Ball Valves

Dimensions, pressure-temperature and flow



Pressure and temperature, PFA and PFA-AS



Dimensions, inches · Class 150 with hand lever

Size	Port	B face-to-face	F	H	ISO 5211	G	L lever	Valve lbs	Lever lbs
½"	FP	5.12*	2.52	1.97	F05	2.28	6.34	9	1.0
¾"	FP	5.91*	2.60	1.97	F05	2.28	6.34	10	1.0
1"	FP	5.00	2.76	1.97	F05	2.28	6.34	11	1.0
1¼"	FP	7.09*	2.95	2.36	F05	2.28	6.34	14	1.0
1½"	FP	6.50	3.43	2.52	F07	2.28	8.31	19	1.0
2"	FP	7.00	3.70	2.80	F07	2.28	8.31	25	1.0
2½"	FP	7.50	4.17	3.03	F07	2.28	12.40	34	1.0
3"	FP	8.00	4.53	3.19	F07	2.28	12.40	47	1.0
4"	FP	9.00	5.14	3.62	F10	2.44	12.40	73	2.0
5"	RP	10.00	5.14	4.06	F10	2.44	12.40	78	2.0
6"	RP	10.50	5.14	4.41	F10	2.44	12.40	142	2.0
6"	FP	10.50	7.44	9.45	F12	—	—	150	—
8"	RP	11.50	7.44	7.87	F12	—	—	183	—
8"	FP	18.00	9.25	8.88	F14	—	—	320	—
10"	RP	13.00	9.25	6.38	F14	—	—	353	—
10"	FP	21.00	12.01	10.47	F16	—	—	669	—

* EN 558-1 range 1 (DIN) length; not an ASME B16.10 length. All other face-to-face lengths to ASME B16.10 (6" full port short pattern; 8" and 10" full port long pattern). Flanges to ASME B16.5 Class 150. 6" full port, 8" and 10" (full and reduced port) are supplied bare stem for gearbox or actuator.

Source: Swissfluid USA PM 27 us 2026-06; ISO 5211 flange and H from PM 27 us 2025-04.

SBV 300 · Class 300, 1" – 3"

Size	B face-to-face	F	ISO 5211	H	L lever	Valve lbs
1"	6.50	2.76	F05	3.63	6.34	14.5
1½"	7.50	3.43	F07	4.15	8.31	23.0
2"	8.50	3.70	F07	4.78	8.31	30.0
3"	11.12	4.53	F07	5.98	12.56	59.0

Face-to-face to ASME B16.10 Class 300. Flanges ASME B16.5 Class 300. 0.01 – 725 psi. Source: Swissfluid USA PM 23.1 us 2019-11.

Flow rate Cv

Ball type	½"	¾"	1"	1½"	2"	3"	4"–6" RP	6"–8" RP	8"–10" RP	10"
FP / CS ball	19	36	58	139	212	615	963	2,320	3,944	5,452
V60	9	21	31	106	124	351	549	820	—	—
V45	7	16	23	79	93	264	412	572	—	—
V30	5	11	15	52	62	176	274	410	—	—
V15	2	5	8	26	31	88	137	246	—	—
C ball	19	36	58	139	212	—	—	—	—	—

FP = full port; CS = cross-section vented ball.

Source: Swissfluid USA PM 27 us 2026-06.

SBV PFA-Lined Ball Valves

Ball options, options and ordering code

Ball options

V-port ball
Control service. 15°, 30°, 45° and 60° contours, ½" – 8" RP.

CS vented ball
Cross-section vent prevents pressure build-up and media accumulation in the cavity.

C-port ball
Minimizes media retention in the cavity and improves drainage, ½" – 2".

Solid ball
Titanium Grade 2, Titanium Grade 7 or alloy C-276.

Options

Belleville springs
Spring steel or alloy 718

Elastomers
FPM, EPDM, silicone, FFKM

Bolting
Stainless, B7, B7M, titanium, C-276

Linings
PFA, PFA-AS, ETFE, PVDF

Seats
PTFE, PTFE-T, PTFE-AS, FFKM-energized

Padlock provision
Every handle, for lockout/tagout

Actuation
Pneumatic or electric actuators and gearboxes, direct-mounted

Ordering code

Build a code from left to right; a standard valve is **SBV · size · 150# · G10 · A85 · E67 · U85 · B80 · X29 · ST · SS · HL**. Some selections require or exclude others; we check every code before it goes to the factory.

Size	**½"–10"** full port · **5"–10" RP** reduced port
Class	**150#** ASME Class 150 · **300#** SBV 300, 1"–3"
Body	**G10** WCB carbon steel · **G15** CF8M stainless
Body lining	**A85** PFA · **A86** PFA-AS conductive · **A88** PVDF · **A91** ETFE
Elastomer	**E67** FPM · **E60** EPDM · **E68** VMQ silicone · **E72** FFKM
Ball	**U85** PFA · **U86** PFA-AS · **U88** PVDF · **U91** ETFE · **S40** Ti Grade 2 · **S41** Ti Grade 7 · **S43** Alloy C-276
Seat	**B80** PTFE · **B81** PTFE-T · **B82** PTFE-AS · **B81E** FFKM-energized PTFE-T
Belleville springs	**X29** spring steel · **X51** alloy 718
Ball style	**ST** standard · **V15 / V30 / V45 / V60** V-port · **CS** cross-section vented · **C** C-ball
Options	**RAL** RAL color · **GC** grounding strap · **SST** customer tag · **CC** chlorine clean
Bolting	**SS** stainless · **B7** B7 · **B7M** B7M · **TI** titanium · **C-276** alloy C-276
Topworks	**BS** bare stem · **HL** hand lever · **OHW** oval handwheel · **SRHL** spring-return lever · **ACT** actuator · **GB** gearbox

The gearbox code varies with gear type. Data and codes: Swissfluid USA PM 27 us 2026-06.

From Fairhope

SBV valves ship from Fairhope, Alabama, bare stem or with lever, or as automated packages: factory-actuated by Swissfluid, or joined in our Fairhope shop to the actuator, positioner or solenoid valve of your choice. Breakaway torque runs from 71 in-lbs at ½" to 10,600 in-lbs at 10" and we size actuators with at least 30 % margin. Send the service conditions and we will size the valve and the actuator. **(251) 625-4949 · info@linedpipe.com · linedpipe.com/contact/**

SBV PFA-Lined Ball Valves

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 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, full or reduced port, Class 150 or 300
- Lining and ball or disc material, seat and elastomer where they apply
- Body material: WCB carbon steel or CF8M stainless
- Topworks: bare stem, lever, gearbox, pneumatic or electric actuator, fail position, accessories
- Options: conductive lining, grounding strap, chlorine clean, customer tag, special bolting
- Certificates: EN 10204 3.1 material certificates and test reports on request

Dimensions

Face-to-face lengths in this catalog are stated against ASME B16.10 or EN 558-1 as noted; sizes marked * are not ASME B16.10 lengths (the note under each table says what they are). Confirm the installation length on the order acknowledgement before cutting pipe.

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Version 1.11 · Released 10-30-2026. Product data from Swissfluid literature as cited under each table; subject to change without notice. **Confirm critical dimensions with the order acknowledgement.**