

Plastic Lined Valves

Lined process valves by Swissfluid
Sight glasses, sampling valves and systems
Factory-actuated or automated in the Marspec shop



LinedPipe.Com

A DIVISION OF MARSPEC 

IN PARTNERSHIP WITH

swissfluid
USA 

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Plastic Lined Valves

Swissfluid process valves, check valves, sight glasses and sampling valves, from LinedPipe.Com



LinedPipe.Com, a division of Marspec Technical Products, has supplied plastic lined piping systems from Fairhope, Alabama for more than fifty years. We supply Swissfluid PFA- and PTFE-lined valves, factory-actuated by Swissfluid or joined in our own automation shop to any make of actuator; Swissfluid USA supports its national distribution network from its facility in Stafford, Texas.

This catalog covers the Swissfluid lined valve line as sold in the United States: ANSI Class 150 and 300 flanged and wafer valves in inch sizes, with the materials, options and ordering codes of the Swissfluid USA literature. Dimensions are given where they can be relied on for installation: face-to-face lengths are stated against the governing standard, and sizes whose length departs from ASME B16.10 are marked.

PTFE, PVDF and polypropylene lined pipe spools and fittings, ½" through 12", are in our Plastic Lined Pipe and Fittings catalog and at linedpipe.com.



Swissfluid USA, Inc., Stafford, Texas.

From Fairhope

- Lined valves, pipe, fittings and accessories from one source
- Swissfluid factory-actuated packages, or valves joined in our automation shop to any make of actuator, positioner or solenoid valve
- The phone is answered 24 hours a day
- Hot-shot delivery can be arranged for shutdown work
- Fabrication and delivery time quoted with every order

Reading the tables

Face-to-face (B) is the installation dimension. Under each table the governing standard is named, ASME B16.10 or EN 558-1, and an asterisk marks a face-to-face length that is not an ASME B16.10 length; the note under the table says what it is. Flange connections are to ASME B16.5 for the class shown, so flange dimensions are not repeated. Heights, lever lengths, ISO 5211 top flanges and weights are the manufacturer's figures from the sheet cited under each table. Torque charts, parts lists and the pressure-temperature data for alternative linings are on the Swissfluid sheet named for each series; ask us for it, or for the sizing.

Plastic Lined Valves

The line at a glance



The line at a glance

Series	Valve	Sizes	Class	Temperature	Linings
SBV	PFA-lined ball valves	½" – 10" full port, 5" – 10" reduced port	150; 300 (1" – 3")	–40 to +400 °F	PFA, PFA-AS, ETFE, PVDF
SCP	PFA-lined cylindrical plug valves	½" – 2", 3" – 6" reduced port	150; 300 to order	–40 to +400 °F	PFA, PFA-AS
SBP	PTFE-lined butterfly valves	1" – 42"	150, wafer and lug; 300 to order	–40 to +450 °F	PTFE, PTFE-T, PTFE- AS, PVDF, UHMWPE
SBE	Elastomer-lined butterfly valves	1½" – 32"	150, wafer and lug; 300 to order	–40 to +400 °F	EPDM, FPM, NBR, SBR, VMQ
SDV	PFA-lined diaphragm valves	½" – 8"	150; 300 to order	–22 to +302 °F	PFA, PFA-AS, PVDF, ETFE, PP
SBC	PFA-lined ball check valves	½" – 6"	150	–40 to +400 °F	PFA, PFA-AS
SSC	PFA-lined swing check valves	1½" – 24"	150, wafer; 300 to order	–40 to +400 °F	PFA, PFA-AS
SSP	PFA-lined sight glasses	½" – 6"	150; 300 to order	–40 to +400 °F	PFA, PFA-AS
SSP-T	Tubular sight glasses	½" – 6"	150	+14 to +320 °F standard	lined or unlined
SST	Stainless steel sight glasses	½" – 6"	150 flanged or butt- weld; 300 to order	–40 to +450 °F	unlined
SIV	Inline sampling valves	½" – 6"	150; 300 to order	–40 to +400 °F	unlined, PFA, PFA-AS
SSB	Full-port sampling ball valves	½" – 6"	150; PN16/40 to order	–40 to +300 °F lined	unlined, PFA, PFA-AS
SRS	Reactor and vessel sampling systems	1" – 4" base flange	150; PN16/25/40	to +392 °F	PFA-lined

Temperature limits depend on lining and size; see each series.

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

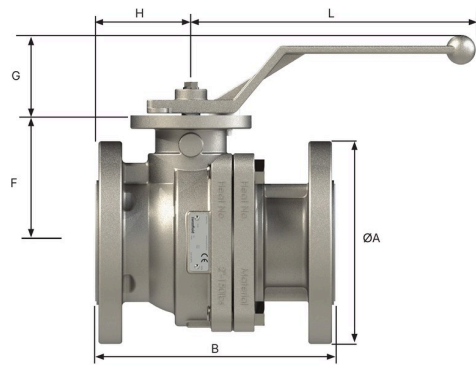
Chlor-alkali and hypochlorite, sulfuric and hydrochloric acid, chlorinated solvents, pulp and paper bleach plant, fertilizer and phosphoric acid, pharmaceutical and semiconductor high-purity lines, water treatment and lithium processing. Chlorine gas, hypochlorite, bromine and hydrogen peroxide call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



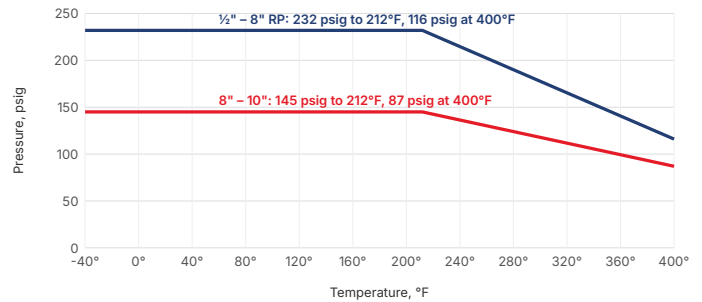
SBV PFA-Lined Ball Valves

Dimensions, pressure-temperature and flow

swissfluid
USA



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
1/2"	FP	5.12*	2.52	1.97	F05	2.28	6.34	9	1.0
3/4"	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
1 1/4"	FP	7.09*	2.95	2.36	F05	2.28	6.34	14	1.0
1 1/2"	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
2 1/2"	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
1 1/2"	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	1/2"	3/4"	1"	1 1/2"	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

swissfluid
USA

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/

SCP PFA-Lined Cylindrical Plug Valves

NPS ½" – 2" · 3" – 6" reduced port · Class 150

swissfluid
USA

A lined cylindrical plug valve for shut-off, flow control and throttling of corrosive, abrasive or toxic media, liquid or gas. Two-piece cast body and bonnet, a one-piece PFA-encapsulated cylinder and shaft, cavity-free flow path, a dynamic shaft seal to TA-Luft and an ISO 5211 top flange for direct mounting of handlevers, gearboxes and actuators.



Design

Sizes	NPS ½" – 2"; 3" – 6" reduced port.
Body	Cast steel WCB (1.0619), RAL 5005 signal-blue epoxy coated, or stainless CF8M (1.4408). Two-piece body with bolted bonnet.
Lining	PFA standard; PFA-AS (conductive) to order. Resilient liner-to-cylinder contact keeps operating torque low and constant.
Cylinder and shaft	One piece, solid or encapsulated min. 2.5 mm. PFA-encapsulated duplex (1.4462) standard; PFA-AS, PVDF, PP or ETFE encapsulation, or solid 316L, titanium Gr. 2 and Gr. 7 and alloy C-276, to order.
Shaft seal	Dynamic shaft seal to TA-Luft: PTFE diaphragm on a duplex pressure plate, FPM shaft seal ring and O-rings (VMQ optional), Belleville springs in spring steel, 316L pressure sleeve. Double-D shaft to EN 12116 with rated breaking point.
Connections	Flanges to ASME B16.5 Class 150; Class 300, PN16 and JIS 10K to order. Face-to-face to ASME B16.10 (½" and ¾" are EN 558-1 range 1 lengths). ISO 5211 top flange (F05 – F10) with O-ring.
Pressure	0.01 psia (vacuum) to 232 psi, depending on size and temperature. Pressure-temperature chart on the Swissfluid sheet.
Temperature	–40 °F to +400 °F depending on lining. Low-temperature or austenitic steels required below +14 °F.
Compliance	Bubble-tight shut-off; pressure and tightness testing to EN 12266-1 leakage rate A / API 598; marking to EN 19; certificates to EN 10204 3.1 / 2.2 / 2.1; conformity with the European Pressure Equipment Directive (PED).

Source: Swissfluid USA PM 22 us 2020-10.

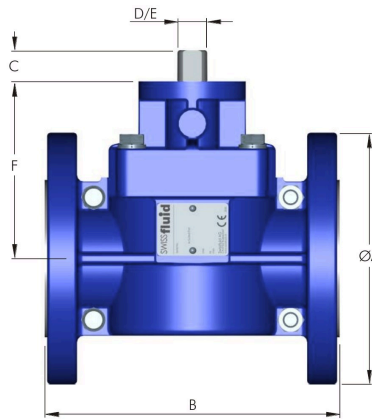
Options

- **V-port cylinder** Control service, various contours; 60° standard.
- **Vented cylinder** Drilled vent hole for upstream pressure relief.
- **Cylinder materials** PFA-AS, PVDF, PP or ETFE encapsulation; solid 316L, titanium Gr. 2 or Gr. 7, alloy C-276.
- **Elastomers** FPM standard; VMQ silicone
- **Flange connections** Class 300, PN16, JIS 10K
- **Bolting** A2-70 stainless standard; B7 or titanium body bolts
- **Shaft end** Double-D standard; square parallel or square 45° rotated
- **Paint** Special RAL color
- **Actuation** Manual gearbox or pneumatic actuator on an ISO mounting kit, with E/P positioner, limit switch box, solenoid valve, NAMUR bracket, position indicator and manual override

SCP PFA-Lined Cylindrical Plug Valves

Dimensions

swissfluid
USA



Dimensions, inches · Class 150 with hand lever

Size	B face-to-face	F	G	L lever	ISO 5211	Valve lbs	Lever lbs	Gearbox lbs
½"	5.12*	3.39	2.28	8.31	F05	7.04	0.79	5.06
¾"	5.91*	3.50	2.28	8.31	F05	8.36	0.79	5.06
1"	5.00	3.62	2.28	8.31	F05	7.92	0.79	5.06
1½"	6.50	4.02	2.28	9.88	F07	11.88	0.90	5.06
2"	7.00	4.21	2.28	9.88	F07	18.04	0.90	5.06
3" RP	8.00	4.21	2.28	9.88	F07	30.36	0.90	5.06
4" RP	9.00	5.39	2.44	12.40	F07	50.38	1.98	7.70
6" RP	10.50	5.79	—	—	F10	77.00	1.98	7.70

Face-to-face to ASME B16.10 per the sheet; * ½" and ¾" are EN 558-1 range 1 (DIN) lengths, not B16.10 lengths. Flanges to ASME B16.5 Class 150.

Source: Swissfluid USA PM 22 us 2020-10.

Note. Torque and Cv on the Swissfluid sheet are for a PFA-encapsulated cylinder with PFA liner; torques are break-away values without actuator safety factors.

SCP PFA-Lined Cylindrical Plug Valves

Ordering code, Construction and service



Ordering code

Build a code from left to right; a standard valve is **SCP · 2" · ANSI150# · G10 · A85 · E68 · U85 · DD**. Some selections require or exclude others; we check every code before it goes to the factory.

Size	½"-2" NPS ½" – 2" · 3"RP-6"RP reduced port · DN15-100 metric
Flange	ANSI150# ASME Class 150 · ANSI300# ASME Class 300 · PN16 PN16 · JIS 10K JIS 10K
Body	G10 WCB carbon steel · G15 CF8M stainless
Body lining	A85 PFA · A86 PFA-AS conductive
Elastomer	E67 FPM · E68 VMQ silicone
Cylinder	U85 PFA encapsulated · U86 PFA-AS encapsulated · U88 PVDF encapsulated · U89 PP encapsulated · U91 ETFE encapsulated · S32 solid 316L · S40 solid Ti Grade 2 · S41 solid Ti Grade 7 · S43 solid alloy C-276
Shaft end	DD Double-D drive · SP square parallel · SR square 45° rotated
Options	Vp60 60° V-port · Vh vented cylinder · B7 B7 body bolts · Ti titanium body bolts · RAL special paint

Data and codes: Swissfluid USA PM 22 us 2020-10.

Construction. Two-piece body and bonnet in WCB or CF8M, PFA liner, PFA-encapsulated duplex cylinder and shaft, PTFE diaphragm and duplex pressure plate, FPM elastomers and O-rings, Belleville springs in spring steel, 316L pressure sleeve, PTFE-lined steel-backed bushing, A2-70 stainless body bolting, SS304 name plate.

Typical service. Chemical and petrochemical, biotechnology and pharmaceutical, semiconductor, pulp and paper, food processing, paint and pigments, fertilizers, textiles, mining and steel.

SBP PTFE-Lined Butterfly Valves

NPS 1" – 42" · wafer or lug · Class 150

swissfluid
USA

A PTFE-lined butterfly valve for shut-off, flow control and throttling of corrosive and abrasive media, liquid, powdery or gas. Two-piece cast body in wafer or lug style, a one-piece disc and shaft, solid or PFA-encapsulated, a reinforced liner whose wide, chambered flange face needs no additional gaskets, and a bare Double-D shaft on an ISO 5211 top flange as standard. Supplied bare or complete with locking handle, manual gearbox or double- or single-acting pneumatic actuator.

Design

Sizes	NPS 1" – 42", wafer (SBPW) or lug (SBPL). Wafer 1" – 1½", 18" and 30" – 42" are lug bodies with drilled-through holes.
Body	Cast steel WCB (1.0619), RAL 5005 signal-blue epoxy coated, or stainless CF8M (1.4408); 316L to order.
Liner	PTFE standard; PTFE-T (modified), PTFE-AS (conductive), PVDF or UHMWPE to order. Min. 3 mm thick, optimized and reinforced shape, with FPM backing (EPDM or VMQ to order).
Disc and shaft	One piece, solid or encapsulated min. 3 mm, with polished sealing surface. PFA-encapsulated duplex (1.4462) standard; PFA-AS, PVDF, PP or ETFE encapsulation, or solid duplex, 316L, titanium Gr. 2 and Gr. 7 and alloy C, to order.
Shaft seal and bearings	Dynamic shaft seal: FPM elastomer inserts and pads, 316L pressure and guide rings, Belleville springs in spring steel. Triple PTFE-lined steel-backed shaft bushing. Double-D shaft to EN 12116 with rated breaking point.
Connections	Flanges to ASME B16.5 Class 150; Class 300, PN10, PN16 and JIS 10K to order. Face-to-face to ASME B16.10. ISO 5211 top flange with O-ring: DD drive to 16", one keyway 18" – 24", two keyways 90° offset 28" – 42".
Pressure	0.01 psi (vacuum) to 232 psi, depending on size, liner and temperature. Rated pressure steps down by size band (1" – 6", 8" – 12", 14" – 24", 28" – 36", 42") and with liner at temperature; see the pressure-temperature charts.
Temperature	–40 °F to +450 °F depending on liner. Low-temperature or austenitic steels required below +14 °F.
Compliance	Bubble-tight shut-off; pressure and tightness testing to EN 12266-1 leakage rate A / API 598; marking to EN 19; certificates to EN 10204 3.1 / 2.2 / 2.1; conformity with the European Pressure Equipment Directive (PED).

Source: Swissfluid USA PM 51 us 2021-01.



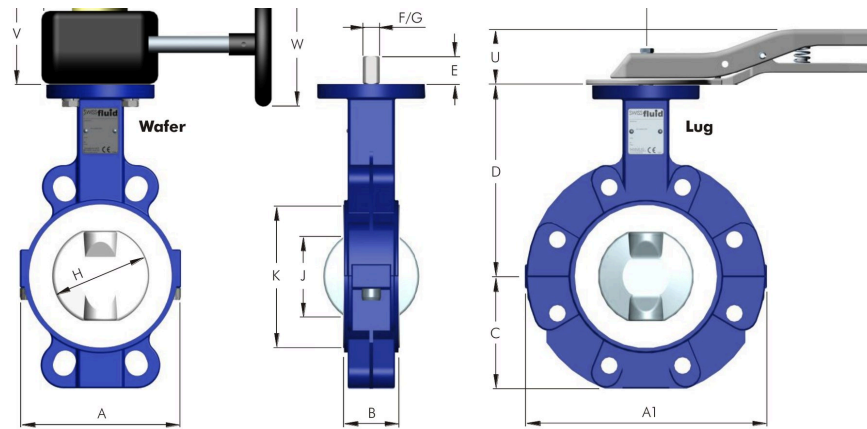
Main features

- Heavy-duty, compact, maintenance-free construction
- Bubble-tight across the full pressure and temperature range
- Wide choice of liner and disc materials for economical performance
- Shaft sealing built for automated service and high operating pressures
- No additional flange gaskets: wide, chambered flange sealing surface
- One-piece disc and shaft for hysteresis-free control; polished sealing surface, low torque
- Streamline flow contour for maximum capacity
- Class 150 flanges (DIN optional) for existing piping

SBP PTFE-Lined Butterfly Valves

Dimensions, Options

swissfluid
USA



Dimensions, inches · wafer and lug bodies

Size	A wafer	A1 lug	B width	C	D	ISO 5211	T lever
1"	—	4.53	1.30	1.81	3.43	F05	9.06
1¼"	—	4.53	1.30	1.81	3.43	F05	9.06
1½"	—	5.71	1.30	2.52	4.29	F07	9.06
2"	4.65	6.30	1.69	2.72	4.88	F07	9.06
2½"	4.72	7.09	1.81	3.11	5.67	F07	9.06
3"	5.28	7.95	1.81	3.66	6.26	F07	9.06
4"	6.38	9.13	2.06	4.21	7.24	F07	10.63
5"	7.28	10.59	2.20	4.69	7.83	F07	10.63
6"	9.76	11.38	2.20	5.12	8.23	F07	12.80
8"	10.75	13.74	2.37	6.22	9.41	F10	—
10"	12.91	15.75	2.68	7.80	10.39	F10	—
12"	14.88	18.50	3.09	9.02	10.39	F10	—

Face-to-face B to ASME B16.10 (wafer); the widths agree with EN 558-1 series 20 through 12". Flanges to ASME B16.5 Class 150.

Source: Swissfluid USA PM 51 us 2021-01.

Note. Never specify the same material for liner and disc encapsulation; torque rises considerably. Torques on the Swissfluid sheet are break-away values without actuator safety factors. 14" optionally 3.07 in face-to-face (ASME B16.10 wide).

Options

- **Liners** PTFE-T (modified), PTFE-AS (conductive), PVDF, UHMWPE
- **Disc materials** PFA-AS, PVDF, PP or ETFE encapsulation; solid duplex, 316L, titanium Gr. 2 or Gr. 7, alloy C
- **Polished disc** Polished disc execution
- **TA-Luft** TA-Luft execution
- **Thru holes** Drilled-through flange holes
- **Elastomers** FPM standard; EPDM, VMQ silicone
- **Flange connections** Class 300, PN10, PN16, JIS 10K
- **Bolting** B7 or titanium bolts
- **Paint** Special RAL color
- **Actuation** Locking handle, manual gearbox or SPA pneumatic actuator on an ISO mounting kit, with electro-pneumatic positioner, limit switch box, solenoid valve, NAMUR bracket, position indicator and manual override

SBP PTFE-Lined Butterfly Valves

Ordering code, Construction and service



Ordering code

Build a code from left to right; a standard valve is **SBPW · 4" · ANSI150# · G10 · A80 · E67 · U85 · DD**. Some selections require or exclude others; we check every code before it goes to the factory.

Product	SBPW wafer · SBPL lug
Size	1"-42" NPS · DN25-1000 metric
Flange	ANSI150# ASME Class 150 · ANSI300# ASME Class 300 · PN16 PN16 · PN10 PN10 · JIS 10K JIS 10K
Body	G10 WCB carbon steel · G15 CF8M stainless · G34 316L stainless
Liner	A80 PTFE · A81 PTFE-T modified · A82 PTFE-AS conductive · A88 PVDF · A90 UHMWPE
Elastomer	E60 EPDM · E67 FPM · E68 VMQ silicone
Disc	U85 PFA encapsulated · U86 PFA-AS encapsulated · U88 PVDF encapsulated · U89 PP encapsulated · U91 ETFE encapsulated · S16 solid duplex · S34 solid 316L · S40 solid Ti Grade 2 · S41 solid Ti Grade 7 · S43 solid alloy C
Shaft end	DD Double-D drive · SP square parallel · SR square 45° rotated
Options	Po polished disc · TA TA-Luft · Th thru holes · B7 B7 bolts · Ti titanium bolts · RAL special paint

Data and codes: Swissfluid USA PM 51 us 2021-01.

Construction. Two-piece wafer or lug body in WCB or CF8M, PTFE liner, PFA-encapsulated duplex disc and shaft, FPM elastomers, pads and inserts, 316L pressure and guide rings, Belleville springs in spring steel, three PTFE-lined steel-backed bushings, FPM top O-ring, A2-70 stainless body bolting, SS304 name plate.

Typical service. Chemical and petrochemical, pharmaceutical, semiconductor, pulp and paper, food processing, paint and pigments, fertilizers, mining and steel, desalination.

SBE Elastomer-Lined Butterfly Valves

NPS 1½" – 32" · wafer or lug · Class 150

swissfluid
USA

An elastomer-lined butterfly valve for shut-off, flow control and throttling of corrosive and abrasive media, liquid, powdery or gas. Two-piece cast body in wafer or lug style, a one-piece solid or encapsulated disc and shaft, an elastomer liner whose wide, corrugated flange face needs no additional gaskets, and a bare Double-D shaft on an ISO 5211 top flange as standard. Supplied bare or complete with locking handle, manual gearbox or double- or single-acting pneumatic actuator.

Design

Sizes	NPS 1½" – 32", wafer (SBEW) or lug (SBEL). Wafer 1½" is a lug body with drilled-through holes.
Body	Cast steel WCB (1.0619), RAL 5005 signal-blue coated, or stainless CF8M (1.4408); 316L to order.
Liner	EPDM standard (black or white); EPDM-HT, NBR, FPM, SBR or VMQ silicone to order.
Disc and shaft	One piece, solid or encapsulated min. 3 mm, with polished sealing surface. Solid duplex (1.4462) standard; solid 316L, titanium Gr. 2 and Gr. 7 and alloy C, or PFA, PFA-AS, PVDF, PP or ETFE encapsulation, to order.
Shaft and bearings	Double-D shaft to EN 12116 with rated breaking point; three PTFE-lined steel-backed bushings; FPM O-ring at the top flange.
Connections	Flanges to ASME B16.5 Class 150; Class 300, PN10, PN16 and JIS 10K to order. Face-to-face to ASME B16.10. ISO 5211 top flange with O-ring: DD drive to 16", one keyway 18" – 24", two keyways 90° offset 28" and 32".
Pressure	Up to 232 psi, depending on size, disc material and temperature. Rated pressure steps down by size band (1½" – 6", 8" – 24", 28" – 32") and, for encapsulated discs, with PP, PVDF, ETFE or PFA at temperature; pressure-temperature chart on the Swissfluid sheet.
Temperature	–40 °F to +400 °F depending on liner: EPDM –31 °F to +284 °F; EPDM-HT –31 °F to +302 °F; NBR –4 °F to +212 °F; FPM +14 °F to +356 °F; VMQ –94 °F to +446 °F. Low-temperature or austenitic steels required below +14 °F.
Compliance	Bubble-tight shut-off; pressure and tightness testing to EN 12266-1 leakage rate A / API 598; marking to EN 19; certificates to EN 10204 3.1 / 2.2 / 2.1; conformity with the European Pressure Equipment Directive (PED).

Source: Swissfluid USA PM 52 us 2019-11.



Main features

- Heavy-duty, compact, maintenance-free construction
- Bubble-tight across the full pressure and temperature range
- Wide choice of liner and disc materials for economical performance
- Standardized ISO mounting flange for easy fitting of actuator options
- No additional flange gaskets: wide, corrugated flange sealing surface
- One-piece disc and shaft for hysteresis-free control; polished sealing surface, low torque
- Streamline flow contour for maximum capacity
- Class 150 flanges (DIN optional) for existing piping

SBE Elastomer-Lined Butterfly Valves

Dimensions and ordering code, Options, Construction and service



Dimensions, inches · wafer and lug bodies

Size	A wafer	A1 lug	B width	C	D	ISO 5211	T lever
1½"	—	5.71	1.30	2.52	4.29	F07	9.06
2"	4.65	6.30	1.69	2.72	4.88	F07	9.06
2½"	4.72	7.09	1.81	3.11	5.67	F07	9.06
3"	5.28	7.95	1.81	3.66	6.26	F07	9.06
4"	6.38	9.13	2.06	4.21	7.24	F07	10.63
5"	7.28	10.59	2.20	4.69	7.83	F07	10.63
6"	9.76	11.38	2.20	5.12	8.23	F07	12.80
8"	10.75	13.74	2.37	6.22	9.41	F10	—
10"	12.91	15.75	2.68	7.80	10.39	F10	—
12"	14.88	18.50	3.09	9.02	10.39	F10	—

Face-to-face B to ASME B16.10 (wafer); the widths agree with EN 558-1 series 20 through 12". Flanges to ASME B16.5 Class 150. 1½" wafer bodies are lug bodies with drilled-through holes. Source: Swissfluid USA PM 52 us 2019-11.

Note. Torques on the Swissfluid sheet are break-away values without actuator safety factors.

Ordering code

Build a code from left to right; a standard valve is **SBEW · size · ANSI150# · G10 · A60 · S16 · DD**. Some selections require or exclude others; we check every code before it goes to the factory.

Product	SBEW wafer · SBEL lug
Size	1½"-32" NPS · DN25-1000 metric
Flange	ANSI150# ASME Class 150 · ANSI300# ASME Class 300 · PN16 PN16 · PN10 PN10 · JIS 10K JIS 10K
Body	G10 WCB carbon steel · G15 CF8M stainless · G34 316L stainless
Liner	A60 EPDM · A61 EPDM white · A64 NBR · A67 FPM · A68 VMQ silicone · A69 SBR
Disc	U85 PFA encapsulated · U86 PFA-AS encapsulated · U88 PVDF encapsulated · U89 PP encapsulated · U91 ETFE encapsulated · S16 solid duplex · S32 solid 316L · S40 solid Ti Grade 2 · S41 solid Ti Grade 7 · S43 solid alloy C
Shaft end	DD Double-D drive · SP square parallel · SR square 45° rotated
Options	Po polished disc · TA TA-Luft · Th thru holes · B7 B7 bolts · Ti titanium bolts · RAL special paint

Data and codes: Swissfluid USA PM 52 us 2019-11.

Options

- **Liners** EPDM white, NBR, FPM, SBR, VMQ silicone
- **Disc materials** Solid 316L, titanium Gr. 2 or Gr. 7, alloy C; PFA, PFA-AS, PVDF, PP or ETFE encapsulation
- **Polished disc** Polished disc execution
- **TA-Luft** TA-Luft execution
- **Thru holes** Drilled-through flange holes
- **Flange connections** Class 300, PN10, PN16, JIS 10K
- **Bolting** B7 or titanium bolts
- **Paint** Special RAL color
- **Actuation** Locking handle, manual gearbox or SPA pneumatic actuator on an ISO mounting kit, with electro-pneumatic positioner, limit switch box, solenoid valve, NAMUR bracket, position indicator and manual override

Construction. Two-piece wafer or lug body in WCB or CF8M, EPDM liner, solid duplex disc and shaft, three PTFE-lined steel-backed bushings, FPM top O-ring, A2-70 stainless body bolting, SS304 name plate.

Typical service. Chemical and petrochemical, food processing, paint and pigments, fertilizers, mining and steel, desalination.

SDV PFA-Lined Diaphragm Valves

NPS ½" – 8" · Class 150 flanged · handwheel standard · sliding spindle or linear stroke actuator

swissfluid
USA

A lined diaphragm valve for shut-off, flow control and throttling of corrosive and abrasive media, liquid or gas. Cast body in WCB or CF8M with a PFA or PFA-AS lining, a PTFE/EPDM diaphragm, a corrosion-protected spindle with force limiter and yellow position indicator, and a modular bonnet that takes a handwheel, a sliding spindle for external actuators or a pneumatic linear stroke actuator.

Design

Sizes	NPS ½" – 8".
Body	Cast steel WCB (1.0619), RAL 5005 signal-blue epoxy coated, or CF8M (1.4408) stainless steel. Bonnet and handwheel in powder-coated WCB or CF8M.
Lining	PFA standard; PFA-AS (conductive) to order. Minimum lining thickness 3 mm. PVDF, PP and ETFE per the ordering code.
Diaphragm	PTFE/EPDM diaphragm and supporting diaphragm standard; PTFE/FPM to order. EPDM per the ordering code.
Spindle and bolting	Stainless spindle (1.4021) with CF8M compressor; studs and hex nuts in SS304 (A2-70); SS304 name plate.
Connections	Flanges to ASME B16.5 Class 150; EN 1092 to order. Face-to-face to MSS SP-88; ½", ¾", 1¼", 2½", 5" and 8" to EN 558-1 range 1.
Pressure	0.19 psia to 232 psig (½" – 2"), 145 psig (2½"), 116 psig (3"), 102 psig (4" – 6"), 73 psig (8"), derated with temperature. Pressure-temperature chart on the Swissfluid sheet.
Temperature	–22 °F to +302 °F depending on lining. Low-temperature or austenitic steels below +14 °F.
Compliance	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 21 us 2019-11.



Main features

- Heavy-duty, robust construction, maintenance-free
- Bubble-tight shut-off across the full pressure and temperature range
- Spindle protected against atmospheric corrosion
- Force-limiting device protects the diaphragm from cold flow and deformation for long cycle life
- Yellow sight indicator shows the actual diaphragm position
- Easy replacement of components on site
- Class 150 flanges for installation into existing piping; DIN flanges to order
- Modular bonnet: handwheel, sliding spindle or linear stroke actuator

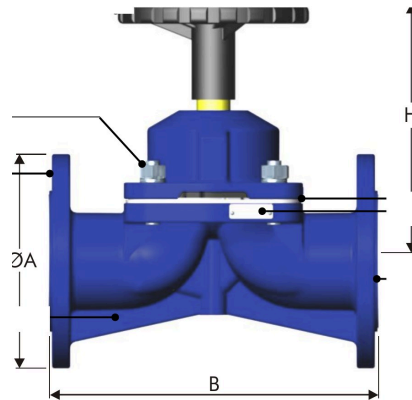
Options

- **Sliding spindle (type Ss)** Bonnet with sliding spindle for actuation by external pneumatic or electric actuators; not for Swissfluid type actuators.
- **Linear stroke actuator** Pneumatic linear stroke actuator, fail-close, fail-open or double-acting, with visual position indicator; stroke limiter and manual override to order.
- **Actuator accessories** Electric position indicator, limit switch box, electro-pneumatic or pneumatic positioner with mounting flange kit, filter regulator, 3/2-way or 5/2-way solenoid valve, NAMUR adapter plate, adapter mounting kit.
- **Diaphragms** PTFE/FPM; EPDM
- **Linings** PFA-AS conductive, PVDF, PP, ETFE
- **Flanges** ASME Class 300, PN 16, PN 10, JIS 10K
- **Bolting** B7 body bolts
- **Safety padlock** Padlock on the handwheel
- **Special paint** RAL color to order

SDV PFA-Lined Diaphragm Valves

Dimensions

swissfluid
USA



Dimensions, inches · with handwheel

Size	B face-to-face	D	H	Stroke	PS max, psi	Weight lbs	Cv
½"	5.12*	3.35	4.53	0.31	232	5.50	9
¾"	5.91*	3.35	4.61	0.31	232	6.60	12
1"	5.75	3.35	4.88	0.39	232	7.70	17
1¼"	7.09*	3.35	5.28	0.47	232	11.44	26
1½"	6.85	4.72	6.81	0.94	232	13.86	43
2"	7.87	4.72	7.32	1.18	232	19.80	75
2½"	11.42*	7.09	8.19	1.18	145	29.70	110
3"	10.24	7.09	9.17	1.34	116	37.18	155
4"	12.87	9.84	11.10	1.57	102	66.66	232
5"	15.75*	9.84	13.58	2.05	102	94.60	371
6"	16.38	15.75	16.22	2.36	102	130.90	524
8"	23.62*	15.75	19.25	3.54	73	268.40	754

Face-to-face to MSS SP-88; * EN 558-1 range 1 lengths. Flanges to ASME B16.5 Class 150. 8": above 3 bar (43.5 psi) consult the factory.

Source: Swissfluid USA PM 21 us 2019-11.

Note. 8": above 3 bar (43.5 psi) consult the factory. Pressure-temperature derating per size on the Swissfluid chart.

SDV PFA-Lined Diaphragm Valves

Ordering code, Construction and service



Ordering code

Build a code from left to right; a standard valve is **SDV · 4" · 150# · G10 · A85 · M84 · HW**. Some selections require or exclude others; we check every code before it goes to the factory.

Size	½"-8" NPS ½" – 8" (DN 15 – 200)
Flange connection	150# ASME Class 150 · 300# ASME Class 300 · PN16 PN 16 · PN10 PN 10 · JIS 10K JIS 10K
Body	G10 WCB carbon steel · G15 CF8M stainless
Lining	A85 PFA · A86 PFA-AS conductive · A88 PVDF · A89 PP · A91 ETFE
Diaphragm / supporting diaphragm	M83 PTFE/FPM · M84 PTFE/EPDM · M60 EPDM
Actuator	HW handwheel · FC pneumatic, fail-close · FO pneumatic, fail-open · DA pneumatic, double-acting · Ss sliding stem
Options	RAL special paint · B7 B7 body bolts

Data and codes: Swissfluid USA PM 21 us 2019-11.

Construction. PFA-lined body in WCB or CF8M, PTFE/EPDM diaphragm with supporting diaphragm, bonnet and handwheel in powder-coated WCB or CF8M, stainless spindle with CF8M bayonet compressor, A2-70 stainless studs and nuts, SS304 name plate.

Typical service. Shut-off, flow control and throttling of corrosive and abrasive process media, liquid or gaseous.

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.
Ball and guides	Solid PTFE ball; PTFE hollow ball to order. Two ball guides in glass-fibre-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; 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. Pressure-temperature chart on the Swissfluid sheet.
Temperature	–40 °F to +400 °F depending on lining. Low-temperature or austenitic steels below +14 °F.
Compliance	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.

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

Data and codes: Swissfluid USA PM 41 us 2018-9.



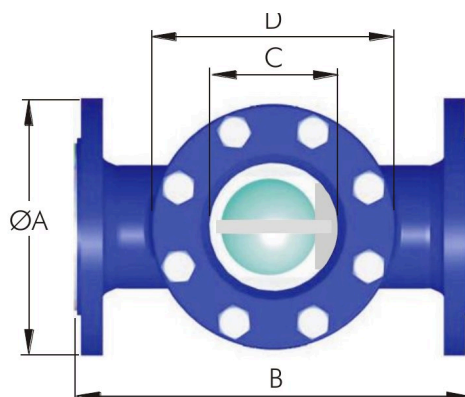
Main features

- 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
- Large observation opening

SBC PFA-Lined Ball Check Valves

Dimensions, Options, Construction and service

swissfluid
USA



Dimensions, inches

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

Face-to-face to ASME B16.10 or EN 558-1 range 1 as tabulated on the sheet; 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. Source: Swissfluid USA PM 41 us 2018-9.

Note. Pressure-temperature derating per the Swissfluid chart (PFA/PFA-AS 145 psig; PTFE hollow ball 87 psig).

Options

- **PTFE hollow ball** 87 psig maximum; pressure-temperature chart on the Swissfluid sheet.
- **Glass plates** Metal-reinforced glass plates, quartz glass, FEP glass protection sheet, PN 40 glass plate
- **Body** CF8M stainless steel
- **Lining** PFA-AS conductive
- **Balls** PTFE-AS, PP, UHMWPE
- **Flanges** PN 16, PN 40, 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; sixteen A2-70 stainless hex head screws; stainless name plate.

Typical service. Non-return flow control of liquid process media, installed horizontally or vertically.

SSC PFA-Lined Swing Check Valves

NPS 1½" – 24" · Class 150 wafer · 2-piece body to 12" · 3-piece body 14" – 24"

swissfluid
USA

A wafer-style lined swing check valve for safe non-return control of corrosive media in process piping, installed horizontally or vertically between Class 150 flanges. Two- or three-piece cast body in WCB or CF8M, PFA or PFA-AS lining and encapsulation, a PFA-encapsulated disc on a duplex stainless steel core, centering eyes for secure positioning and a flap disc secured against falling out.

Design

Sizes	NPS 1½" – 24". Two-piece body 1½" – 12"; three-piece body with retaining ring 14" – 24".
Body	Cast steel WCB (1.0619), RAL 5005 signal-blue epoxy coated, or CF8M (1.4408) stainless steel throughout.
Lining	PFA to ASTM D3307 standard; PFA-AS (conductive) to order.
Disc	Duplex stainless steel core (1.4469), PFA or PFA-AS encapsulated. Solid discs in SS316L (1.4404), titanium Gr. 2 (3.7035) or alloy C to order.
Retaining ring	Carbon steel (1.0570) or 1.4404 stainless, 14" – 24" only.
Connections	Wafer, for flanges to ASME B16.5 Class 150, horizontal or vertical installation. Face-to-face to ASME B16.10; overall lengths to EN 558-1 series 20.
Pressure	0.01 psi to 145 psi per the pressure-temperature chart, derated above 300 °F; vacuum service.
Temperature	–40 °F to +400 °F depending on lining. Low-temperature or austenitic steels below +14 °F.
Compliance	Pressure Equipment Directive (PED); FDA-compliant materials; testing to EN 12266-1 leakage rate A / API 598; linings high-voltage tested at 35 kV for freedom from pores; marking to EN 19; certificates to EN 10204 3.1, 2.2 or 2.1.

Source: Swissfluid USA PM 42 us 2025-06.



Main features

- Optimized design
- Two- or three-piece body in WCB, RAL 5005 epoxy coated, or fully CF8M stainless
- Linings and encapsulations in PFA or PFA-AS
- Discs PFA-encapsulated, or solid in SS316L, titanium Gr. 2 or alloy C
- Easy installation into existing piping; silent operation, maintenance-free
- Centering eyes for secure positioning
- Flap disc secured against falling out
- Face-to-face to ASME B16.10

Ordering code

Build a code from left to right; a standard valve is **SSC · size · Class 150 · G10 · A85 · U85**. Some selections require or exclude others; we check every code before it goes to the factory.

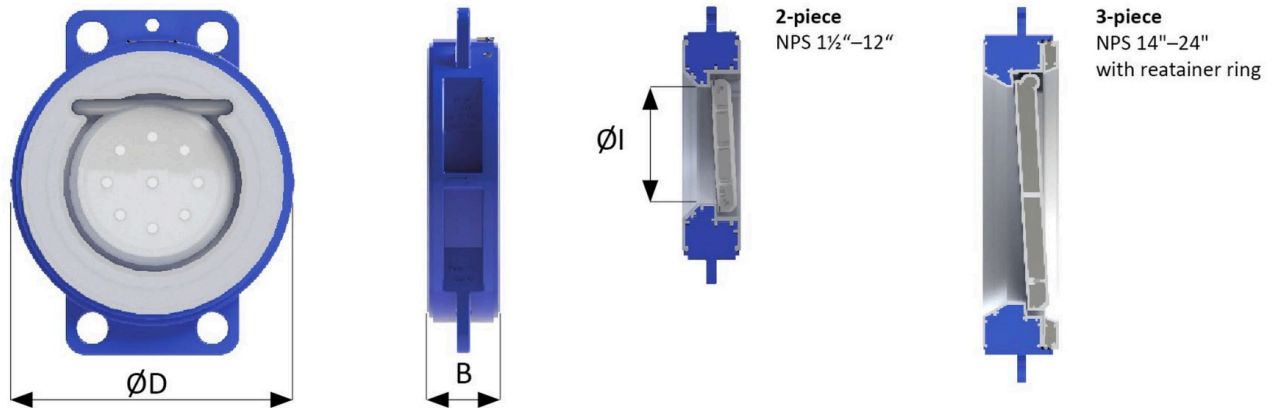
Size	1½"-24" NPS 1½" – 24"
Flange connection	Class 150 ASME Class 150 · Class 300 ASME Class 300
Body	G10 WCB carbon steel · G15 CF8M stainless
Body lining	A85 PFA · A86 PFA-AS conductive
Disc	U85 PFA · U86 PFA-AS · S34 SS316L · S40 Ti Grade 2 · S41 Ti Grade 7 · S43 alloy C-276
Options	RAL special coating · GC grounding cable

Data and codes: Swissfluid USA PM 42 us 2025-06.

SSC PFA-Lined Swing Check Valves

Dimensions, Options, Construction and service

swissfluid
USA



Dimensions, inches · wafer

Size	B width	Ø D	Ø I	Weight lbs
1½"	1.30	3.22	0.87	2.42
2"	1.69	3.97	1.18	4.62
3"	1.81	5.23	2.00	7.93
4"	2.04	6.37	2.83	12.12
6"	2.20	8.54	4.37	19.84
8"	2.36	10.55	6.10	30.86
10"	2.68	12.79	7.99	46.29
12"	3.07	14.76	9.96	72.75
14"	3.62	17.20	11.02	143.00
16"	4.01	19.17	11.81	167.55
18"	4.49	21.14	13.78	253.53
20"	5.00	23.38	15.75	335.10
24"	6.06	27.32	19.61	462.97

Wafer width B per EN 558-1 series 20, for ASME B16.5 Class 150 flanges; Class 300 by ordering code. Source: Swissfluid USA PM 42 us 2025-06.

Note. Pressure-temperature derating on the Swissfluid chart; confirm the rating above 300 °F with the factory.

Options

- **Body** CF8M stainless steel
- **Lining** PFA-AS conductive
- **Solid discs** Titanium Gr. 2 (3.7035) or alloy C; SS316L and titanium Gr. 7 per the ordering code

- **Encapsulated disc** PFA-AS conductive
- **Flanges** Class 300 per the ordering code
- **Grounding cable** Code GC
- **Special coating** RAL color to order

Construction. Two-piece (1½" – 12") or three-piece (14" – 24") wafer body in epoxy-coated WCB or CF8M, PFA lining to ASTM D3307, PFA-encapsulated disc on a duplex 1.4469 stainless core, retaining ring in carbon steel 1.0570 or 1.4404 stainless on 14" – 24".

Typical service. Non-return flow control of corrosive fluid media in process piping, installed horizontally or vertically.

SSP PFA-Lined Sight Glasses

NPS ½" – 6" · Class 150 · DIN and ANSI types · WCB or CF8M body

swissfluid
USA

A PFA-lined flow indicator for virtually all process media, liquid or gaseous. Modular design in DIN or ANSI types: a sturdy cast WCB or CF8M body with PFA or PFA-AS lining, borosilicate window plates to DIN 7080, a wide chambered flange sealing surface that needs no additional flange gaskets, and a standard drip ledge that shows even minute flows.

Design

Sizes	NPS ½" – 6". Other sizes and materials on request.
Body and flanges	Cast steel 1.0619 (WCB), RAL 5005 signal-blue epoxy coated, or stainless steel casting 1.4408 (CF8M).
Lining	PFA standard; PFA-AS (antistatic, conductive) to order. Every lining high-voltage tested at 35 kV for freedom from pores.
Glass plates	Borosilicate 8488 to DIN 7080 standard; glass plate for PN 40, metal-reinforced glass and quartz glass to order. FEP glass protection sheet to order.
Gasket and bolting	C-4400 asbestos-free gaskets; SS304 bolting (A2-70 hex head screws).
Connections	Flanges to ASME B16.5 Class 150; Class 300, PN 16, PN 40 and JIS 10K in the product code. Face-to-face to DIN EN 558-1 Range 1 / ASME B16.10. Horizontal or vertical installation.
Pressure	0.01 psi to 232 psi, depending on size, pressure and temperature; vacuum service. Pressure-temperature chart on the Swissfluid sheet.
Temperature	–40 °F to +400 °F depending on lining material. Low-temperature or austenitic steels required below +14 °F.
Compliance	FDA-compliant; conformity with the European Pressure Equipment Directive (PED); pressure and tightness testing to EN 12266-1 leakage rate A / API 598; marking on body and name plate to EN 19; material and test certificates to EN 10204 3.1 / 2.2 / 2.1.

Source: Swissfluid USA PM 31 us 2025-05.



Main features

- Heavy-duty, proven construction, maintenance-free
- Horizontal or vertical installation, flanges to ASME B16.5 Class 150
- No additional flange gaskets: wide, chambered flange sealing surface
- Standard drip ledge indicates even minute flows
- Large sight glass opening for optimum monitoring
- Grounding connection as standard
- Linings high-voltage tested at 35 kV
- FDA-compliant

Options

- **Glass plates** Metal-reinforced (Gr), quartz (Gq) or PN 40 (Gb40) in place of the standard DIN 7080 borosilicate
- **FEP glass protection sheet** FEP protective film. Code Gf
- **Visual flow indicator for gases** PTFE ribbon. Code Op
- **Grounding cable** Code GC
- **Conductive lining** PFA-AS antistatic. Code A86
- **Stainless body** CF8M. Code G15
- **Flange connections** Class 300, PN 16, PN 40, JIS 10K
- **Special coating** RAL color to order. Code RAL
- **Bolting** B7 body screws. Code B7

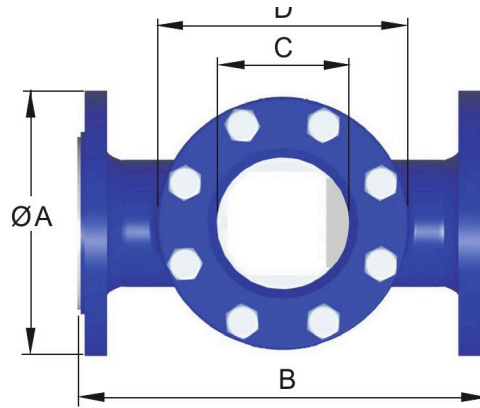
Construction. PFA-lined WCB body and two WCB flanges, RAL 5005; two borosilicate 8488 glass plates to DIN 7080; two C-4400 gaskets; sixteen A2-70 stainless hex head screws; A2 stainless name plate and hammer screws; grounding connection.

Typical service. Reliable flow indication for virtually all process media, liquid or gaseous.

SSP PFA-Lined Sight Glasses

Dimensions and ordering code

swissfluid
USA



Dimensions, inches

Size	B face-to-face	Ø C	D	Glass Ø × thickness (mm)	Weight lbs
½"	5.12	1.30	□ 2.76	45 × 10	6.17
¾"	5.91	1.30	□ 2.76	45 × 10	7.05
1"	6.00	1.89	□ 3.35	63 × 10	12.79
1½"	7.00	2.56	□ 4.33	80 × 12	19.40
2"	8.00	3.15	□ 4.72	100 × 15	27.12
2½"	8.50	3.15	Ø 6.89	100 × 15	67.68
3"	9.50	3.94	Ø 7.48	125 × 20	57.98
4"	11.50	4.92	Ø 8.27	150 × 25	79.59
6"	14.00	7.87	Ø 11.42	225 × 25	136.91

Face-to-face to EN 558-1 range 1 or ASME B16.10 as tabulated on the sheet. Flanges to ASME B16.5 Class 150; 2½" and 3" with tapped holes 5/8" UNC, 6" with 3/4" UNC. Source: Swissfluid USA PM 31 us 2025-05.

Note. Body flanges: 2½" and 3" ANSI with threaded holes 5/8" UNC, 6" ANSI with threaded holes 3/4" UNC. Pressure-temperature derating on the Swissfluid chart.

Ordering code

Build a code from left to right; a standard unit is **SSP · size · Class 150 · G10 · A85 · Gb**. Some selections require or exclude others; we check every code before it goes to the factory.

Nom. size	½"-6" NPS ½" – 6"
Flange connection	Class 150 ASME B16.5 Class 150 · Class 300 Class 300 · PN 16 PN 16 · PN 40 PN 40 · JIS 10K JIS 10K
Body	G10 WCB carbon steel · G15 CF8M stainless
Lining body	A85 PFA · A86 PFA-AS conductive
Glass plate	Gb glass plate PN 16 · Gb40 glass plate PN 40 · Gr reinforced glass · Gq quartz glass
Options	Op visual flow indicator · RAL special coating · GC grounding cable · B7 body screws B7 · Gf FEP protective film

Data and codes: Swissfluid USA PM 31 us 2025-05.

SSP-T Tubular Sight Glasses

NPS ½" – 6" · Class 150 · full 360° view · PFA-lined or unlined SS316L flanges

swissfluid
USA

A tubular, full-view flow indicator for virtually all process media, liquid or gaseous. A borosilicate 3.3 glass cylinder between SS316L body flanges, PFA-lined or unlined, gives 360° visibility with no dead space along the entire installation length; a metallic collar and a PMMA protection tube around the glass add safety, and the assembly is easy to clean and maintain. The unlined version is designated SST-T.

Design

Sizes	NPS ½" – 6" (DN 15 – 150). Other sizes and materials on request.
Body flanges	Stainless steel SS316L (CF3M). Titanium Gr. 2, titanium Gr. 7, alloy C-276 and alloy C-22 to order.
Lining	PFA standard; PFA-AS (conductive), PVDF, ETFE or unlined to order.
Glass	Borosilicate 3.3 glass cylinder inside a PMMA-XT (acrylic glass) protection tube; borosilicate safety shield to order.
Seals and bolting	PTFE sealing rings (PTFE-AS to order); FPM inserts (VMQ silicone to order); SS316L thread bolts; A4 bolting material (B7 to order).
Connections	Flanges Class 150. Face-to-face lengths as tabulated on the Swissfluid sheet. Vertical or horizontal installation.
Pressure	0.01 psi to 232 psi. Maximum working pressure by size: 232 psi in ½" – 2", 189 psi in 3", 160 psi in 4", 102 psi in 6".
Temperature	+14 °F to +320 °F standard version; –40 °F to +392 °F depending on material selection.
Compliance	FDA-compliant, all versions; pressure and tightness testing to EN 12266-1 leakage rate A / API 598; marking on body and name plate to EN 19; material and test certificates to EN 10204 3.1 / 2.2 / 2.1.

Source: Swissfluid USA PM 35 us 2025-04.



Main features

- Full 360° visibility
- No dead space along the entire installation length
- Vertical or horizontal installation
- Metallic collar for safe installation
- PMMA protective tube for additional safety
- Easy cleaning and maintenance
- FDA-compliant, all versions
- Grounding connection as standard

Options

- **Grounding cable** In addition to the standard grounding connection
- **Flange materials** Titanium Gr. 2, titanium Gr. 7, alloy C-276, alloy C-22
- **Lining** PFA-AS conductive, PVDF, ETFE or unlined. Codes A86, A88, A91
- **Sealing ring** PTFE-AS. Code B82
- **Insert** VMQ silicone. Code E68
- **Safety shield** Borosilicate in place of PMMA. Code S57
- **Bolting** B7 screw material

SSP-T Tubular Sight Glasses

Dimensions and ordering code, Construction and service

swissfluid
USA



Dimensions, inches

Size	B length	Weight lbs	PS max, psi
½"	5.11	4.0	232
¾"	5.90	5.4	232
1"	6.29	6.3	232
1½"	7.87	9.4	232
2"	9.05	13.7	232
3"	12.2	24.7	189
4"	13.77	36.0	160
6"	18.89	74.7	102

Lengths as tabulated on the Swissfluid sheet; confirm the installation length when ordering. Source: Swissfluid USA PM 35 us 2025-04.

Note. Maximum working pressure falls with size: 232 psi ½" – 2", 189 psi 3", 160 psi 4", 102 psi 6".

Ordering code

Build a code from left to right; a standard unit is **SSP-T · size · Class 150 · G14 · A85 · B80 · E67 · Z57 · S58 · A4**. Some selections require or exclude others; we check every code before it goes to the factory.

Nom. size	DN 15–150 DN 15 – 150 · ½"–6" NPS ½" – 6"
Flange conn.	Class 150 Class 150
Flange	G14 CF3M stainless · Ti Gr. 2 · Ti Gr. 7 · alloy C-276 · alloy C-22
Lining body	A85 PFA · A86 PFA-AS conductive · A88 PVDF · A91 ETFE · unlined
Sealing ring	B80 PTFE · B82 PTFE-AS
Elastomer	E67 FPM · E68 VMQ silicone
Glass cylinder	Z57 borosilicate
Safety shield	S58 PMMA · S57 borosilicate
Screw material	A4 A4 stainless · B7 B7

Data and codes: Swissfluid USA PM 35 us 2025-04.

Construction. Two SS316L body flanges, PFA-lined or unlined; PTFE sealing rings and FPM inserts; borosilicate 3.3 glass cylinder inside a PMMA-XT protection tube; SS316L thread bolts with A4 bolting; grounding connection, grounding cable optional.

Typical service. Reliable flow indication for virtually all process media, liquid or gaseous.

SST Stainless Steel Sight Glasses

NPS ½" – 6" · ANSI 150 lb flanged (SST-FD) or butt-weld (SST-BW) · CF-8M and CF-3M



An unlined stainless steel flow indicator for virtually all process media, liquid or gaseous. A cast CF-8M body for the flanged SST-FD or a welded CF-3M body for the butt-weld SST-BW, with borosilicate window plates to DIN 7080 seated on a PTFE-T primary and C-4400 secondary gasket, a standard drip ledge and a large observation opening.

Design

Sizes	½" – 6" (DN 15 – 150). Other materials or dimensions, e.g. ANSI lengths, on request.
Body	SST-FD flanged: stainless steel casting 1.4408 (CF-8M), one-piece in ½" – 2". SST-BW butt-weld: welded 1.4404 (CF-3M); welded bodies have a CF-3M middle part with SS316L (1.4404 or 1.4435) flanges.
Cover flanges	Stainless steel casting 1.4408 (CF-8M).
Glass plates	Borosilicate 8488 to DIN 7080 standard; PN40 (300 lb) special glass, metal-reinforced glass and quartz glass to order. FEP glass protection sheet to order.
Gaskets and bolting	PTFE-T (modified) primary gasket and C-4400 asbestos-free secondary gasket; SS304 bolting (A2-70 hex head screws).
Connections	Flanges to ANSI 150 lb; DIN PN16 / PN40 optional, ANSI 300 lb and JIS 10K in the product code; flanges with groove form N to DIN 2512 to order. Butt-welding ends to DIN 2448 / EN 12627. Face-to-face FD to DIN EN 558-1 Range 1, BW to DIN EN 12982. Horizontal or vertical installation.
Pressure	0.01 psia to 232 psi.
Temperature	–40 °F to +450 °F.
Compliance	Conformity with the European Pressure Equipment Directive (PED); pressure and tightness testing to EN 12266-1 leakage rate A / API 598; marking on body and name plate to EN 19; material and test certificates to EN 10204 3.1 / 2.2 / 2.1.

Source: Swissfluid USA PM 32 us 2018-9.



Main features

- Heavy-duty, proven construction, maintenance-free
- Horizontal or vertical installation, flanges to ANSI 150 lb (DIN PN16/40 optional)
- Flanged SST-FD or butt-weld SST-BW body
- Standard drip ledge indicates even minute flows
- Large observation opening
- Double gasket: PTFE-T primary, C-4400 secondary
- Borosilicate window plates to DIN 7080

Ordering code

Build a code from left to right; a standard unit is **SST · 2" · ANSI150# · FD · G15 · Gb**. Some selections require or exclude others; we check every code before it goes to the factory.

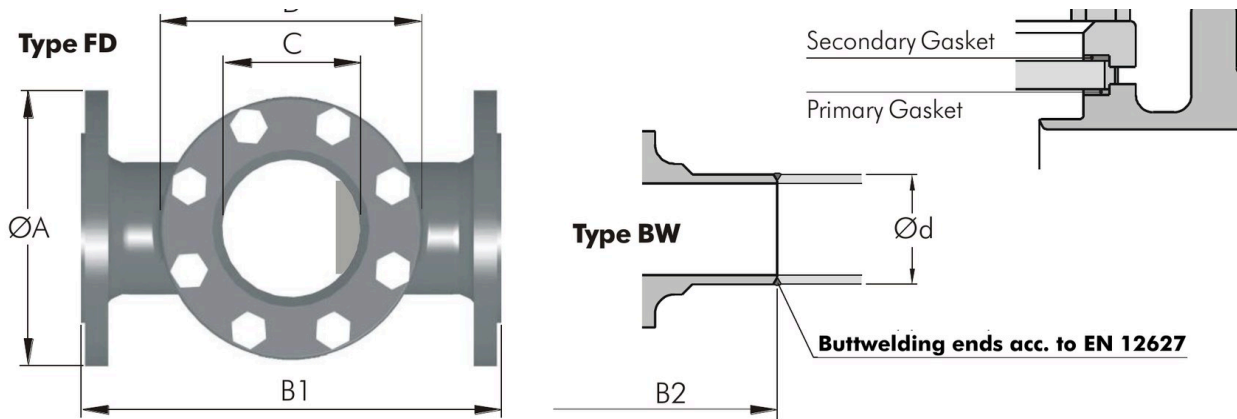
Nom. size	½"–6" NPS ½" – 6" · DN15–150 DN 15 – 150
Flange conn.	ANSI150# ANSI 150 lb · ANSI300# ANSI 300 lb · PN16 PN16 · PN40 PN40 · JIS 10K JIS 10K
Type	FD flanged · BW butt-weld
Body	G15 CF-8M · G14 CF-3M
Glass plate	Gb glass plate PN16 · Gb40 glass plate PN40 · Gr reinforced glass · Gq quartz glass
Options	Gf FEP protection sheet · Op visual flow indicator

Data and codes: Swissfluid USA PM 32 us 2018-9.

SST Stainless Steel Sight Glasses

Dimensions, Options, Construction and service

swissfluid
USA



Dimensions, inches · type FD flanged and type BW butt-weld

Size	B1 flanged	B2 butt-weld	Ø C	Ø d	Glass Ø × thickness	lbs flanged	lbs butt-weld
½"	5.12	5.12	1.30	0.84×0.08	1.77×0.39	5.72	3.30
¾"	5.91	5.91	1.30	1.06×0.09	1.77×0.39	7.48	3.96
1"	6.30	6.30	1.89	1.33×0.10	2.48×0.39	10.34	5.72
1¼"	7.09	7.09	1.89	1.67×0.10	2.48×0.39	15.18	6.82
1½"	7.87	7.87	2.56	1.90×0.10	3.15×0.47	16.28	8.58
2"	9.06	9.06	3.15	2.37×0.11	3.94×0.59	21.34	11.22
2½"	11.42	11.42	3.15	3.00×0.11	3.94×0.47	38.50	22.00
3"	12.20	12.20	3.94	3.5×0.13	4.92×0.79	55.00	34.10
4"	13.78	13.78	4.92	4.5×0.14	5.90×0.98	83.60	55.00
6"	18.90	18.90	7.87	6.63×0.18	8.86×1.18	121.00	86.90

B1 per EN 558-1 range 1, B2 per EN 12982 (DIN lengths); ANSI lengths on request. Source: Swissfluid USA PM 32 us 2018-9.

Note. Welded bodies have a CF-3M middle part and SS316L flanges; in ½" – 2" the flanged body is a one-piece CF-8M casting and the butt-weld body CF-3M.

Options

- **Glass plates** Metal-reinforced (Gr), quartz (Gq) or PN40 / 300 lb special glass (Gb40) in place of the standard DIN 7080 borosilicate
- **FEP glass protection sheet** Code Gf
- **Visual flow indicator for gases** PTFE ribbon. Code Op
- **Grooved flanges** Groove form N to DIN 2512
- **Flange connections** ANSI 300 lb, PN16, PN40, JIS 10K
- **Butt-weld ends** SST-BW, CF-3M body, ends to DIN 2448 / EN 12627. Code BW

Construction. CF-8M cast body (FD) or welded CF-3M / SS316L body (BW), two CF-8M cover flanges, two borosilicate 8488 glass plates to DIN 7080, two PTFE-T primary and two C-4400 secondary gaskets, sixteen A2-70 stainless hex head screws, A2 stainless name plate and hammer screws.

Typical service. Reliable flow indication for virtually all process media, liquid or gaseous.

SIV Inline Sampling Valves

NPS ½" – 6" · wafer-style or flanged · Class 150 · Class 300, PN16/40 and JIS 10K to order

swissfluid
USA

An inline valve for safe and representative sampling of corrosive, aggressive or toxic media from pipelines, pressurized or under vacuum, without interrupting the process. Wafer-style or flanged body in CF-8M stainless, unlined or PFA-lined, dead-space-free with a very short outlet path: the spindle lifts out of a tapered seat to fill a lab bottle, then closes and the valve is dead-space-free again. Operated by handwheel, spring-to-close handwheel or spring-return deadman lever.



Design

Sizes	NPS ½" – 6" (DN15 – DN150). Flanged (SIVF) or wafer-style (SIVW); wafer bodies are combined for DIN/ANSI.
Body	Stainless steel casting 1.4408 (CF-8M), unlined or lined with PFA or PFA-AS (conductive), lining wall thickness min. 3 mm. SS316L body to order.
Spindle	SS316L (1.4404); PFA or PFA-AS encapsulated on lined valves, solid SS316L or alloy C to order. Stroke adjustment for precise small sample volumes.
Spindle seal	Maintenance-free stuffing box (Sb) or bellows seal (Bs) with replaceable grooved spindle gasket; PTFE/glass/MoS2 packing on lined valves. Bellows in SS316Ti (1.4571) with graphite gasket.
Bottle adapter	PTFE-R glassfibre-reinforced, horizontal or vertical, with vent connection, PVDF elbow and FEP-encapsulated O-ring; PTFE-T-AS or SS316L to order. Bottle threads GL45 or GL32 to DIN 168-1.
Connections	Flanges to ASME B16.5 Class 150; ANSI 300 lbs, PN16/40 and JIS 10K to order; face-to-face to ASME B16.10. Groove, clamp or butt-welding ends to order.
Pressure	0.01 psia to 580 psi (unlined body with bellows seal and spring-return handwheel); 232 psi lined or with collector; 145 psi with piston injector. Pressure-temperature chart on the Swissfluid sheet.
Temperature	–40 °F to +400 °F depending on lining material.
Compliance	Dead-space-free design conforming to TA-Luft; testing to EN 12266-1 leakage rate A / API 598; marking to EN 19; certificates to EN 10204 3.1/2.2/2.1; conformity to the European Pressure Equipment Directive (PED).

Source: Swissfluid USA PM 83 us 2018-9.

Main features

- Dead-space-free wafer-style or flanged body, extremely short outlet path for a representative sample
- Handwheel, spring-to-close handwheel (top or lateral) or spring-return deadman lever, fail-safe close
- Installation in any position, horizontal or vertical pipelines
- PFA or PFA-AS (conductive) linings and spindle encapsulations
- Spindle stroke adjustment for precise small sample volumes
- Maintenance-free stuffing box or bellows seal, replaceable spindle gasket
- Flanges to ASME B16.5 Class 150; DIN to order
- Modular: bottle, collector or piston-injector sampling

SIV Inline Sampling Valves

Versions, Options, Ordering code



Versions

SIV with bottle The standard valve samples directly into a laboratory bottle on a PTFE-R adapter with GL45 or GL32 thread to DIN 168-1. Turning the handwheel counter-clockwise, or lifting the deadman lever, raises the spindle out of its tapered seat and the sample flows into the bottle while trapped air escapes through the vent connection; turning back pushes the spindle into the seat and the valve is dead-space-free again. ½" – 6", 0.01 psia to 580 psi, –40 °F to +400 °F.

SIV with collector (SC) For critical and heavy-duty applications a stainless collector replaces the bottle adapter: wafer-style valve in 1.4408/1.4404 with deadman lever, collector in SS316L with 1.4408 handwheel, stainless needle valve and a safety plug in PP or PTFE-R. Standard sample volume approx. 100 ml (3.4 oz), with outlet nozzle/safety cap and lab holder available. 1" – 6", 0.01 psia to 232 psi, –40 °F to +400 °F; special versions on request.

SIV with piston injector (PI) A piston injector (syringe) in place of the bottle adapter: flanged valve in CF-8M/1.4404 or PFA-lined with spring-return lateral handwheel (deadman lever optional), and a stainless, PFA-lined syringe unit with borosilicate glass cylinder. Standard sample volume 100 ml (3.4 oz). ½" – 6", 0.01 psia to 145 psi, –40 °F to +400 °F; other materials, sizes and volumes on request.

Options

- **Heating jacket** Body with heating jacket
- **Needle adapter** For lab bottle with septum
- **Bottle adapter** PTFE-R, PTFE-T-AS or SS316L; horizontal or vertical; GL45 or GL32 thread
- **Bottle support** Adjustable
- **Safety cabinet** With inspection windows
- **Flange versions** Groove, ANSI 300 lbs, PN16/40, clamp or butt-welding ends
- **Vertical adapter, sealing plug, activated carbon filter**
- **Metal safety basket** With spring-loaded plate
- **Collector or piston injector** In place of the standard bottle adapter (codes SC and PI)
- **Actuation** Pneumatic linear-stroke actuator, single-acting fail-close

Ordering code

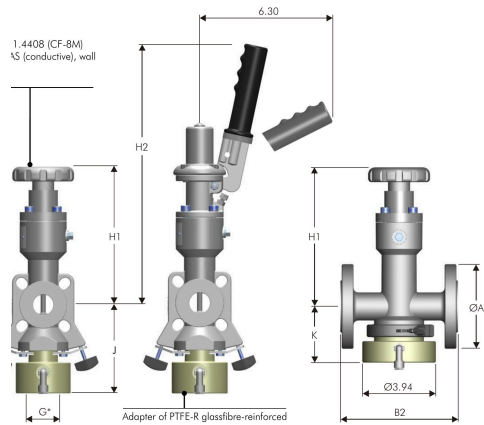
Build a code from left to right; a standard valve is **SIVF · 2" · ANSI150# · G15 · A85 · U85 · Sb · HW · H95 · 45**. Some selections require or exclude others; we check every code before it goes to the factory.

Product	SIVF flanged · SIVW wafer (bodies combined for DIN/ANSI)
Nom. size	½" – 6" NPS · DN15 – 150 DN
Flange conn.	ANSI150# ASME Class 150 · ANSI300# ASME Class 300 · PN16 PN16 · JIS 10K JIS 10K
Body	G15 CF-8M · G34 SS316L
Lining body	A85 PFA · A86 PFA-AS conductive
Spindle	U85 PFA · U86 PFA-AS · S34 SS316L · S44 alloy C
Spindle sealing	Sb stuffing box · Bs bellows seal
Actuation	HW handwheel · HS-S handwheel, spring, lateral · DL deadman lever
Bottle adapter	H95 PTFE-R horizontal · H97 PTFE-T-AS horizontal · H32 SS316L horizontal · V95 PTFE-R vertical · V97 PTFE-T-AS vertical · V32 SS316L vertical
Bottle thread	45 GL45 · 32 GL32
Accessories (tick)	body with heating jacket · needle adapter · bottle support, adjustable · safety cabinet · vertical adapter

SIV Inline Sampling Valves

Dimensions

swissfluid
USA



SIV with bottle · dimensions, inches

Size	B1 wafer	B2 flanged	H1	H2	Wafer lbs	Flanged lbs
½"	2.44	6.30*	7.64	13.90	9.02	10.78
¾"	2.44	6.30*	7.64	13.90	9.02	10.78
1"	2.44	6.50*	7.40	13.66	9.02	13.38
1½"	2.44	6.50	7.72	13.98	10.34	16.92
2"	2.44	7.00	7.95	14.21	11.88	19.48
3"	2.44	8.00	9.02	15.28	12.98	29.92
4"	2.44	9.00	9.69	15.94	31.24	37.28
6"	2.44	10.50	10.39	16.89	45.10	54.70

Face-to-face to ASME B16.10 per the sheet; * ½", ¾" and 1" lengths (6.30, 6.30, 6.50) are not B16.10 lengths; confirm the installation length when ordering. Flanges to ASME B16.5 Class 150. Weights with handwheel. Source: Swissfluid USA PM 83 us 2018-9.

Note. The Swissfluid sheet labels the collector and syringe versions SC and PI.

Data: Swissfluid USA PM 83 us 2018-9.

SIV Inline Sampling Valves

Construction and service, Dimensions



Construction. Wafer or flanged body in CF-8M, unlined or PFA-lined; SS316L spindle, PFA-encapsulated on lined valves; grooved spindle seal with PTFE-T seal rings or SS316Ti bellows; SS316L lantern, pressure ring and rotating stop; Belleville spring in spring steel; FPM O-ring and X-ring; PTFE-R bottle adapter with FEP/FPM O-ring and PVDF vent elbow; SS304 clamp or wing-nut clamps; CF-8M/SS316L handwheel or deadman-lever unit.

Typical service. Safe, representative sampling of corrosive, aggressive or toxic media from pipelines under pressure or vacuum, without process interruption; collector or piston injector versions for critical and heavy-duty applications.

SIV with collector (SC) · inches

Size	B face-to-face	H1	K	Flanged lbs	Wafer lbs
½"	6.30*	9.69	2.76	14.96	11.44
¾"	6.30*	9.69	2.76	15.18	11.44
1"	6.50*	9.45	2.99	17.38	11.44
1½"	6.50	9.72	3.27	22.22	12.76
2"	7.00	10.00	3.50	23.32	14.30
3"	8.00	10.55	4.06	38.06	15.40
4"	9.00	11.02	4.57	46.42	33.66
6"	10.50	11.93	5.28	55.88	47.52

* as above. Source: Swissfluid USA PM 83 us 2018-9; 6" row per the metric edition.

SIV with piston injector (PI) · inches

Size	B face-to-face	H1	H2	K	Weight lbs
½"	6.30*	9.69	13.90	1.06	17.60
¾"	6.30*	9.69	13.90	1.06	17.60
1"	6.50*	9.45	13.66	1.30	20.24
1½"	6.50	9.72	13.98	1.57	23.10
2"	7.00	10.00	14.21	1.85	25.30
3"	8.00	10.55	15.28	2.40	33.00
4"	9.00	11.02	15.94	2.87	46.20
6"	10.50	11.93	16.89	3.78	59.40

SSB Full-Port Sampling Ball Valves

NPS ½" – 6" full port · Class 150 · PN16 and PN40 to order

swissfluid
USA

A full-port sampling ball valve for safe, representative sampling of aggressive or toxic liquids from pressurized pipelines without interrupting the process. A fixed sample of approx. 40 ml (1.35 oz) is captured in the ball cavity and isolated from the process as the lockable handle turns 180° between its two stops, then drains into the laboratory bottle through the only opening to atmosphere. CF-8M body, unlined or PFA-lined, with an ISO 5211 flange for direct actuation.



Design

Sizes	NPS ½" – 6" (DN15 – DN150), full port, piggable. Flanged, ASME Class 150; PN16 and PN40 to order.
Body	Stainless steel casting 1.4408 (CF-8M), unlined or lined with PFA or PFA-AS (conductive). Lining tested for porosity at 35 kV.
Ball	Duplex stainless (1.4462) encapsulated in ETFE, with a 40 ml cavity; PFA-AS encapsulation, solid SS316L or alloy C-276 to order.
Seats	PFA, spring-loaded by Belleville springs in spring steel; PFA-AS, PTFE, PTFE-T or PTFE-R to order.
Topworks	Zero stem leakage by an innovative stem sealing mechanism. Lockable SS316L hand lever with two stops for 180° motion; operating torque 180 in-lbs, all sizes. ISO 5211 flange (Ø14-DD11-F05) for direct mounting of pneumatic or electric actuators.
Adapter	GL45 horizontal adapter in PTFE-R/PVDF standard; vertical adapter to order.
Pressure	0.01 psi to 232 psi depending on size, lining and temperature. Pressure-temperature chart on the Swissfluid sheet.
Temperature	–40 °F to +300 °F (+400 °F), depending on lining material; the chart shows separate lined and unlined curves.
Compliance	Testing to EN 12266-1 leakage rate A / API 598; marking to EN 19; certificates to EN 10204 3.1/2.2/2.1; conformity to the European Pressure Equipment Directive (PED).

Source: Swissfluid USA PM 84 us 2021-07.

Main features

- Full-port design, no pressure drop, piggable
- Fixed sample volume of approx. 40 ml (1.35 oz), isolated from the process as the valve is operated
- Only one opening to the atmosphere
- Lockable handle with two stops for easy 180° motion
- ISO 5211 flange for direct automation with pneumatic or electric actuators
- Zero stem leakage by an innovative stem sealing mechanism
- Easy maintenance, same spare parts for all sizes

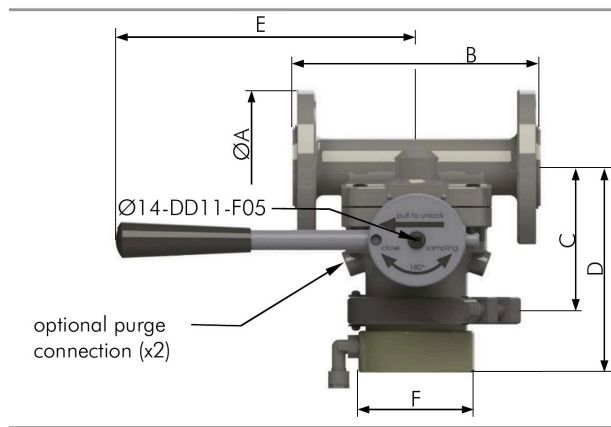
Options

- **Purge connection** Two connections on the body (code Pu)
- **Vertical adapter**
- **Actuation** Pneumatic or electric actuator, with optional timer unit
- **Bottle support** Adjustable, with spring-loaded plate
- **Safety cabinet** Stainless or PP, with windows
- **Activated carbon filter**
- **Sealing plug**
- **Safety lock** Prevents unauthorised operation of the valve
- **RAL Special paint**

SSB Full-Port Sampling Ball Valves

Dimensions

swissfluid
USA



Dimensions, inches

Size	B face-to-face	C	D	E	F	Torque in-lbs	Valve lbs
½"	6.3*	3.8	5.5	10	3.1	180	10
¾"	6.3*	3.9	5.6	10	3.1	180	11
1"	6.5*	3.9	5.6	10	3.1	180	11
1½"	6.5	4.2	5.9	10	3.1	180	14
2"	7.0	4.4	6.1	10	3.1	180	17
3"	8.0	5.0	6.7	10	3.1	180	27
4"	9.0	4.4	7.2	10	3.1	180	42
6"	11.0*	6.5	8.2	10	3.1	180	57

Weights are for the valve without its lever (lever 2.0 lbs every size). The sheet names no face-to-face standard; * ½", ¾", 1" and 6" lengths are not ASME B16.10 lengths; confirm the installation length when ordering. Flanges Class 150. Source: Swissfluid USA PM 84 us 2021-07.

Note. Pressure-temperature derating (lined and unlined curves) on the Swissfluid sheet. Adapters and accessories are specified separately.

SSB Full-Port Sampling Ball Valves

Ordering code, Construction and service



Ordering code

Build a code from left to right; a standard valve is **SSB · 1" · ANSI150# · G15 · A85 · E67 · U91 · B85 · options**. Some selections require or exclude others; we check every code before it goes to the factory.

Nom. size	DN15 – 150 DN · ½" – 6" NPS
Body rating	PN16 PN16 · PN40 PN40 · ANSI150# ASME Class 150
Body	G15 CF-8M
Body lining	A85 PFA · A86 PFA-AS · - unlined
Elastomer	E60 EPDM · E67 FPM · E68 VMQ
Ball (encaps./solid)	U91 ETFE · U86 PFA-AS · S34 SS316L · S43 C-276 · XX others
Ball seats	B85 PFA · B86 PFA-AS · B80 PTFE · B81 PTFE-T · B95 PTFE-R
Options	Pu purge connection · RAL special paint · ... others

Data and codes: Swissfluid USA PM 84 us 2021-07.

Construction. Body and ball housing in CF-8M, PFA-lined; ETFE-encapsulated duplex ball; PFA seats, one spring-loaded by four Belleville springs; SS316L pressure sleeve and threaded bushing with PTFE sealing sleeve and carbon steel/PTFE bearing; VMQ elastomer insert; FPM and FFPM O-rings; A2-70 socket-head cap screws and name plate; SS304 clamp; SS316L hand lever; PTFE-R/PVDF GL45 horizontal adapter.

Typical service. Sampling of aggressive or toxic liquids from pressurized pipelines, in horizontal or vertical installation, without process interruption; the line keeps full passage and stays piggable.

SRS Reactor and Vessel Sampling Systems

1" – 4" (DN25 – DN100) · PFA-lined · Class 150 · PN16, PN25 and PN40

swissfluid
USA

Closed systems for safe, representative sampling of liquid media from reactors and vessels, reliable and fast, without process interruption. The self-draining unit is mounted at the top, eliminating the possibility of leakage; liquid is drawn into a borosilicate sight glass by vacuum, overpressure or a diaphragm pump, and the sample is run off through an inline sampling valve into a laboratory bottle. Each system is tailor-made to a detailed specification, with a wide range of accessories on the basic versions.



SRS-P



SRS-P-E



SRS-P-P

SRS-P (PFA-lined)

The basic system. Sampling is carried out via additional fittings by means of vacuum or overpressure. Operating conditions, depending on material selection: main valve 7.25 psi to 232 psi, sight glass unit 7.25 psi to 145 psi; -40 °F to 392 °F.

SRS-P-E for reactors and vessels

For reactors and vessels with neither pressure nor vacuum: an inert-gas ejector (the suction nozzle) draws the sample. Light weight, economical and suitable for almost all vessels and reactors; it can be configured many different ways. The liquid is conveyed with pressure or vacuum through the opened main charge valve into the sight glass. Once the maximum level is reached the main charge valve is closed and the sample is emptied through the inline sampling valve into the laboratory bottle; residual gases are discharged via the vent connection or returned to the process via the gas return line. The main charge valve can be an SDV diaphragm, SBV ball or SCP cylindrical plug valve; suction nozzle and purge connection as shown.

SRS-P-P automated with pump

Suction line and pressure line are separate, allowing a direct and representative sample in the loop. The main valves are automated for easy and safe operation.

SRS-P automated

The fully automated version of the SRS-P, with control panel. It allows pre-purging or cleaning of the entire system and has an integrated pH/temperature or redox port. Robust construction assures easy and safe operation at any time.

SRS-P-P with pump

PFA-lined, with a PTFE diaphragm pump: automation of a loop system. A self-priming compressed-air diaphragm pump circulates the process liquid from the reactor through a suction hose into the sight glass unit and back to the reactor via a loop; during circulation a continuous, representative sample is taken via an inline sampling valve into a lab bottle, with optional integrated pH, temperature or redox measurement, without interrupting the process. The pump generates a constant flow and allows multiple samples in one cycle; separate flow and return lines give greater stability and flexibility for a compact installation. Operating conditions, depending on material selection: main valve 7.25 psi to 232 psi, pump up to 102 psi max.; -40 °F to 248 °F, pump dependent.

Technical data

Versions DIN, ISO, ANSI. Flanges DIN PN16 / PN25 / PN40 or ANSI 150 lbs. Lining PFA or PFA-AS (conductive). Glass cylinder borosilicate. Hollow ball and seat PTFE / FFPM. Sample volume 150 or 250 ml. Pump PTFE or PTFE-AS (conductive). Not for boiling media; loop systems are offered for those.

Options

Main charge valve as SDV diaphragm, SBV ball or SCP cylindrical plug valve; purge connection; vent and gas return line; pH, temperature, redox and seeding connections; needle adapter; safety cabinet; activated carbon filter; metal safety basket; piston injector; control panel on automated versions.

Systems are engineered to the application; send the vessel nozzle, media and sample volume and we will configure one with Swissfluid USA.

Source: Swissfluid brochure Sampling Valves and Systems, 2019 edition.

Main features

- Simple and safe sampling from tanks and reactors
- Application-specific system design, tailor-made to detailed specification
- No dead space for representative sampling
- Compact design
- Advanced system for mounting additional customer-specified components
- User-friendly design with maximum safety
- Permanent monitoring possibility before and during sampling
- Self-draining unit mounted at the top, eliminating the possibility of leakage

Automated Valve Packages

Factory-actuated by Swissfluid · SPA-R and linear stroke actuators · positioners, switches, solenoids



Factory-actuated packages

Swissfluid supplies its ball, plug and butterfly valves, SBV, SCP, SBP and SBE, as factory-actuated packages: the valve with an SPA-R actuator on its ISO 5211 top flange, double-acting or spring-return, with solenoid valve, limit switch box or electro-pneumatic positioner and all mounting parts, set up at the factory, each actuator function- and tightness-tested on an electronic test bench. The SDV diaphragm valve takes a linear stroke actuator the same way; actuators, gearboxes and accessories are specified with the valve order. A factory package is the simplest way to specify an automated Swissfluid valve, and the one we recommend first.

SPA-R Pneumatic Quarter-Turn Actuators

Rack-and-pinion pneumatic actuators for modular mounting onto butterfly, cylindrical plug and ball valves, and as the operating device on automated reactor sampling systems. Cast-aluminum body and cover, at least two ISO 5211 bolt circles and a NAMUR interface.

Sizes	Twelve sizes, TR 050 to TR 420. Double-acting (DA) or single-acting with 3 to 6 spring cartridges per side, spring to close (FC) or spring to open (FO).
Torque	164 to 88,720 in-lbs at 87 psi, TR 050 to TR 420. Double-acting torque tabulated at 14.5 to 145 psi; single-acting start and end torque at 43 to 116 psi, by cartridge count.
Air supply	Filtered air, dry or lubricated, 14.2 psi min. to 116 psi. Connections 1/8" (TR 050), 1/4" (TR 063 – 200), 1/2" (TR 270 – 420).
Operation	90° operating angle, ±5° stroke adjustment; permanent lubrication for min. 1 million cycles; user-defined installation position; 100% function and tightness testing on an electronic test bench.
Materials	Cast-aluminum body and cover with corrosion protection resistant to salt spray for up to 500 hours; cylinder bore finish Ra 0.4 – 0.6 µm; easily replaceable low-friction guide pads. Stainless steel bodies to order.
Temperature	–4 °F to +176 °F. Special actuators for extreme temperatures and any environmental conditions on specified request.
Mounting	Bolt circles to ISO 5211: F03/05 (TR 050, 063), F05/07 (075, 085), F05-10 (100), F07/10 (115, 125), F10/12 (160, 200), F14 (270), F16 (330), F25 (420). NAMUR interface for switch boxes and solenoid valves; visual position indicator.



Main features

- Robust cast-aluminum body and cover, proven rack-and-pinion construction
- Smooth cylinder bore finish (Ra 0.4 – 0.6 µm) for increased life span
- Corrosion protection resistant to salt spray for up to 500 hours
- Easily replaceable guide pads in low-friction materials
- At least two ISO 5211 bolt circles for direct mounting onto valves
- NAMUR interface for limit switch boxes and solenoid pilot valves
- Visual position indicator as an integrated standard item
- Special actuators for extreme temperatures and environments on request

Options

- **Stainless steel body** In place of cast aluminum
- **Limit switch box** Micro or proximity switches, 1 or 2 switches, Ex versions
- **Solenoid valve** 3/2-way or 5/2-3/2-way, zero-current off or on, Ex versions
- **Positioner** Electro-pneumatic 4 – 20 mA (Ex version) or pneumatic 2.9 – 14.5 psi
- **Stroke limiter / manual override**
- **Adapter** Combined with electric position indicator
- **Air train** Filter regulator with pressure gauge, throttling valve, silencer, stainless steel piping
- **Mounting** NAMUR bracket or mounting kit, ISO mounting kit

Data and codes: Swissfluid USA PM 61 us 2018-9.

Marspec's automation shop

When a plant standardizes on a particular actuator, positioner or solenoid valve, or needs a configuration the factory does not offer, Marspec's automation shop in Fairhope joins Swissfluid valves to any make or model of actuator, positioner or solenoid valve. We make the brackets and couplings in house, size the actuator from the valve's breakaway torque with a safety margin of at least 30 %, and stroke, tag and document every package before it ships. Send the valve series and size, the service conditions, the air supply or voltage, the fail position and the accessories you need; we take it from there.

(251) 625-4949 · info@linedpipe.com · linedpipe.com/contact/

How to Order

Quote requests and service from Fairhope



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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