

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.

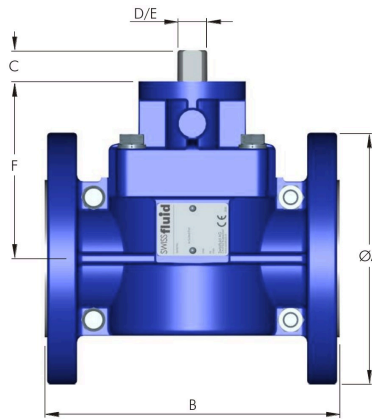
Options

- **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

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Dimensions

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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.

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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.

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Ordering from LinedPipe.Com

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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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Marspec Technical Products, Inc.
24042 US Highway 98, Fairhope, AL 36532
(251) 625-4949
info@linedpipe.com · linedpipe.com

Swissfluid USA, Inc.

10303 Greenland Court
Stafford, TX 77477
swissfluid.com

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