SDV PFA-Lined Diaphragm Valves

NPS ½" – 8" · Class 150 flanged · handwheel standard · sliding spindle or linear stroke actuator (½" – 6")

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 0.12 in (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	To 232 psig (½" – 2"), 145 psig (2½"), 116 psig (3"), 102 psig (4" – 6") and 73 psig (8"; above 43.5 psi consult the factory), derated with temperature. Vacuum to 0.19 psia in ½" – 1½" up to 302 °F (150 °C); larger sizes per the chart (6" and 8" not below about 0.7 psia). Pressure-temperature chart on the Swissfluid sheet.
Temperature	−22 °F to +302 °F (−30 °C to +150 °C) depending on lining. Low-temperature or austenitic steels below +14 °F (−10 °C).
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

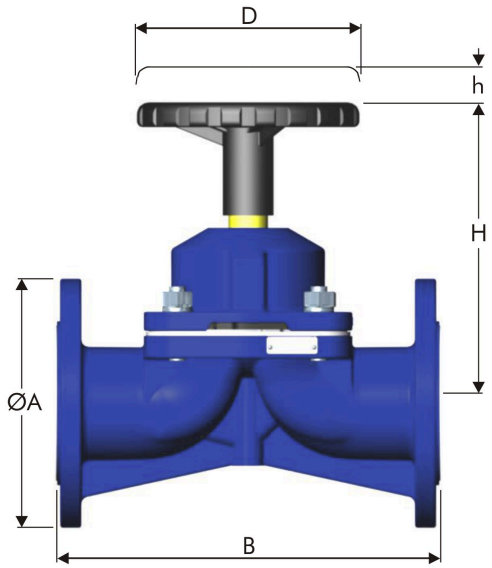
- Heavy-duty, robust construction, maintenance-free
- Bubble-tight shut-off across the full pressure and temperature range
- Spindle protected against atmospheric corrosion
- Force-limiting device protects the diaphragm from cold flow and deformation for long cycle life
- Yellow sight indicator shows 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

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. *LinedPipe.Com note: the diaphragm pattern handles solids, but PFA is chosen for chemistry, not grit; for a chemically compatible abrasive slurry, specify the PVDF lining.*

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Dimensions



Dimensions, inches · with handwheel

Size	B face-to-face	Ø A flange	D handwheel	H	h stroke	PS max, psi	Weight lbs	Cv
½"	5.12*	3.74‡	3.35	4.53	0.31	232	5.50	9
¾"	5.91*	4.13‡	3.35	4.61	0.31	232	6.60	12
1"	5.75	4.25	3.35	4.88	0.39	232	7.70	17
1¼"	7.09*	5.50‡	3.35	5.28	0.47	232	11.44	26
1½"	6.85	5.00	4.72	6.81	0.94	232	13.86	43
2"	7.87	6.00	4.72	7.32	1.18	232	19.80	75
2½"	11.42*	7.28‡	7.09	8.19	1.18	145	29.70	110
3"	10.24	7.50	7.09	9.17	1.34	116	37.18	155
4"	12.87	9.00	9.84	11.10	1.57	102	66.66	232
5"	15.75*	9.84‡	9.84	13.58	2.05	102	94.60	371
6"	16.38	11.00	15.75	16.22	2.36	102	130.90	524
8"	23.62*	13.38‡	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. ‡ DIN-size flange diameter, as Swissfluid's sheet gives it. Source: Swissfluid USA PM 21 us 2019-11.

Note. Pressure-temperature derating per size on the Swissfluid chart.

SDV PFA-Lined Diaphragm Valves

Ordering code, options

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.

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, ½" – 6" (8" on request), 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

Ordering from LinedPipe.Com

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

Request a quote

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

What to tell us

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

Dimensions

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

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