Alfa Laval Aseptic Mixproof Valve

Double seat valves

Concept

The Aseptic Mixproof Valve meets the highest demands of your process in terms of hygiene and safety. Built on the well-proven Unique SSV platform, it features a one-piece diaphragm to ensure hermetic sealing towards the atmosphere. The valve, designed for aseptic processing, is available in any configuration required, including seat lift, temperature sensor, transmitter etc. Maintenance can be performed easily and quickly, which keeps TCO (total cost of ownership) low compared to other technologies in the market.

Working principle

The valve is a pneumatically operated seat valve in a hygienic modular design remote-controlled by means of compressed air. It has just a few simple moveable parts, which makes it a very reliable valve with low maintenance costs. An integrated valve plug/diaphragm ensures aseptic operation. When main actuation (two main valves (NC)) takes place, the two leakage detection valves (NO/NC) must close towards leakage chamber to prevent product spillage.

Application

The Aseptic Mixproof Valve is a double seated valve with reinforced PTFE diaphragms that is designed for mixproof operation, separating two different products flowing through one valve.
All four valves operate simultaneously when the main valve is operated. The design of the two NC product valves ensures that pressure shocks will not open the valves. (Please observe the maximum allowable working pressure for diaphragms).
The product lines are separated by two plugs (two NC valves) and a sterile (barrier) leakage chamber to prevent mixing of products and ensure immediate indication of any leakage from either of the two plug seals.
Two small leakage detection valves (NO/NO or NC/NO) control the flow of steam in and out of the leakage chamber, which must be kept clean and sterile when the main valves are closed.
Optionally, one of the two leakage detection valves can be ordered as a change-over valve to keep the steam flow up and ensure a continuous steam barrier in both leakage detection valves during main actuation of the product valves.
Within our Unique SSV portfolio, it is possible to utilise a change-over valve to control the steam in order to bypass or access a condensate reservoir, which is used to flush the leakage chamber prior to re-establishing the steam barrier.

TECHNICAL DATA

Temperature

Temperature range:	-10°C to +140°C (EPDM)
Max. sterilization temperature (<1 min):	150°C/380 kPa (3.8 bar)

Pressure

Pressure range:	0-800 kPa (0-8 bar)
Air pressure:	500-700 kPa (5-7 bar)
Pressure range, support air:	0-300 kPa / 0-3 bar

Note! Vacuum is not recommended in aseptic applications.

PHYSICAL DATA

Materials

Product wetted steel parts:	1.4404 (316L)
Other steel parts:	1.4301 (304)

Surface finish

External surface finish:	Semi-bright (blasted)
Internal surface finish:	Bright (polished), Ra < 0.8 µm

Seals

Product wetted seals:	EPDM
Optional product wetted seals:	HNBR
Other seals:	NBR
Diaphragm:	PTFE (Product wetted side) / EPDM

Option

Temperature sensor (PT100):	with or without transmitter
Steam valve	Hygienic or Aseptic

Sizes

Main valve ISO:	51 mm; 63.5 mm; 76.1 mm

Authorized to carry the 3A symbol

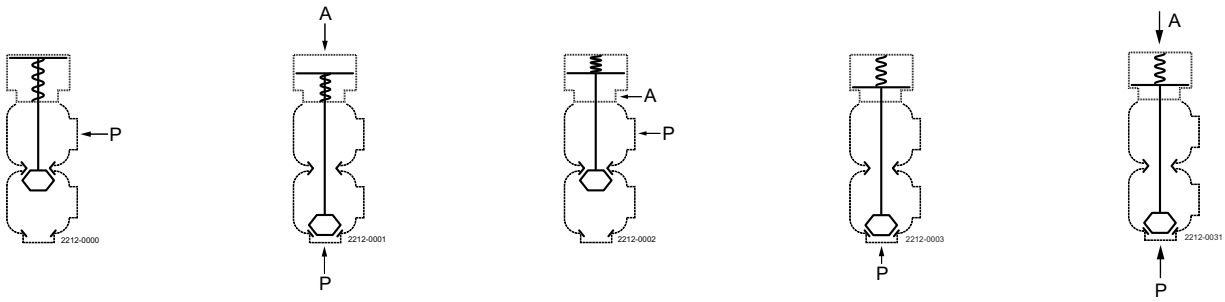
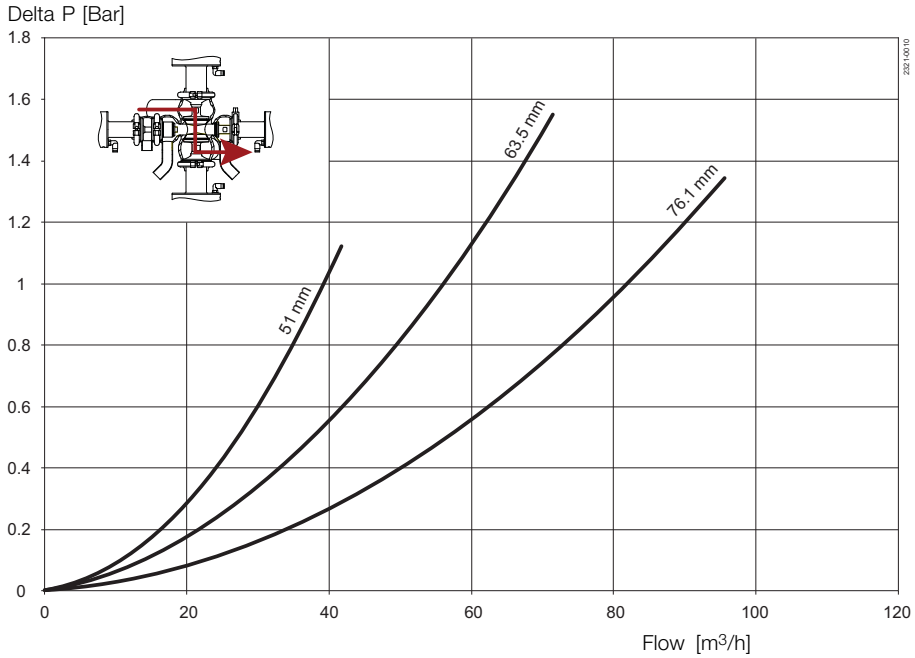


Table 1 - Shut fully closed. Max. static pressure without leakage

Actuator / Valve body combination and direction of pressure	Air pressure (bar)	Plug position	Valve size			
			Main valve			Leakage detection valve
			51mm	63.5mm	76.1mm	25mm
1		NO				8 bar
2	6	NO				8 bar
3	6	NC				8 bar
4		NC	7.5 bar	4.5 bar	7 bar	8 bar
5*	3	NC	8 bar	8 bar	8 bar	

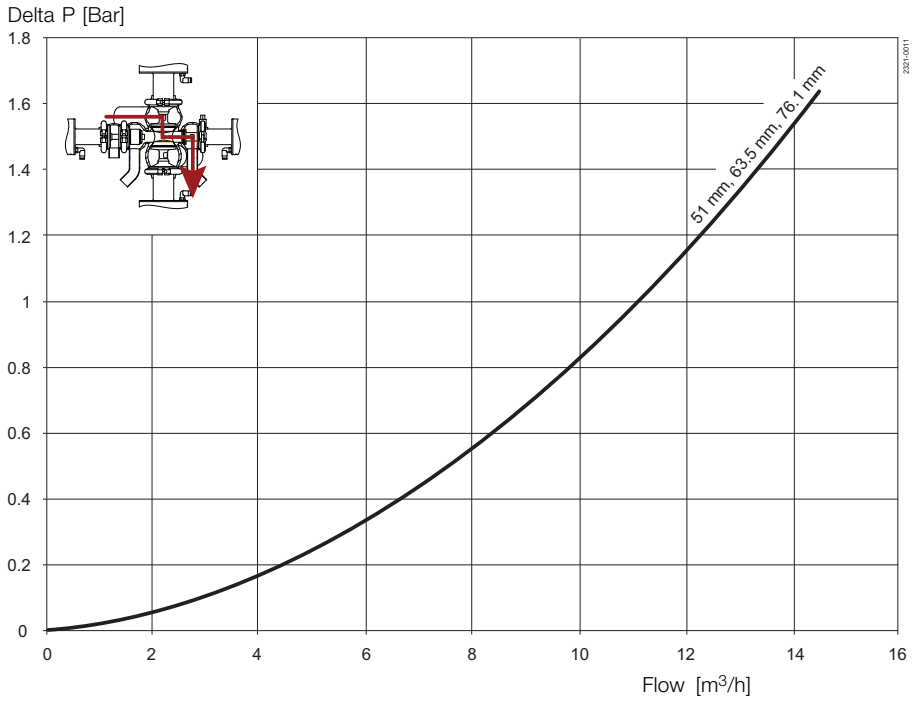
* support air

Pressure drop/capacity diagrams



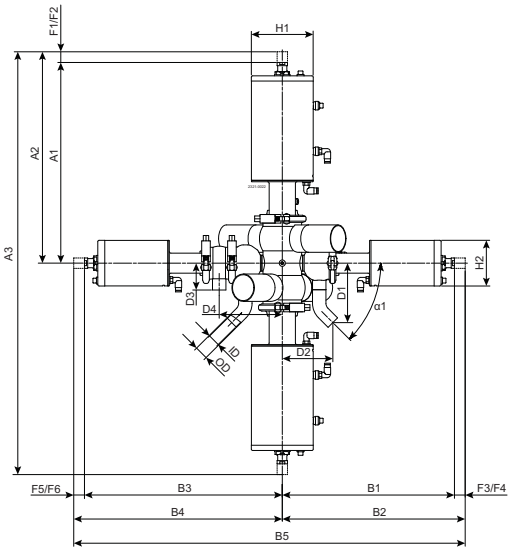
Seat lift

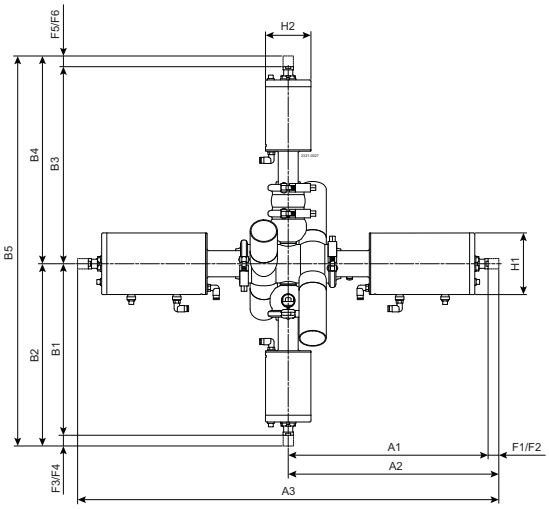
	Kv-Value
51 mm	3.1 m^3/hr
63.5 mm	3.6 m^3/hr
76.1 mm	4.1 m^3/hr

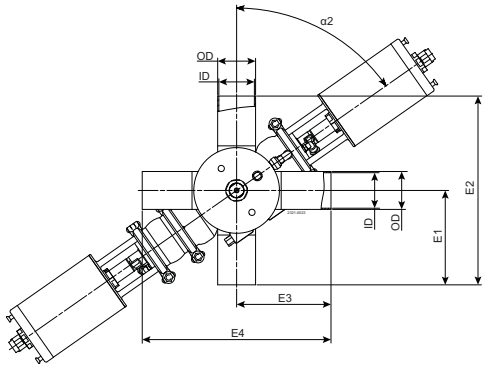


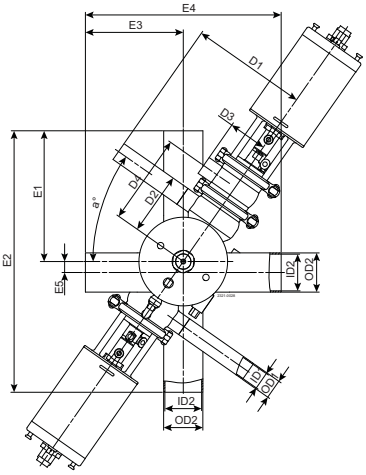
Dimensions (mm)

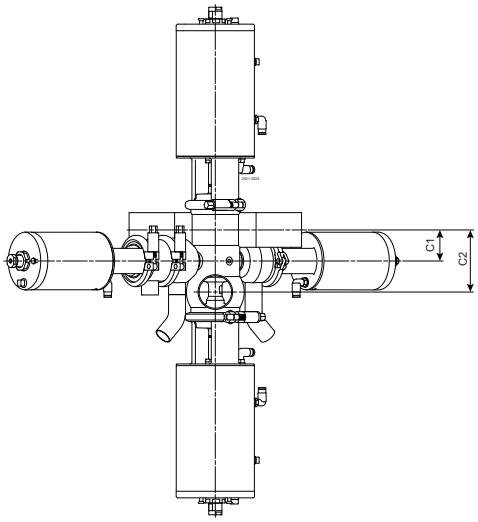
Note: Choose the version that is fully drainable in your installation setup.

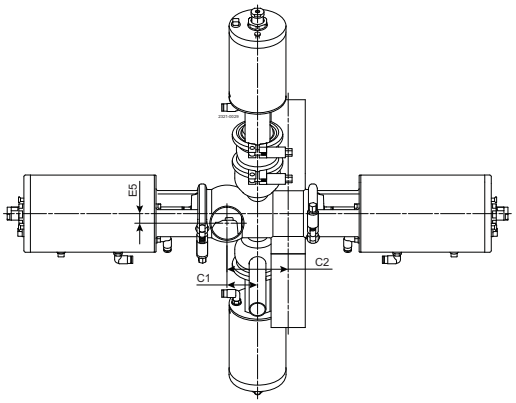












Vertical mount

Horizontal mount

Size	51 mm	63.5 mm	76.1 mm	51 mm	63.5 mm	76.1 mm
	Vertical mount			Horizontal mount		
A1	374	386	440	374	386	440
A2	388	400	457	388	400	457
A3	776	801	914	776	801	914
B1	335	343	350	335	343	350
B2	350	358	366	350	358	366
B3	381	389	396	381	389	396
B4	391	399	407	391	399	407
B5	741	757	772	741	757	772
C1	45.7	52.0	58.3	45.7	52.0	58.3
C2	91.4	103.9	116.5	91.4	103.9	116.5
D1	110.7	110.7	110.7	172.5	172.5	172.5
D2	94.2	102.2	109.7	68.8	76.8	84.3
D3	50	50	50	50	50	50
D4	117.5	125.5	133.0	117.5	125.5	133.0
E1	127	133	139	170.0	216.0	226.0
E2	254	266	278	340.0	432.0	452.0
E3	127	133	139	127	133	139
E4	254	266	278	254	266	278
E5	-	-	-	14.4	18	21.6
α1	45°	45°	45°	-	-	-
α2	55°	55°	55°	55°	55°	55°
F1	14	14	17	14	14	17
F2	2	2	2	2	2	2
F3	10	10	10	10	10	10
F4	15	15	15	15	15	15
F5	8	8	8	8	8	8
F6	12	12	12	12	12	12
H1	115	115	157.5	115	115	157.5
H2	85	85	85	85	85	85
t1	1.2	1.2	1.2	1.2	1.2	1.2
t2	1.6	1.6	1.6	1.6	1.6	1.6
ID1	22.6	22.6	22.6	22.6	22.6	22.6
ID2	47.8	60.3	72.9	47.8	60.3	72.9
OD1	25	25	25	25	25	25
OD2	51	63.5	76.1	51	63.5	76.1
Weight (kg) (max)	29	30	45	29	30	45

How to contact Alfa Laval
Contact details for all countries
are continually updated on our website.
Please visit www.alfalaval.com to
access the information direct.

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