



Alfa Laval Aseptic Mixproof Valve

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 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 chocks will not open the valves. (Please observe the maximum allowable 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 NO/NC) 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:	14°F to +284°F (EPDM)
Max. sterilization temperature:	302°F/380 kPa (3.8 bar)



Pressure

Pressure range:	0-116 psi (0-8 bar)
Air pressure:	72.5-101.5 kPa (5-7 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 <32 µ inch

Seals

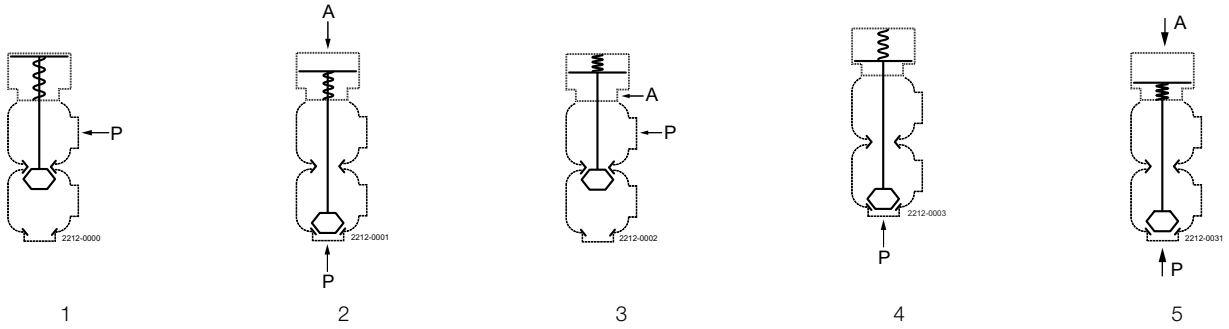
Product wetted seals:	EPDM
Optional product wetted seals:	HNBR
Other seals:	NBR
Diaphragm:	PTFE (Product wetted side) / EPDM

Option

Temperature sensor:	with or without transmitter
Steam valve	Hygienic or Aseptic

Sizes

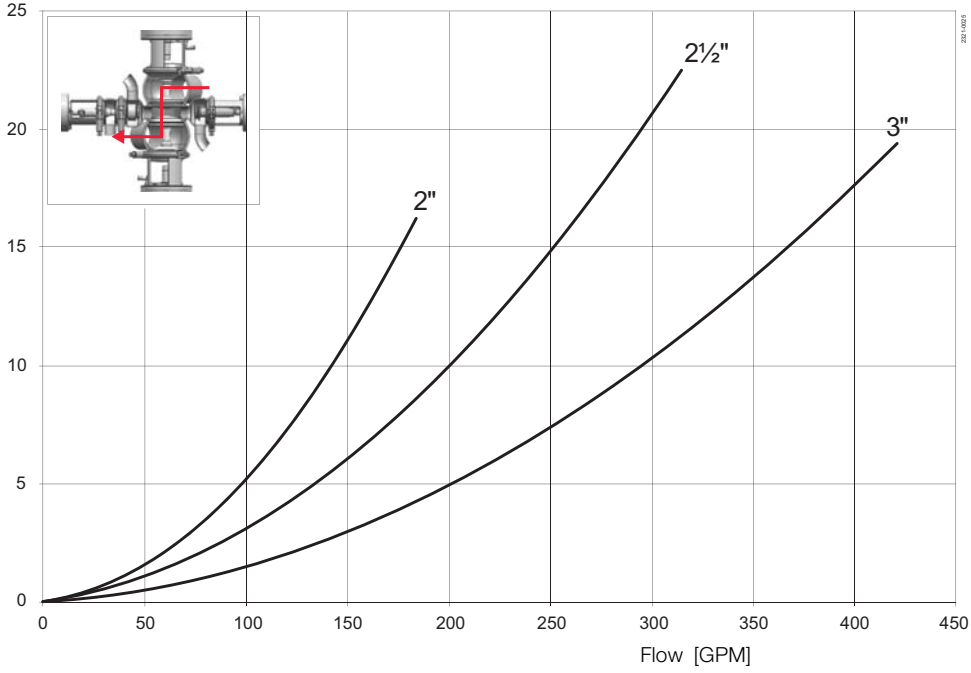
Main valve ISO:	2", 2.5", 3"
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Actuator / Valve body combination and direction of pressure	Air pressure (PSI)	Plug position	Valve size			
			Main valve			Leakage detection valve
			51mm/2"	63.5mm/2.5"	76.1mm/3"	25mm/1"
1		NO				116.0 psi
2	72.5	NO				116.0 psi
3	72.5	NC				116.0 psi
4		NC	104.4 psi	60.9 psi	92.8 psi	116.0 psi
5	72.5	NC	116.0 psi	116.0 psi	116.0 psi	

Pressure drop/capacity diagrams

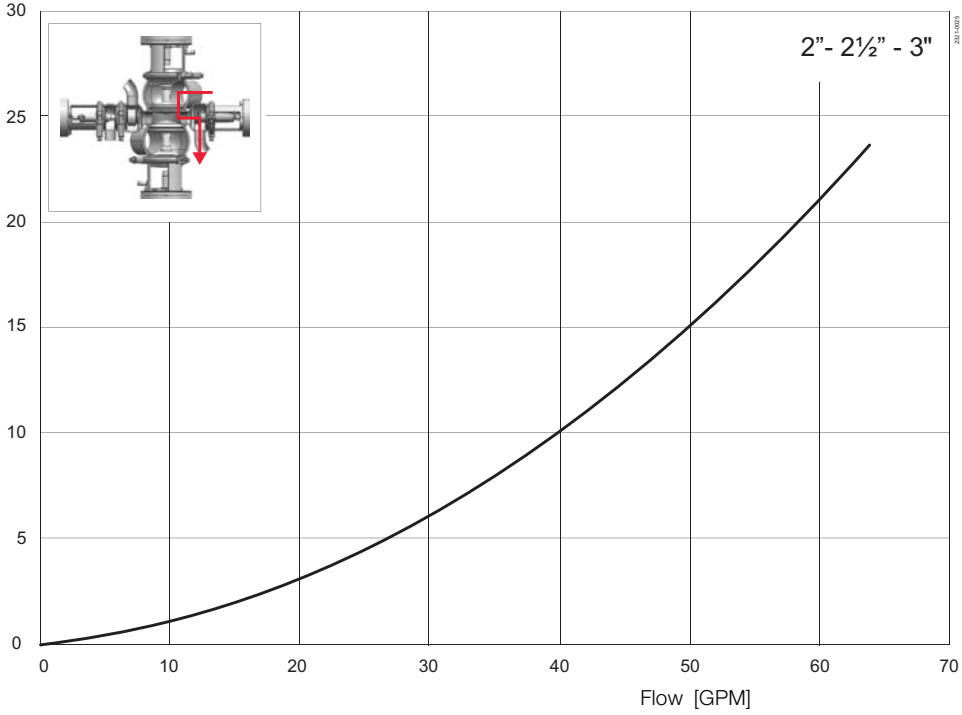
Delta P [PSI]



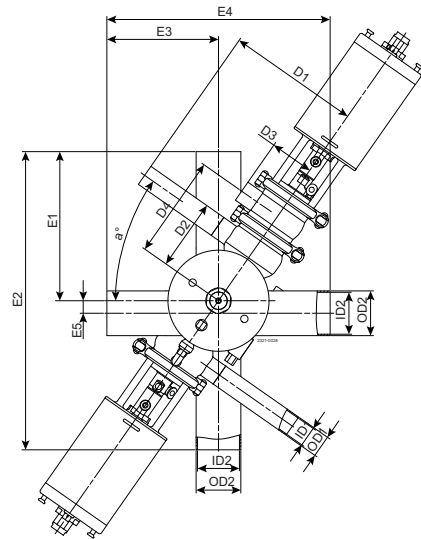
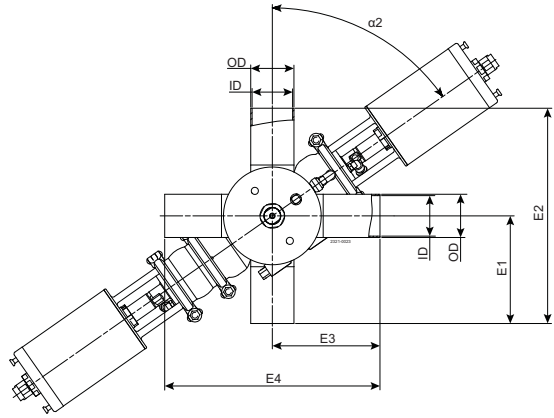
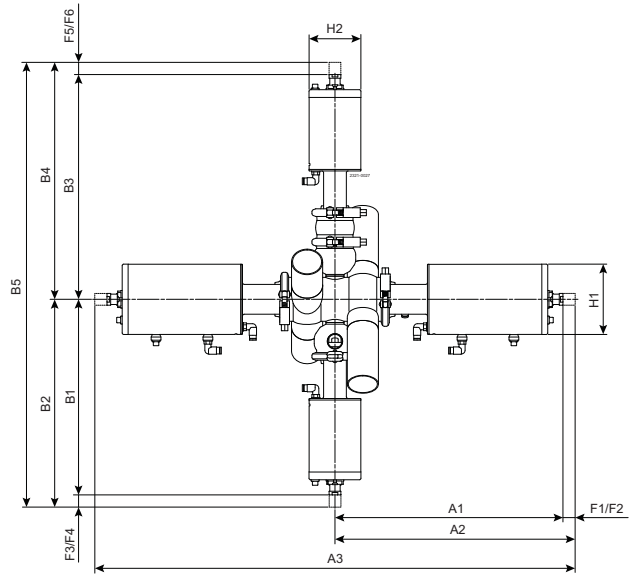
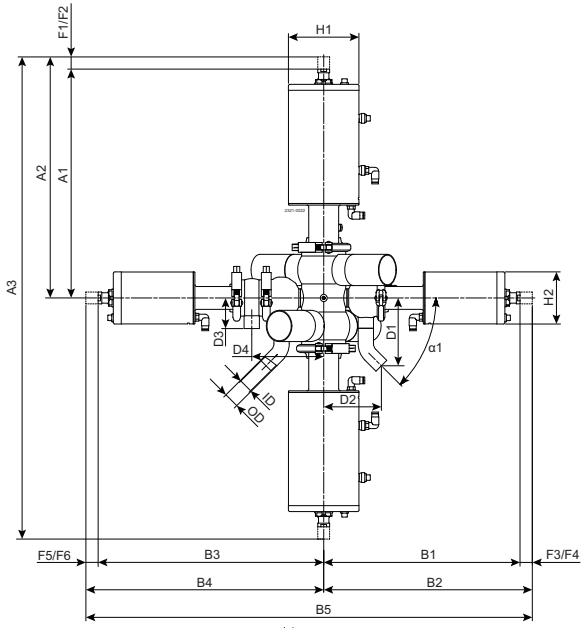
Seat lift

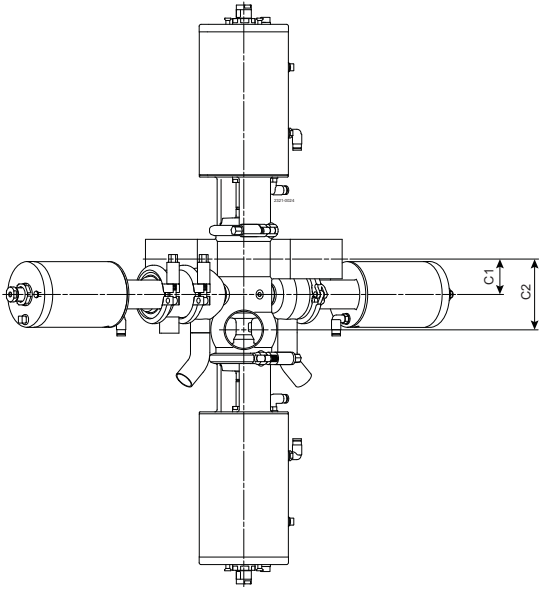
Cv-Value	
2"	3.6 GPM
2 1/2"	4.2 GPM
3"	4.7 GPM

Delta P [PSI]

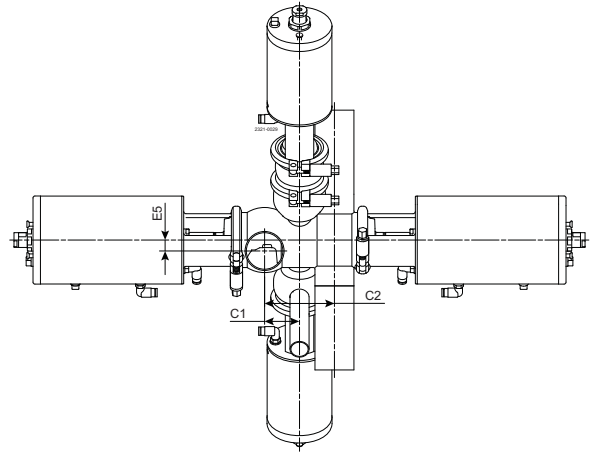


Dimensions (in)





Vertical mount



Horizontal mount

Size	Vertical mount			Horizontal mount		
	2 inch	2.5 inch	3 inch	2 inch	2.5 inch	3 inch
A1	13.9	14.3	16.0	13.9	14.3	16.0
A2	14.4	14.9	16.6	14.4	14.9	16.6
A3	28.8	29.8	33.3	28.8	29.8	33.3
B1	13.5	13.5	13.5	13.5	13.5	13.5
B2	14.1	14.1	14.1	14.1	14.1	14.1
B3	15.3	15.3	15.3	15.3	15.3	15.3
B4	15.8	15.8	15.8	15.8	15.8	15.8
B5	29.9	29.9	29.9	29.9	29.9	29.9
C1	1.80	2.05	2.29	1.80	2.05	2.29
C2	3.60	4.09	4.59	3.60	4.09	4.59
D1	4.36	4.36	4.36	6.79	6.79	6.79
D2	3.71	4.02	4.32	2.71	3.02	3.32
D3	1.97	1.97	1.97	1.97	1.97	1.97
D4	4.63	4.94	5.24	4.63	4.94	5.24
E1	5.00	5.24	5.47	6.69	8.50	8.90
E2	10.00	10.47	10.94	13.39	17.01	17.80
E3	5.00	5.24	5.47	5.00	5.24	5.47
E4	10.00	10.47	10.94	10.00	10.47	10.94
E5	-	-	-	0.56	0.71	0.85
$\alpha 1$	45°	45°	45°	-	-	-
$\alpha 2$	55°	55°	55°	55°	55°	55°
F1	0.6	0.6	0.7	0.6	0.6	0.7
F2	0.1	0.1	0.1	0.1	0.1	0.1
F3	0.4	0.4	0.4	0.4	0.4	0.4
F4	0.6	0.6	0.6	0.6	0.6	0.6
F5	0.3	0.3	0.3	0.3	0.3	0.3
F6	0.5	0.5	0.5	0.5	0.5	0.5
H1	4.5	4.5	6.2	4.5	4.5	6.2
H2	3.3	3.3	3.3	3.3	3.3	3.3
ID1	0.89	0.89	0.89	0.89	0.89	0.89
ID2	1.88	2.37	2.87	1.88	2.37	2.87
OD1	0.98	0.98	0.98	0.98	0.98	0.98
OD2	2.01	2.50	3.00	2.01	2.50	3.00
Weight (lb)	64	66	99	64	66	99

Alfa Laval reserves the right to change specifications without prior notification.

How to contact Alfa Laval

Contact details for all countries are continually updated on our website. Please visit www.alfalaval.us to access the information direct.