Alfa Laval Unique Sampling Valve - Single Seat Valve

Sampling valves

Introduction

The Alfa Laval Unique Sampling Valve (Single Seat) is a single-seat sampling valve that enables representative sampling in hygienic processes under sterile conditions. It provides high accuracy, exceptional repeatability and excellent reliability required for high quality, cost-effective sampling. Either the ergonomically designed handle or the actuator ensures exceptional control during the sampling operation.

Application

The single-seat sampling valve is specially designed for use in hygienic applications across the dairy, food, beverage, brewery, pharmaceutical, personal care and many other industries.

Benefits

- Safe, hygienic and contamination-free sampling
- Highly reliable operation
- Easy to operate and maintain
- Easy to clean
- Modular design and easy to upgrade
- Sterilization possible

Standard design

The Alfa Laval Unique Sampling Valve (Single Seat) consists of a valve body made of a single piece of stainless steel, either an actuator for automatic operation or a handle for manual operation, and a rubber membrane seal placed on the stem of the actuator, which acts as a stretchable plug.

The valve is available in three sizes: Type 4, Type 10 and Type 25. A collared pipe, tank or Tri-Clamp connection is also available. The valve handles and actuators are interchangeable (see page 2).

The Unique Sampling Valve (Single Seat) can be upgraded to the Alfa Laval Unique Sampling Valve (Double Seat) by replacing the handle or actuator with an upgrade kit.

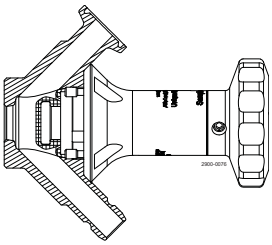
Certificates

Authorized to carry the 3A symbol

Working principle

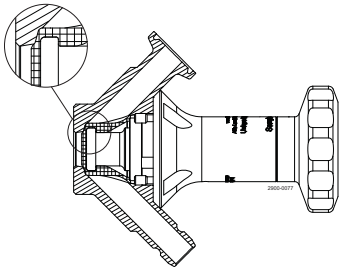
The Alfa Laval Unique Sampling Valve (Single Seat) is designed for standard hygienic sampling. The single-seat sampling valve has two positions: open and shut.

- Open position: To start the sampling process



Manual valve: rotate the handle in a counterclockwise direction to open the valve. Pneumatic valve: open the valve by activating the actuator. This retracts the valve stem and the membrane, which enables the product to flow freely through the open valve.

- Shut position: To stop the sampling process



Manual valve: rotate the handle in a clockwise direction to close the valve. Pneumatic valve: shut the air supply to stop the flow of product from the valve. In closed position, the valve body is now ready for sterilization. If steam is used for Sterilization-in-Place, the use of an optional pressure relief valve on the outlet is recommended to ensure proper steam temperature in the valve.

Upgrading to the Alfa Laval Unique Sampling Valve (Double Seat) is possible to realize higher cleanability and thorough sterilization of the valve seat and pipe connections.

TECHNICAL DATA

Temperature	
Temperature range:	1°C - 130°C
Max. sterilisation temperature, dry steam (2 bar):	121°C

Steam must be dry, since condensate will damage the membrane seal. It is recommended that the membrane seal is changed every 500 samples/sterilisations or in accordance with working conditions or condition.

Pressure	
Max. working pressure:	600 kPa (6 bar)
Min. working pressure:	0 kPa (0 bar)

ATEX	
Classification size 4 & 10 Manually	II 2 G D*

*This equipment is outside the scope of the directive 2014/34/EU and must not carry a separate CE marking according to the directive as the equipment has no own ignition source

PHYSICAL DATA

Materials	
Valve body:	1.4404 (316L) with 3.1 cert.
Actuator:	1.4301 (304), 1.4404 (316L)
Membrane seal:	EPDM, silicone

The valve is available in tree sizes:
Size 4 for low-viscosity products such as water, beer, wine and liquid milk. Viscosity: (cP) 0-100. Max. particle size: 2.5 mm (0.098 in)
Size 10 for high-viscosity products such as fruit yoghurt, syrup and ice cream. Viscosity: (cP) 0-1000. Max. particle size: 7 mm (0.276 in)
Size 25 is for products with very high viscosity such as jam. Max. particle size: 20 mm (0.787 in)

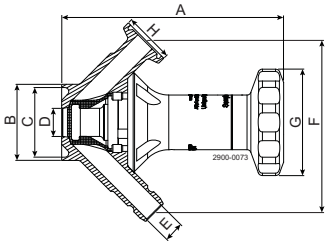
Valve bodies:
- Tank (welding)
- Collared tube (welding)
- Tri-clamp

Valve heads:
- Handle
- Pneumatic actuator (air supply 5-8 bar)

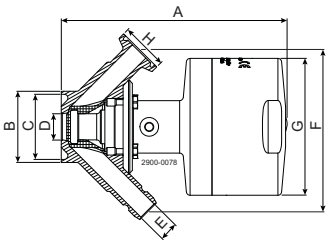
Accessories:
- See ordering leaflet

Dimensions (mm)

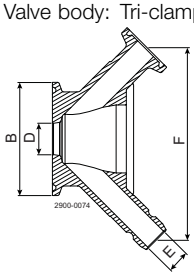
Handle with valve body: Collared pipe welding



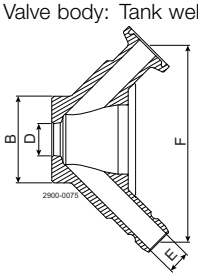
Pneumatic with valve body: Collared pipe welding



Valve body: Tri-clamp



Valve body: Tank welding



Valve size	Size 4															
Valve Head	Handle Single Seat								Pneumatic Single Seat							
Valve body	Tank	Tri-clamp	Collarded pipe						Tank	Tri-clamp	Collarded pipe					
Connection size			ISO 25	ISO 38	ISO 51	DIN 25	DIN 40	DIN 50			ISO 25	ISO 38	ISO 51	DIN 25	DIN 40	DIN 50
A	87.9	87.6	87.6	87.6	87.6	87.6	87.6	87.6	92.8	92.5	92.5	92.8	92.5	92.5	92.5	92.5
B	29	50.5	25	38	51	29	41	53	29	50.5	25	38	51	29	41	53
C	-	-	21.8	34.8	47.8	26	38	50	-	-	21.8	34.8	47.8	26	38	50
D	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
E	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
F	78.7	78.7	78.7	78.7	78.7	78.7	78.7	78.7	78.7	78.7	78.7	78.7	78.7	78.7	78.7	78.7
G	46	46	46	46	46	46	46	46	54	54	54	54	54	54	54	54
H	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Weight (kg)	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3

Valve size	Size 10															
Valve Head	Handle Single Seat								Pneumatic Single Seat							
Valve body	Tank	Tri-clamp	Collarded pipe						Tank	Tri-clamp	Collarded pipe					
Connection size			ISO 25	ISO 38	ISO 51	DIN 25	DIN 40	DIN 50			ISO 25	ISO 38	ISO 51	DIN 25	DIN 40	DIN 50
A	111.4	110.9	112.6	110.6	110.6	110.6	110.6	110.6	121.9	121.4	122.1	121.1	121.7	121.7	121.7	121.7
B	38	50.5	25	38	51	29	41	53	38	50.5	25	38	51	29	41	53
C	-	-	21.8	34.8	47.8	26	38	50	-	-	21.8	34.8	47.8	26	38	50
D	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
E	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
F	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8	85.8
G	53.2	53.2	53.2	53.2	53.2	53.2	53.2	53.2	73.1	73.1	73.1	73.1	73.1	73.1	73.1	73.1
H	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Weight (kg)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9

Valve size	Size 25					
Valve Head	Pneumatic Single Seat					
Valve body	Tank	Tri-clamp	Collarded pipe			
Connection size			ISO 51	ISO 63,5	DIN 50	DIN 65
A	275.1	275.1	279.1	278.1	279.1	277.1
B	70	77.5	51	63.5	53	70
C	-	-	47.8	60.3	50	66
D	25	25	25	25	25	25
E	25	25	25	25	25	25
F	143	143	143	143	143	143
G	127	127	127	127	127	127
H	50.5	50.5	50.5	50.5	50.5	50.5
Weight (kg)	8.2	8.2	8.2	8.2	8.2	8.2

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.
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