Alfa Laval SB Tank Pressure Regulator

Regulating valves

Introduction

The Alfa Laval SB Tank Pressure Regulator maintains the working pressure in the vapour space, or at the top, of a process tank during filling, processing and emptying. It generally connects directly to the gas pipe or Cleaning-in-Place (CIP) pipe that leads in to the tank top, or is incorporated into a flow panel. This ensures process safety and effectiveness as well as safeguards product integrity.

Application

This control valve typically regulates the pressure in tanks used in the dairy, food, beverage, brewery and many other industries. The valve easily integrates with an Alfa Laval SCANDI BREW® tank top system.

Benefits

- Reliable, constant tank pressure control
- Variable pressure setting
- Optimized cleaning
- Built-in pressure gauge
- Fully cleanable with Cleaning-in-Place system

Standard design

The pressure regulator comprises a single valve unit including pressure exhaust valve, pressure supply valve and connection for pressure gauge. On top is a vent port with outlet connection. A tank connection at the side branch is normally connected to the pipe leading to the tank top. It is also possible to incorporate the pressure regulator in a flow panel.

Working principle

The valve unit has a variable setting, which enables adjustment of the relieving pressure to match the required working pressure in the tank. When tank top pressure exceeds the preset pressure, the regulator releases gas through the vent port—either for atmospheric discharge or for collection. If the tank top pressure decreases, a gas supply connection at the bottom of the valve allows gas to flow into the tank.

Technical Data

Nominal size	Pressure range [bar] / [psi]	Max. Filling/emptying speed	Working capacity of fermentation[1]	Type
1"	0.2-4.0 bar / 3-58 psi	25 m^3/h / 110 GPM	100 m^3 / 3500 ft^3	1
1½"	0.2-4.0 bar / 3-58 psi	50 m^3/h / 220 GPM	200 m^3 / 7000 ft^3	1
2"	0.2-4.0 bar / 3-58 psi	100 m^3/h / 440 GPM	400 m^3 / 14000 ft^3	2
3"	0.2-4.0 bar / 3-58 psi	200 m^3/h / 800 GPM	800 m^3 / 28000 ft^3	2

[1] At max. fermentation rate 2.4 deg. Plato / 24 hrs.

Type 1	Type 2
	

Physical Data

Materials	
Product wetted steel parts:	EN 1.4307 (AISI 304L)
Product wetted seals:	EPDM

Connections
DN acc. DIN 11851
Union IDF acc. ISO 2853
Union SMS Swedish Standard Union
Clamp ferrule acc. ISO 2852

Cleaning in place (CIP)

Cleaning of the Tank Pressure Regulator is necessary before the next batch. The Tank Pressure Regulator is incorporated in the tank CIP procedure by means of the CIP adaptor. Before cleaning, the CIP adaptor is mounted on the pressure regulator whereby gas supply valve and pressure relief valve are forced open and fully cleaned in bypass. During the CIP procedure, all functions are blocked. See schematic drawing of the regulator.

Options

Pos. 1: CIP bend

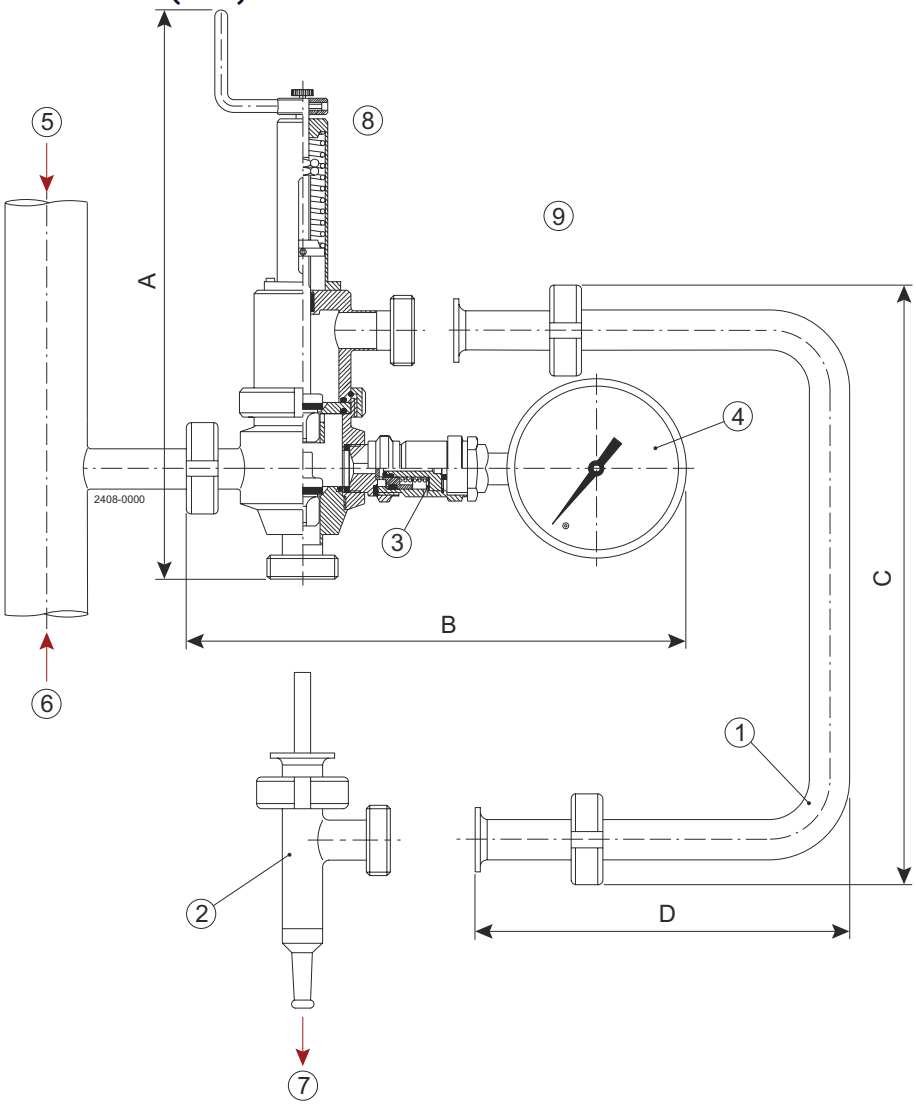
Pos. 2: CIP T-piece

Pos. 3: Protection valve for pressure gauge

Pos. 4: Pressure gauge

Mounting bracket

Dimensions (inch)



- 5 - CO_2
- 6 - CIP pipe to tank top
- 7 - CIP
- 8 - Variable pressure setting
- 9 - Pressure regulator with CIP adapter

Size	A	B
1.00	15.35	13.58
1.50	17.32	15.35
2.00	21.26	15.35
3.00	24.41	14.96

Size	Connection	C	D
1.00	DIN	12.00	8.46
1.57	DIN	13.98	8.66
1.97	DIN	17.13	9.06
3.15	DIN	19.68	9.06
1.00	SMS	11.42	8.07
1.50	SMS	13.98	8.27
2.00	SMS	16.73	8.46
3.00	SMS	18.90	8.46

Size	Connection	C	D
1.00	Clamp	13.58	8.66
1.50	Clamp	15.16	8.86
2.00	Clamp	18.11	9.06
3.00	Clamp	19.68	9.06
1.00	IDF	11.81	8.27
1.50	IDF	13.98	8.46
2.00	IDF	16.93	8.66
3.00	IDF	18.70	8.66

How to contact Alfa Laval

Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com