

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

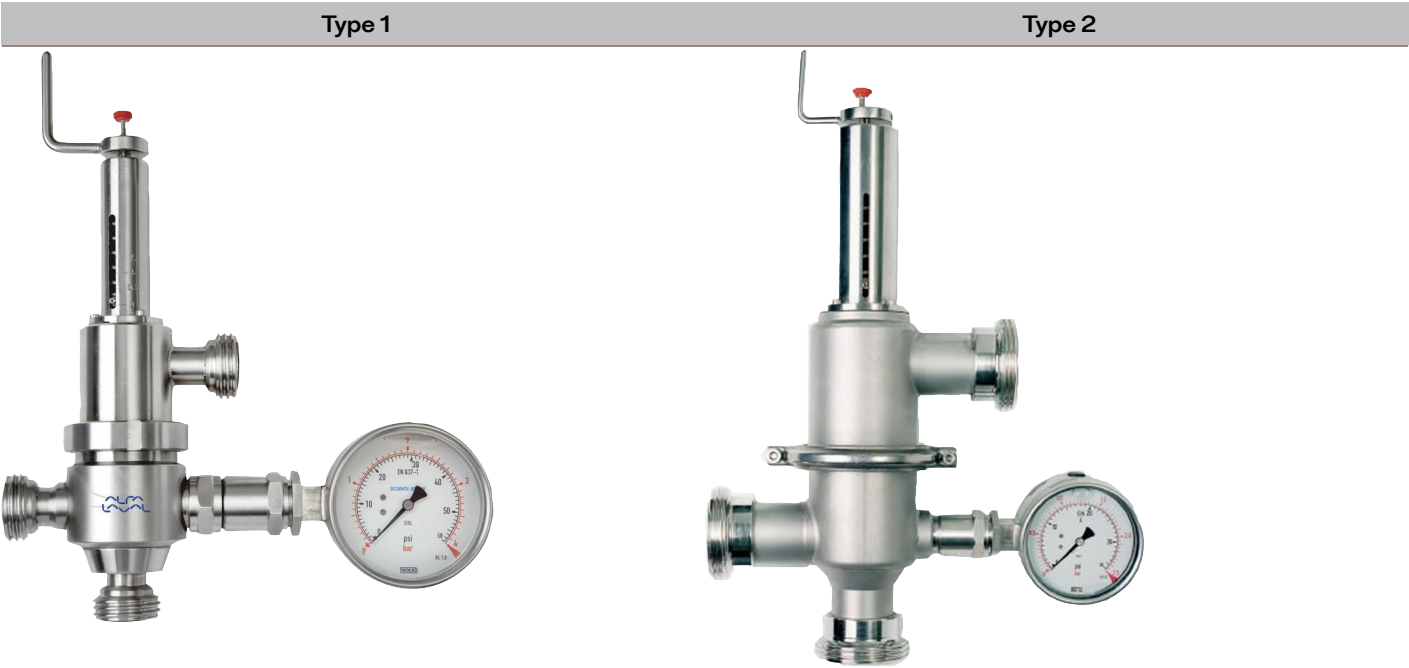
The valve unit has a variable setting, which enables adjustment of the relieving pressure to match the required working pressure in the tank. When tank top pressure exceeds the preset pressure, the regulator releases gas through the vent port—either for atmospheric discharge or for collection. If the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



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	

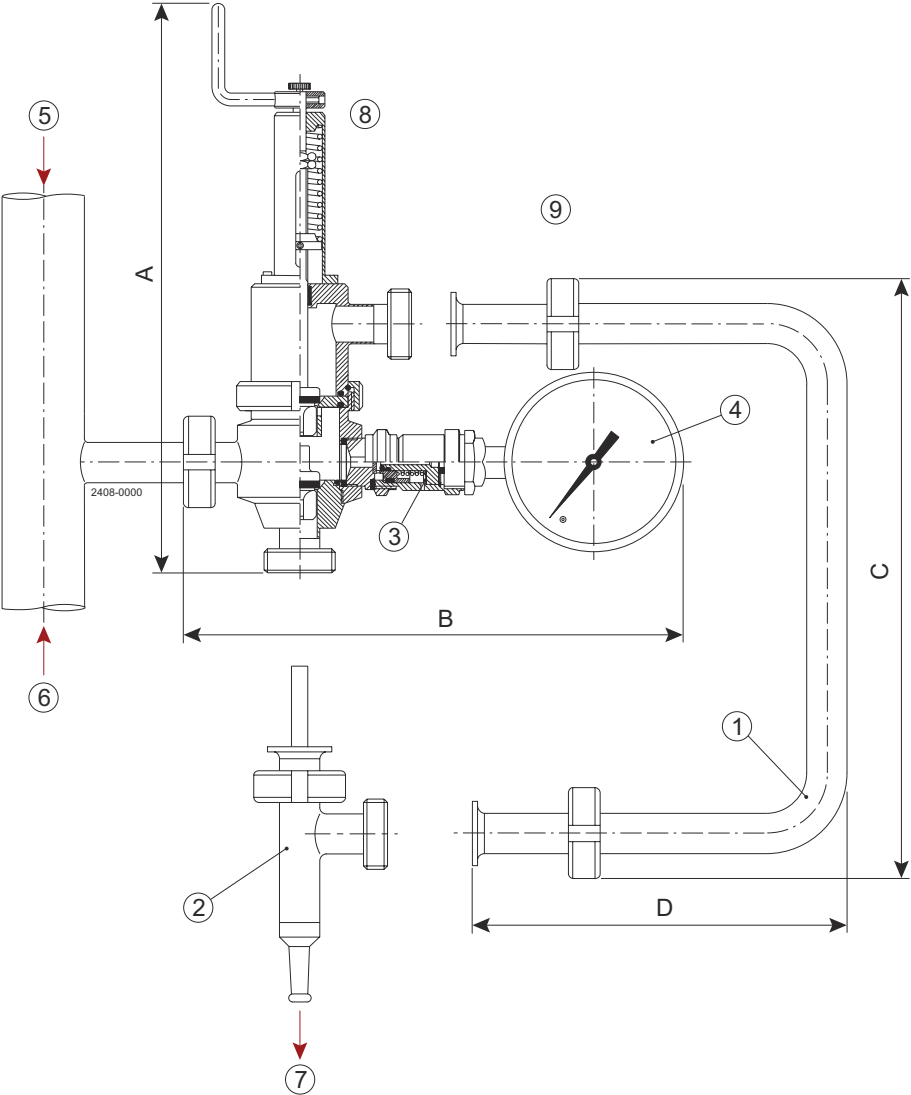
Cleaning in place (CIP)

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 (mm)



- 5 - CO₂
- 6 - CIP pipe to tank top
- 7 - CIP
- 8 - Variable pressure setting
- 9 - Pressure regulator with CIP adapter

Size	A	B
25	390	345
38	440	390
51	540	390
76.1	620	380

Size	Connection	C	D
25	DIN	305	215
40	DIN	355	220
50	DIN	435	230
80	DIN	500	230
25	SMS	290	205
38	SMS	355	210
51	SMS	425	215
76.1	SMS	480	215
25	Clamp	345	220
38	Clamp	385	225
51	Clamp	460	230
76.1	Clamp	500	230
25	IDF	300	210

Size	Connection	C	D
38	IDF	355	215
51	IDF	430	220
76.1	IDF	475	220

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