Alfa Laval SB Pressure Relief Valve

Safety valves

Introduction

The Alfa Laval SB Pressure Relief Valve is a hygienic safety valve that removes excess liquid that creates overpressure in a process tank or vessel due to overfilling. When pressure in the tank exceeds a pre-set value, the pressure relief valve opens to vent fluid in the event of liquid overfilling and closes when the tank or vessel pressure has returned below the set point. This prevents damage to the tank or vessel and help ensure safe operations.



Application

This safety valve is designed to safeguard pressurized tanks and vessels used in hygienic process lines in the brewery, dairy, food, beverage and many other industries. The valve can be integrated with a SCANDI BREW® tank top system.

Benefits

- Cost-effective, hygienic design
- Protection against tank overfilling and pressurization
- Superior hygiene
- Customized to meet process requirements
- Easy to clean

Standard design

The SB Pressure Relief Valve is a deadweight safety valve. It is compliant with PED 2014/68/EU, EN 4126-1 and EN 764-7 and available in two versions: integrated with a SCANDI BREW® tank top system or mounted on its own counter flange.

Working principle

The Alfa Laval SB Pressure Relief Valve is delivered with counterweight and is set and locked at the pre-set pressure, specified by the customer as the opening pressure. When pressure in the tank or vessel exceeds the pre-set opening value, the valve relieves the excess pressure.

The opening pressure must be set at a value that is above the tank working pressure: 0.1 bar above for working pressures < 1 bar, and 10% above for working pressures ≥ 1 bar. The valve should be seated horizontally. A maximum inclination of 10° is acceptable, but the lever arm must then point inward toward the centre of the cylindroconical tank top.

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TECHNICAL DATA

Nominal size	Set Pressure Range
75mm	0.2 - 3.5 bar
100mm	0.2 - 2.5 bar
150mm	0.4 - 1.5 bar

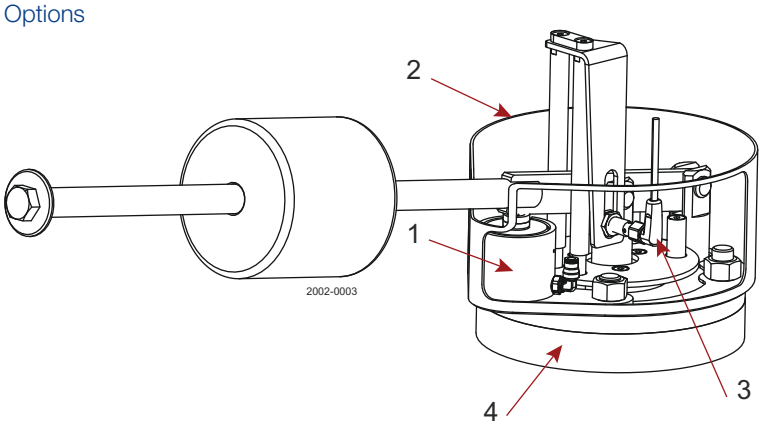
PHYSICAL DATA

Materials	
Product wetted steel parts:	EN 1.4404 (AISI 316L) with 3.1 cert.
Product wetted steel surfaces:	Surface roughness Ra< 0.8 µm
Product wetted seals:	EPDM

Cleaning In Place (CIP)

The Pressure Relief Valve is cleaned in closed position by the tank cleaning head, but this will not include the valve seating. To include the valve seating in the cleaning cycle, there is the option to equip the valve with a pneum. force opener and a splash guard.

Options



Options:

Pos. 1: Force opener: force opening during cleaning cycle

Pos. 2: Splash guard: containing CIP liquid during valve seat cleaning

Pos. 3: Proximity sensor: for operation detection

Pos. 4: Welding flange: for installation

Dimensions (mm)

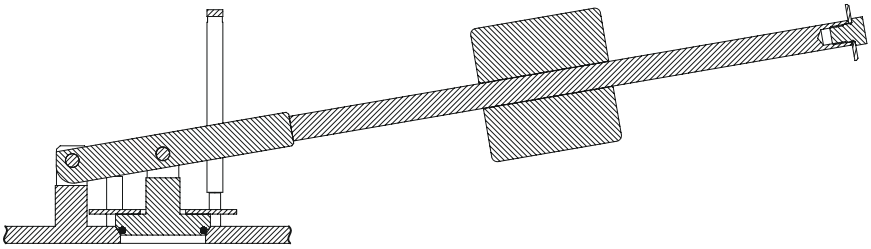


Figure 1. Integrated Valve

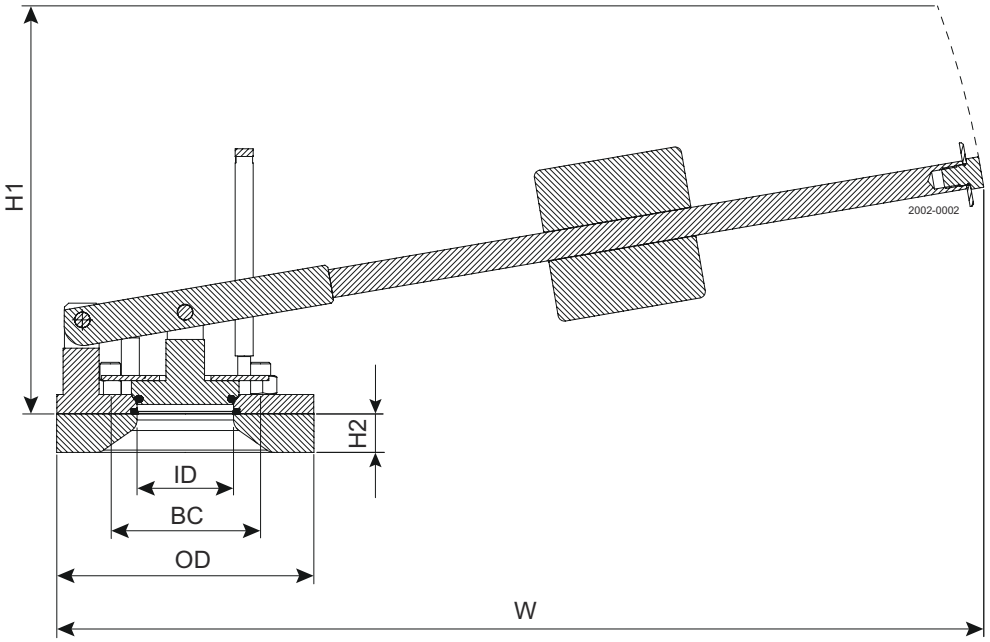


Figure 2. Flange Mounted Valve

ID = Active diameter

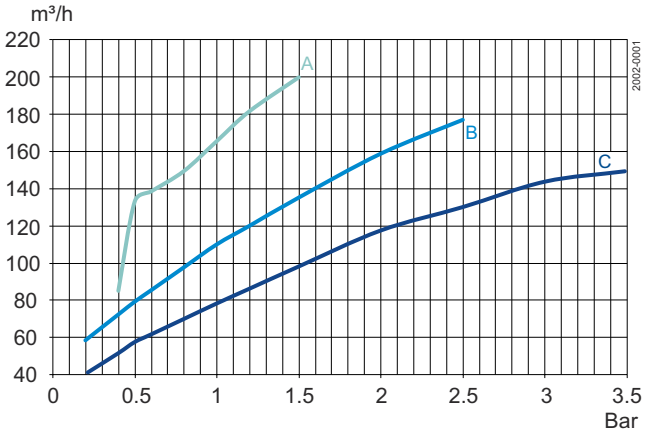
BC = Bolt circle

OD = Outside diameter

Interface requirements (mm)

Nominal Size	ID	BC	OD	Bolts	H1	H2	W
75	75	165	200	4xM16	375	30	740
100	100	165	200	4xM16	375	30	740
150	150	230	270	8xM16	430	30	1050

Discharge Capacity



A = DN150
B = DN100
C = DN75

In accordance with EN 4126-1

Capacity measured at:

ΔP=10% Set pressure ≥ 1 bar

ΔP=0,1 Set pressure < 1 bar

Medium: water (20°C)

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