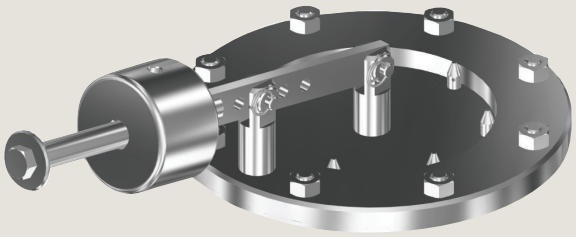
# Alfa Laval SB Anti Vacuum Valve

## Safety valves

### Introduction

The Alfa Laval SB Anti Vacuum Valve is a compact safety valve that protects tanks from collapse or implosion due to internal vacuum conditions. These conditions occur during emptying, cool-rinsing after hot-cleaning, or caustic cleaning in a $CO_2$ atmosphere. The compact, easy-to-clean safety valve fits onto any closed process tank, optimizing the personnel safety, reliability and performance of critical processes and maximizing uptime.



### Application

This safety valve is designed for use in hygienic processes in the brewery, dairy, food, beverage and many other industries.

### Benefits

- Greater process safety
- Low initial cost of investment
- Compact design
- Superior hygiene
- Easy installation

### Standard design

The Alfa Laval SB Anti Vacuum Valve is a flange-mounted safety valve. All product wetted steel parts are made of AISI 316L stainless steel with a surface roughness of Ra< 32 µin; all other steel parts are made of AISI 304L stainless steel. All product-wetted seals are made of EPDM and all product-wetted polymers are made of PEEK. The valve is PED 2014/68/EU-compliant and available in two versions: either integrated in a SCANDI BREW® tank top system or mounted on its own counter flange.

### Working principle

The Alfa Laval SB Anti Vacuum Valve is delivered with a counterweight set and locked for an individual opening vacuum to suit the tank or vessel design pressure. When a vacuum in the tank or vessel is lower than the pre-set opening value, the valve opens and lets in atmospheric air.

## TECHNICAL DATA

| Nominalsize | Opening pressure Range (ΔP) | Allowable pressure PS |
|---|---|---|
| 4” | 0.07-0.7 PSI | 87 PSI |
| 6” | 0.035-0.7 PSI | 87 PSI |
| 8” | 0.035-0.7 PSI | 87 PSI |
| 10” | 0.035-0.43 PSI | 58 PSI |
| 12” | 0.035-0.7 PSI | 58 PSI |
| 16” | 0.035-0.14 PSI | 58 PSI |

## PHYSICAL DATA

| Materials | |
|---|---|
| Product wetted steel parts: | EN 1.4404 (AISI 316L) with 3.1 cert. |
| Product wetted steel surfaces: | Surface roughness Ra< 32 µin |
| Product wetted seals: | EPDM/NBR |
| Product wetted polymers: | PEEK |
| Other steel parts: | EN 1.4307 (AISI 304L) |

### Cleaning In Place (CIP)

The Anti Vacuum Valve is cleaned, when closed, by the tank cleaning head, but this will not include the valve seating.

To include the valve seating in the cleaning cycle, there are two options:

**CIP Kit 1 - Force opener; splash guard**

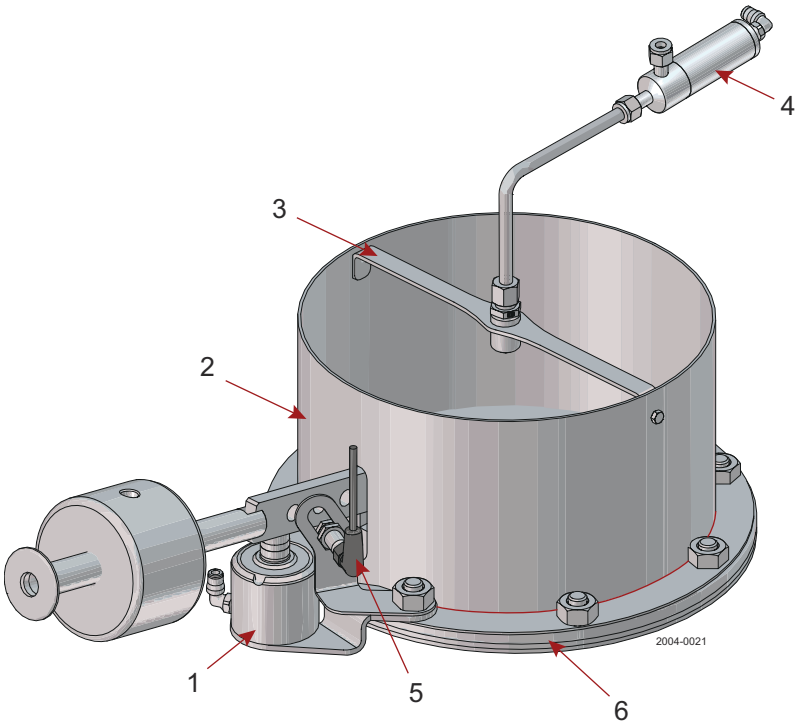
The valve is force-opened during tank CIP. The cleaning of valve seat is dependent on cleaning jets from the tank cleaning head. Any CIP liquid escaping the tank is contained by the splash guard and drains back in to the tank.

**CIP Kit 2- Force opener; splash guard; CIP nozzle; CIP closing valve**

The valve is force-opened during tank CIP. The cleaning of valve seat is performed by the CIP nozzle. All CIP liquid from the CIP nozzle is contained by the splash guard and drains back in to the tank.

**Note!** Applying any of above CIP options provides that the tank is pressureless at the moment of force opening the Anti Vacuum Valve

## Options




Pos. 1: Force opener: force-opening during valve seat cleaning

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

Pos. 3: CIP Nozzle: for cleaning valve seat

Pos. 4: CIP closing valve: applying CIP liquid

Pos. 5: Proximity sensor: for operation detection

Pos. 6: Welding flange: for installation

Heating elements: for valves exposed to sub-zero temperatures

## Dimensions (inch)

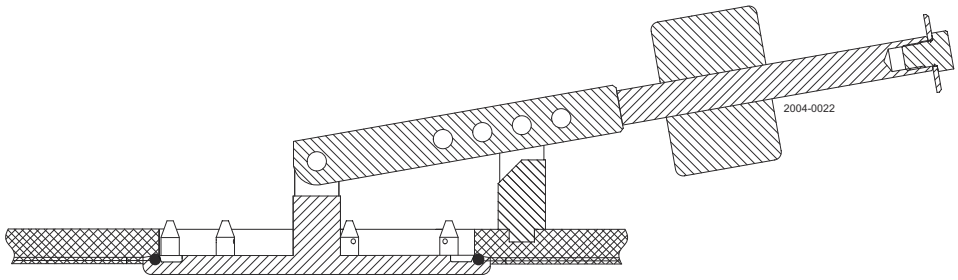



**Figure 1. Integrated Valve**

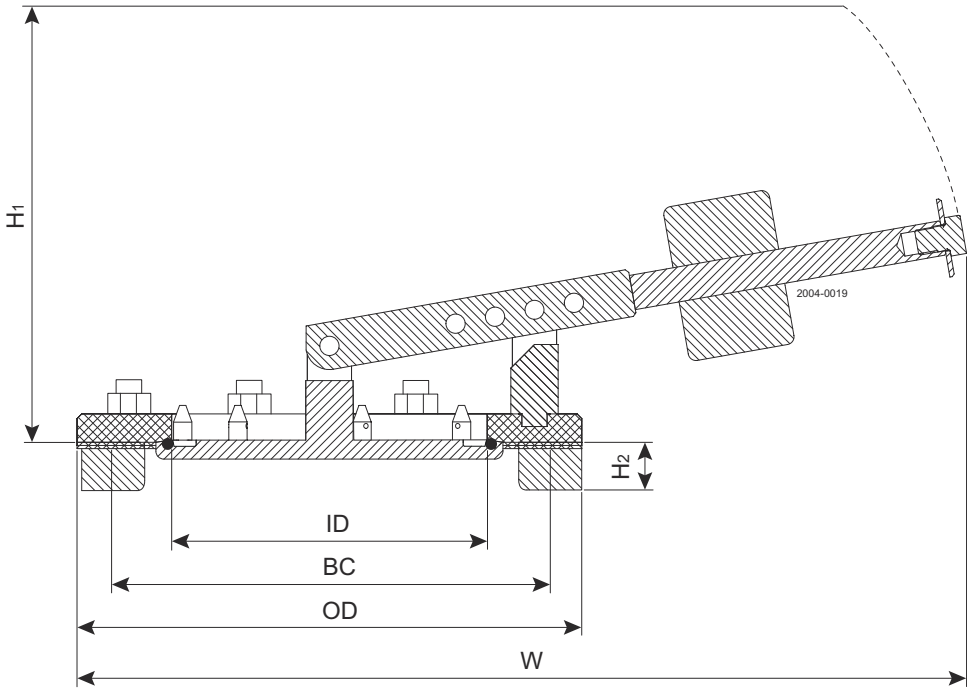



**Figure 2. Flange Mounted Valve**

ID = Active diameter

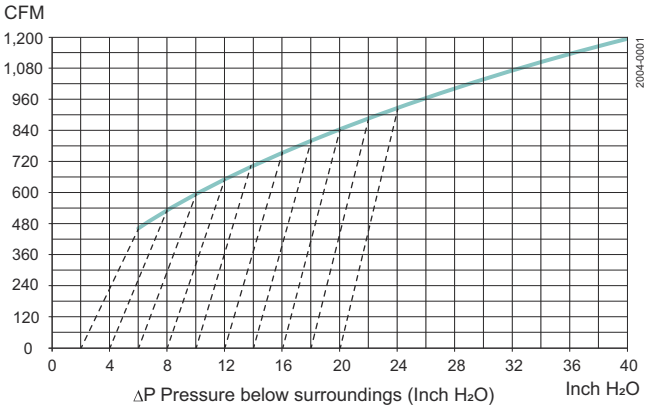
BC = Bolt circle

OD = Outside diameter

### Interface requirements (inch)

| Nominal size | ID | BC | OD | Bolts | H1 | H2 | W |
|---|---|---|---|---|---|---|---|
| 4 | 3.93 | 6.50 | 7.87 | 4xM16 | 12.20 | 1.18 | 20.07 |
| 6 | 5.91 | 9.06 | 10.63 | 8xM16 | 12.80 | 1.18 | 21.65 |
| 8 | 7.87 | 11.02 | 12.60 | 8xM16 | 12.20 | 1.18 | 22.44 |
| 10 | 9.84 | 12.99 | 14.57 | 8xM16 | 12.80 | 1.18 | 23.62 |
| 12 | 11.81 | 14.96 | 16.54 | 12xM16 | 19.66 | 1.18 | 37.00 |
| 16 | 15.75 | 20.26 | 22.05 | 12xM16 | 19.29 | 1.18 | 39.76 |

## Opening pressures

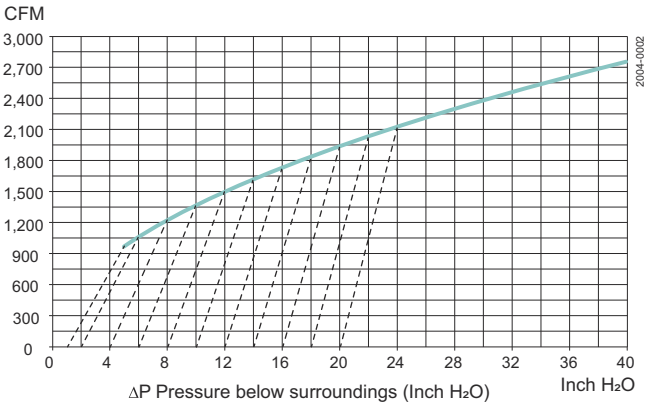



Nominal size : 4"

Volumetric Flow Capacity

Medium: Air

- - - - Preset opening pressure to fully open valve

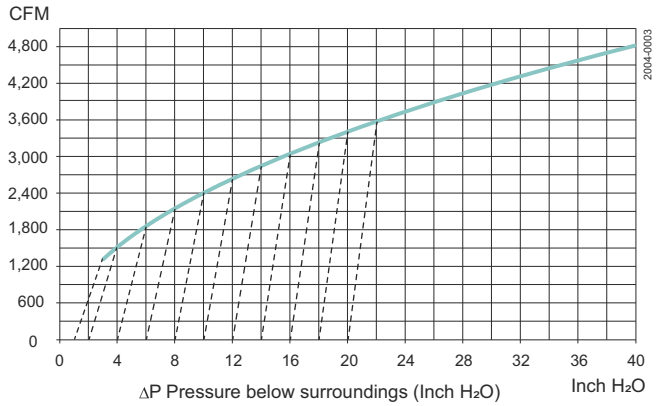



Nominal size : 6"

Volumetric Flow Capacity

Medium: Air

- - - - Preset opening pressure to fully open valve

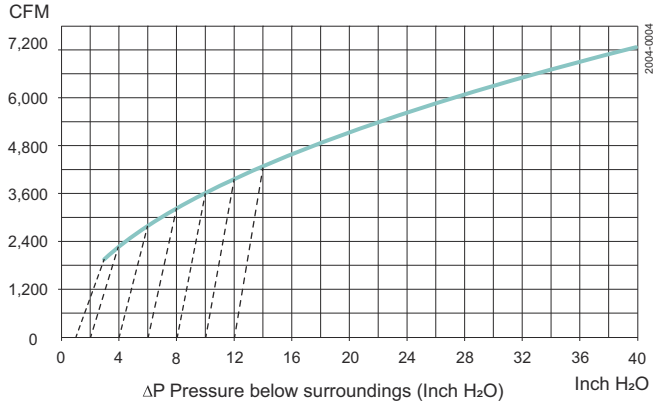



Nominal size : 8"

Volumetric Flow Capacity

Medium: Air

- - - - Preset opening pressure to fully open valve

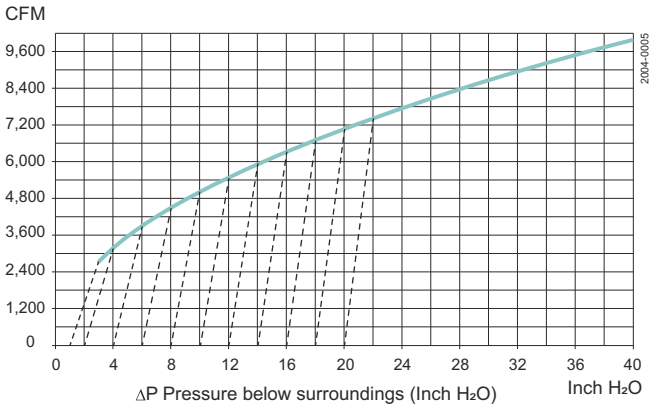



Nominal size : 10"

Volumetric Flow Capacity

Medium: Air

- - - - Preset opening pressure to fully open valve

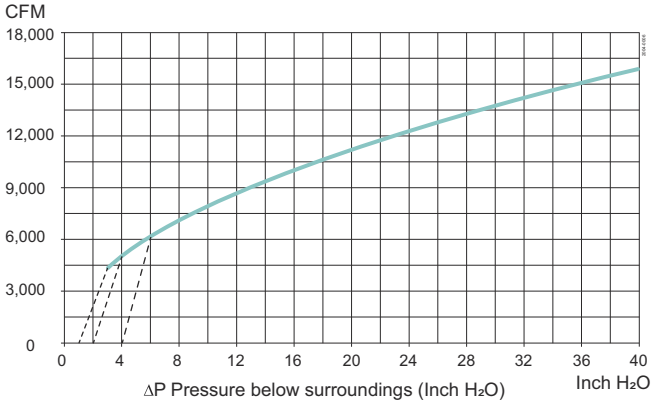



Nominal size : 12"

Volumetric Flow Capacity

Medium: Air

- - - - Preset opening pressure to fully open valve




Nominal size : 16”

Volumetric Flow Capacity

Medium: Air

- - - - Preset opening pressure to fully open valve







**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