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## Alfa Laval SCANDI BREW® Topplate assemblies

### Tank top systems

#### Introduction

A top plate assembly is a machined solid-stainless-steel plate outfitted with all the necessary tank safety equipment for mounting on the top of a pressurized beer tank.

#### Application

For cylindro-conical tanks, the special compact design and central location of the tank top system provides an efficient and economic way of mounting anti vacuum and pressure relief safety valves, CIP supply with cleaning head, sight glass etc., in a single assembly.

#### Benefits

- Simple and safe operation
- All parts can be cleaned in place
- Centralized placing of tank equipment secures easy maintenance
- Better and lower tank insulation costs
- Flexible design
- Low installation costs

#### Design

The topplate assembly is designed and sized individually to suit the tank application, the process specification and special requirements. The design is based on tank size, maximum working pressure and cleaning procedure. The topplate assembly is mounted with a joint on to a counter flange directly welded into the top of the tank.

A typical topplate assembly will include a combination of the following components, PED approved on request:

**Anti vacuum valve:** The valve protects the tank from implosion during CIP or emptying. Sizing will depend on tank design data, cleaning procedure and process requirements.

**Pressure relief valve:** This valve protects the tank from overpressure and overfilling. Sizing of the valve will depend on tank design data and filling rates.

**Pressure control:** Regulation of the tank top pressure can be carried out in the traditional way by means of a bunging device connected to the CIP/gas pipe. Another possibility to be recommended is a remote controlled pressure exhaust (PE) valve.

**CIP supply & cleaning head:** The CIP pipe is mounted on the top flange by means of a union coupling or mounting



flange to enable easy demounting of sprayball or cleaning machine for inspection and maintenance.

**Self-cleaning CO2 valve:** A combined gas escape/supply valve is situated between the CIP pipe and the top plate. The valve is normally open for gas flow out of the tank during filling and fermentation, and open for gas inlet during pressurising or emptying. During CIP, the liquid will close the valve but a special drilling of the valve body ensures cleaning of its seat and the pipe connection because a small amount flows through. The main CIP flow will run directly to the cleaning machine/sprayball.

**High level probe:** The probe will give a signal when the maximum filling height in tank is obtained and is a useful security against overfilling. The use of either sprayballs or rotating cleaning machines should be taken into account when selecting the type of probe.

**Sight glass & light fitting:** Ø78 or Ø120 mm combined units.

**Pressure transmitter:** To measure tank pressure.

**Bursting disc, heating element, lifting lugs, sensors:** Or other equipment as per customer requirements.

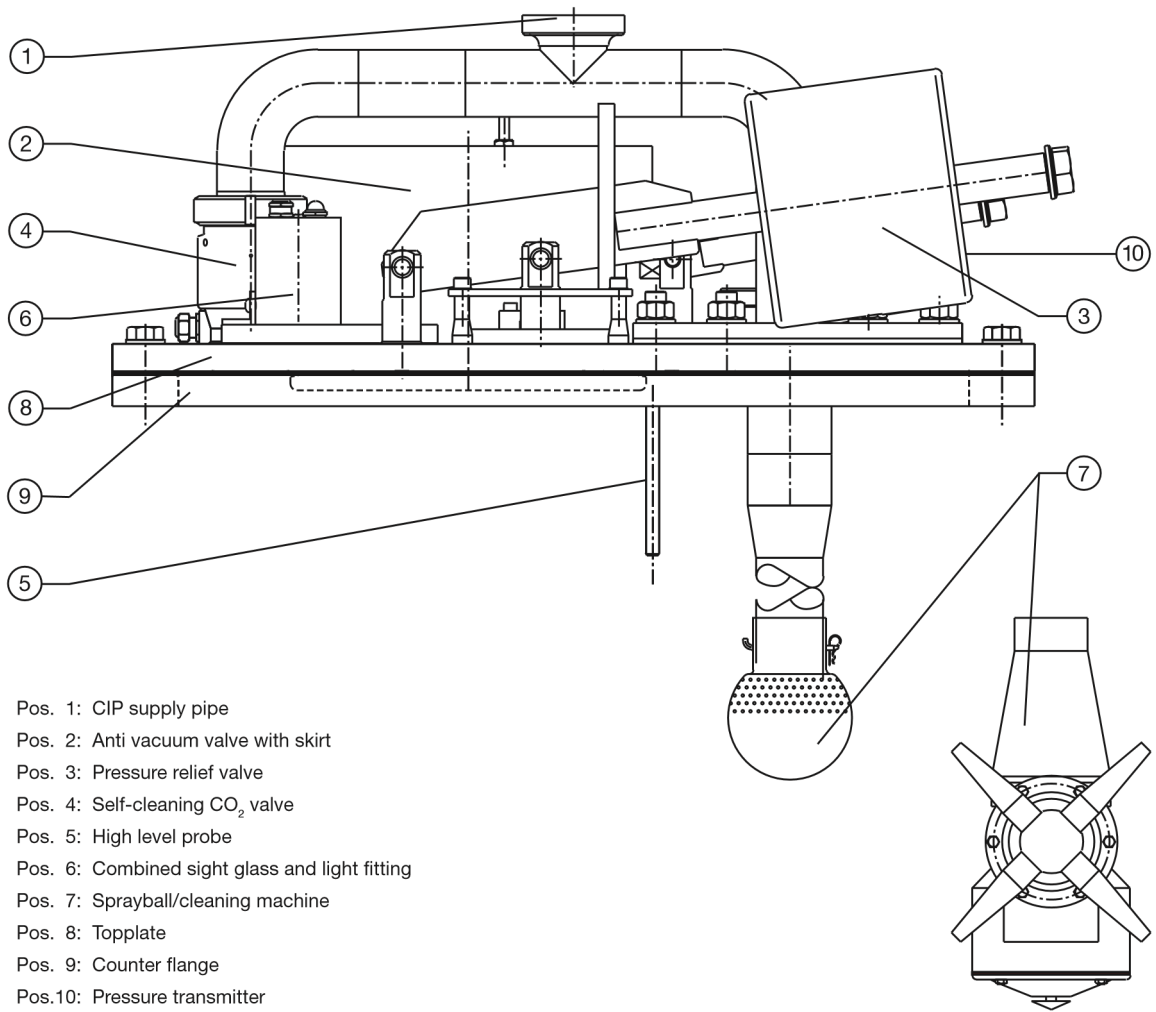
**Option**

- Weather cowl for protection of equipment.

Standard designs for fermenting vessels, storage vessels and bright beer tanks are supplied with an assessment for pressure equipment (PED).

**Technical data**

Topplate:	Stainless steel EN 1.4307 (AISI 304L) standard or EN 1.4404 (AISI 316L) on request
Components:	See separate product leaflets
Pressure control:	Max. working pressure at 50°C: 2.7 barg





# Alfa Laval SCANDI BREW® Multiple unit

## Compact all-in-one protection and cleaning for brewing tanks

### Introduction

Alfa Laval SCANDI BREW® Multiple unit is a compact unit for safety protection and cleaning of smaller pressure vessels like e.g. small scale fermenting vessels and bright beer vessels.

### Benefits

- Cost-competitive design
- Perfect self-cleaning during CIP of vessel
- Compact and simple design
- Reliable function
- Easy to install and maintain

### Design

The standard design includes an anti vacuum valve, spring-loaded pressure relief valve, a CIP supply and cleaning device, and a self-cleaning CO2 valve. The standard design covers tanks up to 2,000 hl gross, cold cleaned.

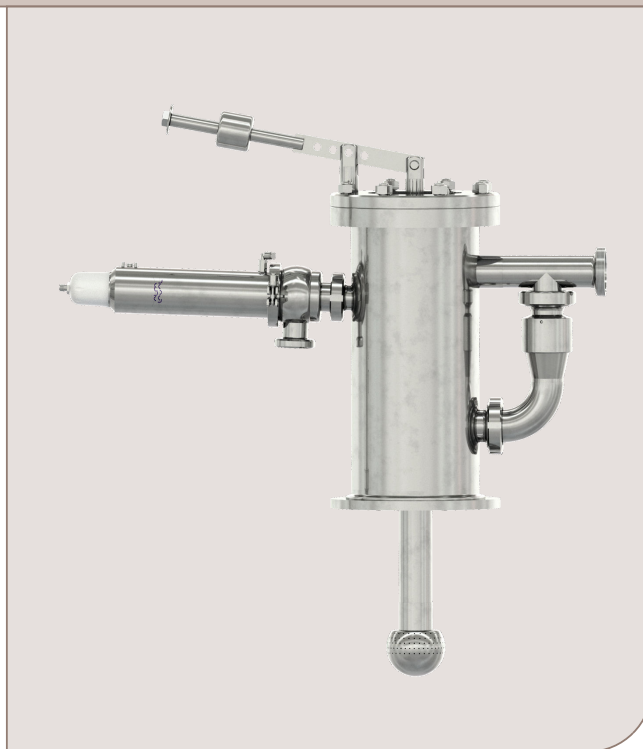
**Anti vacuum valve:** The anti vacuum valve protects tanks from vacuum created mainly during emptying and cleaning at ambient temperature. Standard size is 100 mm.

**Pressure relief valve:** The pressure relief valve protects the tank from over-pressure and if required from overfilling. Standard sizes are DN25, DN40, DN50 and DN65 mm.

**CIP supply and cleaning head:** The Multiple unit includes the CIP supply pipe and if required a cleaning device as well - as standard a spray ball. Any type of cleaning head like a fixed spray ball, a rotary spray ball or a rotary jet head can be mounted on the Multiple unit. Additional internal CIP nozzles ensure perfect self-cleaning of all internal parts of the Multiple unit.

**Self-cleaning CO2 valve:** A combined gas exhaust/supply valve is situated between the CIP pipe and the connection for gas supply/exhaust. The valve is normally open for gas flow out of the tank during filling and fermentation, and open for gas inlet during pressurising and emptying. During CIP, the liquid will close the valve but a special drilling of the valve body ensures cleaning of the seat and the adjacent pipe connection because a small amount flows through. The main CIP flow will run directly to the cleaning head.

The self-cleaning CO2 valve is located outside of the Multiple unit. This allows for a proper action of the cleaning head for



the self-cleaning of the anti vacuum valve and all parts inside of the Multiple unit. Standard size is 2".

### Option

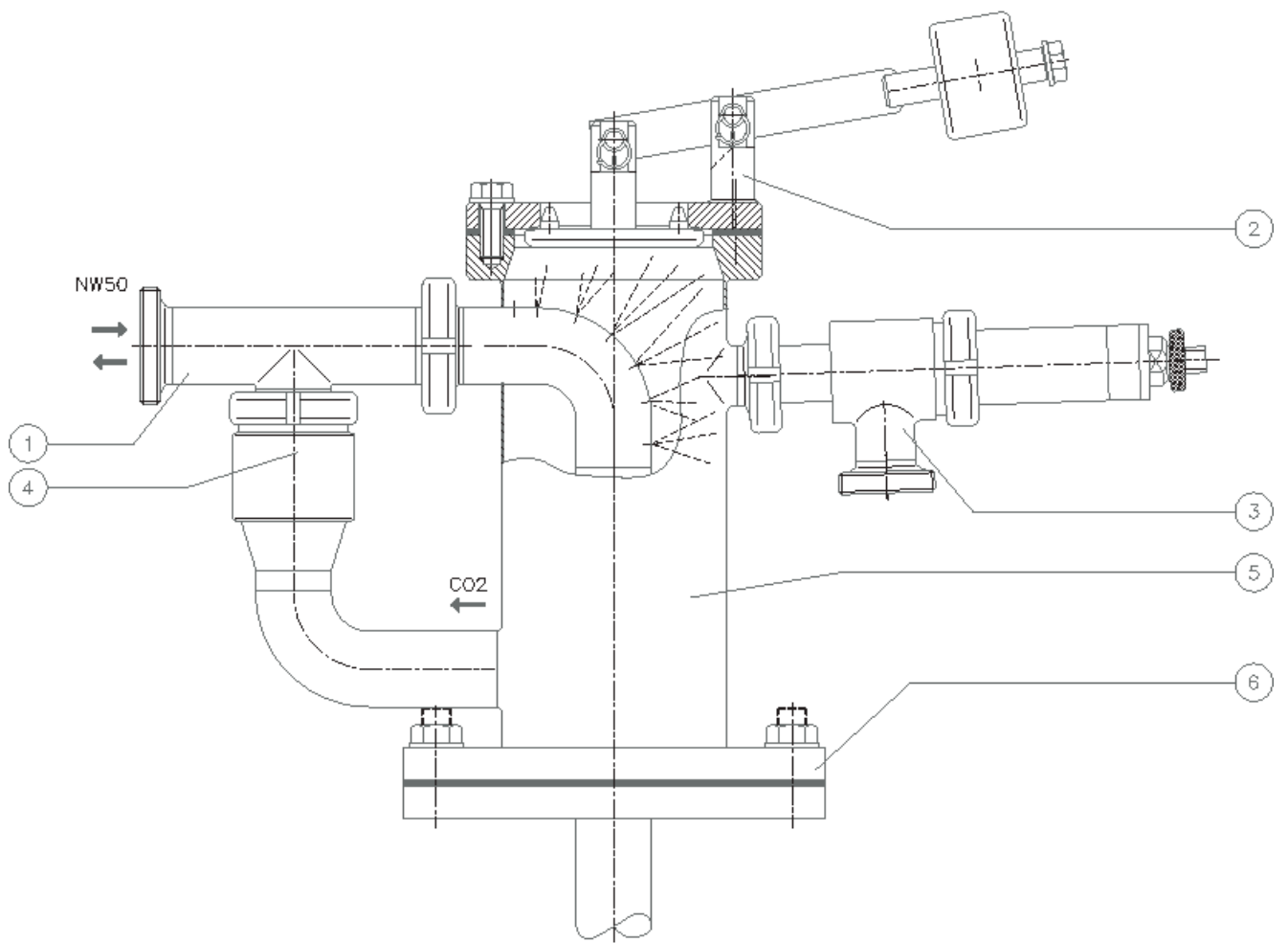
- Trace heating element

### Technical data

#### Materials

Product wetted parts in stainless steel	1.4303 (AISI 304)
Seals	EPDM (FDA approved)
Components	See separate product leaflets

PED approval on request.



- Pos.1 CIP inlet
- Pos.2 Anti-vacuum valve
- Pos.3 Pressure relief valve
- Pos.4 Self-cleaning CO2-valve
- Pos.5 Housing
- Pos.6 Tank flange connection
- Pos.7 Sprayball - rotating cleaning machine

Sprayball

TJ-20G



## Alfa Laval SCANDI BREW® Tank safety unit

### Compact all-in-one protection and cleaning for brewing tanks

#### Introduction

The Alfa Laval SCANDI BREW® Tank safety unit is a particularly compact unit designed for safety protection and cleaning of pressure vessels such as fermenting, bright beer, DAW and buffer tanks.

#### Benefits

- All-in-one tank protection and cleaning
- Self-cleaning during CIP
- Compact, uncomplicated design
- Simple installation
- Single connection to the tank

#### Design

The Alfa Laval SCANDI BREW® Tank safety unit includes an anti-vacuum valve, a spring-loaded pressure relief valve, a CIP supply and cleaning device, and a self-cleaning CO<sub>2</sub> valve. This means that tank protection, cleaning and gas exhaust/supply can all be achieved via one single tank fitting.

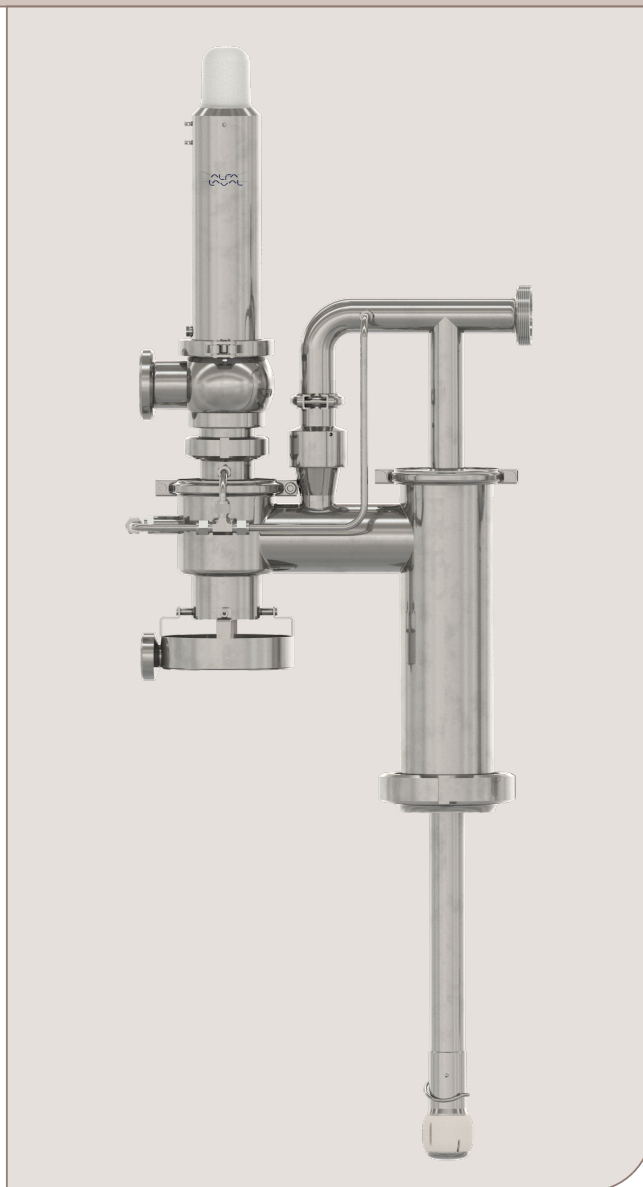
**Pressure relief valve:** The pressure relief valve protects the tank from over-pressure and overfilling. Standard sizes are DN25, DN40 and DN50. The sizing of pressure relief valve depends on tank design pressure and tank filling speed.

**Anti-vacuum valve:** The anti-vacuum valve protects tanks from any vacuum created during emptying and cleaning at ambient temperature. These units are available with either a 2-inch or 3-inch vacuum valve. Correct sizing of the vacuum valve is determined by the tank vacuum rating and process requirements.

**Tank cleaning:** The unit includes a tank cleaning device, in the form of either a basic static spray ball or the Toftejorg SaniMidget/Magnum SB Rotary Spray Head, designed for optimal cleaning using less water and chemicals compared to traditional static spray balls.

The unique design is totally free of welds, threads and screws. Additional internal CIP nozzles ensure full self-cleaning of all internal parts of the unit. The cleaning device is lubricated by the cleaning media. No oil, grease or other lubricants are used.

**Self-cleaning CO<sub>2</sub> valve :** A combined gas escape/supply valve is included as standard. This permits easy gas flow, allowing venting as well as pressurizing of the vessel through



the valve. It is partly closed for CIP liquid to be cleanable and selfdraining.

#### Options

- Pneumatic force opener for vacuum valve
- Pneumatic force opener for pressure relief valve
- Drain collector for vacuum valve
- Open/close indicator for pressure relief valve and/or vacuum housing.

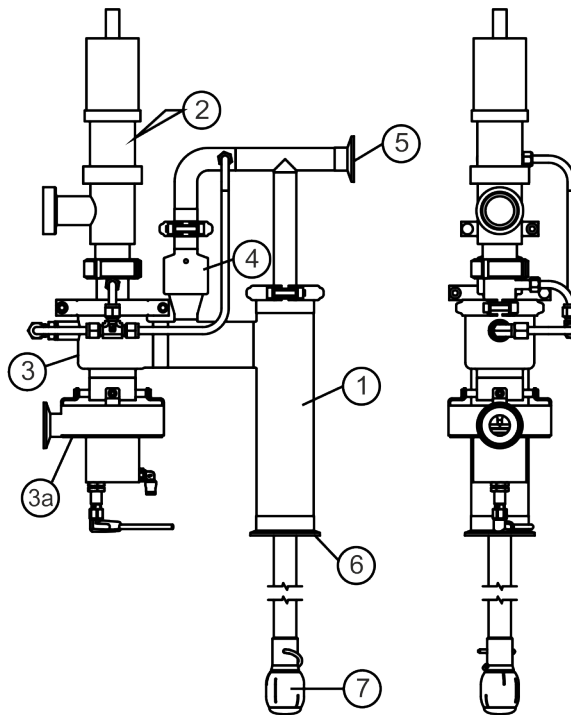
## Technical data

### Materials

Product wetted steel parts	AISI 316L
Product wetted polymers	FDA approved

Standard range	2-inch Tank safety unit	3-inch Tank safety unit
Maximum tank design pressure	3.9 bar/56 psi [1 bar/15 psi (USA)]	3.9 bar/56 psi [1 bar/15 psi (USA)]
Minimum tank vacuum rating (cold CIP)	100mm H <sub>2</sub> O/3.94 in WC	100mm H <sub>2</sub> O/3.94 in WC
Minimum tank vacuum rating (hot CIP)	200mm H <sub>2</sub> O/7.87 in WC	200mm H <sub>2</sub> O/7.87 in WC
Tank size (cold CIP, max. 25°C / 77°F)	200 hl/167 bbl	500 hl/420 bbl
Tank size (hot CIP, max. 80°C / 176°F)	not applicable	50 hl/42 bbl
Tank cleaning device	SaniMidget SB Rotary Spray Head	SaniMagnum SB Rotary Spray Head or Static Spray Ball
Vacuum valve	2-inch	3-inch
Pressure relief valve	DN25	DN25, DN40 or DN50
Self-cleaning CIP/CO <sub>2</sub> valve	1-inch	1½-inch
Connection to tank	DIN 11851 Hygienic Union or ISO 2852 sanitary clamp ferrule	
Connection to CIP/CO <sub>2</sub> supply	DIN 11851 Hygienic Union or ISO 2852 sanitary clamp ferrule	

1. Tank safety unit
2. Pressure relief valve
3. Vacuum valve / 3a. Optional accessory for vacuum housing
4. Self-cleaning CO<sub>2</sub> valve
5. CIP/CO<sub>2</sub> connection
6. Tank connection
7. Tank cleaning device



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