

# SCANDI BREW tank top systems

## – an Alfa Laval specialty

Since the 1980s, more than 12,000 SCANDI BREW tank top systems have given breweries an easy way to provide safety, control over and cleaning of all types of brewery tanks.

The fact that SCANDI BREW tank top systems account for more than every fifth installation worldwide proves the value of their universal design and robust quality.

To accommodate the diverging needs and preferences of breweries around the world Alfa Laval has developed various focused concepts, using the most modern configuration tools and manufacturing methods.

Whether it is a 200 hl buffer tank or a 5,000 hl fermentor, we identify the optimal tank safety system in close cooperation with the brewery's project manager or tank integrator.

### Both standardized systems and 100% customized solutions

As a supplement to the widely used completely customized, Alfa Laval SCANDI BREW tank topplates, we also offer a range of pre-engineered, tank top systems. They feature a wide variety of basic configurations including a number of predefined options and add-ons.

Furthermore, a wide range of supplementary equipment for brewery tanks is available.

### Applications

Alfa Laval SCANDI BREW tank top systems can be used for any type of brewery tank e.g. for

- Fermenting
- Maturation
- Storage
- Bright beer
- Unitanks/combi-tanks
- Smaller pressurized buffer and storage tanks



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### Alfa Laval in brief

Alfa Laval is a leading global provider of specialized products and engineered solutions.

Our equipment, systems and services are dedicated to helping customers to optimize the performance of their processes. Time and time again.

We help our customers to heat, cool, separate and transport products such as oil, water, chemicals, beverages, foodstuffs, starch and pharmaceuticals.

Our worldwide organization works closely with customers in almost 100 countries to help them stay ahead.

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## Designed to fit your needs

### SCANDI BREW solutions for brewery tanks



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# Complete solutions

Alfa Laval is a global provider of complete processing solutions to the brewing industry. Our technologies, application knowledge and engineering capabilities translate into specialized products and systems favoured by breweries worldwide.

Achieving the highest levels of cost-efficiency, reliability, safety and hygiene with lowest possible consumption of energy and water are always in focus for our design and our turnkey deliveries.



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## Fermentation optimization, batch blending and more

The unique Iso-Mix system is based on Alfa Laval's patented Rotary Jet Mixer technology, and provides clear benefits to the brewing industry, particularly for the optimization of the fermentation process. By keeping the yeast in suspension, homogenizing the tank contents and improving fermentation consistency, the system reduces yeast stress, improves attenuation and can even reduce overall process time, thereby potentially increasing fermentation capacity. The Iso-Mix system is also effective in other brewery applications, including batch blending, yeast propagation and storage, and batch production of de-aerated water. The Rotary Jet Mixer is driven by the circulating fluid and provides full coverage of all areas of the tank. As such, the mixer can also be used for cleaning of the tank between mixing batches.



## State of the art tank cleaning

The latest innovation within the company's broad tank cleaning portfolio, the Alfa Laval TJ40G raises the bar for tank cleaning performance of large tanks. What's new are an improved self-cleaning function of the interior and exterior of the device itself, and 100% coverage of tank interior.

Its hygienic self-cleaning construction ensures minimal risk of product contamination and a high product quality.

Like the smaller Alfa Laval TJ20G, the Alfa Laval TJ40G uses a high-impact jet stream to effectively clean tough tank residues and minimize the risk of product contamination. This four-nozzle rotary jet head also cleans tanks 60% faster than static spray ball technology. Because it cleans faster, the Alfa Laval TJ40G uses less water and less cleaning agents thereby reducing operating costs by up to 70%.



## Tank pressure regulator

The Alfa Laval SCANDI BREW pressure regulator maintains and regulates top pressure on pressure tanks during filling, processing and emptying. A single valve unit incorporating a pressure exhaust valve, a pressure-supply valve and a connection for a pressure gauge, ensures reliable setting of working pressure. It is fully cleanable with a CIP system, and the modular design suits different installation requirements. It can either be connected to the CIP/gas pipe leading to the tank top or incorporated in a flow panel.



## Yeast mixing

Alfa Laval SCANDI BREW hygienic agitator/mixers are used for conditioning and mixing of harvest yeast in storage tanks. The result is a homogeneous slurry of uniform temperature and consistency. The agitator/mixers can be equipped with an optional aeration valve that makes it possible to aerate or acid wash through the integrated propeller CIP nozzles while agitating. Aeration increases the vitality of the yeast cells and is typically used prior to pitching.

## Tank top systems

### SCANDI BREW Topplate assemblies

Decades of experience from designing and installing customized systems have given us unique insight into the needs of different breweries and how to best meet them. It is safe to say that whatever the customer's preferences, our engineers can devise the optimal tank top solution.

A topplate assembly is always configured and sized to suit the application at hand, including process specifications, tank size, maximum working pressure and cleaning procedure. Its compact, modular design provides an efficient and economic way of incorporating safety valves plus controls and cleaning functions into one single assembly. To support easy and accurate configuration of tank top assemblies, Alfa Laval's engineers use a special tank top configurator that facilitates the selection of the best solution for each customer and situation.

### Benefits – Tank Top Systems

SCANDI BREW various tank top systems are always characterized by:

- Cost-effective and sanitary design
- Straightforward installation
- Simple and safe operation
- Easy maintenance
- Cleaning-In-Place of all parts
- Possibility to combine with rotary mixers and agitators



SCANDI BREW Topplate

Tank top systems are offered both as standardized solutions and as designed-to-order. In cases with very specific and custom requirements, this is offset by the uncompromised fit of the final solution.

SCANDI BREW topplate solutions, include a number of basic and optional equipment:

### Basic topplate components

- Anti-vacuum safety valve
- Pressure-relief safety valve
- CIP supply pipe and cleaning head
- Self-cleaning CO<sub>2</sub> valve or pneumatic butterfly valves

### Optional topplate components

- High-level probe
- Sight glass and light fitting
- Pressure transmitter
- Heating element, lifting and other auxiliary equipment
- Gas management system (e.g. constant pressure system or pneumatic pressure control)

## Tank top systems

### Wide range of tank top systems

A range of pre-engineered, standardized designs make the SCANDI BREW tank top systems ideal for the vast majority of brewery tanks. They are available in various configurations with standard components and pre-engineered layouts and cover tank sizes up to 2,000 hl.

In addition to the range of pre-engineered tank top systems, Alfa Laval offers completely customized solutions, designed and engineered to meet each individual customer's specific requirements – as always.

Below selection guide shows a side-by-side comparison of the Alfa Laval Tank Top Systems.

	Tank Top Plate	Multiple Unit	Tank Safety Unit
<b>Tank Size (gross)</b>	0-10,000 hl	0-2,000 hl	0-500 hl
<b>Connection Size</b>	flange ø550-1100mm	DN150 & DN200	DN65 & DN100
<b>Safety Valves</b>	Vacuum and overpressure protection	Vacuum and overpressure protection	Vacuum and overpressure protection
<b>Gas handling</b>	Via self-cleaning CIP/CO <sub>2</sub> valve or butterfly valves	Via self-cleaning CIP/CO <sub>2</sub> valve	Via self-cleaning CIP/CO <sub>2</sub> valve
<b>Tank Cleaning Devices</b>	Static spray ball Rotatory spray ball Rotatory Jet Head (all)	Static spray ball Rotatory spray ball Rotatory Jet Head (TJ20G)	Static spray ball Rotatory spray ball
<b>Instrumentation</b>	All standard types	Not available	Not available
<b>Approvals</b>	PED, ASME and others	PED	PED

### Aspects to consider when purchasing a new tank top system

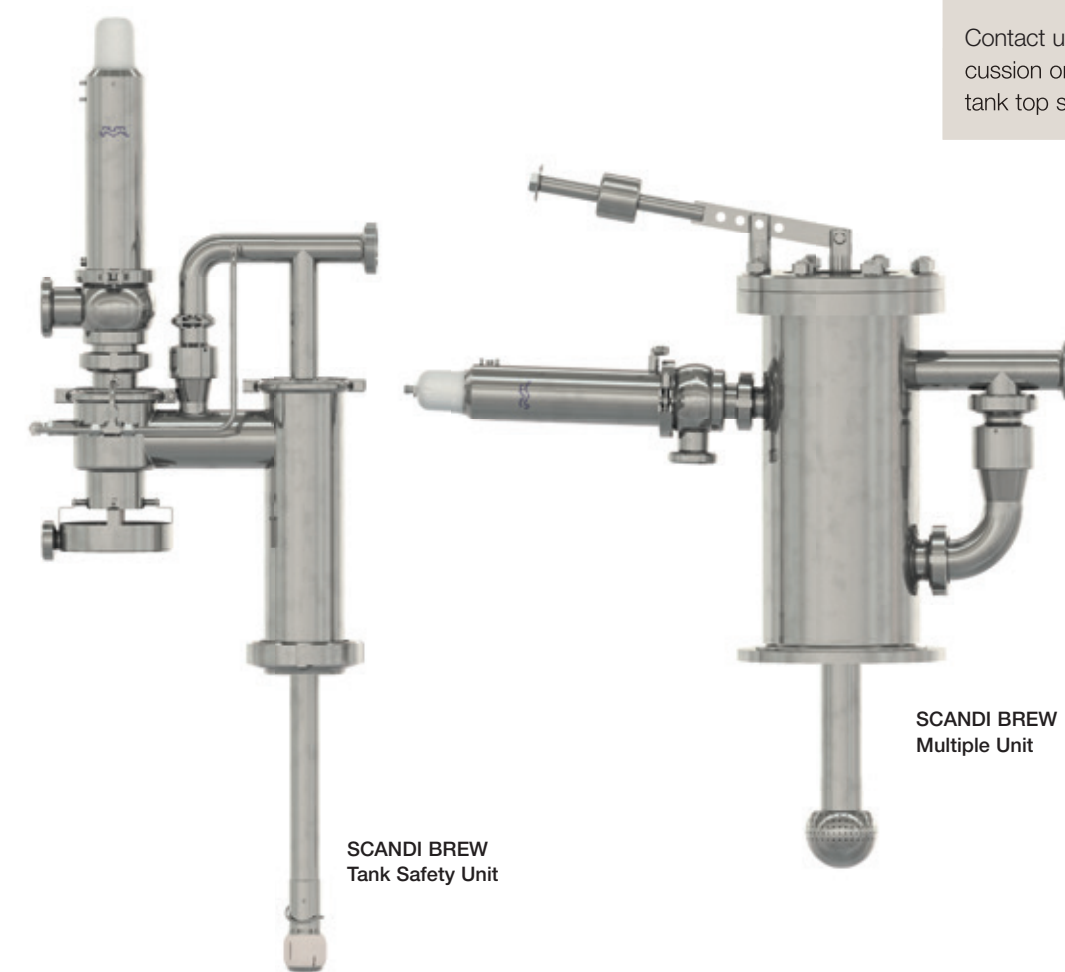
Deciding on the right tank top system depends on many variables:

- Tank size (gross and net volume)
- Tank application (e.g. fermenter, combi-tank or bright beer tank)
- Hot or cold tank cleaning
- Preference for dead-weight or closed safety valves
- Maximum filling rate
- Other process equipment
- Investment cost
- Standards etc.

## Pre-engineered solutions

### Basic tank top systems

For brewery tanks with very basic requirements, where a complete tank topplate assembly is not possible or required, Alfa Laval can provide a compact tank top Multiple Unit or Tank Safety Unit for safety protection of pressure tanks such as fermentation and bright-beer tanks. The units are cost-efficient, reliable and easy to install.



SCANDI BREW Tank Safety Unit

SCANDI BREW Multiple Unit

Both Alfa Laval Multiple Unit and Tank Safety Unit are especially well-suited for tanks that are cleaned at ambient temperature. The basic design includes anti-vacuum valve, pressure-relief valve, CIP supply pipe and a self-cleaning CO<sub>2</sub> valve. Tofteborg rotary spray balls can be supplied as optional extras.

### Benefits – Pre-engineered solutions

The pre-engineered tank safety systems offer considerable design flexibility. The combination of standardization and adaptability increases cost-efficiency and reduces delivery time. Pre-engineered systems therefore offer the well known SCANDI BREW quality at a lower cost.

Contact us for a more detailed discussion on how to specify the right tank top solution for your needs.

## Retrofitting and yeast mixing

### Retrofitting

Alfa Laval has many years of experience in upgrading existing tanks to modern sanitary and safety standards. We offer numerous design solutions to accommodate local site conditions in terms of tank design and available space. A variety of designs and interface connections are available to match existing tank connections. These can also be adapted for horizontal tanks.

### Global services

Our commitment does not end with the delivery and commissioning of a tank top system. Throughout its lifetime, our global sales, service and distribution network is available for maintenance, spare parts and troubleshooting as well as updating and retrofit.



### Yeast storage tank top systems

For yeast management Alfa Laval provides fully equipped SCANDI BREW yeast tank top systems including safety valves, all types of specifically designed process valves and a sanitary yeast mixer with a built-in CIP facility.

Benefits include:

- Compact and sanitary design – optional aeration through hollow shaft design
- Proven and robust – based on hundreds of installations worldwide
- Wide range of mixer sizes and configurations covering tank sizes from 5 to 250 hl
- Each unit is customized to comply with each brewery's design philosophies for yeast management