

## **Craft beer clarifier skid**

Flexibility – quality – efficiency



# Craft beer clarifier skid

## A leap forward in centrifugal beer clarification

As trends in beer are fast changing, and customers are demanding when it comes to new flavors, colors or types of beer – it is time for an easier, more flexible approach to beer clarification in craft brewing. The beer clarifier skid from ANDRITZ SEPARATION is a high quality, simple to operate, plug and play beer clarification solution for your brewery. Combining efficiency and ease of maintenance – the clarifier skid is the right ingredient for your success in the craft brewing industry.



▲ Craft beer clarifier skid

Every drop of beer counts along with quality and consistency. With its craft beer clarifier skid, ANDRITZ SEPARATION provides a solution which fulfills the latest standards and increases yield, reduces costs, improves quality and overall working conditions in your craft brewery. It minimizes and sometimes eliminates the need of using a depth or surface filtration method.

The usage of centrifuge technologies for the separation of yeast from fermented beer is quite well known. With traditional centrifuge technologies, the possibility of oxygen pick up, low yield and bowl plugging are all possible. At ANDRITZ SEPARATION we developed a unique, one of a kind inert gas sealing system (KO<sup>2</sup> – knock out oxygen) that prevents unacceptable levels of oxygen pick up between the clarifier inlet and outlet connections. An automatic water and product recirculating system ensures that the clarifier stays cool

and only clarified beer exits the skid at all times. It also ensures that only a predetermined amount of total suspended solids (TSS) is discharged from the beer clarifier skid outlet. The control system monitors all functions and makes automatic adjustments to maintain operational characteristics, ensuring trouble free and safe operation at all times. Each stainless steel skid is manufactured to meet sanitary standards. The clarifier bowl is self-cleaning and no disassembly is required to maintain its cleanliness.

ANDRITZ SEPARATION provides a plug and play solution for sustainable beer clarification, reducing volume and mass of waste streams. Thanks to its small dimensions and custom configuration, the beer clarifier skid is not only a very efficient separation technology, but also a very compact and easy to install solution. It is equipped with all necessary instruments and valves. The operation of the unit itself is very con-

venient, as the beer clarifier skid is operating at a continuous and stable process in which no diatomaceous earth or other filter aids are needed. Furthermore, the complete fermenter tank bottom (the cone) does not have to be dumped to the drain such as in cases when traditional filtration equipment is used. The beer clarifier is built to handle various levels of solids in the feed. As a consequence, the majority of the fermenter tank bottom matter can be processed and additional beer is recovered, thus increasing a brewery's yield from the day the skid is installed.

### Your benefits

- Up to 15% higher yields compared to traditional filtration and settling methods
- Low processing times when compared to traditional filtration and settling methods
- Control of TSS level in the clarified beer, allowing direct bottling, minimal losses of flavor or taste
- Prevention of aroma losses and achievement of longer product shelf life
- Low in and out temperature maintained
- Low total cost of ownership due to energy saving by the use of a variable speed belt drive and low cost of spare parts
- Minimized or eliminated consumption of filter aids and extended filter shelf life
- Very short return on investment

## Fields of application

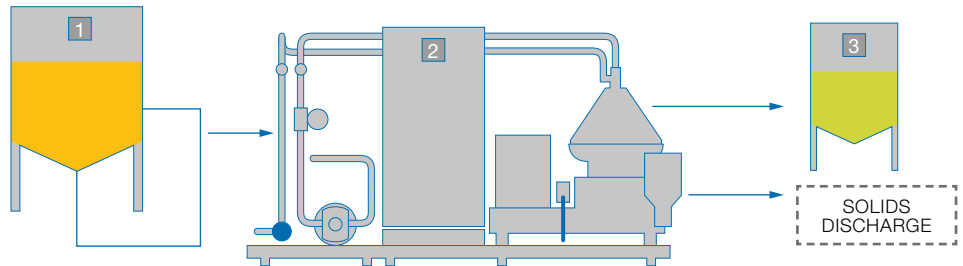
- Clarification of top fermented beer
- Clarification of bottom fermented beer
- Clarification of dry hopped beer

## Scope of supply

- Complete clarifier skid with all instruments included
- Color touch panel with graphic visualization of the clarification process
- Variable frequency drive to allow optimum acceleration and deceleration of the centrifuge
- Feed control valve with automatic and integrated recirculation line
- Back pressure control valve with pressure transducer, fully automatic with integrated recirculation line
- Integration in fully automatic CIP (cleaning in place) system
- Turbidity monitoring and automatic control of TSS level in skid outlet, fully automatic
- Operating water system with bowl open and close solenoids
- Feed valve, flush valve, hood cooling valve, sample ports inlet/outlet, illuminated sight glasses inlet/outlet, water filters, gauges and all air and electrical connections
- KO<sup>2</sup>, hydro hermetic device designed to minimize the oxygen pick up

## Optional features

- Local or remote feed pump
- Solids discharge pump
- VolCon – universal volume control discharging device
- Turbidity monitoring on feed



▲ 1. Fermentation tank, 2. Clarifier skid, 3. Clarified beer tank

## KO<sup>2</sup> – knock out oxygen

KO<sup>2</sup> is the hydro hermetic device designed to minimize the oxygen pick up in the product processed by the clarifier

- Oxygen pick up < 35 ppb
- No risk to increase the oxygen during discharge
- No risk to contaminate product with deaerated water
- Low operating costs for CO<sub>2</sub> or N<sub>2</sub>
- No deaerated water needed

## VolCon – universal volume control discharging device

VolCon is based on a volumetric piston that ensures the perfect control of the discharging volume

- Minimized beer losses, as a result of shorter and more precise discharging time
- Higher yield, no in-out deviation is needed during processing, due to the short discharge time and intervals (as low as every 35 seconds)
- Higher clarification efficiency, because the high hydraulic water pressure and the high bowl speed maintained during the discharging phase avoid turbulence
- Not affected by fluctuations on plant water conditions



▲ Craft beer clarifier skid example



Technical data	Unit	CA 31V	CA 41V	CA 71V	CA 131V	CA 201V	CA 301V	CA 401V
Hydraulic capacity*	hl/h	75	100	200	350	500	700	900
Typical effective capacity beer*	hl/h	6 -16	12 - 34	26 - 71	37 - 130	59 - 163	83 - 223	127 - 249
Installation weight of clarifier	kg	380	1,100	1,300	2,000	2,100	3,800	4,300
Skid footprint	m x m	2.2 x 1.3	2.4 x 1.5	2.6 x 1.6	3.0 x 1.7	3.0 x 1.7	2.2 x 1.9**	2.3 x 2.1**
Skid height	m	1.7	1.8	2.0	2.2	2.2	1.8**	2.0**
Total installed power of clarifier	kW (HP)	5.5 (7.5)	7.5/11 (15)	15 (20)	22 (30)	37 (50)	45 (60)	55 (75)

\* Hydraulic capacity is the maximum throughput capacity of the bowl. Typical effective capacity is usually lower and depends on the character of the beer and required degree of clarity of the clarified beer discharge.

\*\* Clarifier dimensions not skid-mounted.

## The strength to support your needs

We call it 360 degrees of separation

With more than 100 years' experience in the food and beverage industry, ANDRITZ SEPARATION is one of the world's largest suppliers of mechanical and thermal solid/liquid separation and automation. Whether you're an international group or a family

company, our mission is the same: to provide reliable, sanitary, and efficient solutions that improve the quality of your end products. Regardless if it's baby food or dairy, different kind of beverages or vegetable oils, sugar, starch or other applications chances

are high that we have both the technology and process knowledge to help you create the product your customers demand. It's a 360-degree approach that gives you all the right ingredients for your success in the food and beverage industry.

Let's sit down and see how we could take your operations to the next level.

Contact us today.

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