



## Getting more from less

Alfa Laval Foodec decanter centrifuges in breweries



# Greater recovery, better yield

The brewing industry has invested heavily in advanced technology to ensure continued growth and profitability when producing beer in vast quantities. Most modern breweries feature a vast range of equipment designed to optimize process efficiency and ensure high quality at every stage.

## The separation process

Alfa Laval Foodec decanter centrifuges are ideal for boosting efficiency, reliability and hygiene standards in the many different separation processes where efficient, controlled separation is required either to recover wort or beer, or to remove liquids so that waste material can be transported and disposed of economically.

In general, the aim is to reduce the extract losses during these processes, to ensure that as much as possible of the valuable ingredients can be recovered and re-used, and to minimize costs for waste handling and disposal.

By using Foodec decanter centrifuges, breweries can benefit from the very latest separation technology to achieve more economical and more reliable recovery and separation, providing you with an important extra competitive advantage in your brewery operations.

## Alfa Laval in brewing

Alfa Laval has a proven track record for supplying advanced-technology equipment to meet brewing industry requirements – with prime focus on the separation processes involved. These play a major role in achieving the desired levels of efficiency and profitability, and Alfa Laval Foodec decanter centrifuges are ideal for the separation duties associated with the hot trub, spent grains, yeast mixtures, kieselguhr/perlite and wastewater.

## Hygiene is essential

Brewery processes require excellent hygiene throughout. Alfa Laval Foodec decanter centrifuges combine high standards of hygiene with efficient recovery and meticulous control at every stage of the separation process.

## Spent grain dewatering

Decanter centrifuges can be used to remove the water from the wet spent grains of malt in the lauter tun or mash filter, so these can be sold as cattle feed or to biomass power plants.

Foodec decanter centrifuges are able to handle high levels of solids and to dewater these with exceptional efficiency.



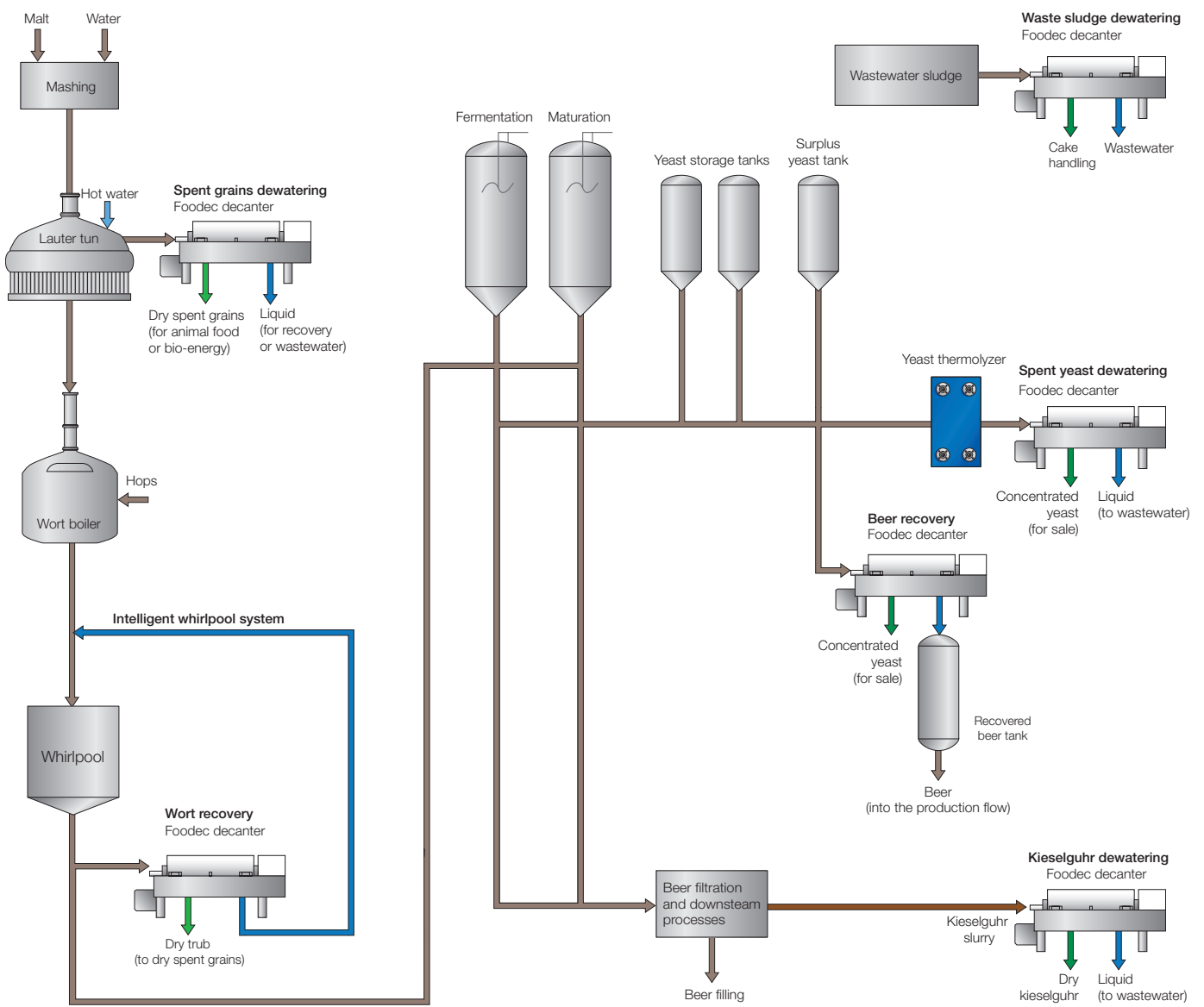
## The Foodec benefits include

- greater separation efficiency, which means faster processing
- excellent hygiene standards, which mean better product quality
- effective seals and CO<sub>2</sub> purge systems, which together minimize oxidation
- meticulous control, which means greater process efficiency and better quality.





High-efficiency process flow chart – separation in brewery operations





*“The premium driver for the whole project with the decenter centrifuge was to save wort. We estimate between 5-7% of wort is saved through the project, and that delivers the payback in less than the initial 2 year target”, says Bill Dobson, Brewmaster, Brains Brewery, Cardiff, Wales*

### **Wort recovery**

Hot wort from the wort boiler is normally clarified in a whirlpool installation in which the flow pattern makes the hot trub collect in the middle of the whirlpool bottom. The clear wort is then drawn off from the side of the tank.

However, the trub at the bottom of the whirlpool still contains substantial amounts of wort. This can be recovered with great efficiency by passing it through a Foodec decenter centrifuge in the same brew, thus saving both time and CIP resources.

### **Recovering beer from surplus yeast**

The fermentation process used in breweries usually results in a yeast mixture that still contains substantial quantities of beer that can be recovered to ensure maximum efficiency.

Foodec decenter centrifuges are often the best solution for separating this beer from the yeast. These units help ensure the quality of the recovered beer by using a special hygienic seal that limits oxygen pick-up.

They also have the solids handling capacity necessary to provide greater yield. Extracting more liquid from the yeast at the bottom of the tank also means the final waste product is extremely dry. This makes waste handling relatively easy and reduces logistics costs.

Foodec decenter centrifuges can be integrated into the green beer transfer process or be installed as part of a separate beer recovery process line.

### **Spent yeast dewatering**

Waste yeast often contains liquids in large quantities, which makes handling and disposal both difficult and relatively expensive.

Because of their efficiency, Foodec decenter centrifuges are ideal for removing all forms of liquids from the spent yeast to ensure cost-effective logistics when transporting the waste material.

### **Kieselguhr slurry dewatering**

Kieselguhr slurry normally contains large quantities of liquids, again making handling and disposal difficult.

Because of their efficiency and special wear protection, Foodec decenter centrifuges are the ideal way to ensure drier kieselguhr, making disposal easier and reducing transport costs.

### **Wastewater and sludge dewatering**

Breweries often treat their own wastewater using a biological sludge treatment system. Any excess sludge from here is sent to an aerobic digester and/or sludge dewatering system prior to disposal.

Foodec decenter centrifuges are ideal for this purpose, and can be combined with polymer dosing systems to optimize the dewatering process still further.

Using Foodec decenter centrifuges, breweries can also pre-treat effluents to reduce the Biological Oxygen Demand (BOD) in relation to wastewater treatment plants, whether their own or municipal.

### **Benefit from Foodec decenter centrifuges in your brewing processes**

The unique design of the Alfa Laval Foodec range enables you to virtually eliminate problems with oxygen pick-up, as well as maintaining high levels of hygiene and drastically reducing processing time.

The built-in advantages of Foodec decenter centrifuges include

- advanced sealing features and a CO<sub>2</sub> purge system that excludes the atmosphere, thus eliminating oxygen pick-up
- advanced purging and CIP systems that make cleaning much easier, quicker and cheaper
- better solids transportation that significantly reduces processing time
- a new drive and control system that gives you even better control over the separation process, to help you boost the quality of the end product.





*“The main reason for Baltika to install Alfa Laval decanters was to minimize the waste disposal of Kieselguhr. Today, the solids content in the wastewater is 0.05%”, says Valentina Chusova, Manager at Baltika Breweries, Voronezh, Russia*

Brewing beer places great demands on quality, hygiene and reliability.

The Alfa Laval Foodec range of decanter centrifuges helps you meet these requirements with the most efficient separation technology currently available.

The Foodec range combines unparalleled efficiency with exceptional hygiene in a design that also cuts down greatly on oxygen pick-up in separation processes. This means that using Foodec decanter centrifuges for recovery and separation duties can give an important boost to operating margins in a wide range of your brewery operations.

### 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.

### 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](http://www.alfalaval.com)

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