



# Flavours of the future

Hygienic equipment for reliable and sustainable beverage production



# Sustainable beverage production

In a world characterized by population growth, shifting patterns of consumption, and changing consumer tastes, the pressure is on for beverage producers to respond with products that meet the new demands.



HEALTH IS ONE OF THE MOST IMPORTANT FACTORS AFFECTING CONSUMER'S BEVERAGE PURCHASES.

*(Source: International Food Information Council, Food and Health Survey 2014)*

Some beverage categories, such as flavoured water, are expected to see double-digit growth rates in the next five years. There is great business potential, but competition is severe. The winners will be those who can create innovative products with new ingredients – using sustainable, efficient, and economical production methods.

Alfa Laval's hygienic equipment makes it possible to increase process reliability while reducing consumption of energy and water. Our equipment combines sustainable performance with significant cost savings.

#### **On the pulse of the industry**

Alfa Laval's equipment and services for the beverage industry are developed with the aim of addressing four key challenges for the sector:

- Supplying products to consumers at a competitive price
- Getting the most from raw materials
- Reducing waste and emissions
- Delivering safe and hygienic products



### Energy drinks

Taurine is a key ingredient – and also one of the most difficult powders to dissolve.

The Alfa Laval Hybrid Powder Mixer is capable of dissolving taurine in a very efficient way. It features two pumps with a shared drive, eliminating the need for additional pumps. Its design allows for up to 4-bar outlet pressure with a single motor drive, ensuring speed and efficiency in most applications.



### Fruit juices

The high pulp and fibre content demands effective yet gentle mixing to ensure homogeneity and consistent product quality.

Alfa Laval agitators with EnSaFoil impellers deliver effective mixing of juices containing pulp and fibre, combined with very low energy consumption. Shear is also reduced, preventing damage to fibres. The design ensures even product speed over the full length of the impeller.



### Carbonated soft drinks

Final syrup is normally prepared in two syrup tanks, which are used alternately. Fast, homogeneous mixing and rapid cleaning are essential for these tanks.

Alfa Laval Rotary Jet mixers secure fast and efficient mixing in syrup mixing tanks. They also double as highly efficient tank cleaning machines. There is no rotating shaft, eliminating the need for a gasket and reducing the risk of contamination of the final syrup.



### Smoothies

The high viscosity makes cleanability important for tanks and equipment.

Alfa Laval TJ20G provides high-impact cleaning with low flow. It uses 50-70% less cleaning fluid than traditional static spray heads and 20-30% less than rotary spray balls. Total cleaning time can typically be reduced by 50% compared with traditional static spray balls.



### Non-alcoholic beer

The process typically requires a large number of centrifugal pumps.

Designed for Cleaning-in-Place (CIP) duties containing entrained air, the new Alfa Laval LKH Prime can also pump product, potentially reducing both capital investment and energy consumption when designing process systems.

WATER DEMAND IN 2030 IS EXPECTED TO EXCEED CURRENT SUPPLY BY

# 40%

CONSUMPTION THEREFORE NEEDS TO BE REDUCED FOR BEVERAGE PRODUCTION EQUIPMENT.

*(Source: 2030 Water Resources Group)*



# Innovative hygienic equipment for tomorrow's beverage processes

①

## Alfa Laval Hybrid Powder Mixer

The Alfa Laval Hybrid Powder Mixer features two pumps with a shared drive, eliminating the need for additional pumps. Its design allows for up to 4-bar outlet pressure, ensuring speed and efficiency in most applications.



②

## Alfa Laval Rotary Jet Mixer

Based on rotary jet head technology, the Alfa Laval Rotary Jet Mixer secures fast mixing and efficient tank cleaning. It can also be used in combination with the Alfa Laval Hybrid Powder Mixer to improve powder dissolving.



③

## Alfa Laval EnSaFoil Impeller

Designed to ensure even product speed over the full length of the agitator's wings, Alfa Laval EnSaFoil combines highly efficient agitation with lower energy consumption. Shear is also reduced, which avoids damage to particles.



④

## Alfa Laval LKH Prime Pump

Based on the market-leading Alfa Laval LKH pump range, Alfa Laval LKH Prime is a versatile, energy efficient, self-priming pump that uses a combination of air-screw technology and advanced design to meet the most stringent requirements.



⑤

## Alfa Laval OptiLobe Pump

The Alfa Laval OptiLobe Rotary Lobe Pump offers reliable fluid transfer and gentle product handling in combination with low pulsation, low shear, and low noise characteristics.



⑥

## Alfa Laval LKH Pump

The wide range of Alfa Laval centrifugal pumps ensures the right pump can be selected for every application, making sure products and their sensitive ingredients are not compromised.



⑦

## Alfa Laval SRU Pump

Strong, sturdy, and reliable, Alfa Laval SRU Rotary Lobe pumps ensure gentle and efficient pumping while minimizing damage to ingredients, stabilizer complexes, and particulates.



⑧

## Alfa Laval Unique Mixproof Valve

These valves enable the simultaneous flow of two different fluids through the same valve without risk of cross-contamination. For cleaning in demanding applications, utilization of Alfa Laval SpiralClean is an option.



⑨

## Alfa Laval Valve Matrix

One complete delivery covers all requirements. The plug-and-play solution is quick to install, and Alfa Laval can make design and layout suggestions for easy selection.



⑩

## Alfa Laval TJ20G

This tank cleaning machine eliminates residues while reducing cycle times and costs for energy, water, and cleaning agents.



⑪

## Alfa Laval Rotacheck+

This monitoring device validates the Cleaning-in-Place process of virtually any rotary jet head tank cleaning machine. Its unique built-in intelligence and advanced analogue sensing technology ensure unprecedented levels of accuracy and reliability.



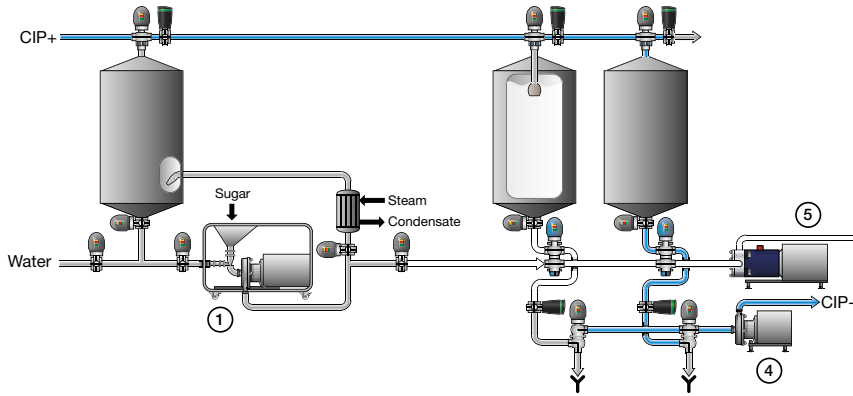
⑫

## Alfa Laval Flow Transmitter

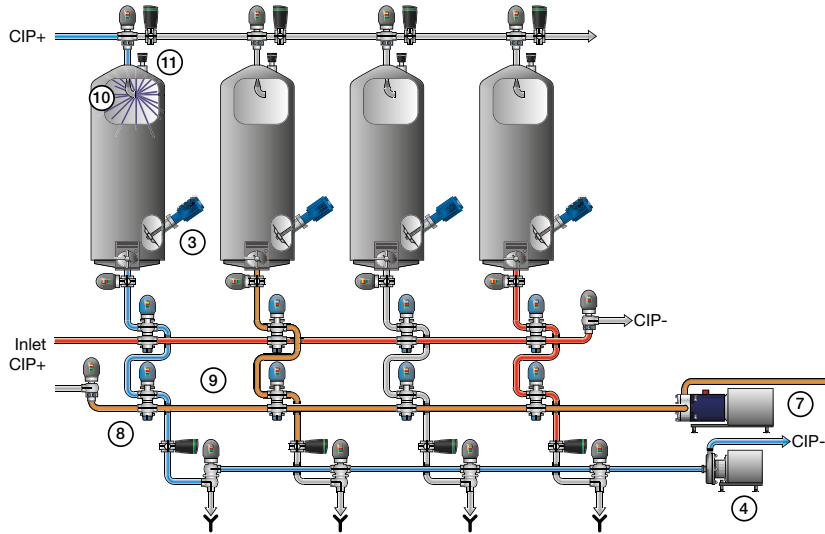
The design of the Alfa Laval Flow Transmitter ensures no pressure drop, which is important for viscous products. The smoothness of the product-wetted interiors is maintained, making it very easy to clean.



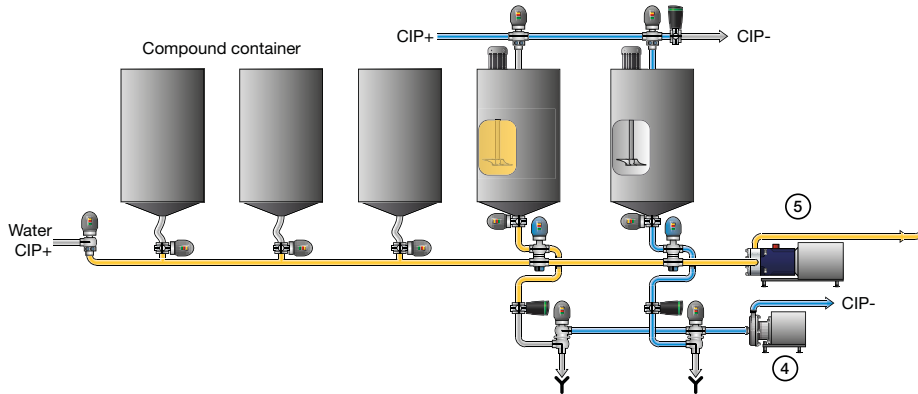
### Sugar dissolving station (batch)



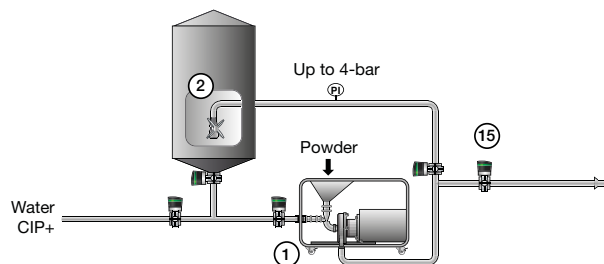
### Juice concentrate station



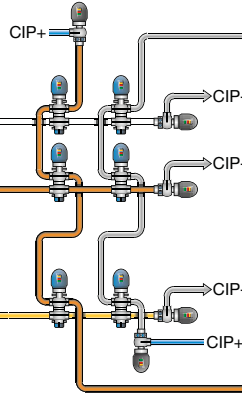
### Small quantity station



### Powder dissolving station

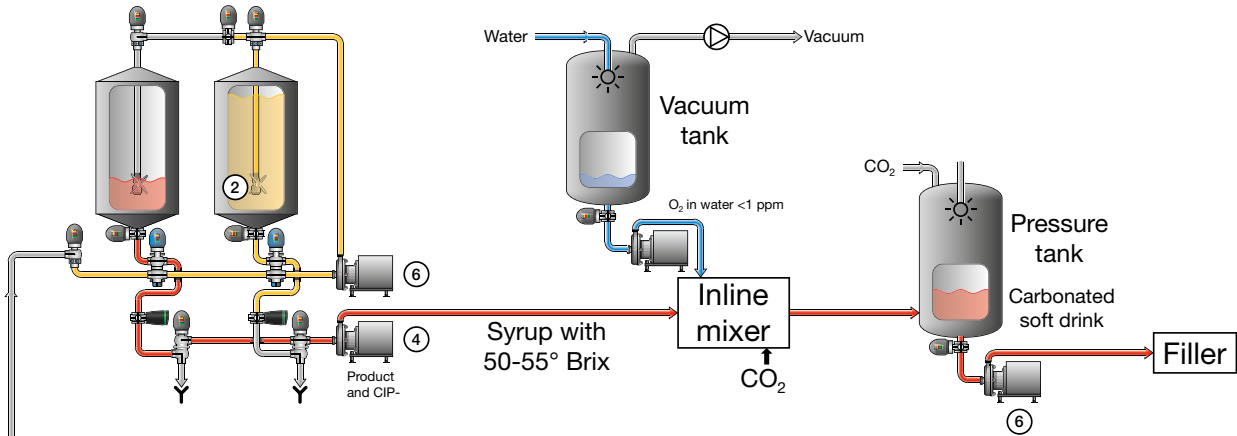


### Dosing station



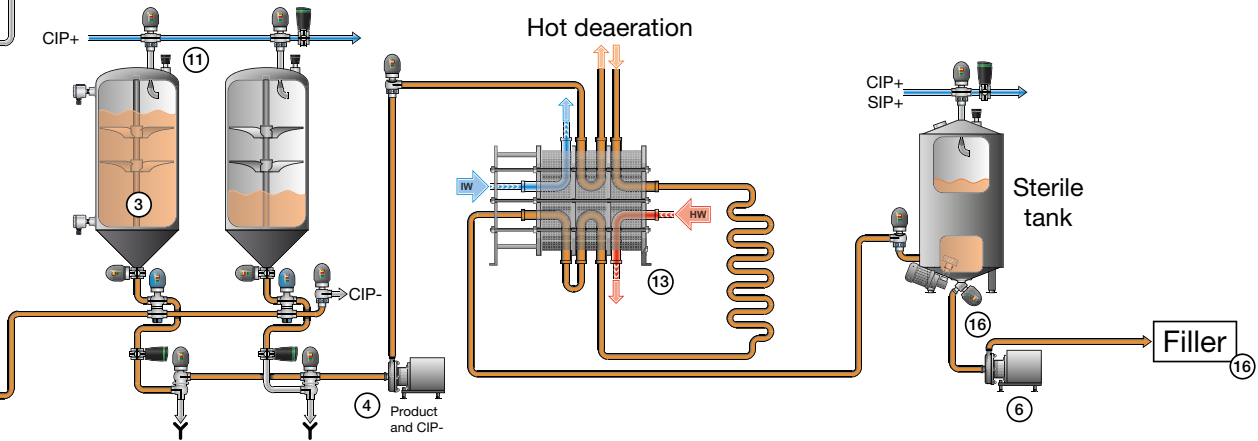
### Final syrup mixing tanks

### Water deaeration/carbonization

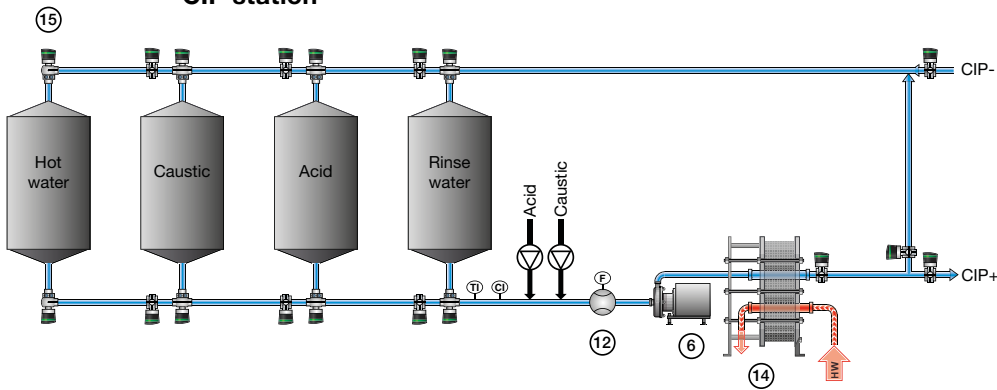


### Juice mixing tanks

### Pasteurization



### CIP station



Schematic process chart

# Services that extend performance

13

## Alfa Laval FrontLine Heat Exchanger

With its optimized design, the Alfa Laval FrontLine is the premier choice for hygienic processes that require high performance combined with gentle product treatment, long operating times, and superior cleanability.



14

## Alfa Laval BaseLine Heat Exchanger

Simple and sturdy, with design pressure of 10 bar and a cost-effective frame, the Alfa Laval BaseLine fulfils most heating and cooling tasks for lower viscosities.



15

## Alfa Laval ThinkTop D30

Compact and intelligent, the Alfa Laval ThinkTop D30 provides simple and reliable valve control. With its integrated plug-and-play system, it is user friendly and highly suitable for basic applications.



16

## Alfa Laval diaphragm valves

The Alfa Laval Unique DV-ST and Unique DV-P UltraPure valves are ideal for use in aseptic processes, such as cold aseptic filling machines. The Alfa Laval Unique DV-P UltraPure features a new design optimized for double flow rate with reduced pressure drop, thereby cutting energy costs. The innovative design makes it easy to install and maintain.

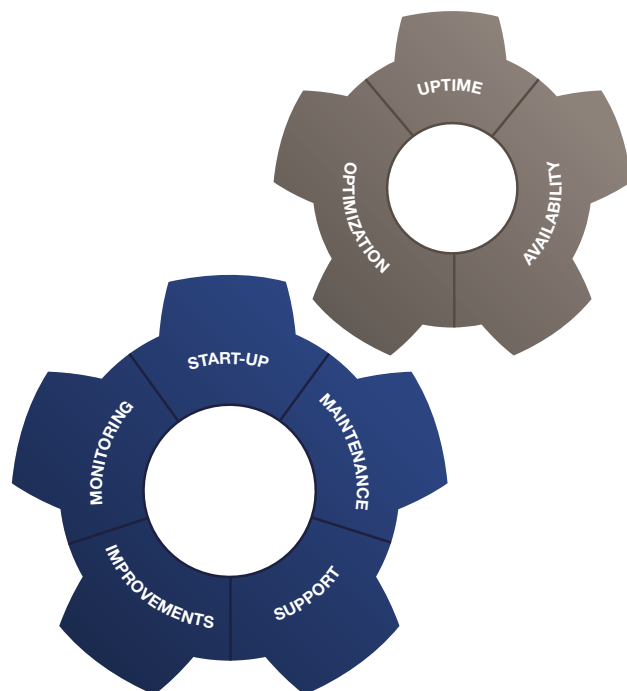


Alfa Laval's expert service is always on hand through our global network. Alfa Laval also offers a wide range of time-saving tools and resources to secure your performance, making it easy to configure, size, and optimize your equipment.

Alfa Laval Service offers a broad range of parts, equipment, and services covering the entire product life cycle – from start-up, support, and maintenance, to improvements and monitoring. We are committed to ensuring maximum uptime, continuous optimization of your processes, and high availability.

Alfa Laval service kits and top-quality spare parts are always available. They are designed for durability and performance. We secure that your equipment remains in compliance with certificates and legal requirements in your market.

Alfa Laval Service maximizes the reliability and uptime of your equipment. The result is superior performance throughout the equipment life cycle to give you a competitive edge. Together with our global service network, we can help secure long-term performance.



## **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 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, food-stuffs, 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)

Alfa Laval is a trademark registered and owned by Alfa Laval Corporate AB.