



Multifunctional beverage mixing with rotary jet mixer technology

Dico, Germany

Case story

Multifunctional beverage mixing

With Alfa Laval's multifunctional system for the beverage industry, all steps of production, as well as cleaning, take place in the same system, generating significant savings. The multifunctional system makes it possible to deoxygenate, carbonate, mix powders, such as caffeine and taurine, and blend aroma, sugar syrup and water all in the same loop.

Client

German energy drink producer Dico.

Problem

When planning to establish a new factory, German energy drink producer Dico was looking for a flexible mixing solution that could increase efficiency.

Solution

The multifunctional system offered by Alfa Laval delivers increased efficiency at half of the investment cost of a conventional system. The heart of the system is the patented Alfa Laval Iso-Mix rotary jet mixer, which can also be used for CIP (Cleaning-in-Place), thus eliminating the need for an extra CIP system.

Result

Dico's multifunctional system runs continuously and is used for three production lines – cans, bottles and shots. The system's flexibility is a big advantage for a mid-sized beverage manufacturer, making it possible to produce small batches and to change production quickly according to demand. The tank can produce one batch and then be cleaned and ready for a new batch in less than 20 minutes.

It all adds up to significant savings on the initial investment, but then continuously contributes to savings on both process time and power consumption.



Facts

- One system does it all
- Cut mixing time by 90 percent from 30 to 3 minutes
- Speeds up production

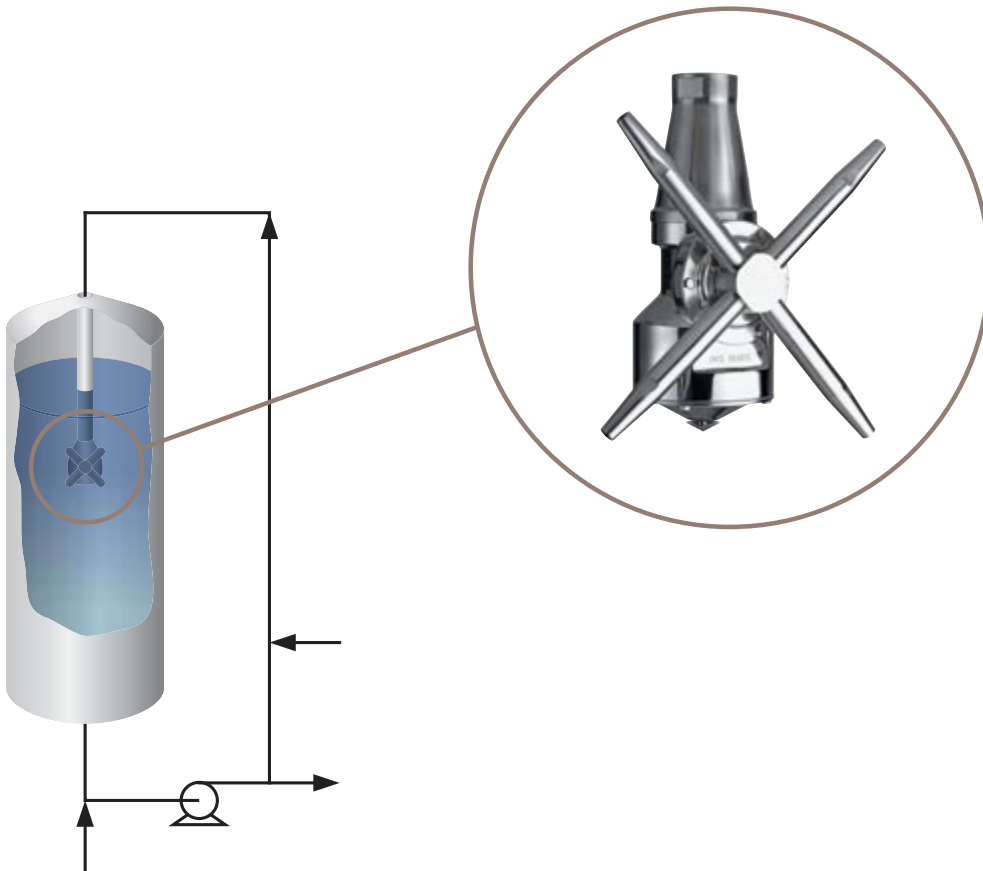
System data

- Volume: 10 m³
- Tank diameter: 2 m
- Tank height: 3.2 m
- Mixer type: IM 20 with 4x10 mm nozzles
- Temperature: 10°C
- Pressure, pump: 3–5 bar
- Viscosity: 1 cP

Technology and operation

The Alfa Laval rotary jet mixer has either two or four rotating jet nozzles positioned under the liquid surface at the top of the tank. A variable speed pump circulates the liquid to be mixed through the tank in a closed loop system. The resulting flow drives a gearing system in the rotary jet mixer, which causes the nozzles to rotate around both the horizontal and vertical axes.

This double rotation enables the jets to produce mixing action and extend its reach throughout the entire tank volume. This results in fast and efficient mixing of the injected liquid, gas or powder. The rotary jet mixer may also be used for cleaning the tank; cleaning fluids are then fed through the nozzles of the rotary jet mixer into the tank.



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