



# Mixing smoothies with rotary jet mixer technology

Serious Food Company, United Kingdom

Case story

## Mixing smoothies

The challenge when mixing smoothies is to obtain a stable and homogeneous mixture of high-viscosity fruit purées and the fresh-pressed high-fibre juice.

## Client

British company the Serious Food Company, producer of juice, desserts and smoothies.

## Problem

The Serious Food Company wanted a system that, in a just few minutes, could blend smoothies to a homogeneous and stable mixture. They were facing problems with unacceptable mixing times since it took a long time to obtain a homogeneous mix of high-viscosity fruit purées and fresh-pressed high-fibre juice. They also found it difficult to clean the tanks after batch production.

## Solution

Three tanks, each with a volume of 15m<sup>3</sup>, were equipped with two Alfa Laval Iso-Mix rotary jet mixers. The rotating nozzles on the rotary jet mixers reach the entire tank volume, resulting in fast and efficient mixing. The complete system is made up of a recirculation loop that feeds the Iso-Mix rotary jet mixer and takes the tank contents from the tank bottom through a boost pump and back into the rotary jet mixer.

## Result

Rotary jet mixer technology proved to be considerably faster than traditional methods, which resulted in greater profit margins. By installing the Iso-Mix rotary jet mixers in the tanks, the Serious Food Company obtained a more cost-effective plant design with low maintenance costs and higher sanitary levels in the tanks since the rotary jet mixer can also be used for cleaning the empty tank (CIP).



## Facts

- Savings of 12,000 EUR per tank
- Homogeneous and stable mixture
- Fast and efficient cleaning of the empty tank (CIP)

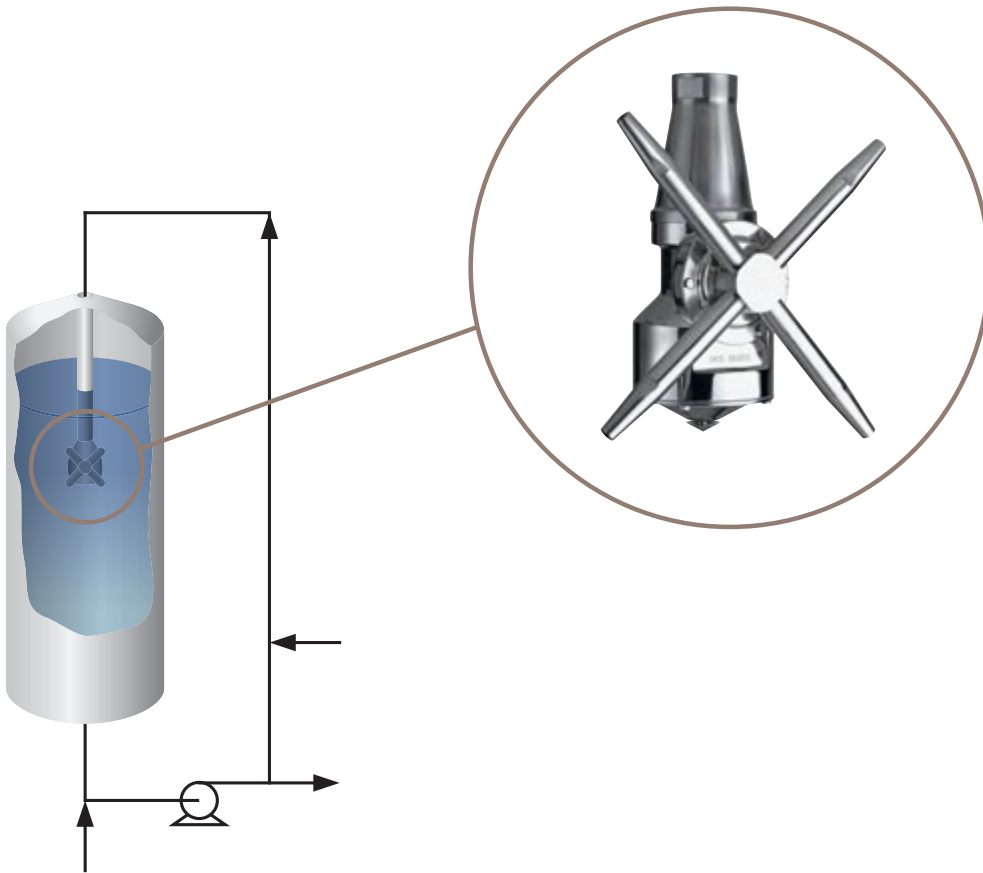
## System data

Volume: 15 m<sup>3</sup>  
Tank diameter: 1.88 m  
Tank height: 5.22 m  
Mixer type: IM 15 with 4 x 8 mm nozzles  
Temperature: 5°C  
Pressure, pump: 2–5 bar  
Viscosity: 1–8000 cP (end-product 20–300 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

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