

# More efficient deaeration



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Issued by	Department	Date
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Minimizing the oxygen content in liquid food products like soft drinks, beer and edible oil leads to extended shelf life and improved taste stability.

The Alfa Laval Iso-Mix deaeration systems offers a simple and well-proven solution for deaeration with many advantages:

- Half the investment cost of traditional systems
- Simple and reliable sanitary system
- Low oxygen levels
- Module based supply with easy installation and operation
- A stand alone system or boosting of an existing deaeration system

## Operation

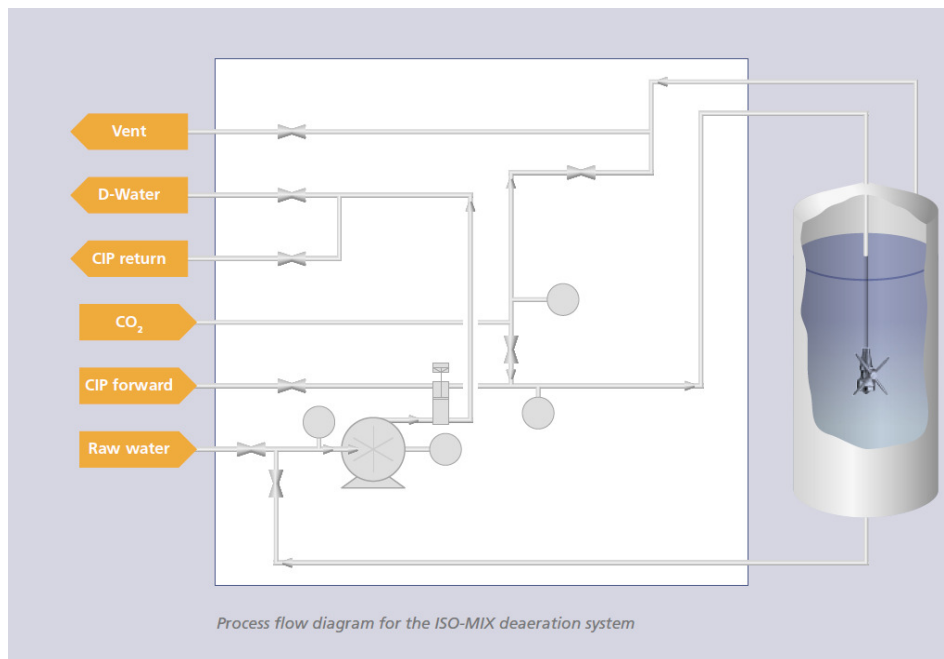
The rotary jet mixer is installed in a tank which is connected to a skid-mounted deaeration unit/module. Liquid is withdrawn from the tank, re-circulated and reinjected into the tank through the rotary jet mixer. Stripping gas, e.g.  $N_2$  or  $CO_2$ , is added in the recirculation loop, and small bubbles are created by the action of the rotary jet mixer, thereby stripping the oxygen out of the liquid. (flow diagram on page 2)

## Design

The Iso-Mix deaeration system consists of two main components, the rotary jet mixer mounted in a tank, and the skid-mounted deaeration unit containing pump, valves, instrumentation and a control system. This two-component design makes installation simple. The rotary jet mixer is installed in a new or existing tank, and the skid-mounted unit is hooked up.

## Features and benefits

- Stripping gas can be carbon dioxide or nitrogen
- The system can be used for simultaneous mixing
- Integrated CIP as the rotary jet mixer is used to clean the empty tank
- All parts in contact with the product are made of sanitary material
- The system can be used for carbonation of the liquid in the tank



### Options

- The deaeration system can be supplied as a simple, manually operated system or a fully automated controlled system
- Batch operation using a single tank of volume 1m<sup>3</sup> to 250m<sup>3</sup> or continuous (two tanks) operation with capacities 10, 20, 30m<sup>3</sup>/h
- The system can be supplied with online oxygen and/or CO<sub>2</sub> measurement
- Stripping gas can be recirculated for lower consumption
- Heat exchanger can be integrated
- Ultraviolet water purification and sterile filtration can be integrated

### Application examples

The Alfa Laval Iso-Mix deaeration system has been installed in a number of applications including:

- Deaeration of water used in beer and beverage production to levels as low as 5 ppb
- Deaeration of finished beer to 100 ppb
- Deoxygenation of edible oil (linseed, rapeseed, olive, fish oil etc.)
- Deoxygenation of milk



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