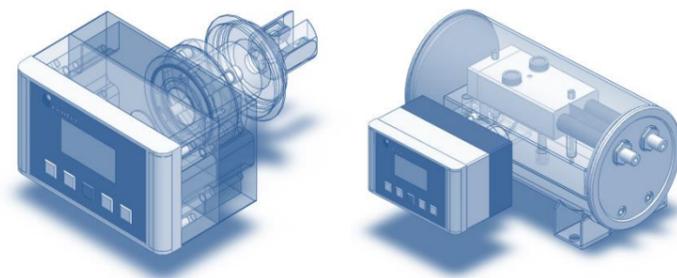


The Centec Group

Centec is a privately owned group of companies. Our automated process skids are used throughout the entire brewing process. For soft drinks, dairy and food industries we offer a large variety of skid mounted systems. We have decades of experience in water purification and deaeration, carbonation, liquid blending and dosing, flash pasteurization and cleaning-in-place. Centec technology includes a range of high precision process sensors for accurately measuring critical product properties such as extract, alcohol, milk fat, O₂ and CO₂. The largest brewery, soft drink, dairy and food groups in the world are among our key customers.



Accuracy. Reliability. Centec.

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Nitrogenator

Nitrogenation

Centec Beverage Systems



Automated
process skids
and high precision
sensors from a
single source.
Centec.

Nitrogenator

The Principle

The Centec Nitrogenator is a modular skid which uses either one or several specifically designed Vortex injectors, or alternatively highly effective membrane contactors to reach exactly the required value of dissolved N₂ in the beverage. The Vortex nozzles inject the gas as fine bubbles into the liquid stream. They ensure that the N₂ dissolves perfectly and absolutely homogeneously in a very short time. Each contactor contains thousands of microporous hydrophobic hollow fibre membranes. Their large internal surface maximizes the contact area between liquid and gas. While N₂ is applied on the inside of the hollow fibres, the beverage flows in counter current on the outside. With a high partial pressure difference between the liquid and N₂ gas, the N₂ permeates through the membranes into the beverage. This fundamental scientific principle is described by "Henry's Law". At the outlet of the system the N₂ content is permanently measured with a highly reliable sensor. Based on this accurate in-line measurement, the N₂ flow is instantly and fully automatically adjusted. The modular design of the process units allows for easy expansion, e.g. for blending or additional carbonation.

Technical Data

Capacity	10 - 1.500 hl/h
Range of N ₂	0 - 100 ppm
Pressure of Operation	1 - 10 bar (Vortex injector) 0 - 6 bar (hollow fibre membranes)
Temperature of Operation	2 - 20 °C
Temperature of CIP	up to 85 °C
Material	1.4301/1.4404 AISI 304/316L
PLC	SIMATIC S7
Options	in-line measurement of O ₂ /CO ₂ /sugar/alcohol/... carbonation blending



The Centec production is certified according to ISO 9001.

- **Application Specific and Energy Efficient**
specifically designed Vortex-nozzle for N₂ injection
membrane contactors for increase or decrease of N₂
blending or additional carbonation on demand
- **Modular Design with Standard PLC**
skid mounted for easy installation and start-up
- **Hygienic Execution and Full CIP Capability**
- **Outstanding Price-Performance-Ratio**

Experience. Expertise. Centec.

*Ion Exchange · Reverse Osmosis · Membrane Deaeration · Column Deaeration · Hops Pre-Isomerization
Wort Aeration · Yeast Pitching · Nitrogenation · Carbonation · Carboblending · High Gravity Blending
Multi Component Mixing · Additive Dosing · Flash Pasteurization · Cleaning-in-Place · Dealkoholization*

