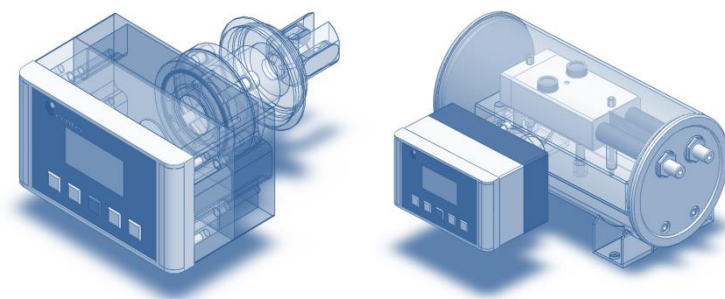


## The Centec Group

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, O<sub>2</sub> and CO<sub>2</sub>. The largest brewery, soft drink, dairy and food groups in the world are among our key customers.



**Accuracy. Reliability. Centec.**

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# DeCarbonator

## Carbonation & Decarbonation

### Centec Beverage Systems



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

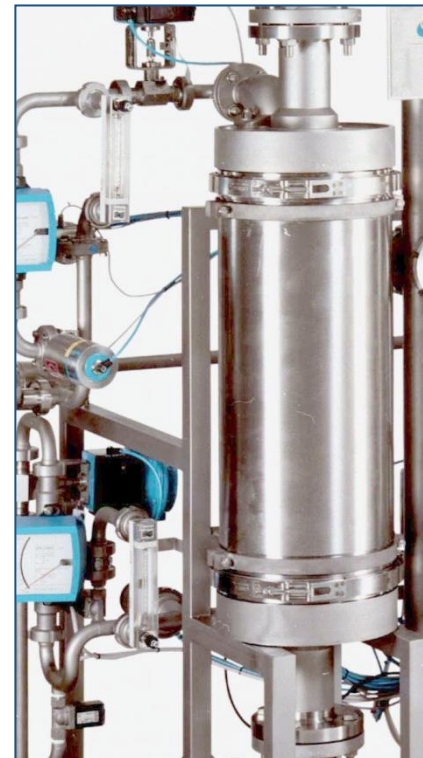
# DeCarbonator

## The Principle

The Centec DeCarbonator is used for the carbonation, decarbonation and deoxygenation of beverages like beer, cider, soft drinks and sparkling water. Highly effective membrane contactors are applied in order to reach exactly the required value of residual CO<sub>2</sub> and O<sub>2</sub>. Each contactor contains thousands of microporous hydrophobic hollow fibre membranes. Their large internal surface maximizes the contact area between liquid and gas. While N<sub>2</sub> or CO<sub>2</sub> is applied on the inside of the hollow fibres, the beverage flows in counter current on the outside. Depending on the partial pressure difference of CO<sub>2</sub> between the liquid and the gas phase, the CO<sub>2</sub> permeates through the membranes into or out of the liquid. At the same time the O<sub>2</sub> content of the beverage is reduced. This fundamental scientific principle is described by "Henry's Law". At the outlet of the system the CO<sub>2</sub> content is permanently measured with a highly reliable CARBOTEC sensor developed and manufactured by Centec. Based on this accurate in-line measurement, the CO<sub>2</sub> flow is instantly and fully automatically adjusted. The modular design of the process units allows for easy expansion, e.g. for carboblending or additional nitrogenation.

## Technical Data

Capacity	10 - 1.500 hl/h
Range of CO <sub>2</sub>	0 - 10 g/l or 0 - 5 vol.%
Control Accuracy	± 0,05 g/l or ± 0,025 vol.%
Pressure of Operation	0 - 6 bar
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 <sub>2</sub> /CO <sub>2</sub> /sugar/alcohol/... nitrogenation blending



The Centec production is certified according to ISO 9001.

- **Application Specific and Energy Efficient**  
exceptional accuracy with CARBOTEC sensor technology  
membrane contactors for increase or decrease of CO<sub>2</sub>  
carboblending or additional nitrogenation 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 · Dealcoholization*

