

## Water Softening & Demineralization

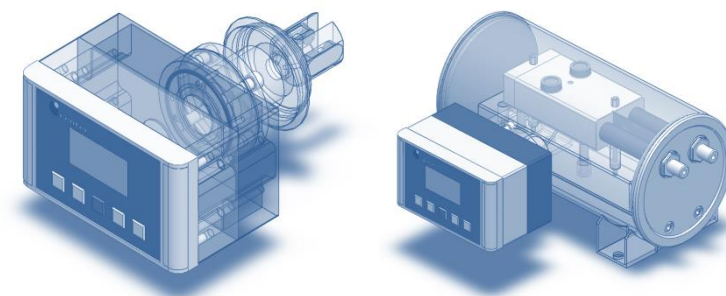
### Centec Beverage Systems



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

## 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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# IONTEC

## The Principle

The Centec ion exchange system IONTEC softens or demineralizes water. The unit contains ion exchange resins which are insoluble granular polymers. In their molecular structure they contain loosely held positive cations or negative anions. These ions exchange with the ions in the treated solution as it passes through the unit. For softening of water, a cation resin containing  $\text{Na}^+$  is applied. The calcium and magnesium ions forming the hardness in water and creating scale deposits are exchanged for the sodium ions of the resin which binds more strongly with  $\text{Ca}^{++}$  and  $\text{Mg}^{++}$  than with  $\text{Na}^+$ . When most of the ions in the resin have been replaced the resin is exhausted and the regeneration cycle is initiated. Regeneration is done with brine which effectively strips out the  $\text{Ca}^{++}$  and  $\text{Mg}^{++}$  from the exhausted resin. For demineralization, basically all dissolved ions are removed from the water. Therefore, the solution passes through a cation resin containing  $\text{H}^+$  replacing all cations and through an anion resin containing  $\text{OH}^-$  replacing all anions. The  $\text{H}^+$  and  $\text{OH}^-$  then combine, to form purified water. For regeneration the cation resin is treated with an acid. The anion resin is regenerated with a strong base.

## Technical Data

Capacity	10 - 1.500 hl/h
Pressure of Operation	0 - 8 bar
Temperature of Operation	2 - 40 °C
Material	1.4301/1.4404 AISI 304/316L
PLC	SIMATIC S7
Options	hardness control pre-filtration reverse osmosis disinfection



The Centec production is certified according to ISO 9001.

- **Application Specific and Energy Efficient**  
all stainless steel sanitary execution  
appropriate resin regeneration on demand  
mixed bed ion exchange possible
- **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*

