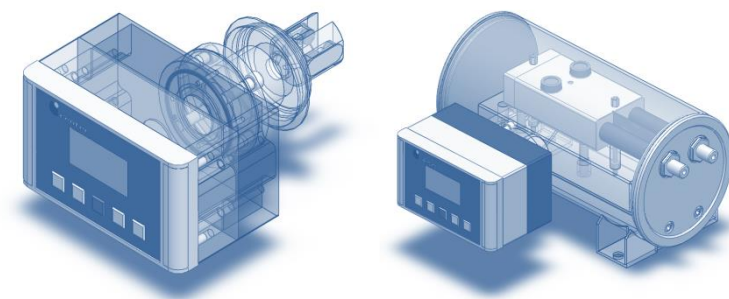


The Centec Group

Centec is a privately owned group of companies. From conventional power plants to solar energy and biofuel – there is a broad range of applications for our automated process skids. We are a leading supplier of water purification and deaeration technologies. Automated CIP-systems designed and manufactured by Centec are installed around the globe. Centec technology includes a range of high precision process sensors for accurately measuring critical product properties such as the concentration of acidic and caustic solutions and O₂ content. The largest energy groups in the world and numerous power plants are among our key customers.



Accuracy. Reliability. Centec.

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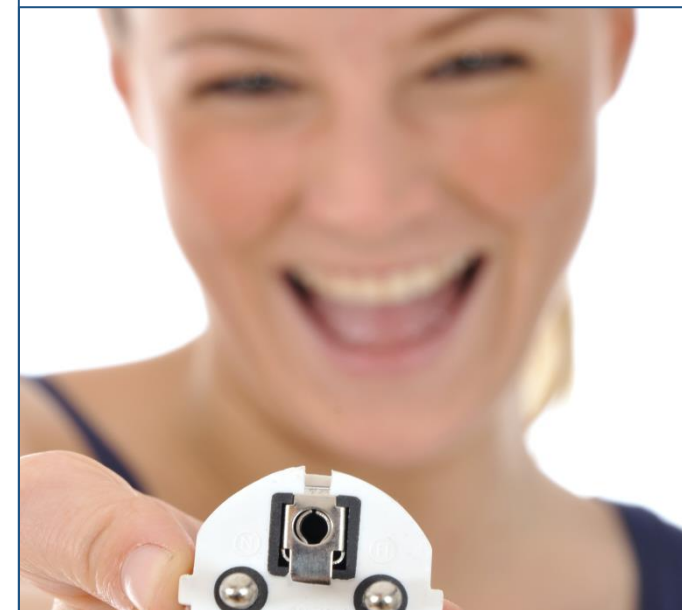
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REVOTEC

Reverse Osmosis

Centec Energy Systems



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

REVOTEC

The Principle

The Centec reverse osmosis (RO) system REVOTEC is used for water purification. RO is the reversal of natural osmosis. If a semipermeable microporous membrane is placed between pure water and water with dissolved ions (salts) osmosis will come into play. The pores of the membrane only allow the passage of H₂O, but not of salts, viruses, bacteria and larger molecules. Osmotic pressure due to a concentration difference causes the pure water to pass through the membrane to dilute the solution on the impure side. This will continue until osmotic equilibrium is reached. In the REVOTEC unit this process is reversed. In order to separate pure water from water containing dissolved salts and solids, pressure is applied to the contaminated water. When the applied pressure overcomes the natural osmotic pressure, pure water will pass through the membrane into the pure water side. The purified water (permeate), is practically free of all impurities. Cross-flow technology minimises fouling by quickly removing the impure water (concentrate). However, depending on the feedwater quality, pre-treatment may be required to prevent scaling and chemical attack by oxidizing agents like chlorine.

Technical Data

Capacity	1 - 150 t/h
Residual Conductivity	< 1,1 µS/cm (20°C) possible
Pressure of Operation	0 - 30 bar
Temperature of Operation	2 - 35 °C
Temperature of CIP	max. 85 °C
Material	epoxy/PP/PE 1.4301/1.4404 AISI 304/316L
PLC	SIMATIC S7
Options	pre-filtration softening & demineralization electro deionization disinfection



The Centec production is certified according to ISO 9001.

- **Application Specific and Energy Efficient**
execution in various materials available
double stage REVOTEC for highly purified water (HPW)
water pre-treatment technologies 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.

*Particle Pre-Filtration · Disinfection · Water Softening & Demineralization · Ultrafiltration · Reverse Osmosis
Electro Deionization · WFI Distillation · Membrane Deaeration · Column Deaeration · Vacuum Deaeration
Multi Component Mixing · Additive Dosing · Flash Pasteurization · Cleaning-in-Place · Pure Steam Generation*

