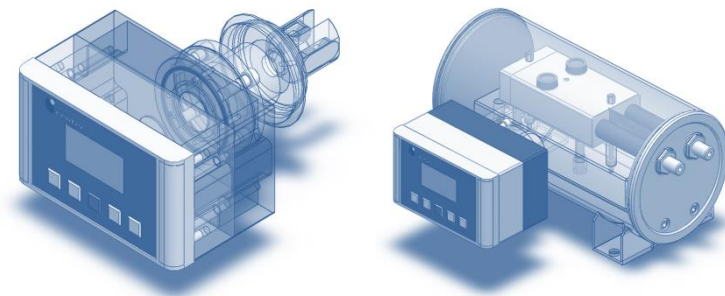


The Centec Group

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.

Germany
Centec GmbH
Wilhelm-Röntgen-Strasse 10
63477 Maintal
Tel.: +49 6181 18 78 0
Fax: +49 6181 18 78 50
info@centec.de

Czech Republic
Centec automatika s.r.o.
Pekařská 8/601
155 00 Praha 5
Tel.: +420 257 084 111
Fax: +420 235 518 701
prodej@centec.cz

USA
Centec LLC
P. O. Box 820
Germantown, WI 53022-0820
Tel.: +1 262 251 8209
Fax: +1 262 251 8376
info@centec-usa.com

UK
Centec UK
Stalworths, The Street
Great Tey, Colchester, Essex, CO6 1JS
Tel.: +44 1206 21 19 21
Fax: +44 1206 21 19 16
info@centec-uk.com

Serbia
Centec Serbia
Bogdana Žerajića 34/III
11000 Beograd
Tel.: +381 11 358 11 24
Fax: +381 11 358 11 24
info@centec.rs

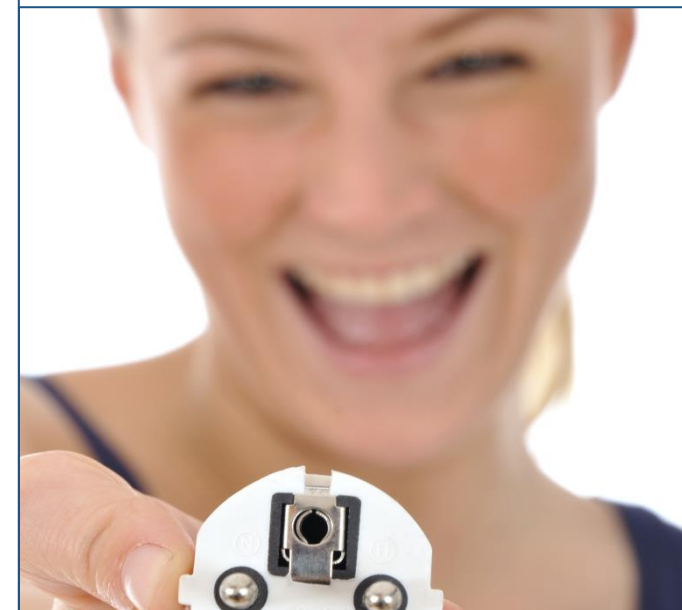
India
Centec RRR Systems & Sensors Pvt Ltd
RRR House, Plot 80, Sector 23
Turbhe Naka, Navi Mumbai - 400 705
Tel.: +91 22 2783 3655 & 2783 1348
Fax: +91 22 2783 4814
mail@centecrrr.com

Brazil
Centec América Latina Ltda
Largo de Sao Francisco de Paula nº 26
Centro Cep. 20051 070 Rio de Janeiro
Tel.: +55 21 2223 2066
Fax: +55 21 2223 0324
centeclatina@terra.com.br

IONTEC

**Water Softening
& Demineralization**

Centec Energy Systems



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

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 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 Ca^{++} and Mg^{++} than with 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 Ca^{++} and 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 H^+ replacing all cations and through an anion resin containing OH^- replacing all anions. The H^+ and 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	1 - 500 t/h
Residual Conductivity	< 1,1 $\mu\text{S}/\text{cm}$ (20°C) for mixed bed
Pressure of Operation	0 - 8 bar
Temperature of Operation	2 - 60 °C
Temperature of CIP	max. 85 °C
Material	epoxy/PP/PE 1.4301/1.4404 AISI 304/316L
PLC	SIMATIC S7 hardness control pre-filtration
Options	reverse osmosis electro deionization disinfection



The Centec production is certified according to ISO 9001.

- **Application Specific and Energy Efficient**
execution in various materials available
appropriate resin regeneration on demand
mixed bed ion exchange design 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.

*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*

