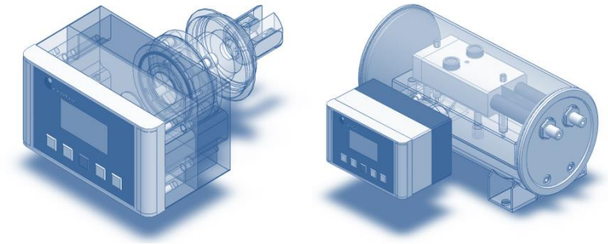
The Centec Group

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 O_2 content. The largest energy groups in the world and numerous power plants are among our key customers.



Accuracy. Reliability. Centec.

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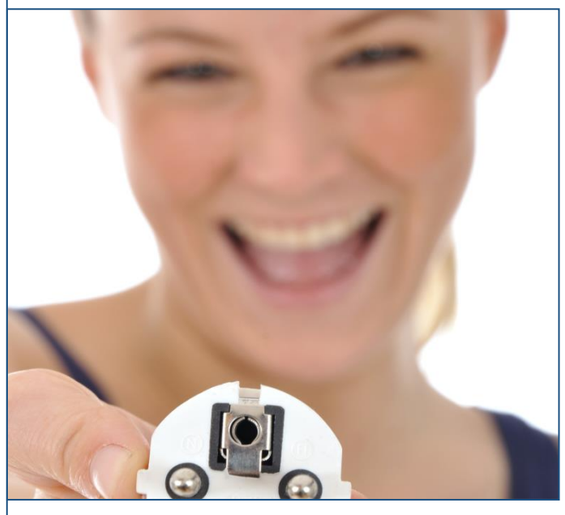
VeGaS

Vacuum Deaeration

Centec Energy Systems



More information at **www.centec.de**

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

VeGaS

The Principle

The Centec vacuum deaeration system VeGaS is a modular skid using a vacuum vessel for the removal of oxygen and other gases from a wide range of liquids. The presence of even low oxygen levels can cause serious corrosion damage by attaching to metal piping and other metallic equipment and forming oxides. Through special dispersion nozzles the liquid is sprayed into a continuously evacuated vessel. Due to the distribution of the fine liquid droplets, the transfer surface area between the liquid and the vacuum is maximized. The large partial pressure difference of O_2 forces the oxygen out of the liquid into the vacuum. This fundamental scientific principle is described by “Henry’s Law”. Once the oxygen has been removed, it transfers out of the vessel through the vacuum line. The deaerated product collects at the bottom of the tank from where it is discharged for further processing. Vacuum deaeration can be assisted by a strip gas like nitrogen or carbon dioxide. O_2 content monitoring with highly accurate OXYTRANS optical sensing technology developed and manufactured by Centec can be added, as can various other options.

- **Application Specific and Energy Efficient**
  extensive contact between liquid and vacuum
  subsequent disinfection of liquid possible
- **Modular Design with Standard PLC**
  skid mounted for easy installation and start-up
  sturdy execution and customized design of vessel
- **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

Technical Data

Capacity	2 - 180 t/h
Residual Oxygen	< 10 ppb
Pressure of Operation	0 - 8 bar
Temperature of Operation	2 - 85 °C
Material	1.4301/1.4404 AISI 304/316L
PLC	SIMATIC S7
Options	in-line O_2 measurement pre-filtration disinfection

The Centec production is certified according to ISO 9001.