

RHOTEK

RHOTEK INNOVATION

In various countries, producers of alcohol are subject to taxation. They need to determine the alcohol content with extreme precision and with a measuring device that is accepted and certified by government authorities. RHOTEK fulfils both requirements and is ATEX compliant. Applicable for ethanol and ethanol based mixtures and in a temperature range from +5 to +40 °C, RHOTEK "AlcTax" meets the requirements of the PTB (Physikalisch Technische Bundesanstalt).



Innovation. Dedication. Centec.

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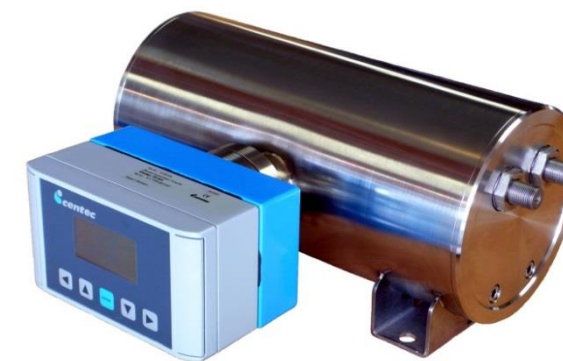
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Determination of Concentration by Density

Centec Process Sensors

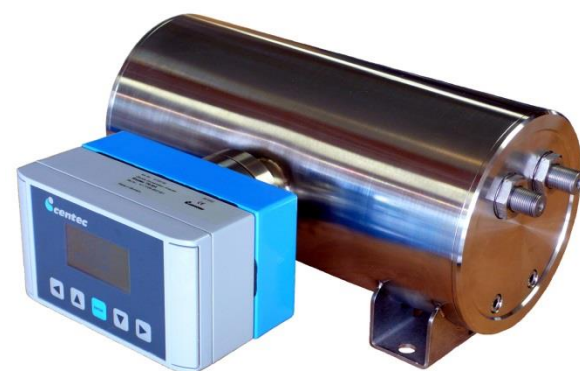


Automated
process skids
and high precision
sensors from a
single source.
Centec.

RHOTEK

The Principle

RHOTEK continuously measures the density of liquids. Designed for applications that require maximum sensitivity and high accuracy, this device is used in various industries all around the world. Breweries and beverage manufacturers determine alcohol or dissolved sugar contents in-line with RHOTEK. Dairies rely on RHOTEK to measure milk and cream fat. In numerous pharmaceutical and chemical applications RHOTEK is used to control the concentration of acids, caustics and other solutions – but also for monitoring the quality of raw materials and final products. For density measurement, the liquid flows through a U-shaped tube. While the tube is electronically excited to oscillate at resonance, the oscillation frequency is observed. Any change in the fluid density has an impact on the detected signal and can thus be identified. As a specific property of each liquid, the correlation between concentration and density can be described by a mathematical polynomial. With decades of experience and own laboratory facilities, we have a particular knowledge of the polynomials for a huge number of products. Any temperature drifts of the measured signal are automatically compensated for by an internal Pt1000 sensor. RHOTEK displays various units, e.g. vol.%, mass %, °Brix and °Plato.



RHOTEK
Transmitter Version

- Available as Transmitter Version with Local Display and as Sensor
- Highly Precise and Fast Determination of the Concentration
- Based on Density Measurement
- Applicable for a Huge Number of Liquids in Various Industries
- Short Response Time and Excellent Long-Term Stability
- Hygienic Execution, Full CIP Capability and Maintenance Free
- Outstanding Price-Performance-Ratio

Technical Data RHOTEK

| | |
|-------------------------------|--|
| Measuring Range | 0 - 3 g/cm ³ |
| Accuracy | ± 0,0001 g/cm ³ |
| Reproducibility | ± 0,0001 g/cm ³ |
| Response Time | ≤ 1 s |
| Inlet Pressure /Sample Volume | max. 50 bar |
| Temperature of Operation | - 25 - + 125 °C |
| Temperature Compensation | Pt1000 |
| Material (Standard) | 1.4404/AISI 316L |
| Material (Option) | 1.4571/AISI 316 Ti; Hastelloy C276; Monel 400; Incoloy 825; Tantalum; others on request |
| Connections | thread 3/8"; with Centec online fitting compatible to Varivent®; DIN; ANSI; others on request |
| Input | 6 x digital (24 VDC) |
| Transmitter Version | |
| Output | 3 x digital (24 VDC) & 2 x analog (4 - 20 mA) |
| Transmitter Version | |
| Profibus DP | |
| Transmitter Version | option |
| Sensor (w/o local display) | standard |
| Enclosure Rating | IP65 |
| Explosion Protection | |
| Ex II 2G EEx d IIC T6 | option |
| Power Supply | 24 VDC |

The Centec production is certified according to ISO 9001.