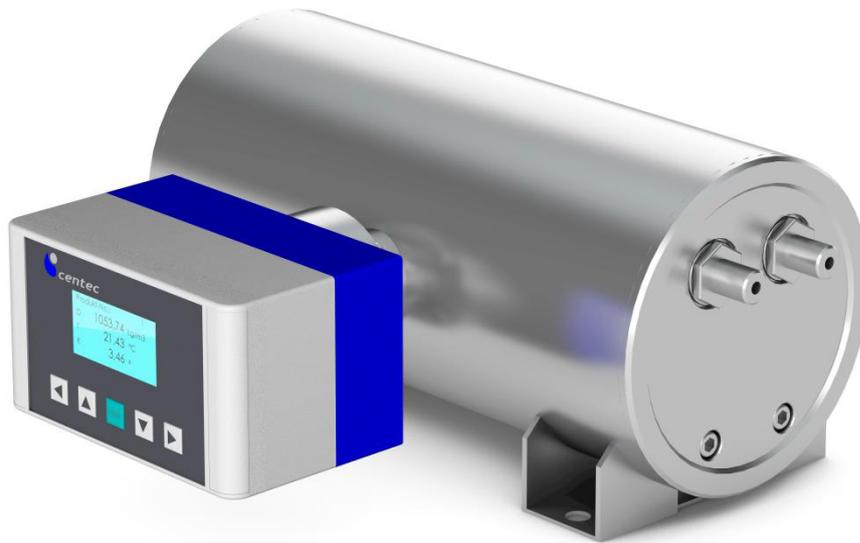


Measurement of Density and Concentration

RHOTEK



The Principle

RHOTEK is a highly precise sensor for determination of densities and concentrations (e. g. of acids, caustics, fats, emulsions and solvents) according to the oscillating U-tube principle. The instrument is designed for applications requiring maximum sensitivity and highest accuracy. It is easy to operate and maintenance-free. For density measurement the liquid flows through a thin U-shaped tube inside the sensor. Using electromagnets, the tube is excited to oscillate at the resonant frequency. At the same time, an integrated reference oscillator measures the oscillation characteristics. Even the smallest changes in fluid density have an impact on the detected signal and are identified with highest precision. 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 our own laboratory facilities, Centec know the polynomials for a large number of products. Any temperature drifts of the measured signal are automatically compensated for.

Technical Data

Measuring Range	0 - 3 g/cm ³
Accuracy	± 0,0001 g/cm ³
Repeatability	± 0,00001 g/cm ³
Response Time	≤ 1 s
Pressure of Operation	max. 50 bar
Temperature of Operation	- 25 - + 125 °C (Pt1000)
Material	1.4404/1.4435/AISI 316L; Hastelloy; Tantalum; etc.
Input	6 x digital (24 VDC)
Output	3 x digital (24 VDC) & 2 x analog (4 - 20 mA)
Profibus DP	option
Enclosure Rating	IP65; option: ATEX (Ex II 2G EEx d IIC T6)
Power Supply	24 VDC

Highlights

Most accurate technology to determine density and concentration
Patented compact design with local display available
Hygienic execution; various materials and flange connections

The Centec Group

Centec offer fully automated, skid-mounted process units and high precision measurement technology from a single source. Our systems and sensors are engineered to perfectly meet the most demanding requirements of the brewery, beverage, food and pharmaceutical industries. With a team of experienced engineers, we aim to create quantifiable added value for our customers. We are your partner from planning and design through to commissioning of your plant.



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