Brix-Sugar Content Measurement
By density or sound velocity – for syrup or finished drinks

The BRIX MONITOR from CENTEC allows measuring sugar content by density or sound velocity. The Brix measurement can be done in the syrup used for manufacturing as well as in the finished beverage.

Description

The BRIX MONITOR uses the functionality of either the RHOTEC density measurement or SONATEC sound velocity measurement. The instrument is designed for applications requiring maximum sensitivity and highest accuracy.

- Most accurate technology to determine Brix in the manufacturing process
- Patented compact design with local display available
- Hygienic execution and full CIP capability
- 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.

For sound velocity measurement a sound pulse is created by a piezo-element in a sonic transmitter. It moves perpendicular to the product flow towards a sonic receiver where it is detected. Since the distance between transmitter and receiver is known, the sound velocity can easily be calculated by measuring the travel time of the sonic signal. As a specific property of each liquid, the correlation between concentration and density resp. sound velocity 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 by an internal Pt1000 sensor.

Technical Data

Measuring Range 0 - 80 °Brix
Accuracy RHOTEC ± 0,03 °Brix
Accuracy SONATEC ± 0,07 °Brix
Measuring Temperature Range -5 - 80 °C
Response Time ≤ 1 s
Pressure of Operation max. 16 bar
Temperature of Operation - 25 - + 125 °C
Temperature Sensor Pt1000
Material 1.4404/1.4435/AISI 316L;
Hastelloy; Tantalum; others

Connections compatible to Varivent inline-housings DN40 - DN150; others
Input Transmitter 6 x digital (24 VDC)
Output Transmitter 3 x digital (24 VDC) & 2 x analog (4 - 20 mA)
Profibus DP Transmitter Version option
Profibus DP Sensor (w/o local display)
Enclosure Rating IP65
Power Supply 24 VDC
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