

# SONATEC

## SONATEC INNOVATION

For the fast and accurate determination of the concentration of a liquid in a tank, a very specific ATEX compliant version of SONATEC is available. Installed on the tank top, the measuring head of this customized device can be immersed into the tank to a depth of 2 metres. The extremely rigid design has a proven track-record in various industries and applications. It can be adapted for vessels that are equipped with agitators and mixers.



**Innovation. Dedication. Centec.**

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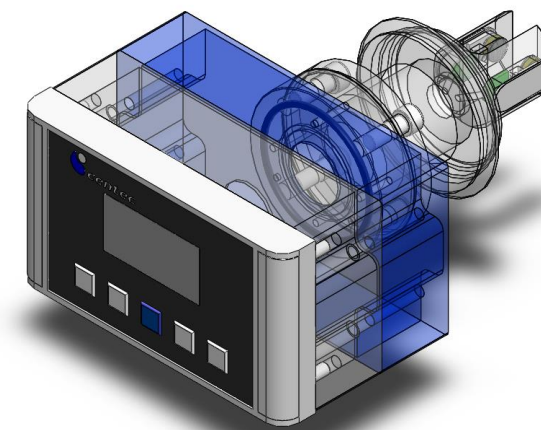
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## Determination of Concentration by Sound Velocity

### Centec Process Sensors



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

# SONATEC

## The Principle

SONATEC continuously measures the velocity of sound through 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 extract or dissolved sugar contents in-line with SONATEC. Equipped with an integrated cleaning nozzle, SONATEC HW can be installed directly into brewery wort kettles and evaporators. In numerous pharmaceutical and chemical applications SONATEC is used to control the concentration of acids, caustics and other solutions – but also for monitoring the quality of raw materials and final products. The instrument measures the speed of a sound pulse between a transmitter and a receiver. The sound pulse is created by piezo-elements and moves perpendicular to the product flow. As a specific property of each liquid, the correlation between concentration and sound velocity can be described by a mathematical polynomial. With decades of experience and own laboratory facilities, we have a particular knowledge about polynomials for a huge number of products. Any temperature drifts of the measured signal are automatically compensated for by an internal Pt1000 sensor. SONATEC displays various units, e.g. vol.%, mass %, °Brix and °Plato.



**SONATEC**  
Transmitter Version



**SONATEC HW**  
Transmitter Version  
for the Wort Kettle

- Available as Transmitter Version with Local Display and as a Sensor
- Highly Precise and Fast Determination of the Concentration
- Based on Sound Velocity 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                             | SONATEC  | SONATEC HW                                       |
|--|--|--|
| Measuring Range                            | 400 - 3.000 m/s  | 400 - 3.000 m/s                                  |
| Accuracy                                   | ± 0,05 m/s   | ± 0,05 m/s                                       |
| Reproducibility                            | ± 0,01 m/s   | ± 0,01 m/s                                       |
| Response Time                              | ≤ 1 s  | ≤ 1 s  |
| Inlet Pressure                             | max. 16 bar  | max. 16 bar                                      |
| Temperature of Operation                   | - 25 - + 125 °C  | - 25 - + 125 °C                                  |
| Temperature Compensation                   | Pt1000   | Pt1000   |
| Material (Standard)                        | 1.4404/AISI 316L   | 1.4404/AISI 316L                                 |
| Material (Option)                          | 1.4571/AISI 316 Ti;<br>Hastelloy C276; Monel 400;<br>Incoloy 825; Tantalum;<br>others on request | on request                                       |
| Connections                                | Varivent© DN65;<br>diary pipe DIN11851 DN65;<br>DIN; ANSI; others on request                     | DIN2633 DN100;<br>others on request              |
| Input Transmitter Version                  | 6 x digital (24 VDC)   | 1 x digital (24 VDC)                             |
| Output Transmitter Version                 | 3 x digital (24 VDC) &<br>2 x analog (4 - 20 mA)   | 3 x digital (24 VDC) &<br>2 x analog (4 - 20 mA) |
| Profibus DP Transmitter Version            | option   | option   |
| Sensor (w/o local display)                 | standard   | standard   |
| Enclosure Rating                           | IP65   | IP65   |
| Explosion Protection Ex II 2G EEx d IIC T6 | option   | -  |
| Power Supply                               | 24 VDC   | 24 VDC   |

The Centec production is certified according to ISO 9001.