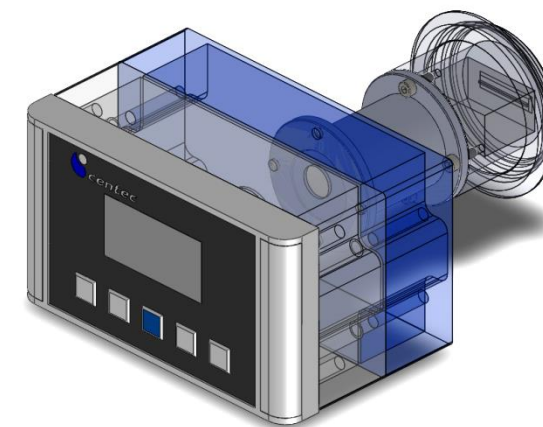


Measurement of Carbon Dioxide Content

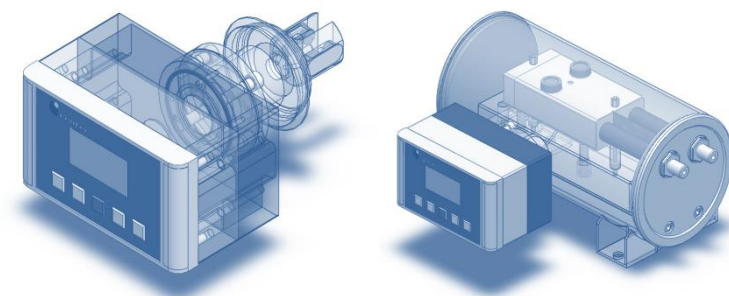
Centec Process Sensors



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

The Centec Group

Centec is a privately owned group of companies. With a focus on the processing industries, we are rapidly growing in the major world markets. We have a global sales and service structure, with our own subsidiaries and a network of qualified distributors. Our international operations include mechanical, electrical and process automation engineering, with skid manufacture and pipework fabrication; as well as our own switch cabinet production. This infrastructure allows efficient logistics, short lead times and strict adherence to delivery deadlines. The quality of our products is excellent, so is the price-performance ratio.



Innovation. Dedication. Centec.

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CARBOTEC NIR

The Principle

CARBOTEC NIR revolutionizes continuous dissolved CO₂ measurement in liquids. Designed for applications that require maximum sensitivity and high accuracy, this innovative device is ideally suited for food and beverage manufacturers – especially for breweries and soft drink plants. The new generation of CARBOTEC sensors is based on Attenuated Total Reflection (ATR) technology. While transmitting a sapphire glass crystal, near infrared (NIR) light is reflected several times at the surface. The surface of the crystal is in contact to the carbonated liquid. Since the CO₂ molecules in the liquid absorb the specific wavelength of the transmitting light, each reflection decreases the intensity according to the CO₂ content. The sensor is of extreme precision and provides “true” carbon dioxide content by quantifying the infrared absorption of the dissolved CO₂ only. The measurement result is not influenced by any other gases such as nitrogen in beer. Due to the lack of moving parts, the instrument is virtually maintenance free. Any temperature drifts of the measured signal are automatically compensated by an internal Pt100 sensor.



CARBOTEC NIR
Transmitter Version

- Available as Transmitter Version with Local Display
- Highly Precise and Fast Measurement of Dissolved CO₂
- ATR Technology to Monitor Only “True” CO₂ Content
- Short Response Time and Excellent Long-Term Stability
- Hygienic Execution and Full CIP Capability
- No Moving Parts, Virtually Maintenance Free
- Outstanding Price-Performance-Ratio

Technical Data CARBOTEC NIR

Measuring Range	0 - 10 g/l
Accuracy	± 0,1 g/l
Repeatability	± 0,02 g/l
Response Time	≤ 3 s
Pressure of Operation	max. 10 bar
Temperature of Operation	- 10 - + 90 °C
Temperature Compensation	Pt100
Material	1.4404/AISI 316L, sapphire glass, EPDM (FDA), PTFE (FDA)
Connections	compatible to Varivent® Inline-Housings DN65 - DN150; others on request
Input	6 x digital (24 VDC)
Output	3 x digital (24 VDC) & 2 x analog (4 - 20 mA)
Profibus DP	option
Enclosure Rating	IP65
Power Supply	24 VDC