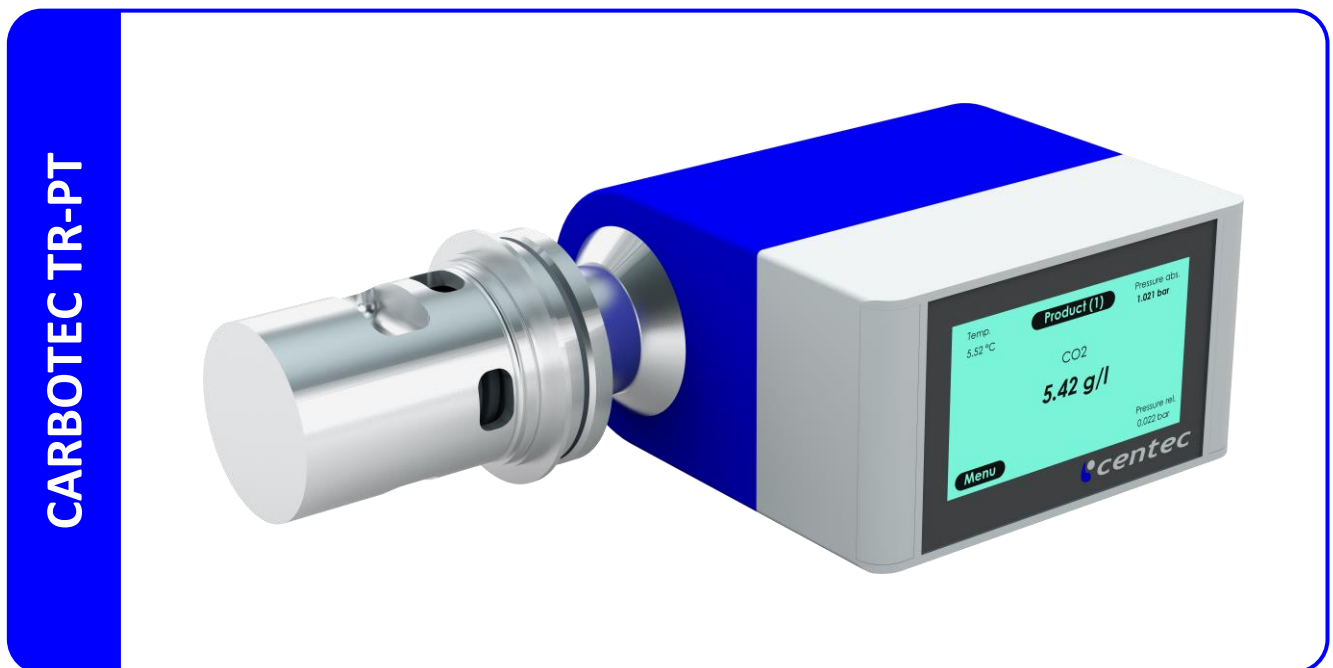


CO₂ Measurement in Liquids by Pressure and Temperature



The Principle

CARBOTEC TR-PT is a very precise carbon dioxide sensor for measurement of dissolved CO₂ in liquids, e. g. in carbonated beverages like beer, sparkling wine and soft drinks. The instrument is designed for applications requiring maximum sensitivity and highest accuracy. It is easy to operate and maintain. For measuring carbon dioxide, the carbonated liquid flows through the sensor head (measurement chamber). Several times per minute the chamber is closed and its volume rapidly increases. This expansion generates a gas phase in the chamber. The large partial pressure difference of CO₂ forces the carbon dioxide out of the sample (liquid in the chamber) into the gas phase. This fundamental principle is described by "Henry's Law". Within seconds pressure equilibrium in the measurement chamber is reached. The equilibrium pressure corresponds to the content of CO₂ in the sample. The CO₂ content is determined by pressure and temperature measurement in the chamber. Any temperature drifts of the measured signal are automatically compensated for. After each measurement, the sample is completely returned to the product without any loss.

Technical Data

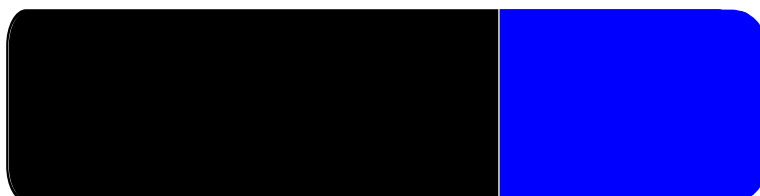
Measuring Range	0 - 10 g/l
Accuracy	± 0,05 g/l
Repeatability	± 0,01 g/l
Response Time	≤ 20 s
Pressure of Operation	max. 10 bar
Temperature of Operation	- 10 - + 100 °C (Pt100)
Material	1.4404/AISI 316L, EPDM (FDA), PTFE (FDA)
Input	1 x analog (4 - 20 mA) & 6 x digital (24 VDC)
Output	2 x analog (4 - 20 mA) & 3 x digital (24 VDC) optional: PROFIBUS DP & PROFINET
Enclosure Rating	IP65
Power Supply	24 VDC

Highlights

- Proven technology based on pressure-temperature measurement
- Highly precise and fast determination of dissolved CO₂
- Hygienic execution; various 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.



ProDetec Pty.Ltd.
P. +61 (02) 9620 8700
F. +61 (02) 9620 8755
E. info@prodetec.com.au
A. 17/38 Powers Rd,
Seven Hills NSW 2147
www.prodetec.com.au