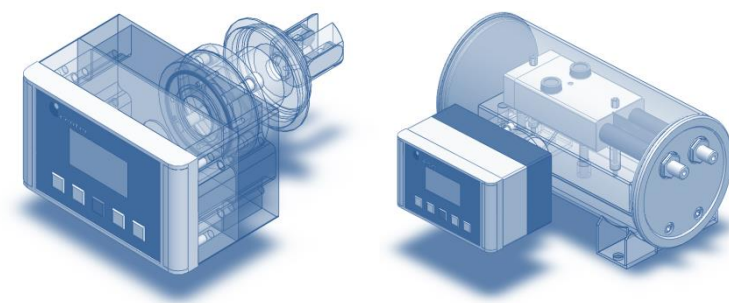


## The Centec Group

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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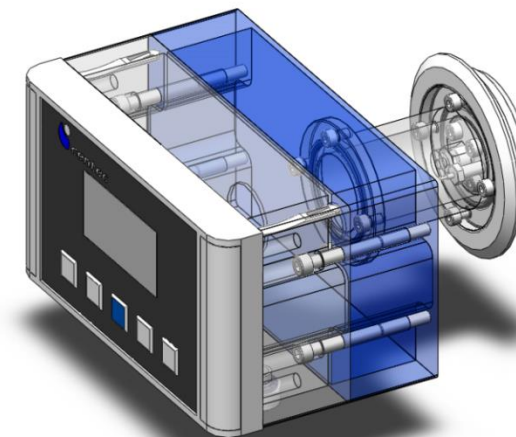
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**OXYTRANS**

## O<sub>2</sub> Measurement in Boiler Water

### Application Report



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

# OXYTRANS

## Description of the Application and Measurement Principle

Boiler feed water is water used to supply (feed) a boiler to generate steam or hot water. The feed water must be specially treated to avoid problems in the boiler and downstream systems. Untreated boiler feed water can cause corrosion and fouling. Corrosive compounds, especially oxygen, must be removed by deaeration system. OXYTRANS allows to measure and control O<sub>2</sub> concentration with highest precision. Centec deaeration systems based on membrane and column technology are generally equipped with OXYTRANS for highly efficient oxygen removal.

An indicator layer on a small glass component (“optical window”) installed in the measuring head is illuminated with blue-green-light. When the indicator molecules absorb the incident light they are promoted to a higher energy state. After a certain time they convert back to their ground state during which a detectable red light is emitted. If O<sub>2</sub> is present the energy is transferred from the indicator molecules to the oxygen. By detecting the red light, OXYTRANS determines the O<sub>2</sub> content with highest precision.



**OXYTRANS TR**  
Transmitter Version



**OXYTRANS M**  
Portable Version

- Available as Transmitter and Portable Version with Local Display
- Highly Precise and Fast Measurement of O<sub>2</sub> in Liquids and Gases
- Optical Technology without Membrane and Electrolyte
- Short Response Time and Excellent Long-Term Stability
- Hygienic Execution and Full CIP Capability
- Easy Maintainable within a Few Minutes
- Outstanding Price-Performance-Ratio

Technical Data	OXYTRANS TR	OXYTRANS M
<b>Liquid Phase</b>	I) 1 ppb - 2 ppm or II) 30 ppb - 50 ppm	I) 1 ppb - 2 ppm or II) 30 ppb - 50 ppm
<b>Liquid Phase</b> Measuring Range	I) ± 1 ppb or II) ± 30 ppb	I) ± 1 ppb or II) ± 30 ppb
<b>Liquid Phase</b> Accuracy	I) 0 - 4,2 % O <sub>2</sub> or II) 0 - 50 % O <sub>2</sub>	I) 0 - 4,2 % O <sub>2</sub> or II) 0 - 50 % O <sub>2</sub>
<b>Gas Phase</b> Measuring Range	I) ± 0,002 % O <sub>2</sub> II) ± 0,03 % O <sub>2</sub>	I) ± 0,002 % O <sub>2</sub> II) ± 0,03 % O <sub>2</sub>
<b>Gas Phase</b> Accuracy	t90 ≤ 10 s	t90 ≤ 10 s
Response Time	max. 12 bar	max. 12 bar
Pressure of Operation	- 5 - + 55 °C (option: + 98 °C) resistance: max. + 130 °C	- 5 - + 55 °C (option: + 98 °C) resistance: max. + 130 °C
Temperature of Operation	Pt100	Pt100
Temperature Compensation	1.4404/AISI 316L, silicone (FDA), PTFE (FDA) compatible to Varivent©	1.4404/AISI 316L, silicone (FDA), PTFE (FDA)
Material	Inline-Housings DN40 - DN150; DIN; ANSI; others on request	hoses of 6 mm diameter
Connections	input: 3 x digital (24 VDC) output: 3 x digital (24 VDC) & 2 x analog (4 - 20 mA)	manual and automatic with a logging time of 5 to 600 seconds; approx. 5.000 measurement values; PC software and USB-interface
Interface (OXYTRANS TR)	option	-
Datalogging (OXYTRANS M)	IP65	IP65
Profibus DP	24 VDC	battery, rechargeable
Enclosure Rating	-	1,65 kg
Power Supply		
Weight		

The Centec production is certified according to ISO 9001.