

Digox *optical*



In-line measuring device for dissolved oxygen in beverages

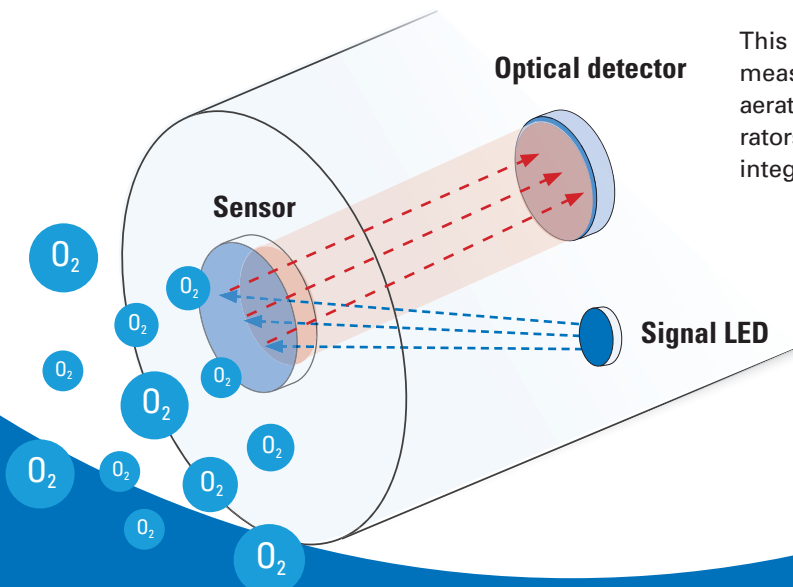
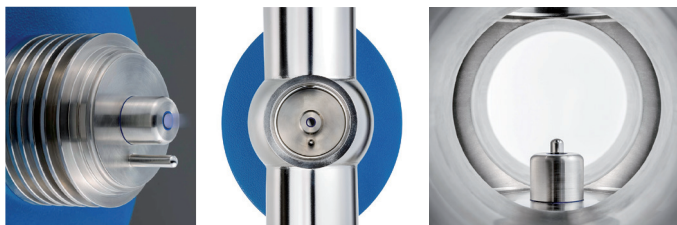
The **Digox optical** is an in-line measuring device, based on the optical procedure of the dynamic fluorescence quenching. The device uses neither a membrane nor an electrolyte. The measurement is independent of the CO₂ content and the flow of the medium. The **Digox optical** has a simple and compact design as a unit of measuring device and process adapter (VARIVENT®), therefore, no wall mounting is necessary. The system is able to support 130 °C (CIP). A sensor replacement (pre-calibrated in the factory), which is - depending on process conditions - required approx. every 1 to 2 years, can be carried out simply and quickly, directly at the line, without dismantling the device.

The menu guidance system in the device software is intuitive and supported through pictograms. Various unit statuses are displayed using different colours in the display illumination. The measuring values can be shown graphically with a trend display. Intelligent diagnosis functions inform the user about the sensor's wear by the respective process conditions.

The **Digox optical** is calibrated using e. g. the portable **Digox 6.1** as reference measuring device without removing the sensor. The measuring range is between 0 and 2,000 µg/l (LOW) or 0.05 und 45 mg/l (HIGH). A short response time ($t_{90} < 39$ s) and a high measuring accuracy of +/- 1 ppb guarantee a precise and reliable oxygen measurement in the production process.

For connection with a superordinated process control system, the **Digox optical** has 2 analog outputs, 3 programmable switching outputs, 2 configurable digital inputs as well as an optionally usable Profibus DP.

This system can be used in many areas of the brewery for measuring tasks and process control: water degassing, wort aeration, fermenting cellar, filtration, yeast propagation, at separators, filling and CO₂ recovery. It is eminently suitable for the integration in brewing plants.

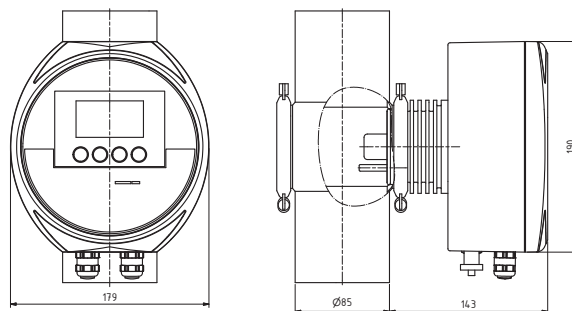


Technical data



Model	Digox optical
Measuring principle	Dynamic fluorescence quenching (optical)
Measuring range	0 ... 2,000 µg/l (low range); 0.05 ... 45 mg/l (high range)
Detection limit	1 µg/l (low range); 0.01 mg/l (high range)
Measurement error	Max [±1 µg/l (low range); ±0.005 mg/l (high range) or +1.5 % of the current measuring value]
Resolution	0.001 mg/l (low range), 0.01 mg/l (high range)
Response time	$t_{90} < 39$ s
Calibration	Product calibration or reference calibration, zero point calibration, automatic zero point correction, calibration history, calibration timer
Sample pressure	max. 12 bar over-pressure
Sample temperature	0 ... 40 °C measurement, max. 130 °C (<30 min) in case of sterilisation/CIP
Temperature compensation	automatic (Pt100 integrated) / manually
Ambient temperature	0 ... 40 °C
Process connection	Process adapter VARIVENT®, hygienic design
Cross-sensitivities	sensitive to Cl ₂ , organic solvents and radicals
Measurement units	ppb, µg/l, ppm, mg/l, %O ₂ , % a. s. (air saturation)
Cleaning procedures	CIP, 5 % NaOH (90 °C), 3 % H ₂ O ₂ , max. 4 - 5 % HCl/H ₂ SO ₄
Parts that touch sample	stainless steel 1.4435, EPDM (FDA conformity)
Mounting	via process adapter (no wall mounting)
Sensor	changing system in screw cap (sensor set)
Display	STN 128 x 64 pixels, monochrome, coloured illumination
Operation	4 soft keys
Password protection	3 levels (configurable)
Analog outputs	2 x (0/4 ... 20 mA, active) for oxygen and temperature
Digital outputs	3 switching outputs (N/O contacts) max. 30 VDC/3 A, freely programmable
Digital inputs	2 switching inputs via external contact, freely programmable
Interfaces	USB (firmware update), Bluetooth (optional), Profibus DP (optional)
Certificates	EMV: EN61326-1
Power supply	100 ... 240 VAC (50/60 Hz), 120 ... 370 VDC, 35 VA
IP Rating	IP 67
Weight	3.5 kg
Dimensions	200 x 180 x 120 mm (HxWxD)

Subject to technical alterations.



Dr. Thiedig

Process Analysers

