pyroscience
sensor technology

Specifications
OXYGEN NANOPROBES

1 SENSOR SPECIFICATIONS

Only valid in water for 2-point calibrated sensors at 20°C, 1013mbar absolute pressure, using default measuring parameters/modes!

Specifications are valid for oxygen nanoprobes (item no.: **OXNANO**).

1.1 Dissolved Oxygen: % air saturation, µmol/L, mg/L = ppm, mL/L

For a calibrated sensor, the partial oxygen pressure pO2 in units of hPa (equivalent to mbar) is the fundamental oxygen unit measured by the oxygen meter (in gas and water phases). Oxygen dissolved in water can be expressed in % air saturation and in concentration units like µmol/L, mg/L (ppm), and mL/L. For details on calculation of dissolved oxygen units from partial pressure readings (interpolation formula based on temperature, atmospheric pressure and salinity), please see the respective sensor/oxygen meter manuals.

Specifications			
Measuring Range Optimum	**hPa** 0-500 hPa	**% air saturation (a.s.)** 0-250% a.s.	**mg/L (ppm)** 0-22 mg/L
Resolution at 10 hPa/5% a.s./0.44 mg/L at 200 hPa/95% a.s./8.8 mg/L	 0.1 hPa 0.5 hPa	 0.05% a.s. 0.25% a.s.	 0.005 mg/L 0.025 mg/L
Detection Limit	0.2 hPa	0.1% a.s.	0.01 mg/L

* The absolute accuracy of the full range sensors depends on the calibration mode. For 1-point calibrated sensors these values increase due to a decreasing accuracy. More details on request.

1.2 General Characteristics

Response Time (t90) ‡ Water/aqueous solution	real-time
Temperature Range	0°C (32°F) to 50°C (122°F)
Calibration Modes	1-point and 2-point calibration
Application Areas	Laboratory, industry, research. **NOT** for medical or any safety-critical application. **NOT** for application in humans. **NOT** for application in food intended for human consumption.

‡ Typical response times for 90% signal change. For liquids: measured for the transition from air into a stirred solution of 1% Na_2SO_3

2 APPLICABILITY AND CROSS-SENSITIVITY

	Applicability	Cross-Sensitivity	NO Cross-Sensitivity
Water/Aqueous solutions	X		
Illuminated/luminescent samples		X	
Other solvents*		X	
Chlorine gas (Cl_2), NO_2 gas, bleach		X	
pH 1-14			X
CO_2			X
CH_4			X
H_2S			X
Any ionic species			X

* Includes liquid solvents and solvent vapors

3 CLEANING, STERILIZATION, STORAGE

Sterilization	autoclavable few cycles at 121°C for 15 min with special precautions (details on request), gamma sterilization (35 kGy)
Storage	> 3 months in darkness at room temperature > 1 year in darkness in freezer (-18°C)

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