

Specifications

Insertable Oxygen Mini Probes

1 SENSOR SPECIFICATIONS

Only valid in water/gas (typ. air components) for 2-point calibrated sensors at 20°C, 1013mbar absolute pressure, using default measuring parameters/modes!

Specifications are valid for the insertable oxygen mini probes (item no.: **OXIMP250**, **OXIMP500** & **OXIMP1000**).

1.1 Oxygen Units: % air saturation, hPa, mmHg/torr

Oxygen dissolved in water can be expressed in % air saturation and in concentration units like $\mu\text{mol/L}$, mg/L (ppm), and mL/L . For measurements in complex media like animal organs & tissue or blood, only partial pressure units (hPa or mmHg/Torr) should be applied. 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	% air saturation (a.s.)	hPA	mmHg/Torr
Optimum	0-250% a.s.	0-500 hPa	0-375 mmHg
Maximum (not specified)	0-500% a.s.	0-1000 hPa	0-750 mmHg
Accuracy *			
at 5% a.s./0.44 mg/L/37.5 mmHg	$\pm 0.2\%$ a.s.	± 0.4 hPa	± 0.3 mmHg
at 95% a.s./8.8 mg/L/37.5 mmHg	$\pm 2\%$ a.s.	± 4 hPa	± 3 mmHg
Resolution			
at 5% a.s./0.44 mg/L/37.5 mmHg	0.1% a.s.	0.2 hPa	0.15 mmHg
at 95% a.s./8.8 mg/L/37.5 mmHg	0.5% a.s.	1 hPa	0.75 mmHg
Detection Limit	0.2% a.s.	0.4 hPa	0.3 mmHg

* 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)‡	time for 90% of the total sensor signal change in stirred media < 5 sec OXIMP250 < 10 sec OXIMP500 < 20 sec OXIMP1000		
Temperature Range	0°C (32°F) to 50°C (122°F)		
Minimum Lifetime	1,000,000 data points		
Calibration Modes	1-point and 2-point calibration		
Sensor Dimensions	OXIMP250	OXIMP500	OXIMP1000
Length stripped tip (ca.)	40 mm	40 mm	60 mm
Length sensor area (ca.)	3-5 mm	3-5 mm	3-5 mm
Sensor tip diameter (ca.)	0.25 mm	0.5 mm	1 mm
Cable diameter (ca.)	1 mm	1 mm	2.2 mm
Cable length (ca.)	1 m	1 m	1 m
Dimensions I.V. cannula	OXIMP250	OXIMP500	OXIMP1000
Needle for insertion	20G x 1 ¼ " (1,1 x 33mm)	20G x 1 ¼ " (1,1 x 33mm)	17 G x 1 ¾ " (1,5 x 45mm)
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% Na₂SO₃. For **OXIMP** sensors the response times for 95% and 99% signal change (t95 & t99) are significantly higher than for 90% (t90), as the fiber material PMMA needs to equilibrate.

2 APPLICABILITY AND CROSS-SENSITIVITY

	Applicability	Cross-Sensitivity	NO Cross-Sensitivity
Water/Aqueous solutions	X		
Gas Phase (typ. air components)	X		
Organic solvents²		X	
Chlorine gas (Cl₂), NO₂ gas, bleach		X	

pH 1-14			X
CO₂			X
CH₄			X
H₂S			X
Any ionic species			X

¹ Only diluted and after conditioning- contact info@pyroscience.com for more information.

² Includes liquid solvents and solvent vapors.

3 CLEANING, STERILIZATION, STORAGE

Cleaning	3% H ₂ O ₂ , soap solution
Sterilization	3% H ₂ O ₂ , ethylene oxide (EtO, EO) sterilization (details on request)
Storage	> 2 years in darkness at room temperature

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