

## Specifications and properties comparison table for MINI and MICRO TRACE fiber optics sensors.

Specifications	Fibre optic sensor type	
	MINI TRACE	MICRO TRACE
Sensors	Flow through, dipping probe & sensor spots	
Use with	Fibox 3 Trace	
Measurement range	0 – 4.2 % O <sub>2</sub> 0 – 20 % air saturation 0 – 42 hPa 0 – 1.87 mg/L 0 – 58 µmol	0 – 3 % O <sub>2</sub> 0 – 14 % air saturation 0 – 28.8 hPa 0 – 1.1 mg/L 0 – 34.5 µmol
Limit of detection	0.002 % oxygen 0.01 % air saturation 1 ppb	
Resolution	± 0.0007 % O <sub>2</sub> at 0.002 % O <sub>2</sub> ± 0.0015 % O <sub>2</sub> at 0.2 % O <sub>2</sub> ± 0.007 hPa at 0.023 hPa ± 0.015 hPa at 2 hPa ± 0.010 µmol at 0.03 µmol ± 0.020 µmol at 2.8 µmol ± 0.0033 % air saturation at 0.01 % air saturation ± 0.033 % air saturation at 0.1 % air saturation	
Accuracy	± 0.002 % O <sub>2</sub> at 20.9 % O <sub>2</sub> ± 0.00025 % O <sub>2</sub> at 0.2 % O <sub>2</sub> ± 0.01 % air saturation at 100 % air saturation ± 0.00125 % air saturation at 1 % air saturation	
Drift at 0 % oxygen (sampling interval 1 min)	< 0.004 % O <sub>2</sub> within 30 days < 0.02 % air saturation within 30 days	< 0.02 % O <sub>2</sub> within 30 days < 0.1 % air saturation within 30 days
Temperature operating range	0 – 50 °C	
Response time (t <sub>90</sub> )	< 6 sec. (gas) < 40 sec. (liquid)	
Response time TF** (t <sub>90</sub> )	< 15 sec. (gas) < 30 sec. (liquid)	
Precision	± 0.03 % air saturation ± 0.007 % O <sub>2</sub> ± 0.07 hPa ± 0.15 µmol ± 0.007 % O <sub>2</sub> ± 0.003 mg/L	
Properties	MINI	MICRO
Compatibility	Aqueous solutions, ethanol, methanol	
No cross-sensitivity with	pH 1 – 14 CO <sub>2</sub> , H <sub>2</sub> S, SO <sub>2</sub> Ionic species	
Cross-sensitivity to	Organic solvents, such as acetone, toluene, chloroform or methylene chloride Chlorine gas	
Sterilization procedures	Ethylene oxide (EtO) Steam sterilization Gamma irradiation	Ethylene oxide (EtO) Steam sterilization (implantable & TF** sensor)
Cleaning procedures	3 % H <sub>2</sub> O <sub>2</sub> Cleaning in place (CIP, 5 % NaOH, 90 °C, 194 °F) Acidic agents (HCl, H <sub>2</sub> SO <sub>4</sub> ), max. 4 – 5 %	3 % H <sub>2</sub> O <sub>2</sub> ethanol, soap solution
Calibration	Two-point calibration in oxygen-free environment (nitrogen, sodium sulfite) and a second calibration value optimally between 1 and 2 % oxygen	
Storage Stability (dark room, 20 °C +/- 5 °C)	2 years	5 years
*TS: tapered sensor tip with a diameter < 50 µm and no optical isolation **TF: flat-broken sensor tip with a diameter of 140 µm		



[www.presens.de](http://www.presens.de)



[www.loligosystems.com](http://www.loligosystems.com)