

CALIBRATION CERTIFICATE

Form No 854, May 5th 2020

FoilID:

Certificate no: Oxygen Optode 4831_317_232788

1517M

Product:

Oxygen Optode 4831

317

Serial no: Calibration date:

13.11.2024

2-POINT RECALIBRATION, MULTIPOINT CALIBRATED OXYGEN OPTODE

This is to certify that this product has been calibrated and verified using the following reference equipment:

| Reference Equipment | Serial |
|----------------------------------------|-----------------------------------------|
| Calibration Bath Model Toho TM-005-P-A | 12-K |
| Fluke 5615 PRT | Serial No. 802054 and Serial No. 849155 |
| Fluke CHUB E-4 | Serial No. A7C677 |
| Reference sensor 4330 | 338 |

Specification

| | O2 Concentration | Air Saturation | Temperature | |
|---------------------|------------------|----------------|-------------|--|
| Range 0-500 μM | | 0 - 120% | -5 to +40°C | |
| Accuracy | < ±3µM or ±2% 1) | ±2% 2) | ±0.03°C 3) | |
| Resolution | < 1 µM | < 0.4% | 0.01°C | |
| Settling Time (63%) | < 25 seconds | < 25 seconds | < 2 seconds | |

¹⁾ Requires salinity compensation for salinity variations > 1mS/cm, and pressure compensation for pressure > 100meter 2) Within calibrated range 0 - 120% / 0 - 30°C 3) Within calibrated range 0 - 36°C for standard version and 0 - 30°C for multipoint version

Calibration points and readings:

| | Air Saturated Water | Zero Solution (Na2SO3) | | |
|--------------------------|---------------------|------------------------|--|--|
| Phase reading (°) | 33.55 | 60.26 | | |
| Temperature reading (°C) | 10.08 | 20.14 | | |
| Air Pressure (hPa) | 974.40 | | | |

Giving these coefficients

| Index | 0 (Offset) | 1 (Slope) |
|----------|---------------|--------------|
| ConcCoef | -7.426881E-01 | 1.016904E+00 |

With following settings

| Index | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
|------------------|--------------|---------------|--------------|---------------|--------------|--------------|-------------|
| SVUFoilCoef | 2.51517E-03 | 1.08754E-04 | 2.02796E-06 | 1.39064E+02 | -1.92769E-01 | -3.29916E+01 | 2.78190E+00 |
| PhaseCoef | 0.000000E+00 | 1.000000E+00 | 0.000000E+00 | 0.000000E+00 | | | |
| TempCoef | 2.601984E+01 | -3.111866E-02 | 2.958167E-06 | -4.380523E-09 | 0.000000E+00 | 0.000000E+00 | |
| Salinity (mS/cm) | 0.00 | | | | | | |
| Firmware Version | 5.3.1 | | | | | | |

Date:13.11.2024