

AQUAPLUS™

Dissolved oxygen probe



INSTRUCTIONS MANUAL

BAMO MESURES

22, Rue de la Voie des Bans - 95 100 ARGENTEUIL - FRANCE

Phone +33 (0)1 30 25 83 20 - E-mail: info@bamo.fr

Fax: +33 (0)1 34 10 16 05 - <http://www.bamo.eu>

Dissolved oxygen probe
AQUAPLUS

MSE

451-01

30-11-2016

XXXXX

1. TECHNICAL FEATURES

Range: 0.01 to 50 mg/L or 0 to 500 %
 Resolution: 0.01 mg/L or 0.1 %
 Accuracy: 1% reading from 0 to 20 mg/L or 0 to 200 %,
 10% reading between 20 to 50 mg/L or 200 to 500 %
 Temperature: Pt 100 built-in sensor
 Construction: Marine grade aluminium

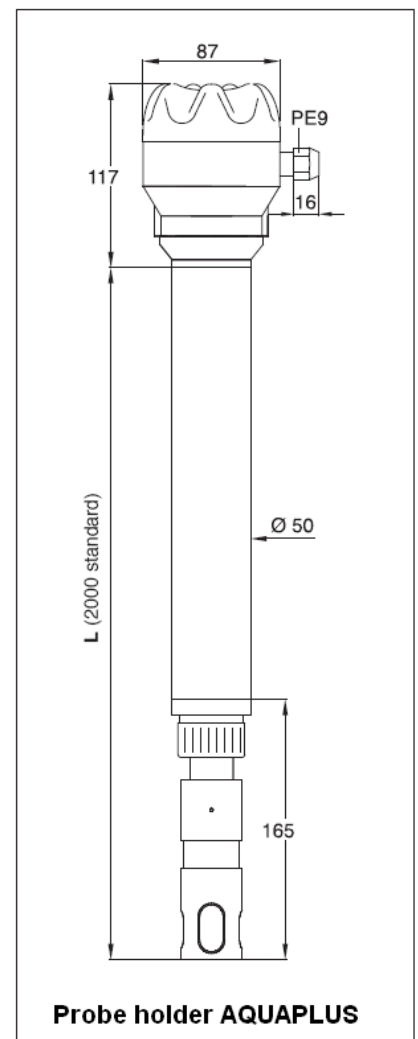
Protection: IP68
 Immersion depth: 75mm as a minimum / 10 m as a maximum
 Operating temperature: -5°C ... +50°C
 Storage temperature: -10...+60 °C
 Dimensions: Ø 24 mm / 250 mm long
 Mass: 400 g, including cable 3 m long as standard
 * Only when AQUAPLUS™ probe is supplied with 30 m long cable without extension

Spare parts

Code	Reference	Description
451 050	OD-PLUS-CAP	Sensor end AQUAPLUS
451 060	ZO-150	Calibration solution, concentration zero (150 ml flask)



2. ELECTRIC CONNECTIONS



Connections table between probe holder and BAMOPHOX 451 LOG

Connector N° Probe holder	Connector N° BAMOPHOX 451 LOG
31	31
32	32
33	33
34	34
7	7
8	8

Cable: Shielded, 6 wires, 0.25 mm²

3. IN USE

Optic technology for dissolved oxygen measurement allow an accurate measure without the inconvenience of amperometric cells with diaphragm clogging, unreliable calibration and consumption of oxygen of monitored fluid.

Probe AQUAPLUS integrates a dissolved oxygen sensor, a Pt 100 sensor for automatic temperature compensation and a conductivity sensor.

AQUAPLUS probe is supplied calibrated and with sensor end already fitted.

The probe may be mounted on probe holder for local measurements to connect with the BAMOPHOX 451 LOG (mse451-02).

**Never plunge a probe without its sensor end,
or water may damage the electronic inside
and warranty will not apply.**

4. Calibration

Rinse sensor end with demineralized water then dry it before and after each routine calibration.

Calibration must be done on 2 points.

Always begin with 0% calibration point

- Value at 0% of dissolved oxygen in a sodium sulphite solution for instance

- Value at 100% of dissolved oxygen in air with sensor end protected with a wet tissue

Follow the BAMOPHOX manual for calibration steps.

Frequency of calibration routines depend of operating conditions

5. SENSOR END REPLACEMENT

Optical sensor end is fragile.

Never touch its end with fingers (body fat materials will tap porous surface and interfere on measurements).

The sensor end is a spare part; lifetime depends of operating conditions, in any case less than 2 years.





Caution: Internal bottom part of sensor is subject to damage by direct light, even during a short time.
Never dismount the sensor end if a new one is not ready for replacement.

Choose a dim light room for sensor end replacement, follow the procedure:

- 1) Unscrew the protection.
- 2) Unscrew the sensor end: anti-clockwise.
Never touch internal part exposed to light.
- 3) Apply light quantity of lubricant on the thread and ring seal.
- 4) Unpack the new sensor end from light-protection packaging and quickly screw it on the probe.
- 5) Proceed to calibration for 0% and 100 % of dissolved oxygen as described before.

Note: Always begin with 0% calibration point

6. PROBE SENSOR REPLACEMENT

<p>Take off the probe holder from the pole <i>(It is not necessary de dismount the cap head as on the pictures)</i></p>	
<p>Use a wrench key (N°3) to unscrew the blocking screw on head side. The head is now free from probe holder body.</p>	
<p>Take off the head from body taking care of ring seal. Let off 20 cm of cable, sufficient to see the 2 connectors. Unscrew the connectors The probe sensor is now free from head.</p>	
<p>Unscrew lower part of probe holder by the union. The probe can be dismounted and took off the probe holder. Unscrew the probe sensor from its holder in red PVC, taking care of seals. The probe sensor is now ready for replacement.</p> <p>For mounting back the complete system, proceed reverse way of above procedure.</p>	

7. PROBE CLEANING

The protection end of AQUAPLUS probe is easily dismounted.

- Unscrew the protection end if in use; without protection end the probe must be handle with care.
- Rinse the probe and protection with tap water.
- With a soft tissue or a soft nylon brush with a weakly detergent clean off the conductive electrodes of incrustated dirt.
- It is important to keep clean the end part in black elastomer of sensor end, in order to prevent deposit of organic materials able to consume oxygen and give false measurements.
To clean the sensor end, take off all deposit with a soft and wetted tissue.
- Dry the conductive electrodes with soft tissue. Take off water from inside protection end, screw it back, and dry it perfectly.

Never use organic solvents, alcohol, acid or alkaline solutions for cleaning all or parts of the probe. These reagents will destroy the sheath on probe and damage the plastic or elastomer components. These damages are not covered by warranty.

Note: Application of lubricant on thread and ring seal of protection end will facilitate future maintenance.