

OBJECTIVE

Procedure for calibrating the Optical DO sensor.

PREPARATORY STEPS

1. Check

Check that the cap does not need to be replaced. Look for any signs of a tear in the black membrane. Ensure that you cannot see red or blue lights through the membrane cap when the probe is powered on, this would indicate a tear. If the DO cap requires replacing, also replace the o-ring which is provided with the replacement DO cap. Please ensure you remove the old o-ring first and screw the cap on tightly.

2. Required Items

- Zero oxygen calibration solution
- A moist cloth/towel
- Water bath set to 25°C, where possible.

3. Preparation

The zero oxygen solution should be placed in the water bath, so that the temperature is brought up to 25°C. If no water bath is available, the solutions should be placed on the bench so that they can reach room temperature overnight, prior to starting the calibration procedure.

Remove the pH storage cap from the probe's pH sensor prior to probe insertion.

4. Conditioning

If using a water bath, or calibrating on the bench, the Aquaprobe should be placed into the calibration solution, for approximately 20 minutes so that the temperature of the probe and calibration solution can reach equilibrium and so that the DO reading displayed on the Aquameter screen reads 0%. Please ensure that if any ISE electrodes are installed, they have their red caps fitted during this calibration to prevent blinding them.

5. Equipment

- Aquaprobe.
- Calibration instrument; Aquameter / Bluelink / Aquacal PC software
- Chosen calibration solution.
- Water bath.

OPERATING MODE

CALIBRATION

Calibration guidance will assume you are using an Aquameter, procedure will be similar when using Bluelink or AquaCal.

If you are performing a full 2-point calibration; 0% and 100%, then the 0% calibration **MUST** always be performed first.

Procedure:

1. With the Aquaprobe having soaked in the zero calibration solution for 20 minutes, ensure the DO is reading close to 0% and that the temperature is stable. The probe sleeve does not need to be fitted at this point.
2. Select the desired calibration point. Press the MENU key then select Calibration>Full Cal>DO/EC to enter the DO/EC calibration screen.
3. Move the cursor downwards to the correct calibration solution option, for example DOZero.
4. Once your desired calibration option is selected, press the OK button on the Aquameter to begin the calibration process.
5. A calibration report value will be displayed after the calibration is complete.
6. Wash and dry the probe, ensuring there are no water droplets on the DO membrane cap before performing the 100% calibration. To remove water droplets, gently pat the black membrane with a soft tissue or cloth.
7. Moisten a clean cloth or piece of tissue paper with fresh water and wrap it around the open end of the probe ensuring all the holes are covered (ensure the probe sleeve is fitted). Do not hold the probe, the heat from your hands will warm the probe up and interfere with calibration.
8. Select the desired calibration solution. Press the MENU key then select Calibration>Full Cal>DO/EC to enter the DO/EC calibration screen.
9. Move the cursor downwards to the correct calibration solution option, for example DO100%.
10. Once your desired calibration option is selected, press the OK button on the Aquameter to begin the calibration process.
11. A calibration report value will be displayed after the calibration is complete.

CONTROL

Check the calibration report value is within the acceptable range.

The acceptable range for the 0% calibration is >4mV

The acceptable range for the 100% calibration is >1mV

Once calibration is complete press the escape button until you can see the live readings. Check that the DO reading in air is 100%.

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