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Tel: +1 (281) 516-9292 / (888) 275-5772 **eFax:** +1 (866) 234-0451
Web: https://www.abqindustrial.net **E-mail:** info@abqindustrial.net

AQUAREAD
water monitoring instruments

CALIBRATION GUIDE CDOM

OBJECTIVE

Procedure for calibrating the CDOM sensor.

PREPARATORY STEPS

- **Check**

Ensure that the CDOM sensor has been correctly assigned to the AUX socket number it's fitted to. Not applicable if using AP/AS-PRO. Ensure that the probes end cap is clean and fitted during calibration and when taking measurements in the field. Failure to use the end cap will lead to incorrect calibration and erroneous readings in the field.

- **Precautions**

During operation, the CDOM Electrode emits high intensity ultraviolet (UV) light, which is harmful to skin and eyes and may cause cancer. Avoid exposure to UV light when the Electrode is in operational.

Precautions must be taken to avoid looking directly at the Electrode without the use of UV light protective glasses.

Do not look directly at the lenses on the front face of the Electrode when it is operational.

- **Required Items**

- CDOM-CAL calibration solution (100ug/L (ppb) quinine sulphate solution)

- **Note on correlation**

Scientists have not developed a standard way to report CDOM values. Results are therefore expressed in relative units based on calibration to a standard fluorescing compound, usually quinine.

- **Preparation**

The probe and CDOM-CAL should be left on the bench overnight so that their temperatures can equilibrate.

- **Equipment**

- Aquaprobe.
- Calibration instrument; Aquameter / Bluelink / Aquacal PC software
- CDOM-CAL solution

CALIBRATION

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OPERATING MODE

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

Procedure, 0 calibration:

1. Pour the pure water down the side of the calibration vessel so that air bubbles aren't introduced to the liquid. Ensure there is at least 10cm of liquid in the calibration vessel.
2. Put the probe into the pure water. If the probe does not have a cleaning arm tap the probe on the bottom multiple times to dislodge bubbles, after you have put it in the liquid and right before starting the calibration. If your probe does have a wiper, run a clean cycle after you put it in the liquid and right before starting the calibration.
3. Leave the probe to sit in the water for two minutes to stabilise.
4. To start the calibration, press the MENU key then select Calibration>Full Cal>AUX ELETRODES>CDOM to enter the CDOM calibration screen.
5. Move the cursor downwards to point 1, which is the 0 calibration.
6. Press the OK button on the Aquameter to begin the calibration process.
7. A calibration report value will be displayed after the calibration is complete, it is useful to record these values for troubleshooting purposes.

Procedure, 100ppb calibration:

1. Pour the CDOM-CAL solution down the side of the calibration vessel so that air bubbles aren't introduced to the liquid. Ensure there is at least 10cm of liquid in the calibration vessel.
2. Put the probe into the solution. If the probe does not have a cleaning arm tap the probe on the bottom multiple times to dislodge bubbles, after you have put it in the liquid and right before starting the calibration. If your probe does have a wiper, run a clean cycle after you put it in the liquid and right before starting the calibration.
3. Leave the probe to sit in the CDOM-CAL solution for two minutes to stabilise.
4. To start the calibration, press the MENU key then select Calibration>Full Cal>AUX ELETRODES>CDOM to enter the CDOM calibration screen.
5. Move the cursor downwards to point 2, which is the 100ug/ (ppb) calibration.
6. Press the OK button on the Aquameter to begin the calibration process.
7. A calibration report value will be displayed after the calibration is complete, it is useful to record these values for troubleshooting purposes.

CONTROL

Check the calibration report value is within the acceptable range.
The acceptable range for the 0% calibration is 2000mV – 2600mV
The acceptable range for the 10ppm calibration is >30mV above zero point

Once calibration is complete press the escape button until you can see the live readings. Check that the CDOM readings is displaying a value **close to 100ug/L** at 20 degrees C. This value will vary with temperature.

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Dated	Revision	Document evolutions	Author
03/07/25	0	Creation	CP
04/07/25	1	Review and fine adjustment	GP

Notes

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