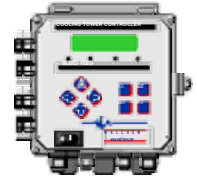


Conductivity Controllers As used in older CHC Installations

EcoWater has used two types of conductivity meters, you will see both types in existing installations. The Walchem WCT-300 is our current model, while the LMI DC4000 was used for many years.



Walchem

All conductivity meters serve two purposes in CHC installations. They include displaying the current basin TDS conductivity, and controlling the blow down valve if those conductivity levels rise beyond the blow down setting.



LMI

Calibration Verification:

Both systems require you to verify calibration at least once every two weeks.

To verify calibration, complete the following steps:

1. Isolate the conductivity probe by closing the appropriate valves.
2. Remove the probe from the sample tee.
3. Clean the probe as shown below.
4. Insert the probe into the ONE-SHOT calibration standard.
5. Verify that the displayed conductivity value is within 50 points of the conductivity as labeled on the ONE-SHOT. If the readings are greater than 50 points off, calibrate the controller as shown on the next page.
6. Open the isolating valves to allow for water to come out of the sample tee for at least 5 seconds.
7. Insert the probe back into the sample tee making sure that the alignment stud or tab is within its mate and tighten the ring.



LMI Stud



Walchem Tab

8. Adjust the flow rate through the sample tee to achieve from 6 to 8 GPM flow rate.
9. Verify no leaks are present. If leaks are present, you will need to clean or replace the O-ring seal on the sample tee.

Probe Cleaning:

Once the probe is removed from the sample tee, use a soft cloth to remove debris from the sensing elements. ONLY rub the sensing elements in the following directions, damage can occur if the directional force of the rubbing is not as shown. If buildup cannot be cleared, use RYDLYME to remove excess buildup.



Adjustments:

Note: Pay close attention to the units being displayed by the Conductivity Controller. Most calibration standards include calibration values for Microseimen/cm as well as ppm. Use the appropriate value when calibrating your controller.

Calibration Walchem-

If calibration of the Walchem is required, follow these steps:

1. Verify that the probe is cleaned appropriately.
2. Insert the probe into the ONE-SHOT calibration standard and allow the readings to stabilize. May take up to three minutes to stabilize.
3. Once the readings on the primary screen has stabilized, push the “ENTER” button twice to advance to the Calibrate screen as shown below:

Calibrate
ppm **991**

4. Press the Δ (UP) or ∇ (Down) buttons until that digit closely matches the labeling on the calibration

standards label. To change the next digit, you will need to press the < or > buttons until the appropriate digit blinks and allows adjustment. Once all digits match the calibration standard press the “ENTER” button to save the calibration settings. The screen will change as shown below to signify the acceptance of the change:

Calibrate
ENTERED **954**

5. Press the “EXIT” button TWICE to return to the main display.

Blow Down Settings-

Once the Calibration is verified you can adjust the blow down control settings. These settings allow the controller to control the maximum conductivity of the basin water. The actual set point will reflect the calculated conductivity value for your required Cycles of Concentration.

To change the settings, follow these steps:

1. From the main screen, press the “NEXT” button TWICE and the following screen will appear.

954 ppm **72 F**
Bleed A

2. Press the “ENTER” button and the screen will change to the following.

Bleed A
Set Point **3816**

3. Adjust this set point for your maximum basin conductivity limit. As this limit is reached, the blow down valve will open and drain some of the water from the basin to lower the basin's conductivity. To change this settings value, use the ∇ , Δ , $<$ and $>$ buttons to select the appropriate value and then press the "ENTER" button to save the changes. Once the value is accepted the following screen will appear.

Bleed A
Entered 3816

4. Press the "NEXT" button ONCE until the Dead Band screen appears as shown below.

Bleed A
Dead Band 400

5. Adjust the Dead Band setting so that it is about 10% of your blow down setting value, and then press the "ENTER" button to save your selection.
6. Press "EXIT" until the main screen appears.

Calibration- LMI

If calibration of the LMI is required, follow these steps:

1. Verify that the probe is cleaned appropriately.
2. Insert the probe into the ONE-SHOT calibration standard and allow the readings to stabilize. May take up to three minutes to stabilize.
3. Once the readings on the primary screen has stabilized, push the "ENTER" button ONCE to advance to the Calibrate screen as shown below:

CAL: (ppm) 000950

4. Press the Δ (UP) or ∇ (Down) buttons until the value as shown matches the appropriate value on the ONE-SHOT label. Press "ENTER" to save your changes and return to the main screen.



CHC

Blow Down Settings-

Once the Calibration is verified you can adjust the blow down control settings. These settings allow the controller to control the maximum conductivity of the basin water. The actual set point will reflect the calculated conductivity value for your required Cycles of Concentration.

To change the settings, follow these steps:

1. From the main screen, press the ∇ button ONCE, and the "ENTER" button ONCE until the cursor appears. Press the Δ and the ∇ buttons until the appropriate value to the nearest tenth is shown on the screen. Press the "ENTER" button to save your settings.
2. Press the ∇ button ONCE, and the differential (Dead Band) setting screen will appear. Press the "ENTER" button ONCE until the cursor appears. Press the Δ and the ∇ buttons until the appropriate differential value is shown on the screen. Press the "ENTER" button to save your settings.