



Operating Instructions for the *Accurate* pH 9.0 Nutrient Monitor

Specification: *Accurate* pH 9.0 Nutrient Monitor

Range: 0.0-14.0 pH
Resolution: 0.1
Accuracy: ± 0.1 pH
Calibration: 2-points 7/4 pH Temp 1 point
Power supply: DC 9v transformer \ominus \bullet \oplus

Replacement or Repair Warranty (at the manufacturer's discretion):

- 12 months for defective parts and materials from date of manufacture on the Monitor Body.
- 6 month warranty on the pH electrode.

Proof of purchase required. Warranty does not cover water damage, body submersion in liquids or abuse. Warranty will be void if the person calibrating the meter damages any calibration screw. For warranty, return the meter to the place of purchase or call CWP Instruments at 888.433.6867 for a Return Authorization Number.

Operation of the *Accurate* pH 9.0 Nutrient Monitor

IMPORTANT INFORMATION: The meter's electrode is attached to the meter's body by a BNC connector. Remove the rubber protectors from the pH electrode's BNC connector before attaching it to the *Accurate* pH 9.0 meter. Align the pins and slots of the BNC connector, gently push in and turn clockwise until the two pieces lock into place.



You have purchased a scientific instrument requiring a delicate touch when calibrating. Read both calibration and troubleshooting sections to familiarize yourself with the meter's operation before calibrating. Be gentle; do not force the calibration screws past their stop. They are sensitive and have less than 1 turn total travel. Hold the screwdriver between thumb and index finger to turn the calibration screws. Take care in turning them as the screwdriver slots can be stripped if pressure is applied to the screws after their maximum travel has been reached. The warranty will be void if any calibration screw is stripped or damaged in any way.

pH Measurement –

1. Hang the pH electrode in the water or nutrient solution in such a manner that it is out of harm's way and the currents in the tank will flow by. The monitor will constantly display the pH value of the solution.
2. When not in use, store the electrode in this manner. Clean the electrode with Rejuve it! electrode cleaner, rinse with distilled water and blot dry with a clean cloth. Fill the plastic storage bottle with Store it! electrode storage solution. Insert the electrode through the storage bottle's cap and tighten.
3. Occasionally clean the electrode with Rejuve It! electrode cleaner. This will rejuvenate the glass bulb by safely cleaning build-up from the glass.

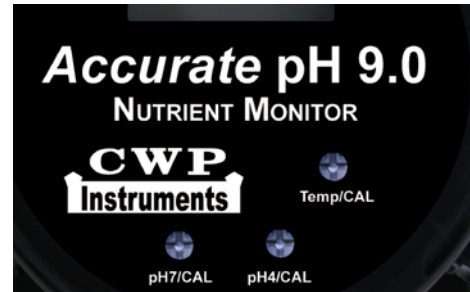
pH Calibration –

If this is a new meter, skip step 2.

1. Allow the electrode's glass bulb to sit in CWP's brand of electrode cleaner called Rejuve it! for 15 minutes. Using a soft toothbrush lightly scrub the glass bulb. Gently rinse with

distilled water and blot the bulb dry. Be careful as the glass bulb is fragile. This procedure will help remove contaminants from the electrode's surface so that a true and proper calibration can be done.

2. Dip the pH electrode into a pH 7 buffer solution. Swish back and forth to dislodge air bubbles then wait for the meter's display to stabilize. Gently turn the pH 7 calibration screw until the display reads pH 7.00. Do not turn calibration screw past its stop.
3. Remove from buffer solution and rinse the electrode with distilled water and blot it dry with a clean cloth.
4. Dip the electrode into a pH 4 buffer solution. Swish back and forth to dislodge air bubbles then wait for the meter's display to stabilize. Gently turn the pH 4 calibration screw until the display reads pH 4.00. Do not turn calibration screw past its stop.
5. Remove from buffer solution and rinse the electrode with distilled water and blot it dry with a clean cloth.
6. Dip the pH electrode back into a pH 7 buffer solution. Swish back and forth to dislodge air bubbles then wait for the meters display to stabilize. Gently turn the pH 7 calibration screw until the display reads pH 7.00. Calibration process is complete.



Troubleshooting –

If the meter fails to calibrate pH properly after using the Rejuve it! cleaner on the electrode, the pH electrode's life may be over and will need to be replaced. Contact your local supply store or CWP Instruments for replacement. *Note:* If the meter can't be calibrated because the calibration screws do not allow enough travel the pH calibration screws need to be repositioned to center travel position before calibrating again. To do this, gently turn each pH calibration screw counterclockwise until it stops and then back clockwise until it stops. This will show you the full travel of the calibration screw. Now gently turn each calibration screw to the center or to its halfway position and start the calibration steps 2-4 again. If this does not allow for enough calibration screw travel during calibration, gently turn each calibration screw (from full clockwise position) counterclockwise to the 1/4 position and calibrate the meter again using steps 2-4. The starting position of the calibration screws is very important when calibrating.

Temperature Measurement –

Dip the Temperature electrode into the solution for measuring. The monitor will display the correct temperature after 10 minutes.

Calibration –

Dip the Temperature electrode and a waterproof thermometer into a solution for 10 minutes to determine temperature. (Waterproof thermometers can easily be found at stores selling aquarium supplies). After the pH electrode and thermometer have been submerged for 10 minutes, gently adjust the calibration screw on the meter to display the same temperature as the thermometer.

Placement -

Place the *Accurate* pH 9.0 meter out of direct light, sprays of water and areas of high humidity. Hang the meter on a wall using the holes located on the back of the meter. Plug the 9 volt transformer into a surge protected outlet.

*The latest electronic components have been incorporated into this meter and will hold calibration for long periods of time. The monitors are all calibrated before leaving the factory.