



Appendix B

HACH Pocket Pal™

Conductivity Tester

Instructions:

1. Slide the on/off switch (located on top of the tester) to on.
2. Remove the protective cap from the bottom.
3. **Before using the conductivity tester it must be calibrated.**
 - a. Immerse the tester 1.0 to 3.5 inches into the Sodium Chloride calibration solution.
 - b. Allow the displayed value to stabilize. (Do not reuse the solution you calibrated the conductivity tester with because contamination could occur. Always use a new sample of solution each time you calibrate.)
 - c. If you have to multiply your readings by 10 then you will have to calibrate your conductivity meter to 100. If you read your conductivity meter directly then you will have to calibrate to 1000. (To determine which type of pen you have, look at the display window. If a “10” is in the top left hand corner, your readings need to be multiplied by 10. If the unit “ μS ” is displayed, read the results directly.)
 - d. Adjust the rear screw in order to calibrate the pen and obtain the desired reading (100 or 1000 $\mu\text{S}/\text{cm}$). The pen is now calibrated.
 - e. Rinse the bottom of the meter with distilled water and move on to Step 4.
- NOTE:** The above instructions are assuming that a Sodium Chloride solution of 1000 $\mu\text{S}/\text{cm}$ is being used.
4. Immerse the bottom of the tester 1.0 to 3.5 inches into the stream water sample.
5. Allow the reading on the tester to stabilize. Once the reading stabilizes, read the value on the display window.
6. Multiply this reading by 10 **OR** read it directly (depending on your meter) to get a conductivity reading in $\mu\text{S}/\text{cm}$.
7. Rinse the bottom of the conductivity tester with distilled water. Conductivity pens should be stored dry, so make sure to simply replace the dry protective cap on the pen.
8. Turn the conductivity tester OFF.

Battery Replacement:

1. The batteries need to be replaced when the tester cannot be switched on or the display fades.
2. Remove the case top from the tester. Caution: Do not overextend the attached wires. Some models are designed differently. (Case tops may be located in different places.)



3. Replace the four batteries with four 1.4V alkaline batteries paying attention to their polarity. Always replace all four batteries at once.

Specifications:

Range: 10 to 1990 $\mu\text{S}/\text{cm}$

Resolution: 10 $\mu\text{S}/\text{cm}$

Accuracy: + 2% of full scale

Temperature Compensation: Automatic from 5 to 50 C

Environment: 0 to 50 C; 95% Relative Humidity

Batteries/Life: 4 x 1.4V alkaline/ 150 hours continuous use

Dimensions/weight: 150 x 30 x 24 mm/ 85 g



Appendix B

HACH Pocket Pal™ pH Tester

Instructions:

1. Slide the on/off switch (located on top of the Pocket Pal) to on.
2. Remove the protective cap from the bottom.
3. **Before using the Pocket Pal it must be calibrated.**
 - a. Prepare a pH 7.0 buffer solution by combining one pH 7.0 buffer powder pillow with 50 ml of distilled water. (Save this calibration solution for the moment, because you will need to add a few drops of the solution to the protective cap when you are finished obtaining a reading.
 - b. Do not reuse this pH 7.0 buffer solution to calibrate the pH pen on subsequent monitoring visits, because contamination can occur. Always prepare a new solution each time you calibrate the Pocket Pal.
 - c. Immerse the bottom of the Pocket Pal 1.0 to 3.5 inches into the buffer solution and read the pH. Allow the displayed value to stabilize. If it does not read 7 adjust the reading to 7 using a small screwdriver through the hole in the back. The pH pen is now calibrated.
 - d. Rinse the bottom of the meter with distilled water and move on to Step 4.
4. Immerse the bottom of the Pocket pal 1.0 to 3.5 inches into the stream water sample.
5. Using the Pocket Pal, gently stir the sample for several seconds. Stop stirring and let the reading on the Pocket Pal stabilize. Once the reading stabilizes, read the pH value.
6. Rinse the bottom of the pH pen with distilled water. Place several drops of the pH 7.0 buffer solution that was used to calibrate the pH pen in the protective cap to prevent the glass bulb from drying out. (This will provide a faster response time and longer Pocket Pal life). Replace the protective cover.
7. Turn the pH tester OFF.

Battery Replacement:

1. Remove the case top from the Pocket Pal. Caution: do not overextend the attached wires.
2. Replace the four batteries with Eveready E675E, Duracell RM 675 or equivalent (different models are designed differently, case tops may be located in different places).

Specifications:

Range: 0.0 - 14.0 pH

Resolution: 0.1 pH

Accuracy: + 0.2 pH

Operating Temperature: 0 - 50 C

Battery Life: 1000 hours continuous use