



## TEXAS STREAM TEAM

# PROBE KIT MAINTENANCE GUIDE

### Conductivity/pH probe

#### Getting started

1. Before using the probe, the manufacturer recommends soaking the electrode in tap water or pH 4 Buffer solution for about 10 minutes to dissolve any build-up resulting from storage.
2. White KCL crystals may be present in the cap or on the electrode due to storage, but they will dissolve after soaking the electrode and improve accuracy of measurement.

#### Upkeep

1. After using the probe, keep the sponge in the protective cap soaked with tap water or pH 4 Buffer solution. This will help sustain the life of the electrode.
2. In most cases, use a 1413  $\mu\text{S}/\text{cm}$  Conductivity Standard for calibrating in the conductivity mode. If extremely low or high conductivity results are anticipated, calibrate using an 84  $\mu\text{S}/\text{cm}$  or 12880  $\mu\text{S}/\text{cm}$  standard, respectively.
3. Do not touch the inner surfaces of the conductivity electrodes. Touching them can damage the electrode and reduce the life of the probe.
4. Always rinse the electrode with deionized water twice between measurements to avoid cross contamination of samples.
5. When using the 20mL sample cup in a conductivity reading, do not let the electrode sit in the sample for any longer than necessary. Electrolytes can leak into the sample, which raises the conductivity value.
6. To prevent corrosion of the meter, it is highly recommended that batteries be removed when meter is not in use.

#### Replacing batteries

1. When the batteries become weak the “BAT” icon will appear in the display as a reminder to replace the current batteries with 4 new CR2032 batteries.
2. Unscrew the top battery compartment cap. Holding the battery housing in place with a finger, pull out the battery carrier using the 2 small tabs.
3. Replace the 4 CR2032 batteries, while checking to make sure the batteries’ polarity is correct.
4. Screw the battery compartment cap back on.

#### When the RENEW indicator is displayed

1. If when in pH mode a “RENEW” indicator flashes, this means the probe is not performing to expected specifications. This means the electrode’s “slope” has fallen below 70% of a nominal slope, which negatively affects the meter’s accuracy.
2. When “RENEW” is flashing, try cleaning the electrode with the pH/conductivity rinse solution provided in the kit. If this fails, proceed to the “Cleaning the electrode” section.

#### Cleaning the electrode

1. If the electrode is contaminated by water soluble substances, clean it with deionized water. Soak or scrub the electrode with a soft brush, then recondition the electrode in 4 or 7 pH Buffer for 1 hour.
2. If the electrode is contaminated by grease and oil, rinse it with warm water and household detergent. Soak or scrub the electrode with a soft brush for a maximum of 10 minutes. Rinse thoroughly with deionized water, then recondition in 4 or 7 pH Buffer for 1 hour.
3. If the electrode is contaminated by heavy levels of grease and oil, rinse or soak with rubbing alcohol for a maximum of 5 minutes, then scrub with a soft brush.

Rinse thoroughly with deionized water, then recondition in 4 or 7 pH Buffer for 1 hour.

4. If the electrode is contaminated by lime or hydroxide coatings, clean with 10% acetic acid and soak until the contaminant's coating is dissolved for a maximum of 5 minutes. Rinse thoroughly with deionized water, then recondition in 4 or 7 pH Buffer for 1 hour.

5. If after cleaning the "RENEW" indicator is still flashing, replace the electrode with a new one.

### Replacing an electrode

1. Unscrew and completely remove the green electrode collar by turning it counterclockwise.
2. Gently rock the electrode from side to side, pulling it downwards, until it disconnects from the meter.
3. To attach a new electrode, carefully plug it into the probe socket, then tighten the electrode collar to make sure it's sealed properly.

### Dissolved Oxygen (DO) Probe

#### Getting started

1. The DO probe electrode is shipped "dry" and requires filling with the supplied DO-600 Electrolyte Solution before use. The electrode cap's membrane should be in place and does not need replacement. To fill the bonded cap, proceed to the "Fill and replace bonded electrode cap" section.

#### Fill and Replace Bonded Electrode Cap

**Note: NEVER touch the membrane. Skin oils will interfere with the oxygen permeability rate of the membrane. Use caution when replacing the bonded cap.**

1. If using for the first time, unscrew the membrane cap on the electrode. If replacing with a new one, unscrew the old cap and dispose in the trash.

2. Take the new cap and place it on a hard, flat surface. Rinse the anode and cathode with deionized water to remove old electrolyte solution.

3. Fill the bonded cap with the DO-600 Electrolyte Solution up to the bottom of the threads on the inside of the cap.

4. Tap the side of the bonded cap to help free any trapped air bubbles from the electrolyte solution.

5. Keeping the cap in a fixed position on a flat surface, carefully insert the electrode into the new bonded cap by first dipping and removing the electrode several times from the cap. With each dip, push the electrode progressively deeper into the bonded cap.

6. Finally, screw the electrode slowly onto the bonded cap in a clockwise direction until fully tightened. Excess electrolyte solution may leak during the process—clean off the excess solution before use.

7. If the bonded cap appears to be properly prepared but errors are occurring, you will need to replace the electrode on the Dissolved Oxygen meter. To replace a full electrode, see the "Replacing an electrode" section under the Conductivity/pH probe section. To replace the batteries, see the "Replacing batteries" section under the Conductivity/pH probe section.

8. To prevent corrosion of the meter, it is highly recommended that batteries be removed when meter is not in use.

*\*For more information, reference the manufacturer's user manual included in your kit*