pH Electrode Instruction Guide

Preparation

- Remove the protective cap. DO NOT BE ALARMED IF ANY SALT DEPOSITS ARE PRESENT. This is normal with electrodes and they will disappear when rinsed with water.
- Shake the electrode down as with a glass thermometer to eliminate any air bubbles inside the electrode.
- If the bulb and/or junction are dry, soak the tip of the electrode in a Storage Solution (HI 70300M) or pH 7 (HI 7007M) or pH 4 (HI 7004M) buffer for at least an hour prior to using it.

Measurement:

- Rinse the electrode tip with distilled or deionized water.
- Immerse the tip in the sample, stir gently and wait for the reading to stabilize. For a faster response and to avoid cross contamination, rinse the tip with a few drops of the solution to be tested, before taking measurements.

Storage:

- To minimize clogging and ensure a quick response time, the glass bulb of the pH electrode and the junction should be kept moist. Replace protective cap with a few drops of a Storage Solution (HI 70300M), or in its absence, pH 7 (HI 7007M) or pH 4 (HI 7004M) buffers.
- NEVER STORE THE ELECTRODE IN DISTILLED OR DEIONIZED WATER.

Maintenance and Cleaning:

- Rinse the electrode with clean water after use before putting it away and store it wet (see above).
- Periodically clean the electrode thoroughly, by leaving it soaking for 10 to 15 minutes in a cleaning solution (for General Purpose use HI 7061M, for oily samples HI 7077M, for Inorganic samples HI 7074M and for protein etc. use HI 7073M cleaning solution).
- Inspect the electrode for any scratches or cracks on the bulb or stem. If any are present, replace the electrode.

Trouble Shooting:

- **pH Meter:** Follow attentively the meter's operating and calibration procedures from the manual.
- **Electrode:** Evaluate your electrode performance based on the following possibilities:

1. **Noise:** (Readings fluctuate) could be due to Clogged/Dirty Junction: Refer to Maintenance above; or Air Bubble insulating the junction: Shake the electrode down as with a clinical thermometer.
2. **Dry Membrane/Junction:** Soak in a Storage Solution (HI 70300M) or pH 7 (HI 7007M) or 4 (HI 7004M) buffer for at least an hour.
3. **Drifting:** Soak the electrode tip in warm (about 120 °F) pH 4 Solution (HI 7004M) for about an hour then rinse the tip with distilled or deionized water.
4. **Low Slope:** Refer to Maintenance above.
5. No Slope: (pH meter reads the same value all the time) Check for cracks in glass, stem or bulb. Replace electrode.
6. Slow Response/Excessive Drift: Soak the tip in a Cleaning Solution (for General Purpose use HI 7061M, for oily samples HI 7077M, for Inorganic samples HI 7074M and for protein etc. use HI 7073M cleaning solution) for 30 minutes, rinse thoroughly with distilled or deionized water and then soak the electrode in a Storage Solution (HI 70300M) for an hour and recalibrate the meter.
