

# pH EQUIPMENT EVALUATION

## Visual Inspection of Equipment

- Look for broken cables, tight connections, corrosion, missing or broken parts.
- pH electrode solution levels, proper filling solution, clean electrode fill chambers.
- ATC probe should read accurately for temperature correction—verify by comparing with thermometer reading.

## Clean as Needed

- 70% Isopropyl alcohol and water work well for external cleaning. Rinse electrodes with pure water using a Pasteur pipet or eye-dropper until inner chamber is free of debris and excess salt crystal build up.
- Refill electrode with correct fill solution and soak in electrode storage solution or pH 4 buffer to stabilize readings. Filling solution should be filled to just below the fill hole.

## Electronic Check

- To check the meter and make sure it is working properly, insert the shorting strap or a paper clip into the BNC connector. The reading should be 0 mV +/- 0.2 mV

## pH Electrode Check

- Calibrate on pH7 and pH4 buffers (make sure buffers are fresh). Check and note slope. 92-102 is considered acceptable.
- mV range for buffers should fall into the following points:

pH 4.00	150 to 210 mV
pH 7.00	0 +/- 30 mV
pH 10.00	-150 to -210 mV
- If electrode and meter calibrate properly, pH measurements should fall into acceptable levels.
- Calibrate with pH7 then pH4. Check pH7, pH4, pH3, pH10 and samples previously analyzed for comparison results.
- Let soak in electrode storage solution or pH4 colorless buffer and recheck at a later time or the next day for continued performance accuracy.
- For sluggish electrode response, soak electrode in 0.1N Hydrochloric Acid for 10 to 30 minutes. This will unclog any minor blockage of the electrode junction. After treatment rinse well with DI water and soak in pH4 colorless buffer until readings stabilize.
- Do not pour used solutions back into bottles.