

Electrode Care & Cleaning

pH electrodes:

The end of the pH probe must be kept clean at all times. Do not allow fats, oils, proteins, etc to dry on the end of the probe. Rinsing the electrode with distilled water in between measurements and blotting dry is usually enough to keep pH electrodes clean. A build up can lead to contamination or clogging of the salt junction resulting in a slow response and non-reproducible measurements. Rinsing with methyl alcohol should remove the coating and restore the speed of response. Using a mild cream cleanser and a soft cloth is also an effective way of cleaning the glass bulb.

If methyl alcohol does not restore the response, soak in 0.1M HCl for 5 minutes. Remove, rinse with water and place in 0.1M NaOH for 5 minutes. Remove, rinse again, and soak in pH4 buffer for 10 minutes before use.

ORP Electrode:

Rinsing the ORP electrode with distilled water after measurements is usually enough to keep the electrode clean. However, an ORP electrodes metal tip may need additional cleaning with fine emery paper.

Reference Electrodes:

If a reference electrodes salt junction becomes clogged or coated, it will become erratic. Cleaning with methyl alcohol or 0.1M HCl periodically will enhance the electrode's performance.

Filling Solutions

Electrodes can be either refillable or non-refillable.

Non-refillable electrodes have no filling hole accessing the outer reference chamber on the side of the electrode.

Refillable pH, ORP and reference electrodes are filled with 3.0M KCl saturated with AgCl. To fill electrodes, slide down the plastic cover to reveal the hole beneath. Place a small syringe into the hole, to fill the outer chamber of the electrode with the appropriate filling solution, until the filling solution is level with the hole. Slide the plastic cover back to cover the hole again.

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pH, ORP and Reference Electrode Instructions



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Important Notes

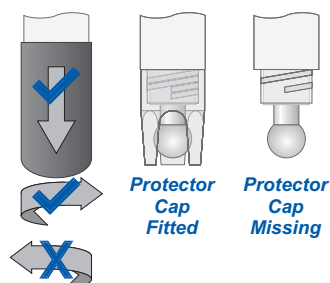
Salt crystallisation inside electrode or around the tip of the sensor.

There is Potassium Chloride (KCl) solution in the wetting cap and inside the sensor, which may partially leak out during transportation and storage. Crystallisation within the electrode is normal. Crystals can be washed off the electrode tip with water.



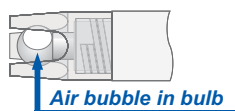
Preparation for use: Removing the wetting cap.

All sensors are shipped with the measuring tip covered with a wetting cap. Remove the wetting cap and keep it in a safe place for future long term storage. To remove this cap pull it off the sensor while twisting clockwise or without twisting at all. Twisting the cap anti-clockwise may unscrew the bulb protector on certain probes. Please note that broken pH bulbs are not covered by warranty.



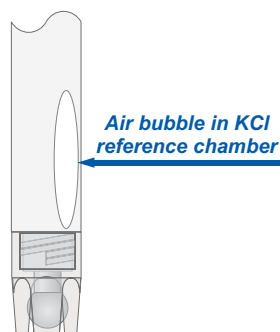
Removing air bubbles in pH bulb

During shipment it is possible for air bubbles to move into the bulb of pH sensors. This affects the performance and the stability of readings. To remove any bubbles, flick the pH sensor down like a thermometer until the glass bulb is filled with solution.



Removing bubbles in the outer reference chamber.

It is also possible for air bubbles to move into the KCl reference chamber of pH sensors. To remove any bubbles, flick the pH sensor down like a thermometer until the outer reference chamber is filled with solution.



Electrode Storage & Rejuvenation

pH, ORP & Reference electrodes:

Single junction electrodes:

Store in 3.0M KCl.

Double junction electrodes:

Store in a 3.0M solution of the salt in the outer reference chamber. Most TPS double junction electrodes require 3.0M KCl.

Long term storage:

Half fill the wetting cap with a 3.0M solution of the salt in the outer reference chamber and fit to the end of the electrode. If the required salt solution is not available then use tap water.

pH & Reference Electrode Storage solution (#121308):

TPS's 3.0M KCl storage solution is adjusted to pH 4 for the added benefit of cleaning the electrodes glass membrane as well as keeping the junction charged with 3.0M KCl salt.

pH & Reference Electrode Rejuvenation solution (#121314):

Soak the electrode in rejuvenation solution (contains 0.1 M HCl) for 20 minutes. Rinse with tap water before use.

For distributor details see : www.tps.com.au