

LAQUAtwin Ion Sensor Maintenance Procedures

Proper usage and maintenance of the LAQUAtwin ion meter, especially the ion sensor that comes in contact with samples, is important to maintain the accuracy and prolong the life span of the instrument.

Materials Needed



2000ppm Ion
Standard Solution



Clean water
(e.g. distilled,
deionized, tap)



Cotton buds



Soft tissue



Household bleach
($< 5\%$ sodium hypochlorite or NaClO)



Mild detergent

Conditioning

A dry ion sensor may give erratic reading or slow response. Condition the ion sensor before using it for the first time and after storing it dry. If there is white powder or salt buildup on the junction after dry storage, simply rinse off with water. This is normal.

1. Place few drops of 2000ppm ion standard solution onto the ion sensor. Make sure that the whole flat sensor is covered with the solution.
2. Leave the standard solution on the ion sensor for 10 minutes to 1 hour.
3. Rinse the ion sensor with water and blot it dry with soft tissue.
4. Perform calibration with fresh ion standard solutions prior to sample measurement.

Cleaning

The performance of the ion sensor may deteriorate, especially when it is used in testing dirty samples such as soil, plant tissue sap, etc. To restore the performance of the ion sensor, remove any unwanted sample residues on the flat sensor surface by cleaning it with mild detergent and water. If there are stains or stubborn deposits left, perform the following:

1. Place few drops of household bleach with less than 5% sodium hypochlorite onto the sensor and leave for 5 to 30 minutes (maximum).
2. Gently, wipe the sensor using a cotton bud. Avoid applying pressure and repeat step 1, if needed.
3. Rinse the ion sensor with water and condition it (See Conditioning).

Sodium hypochlorite (NaClO) salt is the active ingredient of bleach, which is often used in disinfection and stain removal. Generally, household bleach in the market contains 3 to 8% NaClO . For cleaning the sensor, a cleaning solution with less than 5% NaClO is recommended, so dilute bleach if necessary. Never use any organic solvent (e.g., acetone, ethanol, etc.) to clean the sensor as it may cause damage and shorten the sensor lifespan. This usage will also void the sensor warranty.

If disinfection is needed, wipe the surface of meter body and sensor with a clean cloth wet with ethanol or use alcohol wipes. For the flat sensor, rinse it thoroughly with sterile water after cleaning with NaClO .

If calibration with fresh ion standard solutions failed repeatedly and cleaning did not restore the ion sensor performance, replace the sensor with a new one (See Part Numbers below). The ion sensor is a consumable product and its performance deteriorates over time even under normal operating condition.

- S022 Part no. 3200459867 – Sodium Ion Sensor
- S030 Part no. 3200459868 – Potassium Ion Sensor
- S040 Part no. 3200459870 – Nitrate Ion Sensor
- S050 Part no. 3200459869 – Calcium Ion Sensor

Storage

Store the clean ion sensor dry. Make sure to condition the sensor prior to next use (See Conditioning).

