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Tech Note

Cleaning and Reconditioning Instructions for pH100, 60/63 pH, 5564 pH and 5565 pH/ORP Probes

Cleaning is required whenever deposits or contaminants appear on the glass and/or platinum surfaces of these probes. Symptoms that signal the need for cleaning/reconditioning include:

- Slow response of pH and/or ORP readings in standards (buffers and Zobell solution)
- Slow response reported from the field technician
- Low sensitivity of pH sensor (<160 mv difference between pH 7 buffer and pH 10 / 4 buffers)
- Erroneous ORP readings in Zobell solution (outside the range 229 +/- 40 mv at 25 C

Remove the probe from the cable assembly, or cable assembly from instrument (pH100). First use clean water and a soft clean cloth, lens cleaning tissue or cotton swab to remove all foreign material from the glass bulb and platinum button or ring. Then use a moistened cotton swab to carefully remove any material that may be blocking the reference electrode junction of the sensor.

CAUTION: When cleaning the platinum button on a 5565 probe with a cotton swab, be certain not to damage glass bulb. Do not force the swab tip between the probe guard and the glass. If the swab is too large to fit between the probe guard and glass, remove material from the swab until unrestricted access to the platinum button is allowed (pH glass guard can be removed on 60/63 pH probes).

If good pH and/or ORP response is not restored by the above procedure, perform the following additional procedure:

1. Soak the probe for 10-15 minutes in clean water containing a few drops of commercial dishwashing liquid.
2. GENTLY clean the glass bulb and platinum button by rubbing with a cotton swab soaked in the cleaning solution.
3. Rinse the probe in clean water, wipe with a cotton swab saturated with clean water, and then re-rinse with clean water.

If good pH and/or ORP response is still not restored by the above procedure, perform the following additional procedure:

1. Soak the probe for 30-60 minutes in one molar (1 M) hydrochloric acid (HCl). This reagent can be purchased from most distributors. Be sure to follow the safety instructions included with the acid.
2. GENTLY clean the glass bulb and platinum button by rubbing with a cotton swab soaked in the acid.
3. Rinse the probe in clean water, wipe with a cotton swab saturated with clean water, and then re-rinse with clean water. To be certain that all traces of the acid are removed from the probe crevices, soak the probe in clean water for about an hour with occasional stirring.

***CAUTION**: DO NOT MIX THE ACID FROM THE PREVIOUS STEP WITH THE CHLORINE BLEACH IN THE FOLLOWING STEP. TOXIC GASEOUS PRODUCTS CAN BE FORMED FROM REACTION BETWEEN ACID AND CHLORINE BLEACH. BE CERTAIN TO COPIOUSLY RINSE THE SINK AND DRAIN SYSTEM OF ACID AFTER ITS DISPOSAL AND BEFORE DISPOSAL OF THE CHLORINE BLEACH.*

If biological contamination of the reference junction is suspected or if good response is not restored by the above procedures, perform the following additional cleaning step:

1. Soak the probe for approximately 1-2 hours in a 1 to 1 dilution of commercially available chlorine bleach.
2. Rinse the probe with clean water and then soak for at least 1 hour in clean water with occasional stirring to remove residual bleach from the junction. (If possible, soak the probe for period of time longer than 1 hour in order to be certain that all traces of chlorine bleach are removed.) Then re-rinse the probe with clean water and retest.

Clean O-rings, dry the sensor port and probe connector with compressed air and apply a very thin coat of O-ring lubricant to all O-rings before re-installation (where applicable).

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