

# Conditioning & Cleaning ORPScan for Maximum Response

## Background

The IP67 Waterproof [ORPScanWP](#) is a feature-rich, high quality ORP (Redox) indicator with a wide band platinum ORP sensor for extra stability and repeatability. Even under the best circumstances, ORP electrodes may require conditioning or cleaning in order to get maximum responsiveness. The Waterproof ORPScan is no different, so we describe some conditioning and cleaning procedures as follows:

It is noted that there is another aspect of ORP electrodes that appear to the user as an indication of a problem when there really is no problem. All electrodes have a unique mV offset characteristic that is dependent on the reference cell chemistry. This is not practical to eliminate in lower cost electrode and testers.

In anticipation of this, the waterproof ORPScan has an offset calibration procedure that can be used to compensate for the reference electrode characteristics. This effectively eliminates this offset problem and brings the ORPScan into agreement with either a reference standard or another ORP measurement system - whichever the user prefers. Please refer to the offset calibration procedures described on the "Calibration" instructions on the box. This feature makes the ORPScan suitable for applications other ORP testing products cannot handle because of problems with accuracy and repeatability.

## Cleaning and Conditioning

The platinum band on the ORPScan electrode can have a reduction in its sensitivity if it is coated by foreign material. ORPScan responsiveness can also be reduced when the reference junction is plugged by foreign material. There are some simple procedures that can correct these problems and improve sensitivity. These are:

- Use soap and water (dish soap is O.K.) and a clean cloth to clean the platinum band. Be gentle so as not to damage or break off the electrode. Soaking the electrode end of the ORPScan will also help to clean the reference junction. See NOTE for details.
- Use acetone to rinse off the electrode's platinum band to dissolve organic material, especially oil films, which may coat the platinum. See NOTE for details.
- Use hydrochloric acid (HCl) in a 10 to 1 dilution with water as a soak for the electrode, to remove any debris that may be attached to the platinum. This also helps clean the reference junction. See NOTE for details.
- Use a straight bleach solution, like that available in grocery stores, as a soak. This helps to clean the platinum band and reference junction. Also, if you let the ORPScan condition in this for a few minutes, turn the tester on and look for readings around 800 mV or higher which indicates the slope and sensitivity of the ORPScan is O.K. See NOTE for details.
- Sometimes a conditioning of the ORPScan can also improve the response and accuracy. Soaking the electrode over a period of hours in the solution to be tested can work as a temporary measure to improve the ORPScan response prior to performing any of the procedures listed above.

**NOTE:** Procedures mentioned above involve moderately dangerous chemicals and should only be performed with proper ventilation, eyewear, gloves and other protective clothing. After any of these procedures, thoroughly rinse the ORPScan in clean, deionized or distilled water before the next use.

