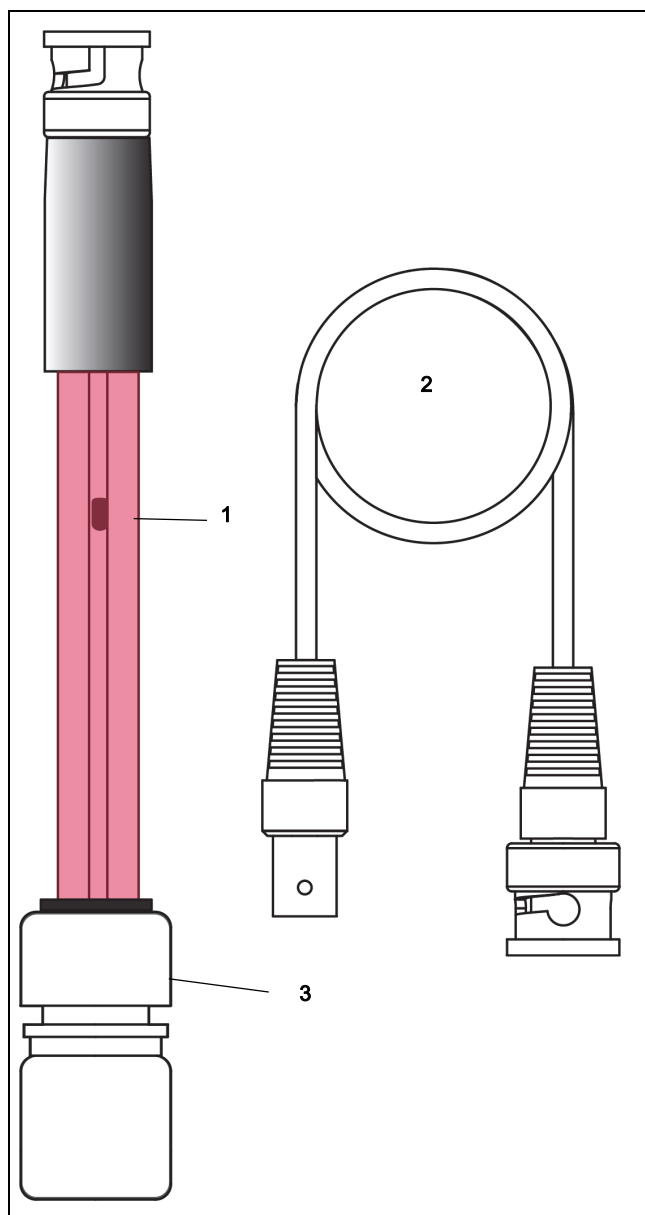


Oxidation Reduction Potential Probe

PS-3515



Introduction

This Oxidation Reduction Potential (ORP) electrode is a hand crafted, precision analytical device. Carefully follow the directions in this instruction sheet to obtain the best performance and electrode life.

Required Equipment and Solutions

- PASCO Wireless pH/ISE/ORP Sensor (PS-3204)
- or
- PASPORT High Precision pH/Temperature with ISE/ORP Amplifier (PS-2107) with a PASCO interface (see www.pasco.com for information)
- or
- pH/mV meter
- PASCO data collection software (see www.pasco.com)
- pH Buffer Solution 4.01* saturated with Quinhydrone (Solution has 2 to 4 use life after mixing)
- pH Buffer Solution 7.00* saturated with Quinhydrone (Solution has 2 to 4 use life after mixing)
- Wash bottle filled with distilled or de-ionized water
- Laboratory magnetic stirrer and magnetic stir bar
- Lab wipes
- Laboratory Magnetic Stirrer with Stir Bar
- Clean beakers**

(*SC-2321 pH Buffer Capsule Kit)

Included Equipment	Item
Oxidation Reduction Potential Probe	1
Male-to-female BNC Cable	2
Storage Bottle	3

(**SE-7287 100 ml or SE-7288 1000 ml Beakers)

Preparation of the Electrode

1. Combination ORP electrodes are shipped with a storage bottle with storage solution. Keep the solution bottle and solution for future use.
2. Remove the storage bottle from the electrode and thoroughly rinse the electrode with distilled water. Wipe carefully with a clean lab wipe.

Software Help

See the SPARKvue Help or PASCO Capstone Help for information about collecting, displaying, and analyzing data.

- In SPARKvue, select the HELP button in any screen including the Home Screen.
- In PASCO Capstone, select PASCO Capstone Help from the Help menu, or press F1.

Checking Electrode Operation

1. Connect your ORP electrode to the input connector on the Wireless pH /ISE/ORP Sensor (or other pH measuring device). Ensure that the electrode connection is secure.
2. Place the electrode into a beaker containing quinhydrone saturated pH 7.00 buffer. Stir gently. The mV reading E1 should be 86 ± 20 mV.
3. Remove the electrode from the buffer. Rinse with distilled water and blot with a lab wipe.
4. Place the electrode into a beaker containing quinhydrone saturated pH 4.01 buffer. Stir gently. Record the mV reading E2. The difference between E2 and E1, (E2-E1), should be 175 ± 20 mV.

Reading a Sample with the Electrode

1. Rinse the electrode with distilled water and blot with a lab wipe. Place the electrode in a beaker containing the sample and a stir bar. Stir as before. Record the mV when the reading is stable.
2. Remove the electrode from the sample, rinse the electrode with distilled water over the "waste" beaker. Blot the electrode dry with a lab wipe. The electrode is now ready to read the ORP readings of other samples.

Storing the Electrode

Short Term

Between measurements, immerse the ORP electrode in the storage solution.

Long Term

When storing for long periods, store the ORP electrode in the storage bottle which came with the electrode.

Electrode Cleaning

Contamination of the sensing element often results in slow response and inaccurate readings. Clean the element by one of the following procedures:

1. Inorganic Deposits: Immerse electrode tip in 0.1 N HC1 for 10 minutes. Wash the tip with distilled water.
2. Organic Oil and Grease Films: Wash electrode tip in a liquid detergent and water.
3. After above treatment, soak the electrode tip in alcohol for 5 minutes and wipe dry, then, soak in quinhydrone saturated pH 4.01 for 15 minutes; rinse with distilled water afterwards.

NOTE: DO NOT ATTEMPT TO SAND OR POLISH THE SENSING ELEMENT WITH SAND PAPER OR OTHER POLISHING MATERIAL!

Technical Support

For assistance with any PASCO product, contact PASCO at:

Address: PASCO scientific
10101 Foothills Blvd.
Roseville, CA 95747-7100

Phone: 916-462-8384 (worldwide)
800-772-8700 (U.S)

Email: techsupp@pasco.com

Limited Warranty

For a description of the product warranty, see the PASCO catalog.

Copyright

This PASCO scientific instruction sheet is copyrighted with all rights reserved. Permission is granted to non-profit educational institutions for reproduction of any part of this manual, providing the reproductions are used only in their laboratories and classrooms, and are not sold for profit. Reproduction under any other circumstances, without the written consent of PASCO scientific, is prohibited. Rev: 10/17

Trademarks

PASCO, PASCO scientific, PASCO Capstone, PASPORT and SPARKvue are trademarks or registered trademarks of PASCO scientific, in the United States and/or in other countries. All other brands, products, or service names are or may be trademarks or service marks of, and are used to identify, products or services of, their respective owners. For more information visit www.pasco.com/legal.

Product End of Life Disposal Instructions:

This electronic product is subject to disposal and recycling regulations that vary by country and region. It is your responsibility to recycle your electronic equipment per your local environmental laws and regulations to ensure that it will be recycled in a manner that protects human health and the environment. To find out where you can drop off your waste equipment for recycling, please contact your local waste recycle/disposal service, or the place where you purchased the product.

The European Union WEEE (Waste Electronic and Electrical Equipment) symbol (to the right) and on the product or its packaging indicates that this product must not be disposed of in a standard waste container.

