Required Equipment and Solutions

- pH meter
- Known value of system water pH
- pH Buffer 7.0
- pH Buffer 10.0
- Wash bottle filled with distilled or de-ionized water
- Clean beakers

Preparation of the Electrode for Initial Use

1. Remove the protective bottle or cover from the electrode and thoroughly rinse the electrode with distilled water. Wipe carefully with a clean lab wipe.
2. During shipment, air bubbles may have migrated into the electrode sensing bulb. Hold the electrode up to the light and inspect the sensing bulb for air bubbles. If air is seen, carefully shake the electrode downward (like a thermometer) to dispel any air bubble from the sensing bulb at the tip of the electrode.

In-Line Standardizing the Electrode with Controller

1. Connect your pH electrode to the input connector on the pH controller. Ensure that the electrode BNC and solution reference connections are secure.
2. Install the electrode in the sample line and turn flow on. The tip of the electrode must be pointed down no more than 40° from vertical. Wait 2-3 minutes.
3. While the reading is stabilizing navigate to the controller's pH calibration menu and reset to factory defaults if available.
4. If the pH reading is stable and within 1-2 pH of your tested known value for the solution perform a 1 point calibration to match controller and electrode to tested value.

Standardizing the Electrode to Solutions

1. Connect your pH electrode to the input connector on the pH controller. Ensure that the electrode BNC is secure.
2. Place the electrode into a beaker containing pH 7.00 buffer and stir. While reading is stabilizing navigate to the 2 Point Calibration menu of controller, if available.
3. When the reading is stable, adjust the controller to read the value of the pH 7.00 buffer for the low calibration point.
4. Remove the electrode from the buffer 7. Rinse with distilled water and blot with a lab wipe.
5. Place the electrode in a beaker containing the buffer 10 and repeat step 3 calibrating the high calibration point.

Storing the Electrode

Short Term
Between measurements, store the pH electrode in a beaker containing pH 4.0 buffer.

Long Term
When storing for longer periods, store the pH electrode in the storage bottle or the protective boot which came with the electrode. Ensure that the foam in the storage bottle or the cotton ball in the protective boot is totally wetted with DI water to keep a moist environment around the pH bulb and junction. Maintain the moist environment in the storage bottle or in the protective boot during storage.

Storing electrodes for more than 2-3 months, dry, or at extreme temperatures will shorten expected operational life.

Electrode Cleaning

Do not use strong solvents (e.g. acetone, carbon tetrachloride, etc.) to clean the pH electrode. Be sure to recalibrate the electrode after cleaning.

1. If the electrode has become coated with oil or grease, carefully wash the electrode under warm tap water using dish-washing detergent. Rinse thoroughly with fresh tap water followed by a rinse with distilled water. Soak the electrode in pH electrode storage solution for 30 minutes after this cleaning procedure. Recalibrate the electrode before use.
2. If the electrode has been exposed to protein or similar materials, soak in acidic pepsin for 5 minutes. Rinse thoroughly with distilled water. Recalibrate before use.
3. If the previous cleaning procedures fail to restore response, soak the electrode in 0.1 N HCI for 30 minutes. Rinse thoroughly with distilled water. Recalibrate before use.
4. If electrode response is not restored, replace the electrode.

Electrode Expected Service Life

1. Electrodes have an expected service life in clean water solutions of 12-18 months. Annual replacement is recommended for best controlling and monitoring results.
2. Harsh and dirty water will shorten the life expectancy of the electrode.

Warnings

1. The electrode tip must be kept wet at all times. If it is allowed to dry out damage can occur requiring replacement.
2. If the glass surface is cracked or damaged the electrode will not work properly.

pH/ORP Electrode Products Warranty

This product designed and sold for use in circulating water applications is warranted to be free from defects in materials and workmanship for a period of six (6) months, provided that the product is used in accordance with the instructions provided and that the product has not been subjected to breakage, alteration, misuse, abuse or used in an application not normally intended for the product. In the event of a warranted failure within the warranty period, contact your representative during regular business hours, and ask for customer service.

Please be prepared to discuss the details of the difficulty. If necessary, a Return Materials Authorization (RMA) number will be issued. Materials or goods returned without an RMA will not be accepted. Return the product freight prepaid.

The warranty described above is exclusive and in lieu of all other warranties whether statutory, express or implied including, but not limited to, any implied warranty of merchantability or fitness for a particular purpose and all warranties arising from the course of dealing or usage of trade. The buyer's sole and exclusive remedy is for repair or replacement of the non-conforming product or part thereof, but in no event shall dealers or agents of any tier be liable to the buyer or any person for any special, indirect, incidental or consequential damages whether the claims are based in contract in tort (including negligence) or otherwise with respect to or arising out of the product furnished hereunder.

No other representations of warranty made by any person, including dealers, employees or agents shall be binding.

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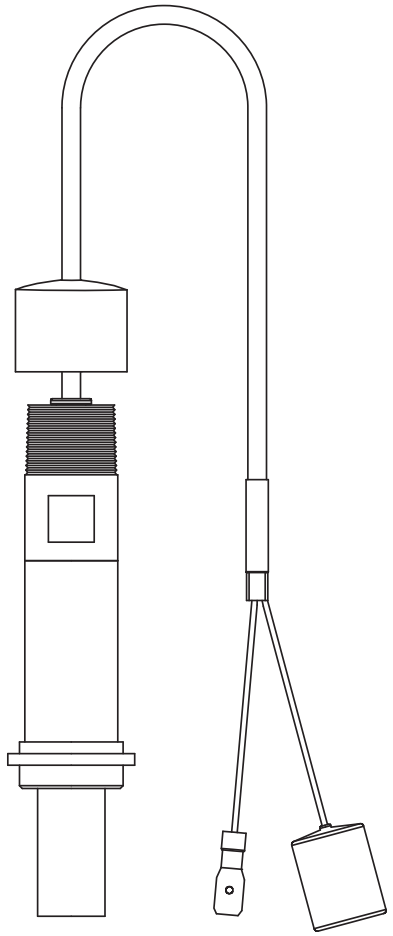
Advantage Controls



PE-21 pH Probe
Instructions

www.AdvantageControls.com
918-686-6211