Universal Electrochemical Cell Post-Shipping Startup

Startup Checklist

Complete this checklist when a cell is installed for the first time and every time a cell is changed. Do not place the monitor into service until every item has been checked off.

- ☐ **Compensation port removed** from electrolyte fill opening (see Figs. 1 and 2).
- ☐ **Fill opening wiped dry** with clean, dry tissue (see Fig. 1).
- ☐ **Vent plug installed** with adhesive membrane placed over it (see Fig. 3).
- ☐ **Sensor stabilized** — warm-up period completed per the monitor's documentation.
- ☐ **AL1 and AL2 alarm levels set for the installed cell** to the values required by your site's safety procedures (see notice below).
- ☐ **Setpoints recorded** in the commissioning record at the bottom of this page.

⚠ Set the alarm levels at first installation and at every cell change

- **Defaults are not cell-specific.** Universal monitors ship preprogrammed with AL1 = 5.0 and AL2 = 10.0, regardless of the cell's units (ppm or ppb). Installing a cell does not change these values automatically.
- **Setpoints are stored in the monitor, not the cell.** They do not reset when a cell is changed or removed – the previous cell's settings remain active.
- **An out-of-range setpoint cannot alarm.** If a setpoint is above the installed cell's full-scale range (for example, a cell ranged below 5 ppm), that alarm cannot activate until it is adjusted to a value within range; the alarm adjustment menu limits entries to the cell's full scale.
- **Verify AL1 and AL2 during initialization and commissioning,** as described in step 5 of the Startup Procedure.

Commissioning Record

Cell installed (gas / range): _____ Date: _____

AL1 setpoint: _____ AL2 setpoint: _____ Verified by: _____

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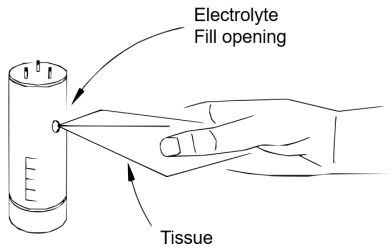

Fig 1.

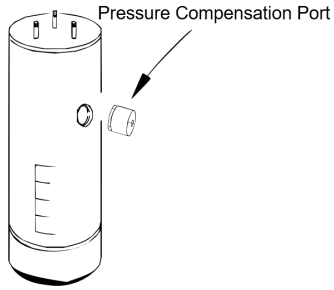

Fig. 2

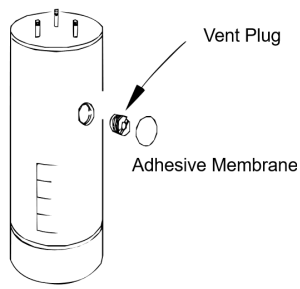

Fig. 3

Overview

PureAire's refillable Universal Electrochemical sensor cells are shipped with a pressure compensation port installed over the electrolyte fill opening. This port seals the cell to prevent electrolyte leakage during transit but also blocks airflow, which prevents the sensor from functioning correctly. Before the monitor can provide accurate readings, this port must be removed and replaced with the vent plug and adhesive membrane assembly. In addition to preparing the cell, the monitor's alarm levels must be verified and set at startup; the factory default setpoints do not adjust automatically to match the installed cell (see step 5).

Startup Procedure

Follow the steps below after receiving the sensor cell to prepare it for operation:

1. **Remove the pressure compensation port** from the electrolyte fill opening (see Fig. 1 and Fig. 2). Gently pull and unscrew the port to detach it from the cell.
2. **Wipe the fill opening** using clean, dry tissue to remove any residual moisture or electrolyte from the opening (see Fig. 1). Ensure the area is completely dry before proceeding.
3. **Attach the vent plug** to the electrolyte fill opening. Place the adhesive membrane over the vent plug to complete the assembly (see Fig. 3). The adhesive membrane allows airflow to the sensor while protecting the fill opening.
4. **Allow the sensor to stabilize.** Once the vent plug and membrane are installed, the sensor will require a brief warm-up period before providing accurate readings. Consult the monitor's documentation for specific warm-up times and behaviors.
5. **Set the monitor's alarm levels.** Universal monitors ship with alarm setpoints preprogrammed to AL1 = 5.0 and AL2 = 10.0, regardless of the cell's units (ppm or ppb). These defaults do not change automatically when a cell is installed. Enter the monitor's alarm adjustment menu and set AL1 and AL2 to the levels required by your site's safety procedures before placing the monitor into service.

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Preparing the Cell for Return Shipment

If the sensor cell needs to be shipped back for service or replacement, reverse the startup procedure to safeguard against electrolyte leaks during transit:

1. **Remove the adhesive membrane** from the vent plug.
2. **Remove the vent plug** from the electrolyte fill opening.
3. **Reinstall the pressure compensation port** into the electrolyte fill opening to create a sealed enclosure for safe shipment.

Important: The monitor will not read properly while the pressure compensation port is installed as it does not allow airflow to the sensor. Always ensure the vent plug and adhesive membrane are in place during normal operation.

Important: Removing or replacing the sensor cell does not reset the monitor's alarm levels; the setpoints are stored in the monitor and remain at their last set values. When a replacement or different-range cell is installed, verify AL1 and AL2 as described in step 5 of the Startup Procedure.

For questions or technical support, contact PureAire Monitoring Systems, Inc.

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