

Instruction Sheet

RDO Sensor

Part Number: 0063450 (sensor with X Cap); 0038520 (sensor with Fast Cap)

Contents

- RDO Sensor
- RDO-X Cap or RDO Fast Cap
- Lens wipe
- Silicone O-ring lubricant
- Instruction sheet


Description

The In-Situ RDO® optical dissolved oxygen sensor measures dissolved oxygen (DO) using the principle of "dynamic luminescence quenching." Certain molecules, called "lumiphores," fluoresce when excited by light of a specific wavelength. Oxygen molecules act to quench this fluorescence. The lumiphores in the sensor are embedded in a gas-permeable sensing foil in a replaceable cap.


- The RDO Fast Cap provides faster readings and is ideal for spot checking applications.
- Use the RDO-X Cap for long-term deployments and remote monitoring.

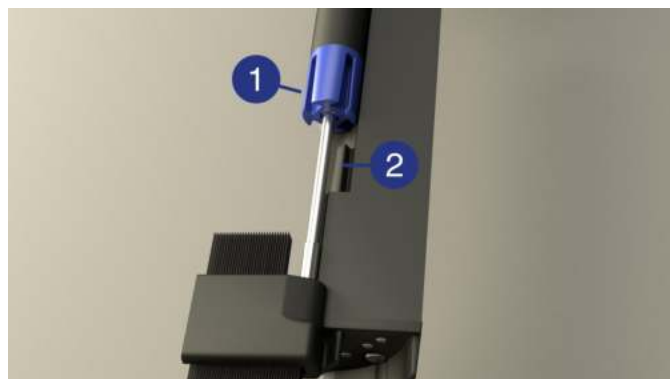
Installation

1. Remove the restrictor or cal cup from the front end of the instrument. This allows access to the sensor block.
2. Remove any moisture or dirt from the instrument and remove the port plug or other sensor from the sensor port. Retain the plug for future storage.
3. Remove the dust cap from the sensor connector. Check lubrication of the O-rings. If the O-rings appear dry, apply a small amount of silicone lubricant, provided in the sensor box, before installation.
4. Remove the large protective cap from the top of the RDO sensor. Do not touch the sensing window.
5. Clean the lens with the cloth provided in the kit and allow the lens to dry thoroughly. Inspect the lens for scratches or dirt.

Do not allow moisture, including atmospheric humidity, inside the cap. Keep the cap in its sealed package until you are ready to install it.  Install promptly. Make sure that O-ring grooves are not dry and that the O-rings are not rolled or pinched inside the cap.

6. Remove the sensor cap from its sealed package.
7. Align the cap tab with the sensor tab and push it firmly, without twisting, until it seals over the probe body and the tab snaps in place. Make sure that the O-rings are not pinched or rolled between the cap and the sensor.
8. Insert the sensor into the sonde and push until it is fully installed and flush.

 Notice the blue sensor interlock grooves on the wiper motor. You must install the sensors so that they slide into the grooves.



- | | |
|---|--------------------------|
| 1 | Sensor interlock grooves |
| 2 | Sensor interlock tab |

9. Use the Allen wrench to tighten the screw at the base of the sensor. Do not overtighten the screws.

Sensor Calibration Procedure

For proper calibration procedures for all sensors, please consult the instrument manual.

Cleaning and Storing the RDO Sensor

Routine Maintenance

1. Leave the sensor cap on.
2. Rinse the sensor with clean water.
3. Gently wipe with a soft cloth or brush if biofouling is present.
4. If extensive fouling or mineral buildup is present, soak the sensor in vinegar for 15 minutes, then soak in deionized water for 15 minutes.



Do not use organic solvents—they will damage the sensor cap. Do not remove the sensor cap when rinsing or brushing.

5. After cleaning the sensor, perform a 2-point calibration.

Cleaning the Optical Window

Clean the optical window only when changing the sensor cap.

1. Remove the cap.
2. Gently wipe the sensing window with the supplied lens cloth.



Do not wet the lens with any liquid.

Storage

Prior to installation, store the sensor body and cap in the factory supplied containers.

Once installed on the sonde, the RDO sensor can be stored wet or dry depending on the sensor configuration of the sonde.



Never store the RDO sensor without the sensor cap once it has been installed on the sonde.

Replacement Parts

RDO-X Cap Kit	0079790
RDO Fast Cap Kit	0066800
Sodium Sulfite DO Calibration Solution	0032100