Caution

You must fill this probe with electrolyte before use. The probe is shipped dry with all supplies, except distilled water.

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USA

a xylem brand

Item 057090 A57090H
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Operating Instructions YSI Dissolved Oxygen Probes

- **Non-Stirring BOD Probe**
- **Field Probe**

Designed for use with most YSI dissolved oxygen meters.

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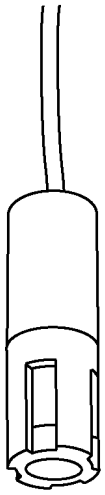
YSI 5750 Non-Stirring BOD Probe
- BOD Probe
- Membrane KCl Kit
- Operating Instructions
- Warranty Card

YSI 5739 Field Probe
- Field Probe
- Membrane KCl Kit
- Calibration Bottle
- Operating Instructions
- Warranty Card

YSI 5718 Field Probe
- Field Probe
- Membrane KCl Kit
- Calibration Bottle
- Operating Instructions
- Warranty Card

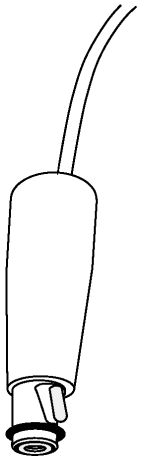
YSI 5718 Field Probe

The YSI 5718 Probe has no pressure compensation and a permanently attached cable.



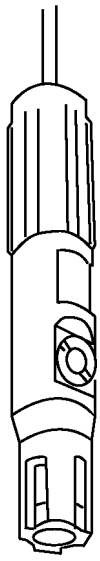
YSI 5750 Non-Stirring BOD Bottle Probe

The YSI 5750 is a non-stirring BOD probe. You must provide sample agitation separately, such as with a magnetic stirrer.



YSI 5739 Field Probe

The YSI 5739 Field Probe is used with a YSI 5740 Series Cable assembly (sold separately). A threaded retainer holds the probe and cable assembly together. The assembly is not intended for casual disconnection; only separate the probe and cable when necessary. The color of this probe has changed. Although it's now gray, the performance characteristics have not changed.



Operating Instructions

Connecting Field Probes

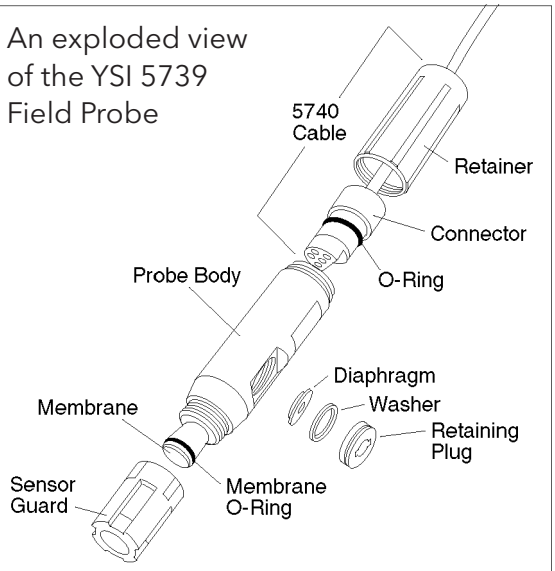
To attach the cable to the field probe, slide the retainer down the cable to expose the connector. Applying a light coating of silicone grease to the O-ring will make assembly easier. Push the connector into the probe body and rotate until the two halves mate properly. Screw on the retainer. Finger tighten ONLY.

Warning: *You may cross-thread the probe if you apply more force than simple finger tightening.*

Disconnecting Field Probes

To detach the cable from the field probe, unscrew the retainer and slide it down the cable to expose the connector. Pull gently on the connector until it comes away from the probe body. If the O-ring on the connector is frayed or damaged, replace it with the replacement O-ring supplied with each cable.

An exploded view of the YSI 5739 Field Probe



To reassemble, push the connector into the probe body, rotating it until the two halves mate. A light coating of silicone grease on the O-ring will make reassembly easier. Be sure the connector is dry; otherwise, erratic readings may result. Screw on the retainer finger-tight only.

Pressure Compensation

The YSI 5739 Field Probe has a unique pressure compensation system that helps assure accurate readings in deep water. Compensation is effective to 0.5% of reading with pressures up to 100 psi (230 feet of water). The compensation system does not normally require service and should not be taken apart. However, if electrolyte is leaking through the diaphragm, or if there is an obvious puncture, replace the diaphragm (order YSI 5986). Unscrew the retaining plug and remove the washer and diaphragm. Flush any salt crystals from the reservoir, install a new diaphragm (flat side out), replace the washer and securely screw in the retaining plug.

Choosing the Correct Membrane

A YSI 5776 High-Sensitivity Membrane will speed response time in cold water but is not as durable as the standard membrane. The standard 1-mil (.001") membrane represents a compromise between quickness of response, membrane strength and integrity. Order YSI 5775 Membrane and KCl Kit, Standard.

For special circumstances, a 0.5-mil (.0005") membrane is available. This half-thickness membrane improves response time at low temperatures and helps suppress background current at very low dissolved oxygen levels. When data is routinely collected in samples below 15°C, with oxygen levels below 20% air saturation, the low signal current from a standard membrane tends to magnify the probe's inherent constant background signal. Using a high-sensitivity membrane will decrease the percentage of error due to probe background current. Order YSI 5776 Membrane and KC1 Kit, High-Sensitivity.

For long-term monitoring, we make a half-sensitivity, double-thickness 2-mil (.002") membrane. Order the YSI 5685 Membrane Kit, which includes 2-mil membranes and electrolyte.

Probe Preparation

We ship all probes dry. You must follow these instructions when preparing a new probe or changing membranes. Prepare the electrolyte by dissolving the KCl crystals supplied in a dropper bottle by filling the bottle to the neck with distilled water. Then, proceed as follows.

Installing Membranes on Field Probes & Non-Stirring BOD Probes

1. Unscrew the sensor guard (field probes only). Remove

the O-ring and membrane, then thoroughly rinse the sensor with distilled water.

2. Hold the probe in your left hand (*Figure 1*). When preparing the 5739 field probe, the pressure compensation port should be on the right. Successively fill the sensor body with electrolyte while pumping the diaphragm with the eraser end of a pencil or a similar soft, blunt tool. Continue filling and pumping until no more air bubbles appear. When preparing the 5718 field probe and the 5750 non-stirring BOD probe, simply fill the sensor body until no more air bubbles appear.

3. Secure a membrane between your left thumb and the probe body. Add more electrolyte to the probe until a large meniscus completely covers the gold cathode.

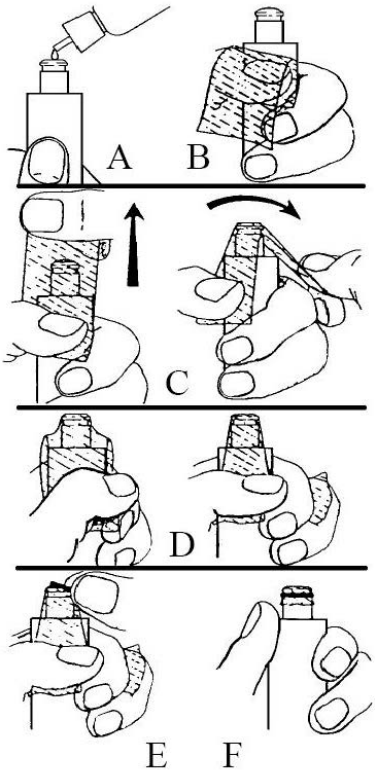


Figure 1. Installing membranes on field probes and non-stirring BOD probes.

Note: Handle membranes with care, touching them at the ends only.

4. With the thumb and forefinger of your other hand, grasp the free end of the membrane.

5. With a continuous motion, stretch it up, over and down the other side of the sensor. Stretching forms the membrane to the contour of the probe.

6. Secure the end of the membrane under the forefinger of your left hand while holding the probe.

7. Roll the O-ring over the end of the probe, being careful not to touch the membrane surface. There should be no wrinkles in the membrane or trapped air bubbles. You may remove some wrinkles by lightly tugging on the edges of the membrane beyond the O-ring.

8. Trim off excess membrane with scissors or a sharp knife. Make sure the stainless steel temperature sensor is not covered by excess membrane.

9. Shake off excess KCl. Reinstall the sensor guard on the field probe. Place the probe in a humid environment until ready for use and between measurements.

Membrane Life

Membrane life depends on use. Membranes will last a long time if installed properly and treated with care. Erratic readings result from loose, wrinkled or fouled membranes, or from large (>$^1/_8$") bubbles in the electrolyte reservoir. If erratic readings or evidence of membrane damage occur, replace the membrane and KCl. The average replacement interval is two to four weeks; electrolyte in constant or heavy use will be exhausted in about two weeks.

Erroneous Readings

Erroneous readings may occur if the membrane is coated with oxygen consuming (bacteria) or oxygen evolving organisms (algae). In some cases, the high turbulence of the YSI 5795A Submersible Stirrer can provide adequate cleaning action for the field probe.

Heavy residue can cause incorrect readings by coating the membrane. Frequent probe service and cleaning usually eliminate this problem.

Chlorine, sulfur dioxide, nitric oxide and nitrous oxide can affect readings by reacting like oxygen at the probe. If you suspect erroneous readings, you may have to determine if these gases are the cause. Long-term monitoring can magnify the effect of factors which impair probe accuracy.

Avoid Acids, Caustics and Strong Solvents

Avoid any environment which contains substances that may attack probe materials. Some of these are concentrated acids, caustics and strong solvents. Probe materials that come in contact with the sample include FEP Teflon, acrylic plastic, ABS plastic, EPR rubber, stainless steel, epoxy, polyetherimide and the polyurethane cable covering.

Keep Gold Cathode Bright

For correct probe operation, the gold cathode must always be bright. It can become tarnished from contact with hydrogen sulfide or sulfur dioxide, or plated with silver from extended use with a loose or wrinkled membrane. If the cathode becomes tarnished or plated, you'll need to restore the probe surface. You may return the probe to YSI or clean it using the YSI 5680 Probe Reconditioning Kit; never use chemicals or any abrasive not supplied with this kit.

The color of the silver anode can range from pearly white to medium gray. This should not affect the performance of the probe. If the anode is not white and the probe cannot be calibrated, soak the probe overnight in a 3% ammonia solution, rinse with deionized water, recharge with electrolyte and install a new membrane. If you still can't calibrate after several hours, return the probe to YSI for service.

Correct BOD Bottle Level

The correct liquid level in BOD bottles is achieved by overfilling, then inserting a stopper and pouring off the excess. When using a YSI 5750 BOD Probe with a filled bottle, insert it slowly to avoid sample overflow.

Worn or Loose O-Rings

If the sensor O-ring on the oxygen probe is worn or loose, replace it with an O-ring provided in the YSI 5945 O-Ring Pack.

Probe Storage

Store the field probes in the plastic bottle provided. To keep the electrolyte from drying out, place a small piece of moist towel or sponge in the bottle and insert the probe in the open end. Store BOD probe in a BOD bottle containing at least an inch of water. Do not immerse the probe in water.

Returning Probes for Service

To ensure the safety of our technicians, before you return a probe to YSI for service you must clean it according to instructions below and enclose the cleaning certificate on the back of this sheet. You may copy this certificate or furnish a statement that you have cleaned and decontaminated the probe, including the procedure used. If you have questions, please call YSI Technical Support at 800 765-4974 or 937 767-7241 or e-mail at info@ysi.com.

Cleaning Instructions

We presume biological contamination for any probe that has been used in wastewater and radioactive contamination for any probe that has been used near a radioactive source.

1. Empty chambers, then thoroughly clean all matter from the probe.

2. Decontaminate all exposed surfaces with 70% isopropyl alcohol, a fresh solution of $^1/_4$ cup bleach to 1 gallon tap water or .5% Lysol.

3. You should take normal precautions to prevent radioactive contamination and must use appropriate decontamination procedures should exposure occur. If exposure has occurred, you must certify that decontamination has been accomplished and that no radioactivity is detectable by survey equipment.

4. Complete the cleaning certificate and return it with the probe. Pack it securely to prevent damage.

Accessories & Replacement Parts

YSI 5739 Field Probe
YSI 5718 Field Probe
YSI 5750 Non-Stirring BOD Probe

• YSI 5680 Probe Reconditioning Kit. Includes a sanding tool and 10 adhesive disks.

• YSI 5775 Membrane and KCl Kit, Standard. Includes two 15-membrane packets (.001" thick standard FEP Teflon membranes) and a 30 mL bottle of KC1 with Kodak Photo Flo.

• YSI 5793 Membranes, Standard. Ten 15-membrane packets.

• YSI 5776 Membrane and KC1 Kit, High-Sensitivity. Includes two 15-membrane packets (.0005" FEP Teflon membranes) and a 30 mL bottle of KCl with Kodak Photo Flo. Used for measurements below 15°C or low oxygen levels.

• YSI 5794 High-Sensitivity Membranes. Ten 15-membrane packets.

• YSI 5945 O-Ring Pack contains replacement sensor O-rings for YSI 5739 and YSI 5750 probes.

• YSI 5986 Diaphragm Kit

• YSI 5740 Detachable Cables for the YSI 5739 Field Probe.

• YSI 5795A Submersible Stirrer with 50' combined probe and stirrer cable

Cleaning Certificate

You must clean and certify every probe before returning it to the YSI for service.

Organization _____

Department _____

Address _____

City, State, Zip _____

Phone _____

Probe model _____

Serial number _____ Lot Number _____

Cleaning certified by _____ Date _____

Contaminant (if known) _____

Cleaning agent used _____

Do you certify radioactive decontamination? Answer only if there has been radioactive exposure. ☐ Yes ☐ No

Probe Specifications

Cathode: Gold
Anode: Silver
Membrane: FEP Teflon
Electrolyte: Half-saturated KCl
Temperature Range: -5 to 45°C
Thermistor Accuracy: ±0.2°C
Temperature Compensation: See instrument specifications
Polarizing Voltage: 0.8 volts (nominal)
Probe Current in Air at 30°C: 19 microamps (nominal)
Probe Current in Nitrogen at 30°C: 0.15 microamps or less
Response Time: Typical response for dissolved oxygen, using standard membranes, is 90% in 10 seconds at a constant temperature of 30°C. Response at low dissolved oxygen levels is typically 90% in 30 seconds.

Warranty & Repair

These YSI dissolved oxygen probes carry a one-year warranty on workmanship and parts. Electrode cleaning is not covered by warranty. This warranty is limited to repair or replacement (YSI's option) at no charge.

If you experience difficulty with any YSI product, you may return it to YSI Product Service for repair even if the warranty has expired.

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