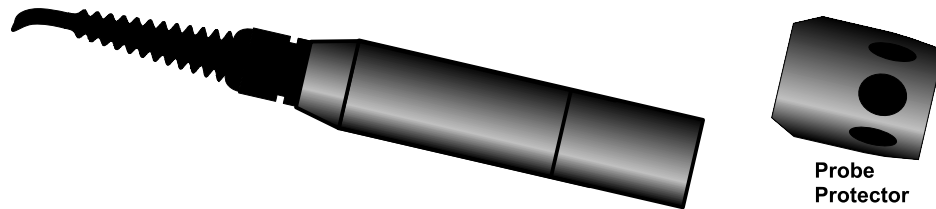
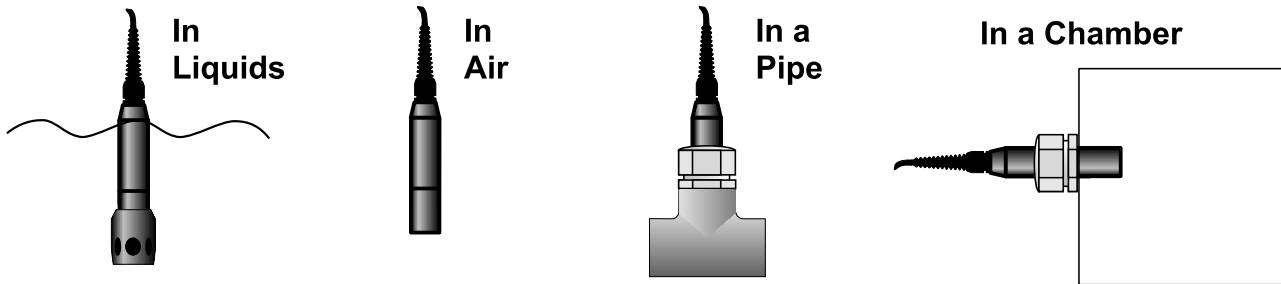


OxyGuard Alpha Probe

Small-size oxygen probe



EXAMPLES OF USE



The OxyGuard Alpha probe is a small size oxygen probe for the measurement of dissolved oxygen in % saturation. It can also be used to measure the oxygen content of gases in % oxygen by volume.

It has an output of approximately 30 mV* in air and a true zero. It is a galvanic cell that generates its own electricity, and it measures continuously. Even when not in use a voltage across its output, proportional to the oxygen it senses, will be found between the output leads.

The Alpha probe has a low output impedance and it can be connected to most types of transmitter or metering equipment. The input impedance of connected equipment should not be less than 1 megohm. Before use the equipment must be calibrated. This is usually performed by placing the probe in air and adjusting the equipment to show 100% saturation (when measuring DO) or 20.9% oxygen by volume (when measuring in gas). The probe should have the same temperature as the air when calibrating.

Its accuracy is +/- 1% of actual measurement when the conditions of measurement are the same as the conditions under which it was calibrated.

The Alpha Probe is designed for use in naturally occurring oxygen levels. Short-term use at higher oxygen levels is acceptable. Please consult OxyGuard before performing long-term measurements on supersaturated water or pure oxygen.

Accuracy: Depends on calibration: typically better than 1% of value.

Operating temperature: -5 to +50°C.

Response Time: 90% after less than 10 sec.

Output: approx. 30 mV in air. *15 mV with heavy duty membrane.

Dimensions: Length with cable support 160 mm. Width 21.5 mm.

Cable Length: As ordered. 3 m if not stated otherwise.

Can be used with equipment with input impedance greater than 1 megohm.

NB Galvanic isolation is necessary when measuring in water if the connected equipment has other connection to the water.

Technical Information

Connections

The Black lead is positive The Blue lead is negative
the other leads in the cable can be clipped away.

Use

To measure dissolved oxygen, immerse the probe in the water, wait until the signal is steady, then note the reading. Move the probe slowly if there is no water flow past it - 5-10 cm/sec is enough.

When measuring in gas the probe must have the same temperature as the gas for correct readings. Any error will be proportional as the probe has true zero - no oxygen, no output.

Maintenance

Maintenance as such is not necessary, just calibrate, and keep the probe clean. Please note that the probe's membrane does NOT have to be kept moist. There is NO need for regular service, neither the membrane nor the electrolyte should be changed at regular intervals.

The probe can, however, easily be renovated if the membrane should be damaged, or if, after long use, it is no longer possible to calibrate up to the correct value.

Probe Renovation

This should **ONLY** be performed if the membrane is damaged, or if it should prove impossible to calibrate to the correct value after a long period of use. It should NOT be performed on a regular basis.

Clean the outer of the probe. Remove the protector and unscrew the cap. Rinse the probe and inspect the anode. Clean off any loose white deposits with the brown plastic scouring pad provided. Check the cathode and remove any deposits using the scouring pad. The cathode **MUST NOT BE POLISHED**.

Fill the extra membrane cap with electrolyte and screw it slowly onto the probe. Excess electrolyte will dribble from the thread. Calibrate the probe. Re-calibrate after a few hours, since the probe will take a little time to settle down after renovation.

A new membrane can easily be fitted to the cap - see the drawing. Make sure that all parts are completely clean and dry. Use a new membrane and o-ring and assemble exactly as shown. Tighten fairly tightly, but the membrane must not wrinkle. If this happens try again with a new membrane and O-ring. An O-ring can only be used once.

