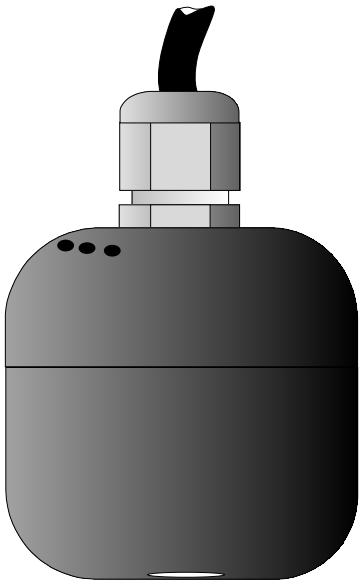
The OxyGuard Oxygen Probe

Probe for High and Low Levels of both Dissolved and Gaseous Oxygen



The OxyGuard Probe is a membrane covered galvanic cell that generates an electrical signal proportional to the oxygen pressure it senses, no matter whether it is in water, air, gas, wine, oil or something else. The probe can be used to measure dissolved oxygen in aquaculture, the environment, in clean water, waste water and in oil or other fluid. It can measure very small oxygen concentrations in inert or explosive gases as well as the oxygen content of ambient air and the purity of oxygen gas.

The chemistry and construction of the OxyGuard Probe of today represents a third-generation development of the OxyGuard probe. It incorporates significant improvements over the original OxyGuard probe that revolutionized dissolved oxygen measurement. Not only does the OxyGuard probe use a better chemistry than traditional membrane-covered oxygen probes, but the chemistry has now been refined. This, together with an improved mechanical design, give an even better accuracy and long-term stability.

The OxyGuard probe acts as a battery that gives a direct measurement of the oxygen contration it is subjected to. The more oxygen there is outside the probe, the more oxygen can diffuse through the membrane to carry electrons between the anode and cathode to make the output signal. An OxyGuard probe needs neither an applied voltage nor microprocessor controlled electronics in order to work. It measures oxygen all the time, and continues to do so until all the anode metal has been converted to metal oxide, which takes about 30 years.

In practical use in Aquaculture the OxyGuard probe can keep calibration for about 1 year, and operate for 3 to 5 years before membrane replacement is needed. The latter procedure is easy and costs very little.

Technical Information

Specifications

Dimensions:	Diameter = 58 mm, length = 59 mm. Cable length = 7 m (standard).
Weight:	0.2 kg without cable,0,5 kg with 7m cable.
Principle:	Galvanic cell, self polarizing, self temperature-compensating.
Range and Output:	2.5 to 5 millivolts per ppm (mg/l). Output impedance approx. 1 kiloohm.
Flow Requirements, water:	Minimum flow dependent on DO and temperature, typically 1 cm/sec.
Operating Conditions:	0 to 40°C. Submersible to 50 metres.
Standard Accessories:	As standard 5 spare membranes with O-rings, 50 ml electrolyte and a cathode cleaning pad are shipped with each probe.

Ordering Information

Commander probes, 4 wire cable, for Commander, Pacific and Atlantic

D0243C	For mg/l and % saturation measurements. Also measures temperature

Probes with built-in precision NTC temperature sensor (also 4 wire cable):

D0243M	For mg/l (ppm) measurements.
D0243SV	For % saturation and % volume measurements except pure oxygen.
D0243V	For 0-100% oxygen gas by volume.

Probe for the Model 840 and 810 (3 wire cable):

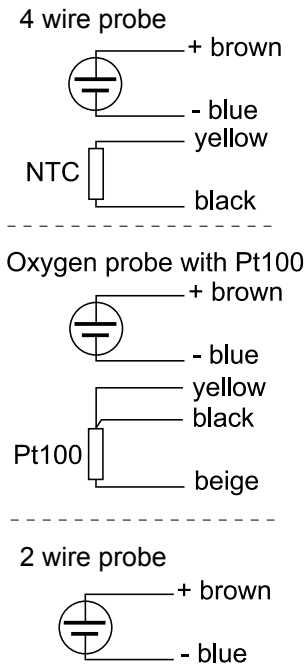
D0233SV	For mg/l and % saturation measurements.

Probes with built-in Pt 100 temperature sensor (5 wire cable):

D0253M	For mg/l (ppm) measurements.
D0253SV	For % saturation and % volume measurements except pure oxygen.
D0253V	For 0-100% oxygen gas by volume.

Standard Probes (2 wire cable), for older Multichannel systems:

D0223M	For mg/l (ppm) measurements.
D0223SV	For % saturation and % volume measurements except pure oxygen.
D0223V	For 0-100% oxygen gas by volume.



All of the above can be ordered with an M18 threaded part at the top for screwing into a flange: add the suffix **M18** for this option.

Spares:

D10E31L	1 litre type 3 electrolyte.
D10MC	Set of Commander probe membranes with small O-rings.
D10M840	Set of Model 840 probe membranes with small O-rings.
D10MM	Set of membranes with small O-rings for mg/l (ppm) ("M" probes)..
D10MSV	Set of membranes with small O-rings for % sat and volume ("SV" and "V" probes).
D10JBX1	Waterproof junction box for use when extending cable.

Armatures, Fixtures and Accessories.

There is a very wide range of armatures, fixtures and accessories helpful when mounting and using OxyGuard Probes. These are listed in the "Oxygen Probe Accessories" brochure. Some are described in detail in separate brochures.

There are many more spares and accessories - you can see them on www.oxyguard.dk - or just ask us!

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