

# OxyGuard CO2 Portable

*Portable Dissolved CO<sub>2</sub> Analyser*



## Direct Measurement of Dissolved Carbon Dioxide

The OxyGuard CO2 Portable is a reliable and easy to use instrument that measures the free dissolved carbon dioxide concentration directly in the water. The CO<sub>2</sub> concentration is shown on the display, and there is an analogue output.

The OxyGuard CO2 measures the free dissolved CO<sub>2</sub> directly and is not affected by carbonates or other dissolved substances. It is the free dissolved CO<sub>2</sub> - in other words the CO<sub>2</sub> gas partial pressure - that affects the fish. The OxyGuard CO<sub>2</sub> thus gives simple, continuous and direct measurements of the amount of carbon dioxide in the water that will affect the fish.

The analyser is easy to calibrate using the front panel "slope" and "zero" adjustments - after which you just put the probe in the water and measure. There is a salinity adjustment. Calibration intervals are long, and the OxyGuard CO<sub>2</sub> does NOT need regular maintenance.

# Technical Information

## Description

The OxyGuard CO2 Portable Dissolved CO2 Analyser consists of a probe and a battery powered transmitter. The latter has a display and an analogue signal as output. The probe is, as standard, delivered with a 3 m cable. The transmitter has an on/off switch, "slope" and "zero" adjustments. A battery charger and calibration accessories, i.e. calibration beaker with stirrer, calibration fluid, calibration conditioner and dosing syringe are included.

## Principle of Operation

The probe measures the carbon dioxide content of the water directly by detecting the carbon dioxide partial pressure in the water. It is important to note that it is NOT based on a pH measurement - it does NOT detect any change in pH that carbon dioxide causes. Neither does it withdraw a sample for analysis - it detects the free dissolved CO2 - the carbon dioxide partial pressure - in the water.

The range of the instrument is 0-50 mg/l.

Before use the system is calibrated at zero and span using mixtures of water and calibration chemicals in a special calibration beaker with stirrer.

## Specifications

Size:	Probe: 40mm dia. x 140 mm. Cable length 3m. Meter: 300 x 215 x 83 mm (overall, with carrying handle). Calibration beaker: 65mm dia. x 260 mm. Weight approx. 6 kg including charger, calibration fluid, calibration conditioner, calibration beaker and dosing syringe.
Supply:	(to charger) 100 to 240VAC.
Range:	0 - 50 mg/l dissolved carbon dioxide. Temperature compensated range 3-35°C.
Output:	Analogue signal 0-1VDC.
Operating conditions:	Electronics -10 to +60°C, splashproof.
Accuracy:	Depends on calibration. Practical accuracy up to +/- 1 mg/l.
Response time:	Typically 5 minutes at 20°C depending on flow velocity past probe. In still water up to 15 minutes.
Flow requirements:	The instrument does not use carbon dioxide for its measurement, but a certain flow is necessary to ensure that the sensing element of the probe is in equilibrium with the surrounding water, and to avoid "spot" measurements.
Battery type:	12 V lead battery, FIAMM FG20721.
Operating time:	Approximately 50 hours on fully charged batteries.
Delivery comprises:	Transmitter, probe with 3m cable, charger, analogue output lead, calibration beaker with stirrer & magnet, 75 g calibration conditioner, 100 ml calibration solution, dosing syringe, dosing spoon, screwdriver.

## Ordering Information

G03C2:	OxyGuard CO2 Dissolved CO2 Analyzer - Portable Version with rechargeable batteries. With probe with 3m cable, charger, calibration beaker with stirrer, calibration fluid, pH conditioner and analogue output lead.
G10CS:	100 ml calibration solution.
G10CC:	75 g calibration conditioner.