

# DISSOLVED OXYGEN SENSORS

MODELS DO100 & DO300

The Stevens-Greenspan Dissolved Oxygen Sensors provide accurate long-term measurements under a wide range of wastewater and environmental conditions.

The patented CSIRO/Greenspan developed diffusion cell technology provides a simple and effective means of obtaining continuous in-situ dissolved oxygen measurements with minimum maintenance requirements.



# Reduce your maintenance costs with Stevens-Greenspan's state of the art Dissolved Oxygen sensor.

## DO100

The Stevens-Greenspan Dissolved Oxygen Sensor offers a unique combination of advanced features:

- n Sensor design requires no moving parts, ensuring long term reliable field operation and low power consumption.
  - n New generation chemical sensor provides excellent linearity and repeatability.
  - n Sensor output includes supplementary water temperature reading.
  - n Tolerates contaminated environments such as long-term monitoring in sewage treatment plants and of landfill sites.
- Sensor performance is not dependant upon flow rate.

### Stevens-Greenspan Reliability

The unique Stevens-Greenspan Dissolved Oxygen Sensor design utilizes a patented diffusion cell which eliminates the need for sample stirring and the consequent risk of mechanical malfunction. The diffusion cell is easily and quickly replaced in the field without the need for specialized equipment or time consuming recalibration.

### Stevens-Greenspan Accuracy

A combination of innovative membrane and chemical sensor technology characterize the design of the Stevens-Greenspan Dissolved Oxygen Sensor. The new generation chemical sensor provides inherently greater stability than conventional polarographic technology. Compared to conventional membrane designs, the large surface area of the Stevens-Greenspan diffusion membrane substantially reduces errors caused by surface contamination. Signal conditioning electronics are designed with temperature compensation to provide true output in ppm of dissolved oxygen or percent saturation.

Stevens-Greenspan dissolved oxygen sensors have been used for Sewage Treatment Plant aeration tanks, borehole observations, tidal and estuarine studies, effluent monitoring, river and stream measurements.

A 316-grade stainless steel tube with o-ring sealed Delrin end fittings provides the DO100 and DO300 with the ruggedness required for the most demanding measurement environments. The Delrin sensor guard contains a copper nose cone to reduce biological growth around the diffusion tube.



RELIABILITY • ACCURACY

# Log Dissolved Oxygen accurately and cost-effectively with Stevens-Greenspan's intelligent Dissolved Oxygen sensor

## DO300

Stevens-Greenspan's Intelligent Dissolved Oxygen Sensor model DO300 is a complete, self-contained dissolved oxygen measurement and data logging system. The DO300 adds sophisticated and versatile data acquisition, control and communications capabilities to Stevens-Greenspan's standard DO100 Dissolved Oxygen Sensor. Standard features of the DO300 include:

- n Storage of measured data within the sensor for long periods.
- n Easy configuration of logging parameters and uploading of logged data.
- n Automatic transfer of data to a central office simply by attaching a data modem and mobile phone.
- n Improved linearity and accuracy through the use of microprocessor based compensation.
- n Facility to set alarm conditions which can trigger additional measuring equipment.
- n Lithium battery pack option for fully self contained operation.

The added features of the DO300 are accommodated within a single **compact sensor body** only slightly larger than the DO100. A separate data logger and weatherproof housing are not required, eliminating the added deployment costs normally associated with providing a remote data logging capability.

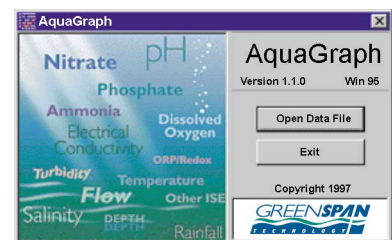
Sophisticated **communication features** in the DO300 make remote site logging of dissolved oxygen in water easier than ever. In combination with an external data modem and mobile phone, the DO300 enables remote uploading of logged data and re-programming of logging schedules. In addition the DO300 can respond to user-programmed **alarm conditions** by triggering an associated sensor or by calling one of four preset phone numbers with a user-programmed alarm message.

The DO300 can be powered using either external batteries (via the sensor cable) or with Stevens-Greenspan's **optional lithium battery pack**, which can be fitted as an extension to the sensor body, making a fully self-contained measurement and logging system.

With all the features of a conventional data acquisition system in one compact package, the Stevens-Greenspan 300-Series intelligent sensors provide the most cost-effective solution available today where combined measurement and data collection functions are required.

Logging parameters and schedules are set up using Stevens-Greenspan's easy to use graphical software package, Smartcom, which runs on IBM compatible PCs.

Graphical representation of data can be made using Stevens-Greenspan's Aquagraph software. The software makes graphing your data simple and allows data to be exported in different formats.



## Specifications

## Model DO100

## Model DO300

Dissolved oxygen range	0–20ppm or 0–200% saturated	same as DO100
Temperature range	0–55 °C	same as DO100
Dissolved oxygen linearity	0.1 ppm or 1%	0.1 ppm or 1%
Dissolved oxygen accuracy	5–35°C ±0.2 ppm	2–35°C ±0.2 ppm
Output	DO 4–20 mA    Temperature 4–20 mA	RS232
Temperature accuracy	±1 °C	±0.5 °C
Supply voltage	9–27 V • Reverse polarity protected • Surge protected to 2kV	8-15V • Reverse polarity protected • Surge protected to 2kV
Warmup time to stable reading	1 sec	1 sec
Response time to 6ppm step change	15 minutes	same as DO100
Dimensions	length 14.5in (370mm) 1.25in (32mm) OD Stainless 1.5in (38mm) OD Delrin	length 16.6in (423mm) 1.7in (44mm) OD Stainless 1.8in (47mm) OD Delrin optional battery pack adds extra 10.25in (260mm) to length
Weight	9.9oz (280g) Delrin 10.9oz (310g) Stainless	14.1oz (400g) Delrin 18.7oz (530g) Stainless
Sensor type	Chemical Cell	
Wetted materials	316 stainless steel, Delrin, silicon diffusion membrane	
Software supplied	AQUAGRAPH, SMARTCOM	

### Standard configuration

- Sensor calibrated to 0–20ppm
- Temperature output
- Cable to requested length and terminated with data connector and tinned copper wires
- Copper nosepiece for anti fouling

### Options

- Electrical connectors
- 0–200% output
- Longer copper shroud
- A complete Delrin body can be provided for use in corrosive water

## Technical Support When You Need It

The correct choice of sensor should be supported by professional advice to ensure long term success in the field. **Stevens-Greenspan Technical Services** is dedicated to customer support and provides assistance in the selection, installation, deployment and commissioning of sensors with a full range of training and consulting services.

A full technical support and field advice service can be accessed by calling Stevens at 800 452 5272.

All Stevens-Greenspan products are designed, developed and manufactured in Australia, stocked at Stevens and can be customized to meet most requirements.

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