

TEK-OX Oxygen Analyser User Manual

These instructions should
be read before using the
TEK-OX



**Mixed gas diving should only be
undertaken by divers trained by a
recognised training organisation**

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Contents

Please check you have the following items:

1. TEK-OX
2. Quick-Ox or DINKIT

The TEK-OX has been designed for the worldwide hostile diving environment. It is easy to use with either hand and has very large digits. It uses the proven R-17VAN oxygen sensor (as used in the VN202 mkII) with integral temperature compensation.

It is powered by two internationally available AA alkaline batteries, with an estimated life of 12 - 18 months.

The TEK-OX is available in 2 versions:

1. Yellow On/Off button - automatic switch off
2. Green On/Off button - manual switch off.

The instrument is sealed for water resistance (IP65) and designed to be drop resistant.

The battery and sensor are housed in a separate compartment from the sealed electronics and are accessible by removing the 3 screws in the base. Ensure batteries are fitted correctly. See internal labels.



**Full comprehensive user manual
is available upon request.**

How to use the TEK-OX



1. Leave the flow diverter on; wave through the air.



2. Adjust calibration.



3. Add the 'Quick-Ox'.



4. Turn the gas to a gentle flow.



5. Mate the 'Quick-Ox' to the cylinder outlet.



6. When the reading stops rising turn off the cylinder.

Effects of Altitude & Humidity

At very high altitudes, some sensors (with low outputs) may not calibrate up to the level required. In this instance, altitude, ambient pressure and total pressure, must be taken into consideration.

Feet	Metres	Pressure mb	Calibration
-1000	-305	1.03	21.5
0	0	1	20.9
1000	305	0.97	20.2
2000	610	0.94	19.4
3000	915	0.92	18.7
4000	1220	0.89	18.1
5000	1530	0.87	17.4
6000	1830	0.84	16.8
8000	2440	0.79	15.5
10,000	3050	0.74	14.4
12,000	3660	0.69	13.3

Although not substantial, humidity can affect the maximum accuracy that can be obtained. This accounts for the difference observed between ambient air calibration and calibration with dry gas from a cylinder.

	RH40%	RH60%	RH80%	RH100%
0°C/32°F	20.9%	20.8%	20.8%	20.8%
10°C/50°F	20.8%	20.7%	20.7%	20.6%
20°C/70°F	20.7%	20.6%	20.5%	20.4%
30°C/90°F	20.5%	20.3%	20.1%	19.9%
40°C/100°F	20.4%	20.1%	19.8%	19.5%

Using the TEK-OX with a DINKIT



**Follow instructions 1 - 6
as with Quick-Ox.**

Specification

Range	0 - 100% Oxygen
Accuracy	+/- 1% of full scale
Response Time	90% step change < 10sec
Resolution	+/- 0.1 %
Battery Type	2 x MN1500 LR6 1.5V
Battery Life	12 months (typical)
Sensor Type	R-17VAN (Galvanic)
Sensor Life in Air	Expected 36 - 48 months (10 months in 100% O ₂)
Sensor Output	7.0mV - 13.0mV in air
Dimensions	60mm x 120mm x 35mm
Weight	198g including battery and sensor
Storage Temp	0°C - 50°C (10°C - 30°C recommended)
Operating Temp	0° - 40°C
TEK-OX Case	Splash proof
Dry Box	IP68 (100cm for 1 hour)
RoHS	Complies with RoHS
WEEE	Complies with WEEE

Accessory Parts List

0110217	R-17VAN Oxygen Sensor
9730215	DINKIT Restrictor kit
9711002	B-50074 Flow diverter
9730210	Quick-Ox Gas Sampling Kit
9070004	Protective Dry Box
9530002	Battery/Sensor Cover Seal

Trouble shooting

Symptom	Possible Cause
No display	Not switched on. Battery exhausted. Batteries in wrong way.
Batt Low Symbol	Battery exhausted: Replace battery.
Zero Reading	Sensor exhausted. Sensor disconnected: rotate sensor whilst connected to the instrument, there may be a deposit on the jack plug or the sensor jack socket.
Not Calibrating	Sensor nearly exhausted: check sensor in 100% oxygen then check sensor again in air.
Reading Drifting	Sensor nearly exhausted. In a flowing gas: temperature of sensor changing. Wind blowing on flow diverter.
Inaccurate Reading	Interference from RF: move away from RF source i.e. boat VHF radio or radar. Do not use flowing gas: take reading in a static gas. Condensation on sensor face: remove condensate by gently shaking the sensor.



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