

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	59mm x 142mm x 26mm
Weight	235g including battery and sensor
Storage Temp	0°C - 50°C (10°C - 50°C recommended)
Operating Temp	0° - 40°C
Case	Splash proof
Waterproofing	IP65 NEMA 4
ISO Standards	ISO EN 9001:2008
EMC CE	ISO EN 60601-1-2
RoHS	Complies with RoHS
WEEE	Complies with WEEE

Accessory Parts List

0110217	R-17VAN Oxygen Sensor
9730215	DINKIT Restrictor kit
9711001	A-268 'T' adaptor
9711002	B-50074 Flow-diverter
9711004	DM22M10 Male adapter
9711003	BS111 Viton 'O' ring
9711006	DIN22F Restrictor
9730210	Quick-Ox Gas Sampling Kit
9713022	Lanyard

Specifications subject to change

VN202 mkII User Insert Eng V1.2

Part Number: 7990102 Date: 09/11

Trouble shooting

Symptom	Possible Cause
No display	Not switched on. Battery exhausted. Batteries in wrong way.
Batt Lo 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.



Vandagrath Ltd.

15 Station Road
Crosshills, Keighley
West Yorkshire, BD20 7DT
United Kingdom

Tel: 01535 634900
Fax: 01535 635582

www.vandagrath.co.uk
sales@vandagrath.co.uk
technical@vandagrath.co.uk

VN202 mkII Oxygen Analyser User Manual

**These instructions should
be read before using the
VN202 mkII**



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

Copyright 2011 Vandagrath Ltd.
All worldwide rights reserved

Contents

Please check you have the following items:

1. VN202 mkII
2. Quick-Ox or DINKIT

The VN202 mkII has been designed as one of the next generation of diving oxygen analysers, following on from the successful VN202.

Suitable for the worldwide hostile diving environment, the VN202 mkII 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) with integral temperature compensation.

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

The VN202 mkII is available in 2 versions: yellow On/Off button - automatic switch off green On/Off button - manual switch off.

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

The battery is housed in a separate compartment from the sealed electronics and can be changed without the use of a tool. Ensure batteries are fitted correctly. See internal labels.



Full comprehensive user manual is available as a download from www.vandagraph.co.uk Just register your purchase.

How to use the VN202 mkII



1. With the flow diverter on the sensor, wave the sensor through the air.



2. Adjust calibration to 20.9% in air.



3. Insert the Oxygen Sensor into the Quick-Ox.



4. Turn on 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.

If in doubt, repeat!

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 and the surface equivalent oxygen percentage calculated.

Feet	Metres	Pressure mb	PPO ₂
-1000	-305	1050	0.217
0	0	1013	0.209
1000	305	976	0.202
2000	610	942	0.195
3000	914	908	0.188
4000	1219	875	0.181
5000	1524	843	0.174
6000	1829	812	0.168
8000	2438	753	0.156
10000	3048	696	0.144

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 VN202 mkII with a DINKIT



Follow instructions 1 - 6 as with Quick-Ox. Refer to information sheet on the DINKIT.