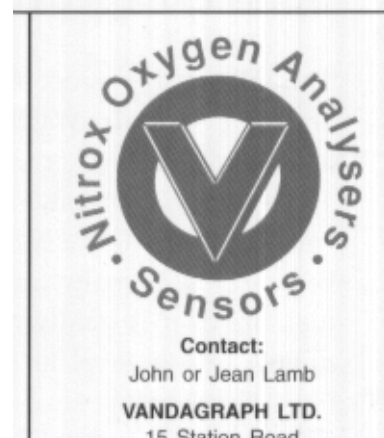


# VN202 Oxygen Analyser for Divers



- ♦ Resolution +/- 0.1% Accuracy +/- 1% full scale
- ♦ Easy replacement of sensor by user
- ♦ Long life sensor ( expected life 48 months in Air)
- ♦ Water resistant
- ♦ Guaranteed against diver abuse
- ♦ Calibrate and measure in still gas at 1 Bar  
stable : no drift due to gas flow
- ♦ Fast measuring with minimum gas waste
- ♦ Suitable for altitude diving
- ♦ Supplied in case
- ♦ Auto switch off battery saver
- ♦ Model available with auto switch off disabled



# VANDAGRAPH LTD

## SPECIFICATIONS\*

**Range:**

0-100% oxygen

**Accuracy:**
 $\pm 1\%$  of full scale

**Response time:**

90% in less than 10 seconds

**Resolution:**

0.1%

**Operating temperature range:**

0-40°C

**Battery Type:**

9 Volt Alkaline

\* Specifications subject to change without notice

\*\* Can be supplied with the auto switch off disabled

**Battery Life:**

12 months (typical)

**Auto Switch Off\*\*:**

2-3 minutes

**Sensor Type:**

R-17 (Galvanic)

**Sensor Life:**

Expected 48 months in air

10 months in 100% Oxygen

**Dimensions:**

60mm x 120mm x 25mm

**Weight:**

205gm incl. battery &amp; sensor

**Cable Length:**

250mm – 759mm

## PARTS LIST

VN202 Analyser

R-17 Micro Fuel Cell

DINKIT Restrictor Kit

★ A-268 Tee Adaptor

★ B-50057 Flow-Thru Divertor

★ VP12 Tubing 30cm

★ DM22M10 Male Adaptor

★ BS111 Viton O Ring

★ DIN22F High Pressure Restrictor

VNR1 Large Case

★ Items are included in the DINKIT

## Why use a DIN KIT

Flowing gas from a cylinder is very cold whilst the sensor is at ambient temperature so that the sensor begins to cool down during measurement and can cause baseline drift. If the flow is too high a back pressure builds up on the sensor and increases the reading. The DIN kit method is fast and produces reproducible accurate results every time.

## How to use a DIN KIT

The Pressure restrictor has a standard DIN fitting which can be used directly into a DIN pillar valve or into an A clamp (yoke) with a DIN Female fitting.

The pillar valve is opened gently until the gas can just be heard hissing through the tubing. ~ose after five seconds. Watch reading, it should rise and reach a stable level. If it reaches a maximum and then falls back, the cylinder has been opened too much. After the reading stabilises (about 10 seconds) open valve again for 5 seconds as above. The reading should this time peak and fall back less than 0.5%. The stable reading is the oxygen level in the gas. If in doubt this step can be repeated as many times as necessary. The stable reading is correct. The secret to accurate fast measurement is gently opening the pillar valve enough to obtain a gas flow of about 2 litres per minute (a low level hiss).

The pressure restrictor is used to achieve low flow rates of gas from the cylinder. The Flow divertor is a set of blades which divert the gas down onto the sensor face. The gas is turbulent and ensures a fast reading. The tubing is added to prevent air being drawn into the Tee outlet and reducing the reading. Any poor joints will create a venturi action and suck in air.

**NB:** The system should be calibrated in air 20.9% before use. The measured gas should be within 1% of the calculated mixture. If a discrepancy of more than 1% is found check the analyser in 100% O<sub>2</sub> and Air (20.9% O<sub>2</sub>).

**DO NOT ASSUME THE ANALYSER IS CORRECT.**

