

O₂ Analysis Accessory

Vandagraph Quick-Ox

I HAVE ALREADY RECOUNTED IN THESE PAGES my conversations with a gas-analysis expert with whom I went diving. He told me that the O₂ analyser we were using to check our nitrox mixes was good enough only to distinguish between nitrox and air, rather than accurately display the O₂ percentage.

The problem stemmed from O₂ sensors being affected not only by the percentage of oxygen in the sample but also by the pressure and temperature at which it is measured.

Ideally, one should analyse nitrox at one bar, or atmospheric pressure, and simply cracking open a cylinder valve slightly is not good enough. If you've ever done this, you will also be aware of the cooling effect of depressurised air.

Many analyser manufacturers have addressed the problem by adding restrictor attachments, including one that uses the diver's own regulator and BC direct-feed hose. Often this adds precious moments to the time it takes to sample the nitrox immediately before diving.

Vandagraph, the well-known O₂ analyser company, has now come up with a solution in the form of a T-shaped accessory that you simply attach to the business end of your O₂ sensor. It calls it the Quick-Ox.

This has a dome-end with an entry hole combined with a concave gas entrance, a chamber where the sensor end sits, and two one-way valves, one either side of it. The idea of the dome and concave gas entrance is to prevent any venturi effect that might suck in some air with the gas sampled.

First, you wave the analyser cell complete with its diverter in the fresh air to calibrate the analyser unit to 20.9% O₂. Then you open the tank valve so that the gas gently flows. Replacing the analyser cell and diverter into the Quick-Ox, you simply place the dome-end over the valve's O-ring or DIN threaded outlet, whichever is applicable. Wait until the highest reading is achieved.

With the dome-end still held in place, turn off the flow. The gas trapped within the Quick-Ox internal chamber is now at



Left: The Vandagraph Quick-Ox is designed to give true oxygen percentage readings and longer sensor life

ambient pressure and you will notice that the reading drops a little. This is the true oxygen percentage. It's simple.

Benefits include not only a true reading but increased sensor life, as it is no longer subject to high gas flows. The flow-rate at the time of measuring is always the same – zero. You have time to observe the reading properly, and there is no temperature-drift effect. There's none of that waiting, often as much as two minutes, as is needed with some flow-restrictors. It can be used with almost any make of analyser.

Of course, to hold the Quick-Ox in place and turn off the tank valve, you need to place the analyser down somewhere secure. This may need a little consideration on the busy and often crowded aft-deck of a dive boat.

I used it aboard mv *Tiger Lily*, and James the dive-guide was so impressed that he forced me to leave it with him. Nitrox-users aboard *Tiger Lily* will be among the first to benefit from use of the Quick-Ox.

The Quick-Ox costs £17.63.

• Vandagraph 01535 634900

PLUS

- + True readings simply achieved
- + Longer sensor life

MINUS

- You may need an extra hand!