



Vandagraph Ltd

The Quick-Ox Oxygen sampling system



Oxygen sensors are designed to work best in very low constant flowing gas at steady temperatures. The ideal condition is therefore a still gas at 1Bar.

Flowing gases above 2 litres per minute can cause backpressures and give elevated readings. The sensor will still have a fast 7 second response with flow rates down to 100 millilitres per minute. A very gentle hiss or light pressure on the finger

When measuring from a Scuba cylinder the gas released is very cold and if left flowing can cool the sensor membrane. This can cause the output to drift. The ideal solution has proved to be a small restrictor (as in the Vandagraph DIN Kit) where the gas is sampled and then measured at 1Bar (1 atmosphere). The limitation of this method is that the assembly of the system takes time.

The Quick-Ox gas sampler overcomes this problem.

<p>Leave Flow diverter and move through fresh air</p>	<p>Calibrate Analyser to 20.9%</p>	<p>Turn on cylinder gently and feel gas flow</p>
		<p>When the reading on the analyser stops rising turn off the cylinder. The reading may fall slightly then stop as the pressure reduces. This is the reading of Oxygen in the cylinder</p>
<p>With an "O" ring type cylinder mate the dome to the O ring</p>	<p>With A DIN outlet gently push the dome into the DIN thread</p>	



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Instructions for Using the Quick-Ox sampler

- Remove the flow diverter from the Quick-Ox Tee and wave gently in the air preferably outdoors
- Set the calibration to 20.9% Remember. Do not touch the calibration controls after calibration
- Turn on the cylinder gently until gas is coming out. This can be felt by placing a finger up to the outlet or listening for a gentle hiss
- Place the domed end of the Quick-Ox firmly against the O ring or into the DIN fitting as far as it will go. For best results try to ensure that the gas from the cylinder is aimed at the concave in the dome
- The reading will rise. If the reading rises too slowly increase the flow rate.
When the reading stops turn off cylinder.
- Depending on flow rate the reading may fall slightly then stop
- This is the Oxygen in the cylinder



Warning

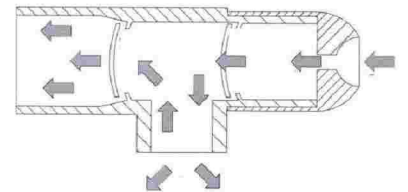
- If in doubt or the measured result does not agree with the calculated value repeat from No.1. recalibration.
- The reading will be maintained because the gas is trapped in the Tee
- To re-calibrate remove the flow diverter from the Tee and calibrate

Features

- The combination of the dome radius and the concave gas entrance hole prevent any Venturi effects sucking in air and diluting the gas mixture being measured.
- The main gas path is across the sensor face ensuring low pressures on the sensor membrane. High pressure directly onto this very thin membrane can cause inaccurate reading and shorten the life of the sensor.
- The diverter diverts part of the gas gently upwards into the sensor enabling the sensor to react quickly to gas changes.
- The one way valves trap the gas when the cylinder is turned off giving the analyser a memory effect without an electronic memory. The gas can be measured with zero flow. There is no flow rate effect on the reading. The gas quickly reaches room temperature so there is no baseline drift due to the normal cold flowing gas competing with the temperature compensation at room temperature.

Benefits

- Always the same flow rate (zero).
- Always measured at the same pressure 1Bar (1 atmosphere).
- Time to observe the reading.
- No temperature drift effect.
- No time consuming A clamp or DIN adapter to screw in or flow meter to set up.
- No 2 minute wait with BC flow restrictors.
- Saves gas for diving.
- Can be used with any analyser using an external sensor or external sensor thread.
- Low cost if lost or damaged



Ordering Information

- Quick-Ox complete Pt Number 9730210

Patent pending

The Quick-Ox insert V1.1 10/11/03

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