VANDAGRAPH COMPANY OPERATING PROCEDURE		
Helium / O_2 Analyser. Mixcheck		
VM3/COP/40.54		
Date: 25-Apr-03	Revision Date: 7-Apr-11	Issue 1
Helium / O_2 Analyser: O_2 Assembly, Test and QA Procedure.		

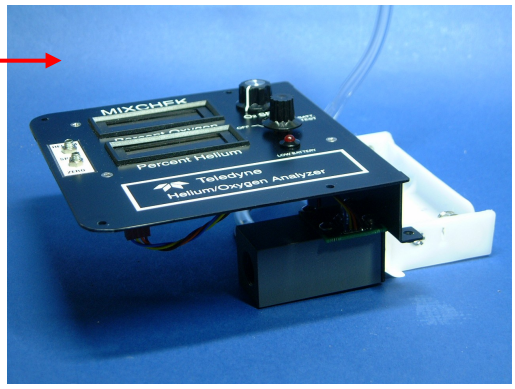
The Mixchek Helium / Oxygen Gas Analyser arrives without the O_2 sensor or batteries fitted.

Equipment required. Sockets and ratchet driver, cross point screwdriver, flat blade screwdriver, kitchen tissue, Isopropyl alcohol, silicon polish.

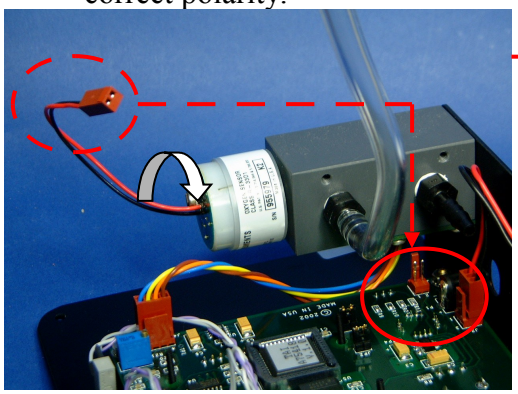
Pre-Gas Test

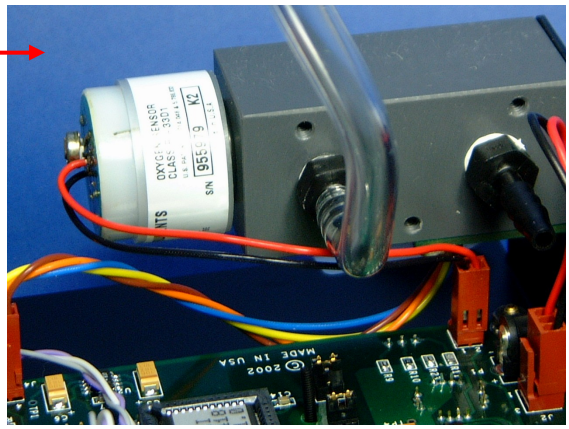
1. Open each box
2. Cut open outer bags in which sensors are packed and remove sensors. Sensors need S/N labels and stock sheets printed at this stage as serial numbers are not printed on Teledyne invoices. These sensors are to go into stock as earliest S/N should be used.
3. Separate items into duckets: PSU/Batteries?Low pressure hose adapters/Operator instructions. The batteries need to be removed from packing
4. Prepare worksheets for each instrument
5. Plug all Mixchecks into the mains PSU's and leave on test for 2 days to check Helium display does not move above 0.2. If OK tick on worksheet. If not OK refer to Engineer
6. Add labels to cases;sensors;Instructions as illustrated
7. Ensure there is no physical damage to the unit or marks to labels.Remove Nuts/washers from each instrument install R-33D1 and batteries. Note the software version on worksheet. Note the sensor S/N on worksheet and ad S/N labels to the instrument case with a Vandagraph address label
8. Test as procedure in gases

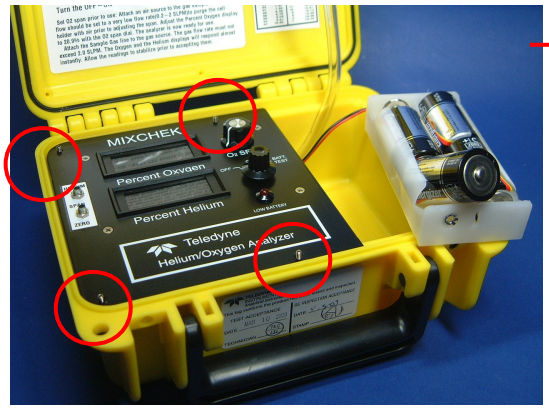
Gas Test



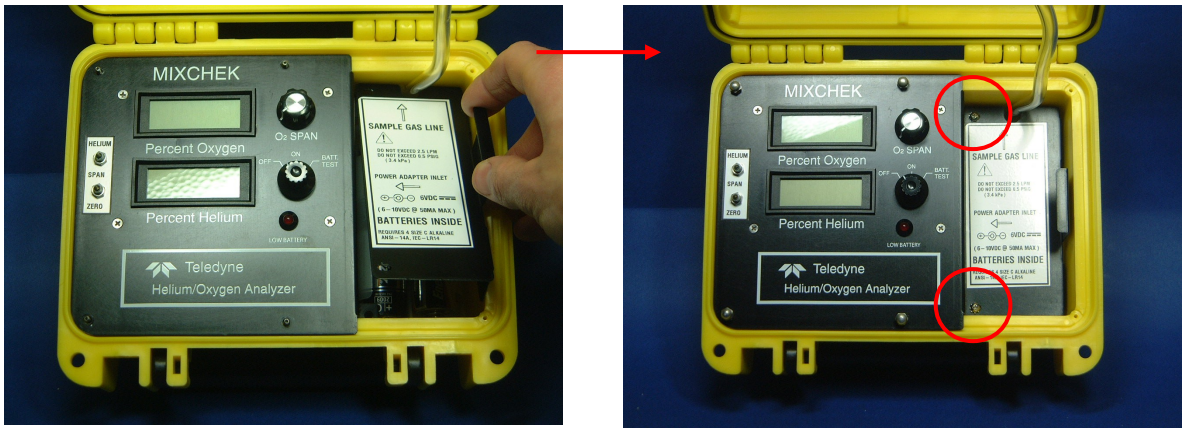
1. Place the instrument panel face down and screw the O_2 sensor into the housing – finger tight. Plug the free connector into the circuit board – the plug is keyed and only fits one way.
2. Record the O_2 sensor serial number. Refit the instrument into its box - ensure that the sample tube and battery lead are not trapped between the instrument and the box. Refit the 4 x retaining nuts / mylar washers. Fit 4 x batteries (size C, alkaline) in the correct polarity.



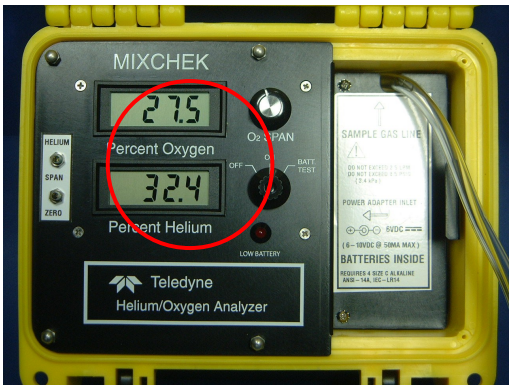




3 Insert the battery box back into the bottom of the box and refit the battery cover and 2 x battery cover retaining screws / shake-proof washers.



4 Switch on the Helium / Oxygen Analyser and select Battery Test. Ensure the analyser shows greater than 110 hrs of battery life remaining on the display.
5 Run 100% oxygen through the sample tube at 2 LPM. Ensure that the gas runs for a sufficient length of time to purge the analyser of all traces of other gases. Calibrate the analyser to read 100.0% oxygen by adjusting the O_2 Span control.
6 Run air through the sample tube at 2 LPM. Ensure that the gas runs for a sufficient length of time to purge the analyser of all traces of other gases. Ensure the analyser reads 21.0±1.0% oxygen and calibrate the analyser to read 00.1% helium by adjusting the Helium Zero control.
7 Run 100% helium through the sample tube at 2 LPM. Ensure that the gas runs for a sufficient length of time to purge the analyser of all traces of other gases. Calibrate the analyser to read 100.0% helium by adjusting the Helium Span control.
8 Run helium / Oxygen mix, through the sample tube at 2 LPM. Ensure that the gas runs for a sufficient length of time to purge the analyser of all traces of other gases. Ensure the analyser shows readings of helium / oxygen ± 1% of that from the cylinder.



<u>Gas mix used:</u>

26% oxygen.
32% helium.
May vary with the mix. Only used to check correct software.
+/- 2%

9 Run air through the sample tube at 2 LPM. Ensure that the gas runs for a sufficient length of time to purge the analyser of all traces of other gases. Calibrate the analyser to read 20.9% oxygen by adjusting the O_2 Span control. Switch the analyser off.

Post Gas

10 Remove Batteries and replace battery cover

Attach "Vandagraph" labels to the lid of the analyser box and to the front panel.11. Clean the Analyser with isopropyl alcohol to remove and marks and lightly polish.

12. Attach a "Vandagraph" sticker within the distributors' box in the manual.

13. Generate stock sheets for the instrument and O_2 sensor and 'pass', initial & date having tested satisfactorily.

14. Fit the UK pin adapter to the mains power supply and test for approximately 6.0V DC.

15 Supply 2lpm Flow restrictor Pt.No. 9711901

Mixcheck Parts List Check List

Instrument

Operator Instructions & Quickstart
Worksheets
batteries
Sensor R-33D1 serial number recorded

Trimtool

2 LPM Flow restrictor 9711901

B75401 Hose adapter

Mains PSU

S/N Labels

Vandagraph labels 2 sizes + round label

Tested label