

## VM3COP43.11 Maxtec MaxO2+A Calibration Test Procedure

 Before using this procedure, the user is advised to familiarise themselves with the operation manual. The user should have a basic understanding of the function of Oxygen monitors. This procedure tests the Maxtec MAXO2+A Oxygen analyser can read accurately. A calibration must be performed before each use as environmental factors can affect the reading.

### Equipment required

Medical Oxygen UN1072

Microcal – calibrated voltage source (CE076)

Test adapter – Microcal to MAXO2+A

- 1) Prior to turning on the unit, a protective film covering the threaded sensor face must be removed. This may well have been discarded if testing a used analyser. If present, save the film, it will be reused.
- 2) After removing the film, wait approximately 20 minutes for the sensor to reach equilibrium.



- 3) Turn the analyser on using the power button on the front keypad. The unit will automatically calibrate to room air.



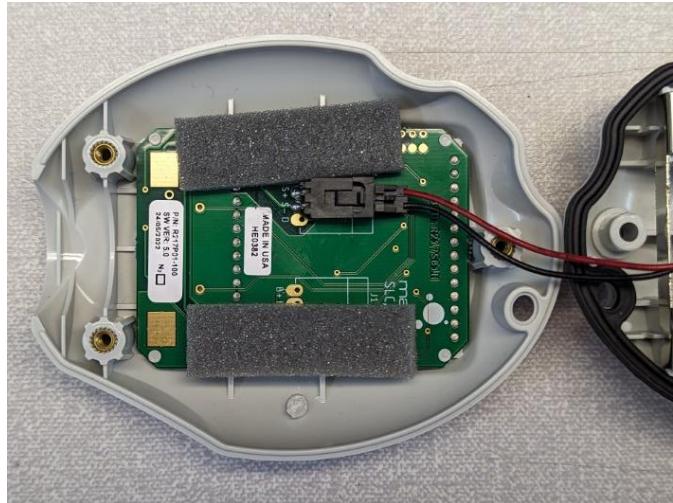
- 4) After the calibration process has finished the display should be stable and reading 20.9%.



- 5) Turn the unit off and remove the 3 case screws from the rear case.



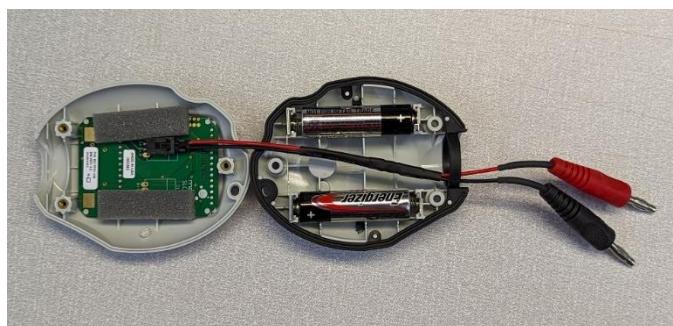
6) Take care not to strain the sensor wires, then separate the front and rear cases.



7) Disconnect the sensor from the PCB.  
 8) Remove the sensor from the rear case.



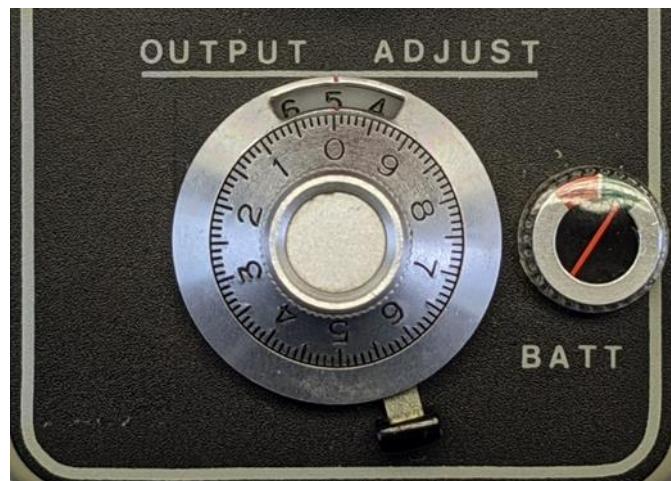
9) Place the calibration connection cable through the sensor port of the rear case.  
 10) Connect the calibration connection cable to the PCB and Microcal.  
 11) Ensuring the wires are not trapped, close the case and replace the case screws.



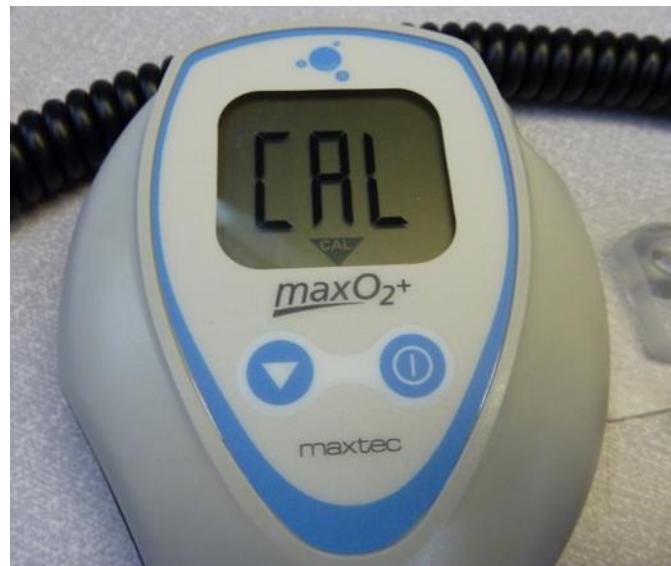
- 12) Connect the banana plugs to the Microcal.
- 13) Switch the Microcal to the 'Norm' position.
- 14) Set the Microcal to 100mV.



- 15) Set the output adjustment dial to 50.0mV



- 16) Power up the MAXO2+A analyser.
- 17) Press the calibrate button on the MAXO2+A to enter calibration mode. During the calibration process the analyser will display CAL.



18) At the end of the calibration procedure the analyser should display 100.0%. If the analyser fails to calibrate, then check the connections and repeat the test.

The Microcal is simulating the output of an Oxygen sensor reading a 100% Oxygen concentration. By decreasing the output of the Microcal to set values, the accuracy of the MAXO2+A analyser can be determined across a range of simulated Oxygen concentrations.



19) In turn, dial in the input voltages from the table below. Record the values on the certificate (PN:010015)



Microcal output	MAXO2+A expected reading ( $\leq 2\%$ relative)
50.0 mV	100% (98.0% - 102.0%)
45.0 mV	90% (88.2% - 91.8%)
40.0 mV	80% (78.4% - 81.6%)
35.0 mV	70% (68.6% - 71.4%)
30.0 mV	60% (58.8% - 61.2%)
25.0 mV	50% (49.0% - 51.0%)
20.0 mV	40% (39.2% - 40.8%)
15.0 mV	30% (29.4% - 30.6%)
10.5 mV	20.9% (20.5% - 21.3%)
9.0 mV	18% (17.6% - 18.4%)