4.3 Calibration

> ⚠ ***Caution***: Calibration gases must be instrumentation grade and be supplied with a Certificate of Analysis (COA) indicating an accuracy of ± 0.03%.

> ***Note:*** Single point (high or low) calibration can be performed, but is not recommended for transfilling analysis.

> ⚠ ***Caution***: Calibration gas mixtures should contain only oxygen and nitrogen.

The calibration procedure requires cal gases with known oxygen concentration to determine cal factors for the analyzer (slope and intercept).

> ***Note:*** Calibration gases may be selected by the user. Low cal gas values of 10 to 40% oxygen in nitrogen are suggested. High cal gas values of 60 to 99.99% oxygen in nitrogen are suggested. To meet US FDA requirements the gases must be instrument grade and have a certificate of analysis (COA) to ±0.03%.

4.3.1 Calibration Setpoints:

There are two calibration setpoints (% O_2) one for the low cal gas and one for the high cal gas. The low cal setpoint is set 21.0% and the high cal setpoint is set to 100% at the factory.

To view the setpoint or enter a new setpoint hold down the CAL key and press the NEXT key.

The set point for low cal will be shown in the display. (e. g. Cal 21.0%)

If low calibration gas has been changed or the low calibration gas % (COA value) is different from the setpoint value, press the PLUS or MINUS key to change the setpoint to match the low cal gas %. The displayed value will flash indicating you are changing it.

Press SET to store the new low cal setpoint value.

Press the NEXT key one more time to view or enter a new high cal setpoint.

The setpoint for high cal will now be shown in the display (e. g. Cal 100).

If high calibration gas has been changed or if the high calibration gas % (COA value) is different from the setpoint value, press the PLUS or MINUS key to change the setpoint to match the high cal gas %. The displayed value will flash indicating you are changing it.

Press SET to store the new high cal setpoint value.

OXIGRAF

Model O2T Calibration Procedure

NOTE: By holding down the CAL key and pressing the NEXT key a special user setup mode is available. The following sub modes are visible and may be adjusted: low cal, high cal, mode (LN or XE) Kxc value, and filter: XE mode allows for a more accurate oxygen reading when gases other than O_2 and N_2 are in the gas being analyzed. ***The Kxc value should not be adjusted by the user without consulting the service department at Oxigraf.*** The filter sets averaging times for the display and may be increased if the display is noisy or decreased if a faster response time is required (0 to 10).

4.3.2 Calibrating the MO2T:

Connect the low cal gas (21.00% calibrating gas) to the inlet filter and flow the gas at 50 to 350 ml/min.

Press the FLOW key to read flow. Only adjust it if needed.

Press the CAL key when flow is stable.

The % oxygen in the present gas sample will be displayed. Be sure the correct calibration gas value (CAL 21.0%) is shown in the message display.

Allow the reading to stabilize then press the SET key. The message display will briefly show LO CAL. (it may count to 10). As soon as the calibration is accepted by the monitor the message display will return to CAL 21.0.

⚠ ***Caution***: If the difference between the cal set point and the measured $\%O_2$ is greater than $\pm$ 0.1 % recalibrate the MO2T

Connect the high cal gas (99.99% calibrating gas) to the inlet filter and flow the gas at 50 to 350 ml/min.

Press the FLOW key to read flow. Only adjust it if needed.

If flow was adjusted or checked press the CAL Key *two* times after flow is adjusted and stable for a few seconds.

The % oxygen in the present gas sample will be displayed. Be sure the correct value for the calibration gas (CAL 99.9%) is shown in the message display.

Allow the reading to stabilize press the SET key. The message display will briefly show HI CAL (it may count to 10).). As soon as the calibration is accepted by the monitor the message display will return to CAL 99.9.

The analyzer is now calibrated.

⚠ ***Caution:*** A calibration error alarm (CALERR) is generated if the cal setpoint does not match the cal gas concentration, or if the low and high cal setpoints are too close to each other.

Note: When in calibration mode the NEXT key may be used to access low cal, low setpoint, high cal, high setpoint, Δ O2 REF, cell pressure, and cell temperature.

1170 TERRA BELLA AVENUE MOUNTAIN VIEW, CA 94043
TEL (650) 237-0155 FAX (650) 237-0159
oxigraf@oxigraf.com http://www.oxigraf.com