4.20 Orion Conductivity Meter

4.20.1 Scope

To ensure the proper operation and maintenance of the conductivity meter. The meter is to be calibrated with each use and professionally serviced annually.

4.20.2 Background Information

See owner's manual.

4.20.3 Operation

4.20.3.1

Use the MODE key to move between conductivity and salinity. For best results, use a temperature compensated probe as significant error may result from ignoring temperature factors.

4.20.3.2

Conductivity measurement (as in Formamide): Place the probe in the sample and agitate slightly to remove small air bubbles. Allow reading to stabilize. The reading will be in units of either mS (milliSiemens) or µS (microSiemens).

4.20.3.3

Salinity measurements: Place the probe in the sample and slightly agitate to remove air bubbles. Press MODE key until the Salinity mode indicator is displayed. Allow the reading to stabilize. The reading will be displayed in parts per thousand.

4.20.3.4

Calibration: Remove the probe from the dH2O and dry well. Push the Calibration key.

Insert probe into the 1413 standard bottle (retain this standard).

4.20.3.5

Use the arrow keys to set the measurement to around 1.000 cm-1. When the display reads "READY", the meter is giving the reading.

4.20.3.6

If the correct standard value is not displayed, calculate the percentage error in the displayed value from step 5.
Percent error = Displayed valued
Standard value

4.20.3.7
Return to step 1 and change the cell, or probe, constant by this percentage.

4.20.3.8
Repeat steps 4 through 7 until the desired calibration accuracy is obtained.

4.20.3.9
Use a second calibrator such as 10 or 100. Do not retain this second calibrator. Repeat steps 5 through 8 until the meter is calibrated.

4.20.3.10
TO TEST FORMAMIDE: Place about 4 mL in a 15 mL tube. An acceptable reading is <3 µS.

4.20.4 Maintenance

4.20.4.1
Always keep the probe in diH_2O.

4.20.4.2
Always rinse the probe with diH_2O and dry well with lab tissue when moving it form solution to solution.