

CATALOG NO. 37008



SOIL BOX

- FOR QUICK AND ACCURATE MEASUREMENT OF RESISTIVITY OF A SAMPLE OF SOIL, WATER OR OTHER ELECTROLYTE
- FOR FIELD OR LABORATORY USE

FOR USE WITH:

- ANY MODEL OF M.C.M. MULTI-COMBINATION METER
- NILSSON MODEL 400 SOIL RESISTANCE METER
- MEGGER
- AMMETER AND VOLTMETER OR MILLI-AMMETER AND MILLI-VOLTMETER WITH EXTERNAL BATTERY.

MADE OF PLEXIGLAS:

Inside dimensions are approximately 1.5" wide by 8.75" long by 1.25" deep (4cm x 22cm x 3cm). Corners are rounded for easy cleaning. Current plates are made of stainless steel. Potential pins are made of brass and are easily removed.

SMALL SOIL BOX (CATALOG NO. 37006)

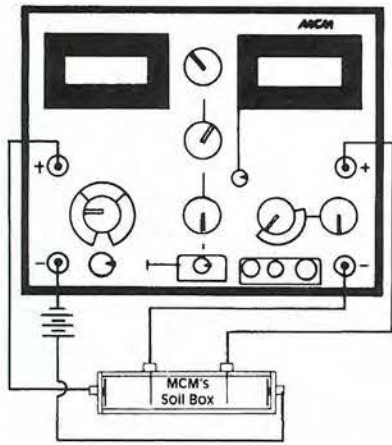
Same great design, but made for smaller sample sizes. Inside dimensions are approximately 1.2" wide by 4.4" long by 1.0" deep (3cm x 11cm x 2.4cm). The resistivity calculation and multiplication factor are the same as the regular soil box.

SOIL/LIQUID RESISTIVITY

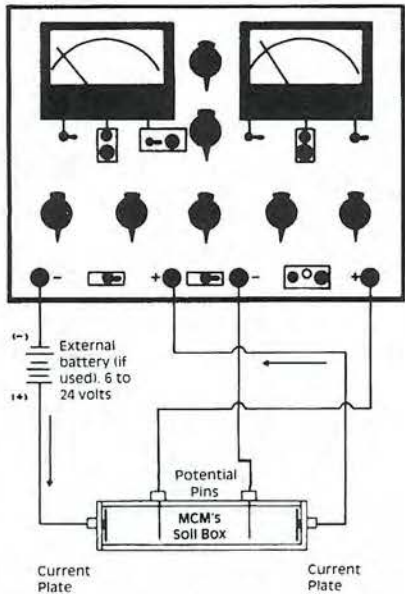
The dimensions of the box have been chosen so that the measured resistivity - when the box is filled level - can be expressed in ohm-centimeter, which is universally accepted terminology. When used with any M.C.M. multi-combination meter (or separate volt and ammeter), and external battery, the resistivity of the sample can be calculated as shown below:

$$\text{RESISTIVITY} = \frac{\text{CHANGE IN POTENTIAL BETWEEN PINS } (\Delta V)}{\text{CHANGE IN CURRENT } (\Delta I)}$$

Sketches on reverse side of this sheet show typical meter connections.



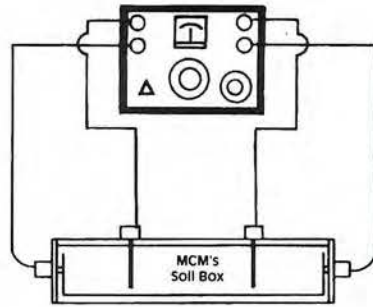
(1)



(2)

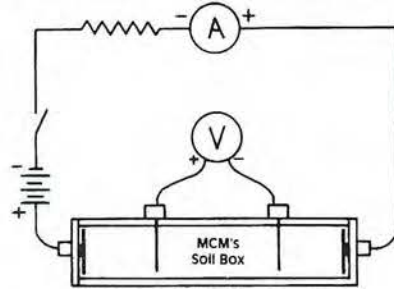
RESISTIVITY OF SOIL OR WATER BY SOIL BOX METHOD USING:

- (1) MCM B3D DIGITAL MULTIMETER
- (2) MCM B3A2 ANALOG MULTIMETER



RESISTIVITY (OHM-CM) = R

RESISTIVITY OF SOIL OR WATER BY SOIL BOX METHOD USING AN EARTH RESISTIVITY MEASURING SET



RESISTIVITY (OHM-CM) = $\frac{V_{on} - V_{off}}{A}$

RESISTIVITY OF SOIL OR WATER BY SOIL BOX METHOD USING A COMBINATION OF METERS AND BATTERIES

TYPICAL CONNECTIONS FOR USE OF SOIL BOX WITH VARIOUS TYPES OF INSTRUMENTS

SOIL BOX TEST LEADS

2 Foot Long,
2-Black, 2-Red,
W/Banana Plug and pointed
Plug Ends

Catalog No. 37009

NOTE:

1. When using multimeters be sure readings on both meters are obtained simultaneously.
2. Potential must be in volts and current must be in amperes to obtain result in ohm-cm.
3. Multiplication factor for the M.C.M. soil box is 1.
4. When used with the Nilsson 400 Soil Resistance Meter or Megger, no calculations are necessary because the multiplication factor is 1 ohm-cm. Therefore, the resistivity value of the sample can be read directly off the meter dial. Refer to the instruction sheet included with each meter for additional information.



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