

To calibrate Soilmoisture Blocks at the 1/10, 1/3, and 1 Bar pressures, place the Pressure Plate Cell, Model 0675B1M1, in the bottom of the 15 Bar Ceramic Plate Extractor, Model 1500. Connect the outlet tube from the Pressure Plate Cell to one of the outflow tube assemblies and plug the other outflow tube portholes with the plug bolts. After connections are made, add a thin layer of soil to the surface, preferably a sandy loam type. Set as many moisture blocks as is convenient on top of the soil layer and then add soil to surround the blocks. The important thing is for the surface of the block to have good hydraulic conductivity with the soil and, in turn, with the surface of the Pressure Plate Cell. After the moisture blocks are arranged on the Pressure Plate Cell with soil, thoroughly saturate the whole mass with water. This is done by adding enough water so that it is standing on any exposed portion of the Pressure Plate Cell. The edge of the rubber backing plate, which is sealed to the Pressure Plate Cell, acts as a dam for the water and maintains a reservoir of water on the Plate up to the height that the edge of the diaphragm projects above the surface of the Pressure Plate Cell. It is a good idea to allow the water to stand on the plate overnight before making a run.

It is, of course, necessary to have electrical connections between the Soilmoisture Blocks and the outside of the Extractor. The Electrical Leadthrough, Model 1065, has ten separate leads. Normally, one common lead can be used for each of the Soilmoisture Blocks. With the Electrical Leadthrough it is possible to calibrate as many as nine electrical moisture blocks at one time.

After the blocks have been saturated and electrical connection made, close the Extractor and apply air pressure of 1/10 Bar (approximately 1.5 psi). Water will flow from the outflow tube. When the flow of water ceases, equilibrium has been reached and resistance measurements can be made on the Soilmoisture Blocks. Raise the pressure to the next desired level, such as 1/3 Bar, and repeat the process. Please note that the time required to reach hydraulic equilibrium within the Extractor is proportional to the square of the height of the sample on the Pressure Plate Cell. For example, soil 2 cm high on the surface of the Pressure Plate Cell will require four times the amount of time to reach equilibrium as will a sample 1 cm high. For this reason, it is desirable to limit the height of the soil sample and, in the case of calibrating Soilmoisture Blocks, to lay them as flat as possible; that is so the height projecting above the surface of the Pressure Plate Cell is held to a minimum.

To calibrate Soilmoisture Blocks in the range from 1 bar to 15 bars (wilting point), repeat the process, as indicated above, using the 15 Bar Ceramic Plate Cell, Model 0675B15M1, instead of the 1 Bar Pressure Plate Cell.

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SOILMOISTURE EQUIPMENT CORP.

P.O. Box 30025

Santa Barbara, California 93117 USA

Telephone: (805) 964-3525 - Fax: (805) 683-2189

Comuserve: 76615, 1443 - Internet: sales@soilmoisture.com

