



Set contains

The ceramic plate standard set A for pF determination contains:

- Two extractors, 5 and 15 bar
- 4 ceramic plates 1 bar
- 4 ceramic plates 15 bar
- Pressure control panel
- Compressor 20 bar, with reducing valve
- 144 soil sample rings
- Coupling hoses

Multiple ceramic plates with soil samples can be placed in the extractor at the same time.



Water relations are one of the most important factors that affect the use of soils for effective agricultural or engineering purposes. Determination of pF-curves with ceramic plates is a reliable way to research soil moisture characteristics, for pF 2.0 - 4.2 (0.1 - 15 bar of suction).

Applications

- The pore volume of the soil
- The pore size distribution of the soil
- The capillary-rise capacity
- The air and moisture contents of the soil with a given groundwater level
- Determination of field capacity and available soil moisture
- Soil suction research in relation to germination time of seeds

This set can also be used for the calibration of soil moisture blocks or soil moisture measurement equipment.

Key Features

- Relatively simple method
- Method applicable to prepared samples or undisturbed soil cores
- Reliable way of removing moisture from a sample without disturbing the soil structure



Maximum number of samples	48
Measuring range	1.8 - 4.2 pF
Reading accuracy	< 4 bar 0.02 bar
Sample specification	disturbed
Package size	120 x 80 x 135 cm
Power supply	line voltage
Voltage	230 VAC 50Hz

Method

In this system, soil moisture is removed from a soil sample by raising air pressure in an extractor. A porous ceramic plate serves as a hydraulic link for water to be 'pushed' out of the soil to the outside of the extractor. The high-pressure air will not flow through the pores of the plate, as they are fully saturated and pores are filled with water. The smaller the pore size, the higher the pressure that can be applied before air will pass through.

During a run, at any set pressure, the soil moisture will flow around each of the soil particles and out through the ceramic plate and outflow tube. Equilibrium is reached when no more water is coming out of the outflow tube; at that moment an exact balance is reached between the air pressure in the extractor and the soil retention rate (hence the moisture content) of the soil samples.

The accuracy of the measurement depends on the accuracy of the air supply - the pressure control panel therefore has independent double regulators.

This method is a reliable way to remove soil moisture, under controlled conditions, from soil samples without disturbing the soil structure. That makes it an attractive alternative to other methods, such as compaction, centrifugation, molecular absorption and more.

