

Pressure Plate Apparatus



Year of Purchase: 2020

Cost: 4.30 Lac

Experiment:

Used to obtain soil moisture characteristics curve and soil water retention parameter and suctions greater than 0.4 bar.

About:

The apparatus consists of strongly built metal chambers containing one or more ceramic plates onto which uniform soil samples are placed. Having attained maximum moisture retention (field capacity) the samples within the cells are then subjected to controlled positive air pressures and water is gradually removed. By careful control of pressure, the various equilibrium conditions of pressure and soil water tension or suction, are obtained. The air pressure is provided either from a compressor, compressed air bottle, or nitrogen bottle; but must always be routed through a manifold having pressure regulators and gauges. This versatile apparatus can be used for a variety of determinations, available water capacity, water retentivity, hydraulic conductivity, and field capacity. Results have a variety of practical applications; soil classification and soil survey, the optimisation of irrigation and drainage in improving crop yields, and the calibration of soil water measuring apparatus for field use.