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Core Lab

Capillary Pressure (Porous Plate) Desaturation Cell System, CPPP-300 Datasheet

University Training Equipment



Capillary Pressure (Porous Plate) Desaturation Cell System, CPPP-300

The system is designed to assist universities and other teaching institutions with the hands on instruction process. It provides an instrument that allows the student to perform the classic porous plate saturated core sample desaturation experiment in a structured transparent method. This instruction-focused design allows the student to build on his basic understanding of how capillary pressure controls the magnitude and distribution of the wetting phase in the reservoir.

This experiment can be run on multiple samples allowing the student to study the variation of water saturation as a function of pore geometry as well as capillary pressure. When used in conjunction with the ARS-200, the student can measure the resistivity of the partially saturated samples, for an accurate determination of the cementation exponent, m , the saturation exponent, n , and the Archie constant, a , used in the classic log analysis equation;

$$S_w = \sqrt[n]{\frac{a}{\phi^m} R_w \frac{1}{R_T}}$$



The system is forgiving in its operation and does not require mercury, enhancing user safety.

The steel, porous plate cell is fitted with a large, semi-permeable, porcelain disc for determining capillary displacement of multiple plug-size samples. Porcelain plates are available with threshold pressures of 1 BAR, 3 BAR and 15 BAR (supplied) enabling samples to be analyzed up to 200-psi pressure differential. The Control Panel features gas humidifier and separate high and low pressure gas systems that include regulator and digital pressure transducers.