

MTE - RELATIVE PERMEAMETER

MODEL No. CT-001

DESCRIPTION

The MTE Relative Permeameter is used to evaluate the relative permeabilities of rock core specimens and enables technicians to construct the relative permeability curves typically utilized by reservoir engineers. These curves allow engineers to estimate producing water/oil ratios of petroleum reservoirs and also permit the engineer to determine the feasibility of instigating a waterflood or possibly an EOR project. Determination of relative permeabilities aid the engineer in maximizing the petroleum production from the reservoir.

HASSLER CORE HOLDER

The MTE Relative Permeameter tests core specimens in a modified Hassler type core holder and can test cores up to 4 inches in length with diameters of 1 or 1.5 inches. Confining pressures of up to 10,000 psi may be placed upon the core to examine the effects of rock and fluid compressibilities created by typical overburden pressures. Special core spacers are placed along each end of the core to minimize capillary pressure effects at the outflow boundary of the core and helps reduce saturation gradients. The core holder is designed to allow the core to be easily removed from the holder which facilitates weighing the core to determine the saturations of each phase. The core holder is machined to exacting tolerances from 316 stainless steel and each is pressure checked to 1.5 times its maximum allowable working pressure (MAWP).

FLUID DELIVERY

Two high quality syringe pumps are utilized to deliver oil and water through the core specimen at various water/oil ratios which may be easily selected by the user. A vacuum pump is used to evacuate test lines within the instrument and to remove entrained gases from the test fluids. An electronic scale, which is accurate to .001 psi, is included to weigh cores to determine fluid saturations. In addition, the scale is used to weigh the effluent which passes through the core.

PRESSURE MEASUREMENT

Differential pressures and confining pressures are measured via Validyne DP-15 pressure transducers. Two Validyne CD-23 units are incorporated to display pressure measurements and a strip chart recorder produces a hard copy of pressure measurements as well as flowrates and weight of the effluent.

GENERAL

Tubing, fittings valves, and all other major components are constructed from corrosion resistant 316 stainless steel. The unit is available in most electrical power configurations and occupies approximately 12 square feet of lab space. Shipping weight is approximately 400 pounds, and typical production times are 4 months from receipt of order.