NER

Laboratory Systems: AutoLab Series

AutoLab 500

AutoLab 500 is a manually operated hydrostatic system for measurements of compressional and shear wave velocities, electrical resistivity and bulk compressibility on rock specimens up to 50 mm (2.0 in) in diameter at *in situ* overburden pressure and pore pressures.

The high-pressure system consists of a pressure vessel and one pore pressure intensifier. Coreholders for velocity and resistivity are mounted on cloverleaf closures that insert in the pressure vessel and lock with a 60° rotation. This design is convenient for routine measurements at reservoir pressures up to 70 MPa (10,000 psi) and temperature. An external furnace heats the vessel.

Key Features

- Strain measurement with strain gauges
- Control of pressures and temperature at reservoir conditions
- Integrated electronics console for signal conditioning

AutoLab 500 is manual hydrostatic system for measurements of compressional and shear wave velocities, electrical resistivity, and bulk compressibility.

- AutoLab software for system data acquisition
- Pore pressure intensifier compatible with water, brine, oil, and gas (including CO_2)

Coreholders for the System

PS2 Ultrasonic Transducer

These coreholders measure one compressional and two orthogonally polarized shear waves at confining pressures, pore pressures, and temperatures appropriate for each system.


Resistivity Coreholder

Complex Electrical Impedance (Formation Factor)

Resistivity is measured as a function of frequency, stress, and temperature using both two and true four electrode techniques. NER's ZMeter impedance analysis is used to perform true four electrode measurements at frequencies between 0.02 Hz and 100 kHz.