

Permeability Meter and NMR Rock Core Analyzer RCT-NMR-10K-A



Not just products...solutions.

Description

The PMI Advanced Pulse Decay Permeameter is used to measure gas permeability of samples such as oil well cores, tight gas sandstones and other very low permeability rock. The system creates a differential pressure across the core and monitors the resulting pressure decay over time. PMI software utilizes this data along with known system volumes to calculate permeability.

Applications

The PMI NMR System should be capable to determine the following:

- Pore size distributions
- T1 and T2 distributions
- Diffusion studies
- Standard permeability models supported
- Effective Porosity
- Free Fluid Index, Bulk Volume Irreducible & Clay Bound Water
- BVI and Free-Fluid Index
- Pore Size Geometry
- Fluid Saturation
- Diffusion Coefficient
- Wetting Characteristics
- Oil Viscosity

Applicable Industries Are:

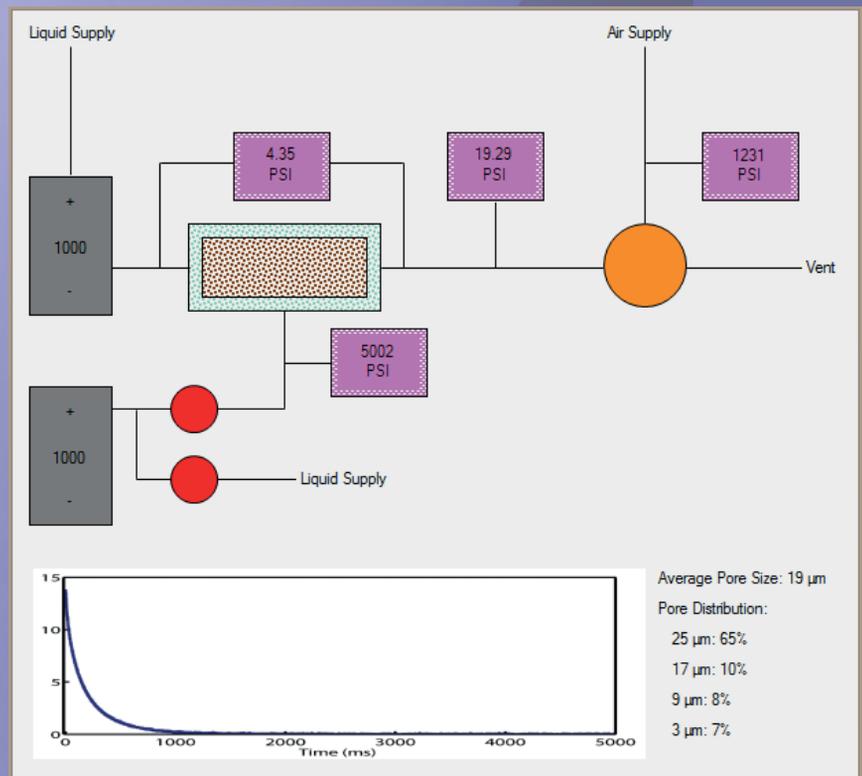
- Oil and Gas Sectors
- Hospitals
- Research and Developments

Environmental Conditions

- Operating Temperature : upto 35 0 C
- Relative Humidity : upto 85 % without condensation.

Principle

Liquid flows through a sample with radial confining pressure to simulate conditions in the earth's crust. A magnetic field is applied to the sample, magnetizing the flowing liquid which has filled the sample pores. A coil emits an RF pulse to perturb the liquid nuclei; the coil receives an echo signal from the nuclei as it is relaxing back to the applied magnetic field. The pulse-echo procedure is repeated many times to reconstruct the transverse and lateral relaxation of the nuclei. where M is the signal received, n represents all pores of a given size range, A_n is the initial signal from pores of a size range and T_n is the relaxation constant from pores of a size range. The collected NMR signal can be fit to the equation above and T can be extracted to give a distribution of pore sizes as shown in the image. This method can also be performed on a sample after flowing liquid is removed and the sample is allowed to dry to measure bound fluids by comparing the wet and dry data.



Features

Uses Pulse Decay Measurement Techniques, constantly monitored pressure and volume with automated monitoring.

- Measures porosity using Gas Pycnometry
- Measurement of condensation rates using Gas Adsorption
- Helium Porosimetry
- Linear pressure increase using fine resolution motorized pump system
- User-friendly, Windows-based software handles all control, measurement, data collection, and report generation
- Complete manual control through software
- Real-time graphical test display depicts testing status and results throughout operation
- In-situ fracking study, rock cracking under confinement conditions during loading and unloading.

Specifications

- Permeability Range: 10 nD to 1 mD
- Confining Pressure: up to 36 MPa
- Standard Core Plug: 5 to 8 cm long
- Core diameter: 2.5 to 4.0 cm
- Power Requirements: 110VAC 60h Hz or 220-240 VAC 50 Hz
- High temperature up to 170°C

Sales & Services

Our sales team is dedicated to helping our customers find which machine is right for their situation. We also offer custom machines for customers with unique needs. To find out what we can do for you, contact us. We are committed to customer support including specific service products, short response times & customer specific solutions. To quickly & flexibly meet our customer's requirement, we offer a comprehensive range of services.

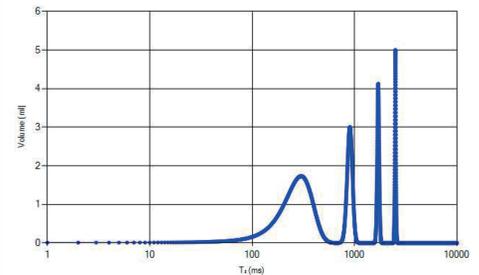
NMR Rock Core Analyzer Analysis Report

7/23/14

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Email: info@pmiapp.com
www.pmiapp.com

Operator: default
Test Fluid: Brine
Sample ID: berea sandstone

Average Pore Size: 19 μm
Pore Size Distribution:
25 μm : 65%
17 μm : 10%
9 μm : 8%
3 μm : 7%



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