Porosity Measurement

Porosity determination of a core plug

The porosity of a material is defined as the ratio of the volume of open space (pore volume) to the total volume of the rock (bulk volume). This main property of the rock is beneficial to geotechnical researches as well as non-petroleum area.

Experiment Description

In this experiment, helium percolates to the sample from a reference volume. Pressure drop during the test is measured. Pore volume is estimated from Boil-Mariot's law. Considering the bulk volume of the sample, effective porosity of the sample can be estimated.

Specification	HPR -BR01	HPR -PR01	HPR -PS01
Reference Cell Pressure	100 Psi	up to 200 Psi	up to 200 Psi
Pressure Reading Accuracy	1% F.S.	0.5% F.S.	0.2% F.S.
Expanded Accuracy	✗	± 3%	± 1%
Porosity Range : up to 60%	✓	✓	✓
Core Diameter: 1" & 1.5"	✓	✓	✓
Core Length: up to 4"	✓	✓	✓
Regulator	✓	✓	✓
Input Power Supply: 220 VAC, 50 or 60 Hz	✓	✓	✓
Computer System Control	✗	✓	✓
User Friendly Automated Data Acquisition, Calculating and Reporting Software	✗	✓	✓
Digital Display	✗	✓	✓
Electronic or Pneumatic Control Valves	✗	✗	✓
Fast Measurement System	✗	✗	✓
Finger protection safety system	✗	✗	✓

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