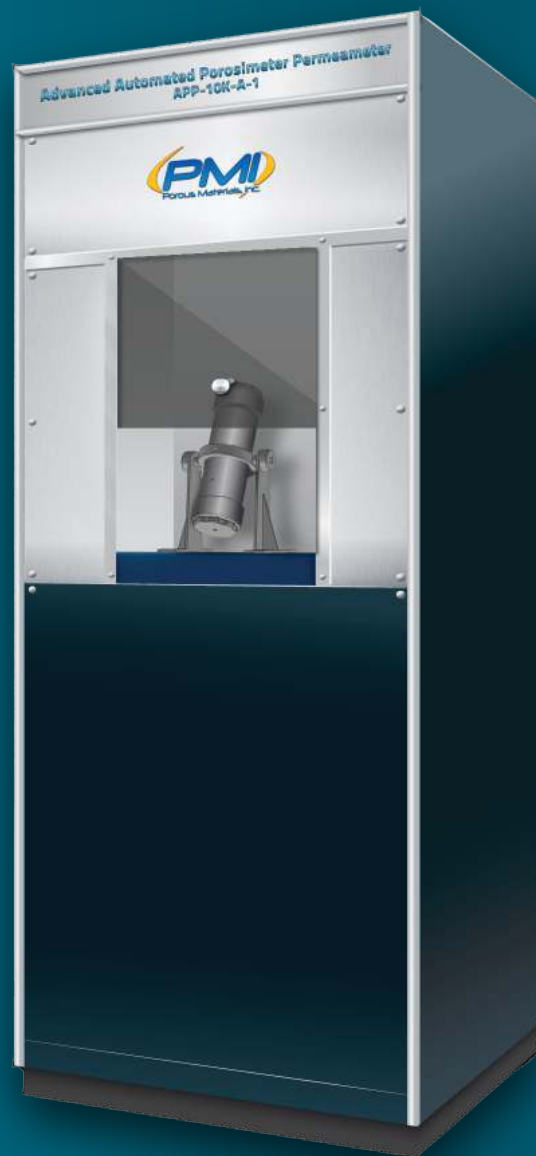




HELIUM POROSIMETER

with Confining Pressure



Not just Products.... Solutions !

DESCRIPTION

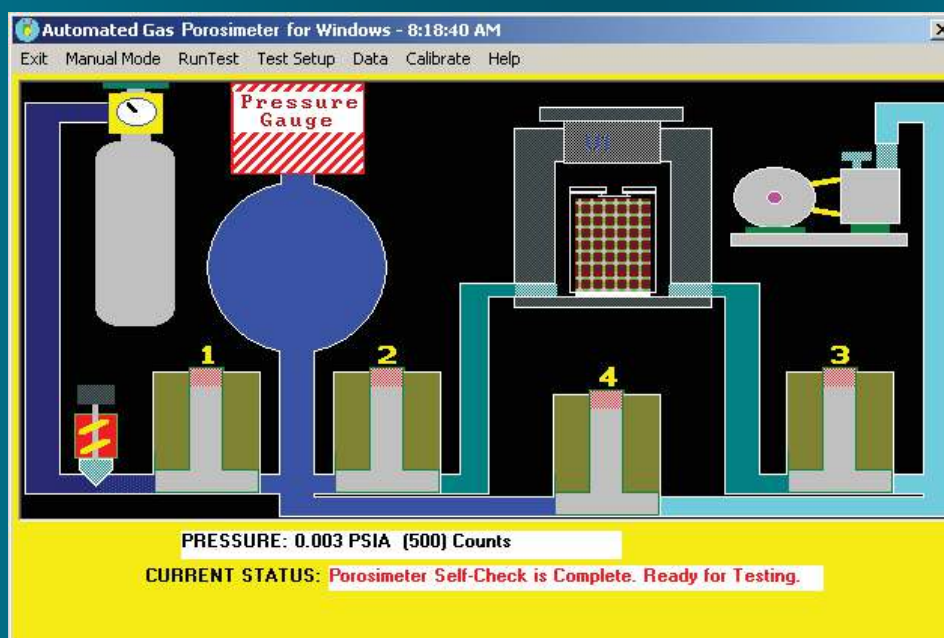
A rock sample is held in the sample chamber and compressive stress is applied. While the sample is under compressive stress, the desired properties are measured. The PMI's Advanced Helium Porosimeter System has been specially designed for testing core samples. Core samples are held in a sleeve which (pneumatic or hydraulic) compresses the sample. The instrument the test, data acquisition, data storage, & data measures the loss of a known amount of gas to computer porosity. The equipment is fully automated. Execution of management are all carried out by PMI software. Operator involvement is minimal, and the instrument is robust and requires

APPLICATION

The PMI's Advanced Helium Porosimeter measures the direct grain volume and pore volume at isothermal conditions. Grain density and porosity are directly measured.

OPERATING PROCEDURE

PMI's Advanced Helium Porosimeter is fully automatic, provides high-speed, high-precision volume measurements and density calculations. The instrument uses Helium drawn into a reference volume, and is stabilized at around 100psi. Core samples are held in a matrix cup and isolated by valves, then helium is expanded into the sample chamber. When the pressure stabilizes, the pressure is recorded. Sample grain volume is determined using comparison to calibration disks of a known volume.



FEATURES

- PMI's Advanced Helium Porosimeter allows to determine grain volume, bulk volume and porosity of core plugs of diameter 1 inch and 1.5 inch under ambient conditions and reservoir stress conditions.
- It is a self-sufficient, computer controlled unit inclusive of matrix cup for grain volume determination, reference cell, core holder, tubing, valves, digital read out devices, transducers, gauges and regulators etc.
- Core holder permit to change the core plugs without dismantling the core holder and facilitate routine analysis of large number of samples in succession.
- Equipment be supplied along with standard calibration check plugs to calibrate the equipment at different stage of time covering the entire range.
- The instrument is computer based and capable of performing automatic data acquisition analysis, processing so as to give following parameters:
 - 1) Pore volume
 - 2) Grain volume
 - 3) Grain density
 - 4) Bulk volume
 - 5) Porosity at ambient and under reservoir conditions.
 - 6) Overburden Pressure up to 5000 psi
- System offered duly coupled with suitable PC controller consisting of operating software, application software, hard copy printer, color monitor and a laser color printer.
- All wetted parts are made of corrosion resistant material and full system is rust proof.
- **Control and data processing**

The system function and operations are controlled through a user friendly compatible computer system of latest version. The configuration of the system are including all necessary interfaces for smooth functioning of total systems. The system hardware and software with following minimum facilities:

 - **Data porting:** The system have necessary interfaces so as to exchange data and communicate with the main unit.
 - **Data acquisition & processing system:** The system have necessary hardware and software to control and analyze the acquired data so as to provide final results using Boyle's law. TFT color monitor, Intel core i7 processor or above with minimum 500 GB HDD, 4 GB RAM, High resolution graphic card and a DVD RW and a Laser color printer.
 - **Software:** Latest window base operating software as well as Licensed version.

SPECIFICATION

Porosity in % or in fraction terms : 0.0 to 40.0% (Accuracy=0.02% of true value)

Sample size : 1.0 inch and 1.5 inch diameter core plugs and length up to 3.125 inch

Gas supply : Compressed Air/ Nitrogen/ Helium will be supplied by an external source. However, devices for filtering and drying up of gases are installed with equipment being offered.

Core Holder : Hassler type of core samples of 1.0 inch and 1.5 inch diameter for grain volume/ pore volume measurement.

Confining Pressure : Up to 5000 psi with a suitable pressure transducer be provided for measuring the pressure up to 5000 psi.

Pressure Transducers :

Range : 0 to 5000 Psi or compatible to the equipment

Accuracy : 0.5% or better

Air Permeability Range : 0.001 to 10,000 mD

Confining Pressure range : Upto 5000 psi

Core Plug : Diameter 1.0 inch & 1.5 inch

Core Plug : Length Upto 3.125 inch or more

Check Plugs : Set of Permeability plugs of 1.0 inch and 1.5 inch diameter covering entire range.

Core holder for permeability to air determination : Quick release Hassler core holder to accommodate 1.0" and 1.5" diameter core samples and capable to deliver confining pressure up to 5000 psi.

Software and data acquisition system : The data acquisition and control software are user friendly customized software operating on windows OS and allow the direct measurement of Permeability & Klinkenberg permeability. Licensed version of operation software, TFT color monitor, Intel core i7 processor or above with minimum 500 GB HDD, 4 GB RAM, High resolution graphic card and a DVD RW, Laser color printer.

Digital Caliper : Least count 0.01 mm.

ESSENTIAL ACCESSORIES

Core holder: Hassler type to facilitate quick change of sample plugs. Core holder capable of withholding confining pressure of up to 5000 psi, Material is of stainless steel SS 316. Able to accommodate 1.0 inch and 1.5 inch core plugs and length up to 3.125 inch. Supplied complete and self-sufficient including plug end face with multiple flow ports, connectors, tubing, etc.

Matrix cup: Matrix cup is capable to accommodate 1" and 1.5" diameter and length up to 3.125 inch.

Rubber sleeves: Rubber sleeves suitable for 1 inch and 1.5 inch (approx. 50 each)

TECHNICAL PARAMETERS

A. Environmental Conditions:

- Terrain: To be used in laboratory
- Temperature Range: Ambient/ Room temperature(15 - 50° Celsius)
- Relative humidity: upto 90% without condensation

B. Power Supply :

220±10 V AC, 50 HZ, Single Phase

C. Duty Conditions:

Able to work for a minimum of approx. 24 hrs. continuously for the experimental jobs on determination of porosity and permeability of core samples.

SALES & SERVICE

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.



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