

THE PMI AUTOMATED STEADY STATE CORE LIQUID PERMEAMETER

ALP-500C-A-1



Not just products...solutions.

Principle

The PMI Steady State Core Liquid Permeameter is used to measure permeability of samples such as oil well cores, tight gas sandstones, and other low permeability rocks. Liquids such as brine, oil, and other fluids are used. The machine measures drop in pressure and flow rate through the sample during the test. PMI software uses Darcy's Law to compute permeability.

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 Steady State Core Liquid Permeameter is used to determine the properties of cut samples at certain confining pressure.

The PMI Automated Liquid Permeability System has been specially designed for testing core samples. Core samples are held in a Hassler type core holder which compresses the sample to the desired pressure. The test is run at ambient temperature. Non aqueous fluid such as oil, kerosene and aqueous fluid such as brine or equivalent can be used. The instrument measures the rate of a known amount of liquid to compute permeability.

The equipment is fully automated. Execution of the test, data acquisition, data storage, & data management are all carried out by PMI Software. Operator involvement is minimal, and the instrument is robust and requires a minimal amount of care.

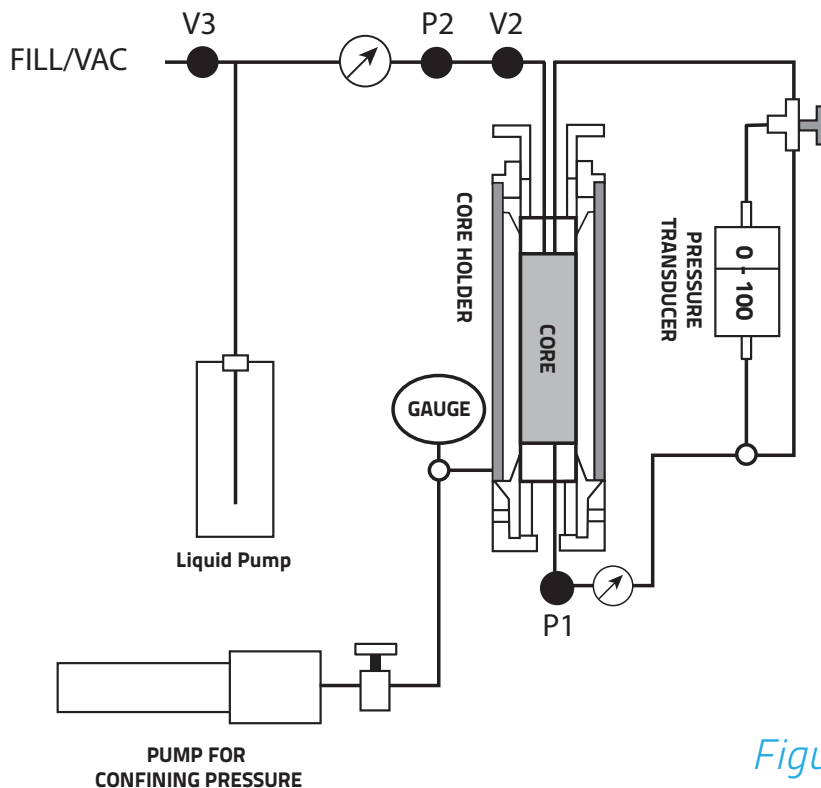
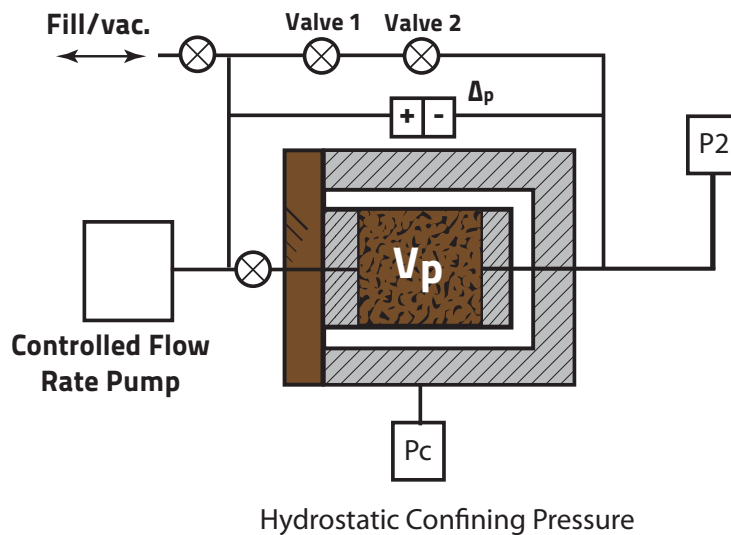


Figure 1

Outline of permeability testing setup



Application

Industries worldwide utilize PMI Permeameters like the Steady State Core Liquid Permeameter for R&D and quality control. Applicable industries include: Oil Exploration Industries, Geotechnical Department, Geophysics, Automotive, and Battery Development.

Testing Capabilities

Liquid Permeability (md) is based on the steady state Darcy method.

Features

- User-friendly, Windows-based software handles all control, measurement, data collection, and report generation; complete manual control also possible
- PC system for data acquisition consists of core I5 Intel processor, 2GB ram, 300GB HDD, 17" monitor, latest operating system and MS office
- Real-time graphical test display depicts testing status and results throughout operation
- Computer Processing and Data Storage
- Non-destructive testing
- All wetted parts made of 316 Stainless Steel for longevity in brine, water, refined oil, or dead oil

Safety Features

- Limit Switches
- Software over-pressurization lockout for pump
- Rupture Disks
- Software monitors pressure drop, temperature, and confining pressure

Accessories

- Core Holder - Hassler type Stainless construction
- Fluid Vessel - transparent with 1000cc volume capacity and 100psi max pressure at ambient temp, polycarbonate
- Burettes - set of three with electronic timer for flow rate calculation
- Pressure Regulators - 0-100psi
- Pressure Transducer - 0-100 psi with 0.25% accuracy
- Calibration / reference material
- Duplicate copies of software, wiring / electrical / technical diagrams
- MSDS and test certificates for vessels, safety instructions and manual, including two hard copies and cd digital version of manual with troubleshooting and general maintenance information

Spare Parts

- 1.5" Buna sleeves, for samples up to 3" long, set of 3
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- Core Holder to accommodate 1.5" core samples and 5 sets of 1.5" sleeves
- Set of maintenance tools

Specifications*

- Permeability Range: up to 5 Darcy
- Confining Pressure: up to 500 psi (or more)
- Liquid Flow Range: 0.01-10cc/min or wider
- Flow (pore) Pressure Range: up to 100psi
- Differential Pressure: up to 250psi or more
- Standard Core Plug Diameter: 1"
- Temperature: Ambient
- Core Plug Length: Up to 3" long
- Power Requirements: 220-240 VAC 50 Hz 1 Phase
- Weight: 110 Kg

* *Other specifications for this machine are available. Specifications are subject to change without notice.*

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