Semi-Automated Unsteady-State Gas Permeameter (Fall-Off)







SEMI-AUTO FO GAS PERMEAMETER

Description:

Compared to the steady-state technique, the unsteady-state (Fall-off) technique allows for faster permeability measurements. The determination of permeability using the unsteady-state technique requires a complicated calculation. The analysis of transient pressure data leads to the determination of the slippage factor, inertial resistivity, and absolute permeability of the core plug. Higher permeability requires a shorter measurement. The confining pressure can be applied using a hand-operated hydraulic pump. A high-speed data logging system is included in this apparatus. The developed software can show the status of the unit, as well as the actuators.

Specifications:

- ◆ Core holder diameter: 1.0 or 1.5 inches
- ◆ Core holder length: up to 4.0 inches
- ◆ Maximum pore pressure: up to 200 psi
- Confining pressure: up to 10,000 psi
- Gas type: Nitrogen or Helium
- ◆ Permeability range: 0.01 mD to 10,000 mD
- Accurate pressure measurement with 0.1% FS
- ◆ Power supply: 110-220 V/50-60 Hz, 300 W
- Core holder material: stainless steel
- Three digital pressure displays for DP, outlet pressure, and confining pressure
- → Two separate core holders
- Several reservoirs are involved for a better permeability measurement



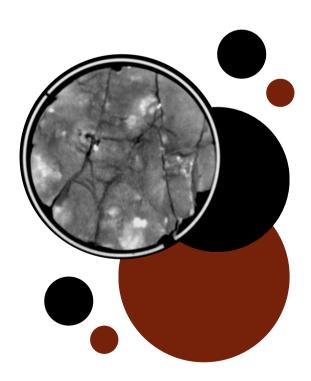
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Benefits:

- ◆ Faster permeability measurement
- Semi-automated system can help the end user run the permeability measurement easily
- ◆ Low dead volume system for more accurate measurements

Possible Upgrades:

- ◆ Core holder length and diameter can be increased to 12 inches and 4 inches, respectively
- ◆ Another gas entry can be added to the system for helium or other types of gas
- ◆ An automated confining pressure system can be added to the unit to make the apparatus fully automated



CONTACT

PERM Inc.
Bay 3, 2221 41 Avenue NE
Calgary, AB T2E 6P2
+1 (587) 794-3364
info@perminc.com

