PRODUCT DATASHEET

Pulse Decay Permeameter for Tight Rock

Nanodarcy permeability of shale and tight rock





DETAIL – CORE HOLDER AND RESERVOIRS

OVERVIEW

The Tech Inc. Pulse Decay Permeameter for Tight Rock measures very low permeability in shale, tight sandstone, cement and seals. The core sits between two gas reservoirs under confining pressure; a small pressure pulse is applied upstream and the way the pressure difference decays with time gives the permeability, far faster than steady-state flow.

MODELS AND CONFIGURATIONS

- **Standard model** – helium or nitrogen, room temperature.
- **Combined model** – pulse decay plus Boyle's law porosity.
- **High-temperature model** – heated core holder.

TYPICAL DESIGN DATA

Model	TI-PDP-600 series
Permeability	About 0.01 µD to 10 mD
Confining pressure	Up to about 700 bar (10,000 psi)
Pore pressure	Up to about 140 bar
Core size	1 and 1.5 inch diameter, 1 to 3 inches long
Gas	Helium or nitrogen

APPLICATIONS

Shale gas and tight oil reservoirs, caprock and seal integrity for CO_2 storage, nuclear waste barriers, cement and concrete.

KEY ADVANTAGES

- **Fast** – minutes to hours, not days
- **Sensitive** – differential transducer resolves tiny decays
- **Realistic** – confining stress to reservoir levels
- **Combined** – porosity on the same setup

Designed and built by Tech Inc. · **Part of the Davey Group since 1990**

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