



TinyPerm 3

TinyPerm, developed and manufactured by New England Research, is a portable handheld air permeameter used for measurement of rock matrix permeability or effective fracture apertures on outcrops and at the core scale.

The operator presses a rubber nozzle against the specimen and withdraws air from it with a single stroke of a syringe. As air is pulled from the sample, a microcontroller unit simultaneously monitors the syringe volume and the transient vacuum pulse created at the sample surface.

Measurements are automatically stored and cataloged on the NER-supplied Android™ device, communicating wirelessly with the TinyPerm permeameter. The Android device shows a plot of the time-domain pressure and volume data in real time as a measurement is taking place. New capabilities in TinyPerm allow faster measurement times at low permeabilities.

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The measurement data, along with GPS-derived latitude and longitude coordinates, serial number of the TinyPerm permeameter, date, barometric pressure, ambient temperature and humidity, and sample images, are captured in data files that are easily exported from the Android device to desktop computers for additional analyses.

For intact rock, the permeability measurement range is from 1 millidarcy to 10 darcys. Similarly, fracture apertures from approximately 10 microns to 2 millimeters can be determined.

The TinyPerm system, which includes the permeameter, Android device and software, spare nozzle, and operator's manual, comes in a rugged case for transportation and shipping.

Key Features

Innovative technology

- The TinyPerm app on the Android device permits wireless data collection; no more pen and paper in the field.
- Conversion from response function to permeability or aperture measurement is automatic.
- Samples are given unique names and can be assigned to groups.
- GPS-derived latitude and longitude, barometric pressure, ambient temperature, and humidity are recorded for each measurement.

Fast results

- Using the new “Extrapolate Data” option, TinyPerm can measure millidarcy range permeabilities in less than a minute.
- Time-domain pressure and volume data are plotted in real time, allowing the user to gauge how long the measurement will take.

Portable and all-inclusive

- The system is easily portable: the syringe measures 38cm x 12.5cm x 5cm and weighs 1.2 kg.
- TinyPerm ships with everything you need to capture accurate, spreadsheet-compatible data.

