Geocomp
CORPORATION

Technologies to manage risk for infrastructure

Fully Automated Permeability LoadTrac II / FlowTrac II

Standard Fully Automated Permeability and Triaxial System

Benefits and Features

- Choose load capacity to fit user needs from 45 and 90 kN (10,000 and 20,000 lbs.) models
- Total automation, control, data collection and reporting of test results
- Prepare tables and plots of report quality within minutes of completing a test
- Geo-NET compatibility lets unit be accessed and controlled over a computer network
- Generate columns of data for easy reduction using your own spreadsheet software
- Choose volume capacity to fit user needs from 250 and 750 cc models
- Accurate displacement rate control from 0.00003 to 15 mm per minute (0.000001 to 0.6 inches per minute)
- Accurate pressure and volume measurements with integrated sensors
- Stand alone through front keypad and LCD menu

Applicable Test Standards

- ASTM D5084 Flexible Wall Permeability
- ASTM D2434 Rigid Wall Permeability

The LoadTrac II / FlowTrac II flow pump provides a unique and versatile way to run flexible wall permeability tests on a wide variety of materials quickly and accurately. By adjusting the gradient or the flow rate across the sample, the system can measure permeabilities of cohesive soils varying from 10^{-4} to 10^{-9} cm/sec. With the appropriate test cells, this one system can determine the permeability of some silty clays within minutes.

The FlowTrac II base unit includes a stepper motor, lead screw, pressure chamber and piston, pressure transducer, electronic controls and network communications. Versions of the unit are available with flow volumes of 250 and 750 cc. Flow rates can be set to any value between 0.000006 and 3.0 cc/sec. Flexible wall tests are run in a fully automated mode with three flow pumps and one LoadTrac II; the FlowTrac II's controls cell pressure and flow of cell, bottom sample and top sample. This configuration allows great versatility to run fully automated permeability tests with isotropic, anisotropic or K_o consolidation.

With the network communications module and the appropriate software, the entire test can be automatically controlled, data captured and displayed in real time, and test reports prepared on a PC. With GeoNet-LAN option, the test can be monitored and data reported from any PC located on a LAN to which the LoadTrac II / FlowTrac II system is connected.

Control and editing software runs in Windows®.

Fully Automated Permeability
LoadTrac II / FlowTrac II

Technical Specifications	
Motor	Stepper motor with built-in controls
Travel	Built-in displacement transducer with 76 mm (3 in.) range and 0.0013 mm (0.00005 in.) resolution
Displacement	Control from 0.00003 to 15 mm per minute (0.000001 to 0.6 in. per minute)
Flow Range	0.000006 to 3 cc per second
Power	110/220 V, 50/60 Hz, 1 phase

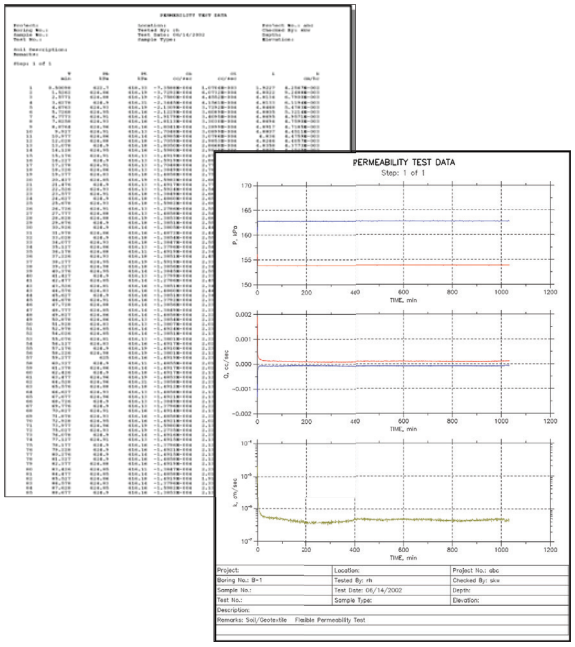
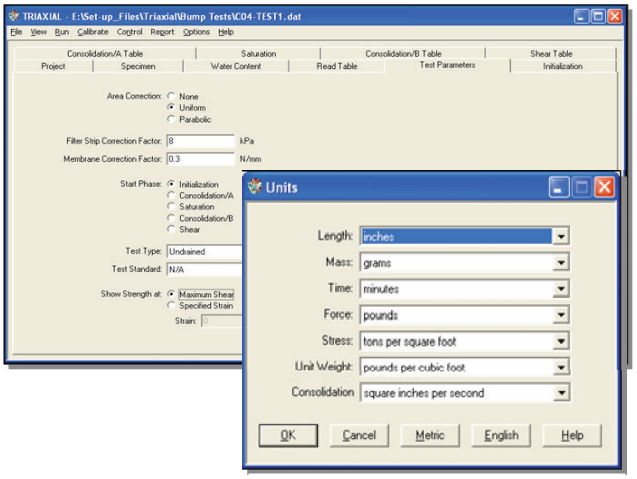
Dimensions	
LoadTrac II	464 x 546 x 1206 mm (18 x 21.5 x 47.5 inches)
FlowTrac II	203 x 406 x 470 mm (8 x 16 x 18.5 inches)

Weight	
LoadTrac II	55 kg (120 lbs.)
FlowTrac II	14 kg (30 lbs.)

Models	
FlowTrac II Models	
FTII-250-nn	250 cc capacity
FTII-750-nn	750 cc capacity
nn	Maximum pressure range for system: 1400 and 3500 kPa (200 and 500 psi) available (resolution of pressure will be 0.00005 times the range)
LoadTrac II Models	Frame capacity
LTII-10,000	45 kN (10,000 lbs.)
LTII-20,000	90 kN (20,000 lbs.)

Accessories
Triaxial / permeability cells up to 150 mm (6 in.) diameter, membranes, porous stones and sample preparation accessories upon request
Geo-NET PC network card and cable to link LoadTrac II/ FlowTrac II to PC

Typical Test Output



User-friendly Interface