

## Benefits and Features

- Choose capacity to fit user needs from 45 and 90 kN (10,000 and 20,000 lbs.) models
- Total automation of data collection and reporting of test results
- Prepare tables and plots of report quality within minutes of completing a test
- Generate columns of data for easy reduction using your own spreadsheet software
- Ability to access and control the unit over a computer network using Geo-Net option

## Applicable Test Standards

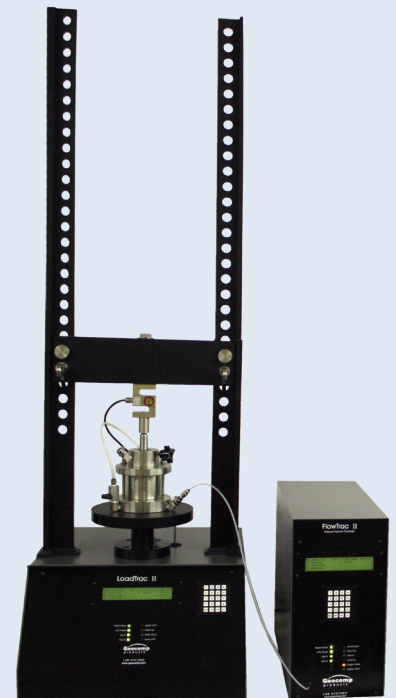
- [ASTM D4186 One-Dimensional Consolidation Properties of Soils Using Controlled-Strain Loading](#)

The LoadTrac II / FlowTrac II system fully automates the performance of a Controlled Strain Loading Consolidation (CSL) test. Once a soil sample is in place, and the test conditions selected, this system will run the entire CRCS test from start to finish. The LoadTrac II / FlowTrac II system consolidates the sample through a loading path specified by the user using constant rate of strain loading. To avoid running the test too fast (excess pore pressures become too large for the transducer) or too slow (the test takes too long), LoadTrac II / FlowTrac II uses Excess Pore Pressure Ratio Limits.

If the measured excess pore pressure divided by the current total vertical stress exceeds the Upper Pore Pressure Ratio Limit, the current strain rate is automatically decreased by a factor of 2. If the measured excess pore pressure divided by the current total vertical stress falls below the Lower Pore Pressure Ratio Limit, the current strain rate is increased by a factor of 2. These limits give the user a great deal of control over how a constant strain rate test is run.

The FlowTrac II is used during back pressure saturation as well as maintaining a constant cell pressure during the consolidation phase of the test.

A typical consolidation test can be completed in 24 to 36 hours on most materials.



# CSL Consolidation 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)

### POWER

110/220 V, 50/60 Hz, 1 phase

### DIMENSIONS

#### LoadTracII

464 x 546 x 1206 mm  
(18 x 21.5 x 47.5 inches)

#### FlowTracII

203 x 406 x 470 mm  
(8 x 16 x 18.5 inches)

### WEIGHT

#### LoadTracII

55 kg (120 lbs.)

#### FlowTracII

14 kg (30 lbs.)

### MODELS

#### LoadTracII Models: Frame Capacity

LTII-10,000: 45 kN (10,000 lbs.)

LTII-20,000: 90 kN (20,000 lbs.)

#### FlowTracII Models: Frame Capacity

FTII-250-nn: 250 cc capacity

FTII-750-nn: 750 cc capacity

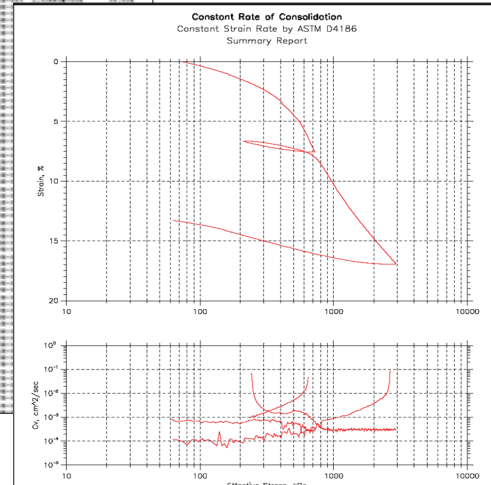
nn: Maximum pressure range for system: 700, 1000, 2000, and 3500 kPa (150, 300, and 500 psi) available (resolution of pressure will be 0.00005 times the range)

### ACCESSORIES

1230: All stainless steel consolidation cell with backpressure saturation capability, 62.5 mm (2.5 in.) sample diameter standard.

External stainless steel pressure sensor. Other sample sizes are available upon request

Time	Displacement	Pressure	Effective Stress
0	0.0000	0.0000	0.0000
1	0.0000	0.0000	0.0000
2	0.0000	0.0000	0.0000
3	0.0000	0.0000	0.0000
4	0.0000	0.0000	0.0000
5	0.0000	0.0000	0.0000
6	0.0000	0.0000	0.0000
7	0.0000	0.0000	0.0000
8	0.0000	0.0000	0.0000
9	0.0000	0.0000	0.0000
10	0.0000	0.0000	0.0000



Typical Test Output

Project: ABC Bridge	Location: MD	Project No.: ABC
Boring No.: FH-7	Tested By: rh	Checked By: skw
Sample No.: ST-10	Test Date: 00/00/0000	Depth: 22.5-24.5
Test No.: CKB8	Sample Type: Tube	Elevation: ---
Remarks: Moist, dark grayish brown clay.		
Template file with 2,500 bf load cell.		

Project	Specimen	Water Content	Read Table	Test Parameters		
Initialization	Saturation	Consolidation Table				
Final Normal Stress (kPa)	Strain Rate (%/min)	Lower Pressure Ratio	Upper Pressure Ratio	Equilibrium Pressure Ratio	Maintain Time (min)	Read Table
1 750	2.e-002	-1.	0.25	1.	0.	Time
2 750	2.e-002	5.e-002	0.25	1.e-002	1440.	Time
3 25.	-2.e-002	-1.	0.25	1.	0.	Time
4 25.	-2.e-002	5.e-002	0.25	1.e-002	1440.	Time
5 0.	0.	0.	0.	0.	0.	Time
6 0.	0.	0.	0.	0.	0.	Time
7 0.	0.	0.	0.	0.	0.	Time
8 0.	0.	0.	0.	0.	0.	Time
9 0.	0.	0.	0.	0.	0.	Time
10 0.	0.	0.	0.	0.	0.	Time

User-friendly Interface