

Cyclic Simple Shear ShearTrac III-DSS

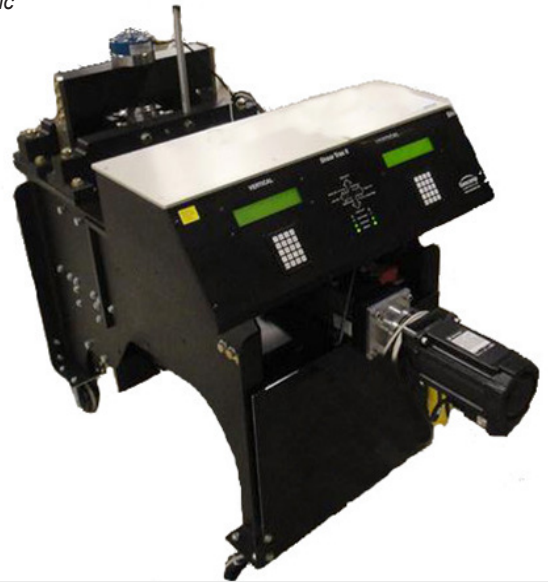
*Standard Fully-Automated Cyclic
ShearTrac III-DSS System*

Benefits and Features

- Choose load capacity to fit user needs up to 45 kN (10,000 lbs.)
- 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
- Accurate displacement rate control from 0.00003 to 15 mm per minute (0.000001 to 0.6 inches per minute)
- Select number of data points logged per cycle from 10 to 500 readings per second
- Manual control capability through front keypad and LCD menus
- Versatile system

Applicable Test Standards

- [ASTM D6528 Consolidated Undrained Direct Simple Shear Testing of Cohesive Soils](#)
- [ASTM D2435 / T216 One-Dimensional Consolidation Properties of Soils](#)



The Cyclic ShearTrac III-DSS system is a universal shear system capable of performing the consolidation, static and cyclic direct simple shear phases under full automatic control. This system is of the type developed at NGI in the mid 1960's. The DSS test generates a fairly homogeneous state of shear stress throughout the specimen, which provides initial stress condition, stress path, and deformation configuration that models numerous field loading conditions more closely than any other strength tests such as triaxial. The system consists of a computer-controlled unit that utilizes micro-stepper motors to apply the vertical and horizontal loads to the soil specimen.

The system is capable of running a consolidation phase for up to 32 increments automatically. Stress controlled cyclic can be applied up to a frequency of 1 Hz that can be followed by simple shearing at a specified rate of deformation or force. The constant volume condition is maintained through a closed loop computer control with the vertical displacement sensor as the feed back. The system is capable of displaying the current status of a test and graphically portraying the progress of the test in real time. The system includes the capability for the operator to alter the test process and conditions at any stage of the test.

The system comes complete with hardware and software for recording all test input data and settings of selected test parameters, performing standard engineering calculations on the data, and producing graphically plotted and printed output.

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Technical Specifications

Capacity	45 kN (10,000 lbs.)
Vertical Motor	Stepper motor with built-in controls for vertical load
Horizontal Motor	Stepper motor with built-in controls for horizontal load
Speed Range	0.00003 to 7.5 mm per min. (0.000001 to 0.3 in per min.)
Horizontal Travel	90 mm (3.5 in.) resolved to 0.002 mm (0.00008 in.)
Vertical Travel	90 mm (3.5 in.) resolved to 0.002 mm (0.00008 in.)
Power	110/220 V, 50/60 Hz, 1 phase

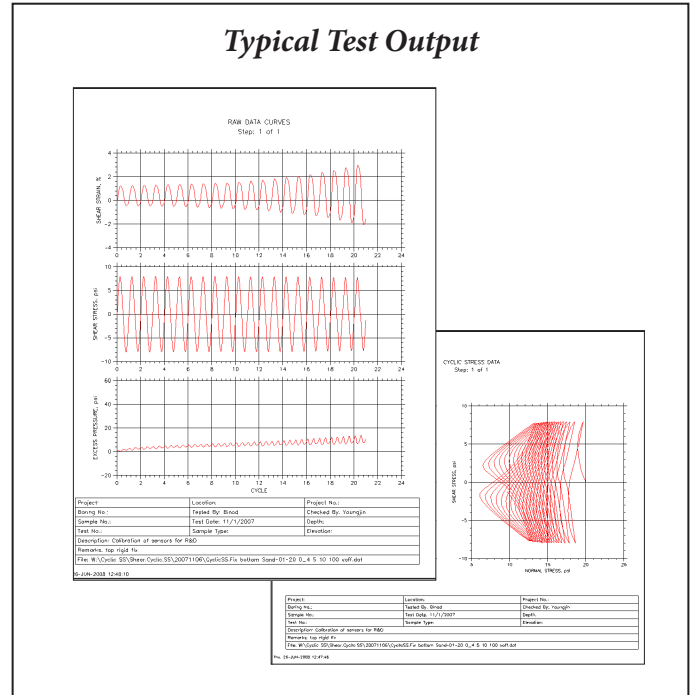
Models

Cyclic DSS-10000	45 kN (10,000 lbs.) frame capacity in both directions
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Accessories

Geo-NET™-PC	Network card and cable to link ShearTrac III to PC
SHEAR	Software package to automatically run consolidation and direct shear test on Cyclic ShearTrac III-DSS
SHEAR.REPORT	Editing / reporting software package
GRIPPING PLATES	Optional for GCL testing

Typical Test Output



User-friendly Interface

