

LARGE CYCLIC SIMPLE SHEAR SHEARTRAC III - DSS

The ShearTrac III - DSS is a universal shear system capable of performing the consolidation, static and cyclic direct simple shear phases on large (12 in/ 305 mm) diameter samples under full automatic control. 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 a micro-stepper motor to apply the vertical load and an advanced servo motor to apply the horizontal cyclic load to the soil specimen.

- **Consolidate isotropically with or without initial shear stress**
- **Run drained and undrained (constant load/volume with active or passive volume control) tests**
- **Post cyclic drained/undrained loading**
- **Unmatched automation from test start to finish - 2 to 32 times faster results and labor time savings of 30% to 95% vs. manual testing**
- **Flexible design - perform additional testing on the same platform and save money and space in your lab**
- **Full test control and remote monitoring allows you to take your testing on the go - view real-time results, check test quality, and change parameters**
- **Convenient reporting - produce complete, compliant reports instantly or export data for desired manipulation**
- **Designed for consistent and repeatable testing you can be confident in**



Standard Cyclic Simple Shear ShearTrac III - DSS

Applicable Test Standards

- ASTM D6528, D2435

LARGE CYCLIC SIMPLE SHEAR SHEARTRAC III - DSS

TECHNICAL SPECIFICATIONS

LOAD CAPACITY

22 kN (5 klbf) horizontal 45 kN (10 klbf) horizontal
45 kN (10 klbf) vertical OR 45 kN (10 klbf) vertical

VERTICAL/HORIZONTAL MOTORS

Micro-stepper and servo motor systems with built-in controls

CONTROL

- Stress (load)
- Strain (displacement)

CYCLIC RATE

Up to 10 Hz; Typical test rate up to 2 Hz

TYPE OF CYCLIC LOADING

Cyclic stress/strain controlled sinusoidal and irregular user defined waveform

VERTICAL TRAVEL

90 mm (3.5 in) resolved to 0.002 mm (0.00008 in)

HORIZONTAL TRAVEL

90 mm (3.5 in) resolved to 0.002 mm (0.00008 in)

POWER

120/208 V, 3 phase

INCLUDED

- Geo-NET network card and cable to link to PC
- CDSS software module to automatically run and report tests

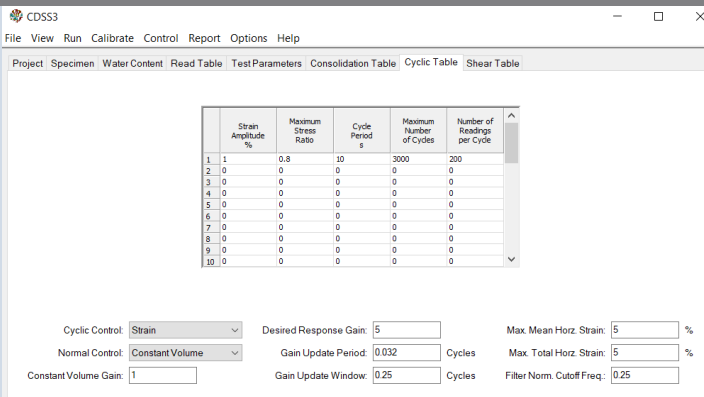
ACCESSORIES

- Gripping plates optional for GCL testing
- 12 in diameter ring set
- DSS software
- Direct Shear software & shear box

WARRANTY

- 12 month warranty; extended warranties available

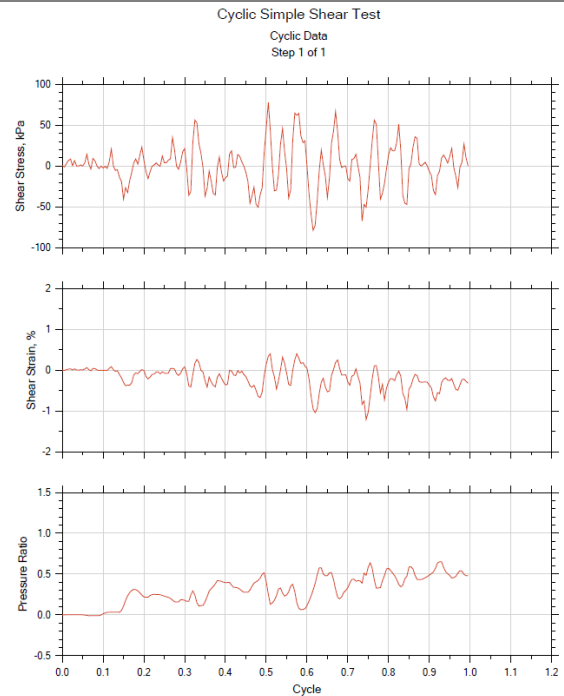
User-Friendly Interface




	Strain Amplitude %	Maximum Stress Ratio	Cycle Period s	Maximum Number of Cycles	Number of Readings per Cycle
1	1	0.8	10	3000	200
2	0	0	0	0	0
3	0	0	0	0	0
4	0	0	0	0	0
5	0	0	0	0	0
6	0	0	0	0	0
7	0	0	0	0	0
8	0	0	0	0	0
9	0	0	0	0	0
10	0	0	0	0	0

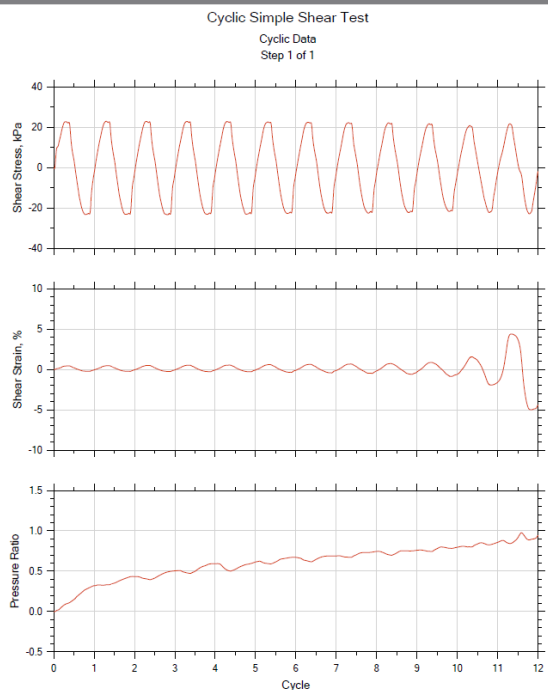
Cyclic Control: Desired Response Gain: Max. Mean Horiz. Strain: %
 Normal Control: Gain Update Period: Cycles Max. Total Horiz. Strain: %
 Constant Volume Gain: Gain Update Window: Cycles Filler Norm. Cutoff Freq:


Typical Test Output (example)



	Project Name: USA	Location:	Project Number: Seismic
	Boring Number:	Tester: bn	Checker: dl
	Sample Number:	Test Date: 01/10/2018	Depth:
	Test Number:	Preparation:	Elevation:
	Description: Cyclic Simple Shear test with ChiChi Earthquake Record - Vertical effective stress is 300 kPa		
Remarks:			

Typical Test Output (example)



	Project Name: Anytown, USA	Location:	Project Number: Seismic
	Boring Number:	Tester: sr	Checker: qa
	Sample Number:	Test Date: 03/19/2018	Depth:
	Test Number:	Preparation:	Elevation:
	Description: Cyclic Simple Shear test on poorly graded fine Ottawa sand - Vertical effective stress is 200 kPa		
Remarks:			