

Dynamic Simple & Direct Shear System

Related Standards: ASTM D6528-07, BS1377;

The VJ Tech Dynamic Simple & Direct Shear System has been designed to perform either Direct/Residual or Direct Simple Shear tests (with the additional capability of cyclic testing).

The System incorporates 2 electro-mechanical actuators for Horizontal and Vertical movement, controlled from a Dual Axis Dynamic Servo Controller (DSC2) via a PC. The sample is contained within either a Direct Shear assembly or a Simple Shear assembly (interchangeable) as required. Load and Displacement are measured with transducers on both axes through the DSC2 and cyclic controlled tests can be carried out using Sine, Square, Triangular, Haversine, Saw Tooth or User Defined waveforms.

A further option is to apply Back Pressure to the sample using an Automatic Pressure Controller, with Pore Water Pressure measurement via the DSC2. The System can be used for either:

- a Direct Shear test
- a Simple Shear test with the height of the sample kept constant using Active height control
- a Cyclic Simple Shear test with a cyclic horizontal force applied to the specimen whilst the Vertical stress on the specimen is maintained
- a Cyclic Simple Shear test with a cyclic horizontal force applied to the specimen whilst the height of the specimen is maintained
- a Cyclic Simple Shear test with a cyclic horizontal displacement applied to the specimen whilst the Vertical stress on the specimen is maintained
- a Cyclic Simple Shear test with a cyclic horizontal displacement applied to the specimen whilst the height of the specimen is maintained

Features

- Capable of Direct/Residual Shear tests using water carriage assembly supplied as standard
- Capable of normal & cyclic Simple Shear tests using the stainless steel/hard anodised assembly
- Electro-mechanical control using the DSC2 for Vertical and Horizontal loading
- Data logging via the DSC2
- Up to 10 kN Vertical and Horizontal Load
- Active Height Control
- Low friction retaining rings for specimen confinement when conducting simple shear tests
- Pore pressure measurement (optional)

Specification

Horizontal & Vertical Dynamic Actuators	0-5Hz, +/- 5 or 10kN
Horizontal Travel	Simple Shear (45mm), Direct Shear (20mm)
Vertical Travel	Simple Shear (25mm), Direct Shear (20mm)
Sample Size (Simple Shear)	70mm diameter with accessories and 12 Confining Rings
Sample Size (Direct Shear)	60, 70 & 100mm Optional Diameter/Square Sample boxes, nominal 20mm height.
Cyclic Waveforms	Sinusoidal, Square, Triangular, Haversine, Saw Tooth or User Defined
Electrical Requirement	90-240VAC, 50-60 Hz, 1ph
PC Interface	Ethernet



Ordering Information

VJT9420	Dynamic Simple and Direct Shear System
VJT2840	Dynamic Simple and Direct Shear Apparatus
VJT2845	Direct Shear Assembly
VJT2846	Simple Shear Assembly
VJT-DSC2	Dual Axis Dynamic Servo Controller
VJT2266	Automatic Pressure Controller (1000 kPa)
VJTS0362	S-Beam Load Cell (10 kN) with cable & plug
VJT0271	25 mm LSCT Displacement Transducer with cable & plug
VJT0272	50 mm LSCT Displacement Transducer with cable & plug
VJT-csDYNADSS	Clisp Studio Dynamic Simple Shear Software
VJT-csSHEAR	Clisp Studio Direct/Residual Shear Software
VJT-csSimpleShear	Clisp Studio Simple Shear Software

Clisp Studio – csDYNADSS & csSHEAR Software

- Easy Test configuration using the built in wizard
- Transducer Configuration and Calibration
- Live views, graphs and tabulated data of logged & calculated data
- User defined views, graphs & tables
- Easy data export to commercial spreadsheets
- Data logging and storage in an SQL database
- Configurable Test automation
- Live Test status and notification
- Entire test script export & import
- Standard predefined presentation reports

Clisp Studio – csDYNADSS specific

- Conforms to ASTM D6528 standard
- Active Height Control
- Direct Simple Shear Tests (Static/Dynamic)
- Optional Pore Pressure measurement

Clisp Studio – csSHEAR specific

- Conforms to BS1377 standard
- Direct/Residual Shear Tests
- Multi specimen tests