Automatic Triaxial Testing System

Applicable Standards: BS1377-7 & 8, ASTM D2166/D2166M-13, D2850-03A & D4767-11, AS1289.6.4.1 & 2 and GEOSPEC 3

The VJ Tech Automatic Triaxial Testing System is capable of providing fully automatic total and effective Triaxial testing including Quick Undrained, Consolidated Drained (CD), Consolidated Undrained (CU), Unconsolidated Undrained (UU) and Stress Path tests.

The basic system incorporates an Advanced TriSCAN Load Frame with inbuilt data logging, a Triaxial Cell, Automatic Pressure Controllers for Cell and Back pressure, all necessary Transducers and an Automatic Solenoid Valve to control the Back Pressure valve so that no operator intervention is necessary. There are multiple variations in the configuration of this basic system according to your requirements.

The purpose built mobile support stands accomodate all the required instruments and equipment and a Pressure Panel can be attached if required.

The user friendly Clisp Studio software provides all the necessary test configuration, control, data acquisition and results export. The software can also control multiple testing stations automatically and simultaneously control up to three other sample saturations and consolidations on each if required

System Variants (Product Nos. on Request)

Load Frame Capacity	10, 50 or 100 kN
APC Pressure	1000, 1700 or 3000 kPa
Triaxial Cell Size	50, 75, 100 or 150 mm
Sample Sizes	35, 38, 50, 70, 100 or 150 mm
Load Cell Capacity	2.5, 5, 10, 20, 50, 100 or 200 kN
Disp. Transducers	10, 25 or 50 mm
Distribution Panels	2, 4, 6 or 8-way

Enhancements/Upgrades

- **Dynamic Testing**
- **On-sample transducers**
- **Bender Element testing**
- **Unsaturated soil testing**
- **Triaxial Permeability testing**

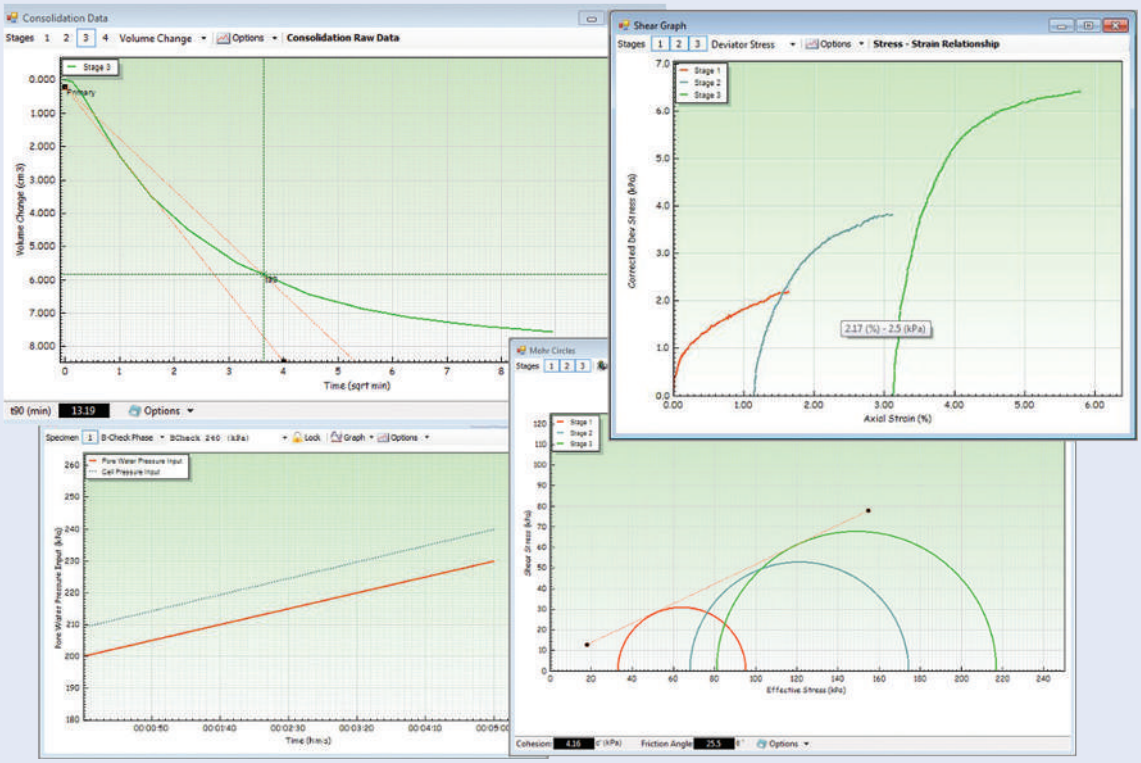
VJT9000 - Automated Triaxial Testing System

Ordering Information (for System illustrated)

VJT9000	**Automated Triaxial System Setup**
VJT5000	TriSCAN 50 kN Advanced Load Frame
VJT2260	Automatic Pressure Controller (3000 kPa)
VJT0475	Triaxial Cell (75 mm)
VJT0271	LSCT Displacement Transducer (25 mm)
VJTS0365	50 kN S-Beam Load Cell with cable & plug
VJT0250	10 bar Pressure transducer with cable & plug
VJT0280	De-airing block with valve for pressure transducer
VJT0280-SOL	Automatic Solenoid Valve
VJT-USB-RS232	USB-Dual RS232 Converter Interface
VJT2260-T	Table for APCs & Distribution Panel
VJT5000-T	Triaxial Frame Table
VJT0540-DP	APC Water Distribution Panel (4-way)
VJT-csTRIAX	Clisp Studio Triaxial Software

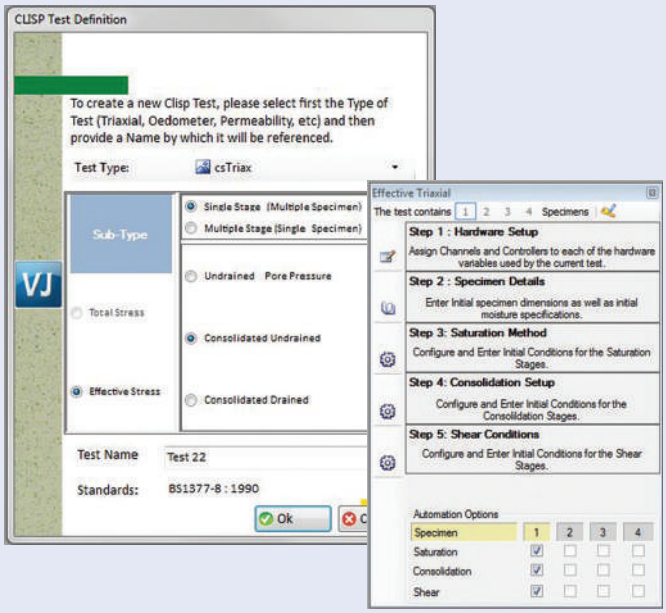
Clisp Studio csTriax - Triaxial Testing Software

VJ Tech's csTriax module is widely regarded as the most user friendly and comprehensive Geotechnical software package for Triaxial testing currently in use. It has been developed to make it easy for the User to set-up, control and monitor all forms of standard Triaxial Testing in soil testing laboratories and collate and output the results in industry standard or User defined format.



Standards

- BS1377-7 (1990)
- BS1377-8 (1990)
- ASTM D2166/D2166M- 13
- ASTM D2850-03A (2007)
- ASTM D4767-11
- AS1289.6.4.1 & 2;
- AS1289.6.4.1 & 2;
- GEOSPEC 3



Ordering Information

VJT-csTRIAX	Clisp Studio Triaxial Software

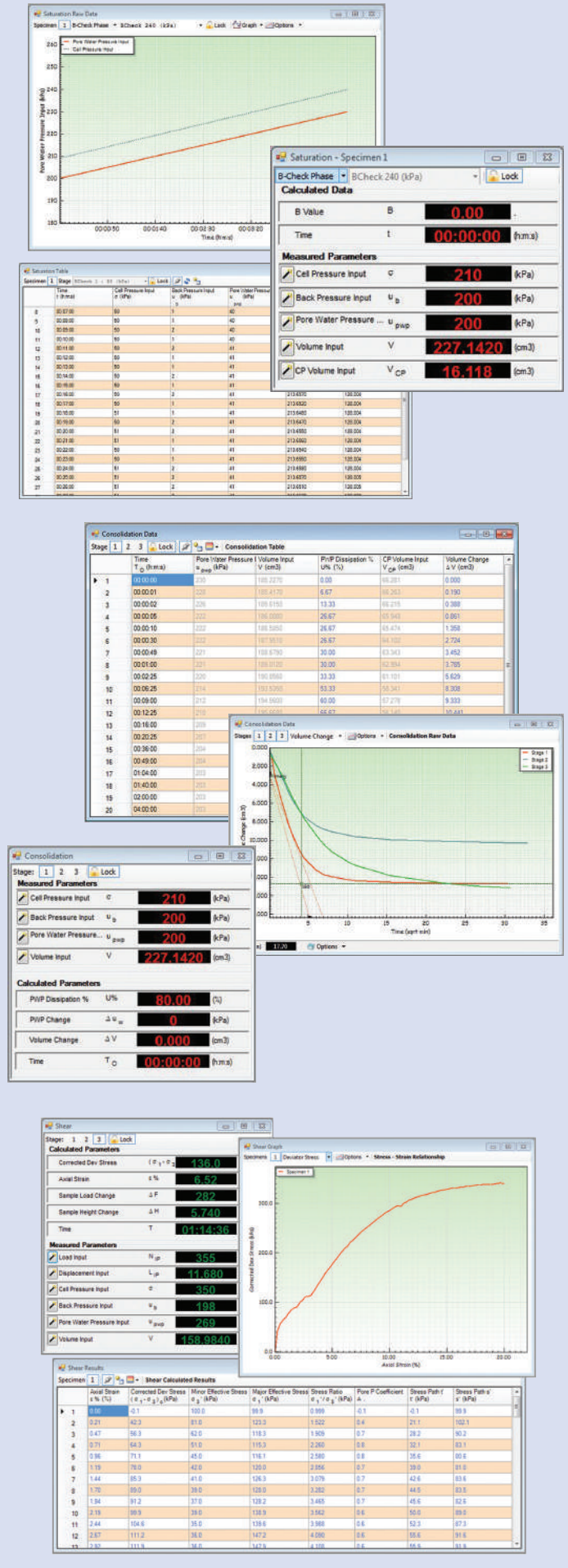
Clisp Studio csTriax comes with the easiest test creation and setup of any Geotechnical software package available today. You have complete control of Triaxial Testing for Saturation, Consolidation and Shearing. Every aspect of each stage can be configured to perform a standards based test or a custom test specific to your exact needs & you are able to monitor the status and condition of the Triaxial test as it proceeds.

When setting up the Test, the options presented to you are dependent on the standard that has been selected. This is also applicable to the other stages that have to be set up. The test can be run automatically by using an automatic solenoid valve to control the Back Pressure Valve so that **NO** operator intervention is necessary.

Live Views, Graphs and Tables show test progress while summary windows give Instrument, test and sample status at a glance. As well as the completed Live Data View, Graphs and Table, csTriax gives you a number of reports covering the Saturation, Consolidation and Shear stages.

Features

- Each multi-stage test can handle up to 4 separate stages for a single specimen
- Up to 4 specimens can be handled within a multi-specimen test
- Any number or combination of multi-stage or multi-specimen tests can be run at any one time
- Selectable stage automation of specimens to enable simultaneous saturations while one test runs to completion
- Tests can be set up and run on an individual client, job, borehole and sample basis
- Easy test setup using wizard style Assistant
- Easy instrument and equipment setup and calibration
- Step or Ramp method Saturation
- Isotropic Consolidation & Optional Anisotropic Consolidation
- Shearing to failure in compression using maximum deviator stress or maximum stress ratio
- User configurable data logging
- E-mail test status
- Live view of sensor readings and status
- Live Data Views, Graphs and Tables
- User configurable views, graphs and tables
- On screen measurement of t100, cohesion & angle of friction values
- Standard predefined presentation reports
- Results Data export to Excel for external manipulation
- Export of entire Test script to allow Test to be sent to another user and rerun if required in future

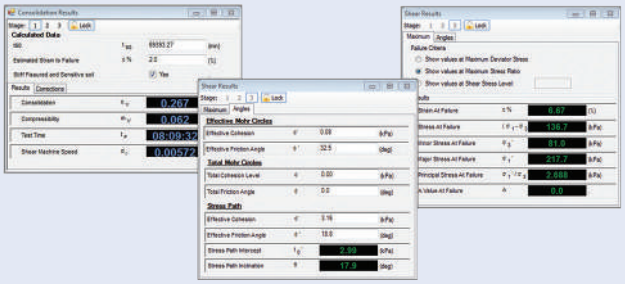


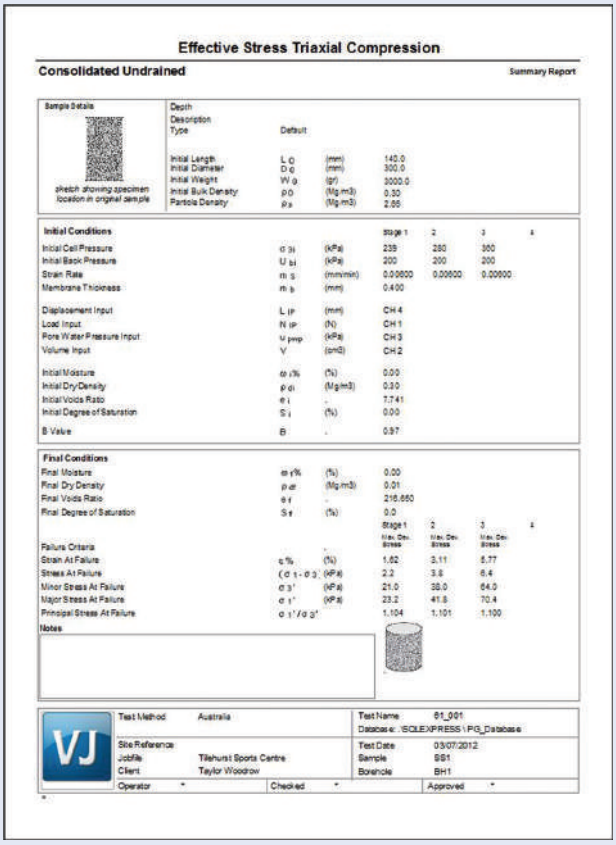
VJ Tech

Results & Reports

When you purchase Clisp Studio csTriax we provide a wide variety of Industry Standard reports (in the relevant language) for the different Triaxial Stages that would be of interest to a geotechnical engineer or end User covering the Saturation, Consolidation and Shear stages of your Test.

Clisp Studio has the ability to export the entire Test to either MS Excel for further data manipulation or exported to a script file which can be imported when creating a new Test if desired. This enables Tests from the current or older versions of Clisp Studio to be cloned or even rerun if required.





Standard results tables:

- Shear Results Data View (Strain at Failure Stress at Failure, Minor Stress at Failure, Major Stress at Failure, Principal Stress at Failure, A value at Failure)
- Shear Results Table (Axial Strain, Corrected Deviator Stress, Minor Effective Stress, Major Effective Stress, Stress Ratio, Stress Path t', Stress Path s')

Standard predefined presentation reports:

- Summary Report
- Saturation: B-Value vs Cell Pressure
- Saturation: B-Value vs Pore Pressure
- Consolidation: Volume Change
- Consolidation: Pore Pressure
- Shear: Stress vs Strain
- Shear: Mohr Circles
- Shear: Stress Path

The following table summarises the numerous combinations of Triaxial test types that are covered together with the applicable International Geotechnical Standards.

Applicable Standard	Test Sub-Type	Single Stage / Multiple Specimen	Mulitple Stage / Single Specimen	Undrained Pore	Consolidated Undrained Pressure	Consolidated Drained	Unconfined Compression
BS1377-7	Total Stress	Y	Y				Y
BS1377-8	Effective Stress	Y	Y	Y	Y	Y	
ASTM D2850-03A	Total Stress	Y					
ASTM D4767-11	Effective Stress	Y	Y		Y		
ASTM D2166 /D2166M-13	Total Stress						Y
AS1289.6.4.1	Total Stress		Y				
AS1289.6.4.2	Effective Stress		Y	Y	Y		
GEOSPEC 3	Effective Stress	Y	Y	Y	Y	Y	