Pro Automatic Triaxial Testing System

Related Standards *

British	BS1377-7 & 8 (1990), BS EN ISO 17892-7, 8 and 9
American	ASTM D1883-07, D2166 (-13 & -16), D2850 (-03A & 15), D4767 (-95 & -11), D7181-20
Australian	AS1289.6.4.1, 1289.6.4.2
Hong Kong	GEOSPEC 3

* *Please refer to csTriax Datasheet for details*

The VJ Tech Pro Automatic Triaxial Testing System is capable of providing fully automatic total and effective Triaxial testing including Consolidated Drained (CD), Consolidated Undrained (CU), Unconsolidated Undrained (UU) and Stress Path tests for sample sizes up to 100 mm. The Pro Dual Automatic Pressure Controller is used to control and measure both Cell and Back Pressure and Volume.

The Pro TriSCAN 50 kN (11240 lbf) Frame can be connected via Ethernet or USB or to a PC running our renowned Clisp Studio software, which provides all the necessary test configuration, control, data acquisition and results export. The software can also control multiple testing stations automatically, with each station simultaneously controlling up to three other sample saturations and consolidations.

Our csTriaxial Advanced software adds extra flexibility, enabling you to carry out complex combinations of schedules. Additionally, Slow Cyclic Testing can be carried out.

System Features

- USB or Ethernet Interface for PC control
- Integrated 7" Touchscreen Colour Display for Standalone use without PC Control if required
- On-board data logging with large data storage
- Data export to PC for manipulation within Excel
- High Speed ARM Processor
- High Speed sensor conversion (24 bit, up to 4000 samples/sec)
- Up to 6 input channels (1 x digital & 5 x analogue)
- Built-in live data table and graphs
- Built-in Auto engaging function with definable engage value
- Built-in auto protection for sensor limits

Advanced Feature

- Capable of Slow Cyclic Testing up to 0.1 Hz *(Subject to Amplitude)*

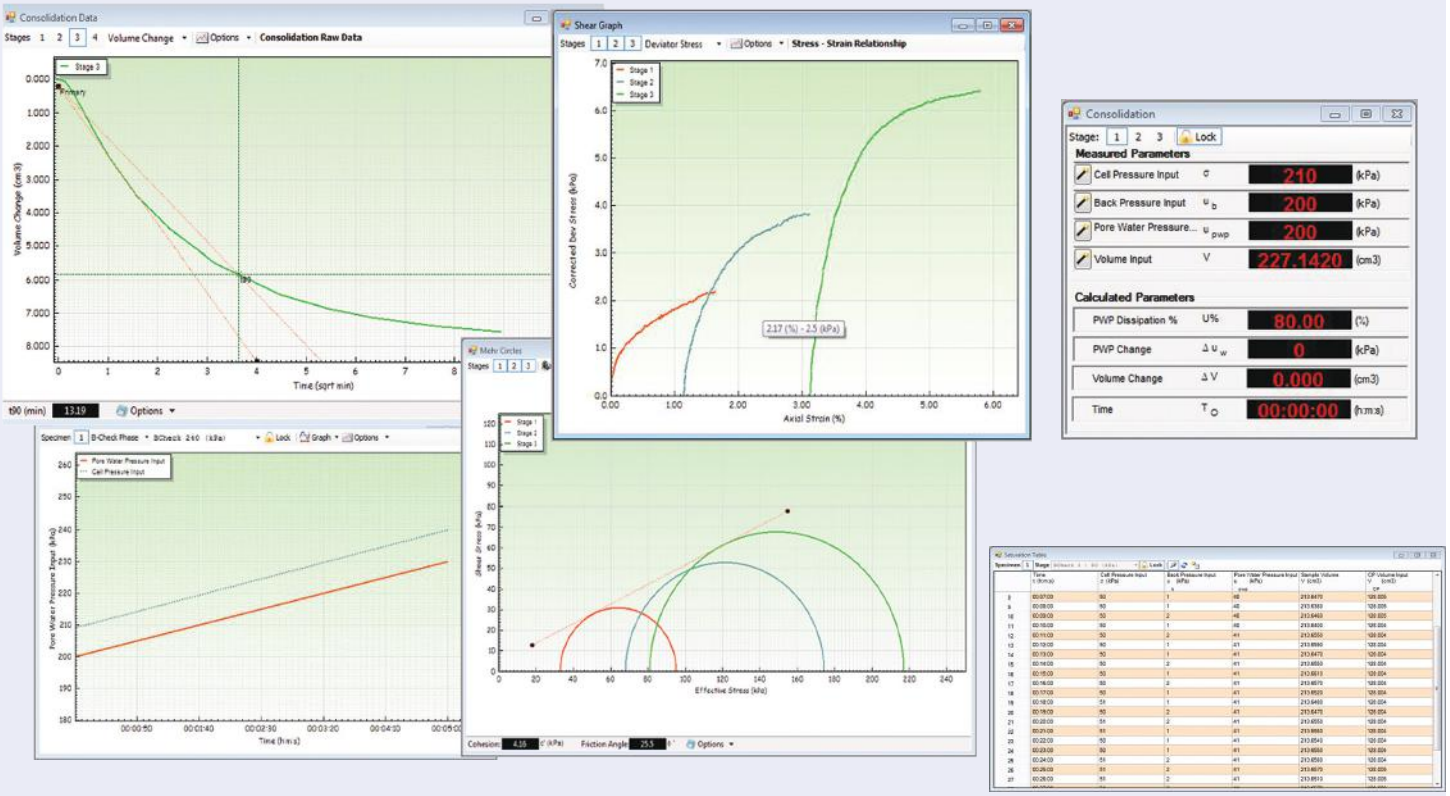
Pro Automatc Triaxial Testing System

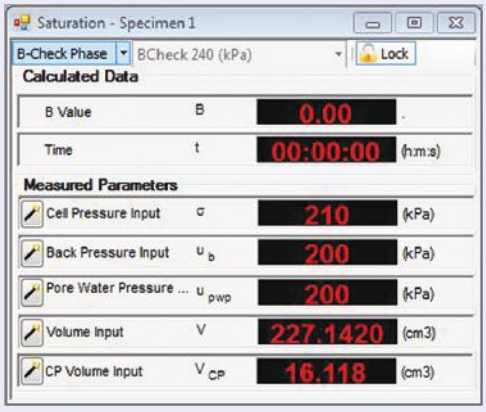
Ordering Information

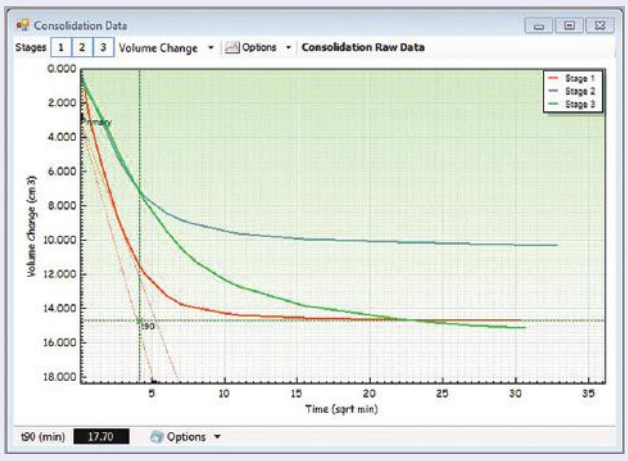
Main System Components	
VJT5000-P	TriSCAN Pro 50 kN Advanced Load Frame (10, 100 & 250 kN Frames also available)
VJT2267D-P	Dual Automatic Pressure Controller (3500 kPa per Channel)
VJT0475	Triaxial Cell (75 mm) (50, 100 & 150 mm Cells also available)
Transducers	
VJT0271	LSCT Displacement Transducer (25 mm) (10 & 50 mm Transducers also available)
VJTS0365	50 kN S-Beam Load Cell with cable & plug (5, 10, 20 & 100 kN also available)
VJT0250-G	10 bar Pressure transducer with cable & plug (20 & 30 bar also available)
Accessories	
VJT0280	De-airing block with valve for pressure transducer
VJT0280-SOL	Automatic Solenoid Valve
VJT2571-T	Framed Table for Shear/Triaxial Testing
VJT0520-DP	APC Water Distribution Panel (2-way)
Software	
VJT-csTRIAX	Clisp Studio Triaxial Software
VJT-csTRIAXADV	Clisp Studio Triaxial Advanced 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.







Configurable Features

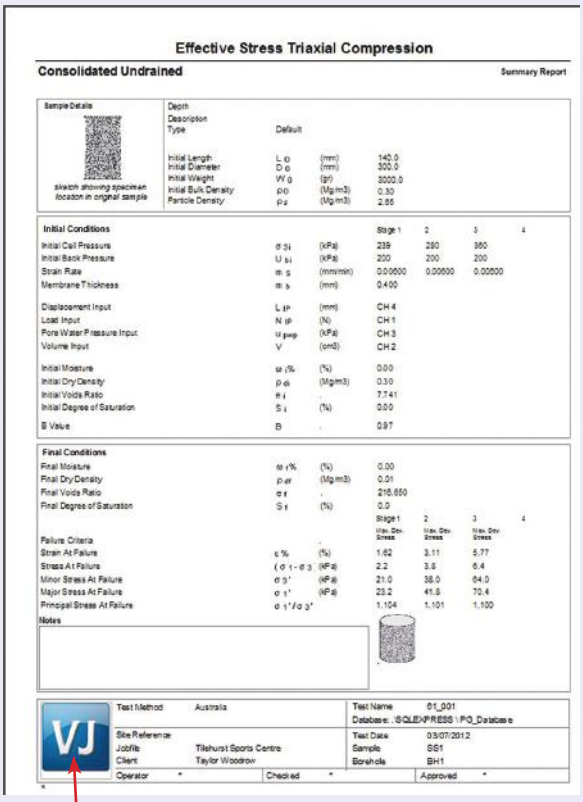
- Each multi-stage test can handle up to 4 separate stages for a single specimen
- Up to 4 specimens can be handled within a multi-specimen test
- Any number or combination of multi-stage or multi-specimen tests can be run at any one time
- Easy test setup using wizard style Assistant
- Easy instrument 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
- Live view of sensor readings and status
- Live Data Views, Graphs and Tables
- User configurable views, graphs and tables
- Standard predefined presentation reports
- Results Data export to Excel for external manipulation
- Export of entire Test script

Clisp Studio csTriax provideS 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 to export the entire Test to a script file, which can then be imported on another PC 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 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. Fixed top caps are required for Extension tests.

Applicable Standard	Test Sub-Type	Unconfined Compression	Unconsolidated Undrained	Undrained with PwP	Consolidated Undrained	Consolidated Drained
BS1377-7	Total Stress	Y	Y [2, 3]			
BS1377-8	Effective Stress			Y [2, 3, 4]	Y [2, 3, 4]	Y [2, 3, 4]
BS EN ISO 17892-7	Total Stress	Y				
BS EN ISO 17892-8	Total Stress		Y [2, 4]			
BS EN ISO 17892-9	Effective Stress				Y [1, 2, 4]	Y [1, 2, 4]
ASTM D2166	Total Stress	Y				
ASTM D2850-03A	Total Stress		Y [2]			
ASTM D2850-15	Total Stress		Y [2, 4]			
ASTM D4767-95	Effective Stress				Y [2, 3, 4]	
ASTM D4767-11	Effective Stress				1,, 2, 4	
ASTM D7181-20	Effective Stress					Y [1, 2, 4]
AS 1289.6.4.1 : 1998	Total Stress		Y [3]			
AS 1289.6.4.1 : 2016	Total Stress		Y [2, 4]			
AS 1289.6.4.2 : 1998	Effective Stress				Y [2, 3, 4]	
AS 1289.6.4.2 : 2016	Effective Stress				Y [2, 4]	
T171 Modified Texas Triaxial Compression	Total Stress		Y [2, 5]			
GEOSPEC 3	Effective Stress			Y [2, 3, 4]	Y	Y [2, 3, 4]

1 - Anisotropic and Ko consolidation is allowed - Requires a submersible load cell.
2 - Single stage/Multispecimen tests are supported
3 - Multistage/Single specimen tests are supported
4 - Temperature-controlled tests are supported - additional hardware is required
5 - Does not support the TriSCAN 10 load frame

VJ Tech