

# ACONS Pro Motorised Automatic Constant Rate of Strain System

## Related Standards

American ASTM D4186-12

- Multi-Purpose Frame with stepper motor (either 15 kN or 50 kN) to generate Force
- Multi-Purpose Consolidation Cell either 70 mm or 100 mm (to accommodate LVDT sensors) for sample diameters up to 100 mm and height ratio of 0.4
- Sample kits available for various sample sizes
- Fixed Loading Cap (on Load Cell) instead of Domed (on Cell), for low stress testing (as there is no pre-consolidation)
- LSCT for Displacement measurement
- Internal Submersible Load Cell for Load measurement
- Automatic Pressure Controller for Back Pressure control
- Pore Water Pressure measured with a Pressure transducer.
- Frame can also be used with the same Cell for SD-SWCC and Consolidation tests with our interchangeable cell kits (see separate datasheets).

## Features

- Ethernet or USB connection to PC
- Integrated 7" Touchscreen Colour Display for Standalone use without PC Control if required
- On-board data logging (16GB standard) able to store thousands of Tests, each with thousands of data points
- Data export to PC for manipulation within Excel
- High Speed ARM Processor
- Includes Load cell (which is removed when a CRS cell with an ISLC is used (recommended))
- High Speed sensor conversion (24 bit, up to 5000 samples/sec)
- Up to 4 input channels (1 x digital & 2 x analogue on ACONS Pro & 1 analogue on Pro APC) (note: Digital channel is Read only, not for Closed Loop Control)
- Input socket for an Automatic Solenoid Valve on Pro APC
- Built-in live data table and graphs
- Built-in Auto engage function
- Built-in auto protection for sensor limits

## Specifications

Maximum Frame Capacity	15 kN or 50 kN
Resolution	0.1N
Accuracy	0.15% FRO
Adjustable Displacement Rate	0 - 10.0000 mm/min
Connectivity	Ethernet or USB Interface
Power Supply	DC Adaptor (Output 24V DC, Input 90-240V, 50/60Hz, 1ph.)

Frame Capacities Available:  
15kN & 50kN



ACONS Pro 15 kN Motorised Automatic CRS System

## Ordering Information

### ACONS Pro Frames (Please select one)

- VJT0650M2-P** ACONS Pro Motorised Automatic Multi-Purpose Frame (15 kN)
- VJT0650M2-PHL** ACONS Pro (High Capacity) Motorised Automatic Multi-Purpose Frame (50 kN)

### Multi-Purpose Cells & Kits

- VJT0651-H** Multi-Purpose Consolidation Cell for up to 70 mm Samples
- VJT0651-H-100** Multi Purpose Consolidation Cell for up to 100 mm (accommodates LVDT sensors)

We currently supply the following diameter CRS Kits - 50 mm, 63.5 mm, 70 mm and 100 mm (other sizes on request)

### Automatic Pressure Controller

- VJT2266-P** Pro 1 MPa Automatic Pressure Controller
- VJT2267D-P** Pro 3.5 MPa Automatic Pressure Controller

### Internal Submersible Load Cell

- VJT0353B/MPC** 25 kN Internal Submersible Load Cell with 25 mm diameter Ram

### Displacement Transducer & Bracket (or internal sensor)

- VJT0271** LSCT Displacement Transducer, 25 mm X 0.001 mm with 2 metre cable & Plug

- VJT0281C** Transducer bracket for LSCT Transducer

LVDT Internal Sensors available on request

### Pressure Transducer

- VJT0250-G** 10 bar Pressure Transducer (other capacities available)

- VJT0280** De-Airing block with valve for pressure transducer

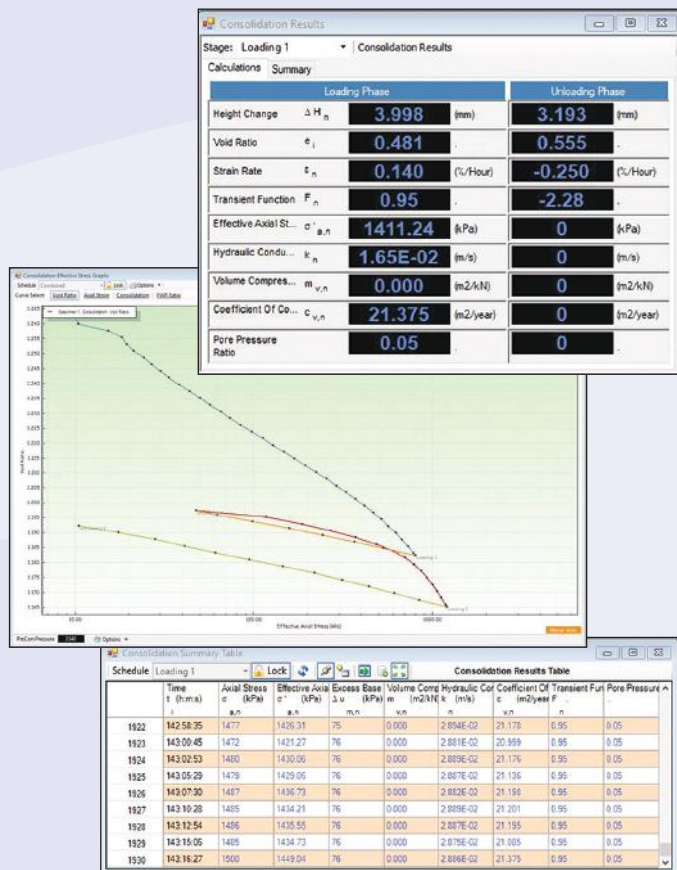
### Clisp Studio Software Required

- VJT-csCRS** Clisp Studio CRS Software

# VJT-csCRS: Clisp Studio Constant Rate of Strain Software

The VJ Tech Clisp Studio CRS (Constant Rate of Strain) Software module enables the User to perform one-dimensional consolidation tests using controlled strain loading. The software conforms to ASTM D4186-12.

- User defined Saturation cycles (ramp and check)
- User defined Consolidation cycles (Loading, Holding and Unloading phases)
- Easy instrument and equipment setup and calibration
- Easy test setup using wizard style Assistant
- Automated Test Control
- User configurable data logging
- Live view of sensor readings, status and calculated data
- Live graphical and tabular display of logged and calculated data
- Data export to Excel and test script export & import
- User configurable views, graphs and tables
- Customised presentation reports on request



# Multi-Purpose Consolidation Cell

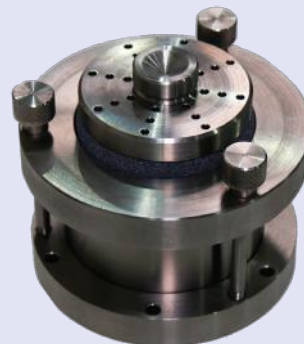
VJ Tech's Multi-Purpose Consolidation Cells are precision made specifically for soil testing laboratories & can be used for samples up to 100 mm. They are capable of withstanding confining pressures up to 2000 kPa & are made with hard anodised aluminium top & base plates to minimise corrosion.

As well as Constant Rate of Strain (CRS) tests they can also perform Stress Dependent Soil Water characteristic Curve (SD-SWCC) and Oedometer tests using separate Cell Kits (see relevant datasheets).

The fixed Loading Cap is attached to the Internal Load Cell for use in low stress CRS testing.



VJT0651-H - Multi-Purpose Consolidation Cell (fitted with CRS Cell Kit)



MPCC CRS Kit (70 mm) with Domed Loading Cap



MPCC CRS Kit (70 mm) with Fixed Loading Cap