Tri-Scan The Automated Triaxial Testing System

The TRI-SCAN system is a state of the art Triaxial machine specifically designed for the soils testing laboratories for conducting CU/CD Triaxial, unconfined, CBR and Marshall tests. There are two models available for customer choice.

**VJT5000 - THE ADVANCED VERSION**

This is the most advanced Triaxial testing machine currently available to the soils testing laboratories.

The microprocessor based TRI-SCAN 50 system incorporates a large graphics display and a touch sensitive 20 key membrane key pad for data entry. The built-in four channel stand alone data logger allows data acquisition from load, strain, pore pressure and volume transducers.

The data acquisition can be automated by setting trigger conditions for start, stop logging and tests can be terminated automatically at pre-set channel or test conditions.

**VJT5010 - THE STANDARD VERSION**

The standard TRI-SCAN system is a low cost simpler version. It is the same as the VJT5000 but without any data logging.

The TriScan 50 has the following salient features:
- Speed range of 0 - 10.00000 mm/min
- Platen adjustment speed of up to 99.99 mm/min
- RS232 interface for computer control
- Membrane keypad and graphics display.
**TRIAXIAL COMPRESSION SYSTEMS**

**System Features:**
- Microprocessor based design
- Stepper motor control
- Large 240x128 pixels graphics LCD display with backlight
- 20 key touch membrane keypad
- Fast rapid approach speed up to 99.9999 mm/min
- Variable speed of 0 - 10.00000 mm/min

**Advanced Machine Features:**
- Four channel built-in standalone data acquisition (expandable to 8 channel)
- Eight channel version can provide logging for one of the following set up:
  1. Triaxial system with up to 3 cells
  2. Triaxial system with one cell, one oedometer and one shear box
- Automatic data collection at preset time intervals

**Main features include:**
- Automatic test start and stop at preset conditions (Strain, Maximum deviator stress etc)
- Live on-screen data plot and tabulation
- Complies with BS1377:1990

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th></th>
<th>TS50</th>
<th>TS100</th>
<th>TS250</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed Range (mm/min)</td>
<td>0 - 10.00000</td>
<td>0 - 10.00000</td>
<td></td>
</tr>
<tr>
<td>Vertical Clearance (cm)</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Horizontal Clearance (cm)</td>
<td>38</td>
<td>51.1</td>
<td></td>
</tr>
<tr>
<td>Platen Diameter (cm)</td>
<td>15.8</td>
<td>15.8</td>
<td></td>
</tr>
<tr>
<td>Platen Adjustment (mm/min)</td>
<td>0 - 99.99999</td>
<td>0 - 99.99999</td>
<td></td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>110</td>
<td>340</td>
<td></td>
</tr>
<tr>
<td>Dimensions (H x W x D) cm</td>
<td>151 x 48 x 43</td>
<td>151 x 48.2 x 44.5</td>
<td></td>
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</tbody>
</table>

**PART NUMBER**

- (advanced) VJT5000
- Standard VJT5010
- Advanced VJT5100
- Advanced VJT5125

**AUTOMATIC PRESSURE CONTROLLER**

**Main features include:**
- Microprocessor based design with 16 bit A/D converter
- Password protected transducer calibration via keypad
- Supplied with pressure transducer
- Non-volatile storage of calibration
- Pressure control to set pressure
- Ramping of pressure to set level, selectable rate in kPa/Hr
- Large graphics LCD display
- Stepper motor controlled pressure regulation
- Can be daisy chained for computer control
- Digital output of display readings

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th></th>
<th>DUAL APC</th>
<th>HYDRAULIC APC</th>
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<tbody>
<tr>
<td>Pressure medium</td>
<td>Compressed Air</td>
<td>De-aired Water</td>
</tr>
<tr>
<td>Number of pressure outlets</td>
<td>Two</td>
<td>One</td>
</tr>
<tr>
<td>Built-in volume measurement</td>
<td>No</td>
<td>Yes (optional)</td>
</tr>
<tr>
<td>Maximum output pressure (kPa)</td>
<td>1000</td>
<td>2000</td>
</tr>
<tr>
<td>Maximum Volume (mL)</td>
<td>N/A</td>
<td>150</td>
</tr>
<tr>
<td>Volume Resolution (mL)</td>
<td>N/A</td>
<td>0.1</td>
</tr>
<tr>
<td>Pressure Resolution (kPa)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>Dimensions (H x W x D) cm</td>
<td>15 x 20 x 42</td>
<td>15 x 20 x 66</td>
</tr>
</tbody>
</table>

**PART NUMBER**

- VJT2270
- VJT2260 / VJT2265 (with Volume)

**REMOTE DISPLAY SYSTEM AND REMOTE BEACON SYSTEM**

**Main features of RDS include:**
- Large 0.8” high LED display
- Can be mounted on a wall or Triaxial machine strain rod
- RS232 interface for computer control
- Multiple RDS can be daisy chained to control from one computer serial port
- Can be configured and controlled from WinCLISP Software

**Main features of RBS include:**
- Ideal for remote test monitoring
- Audible and visual alarm
- Can be daisy chained

**PART NUMBER**

- RDS VJT1010
- RBS VJT1111

**WinCLISP - Windows™ Based Software**

**Main features for WinCLISP include:**
- Multiple job file support
- Quick undrained test (UU single / multi stage)
- Effective triaxial test (CU single / multi stage)
- Permeability test
- Oedometer test
- Direct shear test
- On-screen cursor measurements
- Live graphs and data table on all consolidation and stress/strain plots
- Complies with BS1377:1990

**PART NUMBERS**

- VJT-WinTRX Triaxial Module
- VJT-WinODO Oedometer Module
- VJT-WinSHR Shear Box Module
- VJT-WinCLISP All of above
- VJT-WinPERM Permeability Module
VJ Tech’s Triaxial Automation System can now provide total control of UU and CU/CD Triaxial testing

System Components:
- MPX 3000 - Data Logger*
- WinCLISP - Windows based Triaxial automation software
- APC - Automatic Pressure Controller for cell and Back Pressure+
- TriScan 50 - 50kN Triaxial compression machine
- RDS - Four channel remote display system with large LED display
- RBS - Remote beacon system for audible and visible alarm

Automatic Pressure Controller
The Automatic Pressure Controller (APC) is designed as a stand alone device which can provide accurate control of air pressure for use in soil testing laboratories. The use of APC with an air-water cylinder can provide pressurised water for soil testing. The APC is extremely easy to use as a stand alone device in standard Triaxial testing and in advanced tests such as Stress Path it can be controlled from a computer for complete automation. Our Dual channel APC (VJT 2270) can provide two independent output for Cell and Back pressure control.

Remote Display System
The Remote Display System (RDS) is designed to provide local displays of up to four channels. The RDS may be used with any one of VJ Tech instruments such as MPX 3000 data logger, MiniScanner data logger or TriScan50 advanced triaxial machine. The RDS may be configured and controlled from our WinCLISP automation software so that any four channels from our MPX 3000 data logger may be selected for local display.

WinCLISP - software for soils laboratories
WinCLISP is a windows based program specifically designed to work with VJ Tech data loggers such as AT2000, MPX 2000, MPX 3000 and the MiniScanner.

The WinCLISP is a data processing software for live monitoring, control and display of tests such as Triaxial (total and effective tests), Oedometer, Shear box (direct shear) and permeability etc, to BS1377:1990 standards.

* Required if Tri-Scan standard machine used
+ Pneumatic or Hydraulic APC
TOTAL TRIAXIAL TESTING
EFFECTIVE TRIAXIAL TESTING
STRESS PATH TESTING
DYNAMIC TESTING