

Product Name :
Electronic Three Gang Bench Type Consolidometer Front Loading

Product Code :
TEST5010RFQLAB-0004



Description :

Electronic Three Gang Bench Type Consolidometer Front Loading

Technical Specification :

Except that the data is displayed and acquired in the digital electronic system. Unit. It comprises of :
Loading Unit capacity 20kg/cm² – 3No.

Consolidation cell 60mm x 20mm height – 3No.

Displacement sensors ±10 mm x 0.001mm – 3No.

Digital display unit – 1No.

Set of Weights (Stress – up to 10kg/cm²) – 3 Set

Electronic Data Acquisition System For The Consolidation Test Equipment

Electronics units have a micro processor controlled digital display. In case of single channel only one channel is displayed and for multiple channels readings in direct engineering units are displayed as programmed through keyboard. Time recording is on vt basis where as consolidation is measured directly in mm.

Electronic Touch Panel Display Unit

The Three-channel micro controller based signal conditioning and touch panel display unit is attached to the Single/ Three-Gang Bench Type Consolidation Test Equipment. The deformation is measured by LVDT's and is directly indicated in its respective engineering unit. The system receives the output signal from the displacement sensors attached to the three-gang bench type consolidation test equipment. The data of all three channels from three-gang bench type consolidation test equipment can be viewed and transferred to computer through RS-232/ Ethernet on square root time basis and can be online monitored also. Also, data for a completed single channel

can be retrieved from data acquisition system while other channels are still working.

The Unit also provides the facility of online monitoring of data of single/ three channels on Touch panel based display.

Touch panel is provided to perform various operations such as TARE, PROGRAMMING, START, STOP etc.

Broadly the following facilities are incorporated in the system:-

Independent Displacement channel for each consolidation equipment.

Independent digital display for each channel.

Data storing on vt basis.

Automatic data saving on stop button.

Online date and time of test will be stored along with the data.

On line (while the test is in progress) data transfer to the computer which will be stored in the computer with a particular file name.

Data can be down loaded to the computer after the test, which will be stored even after the power is off.

Sensors Specification:-

Linear Variable Differential Transformer (LVDT) Type:-

Stroke : $\pm 10\text{mm}$

Resolution : 0.001mm

Software Specification

The software is windows based and user friendly. It has following features:-

Data Acquisition from Signal Conditioning Unit to Computer

Off-Line Data Analysis Software that does all the calculations of Consolidation Test.

Calculates Dry Density, Initial Void Ratio and moisture Content of specimen.

Display the following Plots (Graphical)

Sq. Root Time vs Deformation Readings and gives the value of t_{90}

Void Ratio vs Effective Stress and also gives the values in the tabular form

Calculates CC, a_v , m_v , CV, CS values for all stress increments.

Also gives the Past Consolidation Pressure for the soil.



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