

**Product Name :**  
Digital Consolidation Test Apparatus

**Product Code :**  
CHINAELABC2690122



**Description :**

Consolidation - Digital Consolidation Test Apparatus

**Technical Specification :**

Automatic Digital oedometer/consolidation testing system and consolidation testing equipment conforming to IS 2720 Pt (XV)n& BS 1377, is suitable to conduct incremental consolidation test and swell tests through standalone touch screen graphic display and embedded data acquisition system or computer software. It is totally automatic system where loading and unloading is controlled and maintained by rotation of micro stepper motor or pneumatic actuator eliminating hanging of dead weight arrangement used in conventional consolidation apparatus. The system is operated and follows the user defined stress pattern/ increments given by the user for loading and unloading pattern without further intervention by operator and is maintained on feed back basis by signal received from the load cell.

Unit comprises of :

Loading Frame – 20kN capacity – 1 No.

Consolidation cell 60mm x 20mm ht – 1 No.

Dedicated Computer – 1 No.

Displacement Sensor  $\pm 10 \times 0.001\text{mm}$  – 1 No.

Load cell capacity 20kN – 1 No.

Control Software is the integral part of the system for precise controlling & Data Acquisition and reporting of test results.

Salient Features

Programmable Stress levels for automatic incremental consolidation test and swell tests with excess pore water pressure measurement

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Programmable Sample Parameter and data saving interval  
Independent Taring of each channel  
Facility to Load and Unload the specimen  
Facility for Inching and release for adjustment of the gap  
On-line display of readings of Load, Normal stress, Deformation, Time etc.  
Real time Plots of  $v_t$  vs. Deformation curves or Pore pressure for current stress level as well as for all stress level  
Auto adjustment of graph scales  
Facility to save the data after the test

#### Analysis Software

Data Analysis Software that does all the calculations of Consolidation and Swell tests  
Analysis module 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  $t_{50}/t_{90}$  for various pressure increments  
Void Ratio vs Effective Stress ( $e \log p$  curve) and also gives the values in the tabular form  
Stress vs Strain curve for various pressure increments  
Calculates  $CC$ ,  $a_v$ ,  $m_v$ ,  $CV$ ,  $CS$  and co-efficient of permeability ( $k$ ) for various pressure increments.  
Calculate  $CC$  and  $CS$  for given soil samples from  $e$ -log  $p$  curve  
Calculate pre consolidation pressure from  $e$ -log  $p$  curve  
Calculate field compression index  
Dedicated Computer with Controlling and Data Acquisition Card.



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