



EIE INSTRUMENTS PVT. LTD.
(An ISO 9001:2015 Certified Company)

DIGITAL TRIAXIAL SHEAR TEST APPARATUS- FOR 100 MM DIA SPECIMEN - FOR CD, UU, CU WITH SOFTWARE



Tri-axial Testing Machine with Data Acquisition System Comprising of the following :-

Digital Load Frame

It is an Advanced version of mechanical load frames. In this load frame rate of strain is controlled through combination of electronic and servo motor. The unit operates on 220 Volts 50 Hz single Phase supply

Specification :

1. Capacity of the load frame - 50 kN
2. Vertical Clearance - 325 mm
3. Horizontal Clearance - 325 mm
4. Platen Diameter - 150 mm
5. Platen speed - 0.0001-9.9999 mm/min
6. Weight - 110 kg App.

Universal Triaxial Cell

Pressure Range - 1000 Kpa Suitable for performing triaxial tests on soil specimen of varying diameter from 38 mm to 100 mm with lateral pressure up to 10.5 kg/cm². The cell has four take off positions and is fitted with three no volume change valves. Supplied Complete with one set of following accessories for each of 38 mm, 50 mm, 75 mm and 100 mm Dia. specimens.

Pneumatic Control Panel, 2 lines

The unit have precision pressure regulators for controlling confining pressure, back pressure Capacity : 10.5 kg/sq cm. with mechanical volume change gauge

AIR COMPRESSORS, 10kg/sq.cm.

It is a single stage compressor fitted over an air receiver, ON/OFF switch, Pressure gauge & pressure outlet valve are provided as standard. Suitable for operation on 220 volt 50 Hz, single phase supply.

Electronic Data Acquisition

The four Channel micro controller base signal conditioning & touch panel display unit is suitable to measure Axial Load, pore /back pressure, vertical displacement & volume change (optional) directly indicated in their respective engineering units during Triaxial testing. The system receives the output signal from the sensor i.e Load cell, pore/back pressure sensor attached to the Triaxial Shear Test apparatus. The data of all four channels of Triaxial shear test can be transferred to computer through Ethernet & can be online monitored. The unit also provides the facility of online monitoring of data of all the sensor on Touch Panel Display provided at the front. Broadly the following facilities are incorporated in the system:

1. Touch Panel is provided to perform various operations such as TARE, PROGRAMMING, START, STOP etc
2. Independent Taring of each channel -Data transfer interval is programmable (between 10 second to 1 hour)
3. Automatic data saving on stop bottom there are 25 set result having maximum of 200 data points per set can be stored in the electronic unit. The sample number can be programmed.
4. Online data & time of test will be stored along with the data.
5. Online (while the test is in progress) data transfer to the computer through Ethernet port.
6. Note - The Electronic unit operates on 220V AC+ 10%, 50Hz

Sensor Specification :

1. Load Cell
2. Capacity : 1000 kg
3. Type : S -Shaped
4. Excitation Voltage : 10VDC
5. Nominal output : 3.0m V/V
6. Non-Linearity : 1000 M Ohms
7. Safe Over Load : 150% of rate capacity
8. Ultimate Over load : 250% of rated capacity
9. Temp. Range : 0° to 60° cc
10. Temp. Effect on output : <1.0015% FSO/Degree CC
11. Temp. Effect on zero : <1.0020% FSC/Degree

Pressure Transducer

1. Capacity : 2000 Kpa
2. Excitation Voltage : 12 VDC
3. Nominal Output : 4-20mA
4. Over Pressure Limit : 2 times F.S
5. Burst Pressure : 3 times F.S
6. Max. Loop Resistance : 100M Ohms at 50VDC
7. Isolation Voltage : 250VAC
8. Supply Current : 20mA for 4-20mA output
9. Operating Temp. Range : -40°c to 50°c

LINEAR VARIABLE DIFFERENTIAL TRANSFORMER (LVDT)

1. Stroke : = +- 20mm

2. Linearity Deviation =1% of rated capacity
3. Repeatability : +/- 0.1% of rated capacity
4. Hysteresis : +/-0.5% of rated capacity
5. Excitation :2- volt rms 2 KHz sinusoidal
6. Sensitivity : 1m V/V/mm
7. Safe Temperature Range: 0° -50° cc
8. Core Fixture : Spring Loaded Plunger

Optional accessories shall be procured at extra cost (Refer to the Recommended Accessories Section)

1. De-airing system with vacuum pump: **Price On Request**
2. Automatic Volume change gauge: **Price On Request**
3. Three Cell Saturation Device, wall mounted.: **Price On Request**

Note

Additional accessories Viz. Universal Triaxial Cell to test up to 100 mm size soil sample, Split Molds, Three Part split Molds, Sample extractor etc. can be quoted on request. It is essential to use the Instrument with Servo Voltage Stabilizer. Warranty void in case of Non Compliance.

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