

Product Name :
Digital Triaxial Shear Test Apparatus

Product Code :
NLAB-TESTINGLABM109058



Description :

Digital Triaxial Shear Test Apparatus

Technical Specification :

Digital Triaxial is totally automated stress path system for soils and conforms to the test requirements of All the modules namely load frame, confining pressure, back pressure, pore pressure or volume change are totally controlled by the dedicated computer. Once the specimen is assembled in the triaxial cell, required parameters like strain rate, confining pressure and back pressure are programmed through the computer. Controlling and data acquisition is supported by window based software. It can perform tests under the following conditions:

1. Shear in UC, UU, CU, CU & CD
2. Stress path triaxial test
3. K0 consolidation and swelling test (optional) Detailed

specifications of the individual modules are given as under:

1. Load Frame

It is a two-pillar type load frame that can accommodate triaxial cell up to 100mm dia specimen. Rate of strain is precisely controlled through micro stepper motor of fractional horsepower operating at 220volts, 50 Hz single phase supply (other voltages optional).

i) Capacity of the load frame : 50 kN

ii) Rate of strain: 0.00001 - 9.9999 mm/min

iii) Travel : 100 mm Limit switches and L.E.D are incorporated in the hardware to arrest the travel limits and also to indicate the direction of movement (up/down).

2. Triaxial Cells

Selection could be made from wide range of triaxial cells, they are light weight cells. Transfer bar (loading ram) passes through linear bearing making it almost friction free. Base has four no-volume change valves one each for back pressure/pore pressure, confining pressure and top drainage.

Specimen size : 38/50mm diameter

Accessories: As standard the following accessories are supplied along with the

Triaxial Cell: -Sheath Stretcher, Porous Stones, Plain Discs, Top drainage Cap, Rubber membranes (Pack of 10) and 'O'-Rings.

(Universal Triaxial cells)

Confining Pressure : 1700 kPa

Specimen size:

38 mm dia x 76 mm high

50 mm dia x 100 mm high

75 mm dia x 150 mm high

100 mm dia x 200 mm high

Standard accessories include, Sheath Stretchers, Rubber membranes (Pack of 10), 'O'- Rings, Porous stones, plain discs and top caps.

3. Pressure Controller For Confining Pressure

A micro stepper motor runs pressure controller and the controlling is done through computer. Sensitivity of controlling is within +10 kPa. Volume displacement in one filling is approximately 300 c.c. Sensing of pressure is through sensitive pressure sensor.

Pressure range : 1700 kPa

Volume capacity : 300 cc

Controlling accuracy : +10 kPa

4. Pressure Controller For Back Pressure with volume change

Pressure range : 1700 kPa

Volume : 300 cc

Sensitivity : +10 kPa

Volume change

Measurement : 300*0.01cc

5. Sensors

Force Sensor Load cell capacity: 10kN

Pressure Sensor Range : 2000 kPa

Displacement Sensor Range : + 20mm

6. Computer

Pentium IV - 3.0Ghz or higher 512MB RAM, 80 GB HDD, CD writer,
Standard Keyboard , Scroll Mouse, Color Monitor, Deskjet/ Laser
Printer (if required)

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