



●● HS28.685

DIGITAL TRIAXIAL SHEAR TEST APPARATUS

HEICO DigiTriax is totally automated stress-path system for soils and conforms to the test requirements of IS-2720 (Part-XII) and BS-1377. 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, \overline{CU} & CD
- 2 Stress path triaxial test

- 3 K_0 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).

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|---------------------------------|-------------------------|
| 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





●● **MODEL - HS 28.05**

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.

HS 28.30 (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.

●● **MODEL: HS. 28.6118**

Pressure range :	1700 kPa
Volume capacity :	300 cc
Controlling accuracy :	± 10 kPa

4. Pressure Controller For Back Pressure

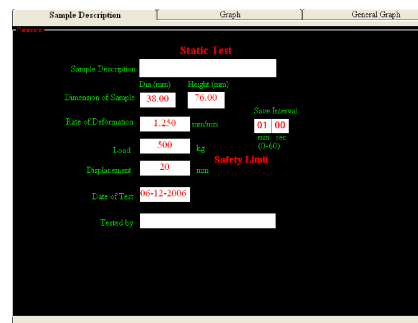
MODEL: HS. 28.6118B WITH VOLUME CHANGE .

Pressure range :	1700 kPa
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Volume :	300 cc
Sensitivity :	± 10 kPa
Volume change Measurement	300*0.01cc

5. Sensors

- 1 HS30.530 Force Sensor**
Load cell capacity : 10kN
- 2 HS25.10 Pressure Sensor**
Range : 2000 kPa
- 3 HS29.555 Displacement Sensor**
Range: ± 20 mm



6. Computer

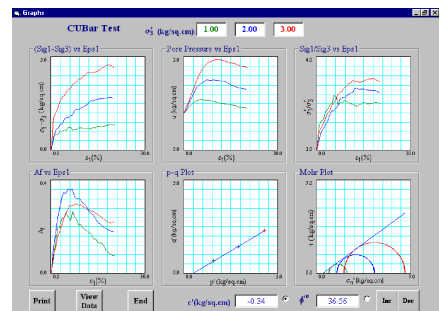
Pentium IV - 3.0Ghz or higher 512MB RAM, 80 GB HDD, CD writer, Standard Keyboard, Scroll Mouse, Color Monitor, Deskjet/ Laser Printer (if required) Note : Up graded system will be supplied.

(1) Software For Triaxial Test (All Electronic Models)

- 1** Does all calculations of UC, UU, CU, $\bar{C}U$ & CD triaxial tests
- 2** Has option for manual as well as automatic recording of data
- 3** Displays the following plots (Graphical)
 - a** Plots consolidation curve & evaluates t_{100} and calculates strain rate depending Upon the drainage condition in CD

& CU

- b** Stress - strain curves after every test
- c** Plots pore water pressure and A - factor (for CU) and volumetric strain (for CD) vs. axia Effective stress ratio vs. axial strain
- d** p-q plot
- e** Mohr stress circles & envelope giving C & ϕ in terms of effective stress.

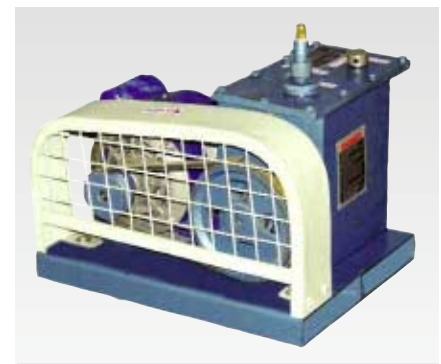


8. Optional Accessories.

- 1** Lateral extensometer (submersible type). It is a ring type extensometer which exerts a bare nominal pressure on the specimen. Extension/contraction is measured by submersible L.V.D.T and the parameter is directly displayed on the monitor in engineering units.*

*Note: - This attachment can only be used with HS28.30 and HS28.35

- 2** Dearing Chamber : Cap15 liters with Vacuum Pump



HL102.55