

## MULTIPLEX TESTING MACHINE

Multiplex Testing Machine is used to make Uniaxial, CBR, Marshall and Triaxial Tests.

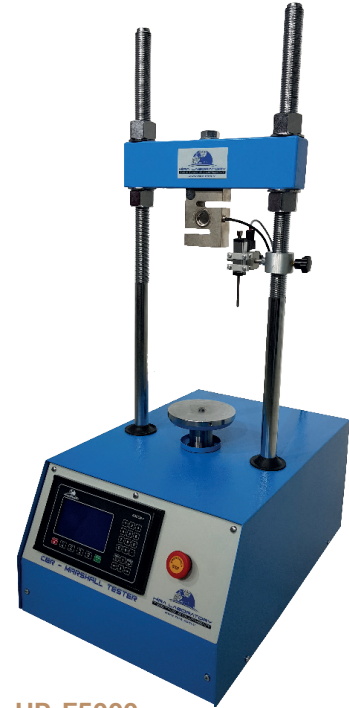
The device is composed of a robust and compact two column frame with adjustable upper cross beam driven by an electromechanical ram with a maximum capacity of 50 kN.

The testing speed can be set between 0,001 mm/min to 51mm/min. The test automatically stops when load and displacement is reached to 95% value of the set measuring range.

The Multiplex Testing Machine features a microprocessor controlled drive system with an advanced servo motor enabling the operator to easily set any test speed via the membrane keyboard. The keyboard comprises adjustment buttons such as "start", "stop", "down", "up".

The HR-E5000 Servo Controlled Multiplex Testing Machine is supplied complete with 50 kN Load Cell, 25 mm Displacement Sensor and Digital Readout and Control Unit.

The other Test Accessories should be ordered separately according to the test. 5 kN Load Cell for Triaxial Tests, Compression Platens with ball seating assembly for Unaxial Tests, Penetration Piston for CBR Tests and Breaking Head for Marshall Tests should be ordered separately.



**HR-E5000**

### Technical Specifications:

Product Code	HR-E5000
Product Name	Multiplex Testing Machine
Test Speed	0,001 - 51 mm/min.
Capacity (kN)	50
Dimensions (cm)	50x50x135
Weight (kg)	120
Power Supply	220 V, 50-60 Hz, 1 ph

### Spare Parts & Accessories:

Product Code	Product Name
HR-E5000/1	Multiplex Testing Frame
HR-G0981	Load Cell, 50 kN capacity
HR-G0995	Displacement Sensor, 25 x 0,01 mm
HR-E9000	Digital Readout and Control Unit

## TRIAXIAL TEST SYSTEMS

STANDARDS: ASTM D2850, D4767, D7181, AASHTO T-297, BS 1377-7, BS 1377-8

Determining the mechanical properties of soils is a very important step to design foundations, embankments and other soil structures.

Building constructions, excavations, tunneling and similar applications have several effects on the subsoil structures and these effects are successfully simulated with Triaxial Tests where the stress-strain relation of undisturbed soil specimen are investigated by subjecting the soil sample to different stress levels and drainage conditions.

The Triaxial Test System provides Automated Triaxial Compression Tests on cylindrical undisturbed and remolded soil samples. Unconsolidated Undrained (UU) Compression Tests can be automatically run, controlled and reported using this apparatus.

5 kN Load Cell should be ordered separately for Triaxial Tests.

## UNCONSOLIDATED UNDRAINED (UU) TEST

The System is Supplied with Multiplex Testing Machine, Load cell, 5 kN capacity, Triaxial Cell for Ø38 and Ø50 mm samples or Triaxial Cell for Ø70 and Ø100 mm samples (Choose the suitable cell for the specimen size), Analog Manometer, Air and Water Constant Pressure System, Software to Perform UU Triaxial Tests and De-Airing Water Tank and Hose.

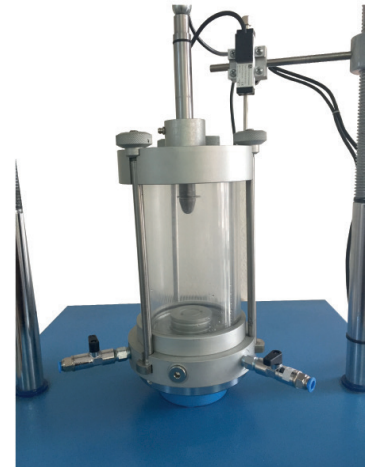
Digital Manometer is optional and should be ordered separately instead of Analog Manometer.

## TRIAxIAL CELLS

The cell has been designed and treated to minimize corrosion. Particular attention has been paid to the quality of finish between the piston and the head. The piston load capacity is designed to accept high axial loads which may be present during the final stages of a test.

### Spare Parts & Accessories:

Product Code	Product Name
HR-G0980	Load Cell, 5 kN capacity
HR-E4100	Triaxial Cell for Ø 38 and Ø 50 mm samples
HR-E4300	Triaxial Cell for Ø 70 and Ø 100 mm samples
HR-G9010	Analog Manometer
HR-G9015	Digital Manometer (Optional)
HR-E4000/1	Air and Water Constant Pressure System
HR-E4000/2	Software to Perform UU Triaxial Tests
HR-E4000/3	De-Airing Water Tank, 7 lt
HR-E4000/4	Plastic Hose, Ø 8 mm x 6 m



**HR-E4100**

### Technical Specifications for Triaxial Cells

Product Code	Product Name	Dimensions (cm)	Weight (kg)
HR-E4100	Triaxial Cell for Ø 38 and Ø 50 mm samples	16x16x40	4.5
HR-E4300	Triaxial Cell for Ø 70 and Ø 100 mm samples	21x21x55	12

### Triaxial Cell Accessories

Product Name	Product Code			
Sample Diameter (mm)	38	50	70	100
Base Adaptor	HR-E4130	HR-E4330	HR-E4430	HR-E4530
Porous Top Cap	HR-E4131	HR-E4331	HR-E4431	HR-E4531
Nylon Tubing for Drainage	HR-E4132	HR-E4332	HR-E4432	HR-E4532
Pair of Porous Discs	HR-E4133	HR-E4333	HR-E4423	HR-E4533
Rubber Membrane	HR-E4134	HR-E4334	HR-E4434	HR-E4534
Membrane Placing Tool (Strecher)	HR-E4135	HR-E4335	HR-E4435	HR-E4535
O Ring (Pack of 10)	HR-E4136	HR-E4336	HR-E4436	HR-E4536
O Ring Placing Tool	HR-E4137	HR-E4337	HR-E4437	HR-E4537
Lateral Filter Paper (Pack of 50)	HR-E4138	HR-E4338	HR-E4438	HR-E4538
Filter Paper Discs (Pack of 100)	HR-E4139	HR-E4339	HR-E4439	HR-E4539
Plastic Discs (Pack of 2)	HR-E4140	HR-E4340	HR-E4440	HR-E4540

### Sample Preparation Accessories

Product Name	Product Code			
Sample Diameter (mm)	38	50	70	100
Split Sand Former	HR-E4125	HR-E4325	HR-E4425	HR-E4525
Split Mould	HR-E4126	HR-E4326	HR-E4426	HR-E4526
Cutter	HR-E4127	HR-E4327	HR-E4427	HR-E4527
Aluminum Dolly	HR-E4128	HR-E4328	HR-E4428	HR-E4528

### Spare Parts & Accessories:

Product Code	Product Name	Dimensions (cm)	Weight (kg)	Power Supply
HR-G9010	Analog Manometer	---	---	---
HR-G9015	Digital Manometer	---	---	---
HR-E4000/1	Air and Water Constant Pressure Unit	30x25x25	7.5	220-240V, 50-60Hz, 1ph

## UNIAXIAL TEST SYSTEMS

STANDARDS: ASTM D2166, AASHTO T208

Compression Platens, used to perform uniaxial and unconfined compression tests.

Supplied complete with ball seating assembly.

### Spare Parts & Accessories:

Product Code	Product Name
HR-S1010	Compression Platens with ball seating assembly

## MARSHALL TEST SYSTEMS

STANDARDS: EN 12697-34, 12697-23, 12697-12, 13108, ASTM D1559, AASHTO T245

Should be used with Breaking Head Stability Mould for 4" (101,6 mm) or 6" (152,4 mm) Marshall Samples and Adaptor for Breaking Head to perform Marshall Tests.

### Spare Parts & Accessories:

Product Code	Product Name
HR-AS5000/1	Breaking Head Stability Mould for 4" (101,6 mm) Marshall Samples
HR-AS5000/2	Breaking Head Stability Mould for 6" (152,4 mm) Marshall Samples

## CBR TEST SYSTEMS

STANDARDS: EN 13286-47, BS 1377:4, ASTM D1883, AASHTO T193, NF P94-078, UNI CNR 10009

Should be used with CBR Penetration Piston to perform CBR Tests.

### Spare Parts & Accessories:

Product Code	Product Name
HR-S5000/1	CBR Penetration piston, used to perform CBR Tests

HR-E5000/1  
HR-G0981  
HR-G0995  
HR-AS5000/1



HR-E5000/1  
HR-G0981  
HR-G0995  
HR-S5000/1  
HR-S5100

