



Key Features

- User-friendly and easy operation
- Accurate measurement principles
- Simultaneous operation of up to 8 instruments
- Upgradable or dynamic multistep operation with advanced sensor-based experiment control
- Graphical instrument overview and data zoom functions
- Software-controlled measurement protocols

User Groups

- Laboratories
- Research institutes
- Educational institutes
- Universities

The apparatus was developed in cooperation with Christian Albrecht's University Kiel in Germany, a leading institution in soil compaction research. Read the interview with Prof. Horn of Kiel University for more information.

This instrument measures how prone the soil is to slip under both vertical and horizontal stress. This is very useful in research prior to the construction of dikes, railways, large and heavy buildings or other engineering applications that put a lot of stress on the soil.

During shearing at a constant shear velocity and under either consolidated drained (CD), unconsolidated, undrained (UU) or unconsolidated drained (UD) conditions, the matric potential and shear forces at a given vertical stress are measured simultaneously.

The apparatus operates under computer control, using multifunctional software for executing measurement protocols and visualised data presentation. Samples are taken in a soil sample ring sized Ø 103 x 100 mm, height 30 mm, contents 235 cc.

Applications

- Physical soil deformation
- Erosion
- Soil science
- Environmental research
- Basic material research

Specification			
Item	Range	Resolution	Accuracy
Stress vertical	0-600 kPa	0.1 kPa	2 kPa
Response speed	10 sec. @1% end value (adaptable by PID controller parameters)		
Stress horizontal	0-400 kPa	0.1 kPa	2 kPa
Shear speed	0-2 mm/min	0.01 mm/min	0.1 mm/min
Shear stroke	20 mm		
Matric potential	-1000...+1000 hPa	0.1 hPa	2 hPa
Compression	0-30 mm	0.001 mm	0.1 mm
Sample log rate	0.1...60 sec.		
Soil sample diam	100 mm		
Pressure-in max.	0.7 Mpa / 7 bar		
Force max.	5 kN		
Stress out max.	600 kPa		
Mains supply	100-250 volts AC		
Mains frequency	47-63 Hz		
Power consumption	0.8 W		
Dimensions	45 x 75 x 125 cm		
Software language	English		
P.C. connection	USB		
Environmental conditions			
Temperature	15-35 °C		
Humidity	20-80% RH (non-condensing)		

