

Digital Soil Direct Shear Machine



Construction Materials
Testing Equipment

A **Direct Shear Testing Machine** is used to determine the shear strength properties of soil samples by performing the consolidation and shearing phase of a standard direct shear and residual shear test under automatic speed control. The upper compartment holds the soil sample, while the lower one applies a normal stress (vertical load) and allows horizontal displacement to create shear stress. The soil sample is confined within a shear box, which can be either square or circular depending on the test requirements. During the test, a shear force is applied horizontally to the soil sample, causing it to deform. By measuring the applied force and the corresponding displacement, engineers can calculate parameters such as shear strength, cohesion, and internal friction angle, for designing foundations, retaining walls, slopes, and other geotechnical structures. Excellent and high resistance stainless steel material has been adopted for the carriage of the shear box. The soil samples boxes offer an excellent resistance to corrosion, wear and tear and is resistant to all chemicals found in a soil specimen. The carriage is laid down on two stainless steel liner rail bearings and they are easy to maintain and clean.

Standard:

ASTM D3080, AASHTO
T236, BS 1377:7, CEN-
ISO/TS 17892-10 and
NF P94-071

Models:

110V, 60Hz. Single phase **2821011**

220V, 50Hz. Single phase **2821012**



This set consists of:

- Using Micro stepper motor for horizontal settable and uniform speed rate.
- Digital touchscreen 4" display
- Uniform loading by using set of 32kg weights.
- 5kN load cell with resolution of 10N for shear stress
- 5kN load cell with resolution of 10N for normal stress
- Adjustable horizontal loading rate in range of 0.015-7 mm/min
- Real time maximum and online force indicator per N
- Equipped with safety micro-switch for maximum horizontal displacement
- 20mm horizontal and vertical displacement measuring sensors with resolution of 0.01 mm
- All accessory, complete set of stainless steel box, perforated bronze powdered plates.
- Calibration method using internal Software
- Ability to draws shear displacement-vertical displacement graph
- Dimension: WxDxH (960x420x1030 mm)
- Weight: 84 kg
- Power supply: Model: 2821011, 400W, 110V, 60Hz. Single phase
- Model: 2821012, 400W, 220V, 50Hz. Single phase

