

CYCLIC TRIAXIAL TESTING MACHINE (Automatic) (T833)

Category: Soil



Product Code: T833

Category: SOIL

Sub-Category: CYCLIC

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- Designed for determining cyclic strength (liquefaction resistance), small-strain shear modulus & damping, and resilient behavior of soils under repeated loading. Suitable for

CU cyclic programs and pavement-style loading workflows.

- Fully automated triaxial platform integrating servo-actuated axial loading, dual pressure/volume control (cell & back pressure), and synchronized high-rate data acquisition for closed-loop control in load or deformation.
 - Cyclic loading with sinusoidal control for ASTM D5311/D3999;
 - End-of-test criteria configurable by cycle count, axial strain limit, or pore-pressure ratio (ru), with real-time plots of q - ϵ_a , Δu - N , and stress path to support rapid interpretation.
 - Flexible specimen configuration with common diameters (38/50/70/100 mm), interchangeable caps/pedestals/porous stones, and optional local strain or bender-element kits.
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STANDARDS

ASTM D5311 • ASTM D3999 • ASTM D4767 • ASTM D7181 • ASTM D2850 • AASHTO T 307 • BS 1377-7 • BS 1377-8

TECHNICAL SPECIFICATIONS

- Capacity (dynamic axial): 15 kN
- Capacity (static axial): 10 kN
- Cyclic waveform: Sinusoidal (standard)
- Cyclic rate: Up to 10 Hz
- Control modes: Load control (deviator stress) / deformation control (axial strain)
- Cell pressure range: 0-1000 kPa
- Back pressure range: 0-1000 kPa
- Displacement transducer: ± 25 -50 mm (model-dependent)
- Specimen Size: $\varnothing 36$ -150 mm (standard $\varnothing 50$ mm)
- Consolidation modes: Isotropic / anisotropic / K_0
- Software: Test staging (saturation, consolidation, cyclic), real-time plots, auto-report templates
- Power: Single-phase 208-230 V, 50/60 Hz (region-dependent)
- Optional ALFA Cloud integration for secure, real-time data upload, centralized storage, and web access to results.

EQUIPPED WITH

- Servo-actuated load frame with integrated controller and encoder
- High-pressure triaxial cell with caps, pedestals, porous stones, tubing
- Two pressure/volume controllers for cell and back pressure with de-airing kit
- Axial load cell, axial displacement transducer, pore and cell pressure transducers
- PC control software with cyclic & static triaxial modules and report templates

SUPPLIED WITH

- Membranes, O-rings, filter papers
- Essential fittings and hoses set
- Startup consumables kit for standard specimen sizes

ORDERING INFORMATION

Item Name	Item Code
CYCLIC TRIAXIAL TESTING MACHINE (up to 70 mm)	T833A07XU
DYNAMIC ACTUATOR and CONTROLLING UNIT for T333A	T833P001U

Keywords: cyclic triaxial system, ASTM D5311, ASTM D3999, AASHTO T307, dynamic triaxial test, liquefaction testing, resilient modulus, soil testing equipment, triaxial cell, pore pressure measurement, closed-loop control, geotechnical laboratory equipment, construction materials testing, ALFA Testing Equipment