# Automatic Consolidation Test Machine

LT-S0255 | Servo-controlled one-dimensional consolidation

Programmable loading • Integrated data recording • Ethernet connection




**15 kN**

MAXIMUM LOAD CAPACITY

**32 stages**

PROGRAMMABLE LOADING LEVELS

ASTM D2435 • AASHTO T216 • TS 1900-2

# Photographs and Measuring Components

Loading frame, sensors, cell and touch-screen control

The LT-S0255 evaluates one-dimensional soil consolidation and swelling under automatic loading. Load cell and displacement sensor data support servo motor control and deformation monitoring.

### LOAD CELL

Measures applied vertical force and provides feedback to the closed-loop control system.

### DISPLACEMENT SENSOR

Monitors vertical specimen movement together with elapsed time.

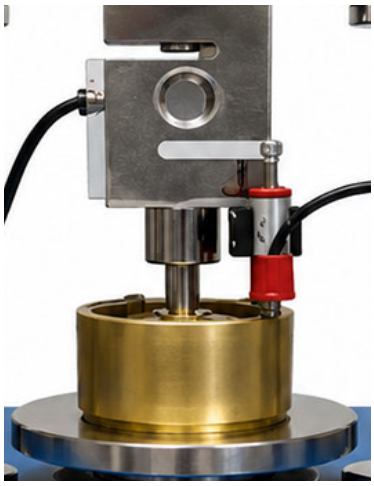



### CONSOLIDATION CELL

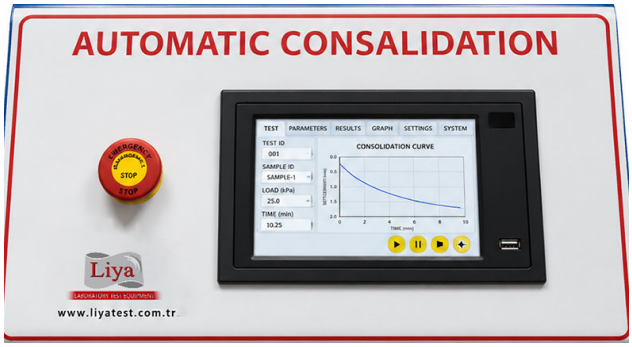
The specimen consolidates under vertical load within a suitable cell arrangement.

### TOUCH-SCREEN CONTROL

The 7″ TFT display provides programme settings and test data in one interface.



Load cell, displacement sensor and cell



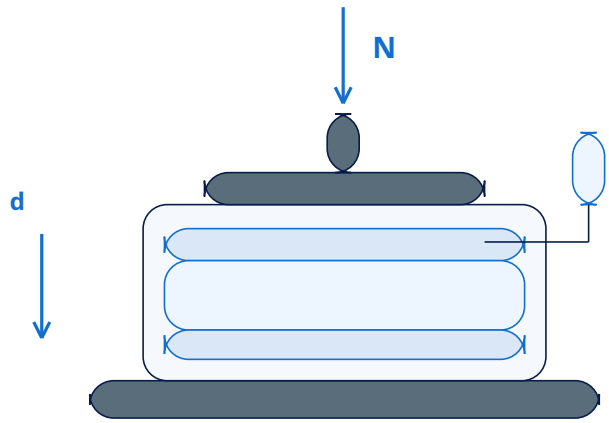

7″ TFT display and control panel

LT-S0255

# Staged Loading and Deformation Monitoring

Position specimen • Define programme • Load automatically • Evaluate

VERTICAL LOAD + LATERAL RESTRAINT + TIME




**LOADING: UP TO 32 PROGRAMMED STAGES**

MEASUREMENT: LOAD AND VERTICAL DEFORMATION

**Monitor time-deformation records for each load stage**

**Evaluate consolidation and swelling behaviour**

REPRESENTATIVE ONE-DIMENSIONAL CONSOLIDATION • NOT TO SCALE

## Prepare the Specimen

Position the specimen in a suitable cell. Check sensor contact and zero settings.

## Apply the Programme

Define loading stages. The servo system applies the programmed loading automatically.

## Evaluate Records

Evaluate load, time and deformation data using the applicable test method.

The specimen is laterally restrained and monitored under vertical load. Sensor feedback allows the servo motor to apply the programmed loading conditions. Evaluate vertical deformation over time together with the records for each load stage.

## Consolidation and Swell Programmes

The system can automatically execute loading programmes with up to 32 stages. Different control conditions support constant-load and constant-volume swell procedures.

Define load levels, stage durations and completion criteria according to the specimen and selected method. Test duration depends on soil behaviour and the programme used.

## Digital Data and Multiple-Unit Management

Integrated data acquisition displays and records sensor readings. SI or Imperial units can be selected. Ethernet communication supports computer-based test management.

Software supports record organisation and result evaluation. In a suitable computer arrangement, up to 16 automatic consolidation units can be managed from one PC.

LT-S0255

# Technical Specifications and Control System

LT-S0255 | Fully automatic servo-controlled consolidation

| Technical Specification | Value / Description |
|---|---|
| **Product Code** | LT-S0255 |
| **Maximum Load** | 15 kN |
| **Loading Control** | Servo motor • Sensor-feedback PID control |
| **Loading Programme** | Up to 32 stages |
| **Control Display** | 7″ TFT touch screen |
| **Test Types** | Consolidation • Constant-load / constant-volume swell |
| **Data Acquisition** | Integrated recording and display |
| **Unit Options** | SI or Imperial |
| **Computer Management** | Ethernet • Up to 16 units from one PC |
| **Power Supply** | 90-240 V AC • 50-60 Hz • Single phase |

### Link Each Load Stage to Time and Deformation

Record specimen identification, loading programme, sensor zeros and test conditions. Evaluate stage time-deformation data using the selected method and report the results.

## Automatic Consolidation Test Workflow

**01**
**Prepare**
Prepare the specimen and cell arrangement.

**02**
**Programme**
Enter loading stages and test conditions.

**03**
**Monitor**
Monitor automatic loading and sensor records.

**04**
**Evaluate**
Evaluate test data and prepare the report.

**Product Page | liyatest.com.tr/en/urun/motorized-automatic-consolidation-frame/**