Constant Head Permeability Test Set

LT-S0135 / LT-S0136 | Permeability testing under constant hydraulic head

Transparent cell • Constant level tank • Three-tube manometer stand



Ø75 / Ø114 mm

PERMEABILITY CELL OPTIONS

3 tubes

MANOMETER STAND

ASTM D2434 • ISO 17892-11 • AASHTO T215

Photographs and Set Components

Constant level tank, manometer stand, cell and connections

The constant head set evaluates permeability of free-draining granular soils such as sand and gravel. Maintain a stable hydraulic-head difference while water passes through the specimen, and measure collected water volume and elapsed time together.

CONSTANT LEVEL TANK

Inlet, outlet and overflow connections maintain a stable water level during testing.

MANOMETER STAND

Three Ø6 mm tubes, each 1 m long, allow heads at pressure tapping points to be monitored.



TRANSPARENT CELL

A Ø75 or Ø114 mm acrylic cell contains the prepared soil specimen.

HYDRAULIC CONNECTIONS

Hoses connect the cell and pressure points to the water supply and manometers.



Constant level tank and water connections



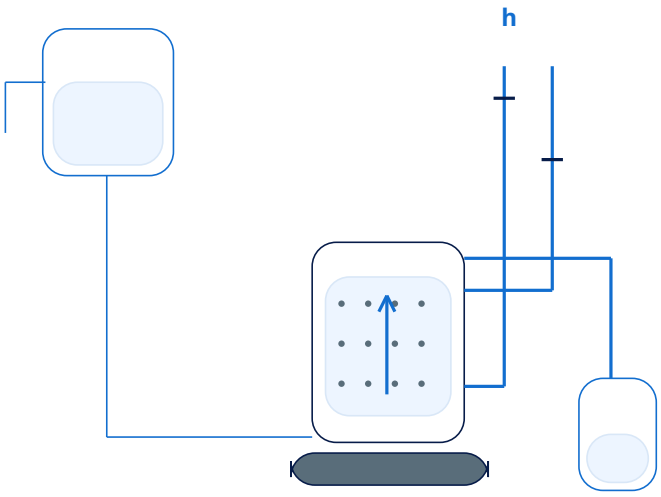
Specimen cell and pressure tapping connections

LT-S0135 / LT-S0136

Volume and Time Under Constant Head

Prepare specimen • Stabilise head • Collect water • Calculate

CONSTANT HEAD + SPECIMEN + VOLUME / TIME



HEAD DIFFERENCE: MAINTAINED CONSTANT

MEASUREMENT: COLLECTED VOLUME AND TIME

SPECIMEN: SATURATED GRANULAR SOIL

Calculate hydraulic conductivity using the method

REPRESENTATIVE CONSTANT HEAD TEST DIAGRAM • NOT TO SCALE

Prepare Specimen and Water Path

Load the appropriate cell and saturate the specimen. Remove air from the connections.

Establish Steady Flow

Adjust the constant level tank. Monitor hydraulic-head difference with the manometers.

Record Volume and Time

Measure water volume over a known time. Calculate using specimen geometry and head difference.

The constant level tank supports a stable hydraulic head applied to the specimen. Manometers show pressure heads along the specimen. At steady flow, collected volume over a measured time is evaluated with head difference between measurement sections and specimen geometry to determine hydraulic conductivity.

Cell Selection and Pressure Points

LT-S0135 uses a Ø75 mm cell with three pressure tapping points. LT-S0136 uses a Ø114 mm cell with six tapping points. Select the cell for specimen particle size and quantity.

Each cell includes two perforated plates and two No.100 wire screens. Prepare the specimen according to the method and check particle loss and connection leakage during flow.

Manometers and Specimen Saturation

The stand has three Ø6 mm manometer tubes, each 1 m long. Check pressure point connections and read levels against the same reference.

Avoid trapped air when preparing the specimen and water path. Under steady flow, record volume, time, head difference and temperature together; complete calculations using specimen dimensions.

Model Options and Component Codes

LT-S0135 / LT-S0136 | Cells, water system and supporting equipment

Technical Specification	Value / Description
LT-S0135	Ø75 mm cell • 3 pressure tapping points
LT-S0136	Ø114 mm cell • 6 pressure tapping points
Specimen Group	Sand, gravel and free-draining granular soils
Manometers	3 tubes • Ø6 mm • 1 m each
Internal Cell Components	2 perforated plates • 2 No.100 wire screens
Water System	Constant level tank • Overflow connection
Relevant Methods	ASTM D2434 • ISO 17892-11 • AASHTO T215

Component Code	Description
LT-S0135/1 • LT-S0136/1	Permeability cell • Ø75 / Ø114 mm
LT-S0135/2 • /3	Manometer stand • Constant level tank
LT-G0212 • LT-G0177	Rubber hose 3 m • Steel ruler 1 m
LT-G0163 • LT-S0135/5	Tamping rod Ø8 × 300 mm • Water de-airing

Record Steady Head, Volume and Time Together

Once flow is steady, verify head difference and specimen geometry. Record collected water volume together with time; calculate permeability according to the selected method.

Constant Head Test Workflow

01
Prepare
Place and saturate the specimen.

02
Stabilise
Maintain stable water level and flow conditions.

03
Collect / Measure
Measure water volume and elapsed time.

04
Calculate
Evaluate using head difference and geometry.

Product Page | liyatest.com.tr/en/urun/constant-head-permeability-test-set/