Automatic Core-Rock Compression Testing Machine

LT-R0060 | Automatic hydraulic loading for intact rock cores

Uniaxial compression • Triaxial test support with a Hoek Cell



600 kN

LOAD CAPACITY

1-20 kN/s

LOADING RATE RANGE

BC 100 • 7-inch touchscreen • Load-time graphs and data recording

Photographs and Components

Load frame, control unit and supporting components for triaxial testing

The LT-R0060 applies controlled axial force to intact rock cores. Its digital control unit monitors load and test progress. A suitable Hoek Cell and separate confining-pressure unit enable a triaxial test arrangement.

LOAD FRAME

The 600 kN frame and compression platens transfer axial force to the rock core.

DIGITAL CONTROL

The BC 100 screen displays test parameters, load values and the load-time graph.



MANUAL PRESSURE UNIT

The pictured hand pump, gauge and connections generate confining pressure for the Hoek Cell.

HOEK CELL

Used to apply confining pressure around the specimen during triaxial testing.



Manual confining-pressure unit and pressure gauge

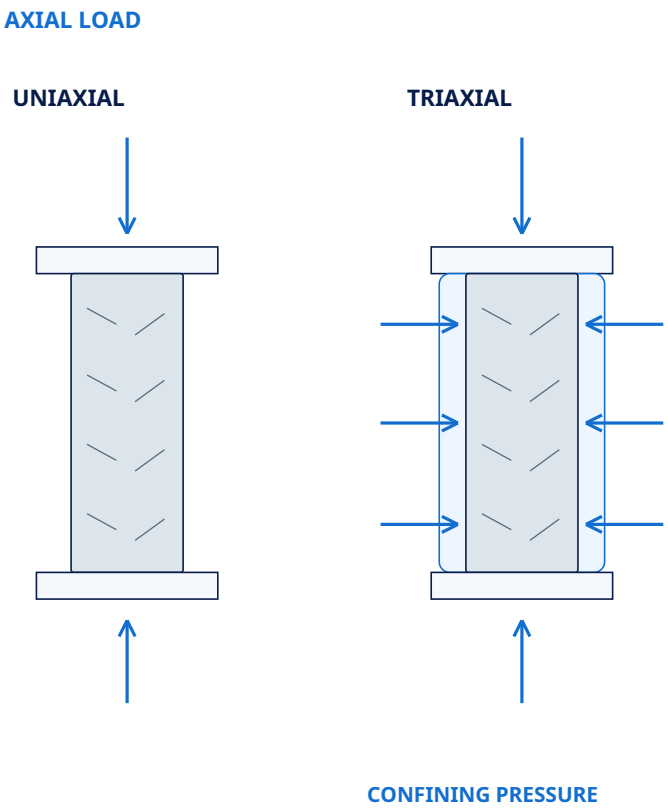


Hoek Cell, membrane and supporting components

LT-R0060

Uniaxial and Triaxial Loading

Axial force • Confining pressure in the Hoek Cell • Method-specific measurements



Prepare the Specimen

Prepare flat and parallel core ends. Centre the specimen on the loading axis.

Program the Test

Set loading rate and termination. The system switches to the test rate after contact.

Record Results

Monitor load-time data. Software stores specimen information, results and graphs.

Uniaxial testing applies no additional lateral pressure to the core. In a triaxial arrangement, the Hoek Cell and separate pressure unit provide confinement while the press increases axial load. The diagram shows the loading conditions of both tests.

Hoek Cell and Confining Pressure

Select a Hoek Cell, membrane and connections for the specimen diameter. A separate unit supplies confining pressure.

A manual hand pump or automatic pressure system may be used according to the control requirements of the test.

Strength and Deformation Measurement

Uniaxial strength is calculated from peak load divided by the original cross-sectional area.

Young's modulus and Poisson's ratio require suitable axial and lateral deformation measurements in addition to load data.

Technical Specifications

LT-R0060 • Capacity, control, dimensions and supply of the 600 kN model

Technical Feature	Value / Function
Product Code / Capacity	LT-R0060 / 600 kN
Loading Rate	1-20 kN/s
Machine Dimensions	75 × 60 × 100 cm
Machine Weight	600 kg
Power Supply	220 V, 50-60 Hz, 1 phase
Control Display	BC 100 / 7-inch TFT touchscreen
Loading System	Automatic hydraulic loading
Starting Sequence	Rapid approach; test-rate loading after contact
Data Monitoring	Load and time; real-time graph
Software Functions	Specimen and result storage; graphs and reports
Uniaxial Testing	Direct axial loading between platens
Triaxial Testing	With suitable Hoek Cell and pressure unit

ASTM D7012-23 Test Scope

Method A covers triaxial compressive strength; Method C covers uniaxial compressive strength.

Methods B and D include deformation measurements to determine elastic properties. Complete the test arrangement for the selected method.

Specimen, Frame and Control

Flat and parallel end faces and correct centring support a uniform transfer of force into the specimen.

Front and rear protective doors, emergency stop and travel limits protect the working area. Distance pieces adapt working height to the specimen.

LT-R0060

Components and Supporting Fixtures

Load frame, hydraulic power, digital system and specimen positioning components

Product Code	Component / Function	Dimensions (cm)	kg
LT-R0060/1	600 kN load frame	37 × 60 × 100	500
LT-C0225	Hydraulic power + digital control	38 × 36 × 92	100
LT-C0226	Hydraulic power pack	38 × 36 × 92	98
LT-C0227	Digital data acquisition and control	-	-
LT-C0228	High-precision pressure transducer	-	-
LT-C0229	Computer software	-	-
LT-C0235	Distance piece	Ø20.5 × 2.5	-
LT-C0236	Distance piece	Ø20.5 × 5	-
LT-C0237	Distance piece	Ø20.5 × 8	-
LT-G0800	Computer and printer	-	-
LT-R0070/4	Hoek Cell for triaxial testing	-	-

Electrical Supply and Configuration

LT-C0225, LT-C0226, LT-C0227 and LT-G0800: 220 V, 50-60 Hz, 1 phase. Select supporting fixtures and the confining-pressure unit for the test method and specimen.

Test Workflow

01
Position the Core
Centre the core and select a distance piece.

02
Set Parameters
Set rate, termination and confinement if required.

03
Start Loading
Monitor automatic axial loading and the graph.

04
Save the Result
Store results, specimen information and graphs.

Product Page | liyatest.com.tr/en/urun/automatic-core-rock-compression-testing-machine/