



Your supplier of high-pressure laboratory instruments
and advanced geotechnical testing equipment



TRILAB



Triaxial Rock Compression Tester

A versatile, ASTM D7012-compliant triaxial system for complete rock-mechanics characterization — independent control of axial stress, confining pressure and pore pressure to reproduce realistic underground conditions.

ROCK STRENGTH • FAILURE TESTING • ASTM D7012

Overview

A versatile triaxial system for complete rock-mechanics characterization.

2,500 kN

Maximum axial load (top model)

100 MPa

Pressure capacity (top model)

150 °C

Operating temperature

100 mm

Max. specimen diameter

KEY FEATURES

- ◆ **Reproduces a realistic 3D stress environment**
Independent control of axial stress, confining pressure and pore pressure reproduces underground stress conditions with high accuracy.
- ◆ **Full mechanical characterization**
Triaxial compressive strength, elastic modulus, Poisson's ratio, deformation behaviour and post-failure response.
- ◆ **Fracture & long-term studies**
Fracture initiation, microcrack evolution, creep and long-term compaction.
- ◆ **Multi-physics integration**
Combines hydraulic and acoustic measurements to reveal how stress influences fluid flow, pore structure and seismic properties.
- ◆ **Hydraulic fracturing with Acoustic Emission**
High-resolution view of fracture initiation, propagation and damage evolution.

Testing Capabilities

Full characterization of rock mechanical, petrophysical and fracture behaviour — ASTM D7012 compliant.

Strength & Deformation

ASTM D7012 COMPLIANT

- ◆ **Pre-failure stress–strain**
Elastic modulus, onset of non-linearity, microcrack initiation
- ◆ **Triaxial compressive strength**
Maximum deviatoric stress under controlled confining pressure
- ◆ **Residual stress & creep**
Post-failure load-bearing capacity, strain softening, time-dependent strain

Petrophysical Properties

STRESS-DEPENDENT RESPONSE

- ◆ **Rock compressibility & porosity**
Stress-induced volume reduction and pore-throat closure
- ◆ **Stress-dependent permeability**
Anisotropic flow in the deforming pore network
- ◆ **Acoustic velocity & electrical resistivity**
Microcrack closure, anisotropy development, pore-structure evolution

Damage & Fractures

AE & HYDRAULIC FRACTURING

- ◆ **Acoustic Emission (AE)**
Microcrack initiation and damage evolution during loading
- ◆ **Hydraulic fracturing AE**
Borehole pressurization, fracture initiation and propagation tracking

Model Variants

Four configurations to match your test-load and pressure requirements.

ENTRY LEVEL

TRILAB 1000 / 70 MPa

AXIAL LOAD	1,000 kN
PRESSURE	70 MPa
SPECIMEN Ø	≤ 54.7 mm

HIGH PRESSURE

TRILAB 1000 / 100 MPa

AXIAL LOAD	1,000 kN
PRESSURE	100 MPa
SPECIMEN Ø	≤ 54.7 mm

HIGH LOAD

TRILAB 2500 / 70 MPa

AXIAL LOAD	2,500 kN
PRESSURE	70 MPa
SPECIMEN Ø	54.7 – 100 mm

FLAGSHIP

TRILAB 2500 / 100 MPa

AXIAL LOAD	2,500 kN
PRESSURE	100 MPa
SPECIMEN Ø	54.7 – 100 mm

All models share identical scope of supply, cell architecture and optional test modules · Ambient to 150 °C · Hastelloy / Inconel option available



Your supplier of high-pressure laboratory instruments
and advanced geotechnical testing equipment

Get in Touch



Speak to our specialists about your application — every TRILAB system is configured to your research.

ADDRESS

23 rue du Port
92000 Nanterre
France

EMAIL

contact@floxlab.com
www.floxlab.com

PHONE

+33 (0) 1 81 93 12 85
Mon. – Fri.



SCAN ME

Visit our website to discover our full range of
high-pressure laboratory instruments.

www.floxlab.com

ROCK STRENGTH • FAILURE TESTING • ASTM D7012