ROCK MECHANICS • LABORATORY EQUIPMENT

Specimen Preparation Tools

A complete laboratory workflow — from raw rock to test-ready plug

The Floxlab Specimen Preparation Suite brings together four purpose-built machines that integrate into a single, repeatable laboratory workflow. From coring and cutting to grinding and flatness verification, every step is engineered for precise, ASTM-compliant specimens in rock mechanics research and industry.

THE FOUR-STEP WORKFLOW

1

ACM-300

Coring

Extract cylindrical plugs from rock cores and blocks with diamond coring bits.

2

SC-450

Cutting

Cut specimens to precise length using a Ø 450 mm diamond blade.

3

SG-300

Grinding

Grind end surfaces flat and parallel with a Ø 300 mm diamond cup wheel.

4

SF-300

Flatness

Verify ASTM D4543 compliance with a precision digital dial indicator.

STANDARDS & COMPLIANCE ASTM D4543 • ASTM D7012 • ASTM D7070 • ASTM D5084

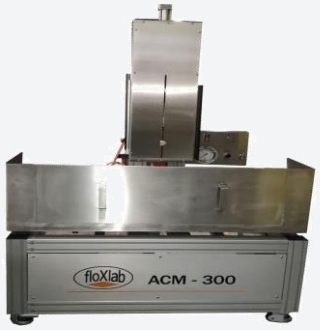
Purpose-built by Floxlab — engineered in France, trusted in laboratories worldwide.

Coring & Cutting

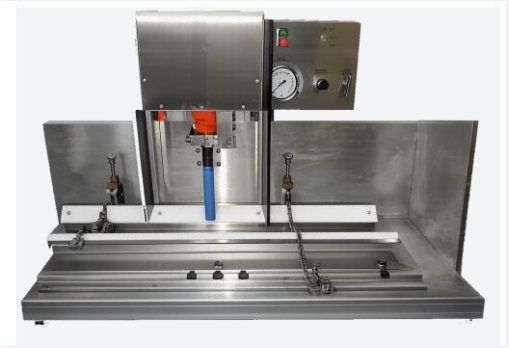
ACM-300 Automatic Coring Machine • SC-450 Automated Cutting Saw

ACM-300 Automatic Coring Machine

Plug extraction from rock cores and blocks



GENERAL VIEW



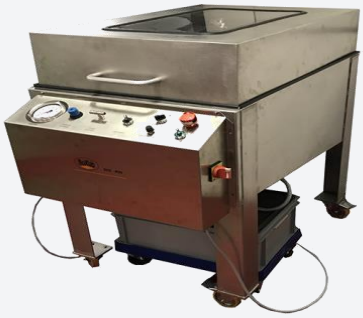
INTERNAL VIEW — CORING IN OPERATION

The ACM-300 plugs cylindrical specimens from rock cores of various diameters or from blocks of similar size. It works with all types of diamond coring bits and delivers clean, repeatable plugs ready for downstream mechanical testing. Three rotation speeds, adjustable lowering speed and drilling force, internal core-drill irrigation via rotary seal, and horizontal or vertical sample clamping — with an optional recirculating coolant system.

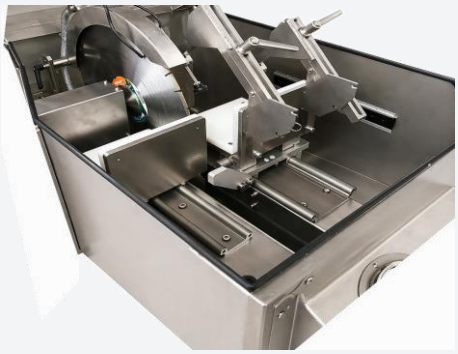
2,520 rpm	Ø 102.6 mm	300 mm	2.2 kW
Max rotation	Max Ø drilling	Max depth	Motor power

SC-450 Automated Specimen Cutting Saw

Precise diamond-blade cutting of rock specimens



GENERAL VIEW



INTERNAL VIEW — DIAMOND BLADE & CARRIAGE

The SC-450 is a robust automated saw for cutting rock specimens with a diamond blade, delivering precise cuts in a self-contained laboratory unit. Designed for natural rock specimens with or without water, it accepts prismatic or cylindrical samples up to Ø 170 × L 400 mm, features a hydraulic carriage with adjustable feed, a closed-loop 40 L cooling system, and an integrated vacuum cleaner for dry cutting.

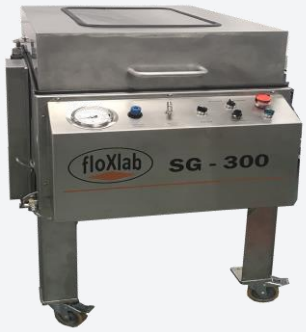
Ø 450 mm	1,450 rpm	170 × 400 mm	2.2 kW
Max blade	Rotation speed	Max specimen	Motor power

Grinding & Flatness Check

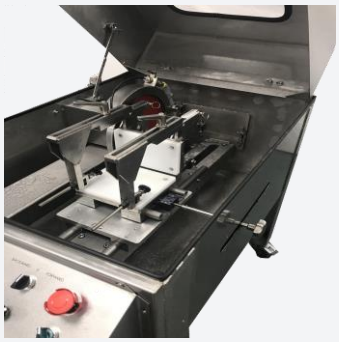
SG-300 Automated Specimen Grinder • SF-300 Specimen Flatness Gage

SG-300 Automated Specimen Grinder

Precise surface grinding of rock specimens



GENERAL VIEW



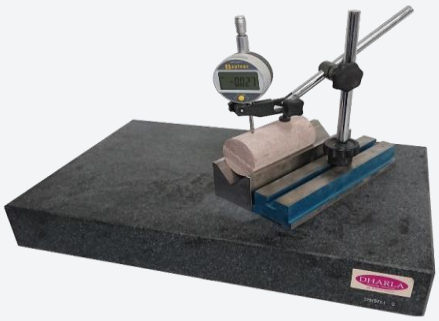
INTERNAL VIEW — GRINDING WHEEL & CLAMPS

The SG-300 is a robust automated grinder for rock specimens using a diamond cup wheel. Surpassing industry standards, it delivers flat, parallel surfaces essential for accurate mechanical testing. Features include a Ø 300 mm diamond wheel at 1,450 rpm, wet or dry grinding with integrated vacuum, a closed-loop 40 L cooling system, and mobility on four lockable wheels.

Ø 300 mm	1,450 rpm	170 × 400 mm	210 kg
Diamond wheel	Rotation speed	Max specimen	Weight

SF-300 Specimen Flatness Gage

ASTM D4543 compliance verification



GENERAL VIEW — GRANITE BASE & DIAL INDICATOR

The SF-300 ensures precise measurement of a specimen's flatness. A specimen is positioned on a Grade-A granite base (class 00), and a vertically mounted digital dial indicator reads out the degree of flatness to laboratory precision — the essential QC step before mechanical testing. Accepts specimens up to 300 mm (12 in) high and weighs only 20 kg on a compact benchtop footprint.

ASTM	±0.0001"	0.01 mm	20 kg
D4543 compliant	Accuracy	Resolution	Benchtop weight

Applications & Contact

Trusted for rock mechanics research and industry

STANDARDS & COMPLIANCE

ASTM D4543 Preparing rock core as cylindrical specimens (SF-300)

ASTM D7012 Compressive strength & elastic moduli of intact rock

ASTM D7070 Creep of rock core under constant stress

ASTM D5084 Hydraulic conductivity of saturated porous materials

APPLICATIONS

Petroleum & reservoir engineering
Core analysis, permeability, compressibility

Mining & tunneling
Rock strength, deformability, failure characterization

Civil engineering & geomechanics
Foundation design, slope stability studies

Academic research
Triaxial, hydraulic fracturing, acoustic emission

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