PRODUCT BROCHURE

Floxlab Sensors

High-Precision Instrumentation for Rock Mechanics

CE-Series circumferential extensometer mounted on a rock specimen

Strain • Displacement • Load measurement under triaxial conditions

ABOUT FLOXLAB

Engineered for the lab

Sensors built for rock mechanics & geotechnical testing

Founded near Paris, France, Floxlab specialises in the design and manufacture of sensors and instrumentation dedicated to rock mechanics and geotechnical laboratories. Our extensometers, LVDT sensors, in-vessel load cells and reference calibrators are used worldwide for uniaxial and triaxial compression testing — operating reliably under high pressures, high temperatures and demanding fluid environments.

UP TO 200 °C

Operating temperature for in-vessel use

±0.02 % FS

Calibrator accuracy class

UP TO 2000 kN

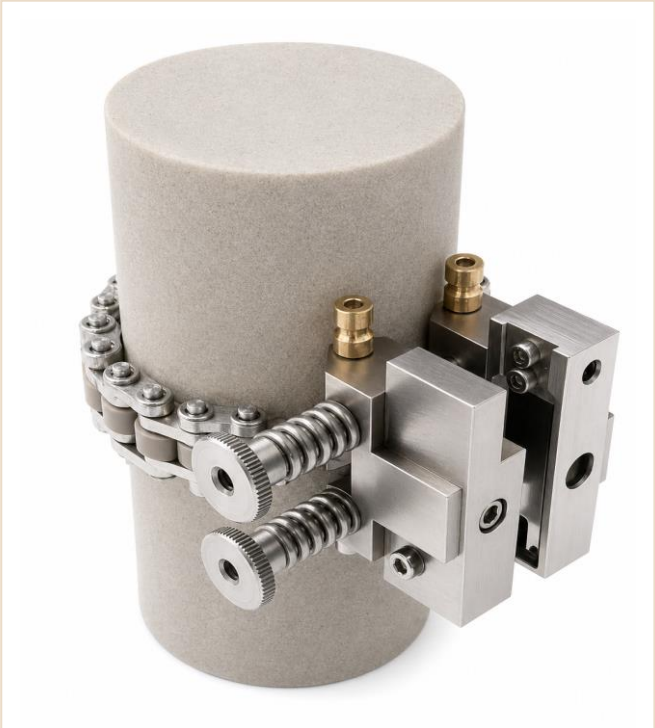
Load measurement capacity

PRODUCT RANGE AT A GLANCE

CE-Series	*Circumferential extensometer*	Direct circumferential strain measurement on cylindrical specimens via custom roller chains. Diameters from 21.5 to 100 mm.
DE-Series	*Diametral extensometer*	Two orthogonal diametral strains, individual or averaged. Three sizes: DE-55, DE-75, DE-100.
ASL-Series	*Axial strain LVDT*	Three vertically adjustable rods mounted between loading platens. ASL-55 (±2.5 mm) and ASL-100 (±5 mm).
Load Cell	*In-vessel strain-gauged*	Sealed load cell for placement directly inside triaxial pressure vessels. Capacities up to 2000 kN (higher if required).
Calibrators	*Reference standards*	Load-cell calibrator (±0.02% FS) plus CEC and ALC calibrators for circumferential / axial transducers.
Electronics	*Conditioning & acquisition*	Optional signal conditioning electronics and real-time data-acquisition software for any test setup.

CE-Series

Circumferential extensometer — uniaxial & triaxial compression



CE on rock specimen

DESCRIPTION

- Measures average change in circumference directly on the specimen
- High-precision custom roller chain mounts the extensometer
- Circumferential change monitored with strain gauges
- Self-supported on the sample with integral springs
- Mechanical adjustment to set output to zero
- Breakaway device protects sensor on specimen rupture
- Operates inside the vessel — high-P° / high-T° oil environments

KEY FEATURES

Model	**CE**
Linearity	**0.5 % F.S**
Circumferential range	**4 mm**
Operating temp.	**up to 200 °C**
Bridge	**Wheatstone strain-gauge**

CHAIN RANGE

21.5 mm EX core	25.4 mm 1”	30.1 mm AX core
38.1 mm 1.5”	42.0 mm BX core	54.7 mm NX core
63.5 mm HQ core	76.2 mm HX core	100 mm Large core

BENEFITS

- Easy set-up — self-supported on the sample
- Direct, repeatable circumferential reading
- Triaxial cell or uniaxial compression
- Wide specimen range via interchangeable chains
- Breakaway protection on rupture

DE & ASL Series

Diametral extensometers and axial strain LVDT sensors

DE-SERIES

Diametral extensometer

For triaxial compression — three standard sizes

- Two orthogonal diametral strains
- Self-supporting via four pressing screws
- Cantilever strain-gauged beams

ASL-SERIES

Axial strain LVDT sensor

Three rods mounted on the loading platen

- Three vertically adjustable measurement rods
- Detects non-uniform specimen behaviour
- Custom manufactured to specimen dimensions

MODEL COMPARISON

Model	Specimen Ø	Range	Linearity	Op. temp.
DE-55	25 – 55 mm	5 mm	0.5 % FS	200 °C
DE-75	55 – 75 mm	5 mm	0.5 % FS	200 °C
DE-100	75 – 100 mm	5 mm	0.5 % FS	200 °C
ASL-55	55 – 100 mm	± 2.5 mm	0.25 % FS	200 °C
ASL-100	100 – 200 mm	± 5 mm	0.25 % FS	200 °C

- *All models compatible with strain-gauge or LVDT signal-conditioning electronics. Custom diameters available on request.*

Load Cells, Calibrators & Electronics

IN-VESSEL LOAD CELL

Strain-gauged in-vessel device

0 – 2000 kN +	2 mV/V	0.5
Capacity	Output	Class

- Mineral & synthetic oil compatible
- Eliminates seal-friction errors

LOAD CELL CALIBRATOR

Reference calibration press

1000 kN	±0.02 % FS	170 kg
Capacity	Accuracy	Weight

- On-site calibration capability
- Adjustable mounting bracket

CEC & ALC Calibrators

Reference calibrators for circumferential extensometers (CEC) and axial / diametral LVDT transducers (ALC)

- Resolution: 0.001 mm
- Digital micrometer with high repeatability
- Custom built to suit each transducer family

ELECTRONICS

- Optional signal conditioning
- Bridge-completion + amplification
- Plug-and-play integration

ACQUISITION SOFTWARE

- Real-time display of all channels
- Custom dashboards per setup
- Data export & report generation

GET IN TOUCH

Let's discuss your application

APPLICATIONS

- **Triaxial compression**
  of intact and fractured rock cores
- **High-pressure testing**
  in confined oil-filled vessels
- **Calibration services**
  for transducers and load cells
- **Uniaxial compression**
  with circumferential / axial strain
- **High-temperature tests**
  up to 200 °C
- **Custom configurations**
  for non-standard specimen sizes

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