

RETRIEVABLE BOREHOLE EXTENSOMETER Model BOF-EX

ROCTEST



APPLICATIONS

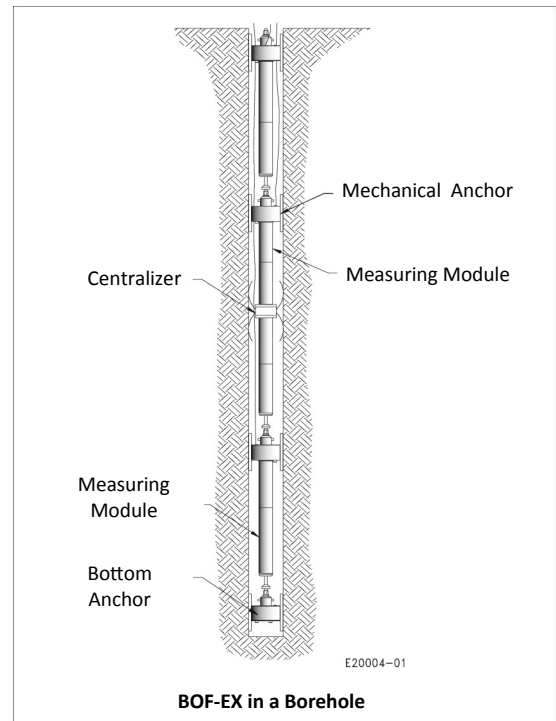
The borehole extensometer Model BOF-EX unique design includes a comprehensive list of outstanding features which make the instrument usable in a wide range of civil and mining engineering projects. Above all, the BOF-EX is characterized by its high accuracy and its great environmental adaptability.

The BOF-EX lends itself to applications such as:

- Monitoring of underground vaults for nuclear waste disposal
- Assessment of stability of internal cracks in concrete dams
- Monitoring of rock slope stability
- Measurement of rock displacement around tunnels and shafts

DESCRIPTION

The BOF-EX is best described as a multiple-point single tube extensometer. It consists of four main components: the mechanical anchor, the measurement module, the extension tubing and the centralizers. An installation consists of a number of measurement modules, in series in a borehole, each one being mounted on the length of extension tubing required to span a lower and upper mechanical anchor. Displacement measurement is therefore made in the hole, in sections distributed along the borehole length.



FEATURES

- High accuracy
- No protruding part above rock surface
- Modular system completely retrievable

The mechanical anchor

The special design of the BOF-EX mechanical anchor allows complete system retrievability. The anchor consists of a cylindrical body and three contacting shoes spaced at 120° angle. Using the installation tool and rods, the anchor is screw actuated from the collar of the hole until the shoes make contact with the borehole walls. The anchoring capacity is very high and the contacting shoes are designed to adjust to small borehole deformations while still exerting the anchoring force.

The measurement module

The measurement module of the BOF-EX is a water-tight capsule in which a spring-loaded linear displacement transducer is mounted. The moving spindle of the measurement module comes in contact with the lower anchor of each monitoring section.

The extension tubing

The extension tubing is made of individual lengths of flush-coupled tubes bridging the two mechanical anchors of each monitoring section. Centralizers are mounted at regular spacing over the extension tubing to prevent sagging.

INSTALLATION

The BOF-EX is designed to be installed in an “N” size 76 mm (3 in.) borehole using an installation rod. The installation procedure is simple and straight forward due to the modular design of the instrument. The BOF-EX can also be fully grouted in a borehole. In unstable, poor quality rock, a BOF-EX can be installed using the telescoping plastic casing previously grouted in the hole.

SPECIFICATIONS

Borehole diameter (standard) :	76 mm		
Number of measuring modules :	1 to 10		
Minimum distance between anchors with 25-mm range transducer :	30 cm		
TRANSDUCER :	VIBRATING WIRE	POTENTIOMETER	LVDT (DC)
Ranges ¹ :	25–50 mm	50 mm	38–100 mm
Accuracy :	±0.25% F.S. (±0.1% in option)	±0.5% F.S.	±0.5% F.S.
Resolution :	0.02% F.S.	Depends on readout	Depends on readout
Operating temperature :	–20 °C to +80 °C	–20 °C to +80 °C	–20 °C to +80 °C
Thermistor :	3kΩ (see model TH-T)	—	—
Readout unit :	MB-3TL	Contact Roctest	Contact Roctest
Data acquisition system :	SENSLOG	SENSLOG	SENSLOG
Cable :	IRC-41A	IRC-41A	IRC-41A

¹ Other ranges available

ACCESSORIES

- Installation tool
- Carrying case
- Readout Instrument

ORDERING INFORMATION

Please specify:

- Number of measuring modules
- Depth of each anchor
- Range and type of transducers
- Accessories