



## MODEL SME-2400 SERIES

### BORE HOLE EXTENSOMETER

#### FEATURES:

- \* Reliable Movement Measurement
- \* Simple installation.
- \* Multipoint installation in single hole.
- \* Remote sensing.
- \* Large movement measurement.

#### APPLICATION

Bore Hole Extensometer is a reliable instrument to measure movement of reference point in a bore hole. It has basic application in:

- \* Measurement of rock movement in tunnel walls, underground power house etc.
- \* Measurement of movement in embankment of dam.
- \* Measurement of conversions at crown in tunnels etc.

#### DESCRIPTION

Bore hole extensometer can be of single point or multi point installed in a single hole, quantity as many as five can easily be installed in a NX size hole (Ø76mm).

The basic principle of measurement is; one anchor is grouted/ fixed to a required depth in a bore hole and other end is extended through S.S. rod at the surface of bore hole. The depth of anchored end is selected just beyond the expected movement zone. The anchoring is possible by groutable or expandable anchor.

Expandable anchors are available in much design like bolt type expandable anchors, snap ring anchors and so on. Most extensively used anchors are of groutable type. Bolt type expandable anchors are useful up to a maximum of two point bore hole extensometer only. Movement measurement can be done either with depth micrometer or dial gage where as vib. wire or potentiometric sensors are available for remote data.

Model SME 2400 series mechanical type bore hole extensometer are used for hard rocks where rock can grip the expandable anchors firmly during expansion. These are further classified as :

- \* SME-2410 is single / two point extensometer with expandable anchor or grouting type.
- \* SME-2420 is three point extensometer available only in grouting anchor type.



***Fiber glass rod***

Here in two point systems deep anchors holds the extension rod where as second anchors holds a pipe and first extension rod passes through it . Bolt type expansion anchors are expanded by a setting tool at correct depth. A thread anchor is also use to hold the reference head at the face of hole for measurement. Anchors are provided in different size.

This is most commonly used system available up to 6 points in a single bore hole of 4" size or 4 points in a 3" bore hole dia.

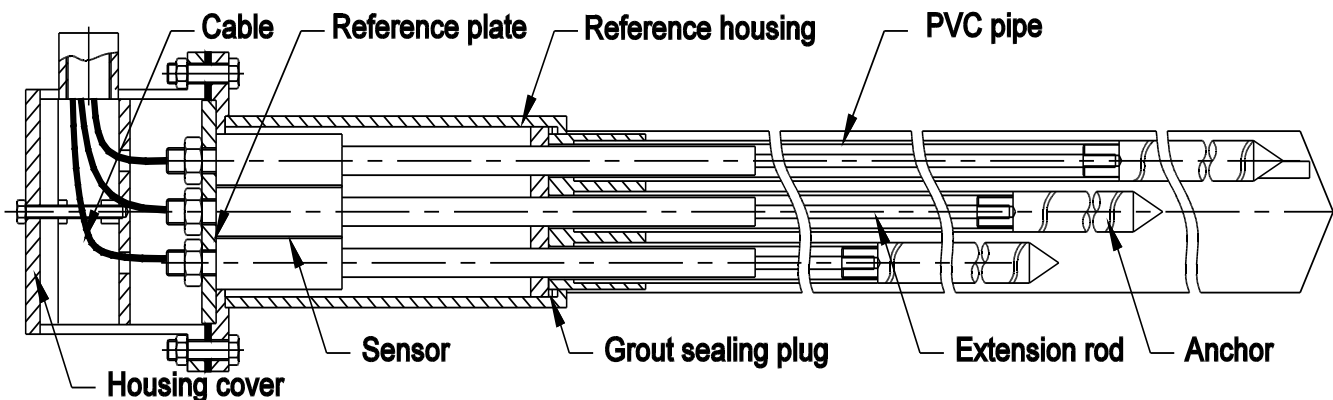
**SME 2430:** This is a single point bore hole extensometer with electronics sensor for remote data monitoring. The EX size (42mm) hole are suitable for single points installation. It has groutable anchors made of torr steel 5/8" or 3/4" followed with extension rods and rigid PVC pipe covering to protect rods from grouting during grouting process. During installation a grout pipe and vent pipe is also added for grouting the anchors. A reference head, grout sealing plug and cover assembly is installed at the face of the hole for movement measurement.

**SME 2440:** It is same as 2430 but for two anchor point and remote data monitoring with vibrating wire sensors or potentiometric sensors.

**SME 2450:** It is same as 2440 but for three or more anchors point and remote data monitoring with vibrating wire sensors or potentiometric sensors.

### SPECIFICATIONS

Model no	SME-2400	SME-2410	SME-2420	SME-2430	SME-2440	SME-2450
No of points	1	1 or 2	3	1	2	3,4 or 5
Maximum depth	200 m.	200 m	200 m	100 m	50 m	50 m
Bore hole size	Ø42	Ø62	Ø76	Ø42	Ø62	Ø76
Meas. range (mm)	25, 50, 150	Max. 150	Max 150	Max 150	Max 150	Max 150
Accuracy	± 1% with Dial gage or Digital vernier	± 1% with Dial gage or Digital vernier	±1% with Dial gage or Digital vernier	1% FSD	1% FSD	1% FSD



Due to continuous development program the specification and dimensions are subject to change without notice. Our engineers do undertake the work for development as per the customer's requirement.

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