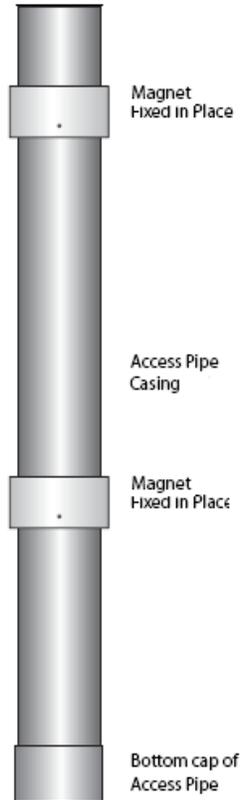
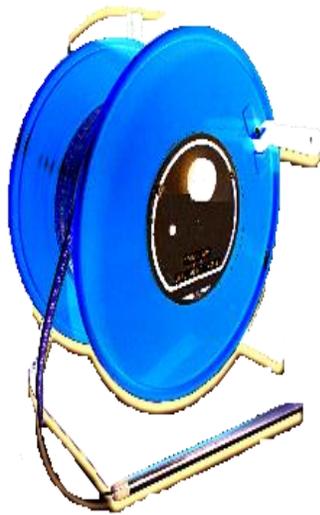




## MAGNETIC REED SWITCH PROBE EXTENSOMETER



The Magnetic Probe Extensometer is used to measure Settlement at various depths and produce a settlement profile at a given point to determine:

- Consolidation of foundation soils
- Settlement within embankments and dams
- Deformation around excavations

### DESCRIPTION

The Magnetic Probe Extensometer consists of an array of magnetic targets, surrounding a common access pipe, positioned at different depths along the length of a borehole or the height of an embankment or fill.

A reed switch probe, lowered down the access pipe, detects the position of the magnet anchors outside the tube. The probe is suspended by a single graduated tape that incorporates the electrical leads. The tape graduation is used to determine the deformation between magnetic anchor points along the pipe's axis.

### OPERATION

The Magnetic Extensometer system exists out of a magnetic probe, a measuring tape, a tape reel with built in light and buzzer and a number of measuring rings positioned at distinct intervals along the length of an access pipe. Readings can be obtained by lowering the extensometer probe through the access pipe to the depth of the measuring rings equipped with magnets.

When the probe enters the magnetic field, a reed switch closes, activating the light and buzzer. The actual depth of the measuring ring is established from the measuring tape onto which the extensometer probe is connected and which is graduated with mm/cm markings. When the access pipe is anchored in stable ground, the depth of each measuring ring is referred to a "datum" magnet reading that is fixed at different location on the access pipe.



**ADVANTAGES AND LIMITATIONS**

The Magnetic Extensometer system has an accuracy that is dependent on the visual readout of the markings on the tape. Hence the accuracy lies around 5-10 mm. The advantage however is the simplicity of installation and the economic choice when compared to other methods.

**INSTALLATION**

Access tube is used to install magnets and provide a means of lowering the probe. If possible the access tube should be installed into stable ground making it possible to use a datum magnet fixed as the reference reading at the bottom end.

**ACCESS TUBING**

**Material:** PVC

**Dimensions:** 25.4 mm ID x 35 mm OD x 3meter Length

**Joint Type:** flush coupled bonded

**SPECIFICATION**

Range 15,30, 50, 100 meter  
Resolution 1 mm  
Probe dimension 16-22 mm  $\Phi$  150-200 mm long  
Access tube PVC 25 mm ID, 35 mm OD, 3 m long,

**ACCESSORIES**

Vinyl carrying case  
Tape guide / datum  
Electronic module replacement  
Replacement tape with probe