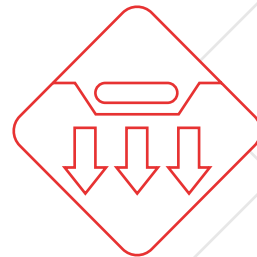


# **BRS Magnetic Extensometer**



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Instruments and Systems for Geotechnical and Structural Monitoring

## BRS Magnetic Extensometer



### Description

The BRS magnetic extensometer is used for the monitoring of settlement and subsidence in road embankments, foundations, dams etc. It is the preferred method, when the embankment or site being monitored, is already complete; in this case the settlement column can be installed by means of drilling. The system is composed by a settlement column of PVC tubing encased in a corrugated tube: fixed at predetermined distances along its length are rings made of magnetic material.

The probe detects its passage in the magnetic field of each ring by sending a signal to the readout unit connected by cable. The depth of interception is read on the cable (graduations in centimeters) supporting the probe.

### Applications

- Dams
- Road and rail embankments
- Embankments
- Land surrounding excavation areas and diaphragms
- Galleries
- Various

### Features and benefits

- Good accuracy
- Easy installation and use
- Small size and weight of probe
- Easy maintenance
- Inexpensive



### Measuring principle

Magnetic rings fixed to the corrugated guide pipe are linked to the ground and follow the various phases of settlement. There are two types of ring available:

- The “magnetic spider”, named for its shape and used in drilled holes
- The “ring with plate” used for embankments under construction.

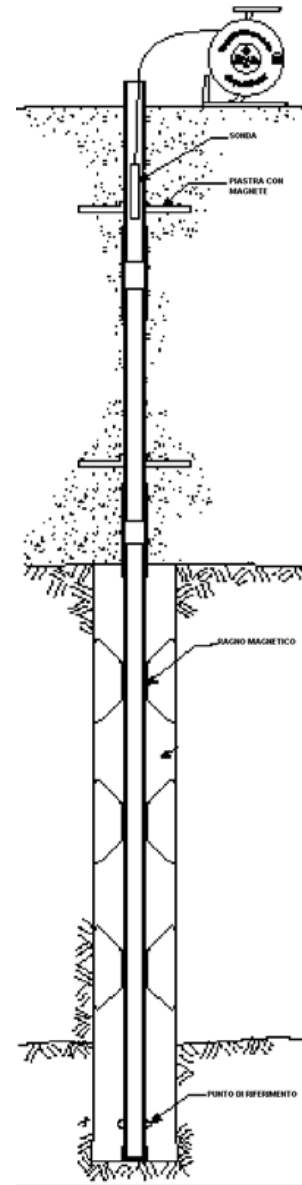
The magnetic spider is generally already fitted on the corrugated guide pipe during installation of the column, but can also be pushed down after installation

### System overview

The system consists of a probe, a measuring tape or a cable, a cable reel with an incorporated beeper, a number of magnets positioned along the probe guide tube, a bottom element and an output element. The magnets are linked to the surrounding ground and move up and down following settlement movements or other ground movements. Reading is taken by sliding the probe in the guide tube until it finds the magnetic field of the ring; at this point, the probe activates the signal.

The settlement column is made from a piece of 1.5" PVC tube (in 2m lengths), protected by a corrugated O.D. 55mm tube (supplied in rolls). The magnetic rings have a 60mm diameter with elastic steel plates for anchoring to the ground.

The reference magnet is fixed directly to the bottom element. When the bottom is fixed to the ground, this magnetic ring can be used as an absolute reference; otherwise it refers, as previously mentioned, to the top of the column periodically monitored with topographic surveys.



### Technical specifications

Round Cable	2 wire cable with Kevlar
Graduation	1 cm
Signaling	Acoustic and visual
Dimensions of the probe	D = 20 mm, L = 120 mm
Power Supply	9V Battery
Cable Roller	Roller in plastic material with frame in galvanized iron

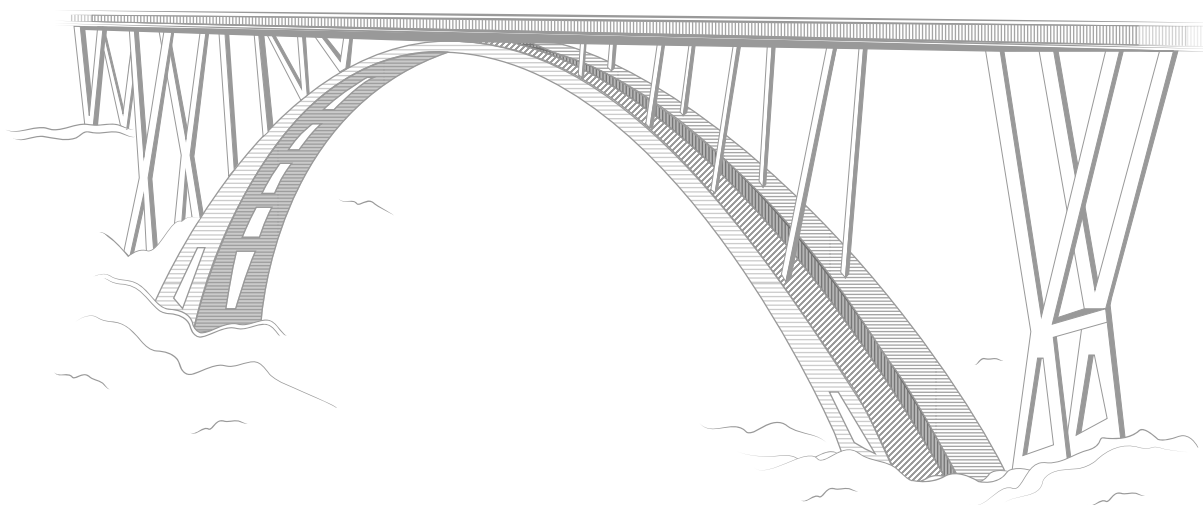
### Accessories and related products

Bottom element	Complete with magnetic ring
Guide tube – probe	In rods with a length of 1,5 m and 3 m – threaded M/M with connection device
Corrugated tube in polyethylene	Separation component between guide tube and the ground
Magnetic ring with springs	For installation in bore holes
Magnetic ring with plate	For embankments under construction
Protection element at column head	Provided with topographical marke

## The Company

For over 40 years we have been producing precision and large facility monitoring instruments sold throughout the world.

Accuracy in design, efficiency in construction, reliability in management; these are the prerogatives that every major work must have and that Structural Monitoring Systems must guarantee.



### Technical assistance

If you have any requests or questions about our instruments or if you have special needs that require different solutions from the standard, please contact us. Our team will provide all the necessary information and will be very happy to work with you to study, develop and customize instruments and solutions suitable for your specific needs.

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All data present in the sheets could change without notice.

Please check the release carefully and for more details contact Pizzi Instruments.

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