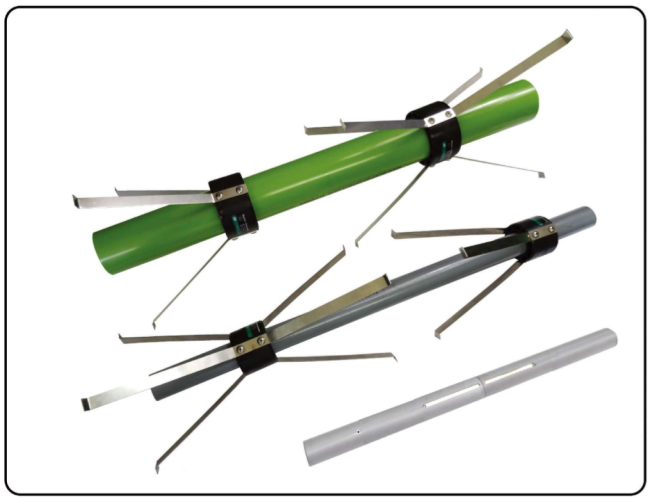
Magnetic extensometers



Description

Magnetic extensometer consists of sensing magnets, a magnet indicator, access pipe, pipe accessory and telescopic sections. The sensing magnets include plate magnet, spider magnet and ring magnet. According to measuring length, magnetic indicator is divided into 6 types such as 50m, 100m, 200m, and 300m , 350m , 500m.
Magnetic indicator has a lamp and buzzer that is connected to the reed switch inside the probe. This tape has got the graduation. Two electric wires inside the tape is connected to probe and magnetic indicator.

The access pipe can be used after choosing the one between ABS standpipes and inclinometer casings. Also sensing magnets should be selected fit the access pipe.

When a probe is lowered down inside the access pipe and enters a magnetic field, the lamp turns on and the buzzer rings. The tape graduations refer to the depth of the magnet.

When the access pipe is anchored in stable ground, the depth of each magnet is referenced to a "Datum" magnet that is fixed to the bottom of the access pipe. If the bottom of the access pipe is not in stable ground, the depth of the magnets must be referenced to the top of the pipe. And before measuring, confirm it as measuring with level meter.

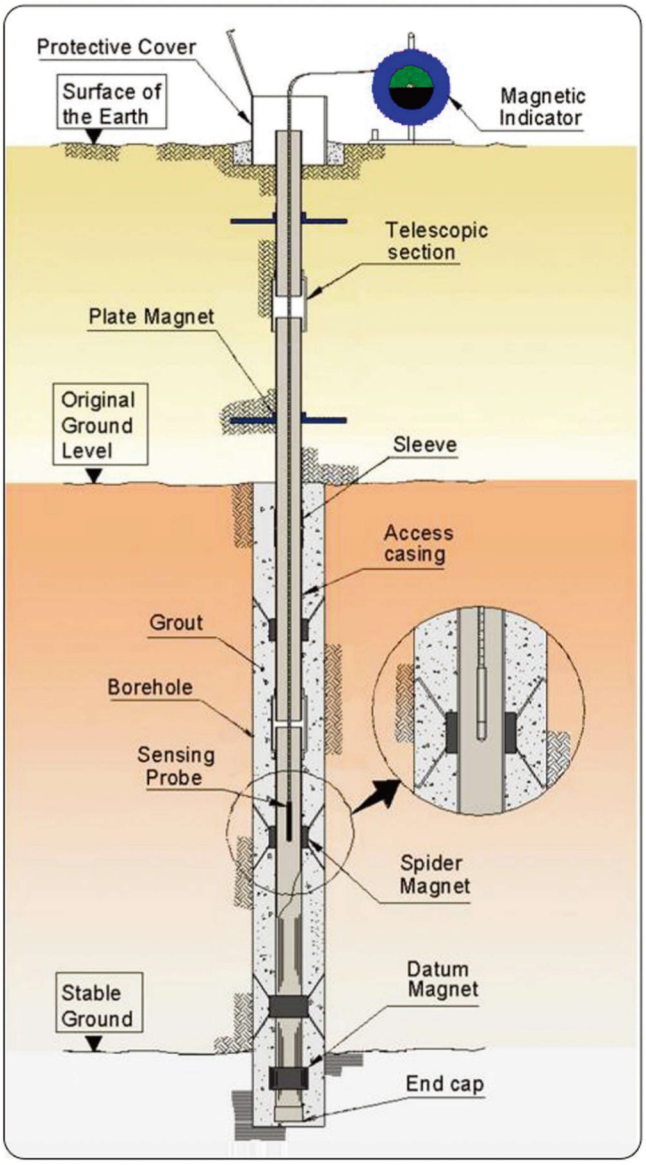
Applications

The magnetic extensometer is used to measure settlement or heaving in fills, foundations and dams.
It can also install behind retaining structures, such as sheet piles and slurry walls, and above underground openings, such as tunnels and shafts.

- Measurement of settlement or heaving in fills and foundations
- Measurement of vertical displacement in dams and embankments

Features

- Measurement of the settlement or heaving in many layers in borehole
- Not required the bottom of the access pipe to be stable
- Easy to measure
- Usable with the inclinometer in any surrounding soil
- Used the special magnet which coercive force hardly decrease as time goes by



[Installation of magnetic extensometer]

[Magnetic extensometer]

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Magnetic extensometers

Specification

Model			4680P						4680C	4680D
Components	Access pipe		ABS stand pipe		PVC stand pipe				Inclinometer casing	
			Ø31×Ø38×3,000㎜		Customizing size				Ø59×Ø70×3,000㎜	Ø73×Ø85×3,000㎜
	Telescopic section		Ø25×Ø38×400㎜						Ø70.5×Ø75×590㎜	Ø73.6×Ø90×590㎜
	End cap		Ø38×Ø46×40㎜						Ø64.4×Ø70×50㎜	Ø78.8×Ø85×50㎜
	Sleeve		Ø38×Ø46×100㎜							
	Plate ring		Ø40×Ø300×15㎜		Ø28~Ø66×Ø300×15㎜				Ø72×Ø300×15㎜	Ø87×Ø300×15㎜
	Spider ring		Ø40×Ø68×50㎜		ID Ø28~Ø66× OD Ø56~Ø87×15㎜				Ø72×Ø93×50㎜	Ø87×Ø119×50㎜
	Datum ring		Ø40×Ø68×50㎜						Ø72×Ø93×50㎜	Ø87×Ø119×50㎜
Magnetic indicator (Model : 4680)	Probe	Material	STS 304							
		Dimensions	Ø19.5×180㎜ or Ø14×180㎜							
	Wheel	Material	ABS							
		Dimensions	152(W)×278(L)×282(H)㎜ / 400(W)×400(L)×400(H)㎜							
	Tape	Material	Polyethylene coated steel tape							
		Dimensions	ISO first grade / 1㎜ resolution							
	Indication		Actuating a buzzer and a lamp							
	Operating temperature		-30~80℃							
	Power		9 VDC (6F22) battery 1ea							
	Range		50m	100m	200m	300m	350m	500m		
	Weight		2.5kg	4.5kg	8.0kg	10kg	12kg	15kg		
Extension of telescopic section			150㎜							
Application of components	Access pipe		The PVC pipes or inclinometer casings are installed in borehole. Sensing rings is positioned along the length of an access pipe.							
	Telescopic section		Telescopic sections are installed when settlement or heave is expected to be high as in fill and in soft ground. These are installed between an access pipes to prevent casings from damage.							
	End cap		The end caps are put in the top of and the bottom of the access pipe.							
	Sleeve		The sleeve is used to couple for extension between PVC pipes or inclinometer casings with telescopic sections.							
	Sensing rings	Datum ring	The datum ring is positioned at the bottom of the access pipe to refer to reference.							
		Spider ring	The spider rings are positioned at each layer at the specified depth. The spider hooks are attached to the body							
		Plate ring	The plate rings are positioned at the specific elevation and are coupled to the surrounding soil.							

Ordering information

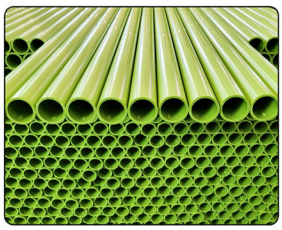
- Quantity of each sensing rings
- Kind and quantity of the access pipe
- Quantity of telescopic sections
- Quantity of end caps and sleeves
- Keeping magnetic indicator

Ancillary equipments

- Protective cover (PC-50)

[Casing for water level meter]

Our company manufacture and supply ABS pipe (Model WL Casing) of Ø31×Ø38×3,000㎜ for water level meter.



Recommendation

- The soft ground that settlement is large may exist shearing zone, so inclinometer casing, that material is ABS resin, is useful as access pipe. Telescopic sections are installed between an access pipes to protect casings from damage when settlement or heaving is expected to be large.
- Model 4550 can be used in two functions of water level meter and magnetic extensometer at the same time. The inconvenience measuring separately can be solved.

Telescopic section

- Model 4680PT : Telescopic section of ABS stand pipe
- Model 4680CT : Telescopic section of inclinometer casing

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