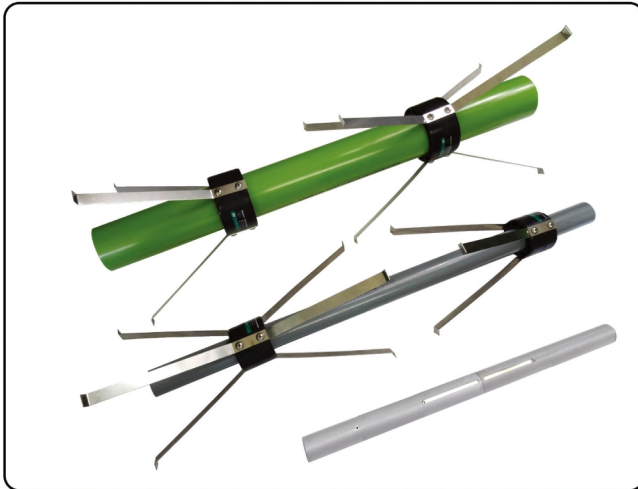


Magnetic extensometers



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 PVC 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

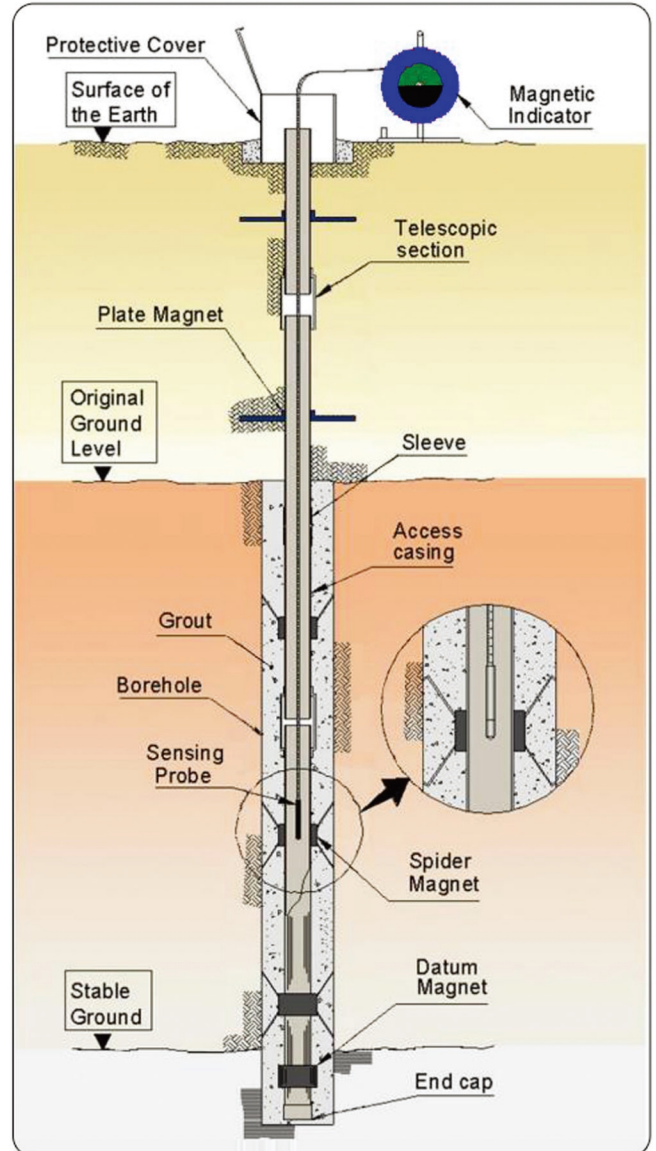
The magnetic extensometer is used to measure settlement or heaving in fills, foundations and dams.

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]

Magnetic extensometers

Specification

Model		4680P			4680C		4680D		
Components	Access pipe	PVC stand pipe			Inclinometer casing				
		Ø30×Ø38×4,000mm			Customizing size	Ø59×Ø70×3,000mm		Ø73×Ø85×3,000mm	
	Telescopic section	Ø25×Ø38×400mm		Ø70.5×Ø75×590mm		Ø73.6×Ø90×590mm			
	End cap	Ø38×Ø46×40mm		Ø64.4×Ø70×50mm		Ø78.8×Ø85×50mm			
	Sleeve	Ø38×Ø46×100mm							
	Plate ring	Ø40×Ø300×15mm		Ø28~Ø66×Ø300×15mm		Ø72×Ø300×15mm		Ø87×Ø300×15mm	
	Spider ring	Ø40×Ø68×50mm		IDØ28~Ø66×		Ø72×Ø93×50mm		Ø87×Ø119×50mm	
Datum ring	Ø40×Ø68×50mm		ODØ56~Ø87×15mm		Ø72×Ø93×50mm		Ø87×Ø119×50mm		
Magnetic indicator (Model : 4680)	Probe	Material	STS 304						
		Dimensions	Ø19.5×180mm or Ø14×180mm						
	Wheel	Material	ABS						
		Dimensions	152(W)×278(L)×282(H)mm / 400(W)×400(L)×400(H)mm						
	Tape	Material	Polyethylene coated steel tape						
		Dimensions	ISO first grade / 1mm resolution						
	Indication	Actuating a buzzer and a lamp							
	Operating temperature	-30~80°C							
	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		150mm							
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)

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