Inclinometer casings (1/6P)

Description

Inclinometer casing is used for the portable inclinometer or in place inclinometer, comprised of three meters lengths of ABS pipe with four internal grooves spaced 90° degrees apart and running along the entire casing length. Inclinometer casing is typically installed in bore holes, but may also be embedded in fills, cast into concrete, or attached to a structure. The internal groove of inclinometer casing controls the orientation of inclinometer probe or in place inclinometer. The deflection or deformation of the surrounding soil or structure causes change in tilt angle of the casing from vertical. These changes in tilt angle are measured by the readout. Inclinometer casing is affected by causes; the diameter of casing, appreciate strength, flexibility and spiral. Ace's casing is made for being fit for them.

Consideration of casing selection

Casing diameter

Casing O.D	Application
Ø60～Ø64㎜	• Attaching to surface of structures or being embedded in cast into concrete • Installing in borehole surrounded by rock • Installing in area acting large deformation or distributed load
Ø70㎜	• Installing in field which large displacements is expected. • Most appreciate for most structures and fills
Ø85㎜	• Installing for long term monitoring • Installing in area, that depth is more than 40 meters deep or much shearing exist • Installing a horizontal inclinometer

Spiral angle

Guide grooves are aligned in orientation of inclinometer probe. If grooves are twisted during transport, installation and storage, the direction of inclinometer probe or in place in inclinometer will alter during measurement so it will be impossible to determine the direction of ground behavior.
Inclinometer casing manufactured by ACE INSTRUMENT has within spiral of 0.3° degree and a protrusion outer surface of it for coupling between casings.

Casing material

Inclinometer casing extruded by ABS resin in ACE INSTRUMENT is used in ground water, grouts, all types of soils and soft ground that large deformation or deflection is expected. It is designed to be easy to assemble and to retain flexibility over a wider temperature range.
Inclinometer casing provides better conformance to be flexible than aluminum casing.
ABS casing can be formed with greater precision than aluminum casing and does not corrode. It is also more flexible than aluminum casing and is unaffected by electrical noise. Inclinometer casing has strength and flexibility over a wider temperature range than PVC casing.

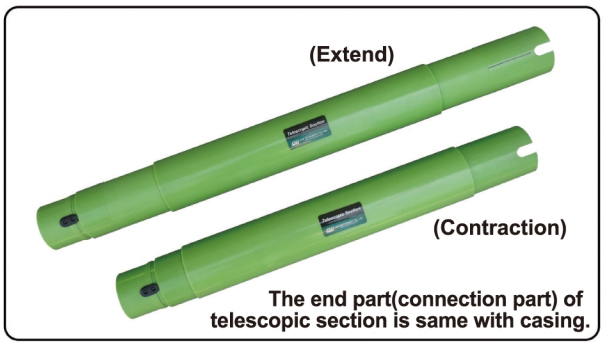
Collapse strength

In installation in borehole, the annular space between the casings is filled with grout or a granular material.
To avoid collapse caused by high pressure during grouting, ACE INSTRUMENT manufactures strong couplings and thick-walled casing. Also the depth of guide grooves is precisely controlled to keep within the limits of weakening of the casing wall.

Component

Telescopic section

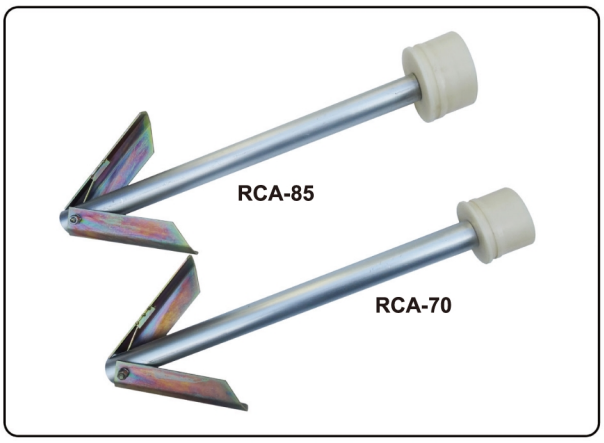
When settlement is happened at the field where inclinometer casing was installed, the horizontal displacement is inevitably happened with settlement.
If the connection part of casing is not extended when the horizontal displacement is happened, the casing is damaged.
If you connect telescopic section that have 150㎜ extension capacity at the 1~3 point between connect part of casing, you can protect the damage of casing because it is extended about 1~3% and it absorbs the horizontal displacement.



[Telescopic section for RC casing]

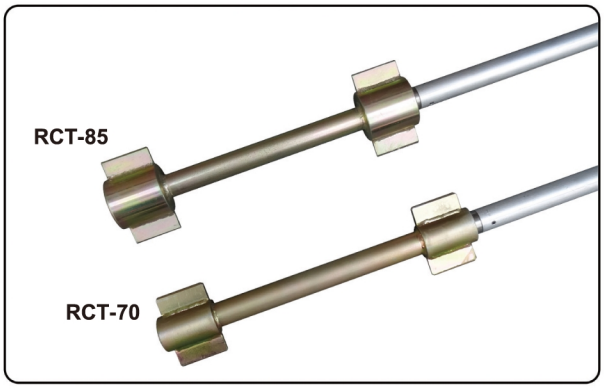
Spring anchor

When inclinometer casing is installed after drilling, the grout that water is mixed as material for filling up is used. Water of grout make the buoyancy, so it lifts up Inclinometer casing or it makes to change the direction. In case taking down it to the bottom of hole after connecting spring anchor at end part of casing, Spring anchor is spread so you can protect to buoy casing.



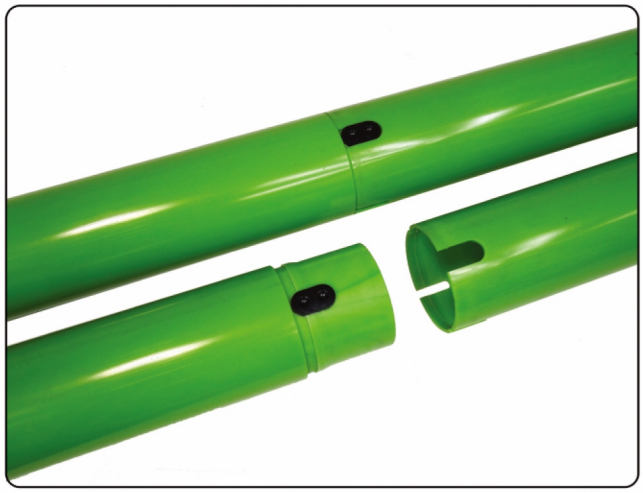
Casing connection tool

Inclinometer casing was processed by machine, if the casing is damaged after installing, to connect casing is difficult. So you can use the casing connection tool for easy and correctly connecting.



• Tel : 82-31-459-8753/7 • Fax : 82-31-459-8758
• Website : www.aceinstrument.com / www.aceco.kr • E-mail : acens@naver.com
ACE INSTRUMENT CO., LTD.
The first value in the Geotechnical & Structural Instrumentation

RC type inclinometer casings



Description

RC type inclinometer casing is the high-precision casing which coupling (sleeve) is not required. And also four internal guide grooves inside of inclinometer casing are proceeding by a broaching machine.

Both end surface of RC inclinometer casings are proceed by CNC lathe machine, and the connection part is manufactured in a precision structure not to come out because the casing is connected as a snap-in type.

To improve the waterproof and the strength of connection, ABS solvent bond should be pasted on the connection part of casings.
After RC inclinometer casing is connected each other, it doesn' t require riveting, and taping

And there are two types of RC inclinometer casing such as Ø59㎜ and Ø73㎜ according to internal diameter. And if the big displacement is expected, the telescopic section should be used.

In case of using RC 70, it can be installed with NX drill, and in case of RC 85, Ø100㎜ drill should be used to install it.

The length of connection for RC type inclinometer casing are designed at 1.5m and 3.0m.

Features

- Available to quick installation
- Proceeded casing by CNC lathe machine with high precision, and high sincerity
- Two types of cutting length (1.555m and 3.055m)
- Mechanical structure that the coupling is not necessary
- More than 600kg · f for load test
- Flush type without projection part at the outside diameter

Specification

Model		RC 70	RC 85
Casing	ID, OD	Ø59×Ø70㎜	Ø73×Ø85㎜
	Groove depth	1.5㎜	
	Thickness	5.5㎜	6㎜
	Weight	3.6kg/3m	4.5kg/3m
	Spiral	Less than 0.3˚ / 3m	
	Connecting length	1.5m / 3m	
	Cutting length	1,555㎜ / 3,055㎜	
	Load test	More than 600kg · f	
	Collapse strength	15bar	12bar
	Operating temperature	-30~80℃	
	Material	High impact ABS resin	
Bottom cap	Dimensions	Ø70×50㎜	Ø85×50㎜
	Material	High impact ABS resin	
	Weight	45g	60g
Top cap	Dimensions	Ø70×35㎜	Ø85×35㎜
	Material	High impact ABS resin	
	Weight	36g	46g
Telescopic section	Expendable length	150㎜	
	Material	High impact ABS resin	
	Dimensions	Ø75×400㎜	Ø90×400㎜
	Weight	0.6kg	1.0kg
Accessories		Protection cap 2nos	

Component

- ABS solvent bond
- Spring anchor
  - RCA-70 : for Ø70㎜ casing
  - RCA-85 : for Ø85㎜ casing
- Casing connection tool
  - RCT-70 : for Ø70㎜ casing
  - RCT-85 : for Ø85㎜ casing

Keeping

Direct sunlight and heat can be caused of twist of ABS casing, so it should be stored in bows during transport and before installation.
Also it should be kept flat and horizontally supported during long term storage in filed.

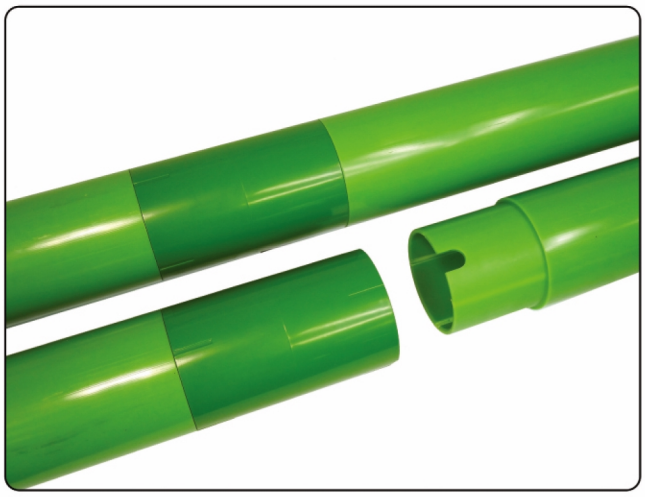
Package

RC 70, RC 85 casings are packed 8pcs in a carton box.

• Tel : 82-31-459-8753/7 • Fax : 82-31-459-8758
• Website : www.aceinstrument.com / www.aceco.kr • E-mail : acens@naver.com

ACE Instruments ACE INSTRUMENT CO., LTD.
The first value in the Geotechnical & Structural Instrumentation

SC type inclinometer casings (3/6P)



Description

SC type inclinometer casing is proceed mechanically to operate the portable inclinometer set for measuring the displacement in a slope, and displacement in borehole, settlement in embankment etc. It is installed to get a data with rapidity, and precision, so it is normally used in various weather conditions.

SC inclinometer casing has got four internal grooves spaced 90 degrees apart which is processed by a broaching machine. Spiral is less 0.3° degree. And the connection part on casing that should be connected to the coupling manufactured by CNC lathe machine.

And there are two types of SC inclinometer casing such as Ø59㎜ and Ø73㎜ of internal diameter. And if the big displacement is expected, the telescopic section should be used.

Model SC 70 can be installed with NX drill, because the casing and coupling has got the same outer diameter.

Features

- Proceeded casing by CNC lathe machine with high precision and high sincerity
- Two types of cutting length (1.5m and 3m)
- Flush type without projection part at the outside diameter
- Possibility for the installation depth to install in deep place
- Moderation to the place that the water condition is various

Specification

Model		SC 70	SC 85
Casing	ID, OD	Ø59×Ø70㎜	Ø73×Ø85㎜
	Groove depth	1.5㎜	
	Thickness	5.5㎜	6㎜
	Weight	3.6kg/3m	4.5kg/3m
	Spiral	Less than 0.3° / 3m	
	Connecting length	1.5m / 3m	
	Cutting length	1,500㎜ / 3,000㎜	
	Load test	More than 320kg · f	
	Collapse strength	15bar	12bar
	Operating temperature	-30~80℃	
	Material	High impact ABS resin	
Sleeve	Dimensions	Ø70×115㎜	Ø90×115㎜
	Material	High impact ABS resin	
	Weight	70g	120g
Bottom cap	Dimensions	Ø70×52㎜	Ø85×52㎜
	Material	High impact ABS resin	
	Weight	50g	70g
Top cap	Dimensions	Ø70×35㎜	Ø85×35㎜
	Material	High impact ABS resin	
	Weight	36g	46g
Telescopic section	Expendable length	150㎜	
	Material	High impact ABS resin	
	Dimensions	Ø75×400㎜	Ø90×400㎜
	Weight	0.6kg	1.0kg
Accessories		Protection cap 2nos	

Component

- ABS solvent bond
- Pop rivet
- Pop rivet gun
- Mastic tape
- Pipe chain clamp
- Drill and drill bit
- Protect cover
- Silicone

Keeping

Direct sunlight and heat can be caused of twist of ABS casing, so it should be stored in bows during transport and before installation.
Also it should be kept flat and horizontally supported during long term storage in filed.

Package

SC 70, SC 85 casings are packed 8pcs in a carton box.

• Tel : 82-31-459-8753/7 • Fax : 82-31-459-8758
• Website : www.aceinstrument.com / www.aceco.kr • E-mail : acens@naver.com
ACE INSTRUMENT CO., LTD.
The first value in the Geotechnical & Structural Instrumentation

DC type inclinometer casings (4/6P)

Description

DC type inclinometer casing is the high-precision casing which the guide grooves inside of inclinometer casing and the connecting parts of the coupling are proceed by a broaching machine.

Both end surface of DC casing is proceeding by CNC turning center, and it is finished by O-ring.
DC casing was designed as snap-in type. So after taking off the protective tube of O-ring, it can be directly inserted. DC casing is possible to install quickly.
ABS bond is unnecessary. And to rivet and to tape is unnecessary because DC casing is waterproof by O-ring.

To improve the waterproof and the strength of connection, ABS solvent bond should be pasted on the connection part of casings.
After DC inclinometer casing is connected each other, it doesn't require riveting, and taping

And there are two types of DC inclinometer casing such as Ø59㎜ and Ø73㎜ according to internal diameter. And if the big displacement is expected, the telescopic section should be used.

In case of using DC 70, it can be installed with NX drill, and in case of DC 85, Ø100㎜ drill should be used to install it.

The length of connecting for DC casing is designed at 1.5m and 3.0m.

Features

- Proceeded casing by CNC lathe machine with high precision and high sincerity
- Two types of cutting length (1.555m and 3.055m)
- Mechanical structure that the coupling is not necessary.
- Available to quick installation.
- Flush type without projection part at the outside diameter
- Simple installation (unnecessary solvent, rivet, and taping)

Specification

Model		DC 70	DC 85
Casing	ID, OD	Ø59×Ø70㎜	Ø73×Ø85㎜
	Groove depth	1.5㎜	
	Thickness	5.5㎜	6㎜
	Weight	3.6kg/3m	4.5kg/3m
	Spiral	Less than 0.3˚ / 3m	
	Connecting length	1.5m / 3m	
	Cutting length	1,555㎜ / 3,055㎜	
	Load test	More than 320kg · f	
	Collapse strength	16bar	13bar
	Operating temperature	-30~80℃	
	Material	High impact ABS resin	
Bottom cap	Dimensions	Ø70×64㎜	Ø85×64㎜
	Material	High impact ABS resin	
	Weight	70g	100g
Top cap	Dimensions	Ø70×35㎜	Ø85×35㎜
	Material	High impact ABS resin	
	Weight	36g	46g
Telescopic section	Expendable length	150㎜	
	Material	High impact ABS resin	
	Dimensions	Ø75×400㎜	Ø90×400㎜
	Weight	0.6kg	1.0kg
Accessories		Protection cap 2nos	

Component

- Pipe chain clamp
- Spring anchor
  - RCA-70 : for Ø70㎜ casing
  - RCA-85 : for Ø85㎜ casing
- Casing connection tool
  - RCT-70 : for Ø70㎜ casing
  - RCT-85 : for Ø85㎜ casing

Keeping

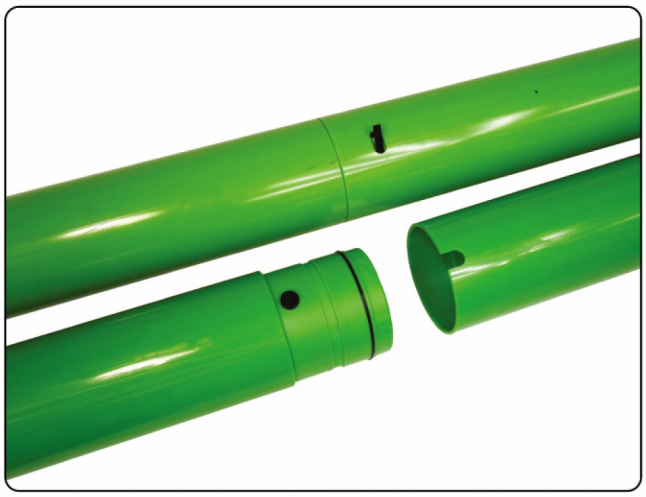
Direct sunlight and heat can be caused of twist of ABS casing, so it should be stored in bows during transport and before installation.
Also it should be kept flat and horizontally supported during long term storage in filed.

Package

DC 70, DC 85 casings are packed 8pcs in a carton box.

• Tel : 82-31-459-8753/7 • Fax : 82-31-459-8758
• Website : www.aceinstrument.com / www.aceco.kr • E-mail : acens@naver.com
ACE Instruments ACE INSTRUMENT CO., LTD. The first value in the Geotechnical & Structural Instrumentation

WC type inclinometer casings (5/6P)



Description

WC type inclinometer casing is the high-precision casing which the guide grooves inside of inclinometer casing and the it is connected by band strap that put inside of casing

There are 4 guide grooves inside and their twisting angle is less than 0.3° in order to keep 90° equally between each guide groove.

There are two type of length as 1555㎜ and 3055㎜. Also, there is extension connection as telescopic section

Both end surface of WC casing is proceeding by CNC turning center, and it is finished by O-ring.and provided band strap for connecting.

Features

- Proceeded casing by CNC lathe machine with high precision and high sincerity
- Two types of cutting length (1.555m and 3.055m)
- Available to quick installation.
- Flush type without projection part at the outside diameter
- Simple installation (unnecessary solvent, rivet, and taping)

Specification

Model		WC 70	WC 85
Casing	ID, OD	Ø59×Ø70㎜	Ø73×Ø85㎜
	Groove depth	1.5㎜	
	Thickness	5.5㎜	6㎜
	Weight	3.6kg/3m	4.5kg/3m
	Spiral	Less than 0.3° / 3m	
	Connecting length	1.5m / 3m	
	Cutting length	1,555㎜ / 3,055㎜	
	Load test	More than 320kg · f	
	Collapse strength	16bar	13bar
	Operating temperature	-30~80℃	
	Material	High impact ABS resin	
Bottom cap	Dimensions	Ø70×64㎜	Ø85×64㎜
	Material	High impact ABS resin	
	Weight	70g	100g
Top cap	Dimensions	Ø70×35㎜	Ø85×35㎜
	Material	High impact ABS resin	
	Weight	36g	46g
Telescopic section	Expendable length	150㎜	
	Material	High impact ABS resin	
	Dimensions	Ø75×400㎜	Ø90×400㎜
	Weight	0.6kg	1.0kg
Accessories		Protection cap 2nos	

Component

- Pipe chain clamp
- Spring anchor
  - RCA-70 : for Ø70㎜ casing
  - RCA-85 : for Ø85㎜ casing
- Casing connection tool
  - RCT-70 : for Ø70㎜ casing
  - RCT-85 : for Ø85㎜ casing

Keeping

Direct sunlight and heat can be caused of twist of ABS casing, so it should be stored in bows during transport and before installation.
Also it should be kept flat and horizontally supported during long term storage in filed.

Package

WC 70, WC 85 casings are packed 8pcs in a carton box.

• Tel : 82-31-459-8753/7 • Fax : 82-31-459-8758
• Website : www.aceinstrument.com / www.aceco.kr • E-mail : acens@naver.com
ACE INSTRUMENT CO., LTD.
The first value in the Geotechnical & Structural Instrumentation

FC type inclinometer casings

Description

FC type inclinometer casing is cut 3m and it is packed 12pcs in a carton box

It is advantages to install in shallow depth less than 20m.

It is suitable to apply at embedded into concrete, installed in borehole surrounded by rock, installed in field which has displacement is expected, installed in area acting small deformation, and distributed load.

The extruded casing has less than 0.5°/3m spiral and has more than 250kg stiffness. It is high reliability products.

The FC-64 casing is made of the outer diameter Ø70mm with connected to the sleeve, so it is easy to install because it fits into the normal borehole drill NX(Ø76mm) drill inner diameter.

And it is relatively large inner diameter Ø64mm, so even if displacement has occurred, it can prevent jam of probe without breakage.

Features

- High precision and high quality extruded casing
- The less than 0.5°/3m of spiral
- Lower price
- Easy and quick installation
- Enable to install by NX drill because the FC-64 sleeve diameter is Ø70mm

Specification

Model		FC-64	FC-70	FC-85
Casing	ID, OD	Ø53.6×Ø60.6 ×Ø64㎜	Ø58×Ø66 ×Ø70㎜	Ø72.2×Ø80.8 ×Ø85㎜
	Groove depth	59㎜	62㎜	76.4㎜
	Thickness	4.0㎜ (Average)		
	Weight	2.2kg/3m	2.6kg/3m	3.3kg/3m
	Spiral	Less than 0.5° / 3m		
	Cutting length	3,000㎜		
	Load test	More than 250kg · f		
	Collapse strength	10bar		
	Operating temperature	-20~60℃		
	Material	High impact ABS resin		
Sleeve	Dimensions	Ø70×180㎜	Ø80×180㎜	Ø95×180㎜
	Material	High impact ABS resin		
	Weight	150g	240g	305g
End cap	Dimensions	Ø69×63㎜	Ø75×70㎜	Ø90×63㎜
	Material	High impact ABS resin		
	Weight	55g	70g	75g

Component

- ABS solvent bond
- Pop rivet
- Pop rivet gun
- Mastic tape
- Pipe chain clamp
- Drill and drill bit
- Protect cover
- Silicone

Keeping

Direct sunlight and heat can be caused of twist of ABS casing, so it should be stored in bows during transport and before installation.

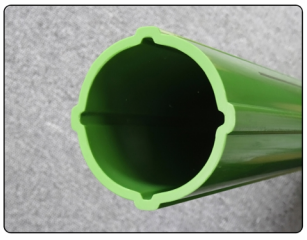
Also it should be kept flat and horizontally supported during long term storage in filed.

Package

The extruded casings are packed 12pcs in a carton box.

[Picture of connecting]

[Picture of Ø114㎜ protect cover]



[Casing section]

• Tel : 82-31-459-8753/7 • Fax : 82-31-459-8758
• Website : www.aceinstrument.com / www.aceco.kr • E-mail : acens@naver.com

ACE Instruments ACE INSTRUMENT CO., LTD.
The first value in the Geotechnical & Structural Instrumentation