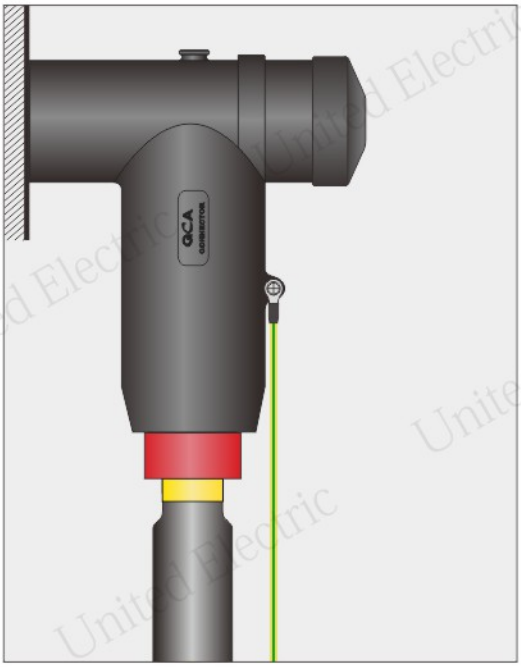
United Electric

Installation Instruction

36kV 630A
Screened separable T connector

for 1-core XLPE insulated cable,
copper wire screened, without armored
01-9408-021A-0422



Generals

- *Check and ensure the cable against any damage, water or moisture corrosion.*
- *The cable must be fixed right under the bushing without any distortion.*
- *Carefully read and follow the steps in the installation instruction. We are not responsible for any fault from incorrect installation.*
- *Do not nick the connector body during all the procedure of operation.*

United Electric Co., Ltd

515 Saiba Bldg. No.16, Keji North 2nd Road,
Nanshan District, Shenzhen 518054,
Guangdong, China

Tel: 0086-755-26419390/26419370/26406630
Fax: 0086-755-26414580
E-mail: export@ueaccessory.com
Web: www.uesolution.cn

*The manufacturer P/N of 36kV 630A screened separable T connectors are CJB30-630, 1*300.*

The screened separable T connectors are made of silicone rubber, designed to connect with the type C bushing in accordance with the standard of CENELEC EN50180 & EN50181, the bolt type is M16.

This instruction is suitable for the installation of the screened separable T connectors over 1-core XLPE insulated cable, copper wire screened, without armored, with mechanical cable lug.

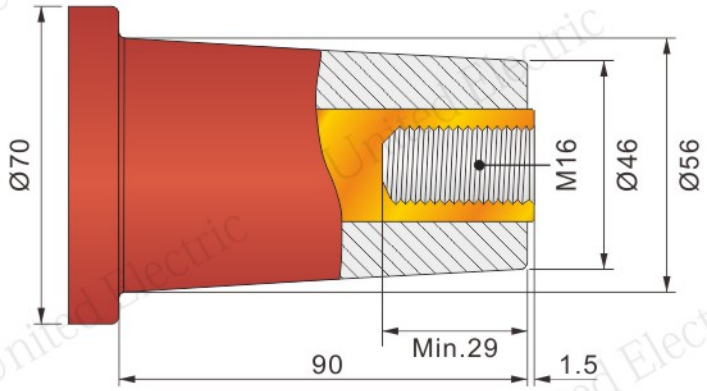
The installation should be made by the person who has been trained and get the qualified certificate. Carefully read and follow the steps in the installation instruction before installing the product.

Take care of the silicone rubber components during the installation, do not nick the components.

Check the kits according to the kit contents, make sure the kits comply with the cable on site.

Bushing profile:

- The connector should only be used on bushing with dimensions as shown in right drawing.
- The bushing size meet the requirements of standard EN50181.



1. Check the cable and installation site.

- The installation site should be clean, the relative humidity should not exceed 75%, the ambient temperature should be higher than 5℃.
- Check the outer diameter of cable insulation and suitable stress cone according to table 1.
- Check the cable on site which should be qualified.

Table 1

I.E.Co P/N	Manufacturer P/N	Suitable cable Insulation Diameter Ø [mm]	Cable voltage U_0/U [kV]	Conductor Cross-section	Conductor Min. & Max. Diameter [mm]	Insulation Min. & Max. Diameter [mm]
P/N 5329449	CJB30-630 1*300	5#: 40~45mm	26/45	300 Al	20.0-21.6	42.6~44.6
			26/45	300 Cu	20.0-21.6	42.6~44.6
P/N 5329550	CJB30-630 1*300+ CJBKP30 (YH5W-45/118)	5#: 40~45mm	26/45	300 Al	20.0-21.6	42.6~44.6
			26/45	300 Cu	20.0-21.6	42.6~44.6

2. Cable preparation

- Ensure that the end of the cable within 1000mm should be straight.
- Clean the cable outer sheath and remove a length of 500-800mm as request on site. Keep enough length of copper wires for earthing.

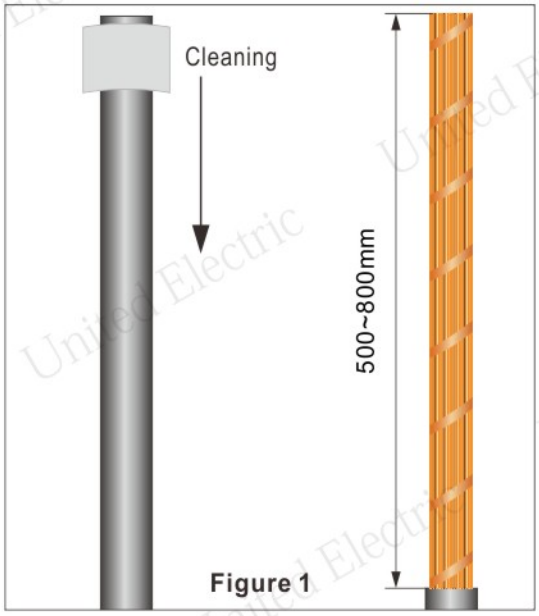


Figure 1

- Bend the screen copper wires back one by one .
- Bundle the copper wires to form an earth lead. Cut the end of earth lead to get a flat cross-section.
- Compress the earthing lug over the end of the earth lead by compression tool, remove any sharp edges and flashing.

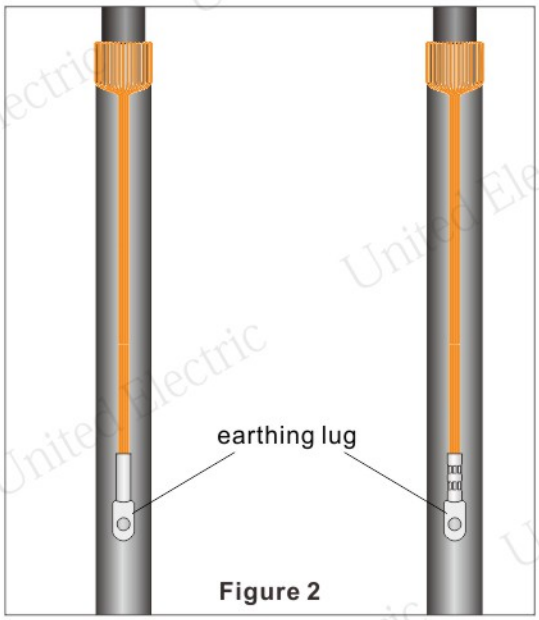


Figure 2

- Wrap one layer of red sealing mastic over the barrel tube of the earth lug. Cover the red sealing mastic by PVC tape.
- Place and shrink heat shrink earth tube(yellow/green) over the earth lead.
- Lift up the earth lead, wrap one layer of red sealing mastic over the cable outer sheath as shown in figure 3.
- Continue wrap another layer of red sealing mastic over the earth lead and cable outer sheath to form a waterproof and sealing layer.
- Lay down the earth lead and fix it over the cable outer sheath temporally by PVC tape.

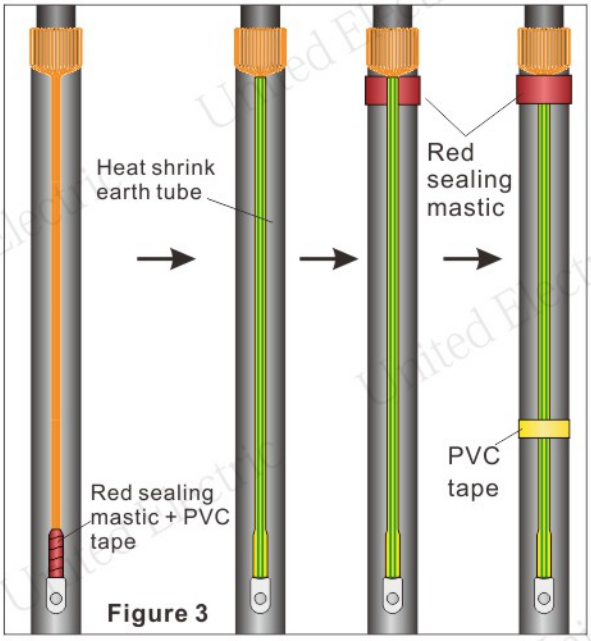


Figure 3

- Mark a reference line over the cable insulation screen layer with 35mm to the end of cable outer sheath.
- Place the heat shrink earth tube(black) over cable core and shrink it down with starting from the reference line.

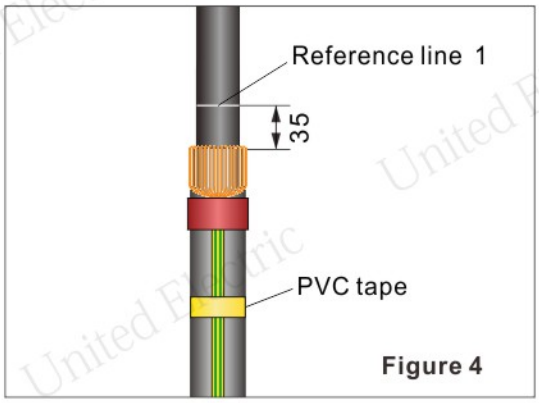


Figure 4

3. Cut the cable to requested length

- Measure 186±1mm from the previous mark line(35mm), mark another reference line over the cable insulation screen as shown in the drawing.
- Cut the cable at the reference line.

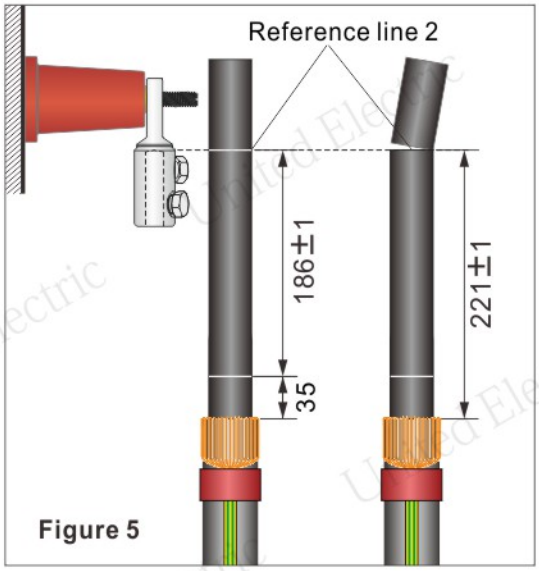


Figure 5

4. Core preparation

- Remove core insulation screen and insulation layer to the dimensions as below figure. Please pay attention that the dimensions are different for different cable cross sections.

Note:
(1) Do not nick the cable insulation when remove the cable insulation screen. Avoid removing too much of the insulation layer when use a Stripping Tool. The cable screen end should be smooth transition, without any turnup and sharp-angle. Check the insulation diameter after removing the semi-conductive layer, it should be within the application range of the stress cone.

(2) The cable insulation surface should be smooth and free from all traces of conductive material. Polish the cable insulation surface by abrasive strap if there are any irregularities or imperfections. **Chamfer the cable insulation cut to (2~4)×45°**. Check again the diameter of the cable insulation, it should be within the application range of the stress cone.
(3) Clean the cable conductor, thoroughly remove the oil stain and oxide film of the cable conductor surface if any. Wrap the cut end of conductor with PVC tape.

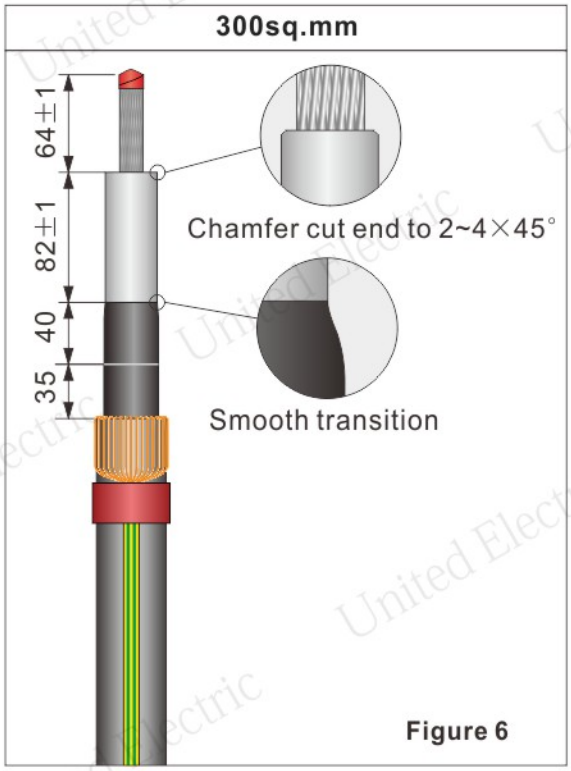


Figure 6

5. Sealing the end of cable outer sheath

- Place the heat shrink earth tube(black) over cable core and shrink it down starting from the reference line.

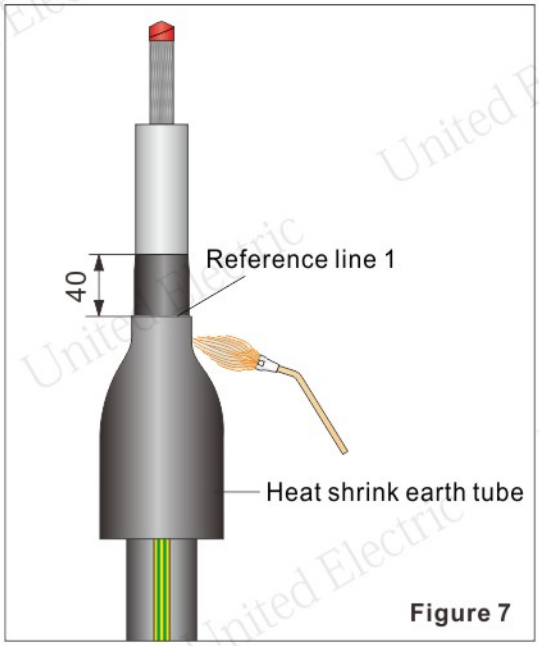


Figure 7

6. Wrap semi-conductive tape

- Measure 18mm form the cut end of insulation screen, half-overlapping wrap the semi-conductive tape around the insulation screen with 150% stretch of its original length, and to make a step with width of 20-25mm and outer diameter ØD= outer diameter of insulation Ød + 8mm.
- Continue wrapping semi-conductive tape down over the heat shrink tube with cover the tube for 15mm.

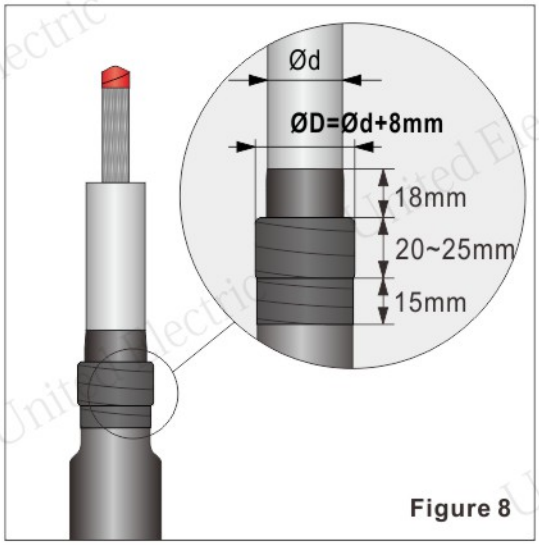


Figure 8

7. Clean and lubricate stress cone and cable insulation

- Clean the outer surface of core insulation from the cut end downwards with cleaning tissue, do not reuse the cleaning tissue just applied.
- After the solvent volatilization, coat silicone grease onto the outer surface of core insulation and the inner surface of stress cone.
  Do not coat silicone grease onto the insulation screen.
- Coat silicone grease onto the inner surface of the stress cone where mark with the broken line as shown in figure 8.

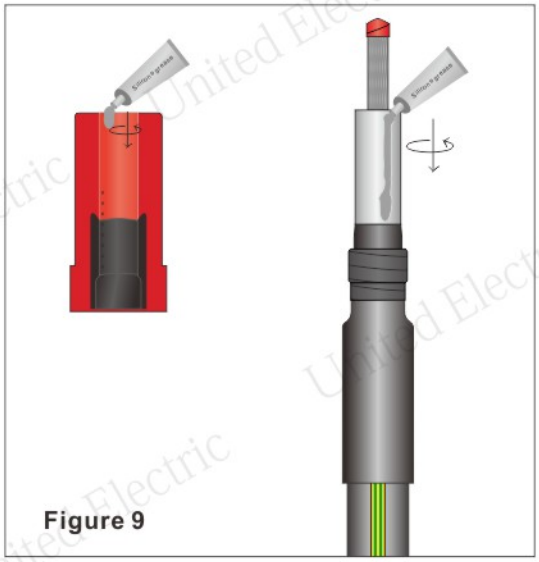


Figure 9

8. Install stress cone

- Push the stress cone onto the cable core with rotation until the flange of stress cone contact firmly with the semi-conductive tape step.
- Wrap several layers of PVC tape next to the underside of the stress cone as a marker for checking the position of the stress cone. The stress cone must stay in place after finish the installation of T connector body.

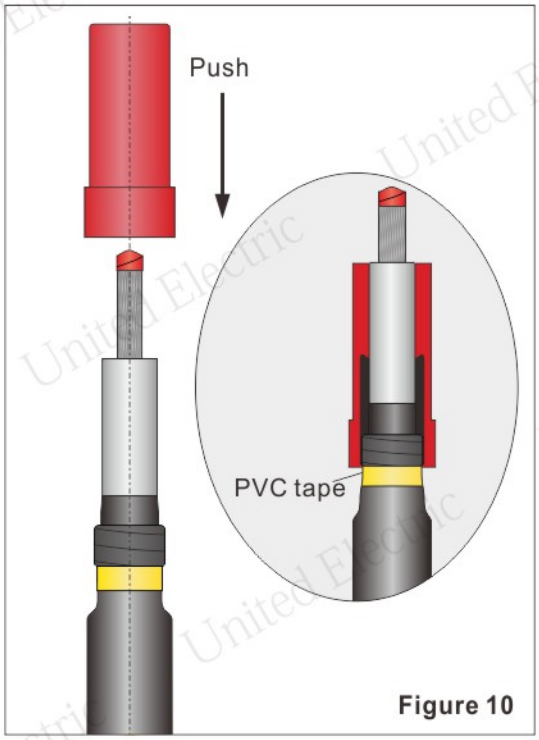


Figure 10

9. Install cable lug

- Remove the PVC tape previous applied from the conductor.
- Put on the proper cable lug over conductor, barrel of lug butts against insulation. Please notice the direction of the lug palm, the palm must be parallel with the copper plane in the bushing, which can guarantee good conduction contact.
  Attention !!!
  The load current may occurred due to the bad contact between the lug and the copper plane in bushing, it will result in heating and temperature growing up, and damage the cable and equipment.
- Install the mechanical lug according to the installation instruction packed with lug. Remove any sharp edges.

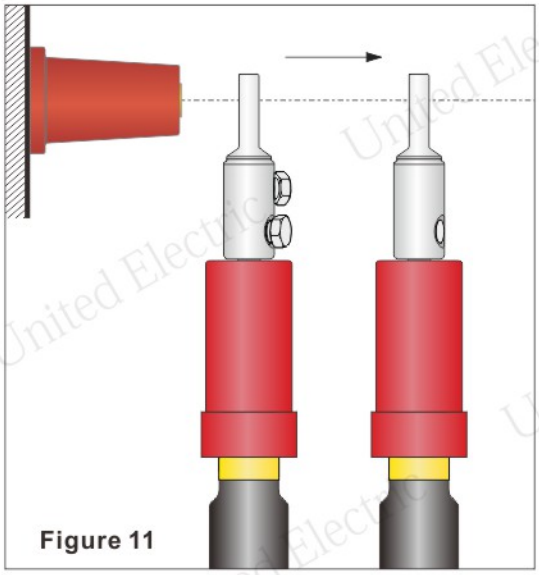


Figure 11

10. Clean and lubricate stress cone and connector

- Clean the outer surface of stress cone and inner surface of the T connector.
- Coat evenly a thin layer of silicone grease onto the upper part of the stress cone and the inner surface of the bottom end of the T connector. (Figure 11)

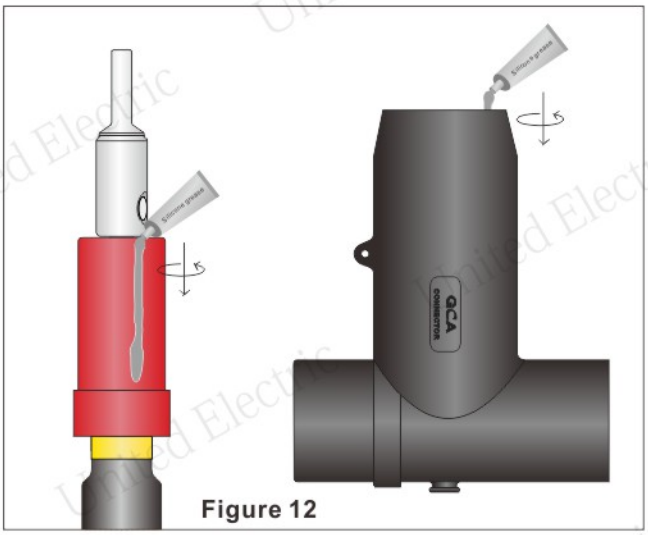


Figure 12

11. Push T connector onto stress cone

- Align the T connector with stress cone and cable lug, push the T connector with no interrupted onto the stress cone.
- Be noticed that the stress cone and PVC marker should not have any moving. The down end of the stress cone should be exposed in the range of 30-40mm. (Figure 13)

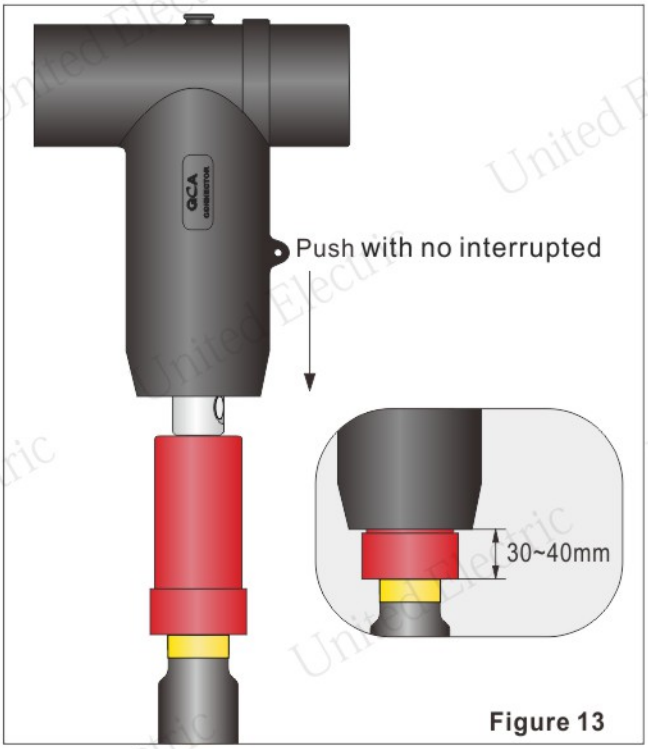


Figure 13

12. Clean and lubricate bushing and T connector

- Clean the outer surface of the connected bushing.
- Coat evenly a thin layer of silicone grease onto the connected bushing, and the inner surface of the front end of the T connector. (Figure 14)

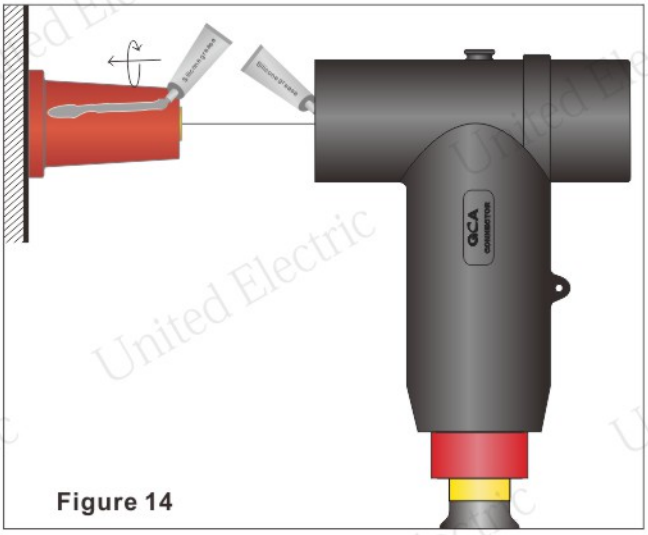


Figure 14

13. Push T connector onto bushing

- Fasten firmly M12/M16 double-end thread stud onto the connecting bushing with M16 ahead.
- Align the hole of the cable lug with the threaded pin and push the T connector onto the bushing. (Figure 14)

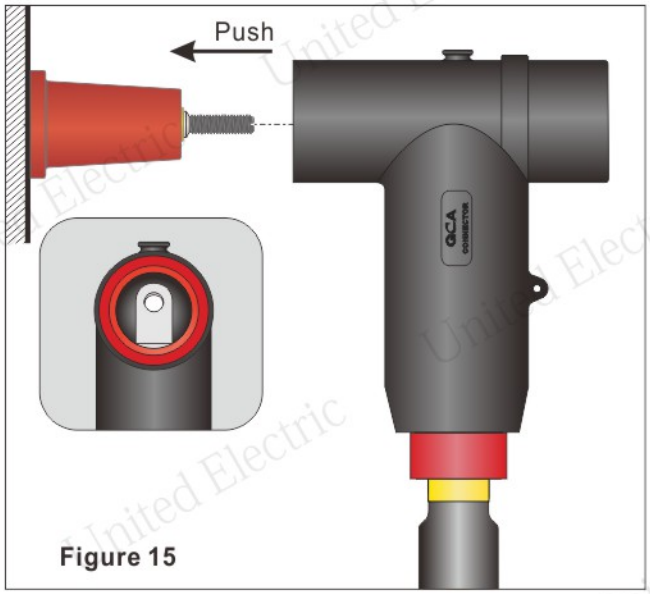


Figure 15

14. Fix T connector onto bushing

- Install the flat washer, spring washer and nut in sequence, screw down the nut with hexagon wrench with the torque of 35N.m.
- Clean and coat a thin layer of silicone grease onto the inner surface of back end of T connector and outer surface of insulation plug.
- Screw the insulation plug into the back end of T connector by hand first, and then fix it by spanner with the torque of 30N.m.
- Cover the insulation plug with protect cap.

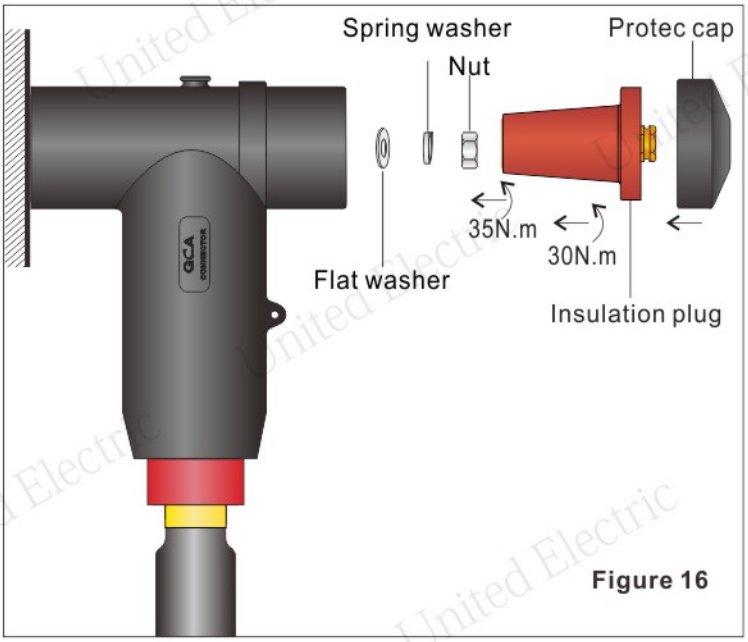


Figure 16

15. Install earthing wire and earthing lead

- Install the screen earthing wires onto to all of the T connector. There should be at least 5mm space distance between the connectors.
- Connect all the cable earthing leads and screen earthing wires to the earthing point, mark the phases.

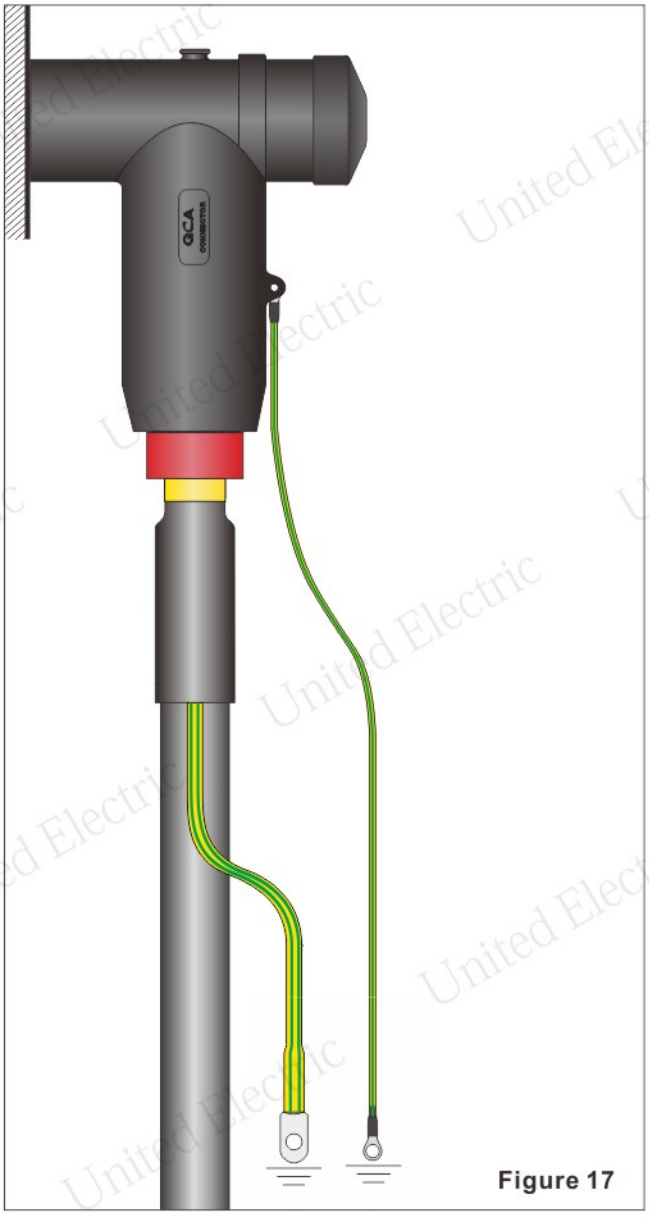
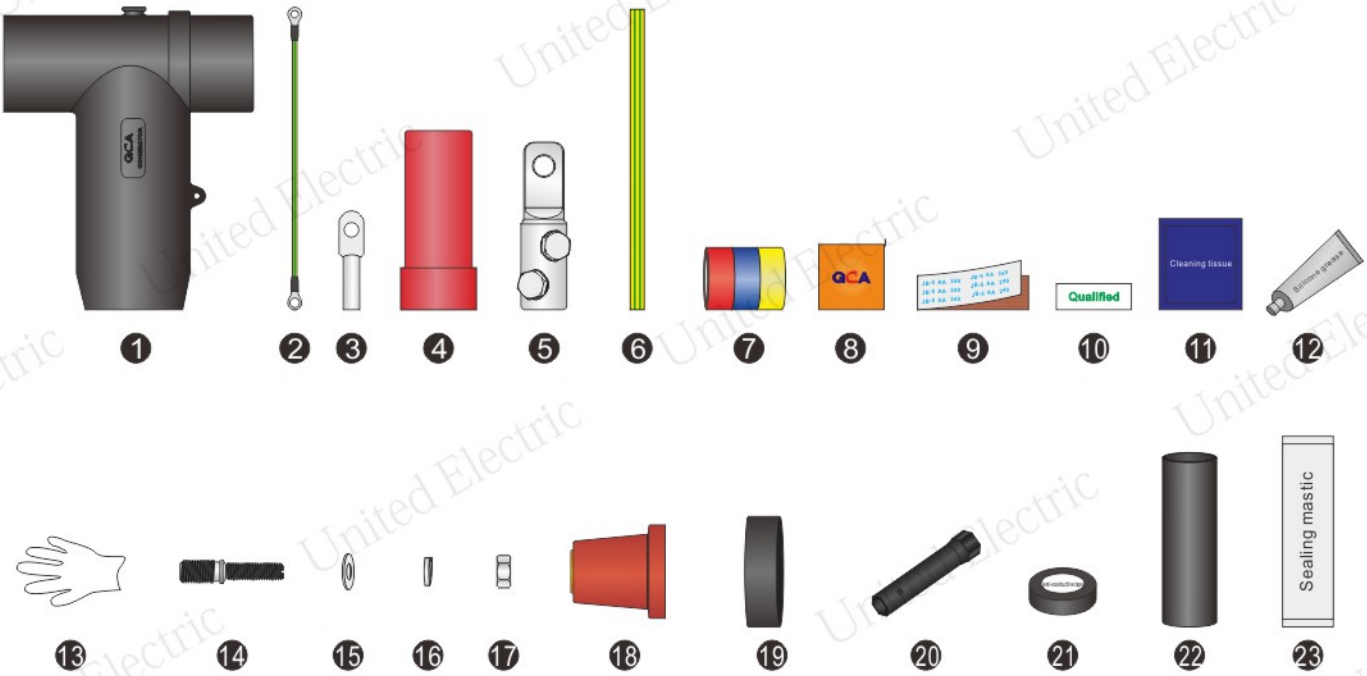


Figure 17

Kit Contents

02-9408-021-0921

Kit contents for 1-core XLPE insulated cable, copper wire screened, without armored (3phases / kit)



❶ 3×Connector body	❷ 3×Earthing wire	❸ 3×Earthing lug	❹ 3×Stress cone
❺ 3×Cable lug	❻ 3×Heat shrink tube(Y/G)	❼ 1×PVC tape kit	❽ 1×Tape measure
❾ 2×Abrasive strap	❿ 1×Qualified certificate	⓫ 6×Cleaning tissue	⓬ 1×Silicone grease
⓭ 1×Plastic grove	⓮ 3×M16/M12 Stud	⓯ 3×Flat washer	⓰ 3×Spring washer
⓱ 3×Nut	⓲ 3×Insulation back plug	⓳ 3×Protect cap	⓴ 1×Socket wrench
㉑ 1×Semi-conductive tape	㉒ 3×Heat shrink tube(black)	㉓ 1×Sealing mastic	