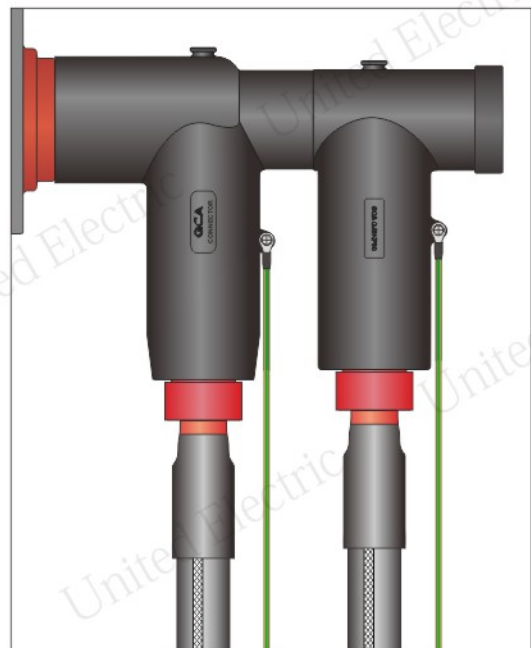


United Electric

Installation Instruction

CJBF30-1250 & CJBK30-1250

36kV 1250A Screened T connector
for connecting with type F bushing
through 1-core XLPE insulated,
copper tape screened, armored cable
01-9420-001-1121



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 stress cone during all the procedure of operation.

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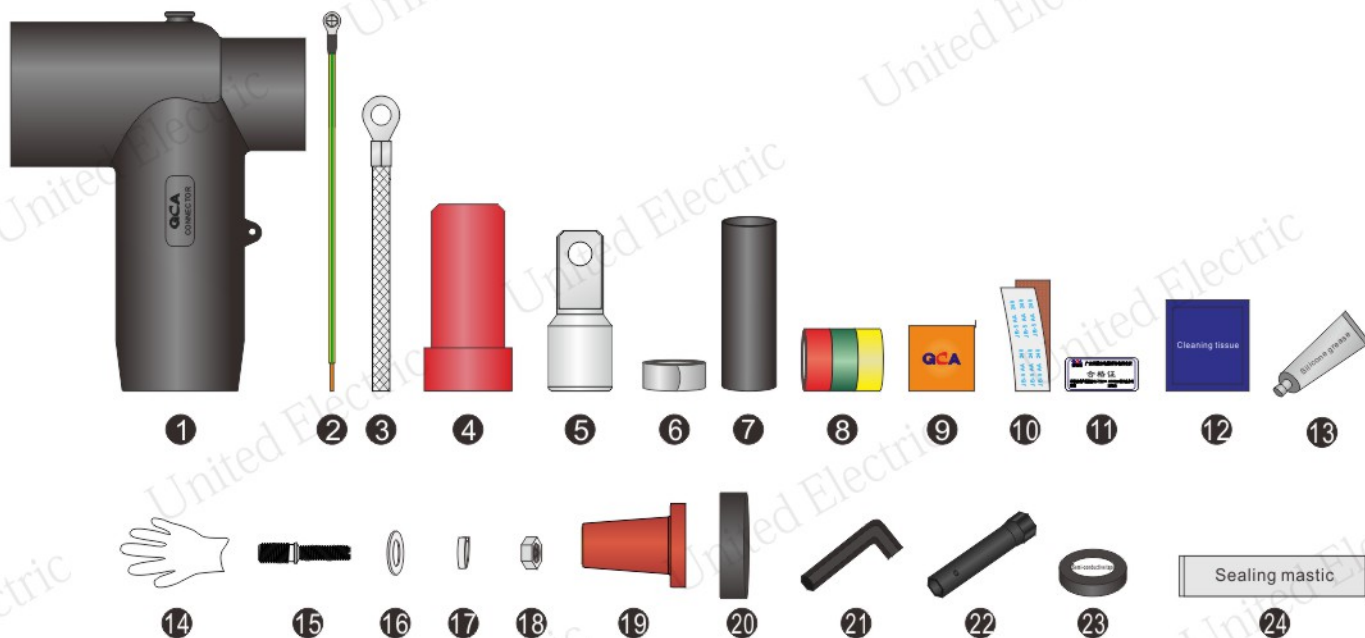
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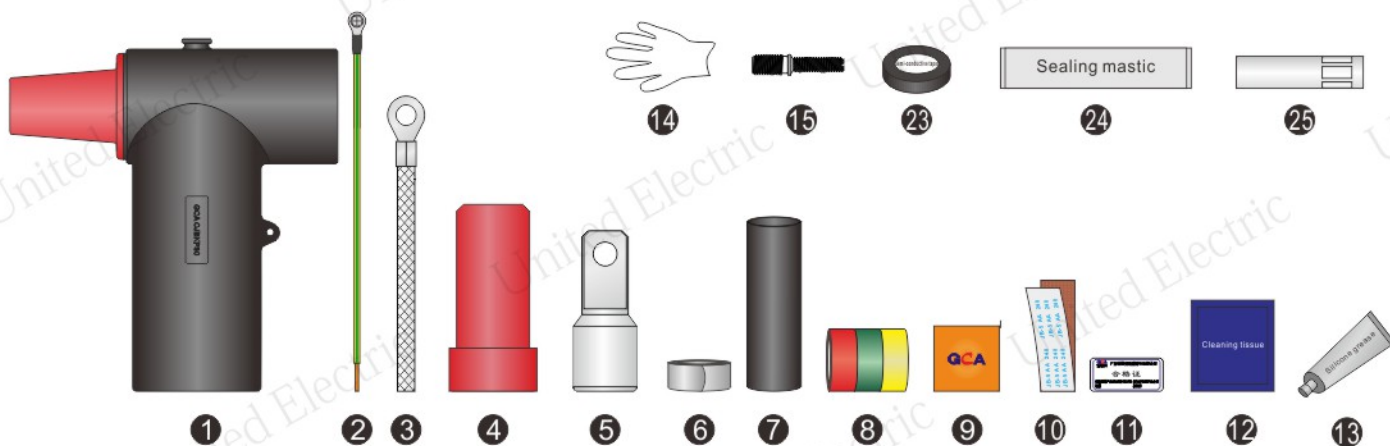
Kit Contents

02-9420-001-1121

CJBF30-1250 kit contents for 1-core XLPE insulated, copper tape screened, armored cable (3phases / kit)



CJBK30-1250 kit contents for 1-core XLPE insulated, copper tape screened, armored cable (3phases / kit)



① 3×Connector body	⑧ 1×PVC tape kit	⑮ 3×Stud	⑳ 1×Socket wrench
② 3×Earthing wire	⑨ 1×Tape measure	⑯ 3×Flat washer	㉑ 1×Semi-conductive tape
③ 3×Copper braid	⑩ 2×Abrasive strap	⑰ 3×Spring washer	㉒ 1×Sealing mastic
④ 3×Stress cone	⑪ 1×Qualified certificate	⑱ 3×Nut	㉓ 3×B type connecting rod
⑤ 3×Cable lug	⑫ 6×Cleaning tissue	⑲ 3×Insulation back plug	
⑥ 6×Roll spring	⑬ 1×Silicone grease	⑳ 3×Protect cap	
⑦ 3×Heat shrink tube	⑭ 1×Plastic grove	㉑ 1×Spanner	

CJBF30-1250 is a 36kV 1250A screened separable T connector made of silicone rubber, designed to connect with the type F bushing in accordance with the standard of CENELEC EN50181, EN50180. CJBK30-1250 is a coupling connector, designed to connect with CJB30-1250 & CJBF30-1250, for dual cable arrangement.

The instruction is suitable for the installation of CJBF30-1250 & CJBK30-1250 over 1-core XLPE insulated, copper tape screened, armored cable up to 36kV.

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.

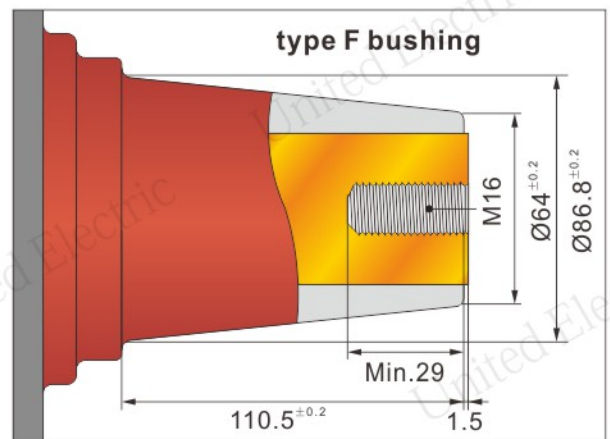
Installation environment requires clean and dust-free, with relative humidity not more than 80%, the temperature is higher than 0°C.

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 at site.

Bushing profile:

- The connector should only be used on bushing with dimensions as shown in follow drawing.
- The bushing size meet the requirements of standard CENELEC EN50181, EN50180.



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°C.
- Check the outer diameter of cable insulation and inner diameter of stress cone according to table 1.
- Check the cable at site which should be qualified.

Table 1

Cable Rated Voltage	Stress cone size	Suitable Diameter over XLPE insulation Ø (mm)	Suitable cable conductor cross section (sq.mm)
12/20 (24)kV 12.7/22 (24)kV	1D#	18~23	25~70
	2D#	23~28	95~150
	3D#	28~36	185~240
	7D#	31~37	300~400
	4D#	36~40	500
	5#	40~45	630
18/30 (36)kV 19/33 (36)kV	2D#	23~28	35~70
	8D#	26~32	95
	3D#	28~36	120~150
	7D#	31~37	185~240
	4D#	36~40	300
	5#	40~45	400~500
	6#	44~49	630

2. Cable preparation

- Clean and cut the cable to requested length on site as shown in figure 1.

Note: The cable should be suitable for installation, the short length or overlength of the cable may caused the poor contact between cable lug palm and the copper plane in bushing.

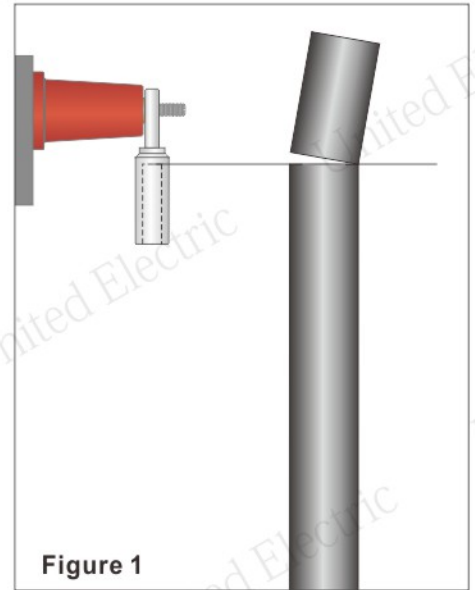


Figure 1

- Remove the cable outer sheath to 280mm, cable armor to 30mm, cable inner sheath to 10mm as shown in figure 2.
- Protect the end of copper tape by PVC tape.
- Abrade and clean the surface of the cable armor.

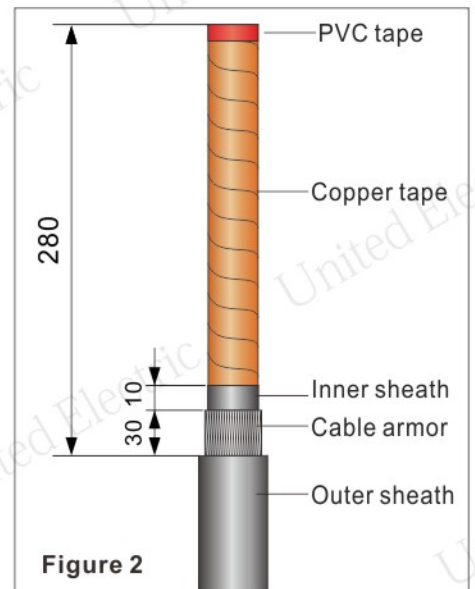


Figure 2

- Place copper braid onto the copper tape, wrap roll spring one turns over the end of copper braid. Fold the copper braid back to the outer sheath, wrap the rest of the roll spring over the copper braid. Tighten the roll spring with a twisting action.
- Fix the copper braid onto the cable armor by another roll spring, tighten the roll spring with a twisting action.
- Lift up the copper braid and half-overlapping wrap one layer of red sealing mastic over the cable outer sheath as a bedding with starting from 5mm to the end.
- Lay down the copper braid and keep wrapping one layer of red sealing mastic as shown in figure 3. Cover the red sealing mastic by PVC tape.
- Cover the sharp edge of roll spring and end of cable outer sheath by PVC tape.

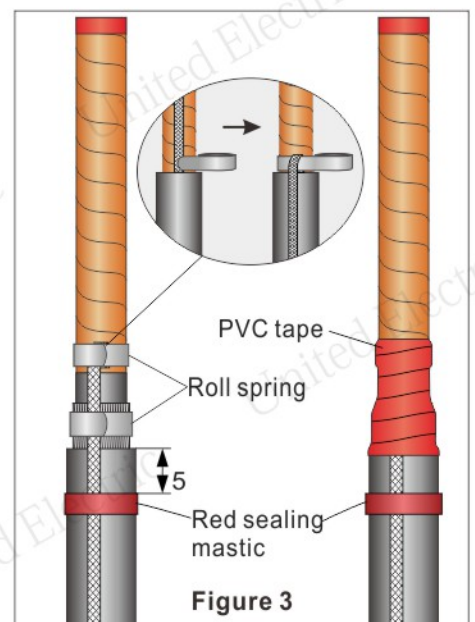


Figure 3

3. Place and shrink heat shrink tube

- Place and slide heat shrink tube over the cable core with 175mm to the cable end, shrink it down starting at the top end and working downwards as shown in figure 4.

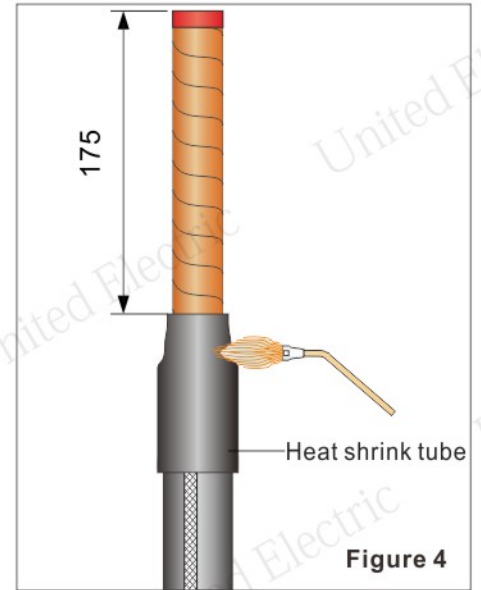


Figure 4

4. Core preparation for copper tape screen

- Remove the copper tape to 20mm and insulation screen to 20mm, and keep the insulation for 90mm, conductor for 45mm. Chamfer the cable insulation cut to $1 \times 45^\circ$.

Note: Do not nick the cable insulation.

- Clean the cable conductor surface. Wrap the cut end of conductor with PVC tape.
- The end of insulation screen should be smooth transition, without any turnup and sharp-angle.
- The cable insulation surface should be smooth and free from all traces of conductive material. Polish the cable insulation surface by abrasive paper if there are any irregularities or imperfections.

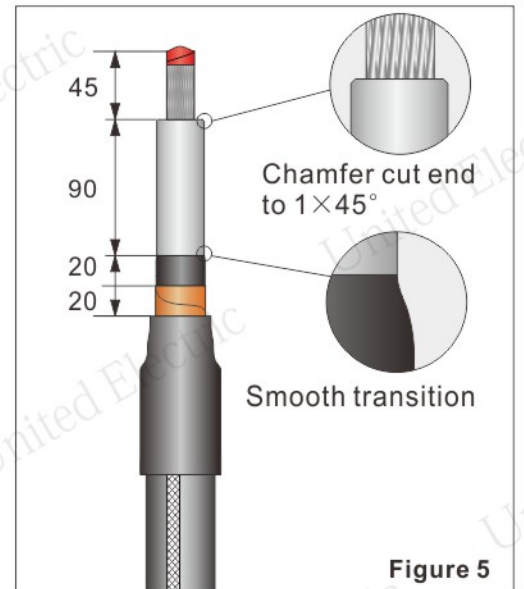


Figure 5

5. Wrap semi-conductive tape

- Measure 18mm from 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 $\text{OD} = \text{outer diameter of insulation } \text{OD} + 8\text{mm}$.
- Continue wrapping semi-conductive tape down over the heat shrink tube with cover the tube for 15mm.

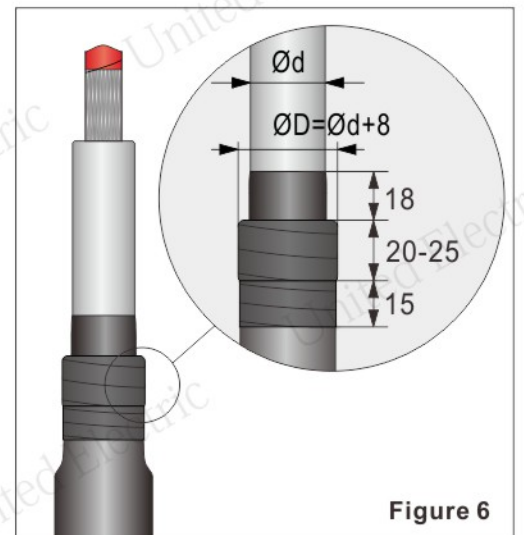


Figure 6

6. 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 7.

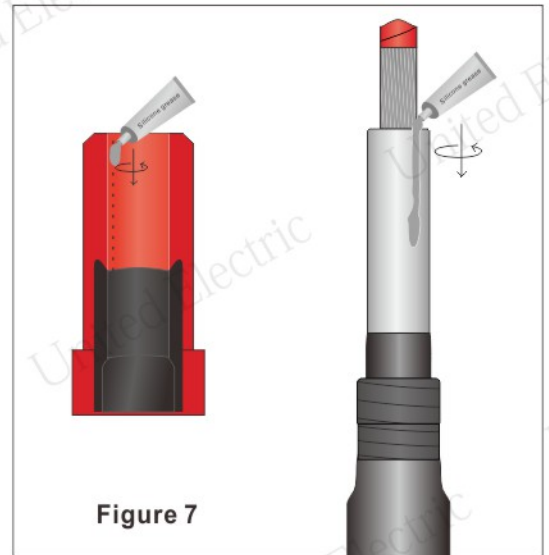


Figure 7

7. 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.

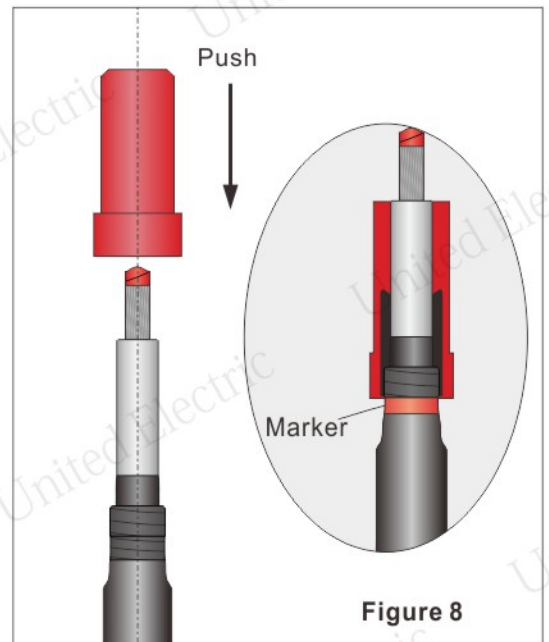


Figure 8

8. Install cable lug

- Remove the previously applied PVC tape from the conductor.
- Put on the proper cable lug over conductor for compressing. When compress the cable lug, please notice the direction of the lug palm, the palm should be parallel with the copper plane in the bushing, which can guarantee good conduction contact.
Attention: The load current may occur 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.

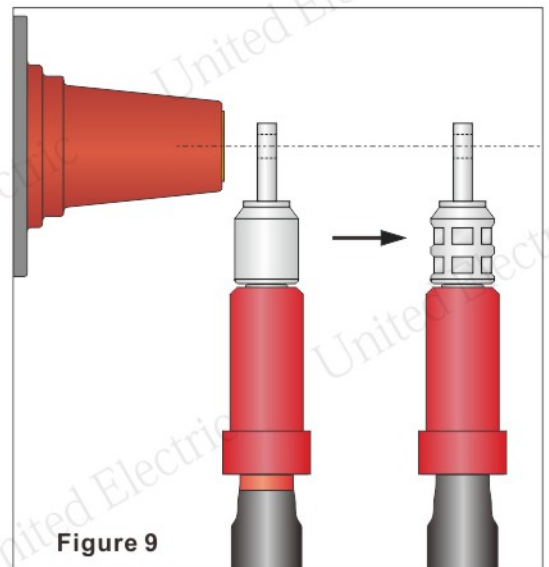


Figure 9

9. Clean and lubricate stress cone and CJBF30-1250

- Clean the outer surface of stress cone and inner surface of CJBF30-1250.
- 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 CJBF30-1250.

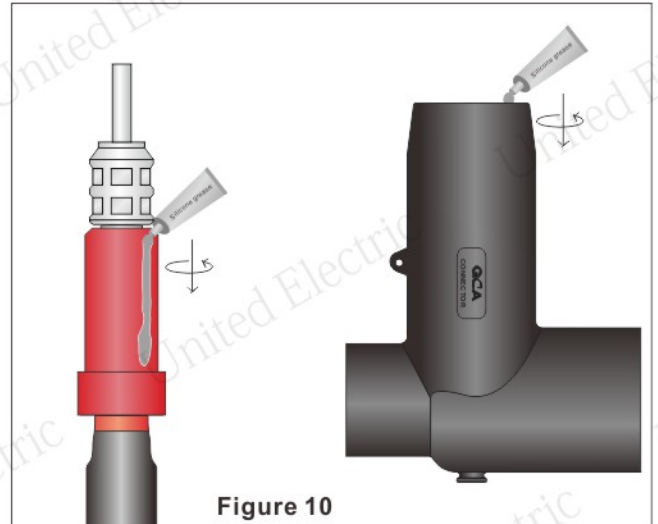


Figure 10

10. Install CJBF30-1250 onto stress cone

- Align the front connector CJBF30-1250 with stress cone and cable lug, push the CJBF30-1250 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 will expose for 30-45mm. (Figure 11)

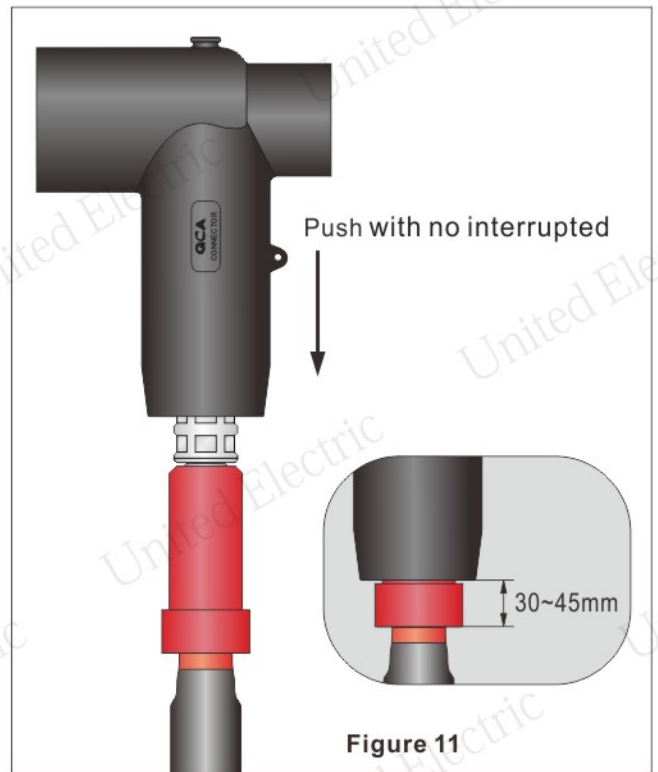


Figure 11

11. Clean and lubricate bushing and CJBF30-1250

- 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 CJBF30-1250. (Figure 12)

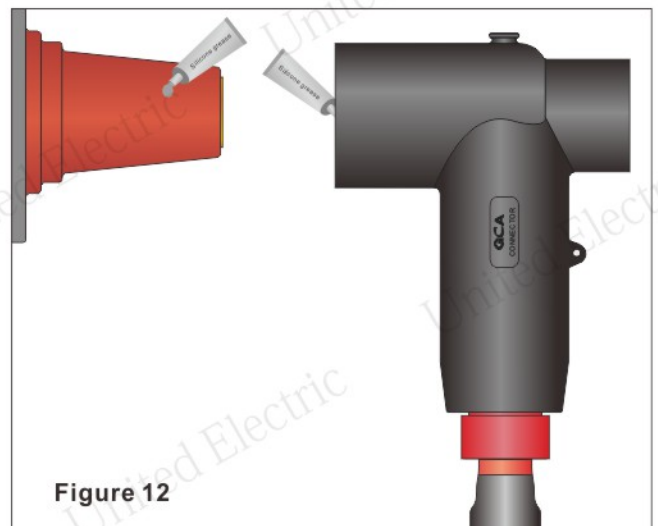


Figure 12

12. Push CJBF30-1250 onto bushing

- Screw the M16/M12 stud into the bushing.
- Align the eye of the cable lug with the threaded stud and push the screened connector CJBF30-1250 onto the bushing. (Figure 13)

Note:

If need to install the coupling connector CJBK30-1250 please follow the steps 14~16, if not, please follow the step 13.

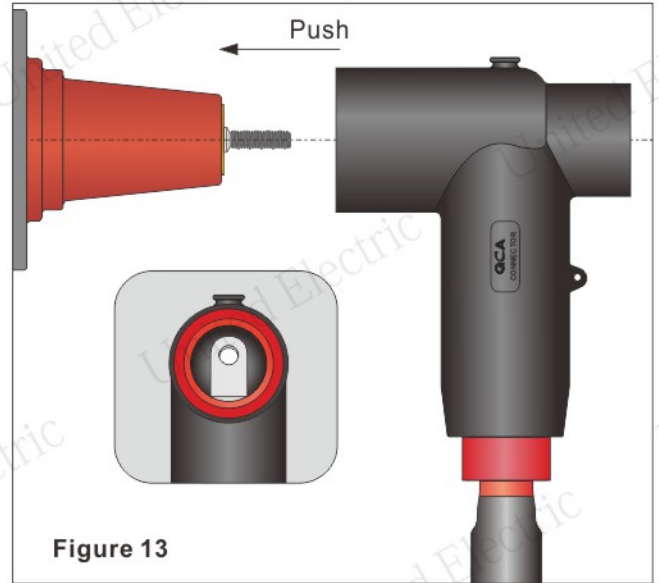


Figure 13

13. Fix CJBF30-1250 and grounding earth

- Install the flat washer, spring washer and nut in sequence, screw down the nut by socket wrench with the moment of 30-40N.m.
- Clean and coat a thin layer of silicone grease onto the inner surface of back end of CJBF30-1250 and outer surface of insulation plug.
- Screw the insulation plug into the back end of CJB30-630 by hand first, and then fix it by the hexagon wrench with the torque 30-40Nm.
- Cover the insulation plug with protect cap.
- Connect all the earth braid and earth wires to the earth point, mark the phases. Installation complete.

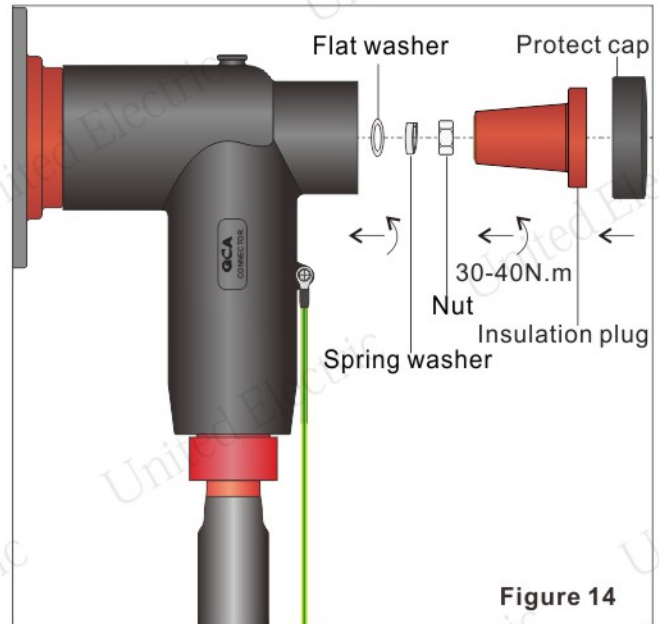


Figure 14

14. Install coupling connector CJBK30-1250

- The cable preparation and installation of stress cone, cable lug, CJBK30-1250 body please follow the steps 2~10.
- Screw the B type connecting rod into the back end of CJBF30-1250 and fix it by a spanner.
- Screw the M16/M12 stud into the B type connecting rod.

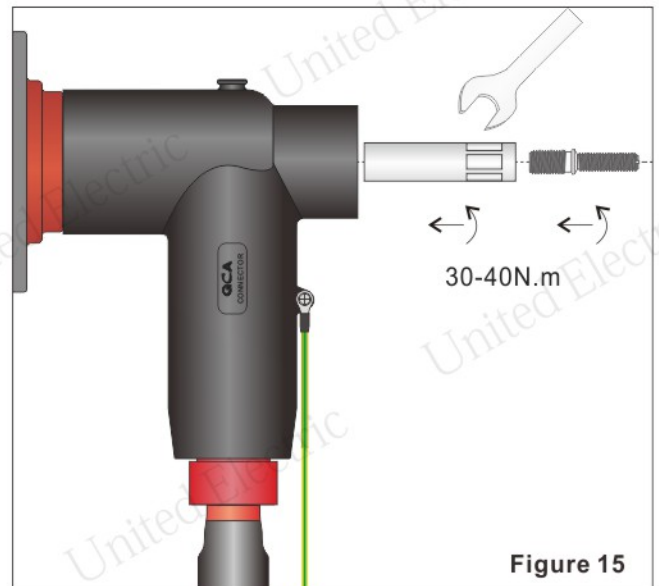


Figure 15

15. Push CJBK30-1250 into CJBF30-1250

- Clean the back end of CJBF30-1250 and the front end of CJBK30-1250, after the solvent volatilization, coated the surface with a thin layer of silicone grease.
- Align the eye of the cable lug with the threaded stud and push the coupling connector CJBK30-1250 into CJBF30-1250.

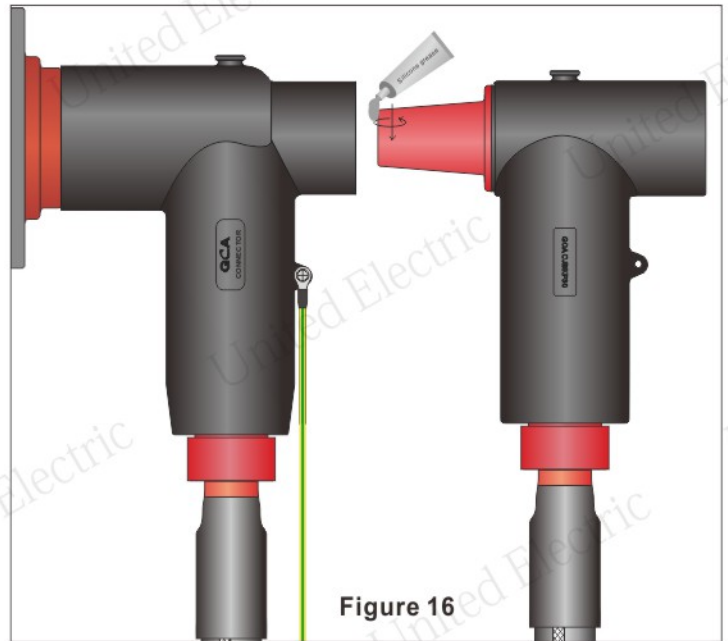


Figure 16

16. Fix CJBK30-1250 and grounding earth

- Install the flat washer, spring washer and nut in sequence, screw down the nut by socket wrench with the moment of 30-40N.m.
- Clean and coat a thin layer of silicone grease onto the inner surface of back end of CJBK30-1250 and outer surface of insulation plug.
- Screw the insulation plug into the back end of CJBK30-1250 by hand first, and then fix it by the hexagon wrench with the torque 30-40N.m. Cover the insulation plug with protect cap.
- Connect all the earth braid and earth wires to the earth point, mark the phases. Installation complete.

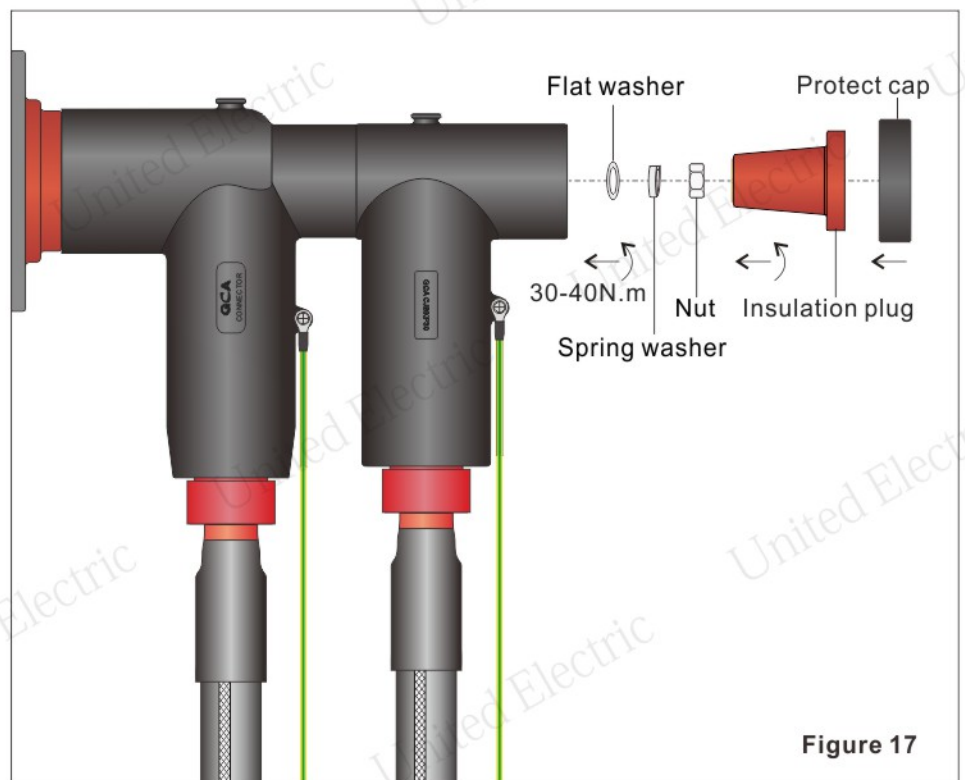


Figure 17