

**CAUTION : Read instructions thoroughly and completely prior to beginning installation.**

## Installation Instructions

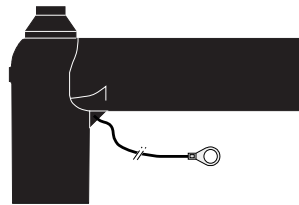
# (K),(M)400LB/G

## Separable Elbow Connector - Type C interface

Only to be used on copper wire screened cable with extruded easy strip semi-conductive screen & bonded extruded semi-conductive screen and stranded circular conductors of copper or aluminium.

### Required components for the connector installation :

1 x Elbow connector housing - 400BLB



1 x Cable reducer - 411CA



1 x Basic insulating plug



1 x M10 screw assembly



1 x Transition contact M16/M10



1 x Conductor contact LBC-X or LBMG-X



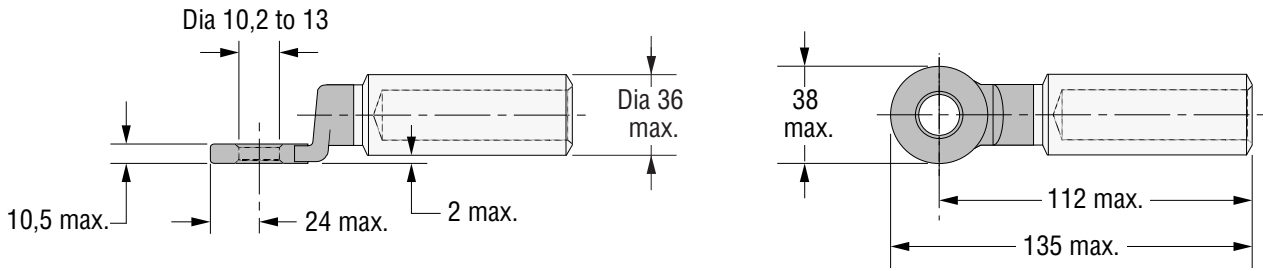
- Field control mastic, type MFC

- Silicone grease + wipers

- Installation instructions

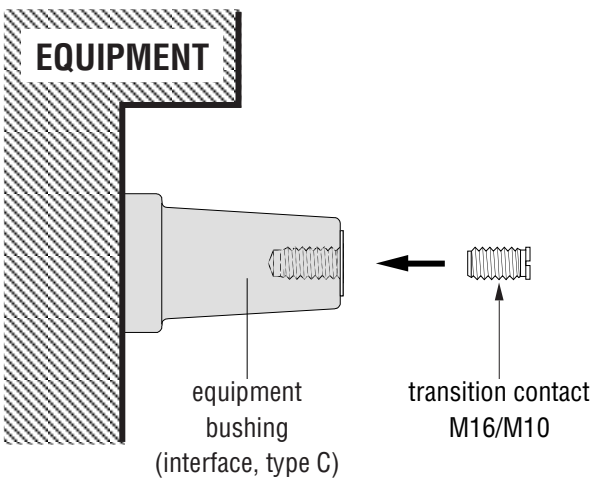
**Further required components depending on application and cable type (optional supply) :**

- Water sealing mastic, type MWS, for outdoor applications only

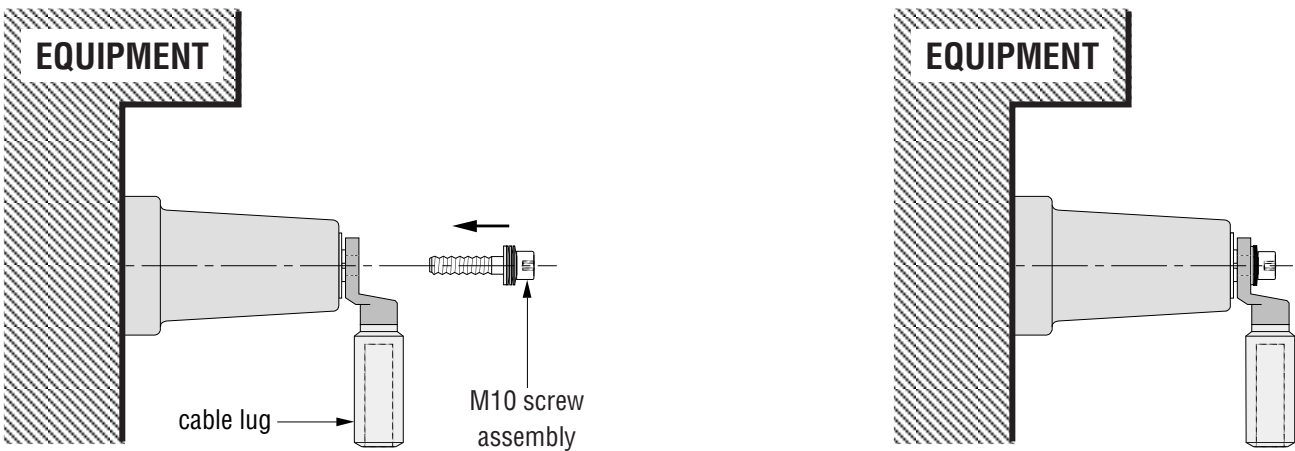


**COMPRESSION OR BOLTED CABLE LUG MAXIMUM DIMENSIONS**

The compression or bolted cable lug should not exceed dimensions shown above.



1. Screw the transition contact M16/M10 into the threaded hole of the bushing and tighten.

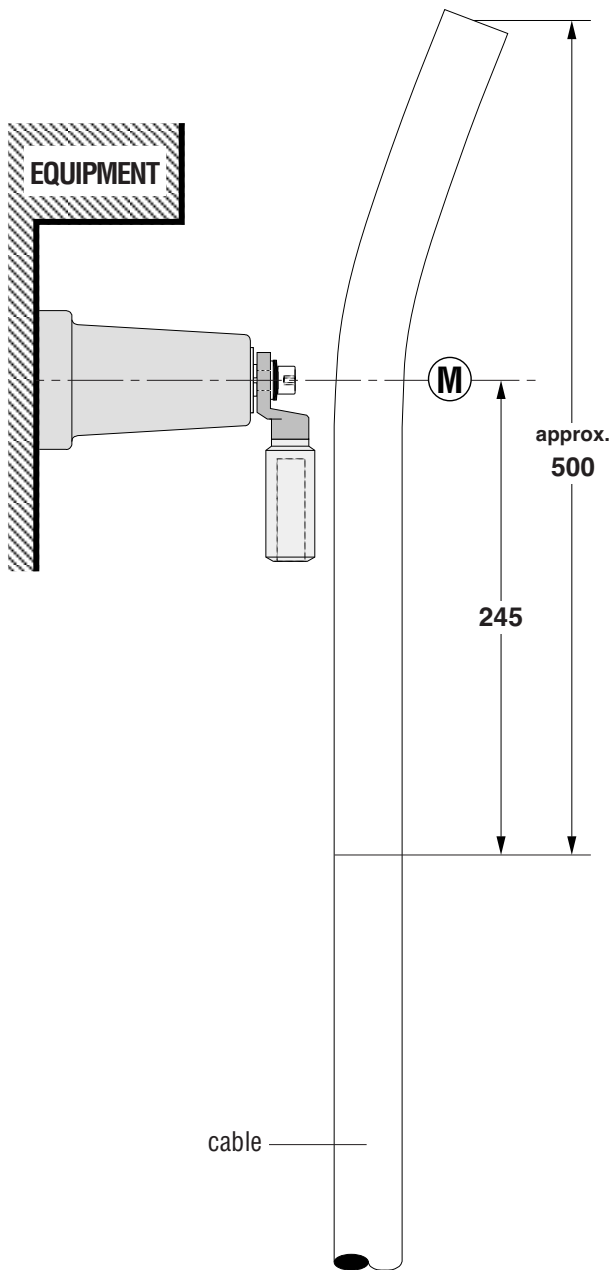


2. Temporarily install the cable lug onto the transition contact M16/M10 using the M10 screw assembly.

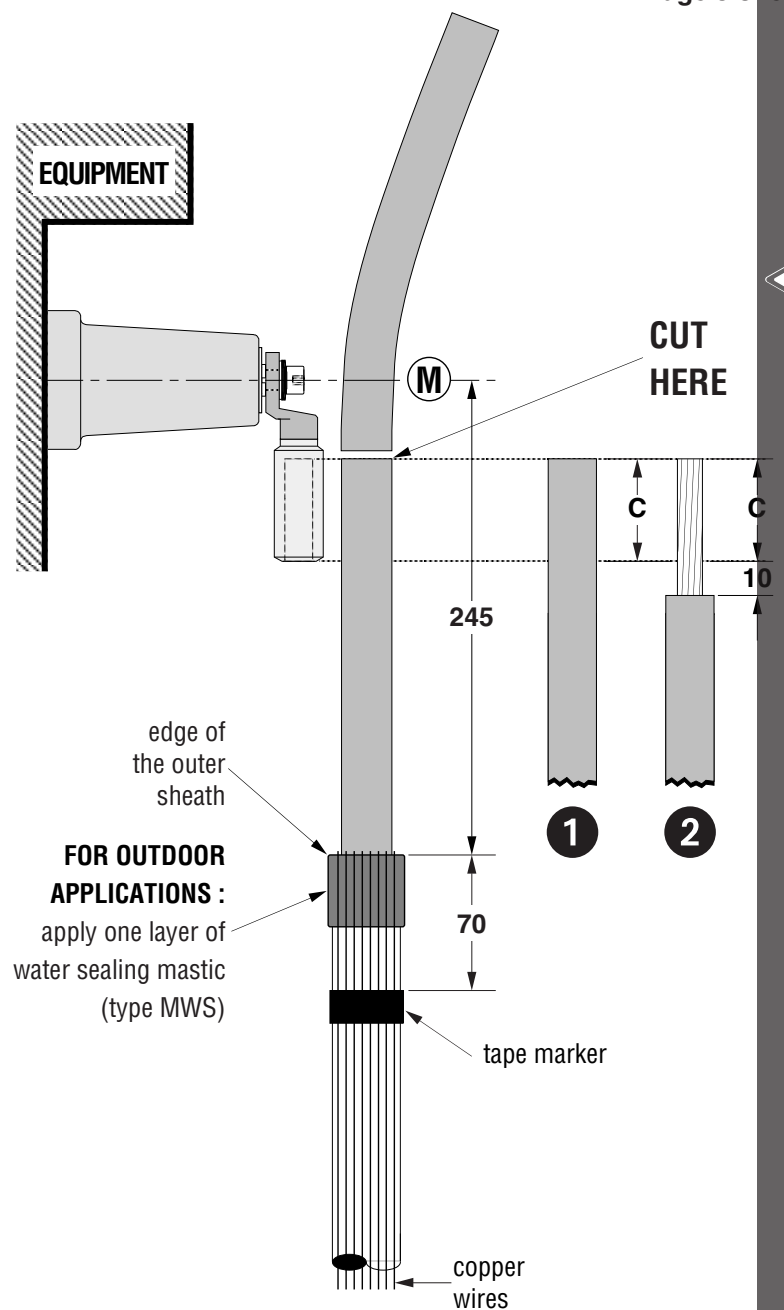


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3. Train the cable into the approximate finished position next to the equipment bushing.
4. Remove the outer cable sheath to a point **245 mm** from the centre line «M» of the bushing.  
Do not cut or nick the copper wire screen.



5. Apply a tape marker around the outer sheath **70 mm** from the edge. For indoor applications, bend the screen wires back over the outer sheath and proceed to step no. 6.  
**FOR OUTDOOR APPLICATIONS :**
  - Wrap one layer of water sealing mastic (type MWS) around the outer sheath, flush with the end (**25 mm** minimum width). Completely encircle the cable.
  - Bend the screen wires back over the mastic and along the outer sheath, pressing them into the mastic.

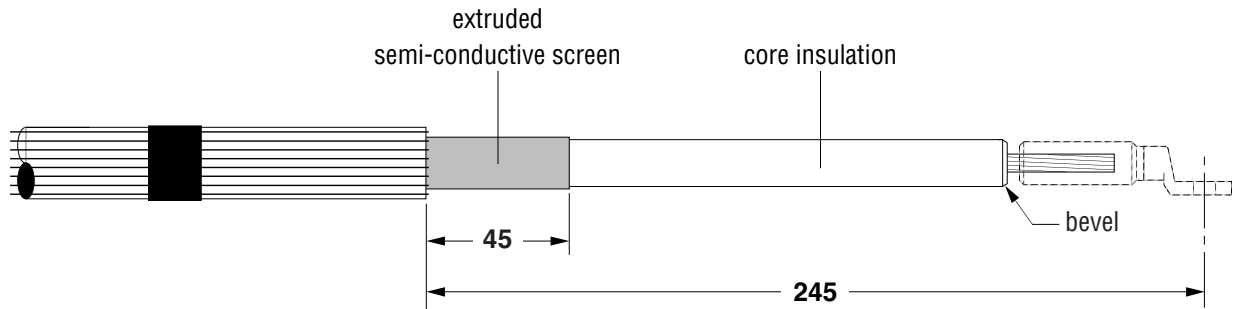
**IMPORTANT:** screen wires should not touch each other when pressed into the mastic to prevent water ingress.
6. Mark the cable, corresponding with the cable lug end («C» mm).
7. Cut the cable (Fig. **1**).
8. Remove the temporarily installed cable lug from the equipment bushing.
9. Remove the core insulation from the conductor for a distance «C» + **10 mm** (Fig. **2**).



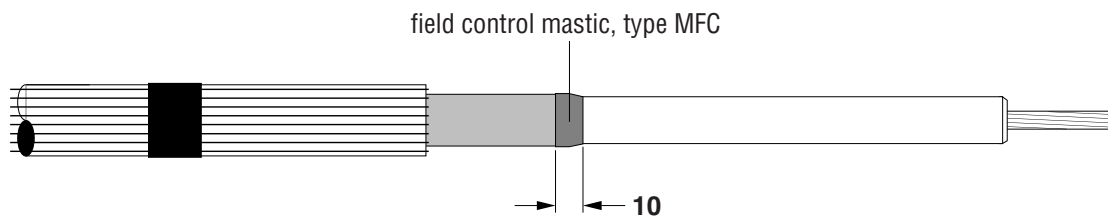
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## CABLE PREPARATION



1. Temporarily install the cable lug on to the conductor and check distance of **245** mm.
2. Remove the extruded semi-conductive screen to a point **45** mm from the end of the outer sheath.  
For extruded easy strip semi-conductive screen : cut squarely taking care not to cut the core insulation.  
For bonded extruded semi-conductive screen : use an appropriate pencilling tool.
3. Slightly bevel the edge of the core insulation.



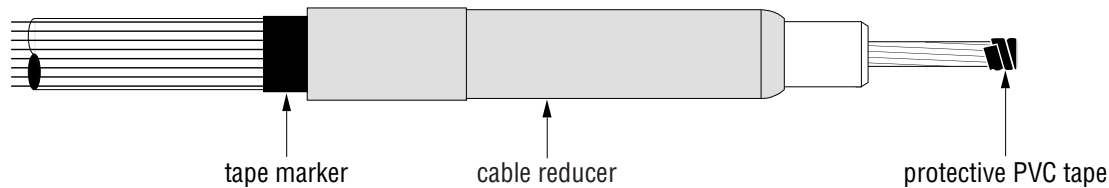
4. Remove field control mastic strip, type MFC, from coated paper.
5. Slightly stretch one end of the strip, making sure not to break it.
6. Apply the mastic, covering approximately **5** mm of the extruded semi-conductive screen and **5** mm of the core insulation.
7. Push the mastic in place while stretching it progressively until both ends overlap and tear-off the excess mastic.
8. Using the coated side of the paper, squeeze the mastic tightly in place on the step of the semi-conductive screen.



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## INSTALLATION OF THE CABLE REDUCER



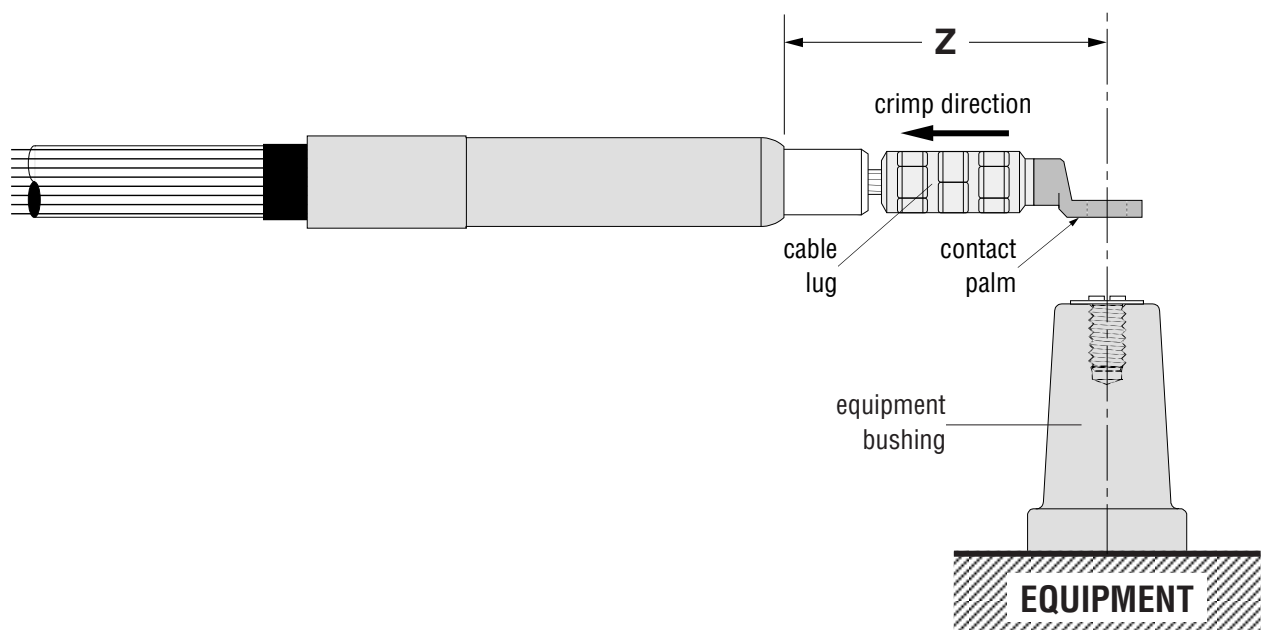
### 1. REMOVE ANY TRACES OF CONDUCTIVE RESIDUE FROM THE CORE INSULATION.

Always wipe towards the screen wires.

2. As a protection, wrap a few turns of PVC tape around the conductor end.
3. Clean and lubricate\* core insulation and the inside surface of the cable reducer.  
Slide the reducer down the cable until flush with the tape marker.
4. Remove protective PVC tape from the conductor.

## CRIMPING/TIGHTENING OF THE CONTACT

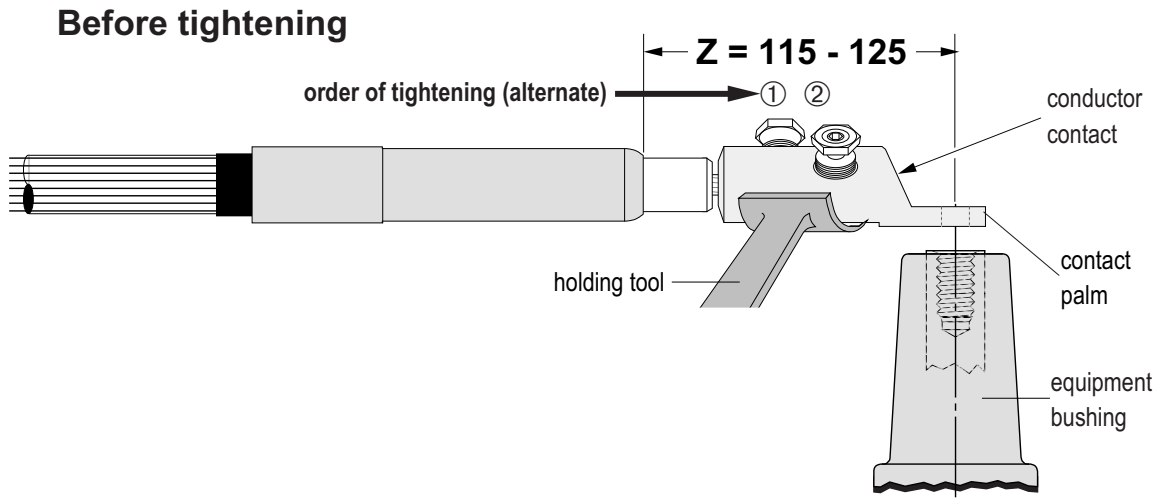
### A. Compression type contacts (Type LBC-X)



1. For aluminium conductors : before installing the crimp contact, wire brush the conductor.
2. Fit the cable lug onto the conductor. Check the contact palm faces the bushing.
3. Prior to crimping check distance «Z» between the end of the cable reducer and the centre of the contact palm hole.  
This distance must be between **110** and **120** mm.
4. Crimp the cable lug.
5. After crimping distance «Z» must be between **115** and **125** mm.  
If necessary, adjust the position of the cable reducer until distance «Z» is within the tolerance range.
6. REMOVE ANY BURRS LEFT AFTER CRIMPING AND WIPE-OFF EXCESS INHIBITOR.

\* USE ONLY THE SILICONE LUBRICANT SUPPLIED

## B. Mechanical type contacts (Type LBMC-X)



1. For aluminium conductors : before installing the conductor contact, wire brush the conductor.
2. Insert, if necessary, the centre ring into the contact barrel according to table 1.
3. Position the contact so that the contact hole aligns with the bushing hole.
4. Before tightening, distance «Z» must be between **115** and **125** mm.
5. Tighten the screws **slowly and alternately**, with the tool according to table 2, until the heads shear off.  
Shear off screw ① first, then screw ②. It is recommended to use the holding tool for ease of installation.
6. Remove any sharp points of the screws, protruding above the contact barrel.

Table 1: Allocation of centre rings









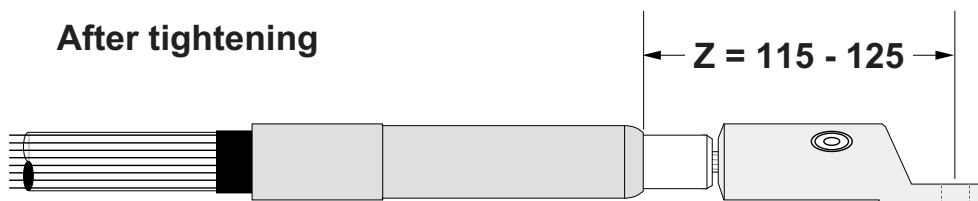
Type	Centre ring	Al mm <sup>2</sup>	Cu mm <sup>2</sup>
LBMC-16.95-X	 grey yellow	16-50 70-95	16-50 70-95
LBMC-50.150-X	 grey yellow -	50 70-95 120-150	35-50 70-95 120-150
LBMC-95.240-X	 red brown -	95 120-150 185-240	95 120-150 185-240
LBMC-120.300-X	 blue -	120-150 185-300	120-150 185-300

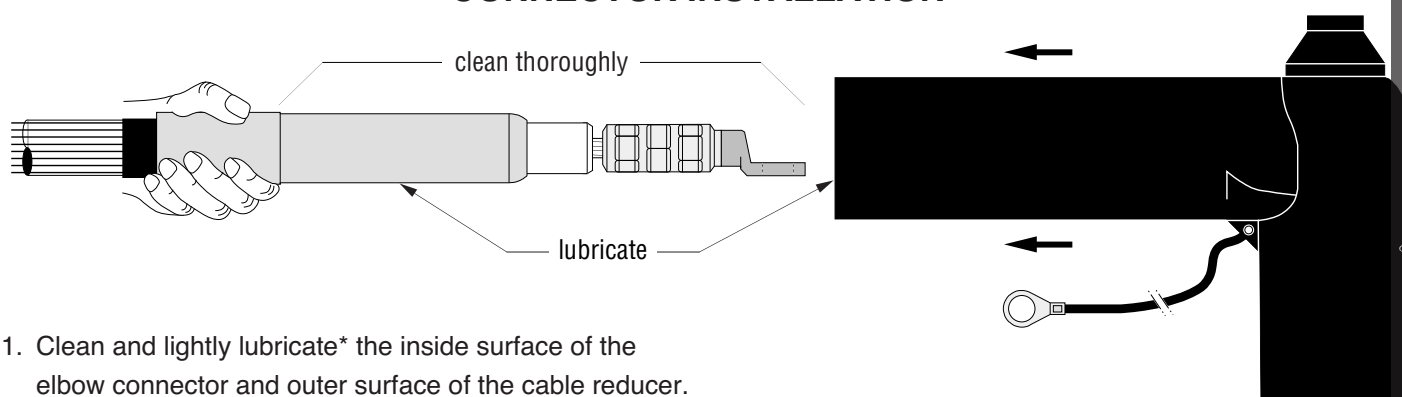
Table 2 : tools to be applied

Type	Tool sw	Al mm <sup>2</sup>	Cu mm <sup>2</sup>
LBMC-16.95-X	 17 6 L > 15 mm	16-50 70-95	16-50 70-95
LBMC-50.150-X	 17 6 L > 15 mm	50-120 150	35-95 120
LBMC-95.240-X	 19 6 L > 19 mm	95-185 240	95-150 185-240
LBMC-120.300-X	 22 6 L > 19 mm	120-240 300	120-240 300

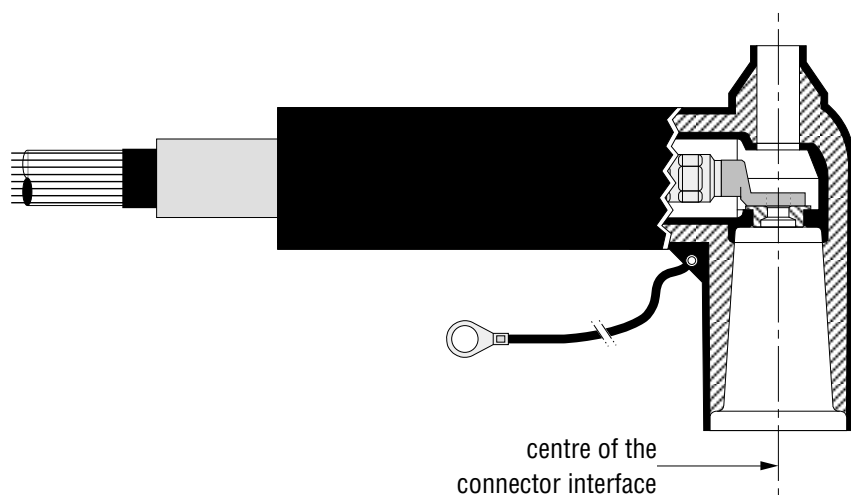


7. After tightening, distance «Z» must be between **115** and **125** mm.  
If necessary, adjust the position of the cable reducer until distance «Z» is within the tolerance range.

## CONNECTOR INSTALLATION

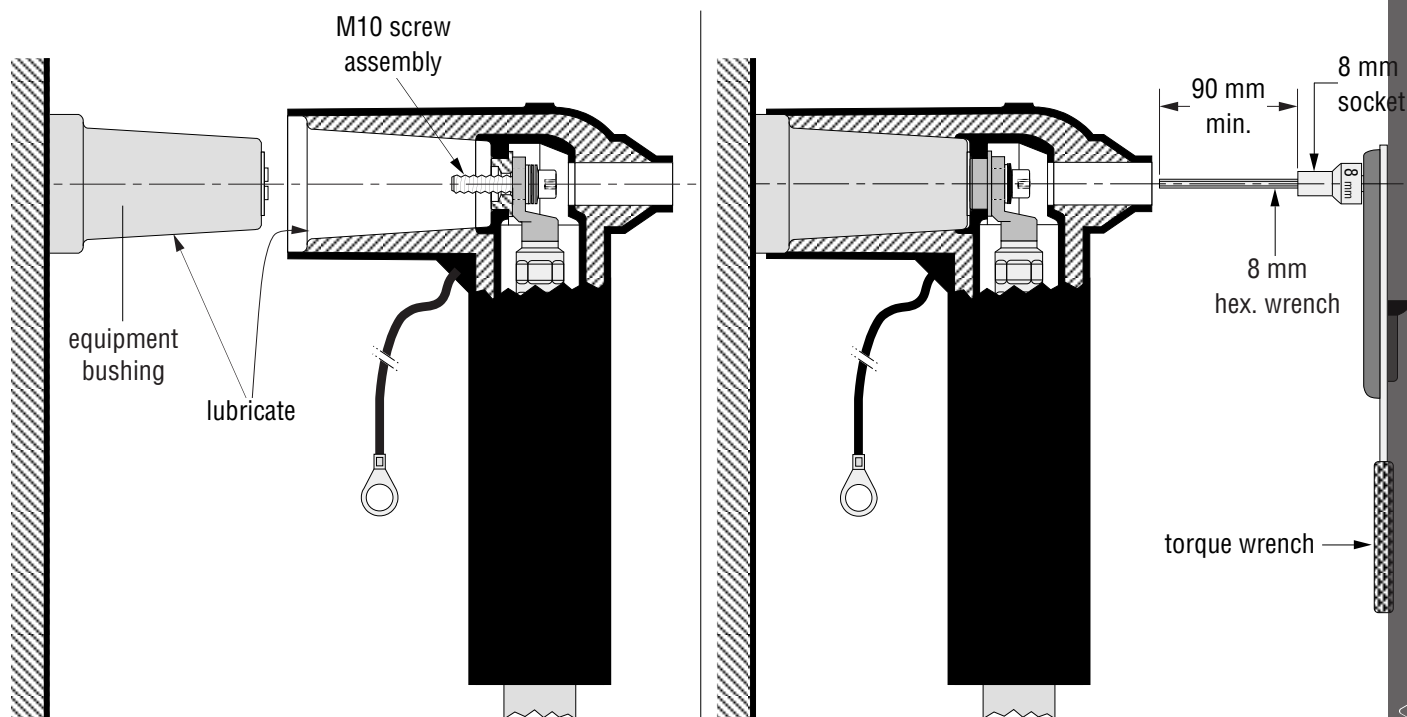


1. Clean and lightly lubricate\* the inside surface of the elbow connector and outer surface of the cable reducer.



2. Check if the angle of the elbow connector housing is correct relative to the palm of the cable lug and gently slide the housing on the cable until the palm hole of the cable lug lines up with the centre of the connector interface.
3. **Make sure the cable reducer stays in place during installation** and remove tape marker from the cable.

## CONNECTOR INSTALLATION ON BUSHING



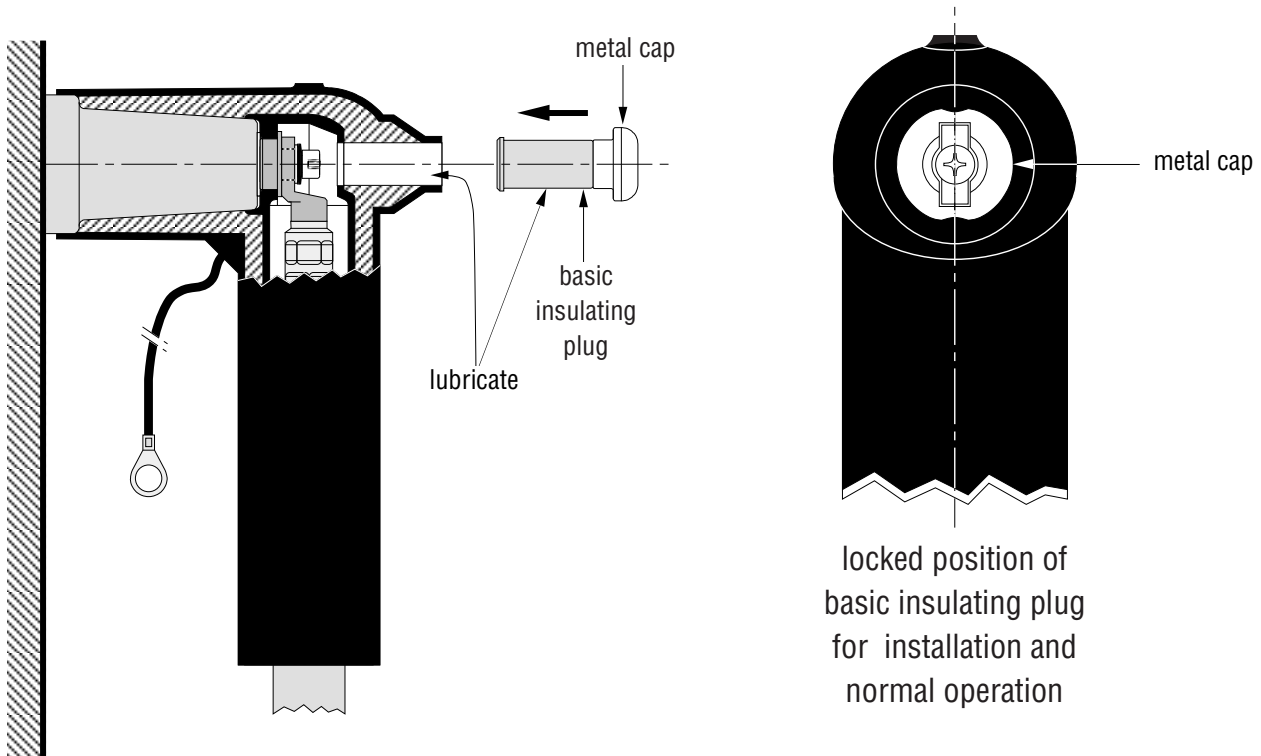
1. Clean and lubricate\* lightly both bushing interface and connector interface  
**(SEE IMPORTANT NOTES ON PAGE 9).**
2. Insert the M10 screw assembly into the cable lug hole.
3. Push the connector on to the bushing.

4. - As an aid to install the M10 screw assembly, fill up the hex. hole of the screw with silicone grease before inserting the hex. key.  
- Secure with the M10 screw assembly.  
Tighten assembly : use torque wrench with socket and hex. key and tighten to **25 Nm (2,5 kgm).**

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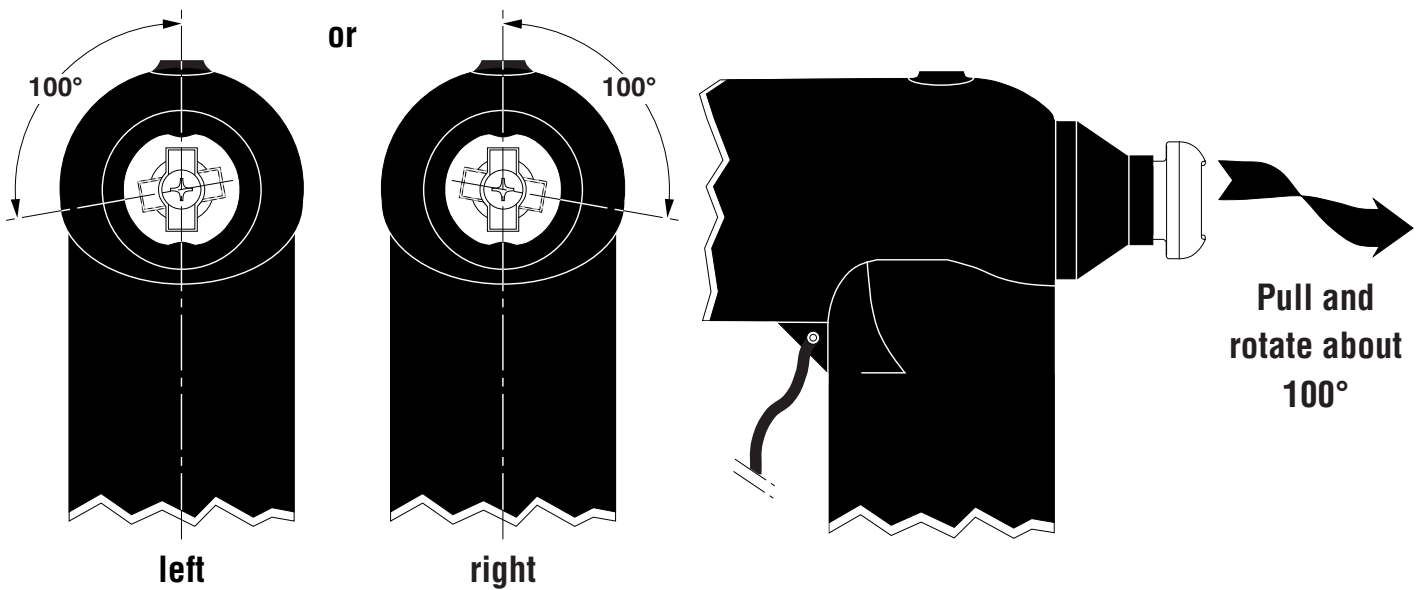
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## INSTALLATION OF THE BASIC INSULATING PLUG



Lubricate\* connector entrance and epoxy part of basic insulating plug and snap into place keeping the slot in the metal cap vertically.

### In case of removal of the basic insulating plug

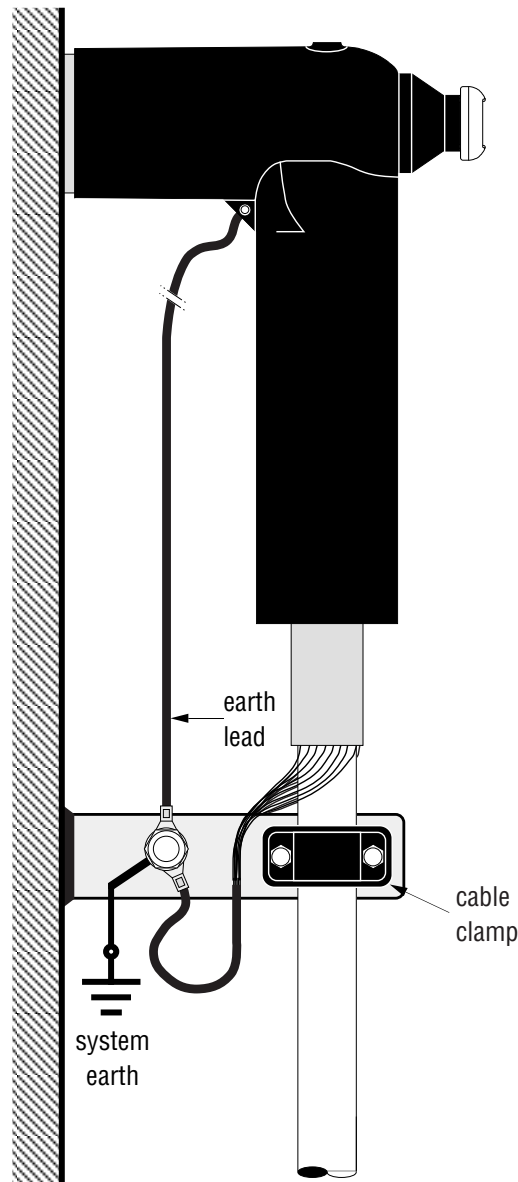


Insert a metal rod or a screw driver of about 5 mm diameter into the slot of the metal cap. Pull the basic insulating plug out of the connector until a definite resistance is felt. While turning (left or right) for about 100°, pull the basic insulating plug out in one smooth operation.

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## SCREEN EARTHING AND CABLE CLAMPING



1. Bend back the screen wires along the outer sheath to form a pig tail.
2. Connect the earth lead and screen wires to system earth.

NOTE : A connector/bushing mated combination should not be allowed to carry the full weight of the cable , therefore clamp the cable as close as possible to the connector.

### IMPORTANT NOTES :

- In order to achieve the correct applied torque ensure that there is no lubricant on the threaded parts.
  - Never disconnect the connector from energised equipment.
  - Do not allow hydrocarbon oils or solvents to contaminate the E.P.D.M. rubber.
- In the event of contamination, wipe the surface clean with a dry cloth.

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