



DURESCA®

## Installation Instructions Transformer Bushings DTO

 **MOSER GLASER**  
Current and voltage – our passion

| Homepage                                   | Created        | Released       | Revision | Page |
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## Transformer Bushing Oil / Oil application



**MGC MOSER GLASER**  
Lerchenweg 21  
Kaiseraugst / Switzerland  
Phone.: +41 61 467 61 11  
[info@mgc.ch](mailto:info@mgc.ch) / [www.mgc.ch](http://www.mgc.ch)

|                | Topic                        | File name   |
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| Technical data | Transformer bushings Oil/Oil | TD2019-12-E |

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## 1 General

Read this manual carefully and follow all safety regulations at work.

### 1.1 Safety



Work on bushings may only be performed by qualified people.

Follow the safety instructions of the operating company.

For your safety, before any manipulation inform the responsible person about your action in the field.

Do not energize the bushing without a closed measuring tap.



#### **Caution - Do not work on systems that might be under tension!**

Follow below safety rules in the given order.

- 1 Verify that the system is off-line
- 2 Disconnect from the mains Secure against reconnection
- 3 Secure against reconnection
- 4 Carry out earthing and short circuiting
- 5 Provide protection from adjacent live parts

**Not following these rules could cause death!**



**Caution** - Strong electromagnetic fields can occur along the bushings. People with pacemakers may not stand near!

Sensitive technical devices must be protected by appropriate measures.



Only materials provided by MGC must be used (terminals, seals, shields, arcing horns...).

The sealing between the transformer and the bushing is out of Moser Glaser scope of supply.

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## 1.2 Transport and Storage

The bushings are packed in wooden crates (Figure 1). Each bushing is packed individually in a plastic bag sealed with desiccant material and protected from moisture. The crate should be free off any damage after delivery.

- On request, a shock indicator label can be fixed on the crate in order to check if the crate experienced a mechanical shock.



### Transport damage

1. Visible damage must be reported on the counter signed delivery note at the reception of the goods.
2. Moser Glaser shall be informed with no delay if a damage is reported.



### Bushings must always be protected from moisture.

Keep the protective foil until the installation.



### Storage

The bushing must always be protected from moisture and permanently stored in a dry room.

#### Storage up to 6 months

Packed in protective foil with desiccant bag (Fig. 2)

#### Storage longer than 6 months and up to 24 months

Packed in protective aluminium foil with desiccant bag (Fig. 3)

#### Storage longer than 24 months

Oil-side protected in a tank filled with dry transformer oil (Fig. 4)



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Figure 1: wooden crate



Figure 2: protective foil



Figure 3: protective aluminium foil



Figure 4: oil tank

## 2 Product description

The DURESCA transformer bushing type DTO is used for transformer to oil applications. It conducts the electrical current by a round conductor or by a cable to the cable box side connectors. Characteristics are a compact design and is partial discharge-free during service. The DURESCA transformer bushing can be described as being maintenance-free.

The DURESCA transformer bushing has a dry insulation of RIP (Resin Impregnated Paper). The insulation lies directly on the conductor or tube and consists of wrapped paper impregnated with special epoxy resin under vacuum. Conductive grading layers are embedded during the wrapping of the paper for an optimal distribution of the electrical field. This structure ensures the longest operational reliability and the highest human safety.

A dry insulation of RIS (Resin Impregnated Synthetic) is also available.

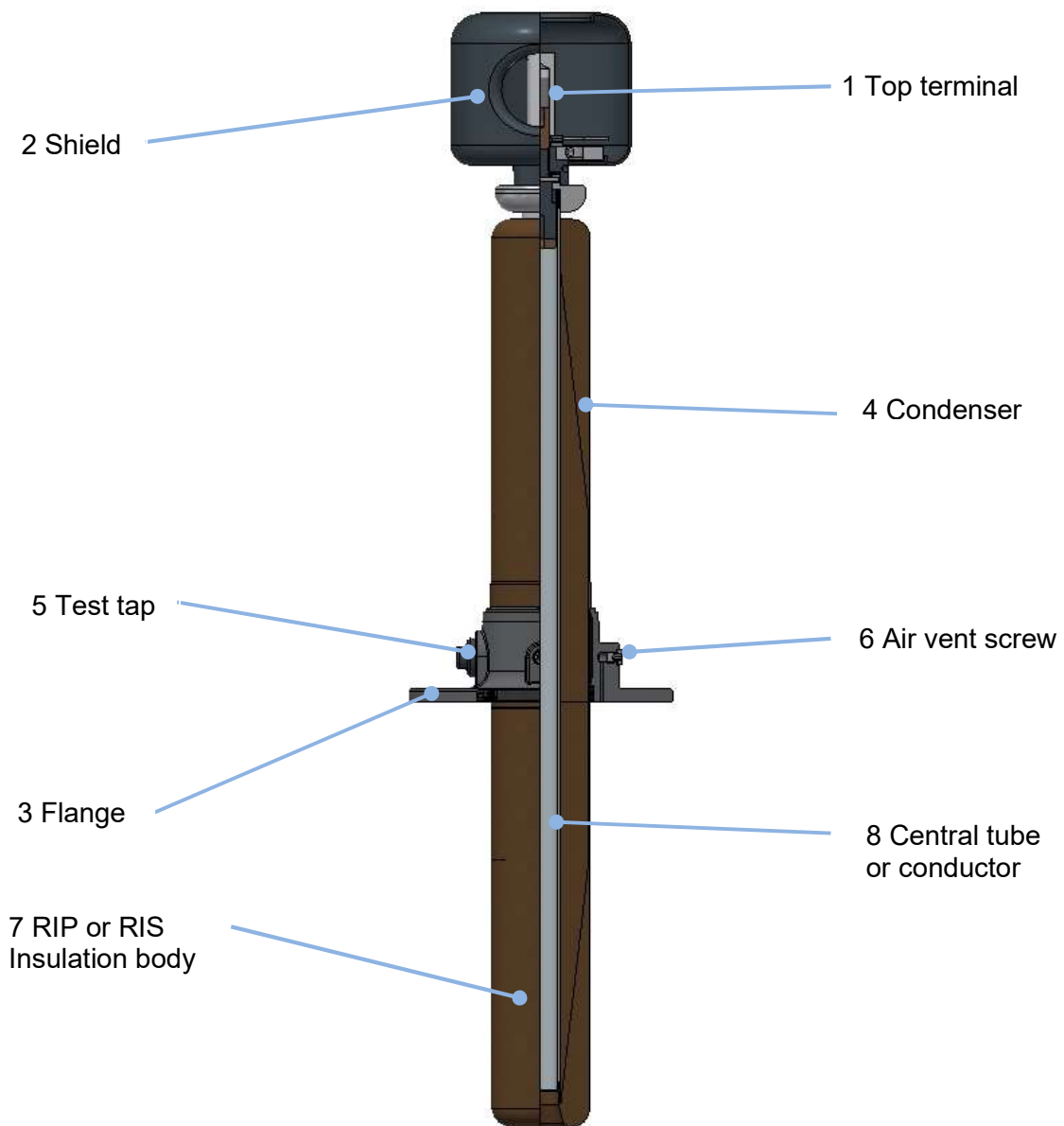


Figure 5: DURESCA transformer bushing type DTO

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### 3 Specifications

|  | Standard  | Comments   |
|--|---|--|
| <b>Electrically</b>                    |   |  |
| Rated voltage $U_m$                    | -   | see order confirmation                                     |
| Max. current $I_r$ (with 1.2 overload) | -   | see order confirmation                                     |
| Standard                               | IEC 60137/IEEE C57.19.00  | see order confirmation                                     |
| <b>Mechanically</b>                    |   |  |
| Bushing type                           | Dry fine graded condenser type  |  |
| Material of conductor                  | Aluminium EN AW-6101B T7 (AC041)<br>or<br>Electrolyte copper (Cu-ETP) | see order confirmation                                     |
| Insulation                             | RIP Resin Impregnated Paper<br>RIS Resin Impregnated Synthetic        |  |
| Material of bushing's head             | corrosion free aluminium alloy  |  |
| Material flange                        | corrosion free aluminium alloy  |  |
| Material outdoor insulation            | Silicone (LSR)  |  |
| Dimension                              | -   | see layout drawing   |
| Weight                                 | -   | see layout drawing   |
| Wooden transport boxes                 | according ISPM 15 Standard (Standard packaging, Seaworth)             | (ISPM: International Standards for Phytosanitary Measures) |
| <b>Application</b>                     |   |  |
| Permissible ambient temperature        | -40 up to +40° C  | other values on request<br>see layout drawing              |
| Altitude                               | up to 1000 masl   | other values on request                                    |
| Application                            | Oil insulated transformers  | Oil / Oil  |
| Oil temperature                        | Daily mean value 90°C, maximum value 100°C                            |  |
| Mounting angle                         | 0 to 90°  |  |



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#### 4 Installation of the bushings

|   |  |
|---|--|
|  | <p><b>Caution</b></p> <p>Do not work on installations that might be under tension!</p> |
|---|--|

##### 4.1 Unpacking and lifting

Small bushing could be taken out of the crate by hand (for the weight, consult layout drawing).

Bigger bushings are lifted by rope and lifting equipment.

For this purpose, eyebolts (Figure 6, not included) are attached. On the second side support by hand or lift using a sling.

If raising the bushing put protection pad underneath.


|   |   |
|---|---|
|  | <p><b>Attention</b> Bushings must be handled with care. Bumps and shocks should be avoided and reported.</p> <p>Damage to the bushings must be reported immediately to MGC.</p> |
|---|---|

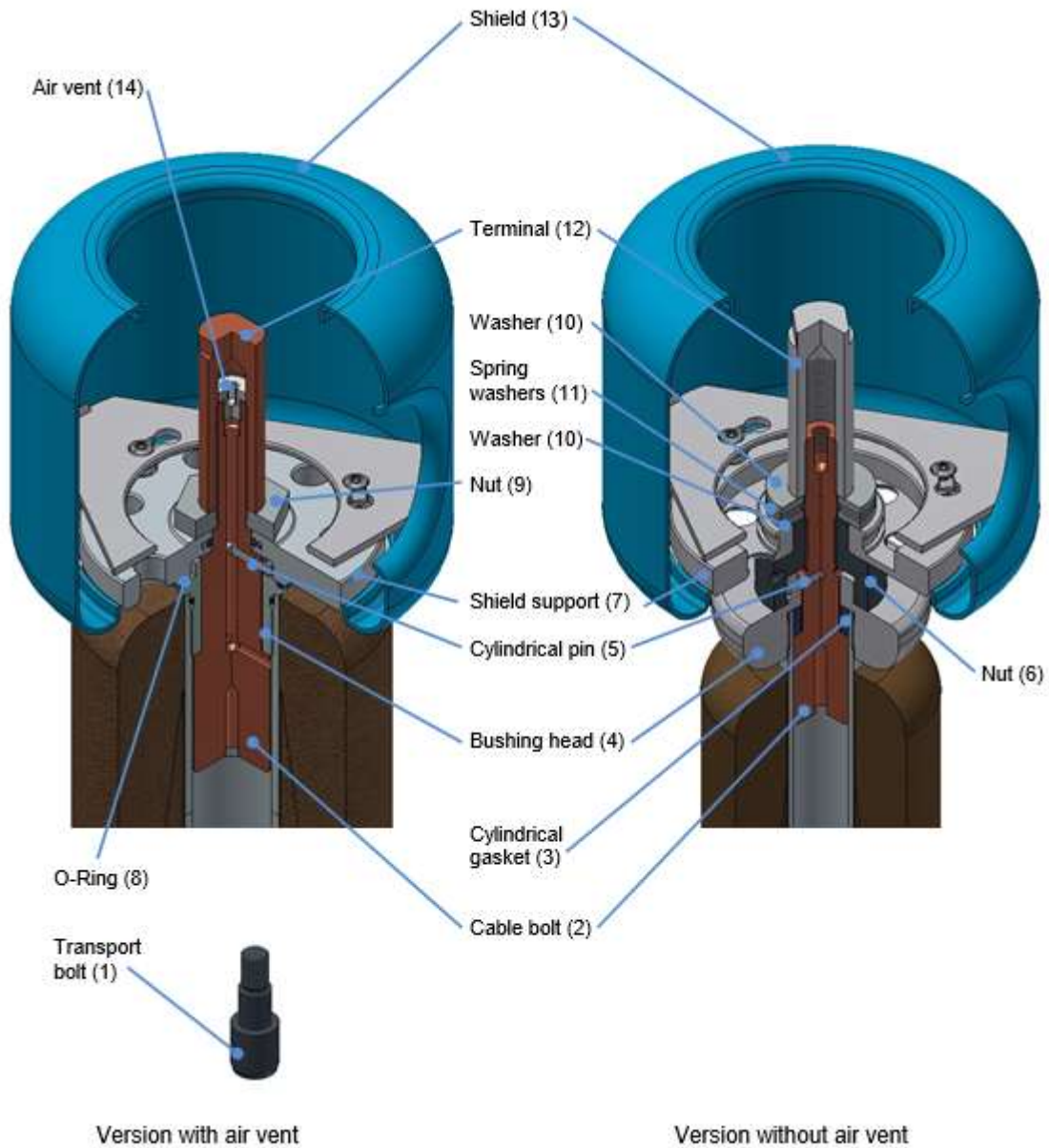


Figure 7: Example of an eyebolt  
(not in the scope of supply)

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## 4.2 Installation of the bushing

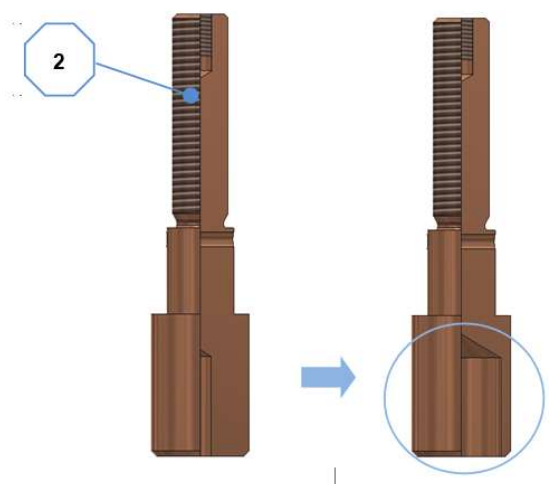
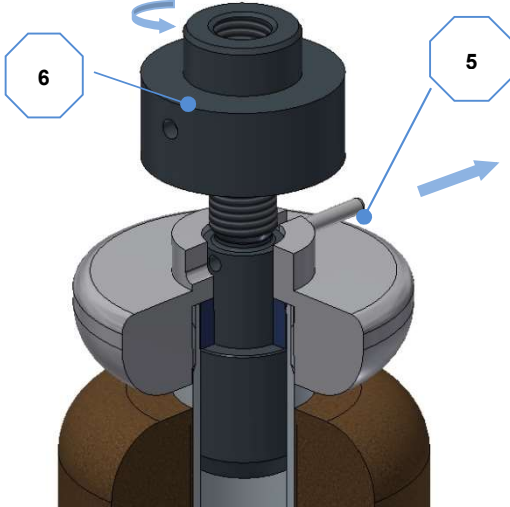
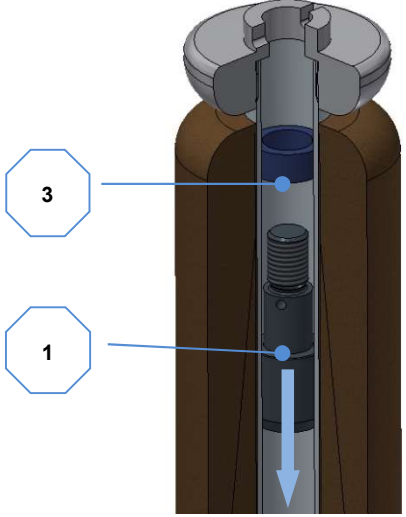
### 4.2.1 Version with draw lead or split conductor fixed with cylindrical pin.

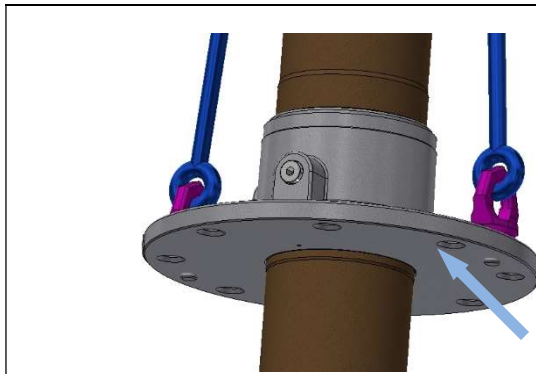


#### Recommendation

Moser Glaser recommends to insulate the cable coming from the transformer winding connected to the draw lead or conductor of the bushing.

**Procedure with simple cable bolt or split (without air vent)**

|   |   |
|---|---|
|    | <p><b>1</b></p> <p>Bore the cable bolt (2) or split base (packed separately in the crate) to match transformer cable and connect them together (e.g. brazing)</p> |
|   | <p><b>2</b></p> <p>Unscrew the nut (6) and remove the cylindrical pin (5)</p>   |
|  | <p><b>3</b></p> <p>Remove the transport bolt (1) and the cylindrical gasket (3)</p>   |



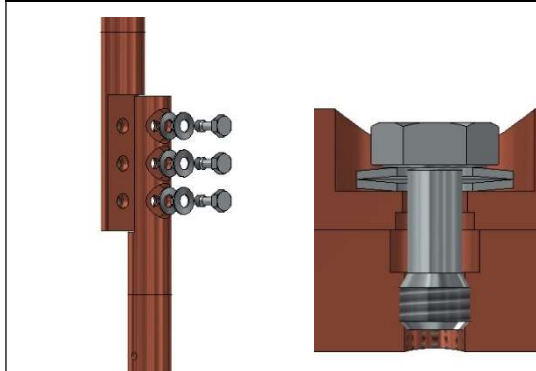
4

Remove the flange protection.

Clean the sealing surfaces of the bushing and transformer. Make sure that everything is completely dry.

Lift the bushing using eyebolts (Figure 5) and place in the right angle above the transformer on the designated place.

Prepare the sealing surface and the sealing components on the transformer.



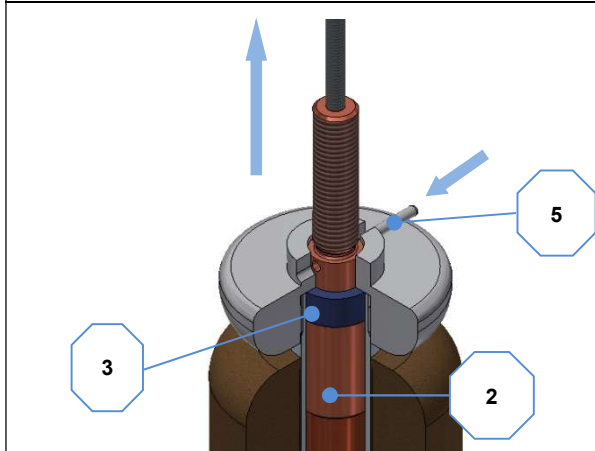
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**For split conductor:** connect the split base with the delivered 3x M10 screws and 2 spring washers, torque 20 Nm

Pay attention to the position of the spring washers



The spring washers have to be properly centered inside the hole

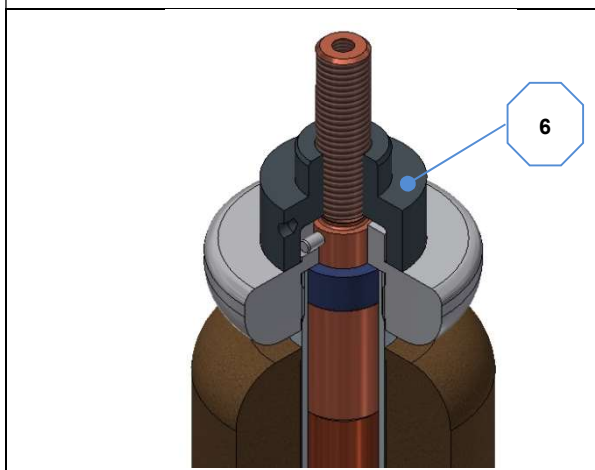


6

Put the cylindrical gasket (3) on the cable bolt or split conductor (2)

Pull the cable bolt or split conductor through the bushing (using a M10 threaded rod – not in scope of supply) and lower the bushing into the transformer

Insert the cylindrical pin (5) and remove the threaded rod



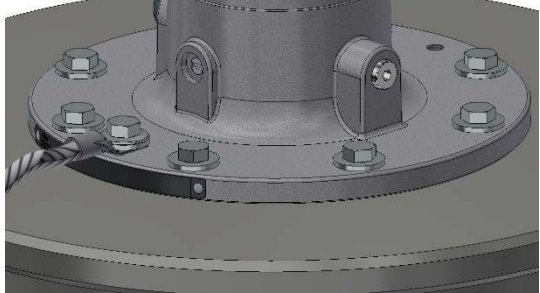
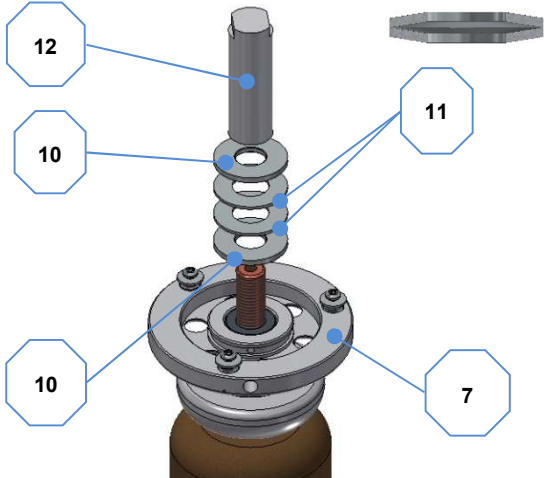
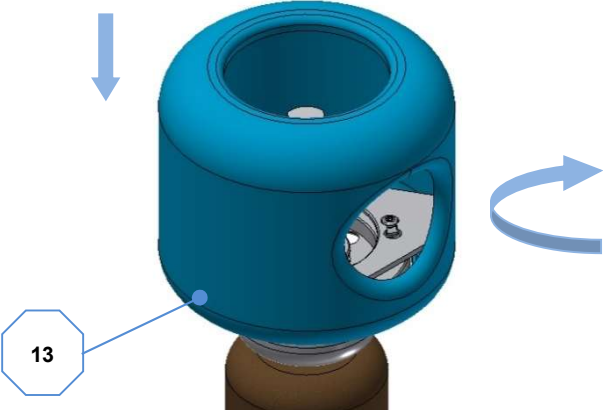
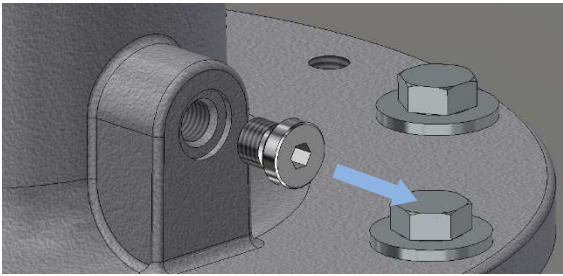
7

Tighten the nut (6) by hand, then further ¼ to ½ turns.

Use a pin wrench.

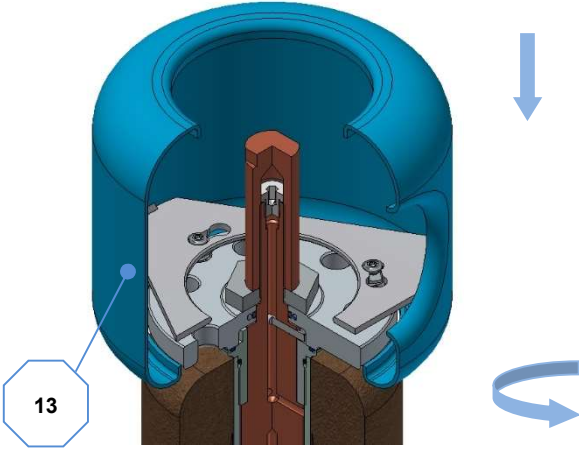

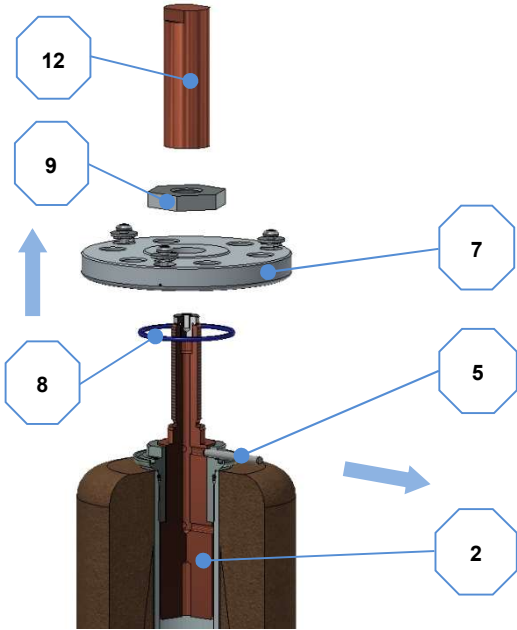
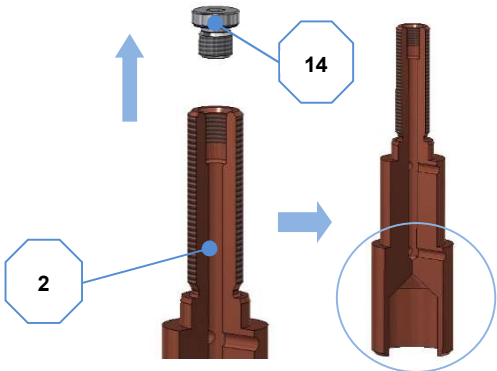


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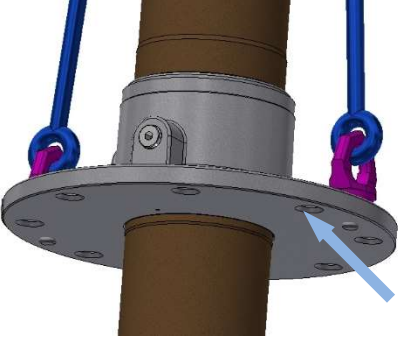
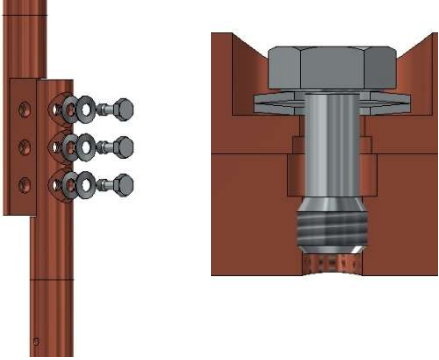

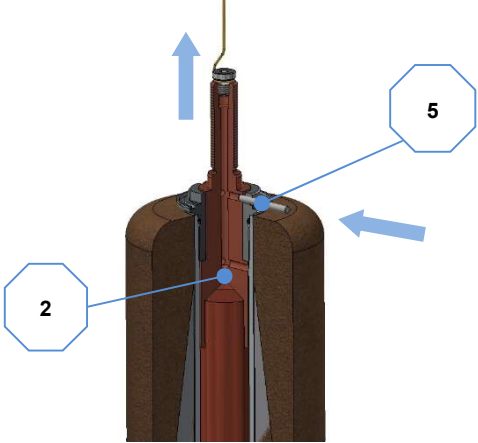
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|    | <p><b>8</b></p> <p>Tighten the bolts on the flange to the transformer.</p> <p>Make the earthing between the flange and the transformer, use the marked M12 threads.</p>   |
|   | <p><b>9</b></p> <p>Put the shield support (7), one washer (10), the 2 spring washers in opposite (11), the second washer (10) and screw the terminal (12) on the cable bolt (Torque 40Nm).</p> <p>In case of a threaded connection, operate the same way as for the terminal and screw the nut (Torque 40Nm)</p> <p>Take also in account the orientation of the hole of the shield.</p> |
|  | <p><b>10</b></p> <p>Install the shield (13)</p> <p>Block the shield with the bayonet fitting</p> <p>Push and turn clockwise.</p> <p><b>Attention:</b> Any shield damage (coating, geometry) must be reported to Moser Glaser with no delay.</p>   |
|  | <p><b>11</b></p> <p>Ventilation:</p> <p>Open the air vent screw to release the air during the transformer oil filling process.</p> <p>After 24 hours vent again to make sure that no air is trapped.</p> <p>Lubricate the threads of the air vent screw with transformer oil and tighten the screw with 30Nm torque.</p> <p>Mount the cable box.</p>                                    |



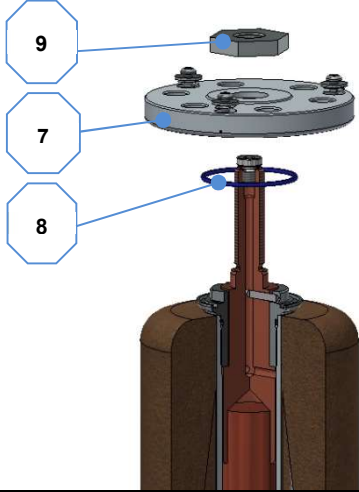

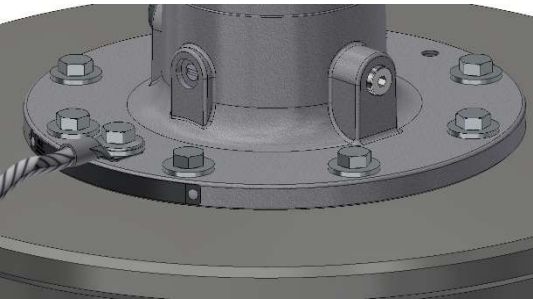
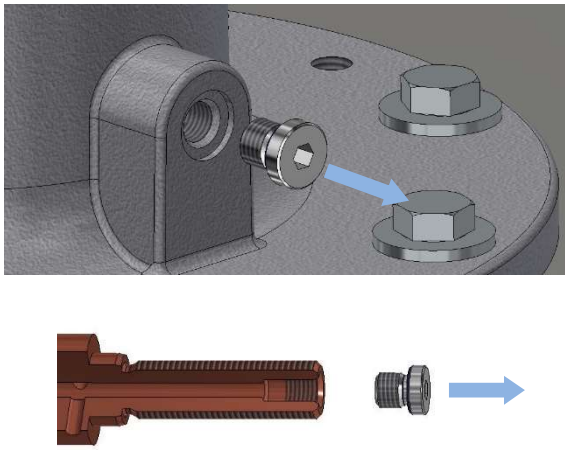
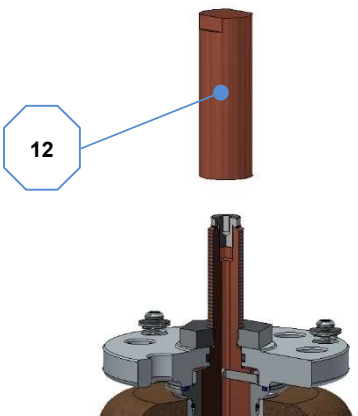

**Procedure with small head and cable bolt (or split) with air vent screw**

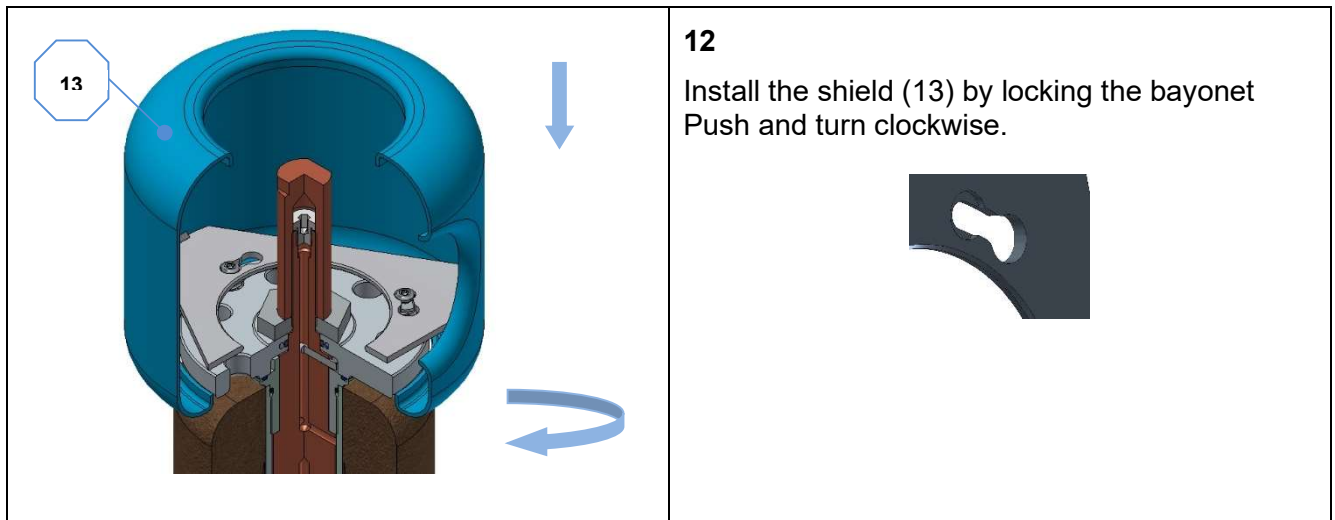
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|    | <p><b>1</b></p> <p>Remove the shield (13) (if present) by unlocking the bayonet<br/>Push and turn counter clockwise.</p>   |
|   | <p><b>2</b></p> <ul style="list-style-type: none"> <li>• Unscrew the terminal (12)</li> <li>• Unscrew the nut (9)</li> <li>• Remove the shield support (7)</li> <li>• Remove the O-ring (8)</li> <li>• Remove the cylindrical pin (5)</li> <li>• Remove the cable bolt (2)</li> </ul> |
|  | <p><b>3</b></p> <p>Remove the air vent screw (14)</p> <p>Bore the cable bolt (2) or split base (packed separately in the crate) to match transformer cable and connect them together (e.g. brazing)</p>   |

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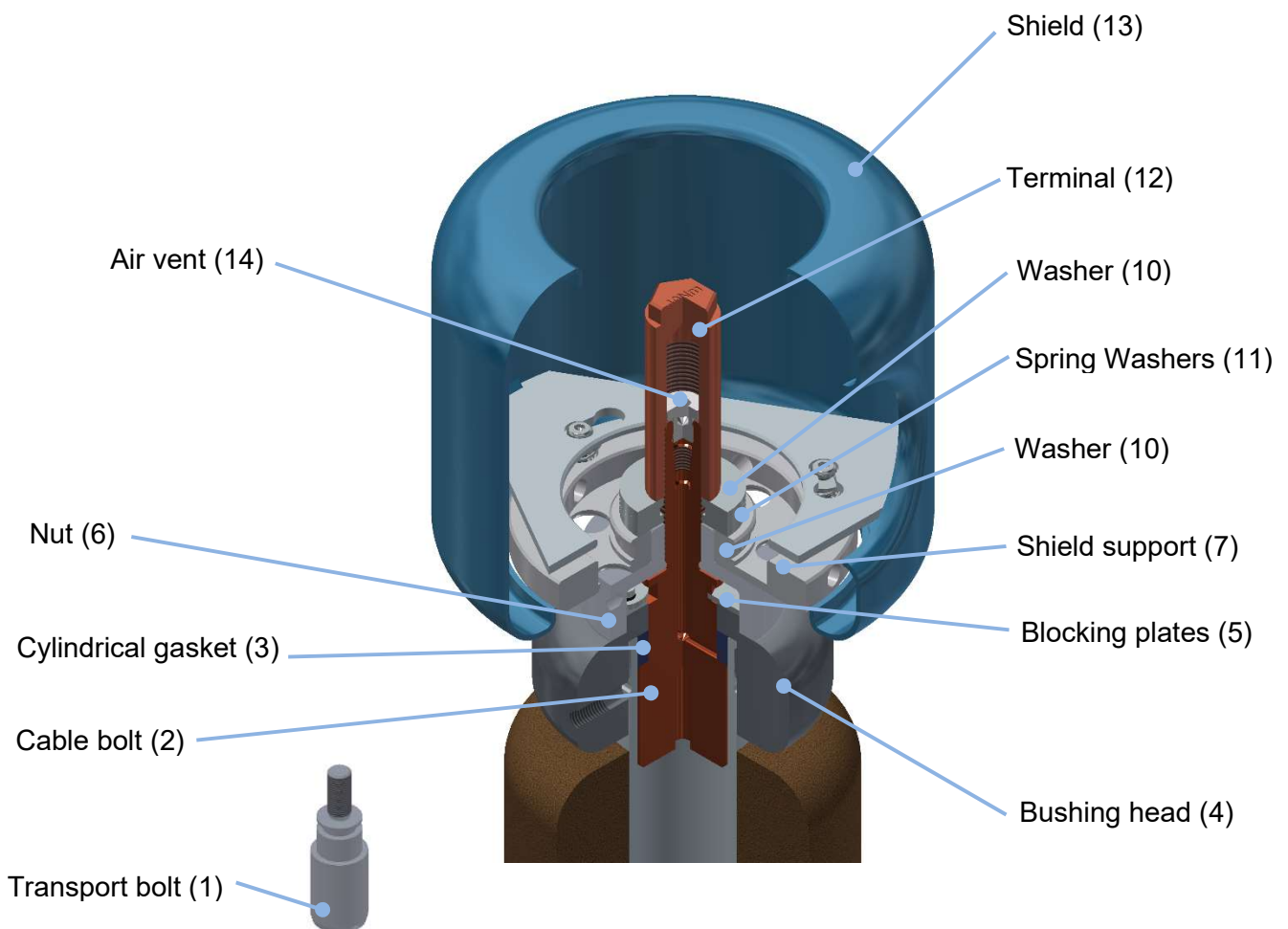
|   |   |
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|    | <p><b>4</b></p> <p>Use the air vent screw to fix a cord (or something similar) in order to get the cable bolt or split) through the bushing tube.</p> <p>You can also use a M10 threaded rod.</p>   |
|   | <p><b>5</b></p> <p>Remove the flange protection.</p> <p>Clean the sealing surfaces of the bushing and transformer. Make sure that everything is completely dry.</p> <p>Lift the bushing using eyebolts (Figure 5) and place in the right angle above the transformer on the designated place.</p> <p>Prepare the sealing surface and the sealing components on the transformer.</p> |
|  | <p><b>6</b></p> <p><b>For split conductor:</b> connect the split base with the delivered 3x M10 screws and 2 spring washers, torque 20 Nm. Pay attention to the position of the spring washers.</p>  <p>The spring washers have to be properly centered inside of the hole.</p>                |
|  | <p><b>7</b></p> <p>Pull the cable bolt or split conductor (2) through the bushing and lower the bushing into the transformer.</p> <p>Insert the cylindrical pin (5) and remove the cord or M10 threaded rod.</p>  |

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|   |  |
|---|--|
|    | <p><b>8</b></p> <p>Replace the O-ring (8) and the shield support (7)</p> <p>Tighten the nut (9) by hand, then further ¼ to ½ turns.</p> <p>Use a flat spanner. </p> <p>Concerning the mounting of the shield support, take also in account the orientation of the hole of the shield.</p> |
|   | <p><b>9</b></p> <p>Tighten the bolts on the flange to the transformer.</p> <p>Make the earthing between the flange and the transformer, use the marked M12 threads.</p>  |
|  | <p><b>10</b></p> <p>Ventilation: On flange and, if any, on cable bolt.</p> <p>Open the air vent screw to release the air during the transformer oil filling process.</p> <p>After 24 hours vent again to make sure that no air is trapped.</p> <p>Lubricate the threads of the air vent screw with transformer oil and tighten the screw with 30Nm torque.</p>               |
|  | <p><b>11</b></p> <p>Screw the terminal (12).</p> <p>Tighten the terminal by hand, then further ¼ to ½ turns.</p> <p>Use a flat spanner. (Torque 40Nm) </p>  |



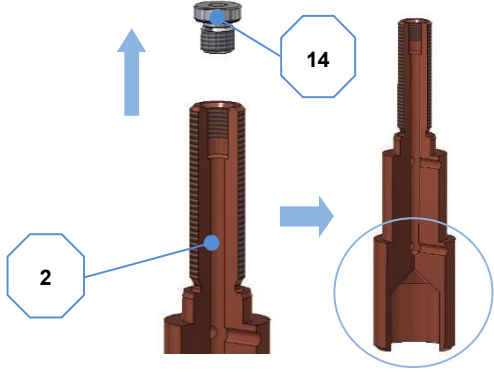
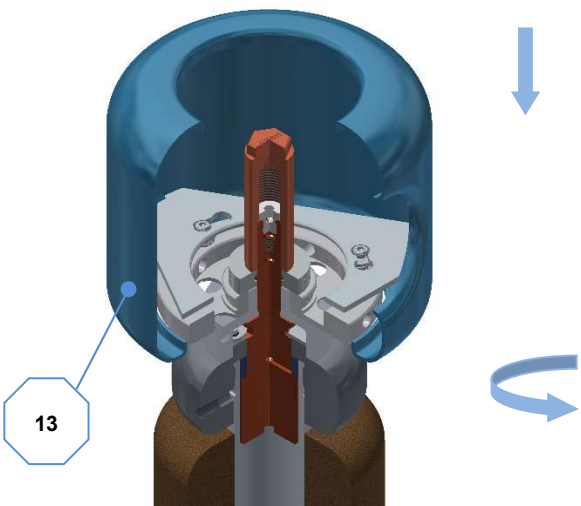

**4.2.2 Version with draw lead or split conductor fixed with blocking plates.**



**Recommendation**


Moser Glaser recommends to insulate the cable coming from the transformer winding connected to the draw lead or conductor of the bushing.

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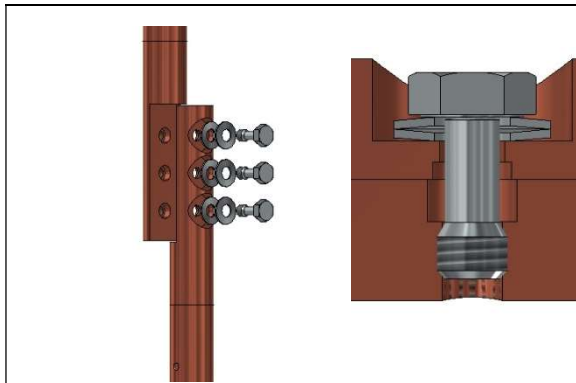
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|   | <p><b>1</b></p> <p>Remove the air vent screw (14)<br/>Bore the cable bolt (2) or split base (packed separately in the crate) to match transformer cable and connect them together (e.g. brazing)</p>           |
|  | <p><b>2</b></p> <p>Remove the shield (13) (if present) by unlocking the bayonet<br/>Push and turn counter clockwise.</p>  |



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|  |   |
|--|---|
|  | <p><b>3</b></p> <ul style="list-style-type: none"> <li>• Unscrew the terminal (12)</li> <li>• Remove the washers and spring washers (10,11)</li> <li>• Remove the shield support (7)</li> <li>• Unscrew the nut (6) by hand or by using a pine wrench</li> </ul>  <ul style="list-style-type: none"> <li>• Rotate both blocking plates (5) to release the transport bolt</li> <li>• Take the transport bolt (1) and the cylindrical gasket (3) out of the bushing.</li> </ul> |
|  | <p><b>4</b></p> <p>Remove the flange protection.</p> <p>Clean the sealing surfaces of the bushing and transformer. Make sure that everything is completely dry.</p> <p>Lift the bushing using eyebolts (Figure 5) and place in the right angle above the transformer on the designated place.</p> <p>Prepare the sealing surface and the sealing components on the transformer.</p>   |

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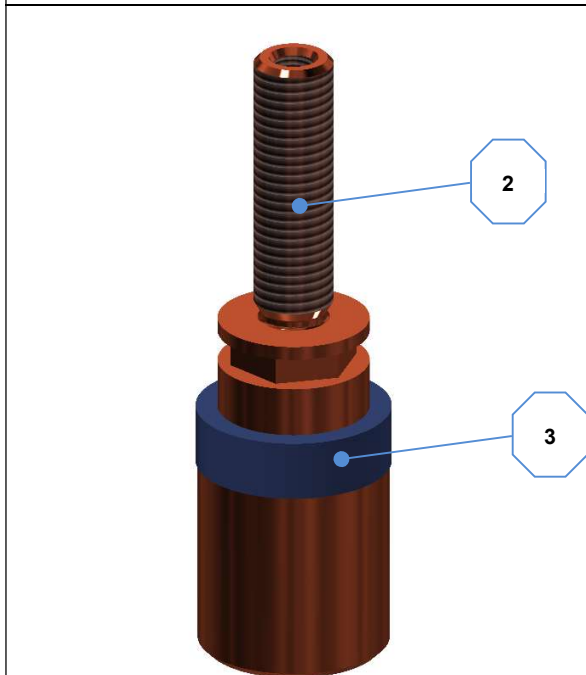


**5**

**For split conductor:** connect the split base with the delivered 3x M10 screws and 2 spring washers, torque 20 Nm. Pay attention to the position of the spring washers.



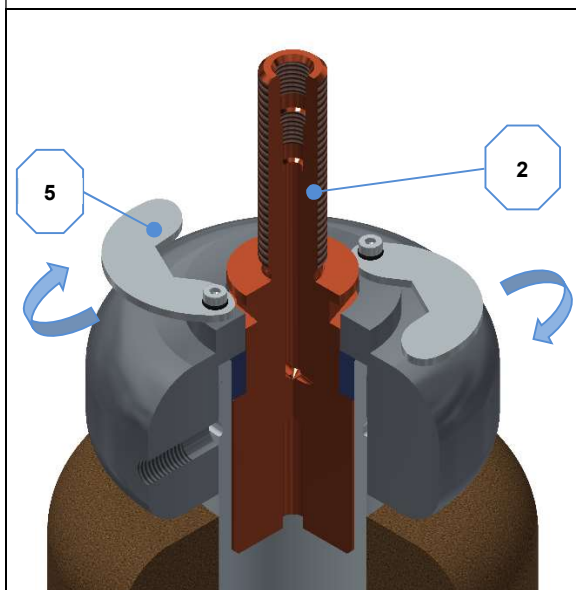
The spring washers have to be properly centered inside of the hole.



**6**

Put the cylindrical gasket (3) on the cable bolt (2).

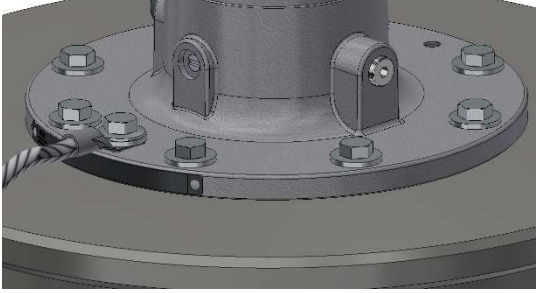
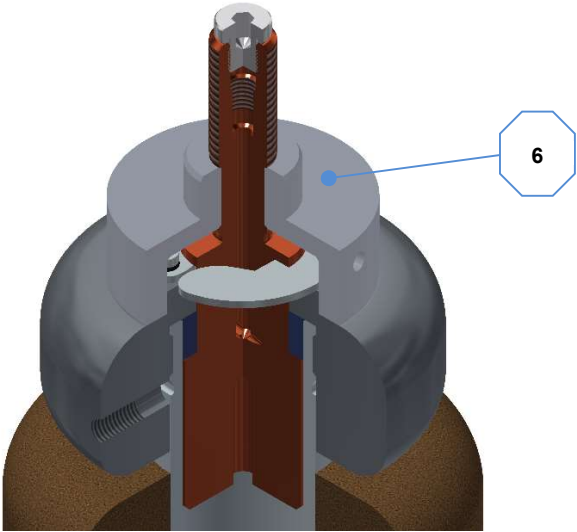

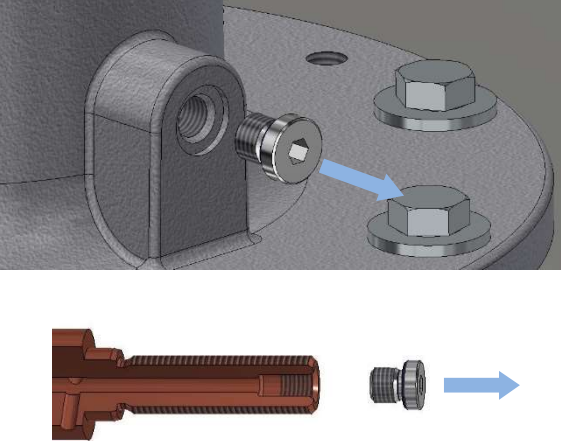
Use a M10 threaded rod to fix a cord (or something similar) in order to get the cable bolt or split) through the bushing tube.

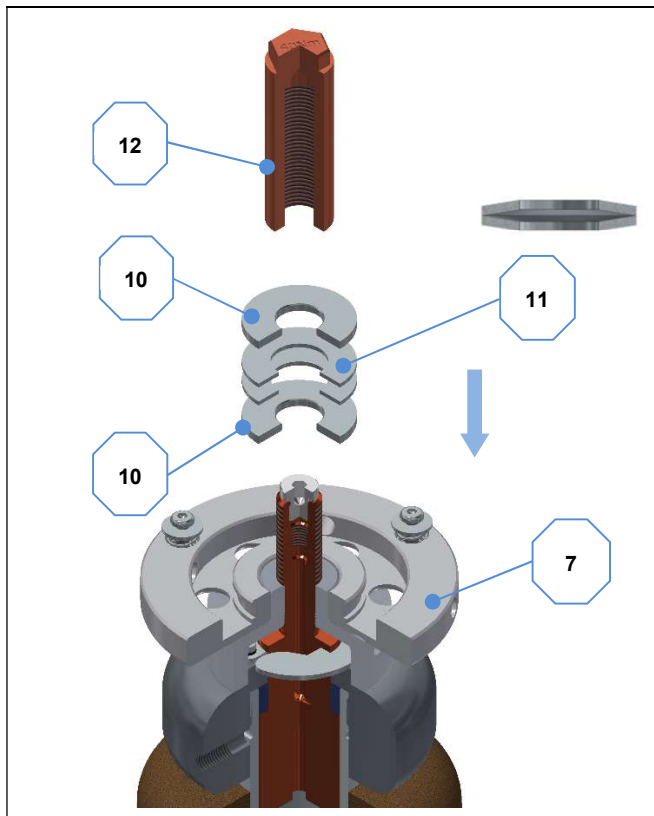


**7**

Rotate both blocking plates (5) to secure the cable bolt (2) and remove the threaded rod.

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|   |  |
|---|--|
|    | <p><b>8</b></p> <p>Tighten the bolts on the flange to the transformer.</p> <p>Make the earthing between the flange and the transformer, use the marked M12 threads.</p>  |
|   | <p><b>9</b></p> <p>Tighten the nut (6) by hand, then further ¼ to ½ turns.</p> <p>Use a pin wrench</p>   |
|  | <p><b>10</b></p> <p>Ventilation: On flange and, if any, on cable bolt.</p> <p>Open the air vent screw to release the air during the transformer oil filling process.</p> <p>After 24 hours vent again to make sure that no air is trapped.</p> <p>Lubricate the threads of the air vent screw with transformer oil and tighten the screw with 30Nm torque.</p> |



**11**

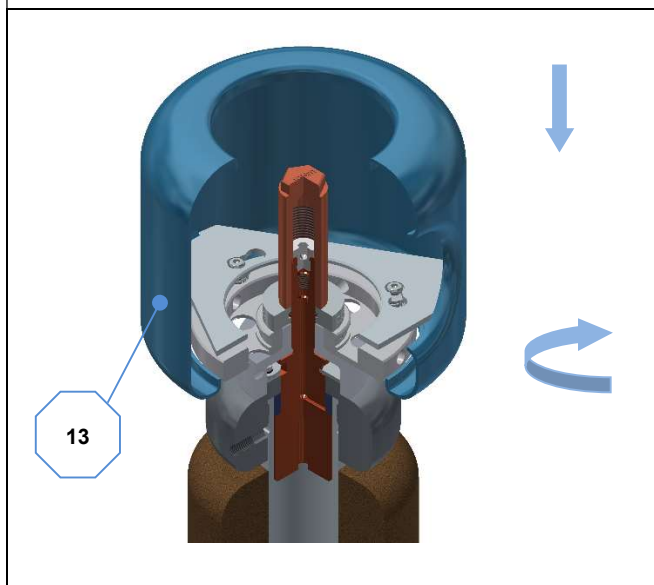
Put the shield support (7), one washer (10), the 2 spring washers in opposite (11), the second washer (10) and screw the terminal (12) on the cable bolt.

Tighten the terminal by hand, then further ¼ to ½ turns.

Use a flat spanner (torque 40Nm).



Take also in account the orientation of the hole of the shield.



**12**

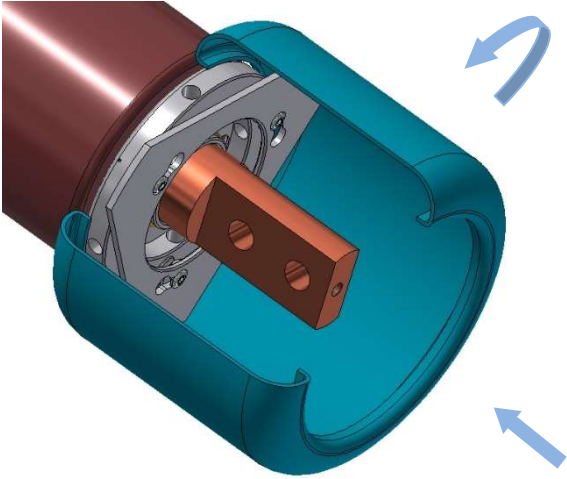

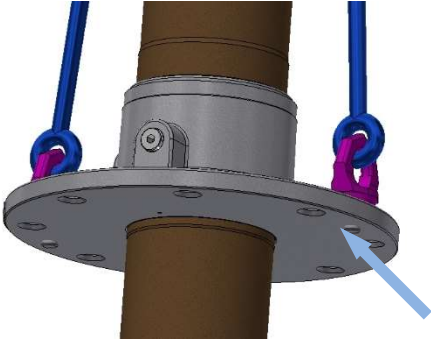
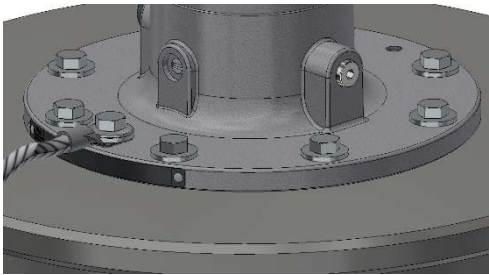
Install the shield (13)  
Block the shield with bayonet fitting  
Push and turn clockwise.

**Attention:** Any shield damage (coating, geometry) must be reported to Moser Glaser with no delay.

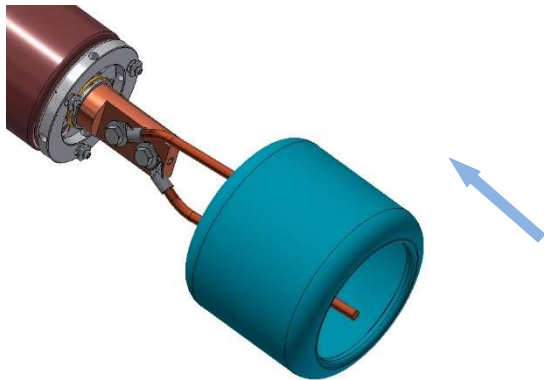
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### 4.3 Montage of bushing – Version with fixed conductor

**Attention:** Any shield damage (coating, geometry) must be reported to Moser Glaser with no delay. Bottom connected bushings require a man-hole in the turret for connecting the current leads.

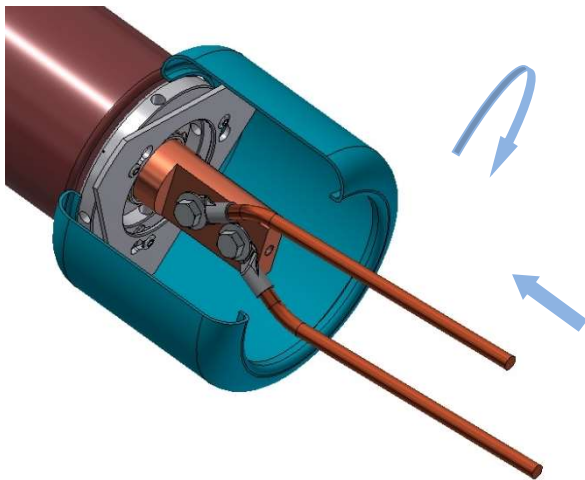
|   |  |
|---|--|
|   | <p><b>1</b></p> <p>Remove the electrode (if present) by unlocking the bayonet.<br/>Push and turn counter clockwise.</p>   |
|  | <p><b>2</b></p> <p>Remove the flange protection.<br/>Clean the sealing surfaces of the bushing and transformer. Make sure that everything is completely dry.<br/>Lift the bushing using eyebolts (Figure 5) and place in the right angle above the transformer on the designated place.<br/>Prepare the sealing surface and the sealing components on the transformer.</p> |
|  | <p><b>3</b></p> <p>Tighten the bolts on the flange to the transformer.<br/>Make the earthing between the flange and the transformer, use the marked M12 threads.</p>   |





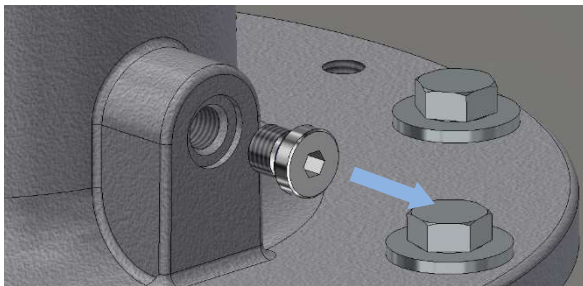
**4**

Via manhole: Pull the transformer cable through the electrode and connect to the fixed conductor bolt



**5**

Install the shield.  
Block the shield with the bayonet fitting.  
Push and turn clockwise.



**6**

Ventilation:

Open the air vent screw to release the air during the transformer oil filling process.  
After 24 hours vent again to make sure that no air is trapped.

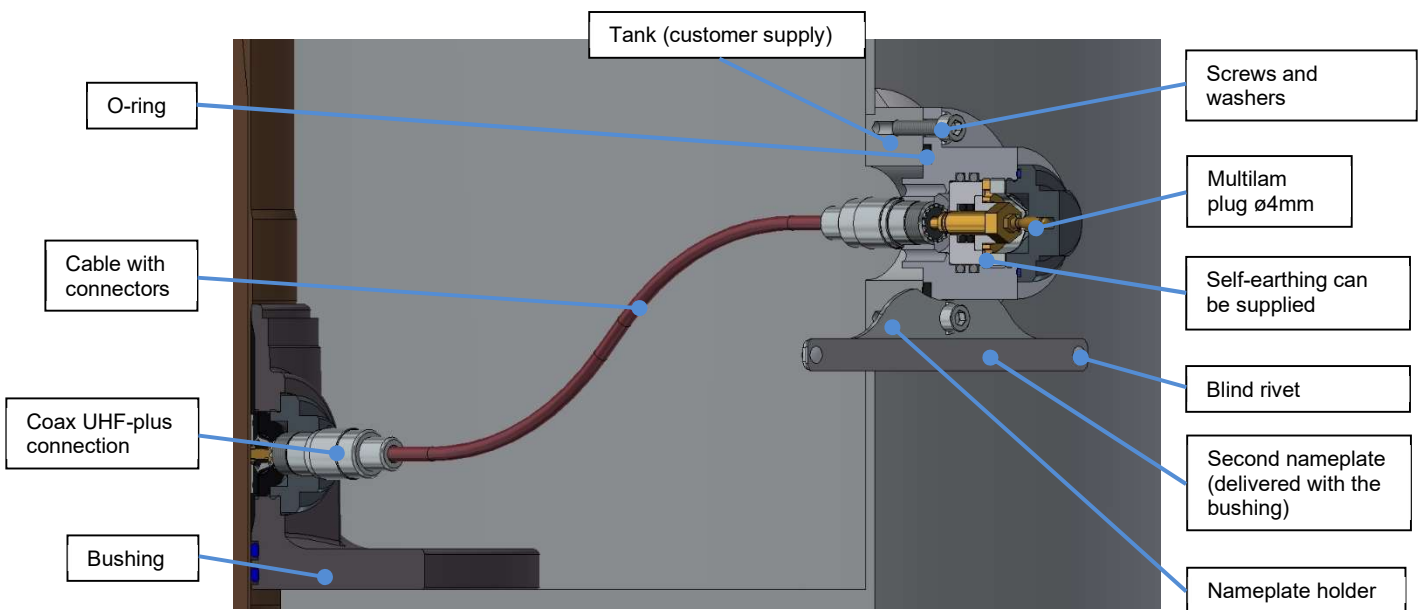
Lubricate the threads of the air vent screw with transformer oil and tighten the screw with 30Nm torque.

|                |                                       |                          |
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#### 4.4 Accessories mounting

##### Test tap extension

The DURESCA Transformer bushing type DTO can be delivered with an UHF coaxial connector on which a test-tap extension is installed. Without the test tap cap, the bushing must not be put into operation, since the grounding of the terminal is guaranteed by the cover of the extension.



#### Procedure

|  |   |
|--|---|
|  | <p><b>1</b><br/>Remove the standard test tap cap.</p>   |
|  | <p><b>2</b><br/>Install the test tap cap with hole furnished in the kit.<br/>Use a flat spanner. <br/>Torque 30Nm.<br/>The O-ring is no more needed.</p> |

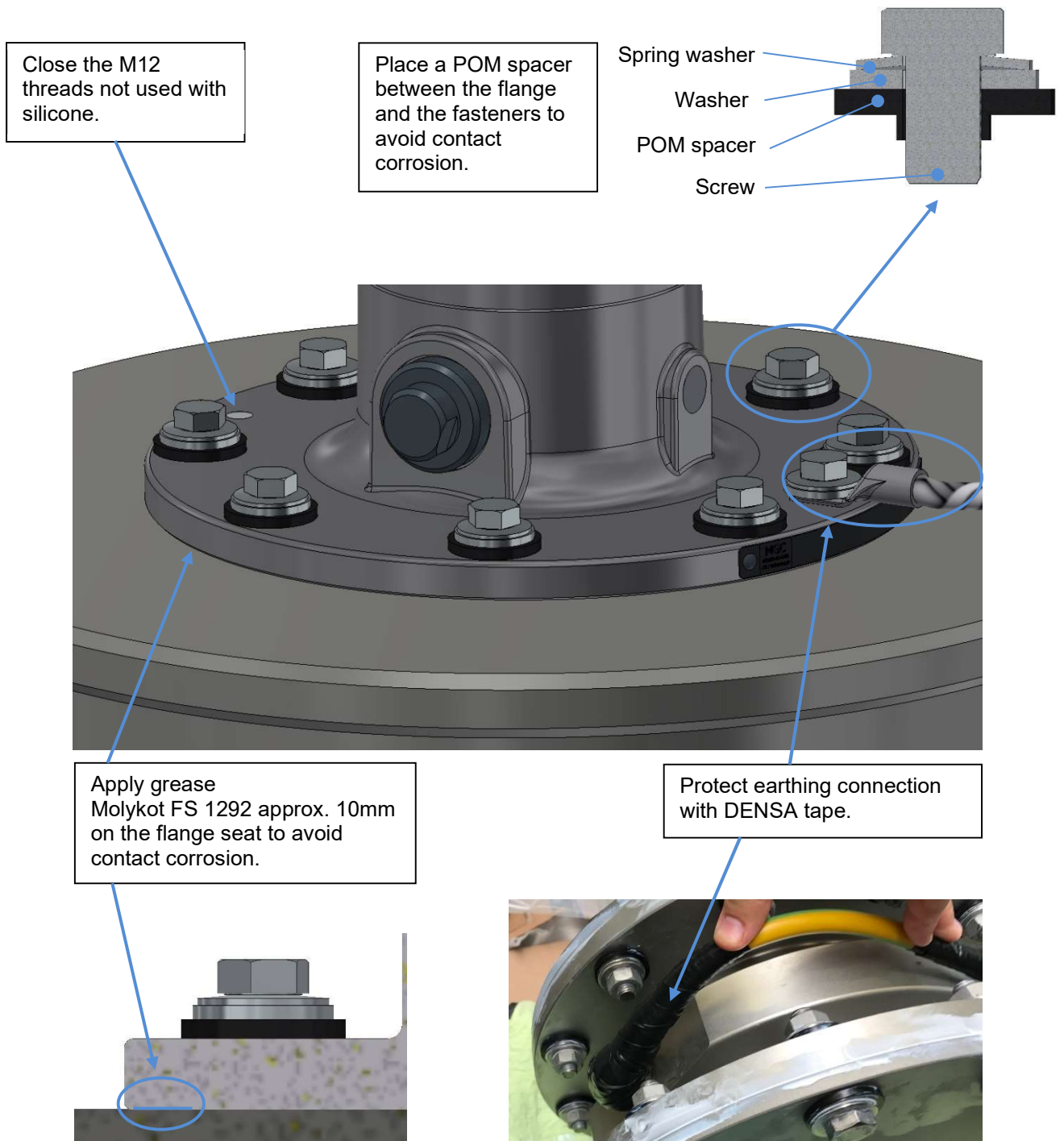


### Off Shore application (C5-M) for double flange

MGC Moser Glaser has made investigations and performed tests according to ISO 12944 and ISO 20340 to find the most efficient combination of products for heavy corrosive environment.

If you ordered a bushing for offshore application, the flange and the head of the bushing will be anodized, and the top terminal will be tin-plated.

### Mounting recommendations for optimal lifetime of the bushing:



|                |                              |             |
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## 5 Check before energizing



After installation on the transformer, a waiting time of 24 hours and repeated air bleeding is required to avoid air bubbles on the insulating body which can cause flashovers or partial discharges.

Minimal oil level: up to bushing flange or if the transformer is not equipped with a conservator, minimum 1/3 of the CT extension has to be covered at any temperature, remaining volume being filled with dry nitrogen.



### Check earthing

Inadequate earthing may lead to the failure of the installation and damage the bushings!

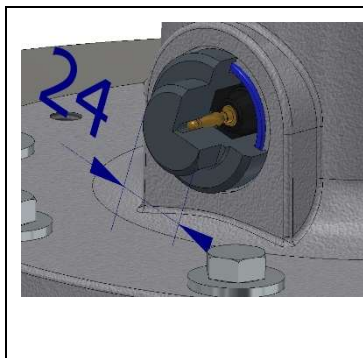


The test tap may only be used if the power supply is disconnected. After the measurements, the cap must be closed tight (30Nm).

To ensure safe operation, Moser Glaser recommends the following checks:

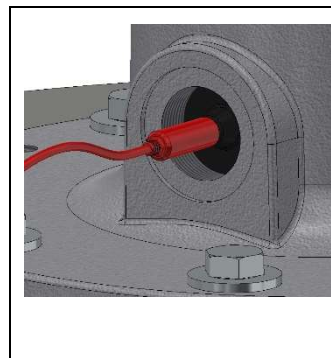
1. Tightness: between bushing / transformer tank, and the head sealing of the bushing
2. Tan Delta and capacity at the test tap (if possible)

### Measurement of the tan $\delta$ and capacitance



Use a flat spanner or spanner socket N24 to open the cap.

After the measurement, replace the cap and the o-ring. Torque 30Nm.



Connection:  
multilam pin  
Ø4mm

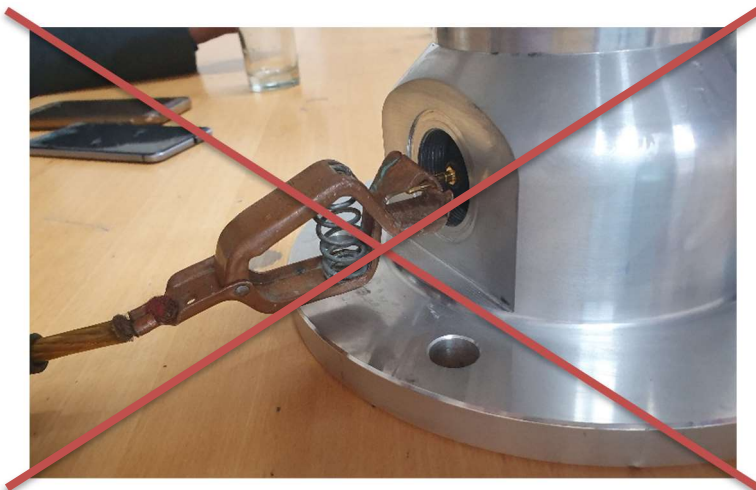
**use a banana  
jack to connect**

Measurement  
cable not  
included

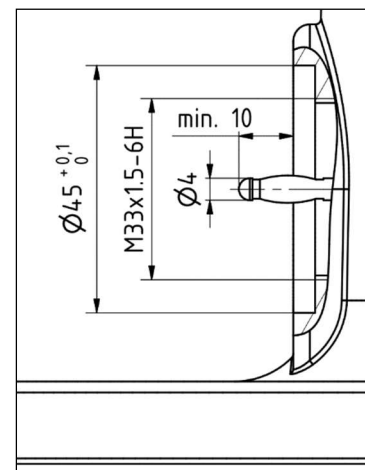
In operation, grounded

Measurement position, not grounded

**Do not use the crocodile clip**



Dimension of the test tap





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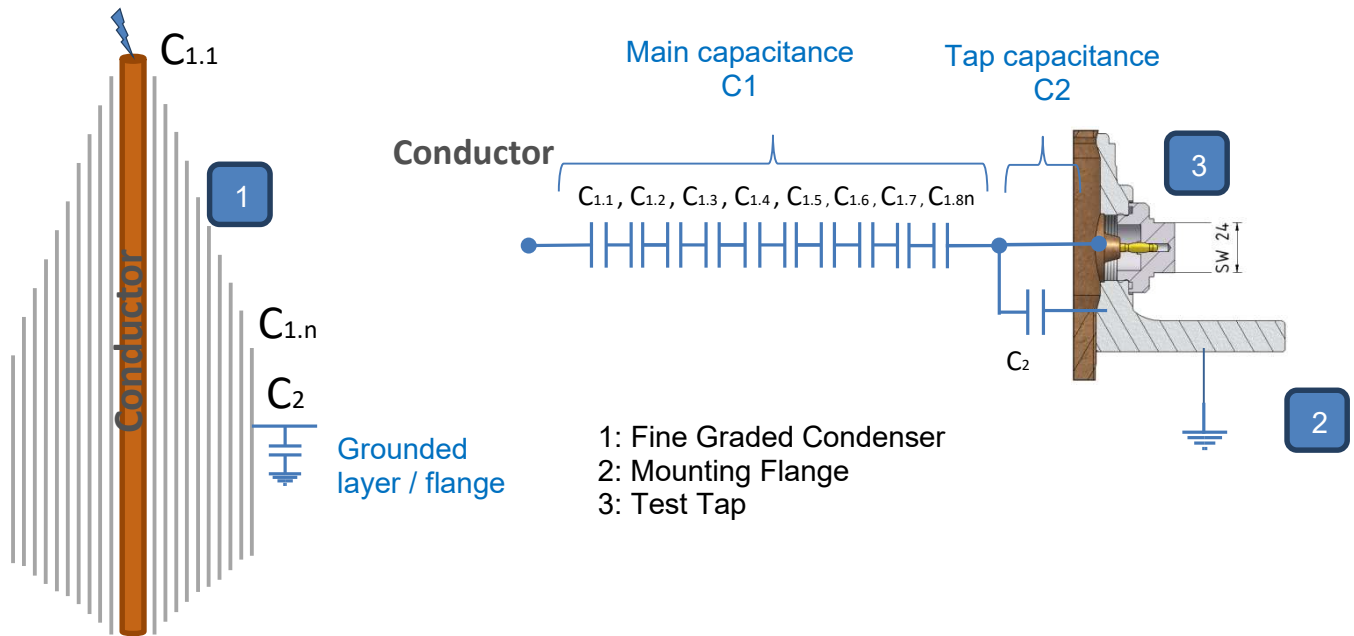


Figure 5: Principle of capacitance and Tan Delta measurement

### Capacitances C1 and C2

The capacitance is defined by the geometry of the active part (position and length of the capacitive layers, size of the flange, ...).

Following parameters can influence the value of capacitance:

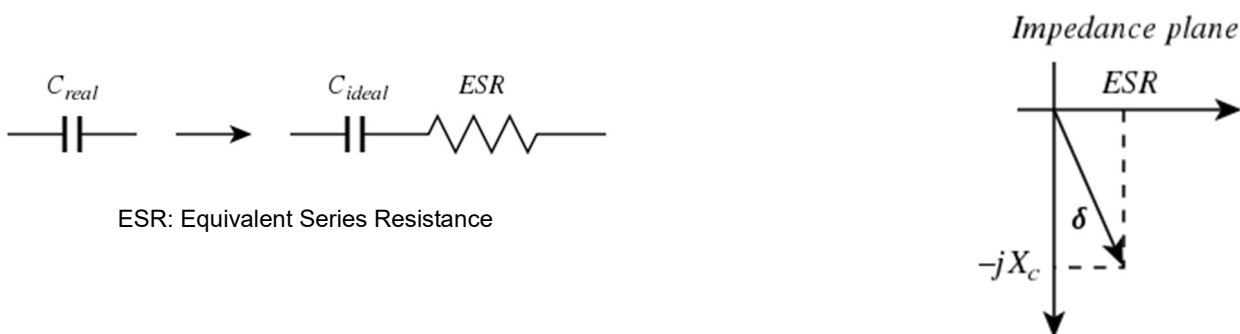
- Temperature: permittivity and then capacitance increase with increasing temperature
- Stray capacitances: presence of a current transformer, a transformer turret, an external corona shield, connections, distance to ground...

Values can therefore deviate from manufacture values:

- For main insulation C1: up to 10%
- For test tap C2: up to 100%

Power factor /  $\tan \delta_1$  (Main insulation) and  $\tan \delta_2$  (Test tap)

The ideal bushing is a pure capacitance, but the real bushing is an ideal capacitance associated with a resistance. The loss factor is defined by the ratio between resistive and capacitive currents of the tested part:



ESR: Equivalent Series Resistance

|                |                              |             |
|----------------|------------------------------|-------------|
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### How to limit $\tan \delta_1$

- Avoid moisture and dust to penetrate inside of the test tap (always close test tap with the original cap when not used)
- Pack the bushing in accordance with the expected use (short-term operation, long-term storage, ...) → see Re-packing chapter
- Limit the exposition of the bushing to moisture (indoor storage, sealed packaging, ...)
- Measure in the best conditions:
  - Outside of the wooden crate
  - Flange earthed but insulated from any other material (polystyrene, wood, ...)

### Importance of $\tan \delta_2$

- In operation, the last layer is earthed, so that C2 is shortened:
  - No dielectric losses
  - No dielectric stresses
  - No partial discharge activity
- It is not recommended to use  $\tan \delta_2$  for bushing diagnostic as this parameter is highly volatile especially with temperatures changes.

### Following parameters can influence the value of $\tan \delta$ :

- Moisture: humidity content decreases the resistance and therefore increase the  $\tan \delta$
- Surface cleanness: any conductive part at the surface may lead to an increase of  $\tan \delta$ .  
By example: dusty silicone sheds, dusty or wet creepage distance (measurement in wooden crate), ...
- Temperature:  
With increasing temperature:
  - $\tan \delta_1$  decreases (in temperature range 10...60°C)
  - $\tan \delta_2$  increases

Values can therefore deviate from manufacture values:

- For main insulation  $\tan \delta_1$ : -0.5...-1.0 %/K in range 10...60°C
- For test tap  $\tan \delta_2$ : up to 100%

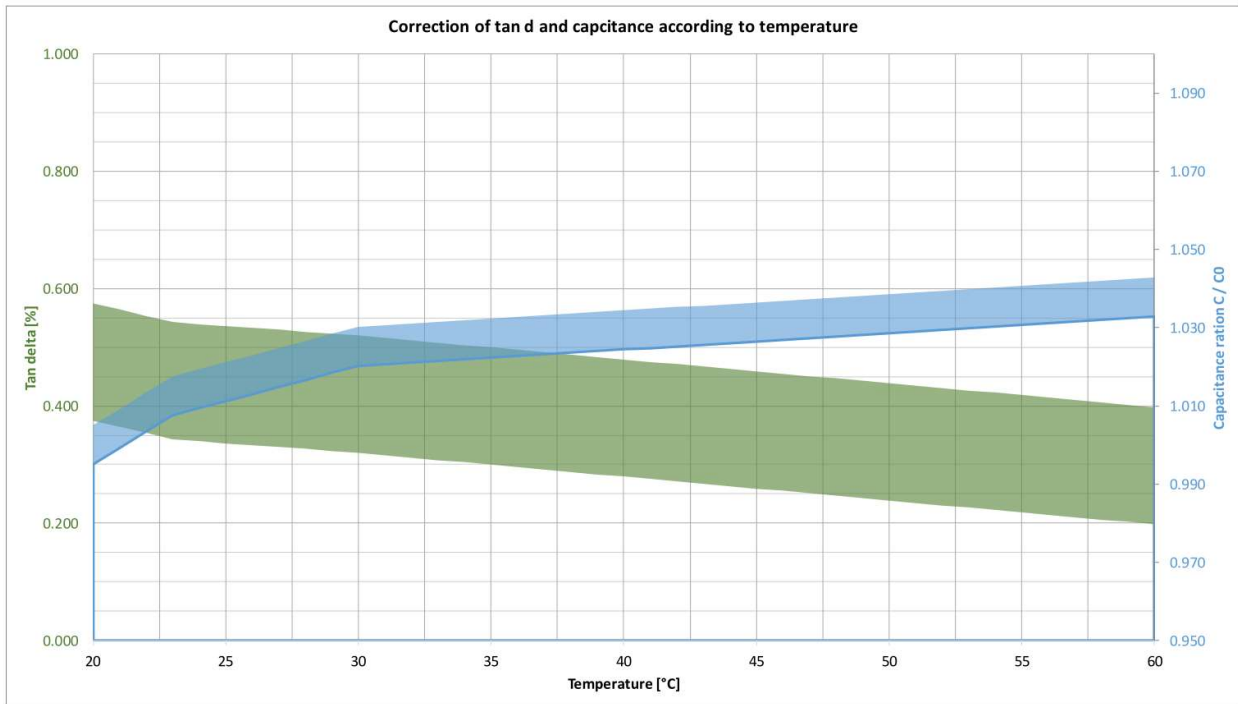
### Acceptance criteria:

**Capacity C1:** Should not change more than 10% under the same test conditions as performed at Moser Glaser test lab.

**Tan  $\delta_1$ :** For new bushings, should not exceed 0.7%, and should not change more than 0.10% between  $1.05U_m/\sqrt{3}$  and  $U_m$ .

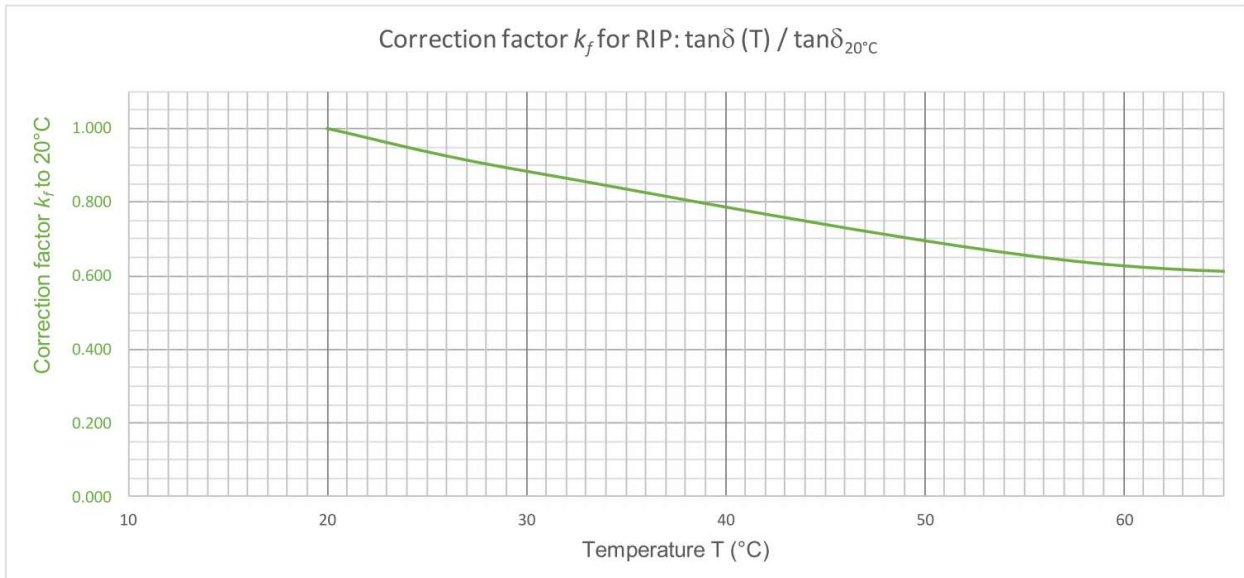
The test results depend on the measurement method, temperature, air pressure and moisture. Make measurements at ambient temperature of 20°C for better comparability.

The following graph presents on-site acceptable values of loss factor  $\tan \delta$  and capacitance change at different bushing temperature for **RIP bushings**:

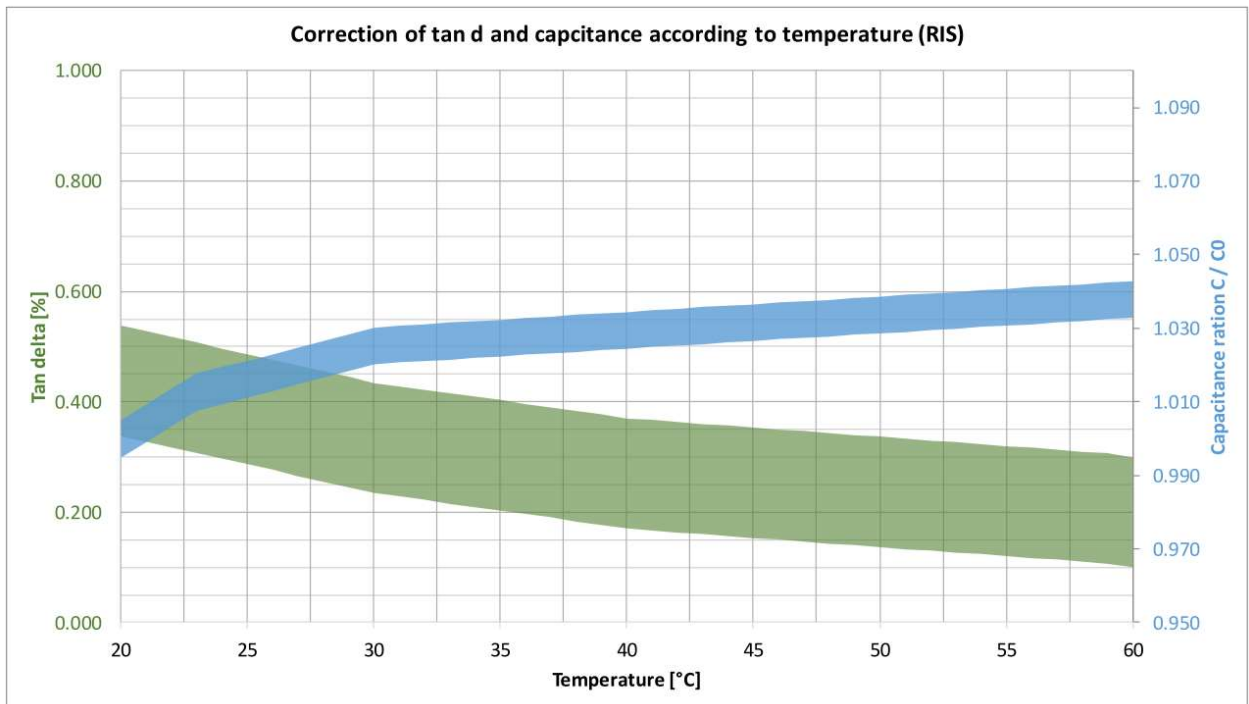


The curve below presents correction factor to calculate the loss factor  $\tan \delta$  at 20°C:

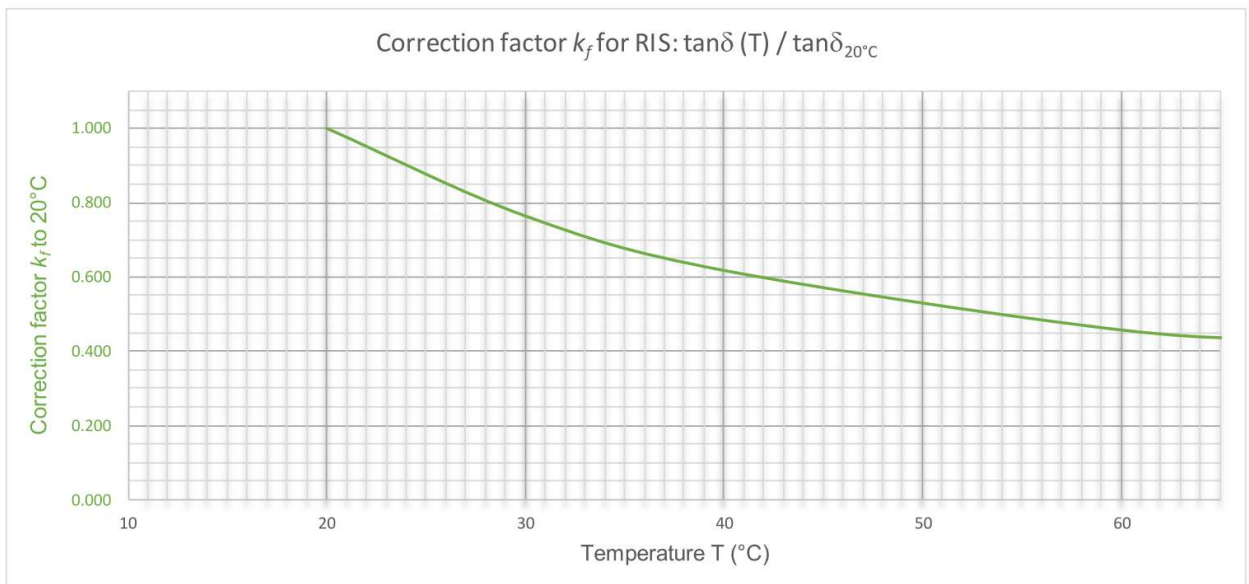
$$k_f(T) = k_f \cdot \theta_{20^\circ c}$$



The following graph presents on-site acceptable values of loss factor  $\tan \delta$  and capacitance change at different bushing temperature for **RIS bushings**:



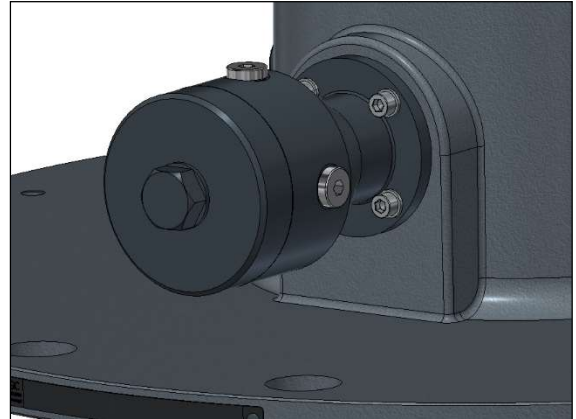
The curve below presents correction factor to calculate the loss factor  $\tan \delta$  at 20°C:  
 $(T) = k_f \cdot \theta_{20^\circ c}$



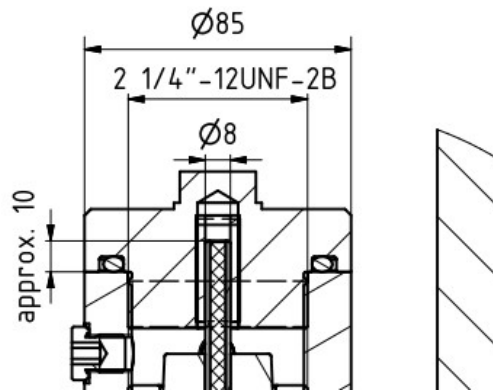
Contact Moser Glaser for the interpretation of results from measurement took in different conditions.

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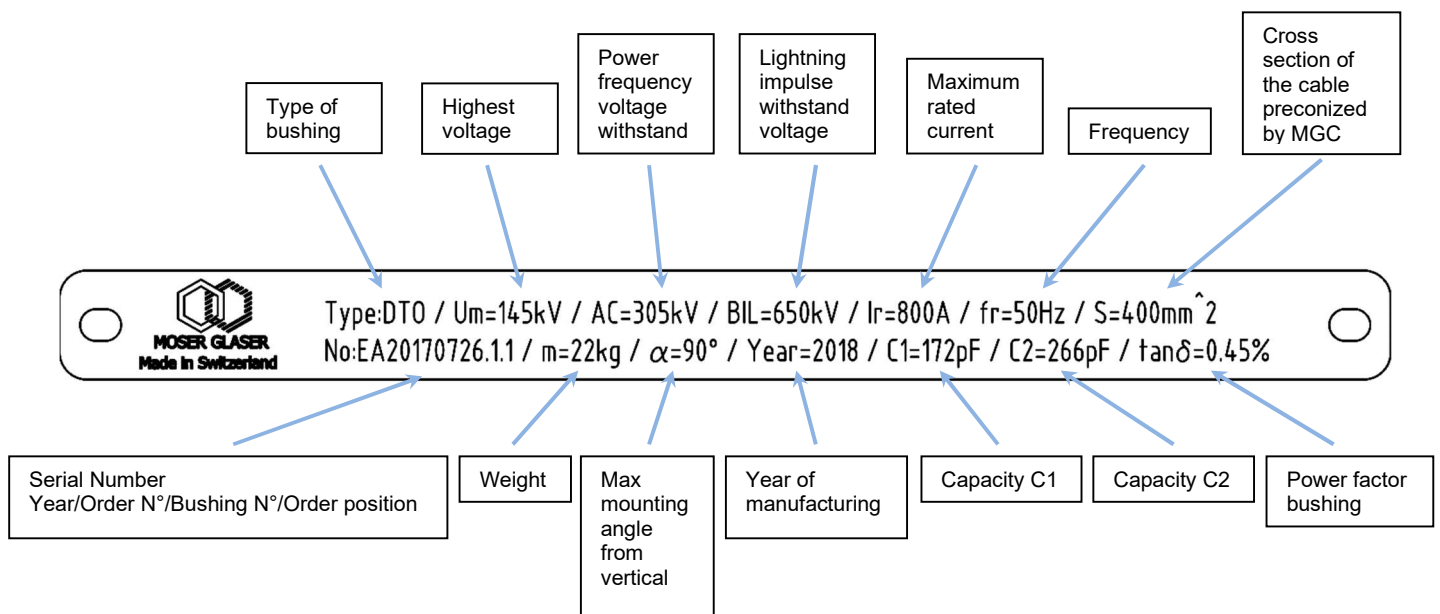
On request, the bushing could be supplied with a self-grounded test tap or a voltage tap



The Voltage tap permits to measure the power factor and capacitance of the bushing



## 6 Name plate





|                |                              |             |
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## 7 Maintenance

DURESCA bushings are maintenance free. If however a maintenance inspection is required by the plant, operator we recommend the following:

### 7.1 Capacity and Tan Delta measurements (see chapter 5)



#### Caution

Do not work on systems that might be under tension!

### 7.2 Recycling the bushing

The bushings are made with following components:

- Central tube or conductor made of aluminum or copper
- Active part made of resin impregnated paper or synthetic with aluminum foils
- Flange and head made of aluminum
- Cable bolt, split conductor made of copper
- Screws, bolts, pins, washer, covers, shields made of stainless steel or aluminum.

As most of these parts are fixed together, we preconize to cut the bushing in several parts.

None of the bushings contains any liquids.

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## 8 Repacking of bushings

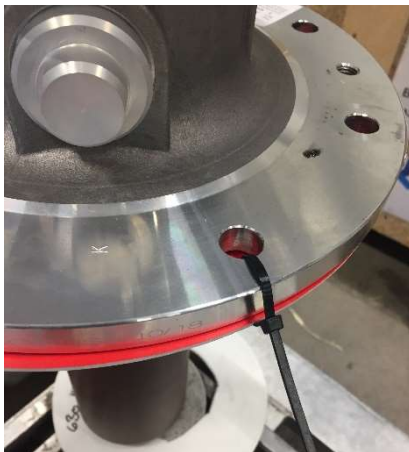
Use clean lifting slings to handle the bushing. Light bushings may be handled by hand.

All packing material originally delivered has to be reused.



**1**

If present, removable copper conductor has to be fastened on the bottom of the box



**2**

Place the protection disc below the flange to protect the flange and especially the sealing surface



**3**

Place the green net around the bottom part of the bushing

|                |                              |             |
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**4**

In case of a bushing with fix-conductor, protect the terminal and especially the contact surface



**5**

MGC recommend to pack at first in a separate bag the insulator then with a second bag the complete bushing

Place at least one desiccant bag inside the bag containing the bushing, 6 months after the delivery replace it by a new one.

Remove the air from the bag and seal it



**6**

The bushing should be blocked against axial and radial movements with wooden rafters.



**7**

Electrode shield has to be protected with bubble wrap and packed in a card box

Others accessories have to be packed in a plastic bag fastened in the box

Find our installation instructions on our website

|            |                |                |          |       |
|------------|----------------|----------------|----------|-------|
| Homepage   | Created        | Released       | Revision | Page  |
| www.mgc.ch | GBI 28.11.2022 | SMU 29.11.2022 | C        | 36/37 |

|                |                              |             |
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