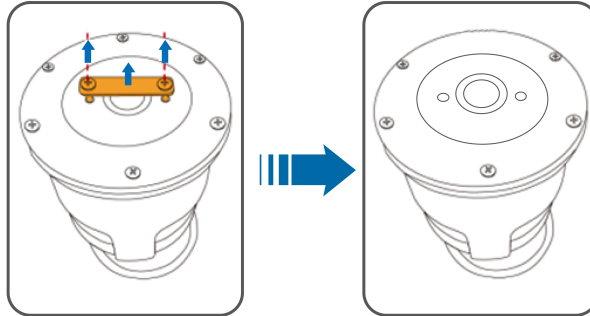


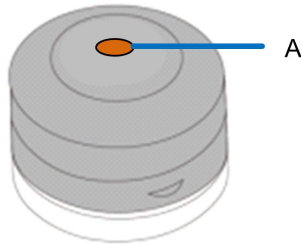
7.1.2 Opening Pressure Relief Valve

There are two methods to unlock the pressure relief valve.

Remove the Locking Device



Open the cap A



7.1.3 Installing Dehydrating Breather

Schritt 1 Remove the flange cover at the mounting position for dehydrating breather.

Schritt 2 Fix the dehydrating breather.



There is a sealing gasket between the flange cover and the dehydrating breather. When tightening the bolts, make sure that the height of the gasket shrinks by 1/4.

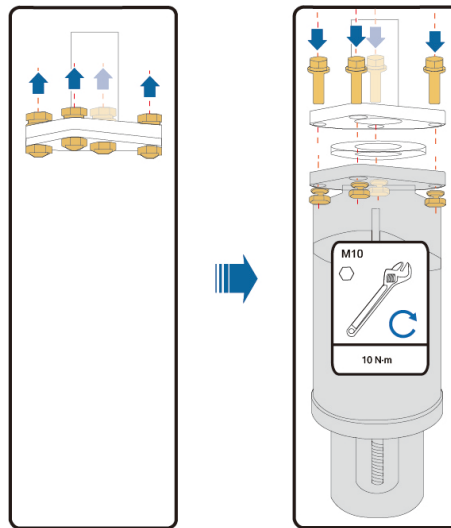


Abbildung 7-1 Fit the Dehydrating Breather

Schritt 3 Remove the oil cup from the dehydrating breather.

Schritt 4 Fill transformer oil into the oil cup. Then, fit the oil cup back to the dehydrating breather.

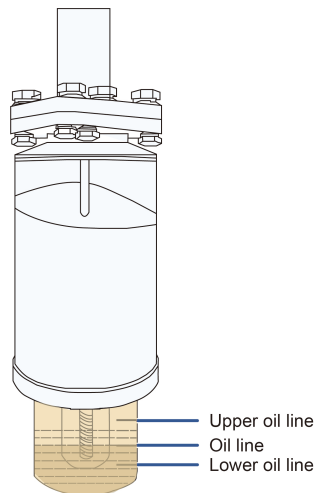


Abbildung 7-2 Fit the Oil Cup

-- ENDE

7.1.4 Installing Surge Arrester (Optional)

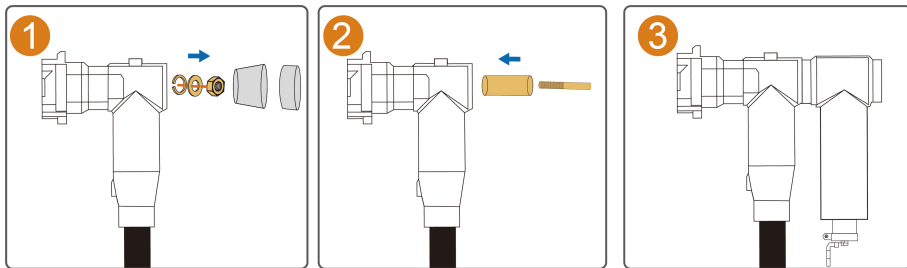
The instructions below are provided with the surge arrester of the 36kV MV switchgear as an example. For detailed installation instructions, see the installation guide that comes with the surge arrester.

Schritt 1 Remove the sealing cap and insulating stopper from the front connector, and unscrew the connecting bolt assembly inside.

Schritt 2 Fit the connecting rod and then the stud bolt to the front connector.

Schritt 3 Attach the rear connector with surge arrester to the front connector.

Schritt 4 Fit the internal connecting bolt assembly, sealing cap, and insulating stopper.



Schritt 5 Attach the surge arrester's PE wire and copper braid to the grounding wire of the main cable.

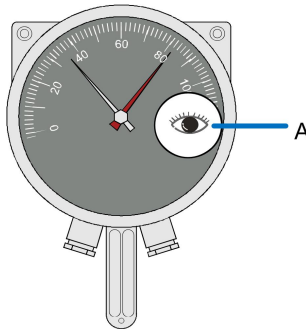
-- ENDE

HINWEIS

If the voltage rating exceeds 36kV, a support plate must be installed under the surge arrester.

7.1.5 Removing Foam Part from Oil Thermometer

Remove the protective cover on the oil thermometer and remove the foam parts in the protective cover before the MV Grid-connected PV Inverter is officially put into operation.

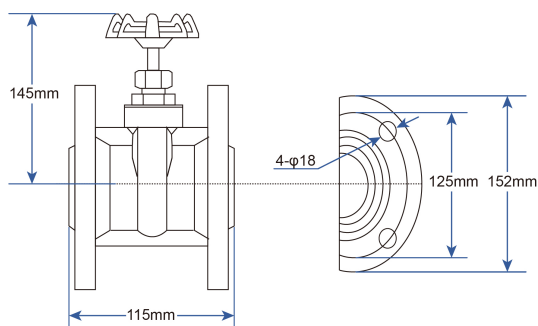
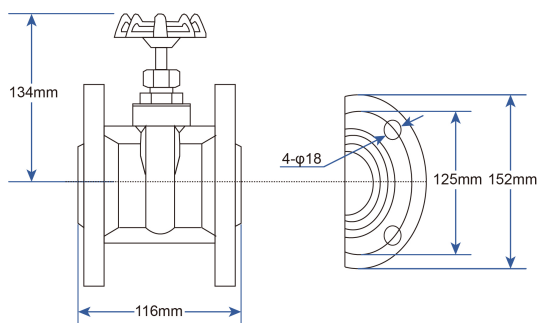
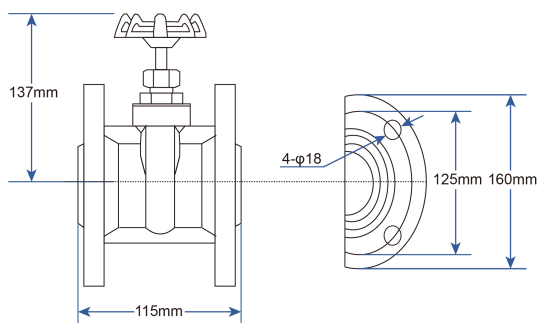


After removal, re-install the protective cover.

7.1.6 Oil Drain

Location

The oil drain valve is located at the bottom of transformer, the size of the oil drain valve varies by the transformer manufacturers.

**Abbildung 7-3 MINGYANG****Abbildung 7-4 Eaglerise****Abbildung 7-5 HUAPENG**

* The figure is for reference only. And the actual product received shall prevail.

Tools PreprationTools may be used:

No.	Name	Source
1*	Clean steel hose and oil tank	Beyond the scope of delivery
2	Cleaning cloth	
3	Spanner	
4	300mmx38mm adjustable spanner	
5	Drain hose connector	
6	Pipe clip	



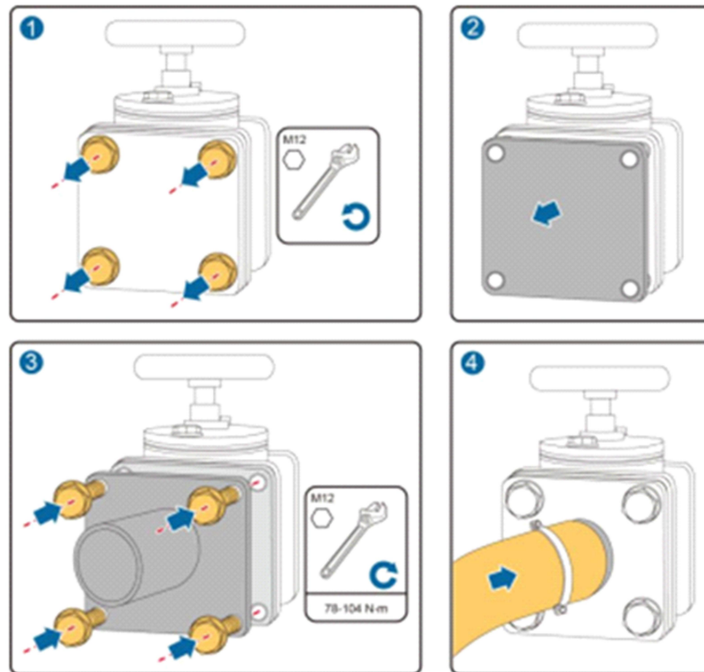
*The oil tank capacity of the transformer must be greater than Nx200L, where N is determined according to the amount of the oil needed to be released.

Operations

Schritt 1 Remove cover plate of drain valve.

Schritt 2 Fix the drain hose connector. Connect one end of the steel hose to the drain valve and the other end to the tank of the transformer.

Schritt 3 Open the oil drain valve, and the transformer oil flows slowly into the oil tank.



Schritt 4 When no transformer oil flows out, stop discharging oil.

Schritt 5 Close the drain valve and remove the drain hose connector and the hose.

Schritt 6 Reassemble the cover plate of the drain valve.

-- ENDE

7.2 Checking before Power on

7.2.1 MV Station Container

- 1 The installation conforms to the design requirements.
- 2 The container is level, and each door can be opened properly.
- 3 There is no crack, dent, or scratch on the container surface. Repaint areas with paint flake-off (if any).

- 4 The number and positions of external accessories conform to the enclosed document.
- 5 All markings are correct, clear, and complete.

7.2.2 MV Switchgear

- 1 There is no crack, dent, or scratch on the cabinet surface.
- 2 The SF6 barometer pointer is in the green zone.
- 3 Apart the grounding wire of the secondary circuit and measure secondary loop to the ground resistance and resistance should be $M \Omega$ level. Recover the grounding wire and the resistance shall be 0Ω .
- 4 If there is a relay protection tester or current source, check the value settings of the protective device, including the set value, The set value must match that provided by the user.
- 5 The door is closed.
- 6 The auxiliary AC power circuit breaker in the cabinet is switched on.
- 7 The conversion switch is in the remote position.
- 8 The local operating switch has been padlocked.
- 9 The load switch is opening and the grounding switch is closing.
- 10 Remove all foreign matters in the medium-voltage ring main unit, such as tools, installation residual materials, etc.

7.2.3 MV Transformer

- 1 There is no crack, dent, or scratch on the transformer surface.
- 2 No oil leakage occurs on the transformer surface.
- 3 The indication of the oil level gauge of the transformer is in lower position of the normal operating range.
- 4 The oil temperature indicator of the transformer is close to the ambient temperature.
 - i. The cover of the oil temperature meter is installed securely, the surface is clean, and the glass is intact.
 - ii. The temperature measurement loop is complete and intact.
- 5 The scale of transformer oil level indicator will show in 4 when temperature is 20°C .
- 6 The locking device of the pressure release valve has been removed.
- 7 The tap changer is set according to the requirements of the user. If there is no special requirement, set it to the rated level (level 3).
 - i. When setting the level, open the handle. After adjusting the level, close the handle to the slot.
 - ii. After the check is complete, tighten the protective cover for the level switch.
- 8 There is no packing residue on the transformer surface, and there is no foreign matter in the transformer room.

- 9 Check the external air insulation distance. Whether the air insulation distance between different voltage grade bushing and bushing to ground conforms to relevant standard.
- 10 The oil leak port of the transformer room is not blocked.
- 11 The screen door of the transformer room is closed and locked.

7.2.4 LV Cabinet

- 1 Disconnectors are turned off.
- 2 The copper bar is not deformed, and no foreign matter is on the copper bar.
- 3 Measure the ground resistance of Circuit breaker in and out of the copper bar; in the system that neutral point of the transformer is not grounded, the input & output wiring to grounding resistance should be $M \Omega$ level; In the neutral point grounding system, outgoing wiring copper bar resistance shall be $M \Omega$ level and phase to phase resistance shall be $M \Omega$ level. (need to disconnect the auxiliary circuit breaker, or phase to phase resistance is generally 0Ω).
- 4 Measure the fuse resistance. Resistances of three phases shall be small and the value is similar.
- 5 Lightning protection status indicates green.
- 6 Pull the current terminal chip to the open position and measure the resistance at both ends of the fracture. The value of three-phase resistance should be small and close. After the measurement, restore the current terminal to the connected position and tighten it. The standby current loop shall be shorted and grounded.
- 7 Apart the grounding yellow green wire of the secondary circuit and measure secondary loop to the ground resistance and resistance should be $M \Omega$ level. Recover the grounding wire and the resistance shall be 0Ω .
- 8 The installation bolt of input cable has been tightened, and the cable is not loose after pulling.
- 9 The cable inlet hole has been sealed.
- 10 Each component is intact.
- 11 Clear all foreign matter in the switchgear, such as tools and remaining materials.

7.3 Powering Up Steps

WARNING

When powering up the MVS, follow the rule of "MV before LV, AC before DC".

WARNING

Check and confirm that the inverter is not started.

Schritt 1 Switch on the grid-side switchgear.

Schritt 2 Turn on the circuit breaker of the MV switchgear V cabinet of the MV Station.

Schritt 3 Turn on the knob switch QSD1 of the power distribution panel and the miniature circuit breaker of the internal power supply.

Schritt 4 Turn on the circuit breaker inside the LV cabinet (ACB).

Schritt 5 Turn on the branch disconnector in the LV cabinet.

Schritt 6 Start the inverter connected to the MV station.

-- ENDE

MV Station completes power on operation.

 WARNUNG

Before putting the MV Station into loaded operation, keep it running in the no-load state for 24 hours and ensure that there is no abnormality.



Operations such as handover test and system energization must be performed by locally qualified electricians according to the national/local standards.

7.4 Powering Down Steps

 WARNUNG

When powering down the MVS, follow the rule of "LV before MV, DC before AC".

Schritt 1 Shutdown the inverter connected to the MV station.

Schritt 2 Turn off the branch disconnector in the LV cabinet.

Schritt 3 Turn off the air circuit breaker (ACB) inside the LV cabinet.

Schritt 4 Turn off the knob switch QSD1 of the power distribution panel and the miniature circuit breaker of the internal power supply.

Schritt 5 Turn off the circuit breaker of the MV switchgear V cabinet.

Schritt 6 Turn on the grounding switch of the MV switchgear V cabinet.

Schritt 7 Switch off the grid-side switchgear.

-- ENDE

MV Station completes the power outage operation.

HINWEIS

If the equipment is equipped with a UPS cabinet, power off the UPS cabinet.

 WARNING

After the MV Station is shut down, wait at least 5 minutes before performing maintenance on it.