

Commissioning



General Information

The receiving, installation and commissioning of the transformers and its application in the field of renewables applications requires specific attention from the user. Each transformer delivered is shipped with oil (mineral oil or FR3 fluid) and has a pressurized gas space above the liquid fluid.

The instruction manual for your transformer, can be downloaded at www.weg.us

Pressure Variation

The most common issues seen during the receiving/commissioning of transformers is **pressure variation (low pressure)**. This caused by absorption of Nitrogen (N₂) in the oil, the precise absorption rate can be affected by many ambient factors therefore making final pressure difficult to determine. To assure correct operation of your transformer, the below indicated pressure settings must be respected for all transformers at time of installation and/or commissioning.

Each transformer is equipped with the following gauges:



Pressure Vacuum Gauge

the white needle hand indicates the pressure setting in PSIG.



Liquid Temperature Gauge

the white needle hand indicates the temperature in Degree Celsius.

The suggested gas space pressure-setting rule is:

1. At an oil temperature “**below 25 Degree Celsius**”, pressurize the transformer to **0.5 PSIG**.
2. At an oil temperature “**greater or equal to 25 Degree Celsius**”, pressurize the transformer to **1.0 PSIG**.



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Step 1 - Read pressure setting

(white arrow hand on the pressure vacuum gauge – see figure 36)

Step 2 - Read temperature gauge

(white arrow hand on the liquid temperature indicator – see figure 37).

Step 3 - Go to step 4, 5, or 6, depending on temperature reading per step 2.

Step 4 - When oil temperature reading is “below 25 Degree Celsius”, do the following:

1. Connect the N2 bottle to the Schrader valve installed in the fill plug.
2. Open the N2 bottle and pressurize until pressure/vacuum gauge reads 0.5 PSIG.
3. Observe pressure stabilization and make sure there is no pressure leak.

Step 5 - When oil temperature reading is “greater or equal to 25 Degree Celsius”, do the following:

1. Connect the N2 bottle to the Schrader valve installed in the fill plug.
2. Open the N2 bottle and pressurize until pressure/vacuum gauge reads 1.0 PSIG.
3. Observe pressure stabilization and make sure there is no pressure leak.

Step 6 - If pressure is above 1.0 PSIG at oil temperature greater than 25 Degree Celsius an adjustment is required to align with the pressure setting guidelines. The transformer pressure relief valve needs to be operated until the pressure is aligned with the pressure-setting rule.

- ❖ WEG recommends that operators check the transformer pressure during peak top oil temperature conditions and adjust to the suggested rules.
- ❖ The oil level reading should always be correlated to the 25 Degree Celsius standard as indicated in the instruction manual.

Prior to addressing pressure variation or venting of the transformer, always:



1. De-energize the transformer.
2. Make sure the dielectric fluid is at or below 25°C.
3. Isolated the transformer from grid and inverter.
4. Ground the transformer.
5. Adhere to all applicable OSHA and National Safety standards.



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