

Enclosed Type Three Phase Variac 30A

VXAM-S3Y 3-PHASE VARIAC + TROLLEY

A 3 Phase Variac is used for verifying the Impedance Percentage of a transformer, the no-load losses and the zero sequence.

The approximate Impedance Percentage can be calculated using the following equation:

$$Z\% = \text{Impedance Voltage} / \text{Rated Voltage} \times 100$$

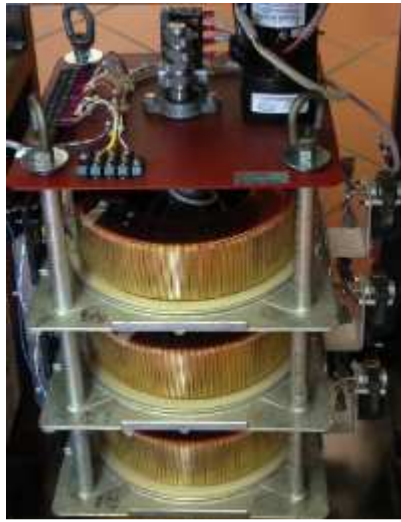
To calculate the Impedance Voltage of a transformer, the high current side of the transformer is shorted. At full load current the Impedance Voltage can be measured (e.g. for an 11kV Transformer with a Impedance percentage of 10% the impedance voltage is roughly 1100V). On larger Transmission transformers, voltage control via a variac is less likely needed; the 380V is connected directly, as long as the short circuited current doesn't increase uncontrollably. Typically on 11kV – 33kV (although the requirement to control the applied voltage and limit the current is really dependent on the transformer) a variac is connected to the low current side of the 3 phase transformer. The voltage is increased manually or automatically by adjusting the variac. The voltage and respective current values are noted.

By extrapolating the Voltage vs Current response of Short Circuit test, the Impedance Voltage can be calculated and therefor Z% can be determined.

During an Open Circuit test, the iron losses and the hysteresis losses can be calculated.

During the zero sequence tests, 220V is applied between the HV side and the earth mat in order to determine the condition of the earthing.

- Output Voltage: 400V max (depending on the input voltage)
- Output Current: 25-30A (depending on the breaker available on-site)
- Three phase variac: manual control
- Mobile Enclosure, Integrated Power meter, CT's x 3
- Three phase 4 core 400V Input cable
- Three single phases 400V output, Earth Cable output
- Emergency Stop, Manual Control Extension Bar
- Mains contactor circuit breaker for the input
- Dimensions: 140 cm x 60 cm x 60 cm
- Weight +/-150 kg
- Separate 380V 3Ph source required (optional petrol/diesel generator)
- Name Plate verification for Z% during a short circuit test
- HV open circuit – to determine the no-load Watt losses
- Zero sequence – condition of the connection to earth
- Please Note: This Unit includes an Automatic Control



(Product might vary slightly from the picture above)