Test van for **maintenance** and **diagnostics** of **power transformers**

Megger Transformer Test Van

- Routine and advanced diagnostic tests
- Centralized control and reporting
- Two sets of cables (HV&LV) are shared among different instruments
- Automated test circuit arrangement and switching process
- Safe operation and user guidance through the tests

Megger®

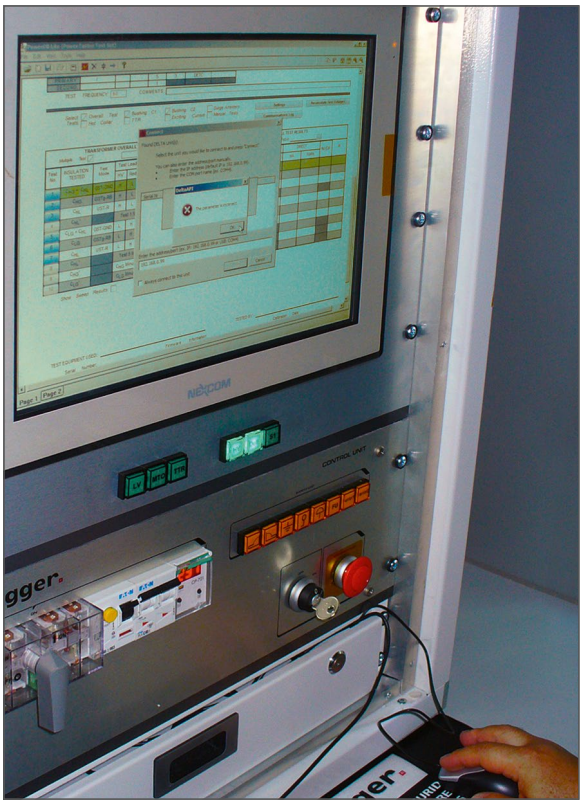
Description Transformer Test Van

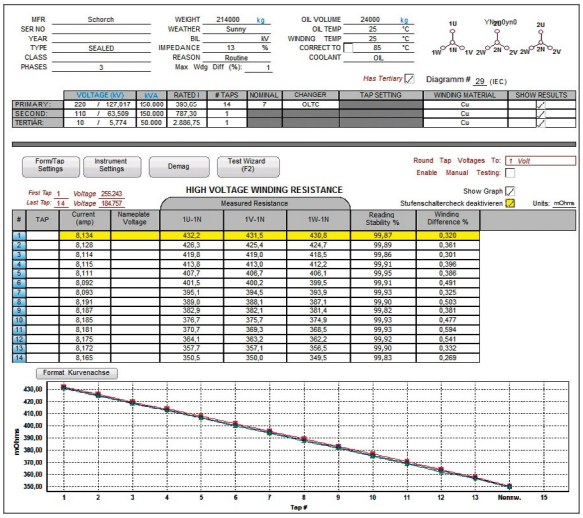
Commissioning and periodic on-site maintenance checks are crucial and often prescribed for safe and uninterrupted operation of power transformers and substations. A unique combination of routine electric tests and advanced diagnostic techniques are gathered within the dedicated "Megger Transformer Test Van" to help you reduce testing time and prevent accidents.

Deterioration of electrical insulation can be identified by high voltage insulation tests (insulation resistance, dissipation factor and capacitance measurement, dielectric frequency response). Mechanical damages due to transport or fault influence, malfunctions or winding shorts are typically found using the frequency response analysis, winding resistance measurement and on-load tap changer tests. Check of ratio, vector group, no-load and short circuit loss is feasible after repairs to guarantee the high quality of maintenance. Oil samples are routinely taken for breakdown tests and gas analysis.

All measurements are controlled by a central computer. Most instruments on-board share a common connection to the test object, test circuit arrangement and switching is performed automatically.

PowerDB controls the measurement process and records the results. Upon completion of each measurement, results are automatically transferred into a protocol. The software allows calculating the difference between measured values, comparing measurement results with the nameplate and previous tests data.





Features:

- Insulation Resistance
- DC Winding resistance / Tap Changer Test
- Turn ratio and vector group verification
- Short circuit impedance (optional)
- Capacitance and dissipation factor for transformer and bushings
- Power losses for no-load and short circuit conditions (optional)
- Frequency Response Analysis (optional)
- Moisture-in-cellulose assessment with DFR technique (optional)
- Withstand tests at elevated voltage up to 100 kV AC 50 Hz and 70 kV DC (optional)
- Oil breakdown test (optional)

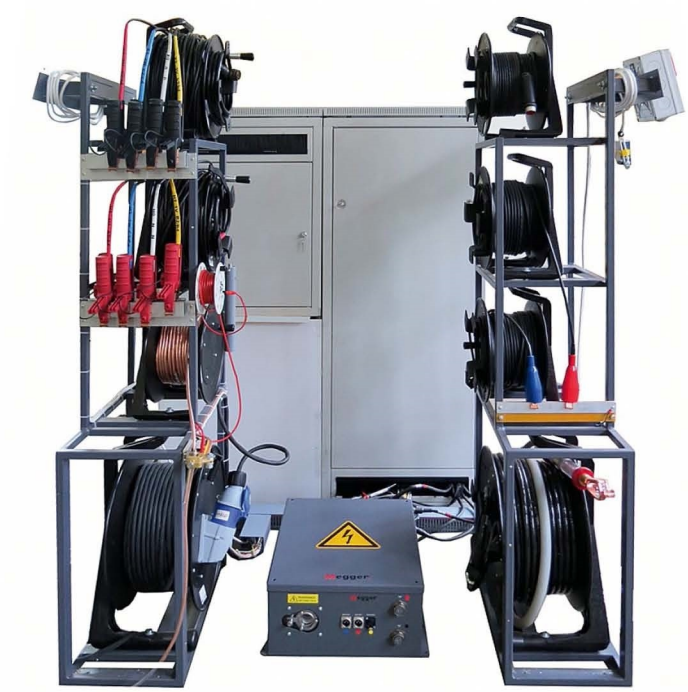
Technical Specifications Transformer Test Van

Parameter	Value
Power supply	1 or 3 phase, 230-400 V, 50-60 Hz
Test leads	30 m
Insulation testing (IR, DAR, PI, DD, SV)	
Test voltage	up to 10 kV
Range of measurement	100 kOhm…15 TOhm
Charging current	2 mA, 6 mA (short circuit)
Noise immunity	8 mA
Dissipation factor (tan δ)	
Test voltage	0-12 kV
Test current (at 12 kV)	300 mA (4 minutes), 100 mA (continuous)
Test frequency range	45-70 Hz (12 kV), 15-400 Hz (4 kV), 1-500 Hz (250 V)
Measurement range of dielectric losses tan δ and capacitance	0-100 (0-10,000%), (max. resolution 0.001%) 0 -100 µF, (max. resolution 0.01 pF)
Individual temperature correction of tan δ results	from 5°C to 50°C insulation test temperature to 20°C reference
Noise immunity	Electrostatic 15 mA, Electromagnetic 500 µT, at 50 Hz
Winding resistance and OLTC	
Core de-magnetisation	automatic
Test current	up to 10 A
Measurement range	1 µOhm – 2 kOhm
Accuracy	+/- 0,25%
Ratio and vector group	
Excitation voltage	up to 80 V
Ratio measurement range	0,8 – 45000
Phase deviation	+/-90°
Accuracy	+/-0,1%... +/- 0,3%
No-load and short-circuit loss power (optional)	
Range of measured AC voltage	0-650 V
Range of measured current	0-100 A
Range of measured power	0-100 kW
Frequency	10-1000 Hz
Voltage withstand testing (optional)	
AC 50 Hz test voltage	0…100 kV
DC test voltage	0…130 kV
Load capacitance	0,01-1,9 nF
Leakage current measurement	up to 100 mA
Max. power consumption	20 kVA
Frequency Response Analysis (optional)	
Moisture in cellulose assessment (optional)	
Control & data acquisition & reporting	PowerDB, LabTransControl
Basic operating system	WIN 7
Interface	RS 232, USB, Ethernet

Equipment Transformer Test Van

All instruments are accommodated within a 19 inch rack as shown on the figure (left picture).

1. Power supply & safety indication
2. Control unit
3. Ratio and vector group
4. Insulation testing
5. Winding resistance
6. Dissipation factor + optionals



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