

Mobile HV AC Test System



On-site transformer testing is the main application of Power Diagnostix' mobile high voltage AC test system. However, it can be used as well for other on-site testing, such as of GIS, rotating machines, or high voltage cables.

The system stays within the load and size limitations for permission-free road use. Additionally, the matching transformer and the reactor are filled with ester instead mineral oil. Thus, it can be easily transported to a substation, power plant, or other high voltage areas for testing HV components after installation or

reliable test results as known from acceptance tests performed in a static test field of a factory.

Applicable Tests:

- Applied voltage tests in a resonant circuit up to a test level of 500 kV
- Induced voltage test (single- or three-phase) up to a test level of 90 kV.
- Electrical and acoustical partial discharge (PD) measurements
- Measurement of no load losses
- Heat run with up to 1.3 MVA

On-site testing according to international standards

repair. Additionally, it is applicable for condition assessment and fault investigations. PD measurements can be performed in non-shielded environments as part of the on-site acceptance test on a power transformer, or as a method to locate PD failures acoustically, or by electrical measurement.

It is designed for performing routine and special tests according to standards as IEC 60060-3, IEC 60076, and IEEE Std. C57.12.00 and, thus, giving accurate and



On-site transformer testing



Test system with moved out reactor



HV filters TVC100/123



Step-up-Transformer



FOsystem and ICMsys8

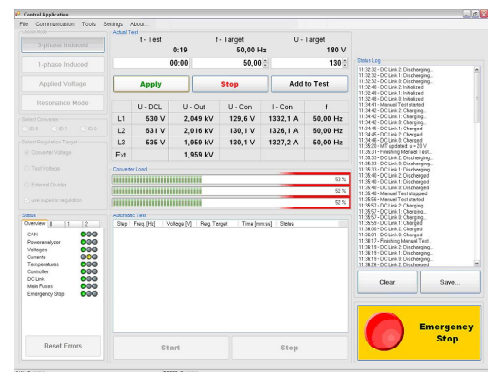
Measuring Equipment:

- ICMsys8 with spectrum analyzer and PD calibrator
- Three-channel FOsystem (current measurement)
- Power analyzer
- Three HV filters TVC100/123 with integrated voltage divider and current shunts
- DKD calibrated voltage and current measurement

Quadrupoles, couplers, preamplifiers, calibrators, and further accessories are also included.

Main component of the Power Diagnostix mobile HV AC test system is a frequency converter based on the IGBT technology, that provides the power in a frequency range of 15 to 200 Hz. It consists of three converter units, which can be operated in parallel (0° phase shift) or as a three-phase system (120° phase shift). Thus, always the full power of the converter can be used. The system comes with an inductive and capacitive compensation, and with a step-up-transformer, that can be switched manually to different configurations.

Disturbances from the power supply will be filtered by Power Diagnostix T-Filter TVC100/123. The special design of these filters allows current measurement on HV potential and voltage measurement from a capacitive divider. Both, current and voltage measurements, are DKD-calibrated and the precise values are displayed by a power analyzer.



Control application

Tests can be performed with the container placed on a trailer (additional stairs are included) or on the ground. The system includes all cables for HV connections as well as corona shields for the HV bushings. Thus, it is ready to use.

The Power Diagnostix three-phase mobile HV AC test system is the optimal solution for field services providing e. g. condition accessment on high-valued, important, and critical units during maintenance shut-downs.