We offer a wide range of high voltage test systems including AC, impulse, and DC test systems to meet various needs of our customers. All test systems are designed in accordance with well-known international standards.

PRODUCTS

POWER FREQUENCY TEST SYSTEMS

AC test systems consist of modular transformer units that can be cascaded up to three stages to get higher voltages ranging up to 1200 kV. Our AC test systems can be provided with low or high power ratings. Small AC test systems with low power are mainly suitable for performing dielectric tests, whereas large systems with high power can be used to carry out additional tests such as high voltage withstand tests.

HIGH ENERGY IMPULSE TEST SYSTEMS

Impulse test systems are based on the Marx generator. They provide the standard lightning (1.2 µs / 50 µs) and switching (250 µs / 2500 µs) impulses to test various test objects such as transformers, bushings, cables, insulators, switchgears, and many more from 10 kV to above 2.4 MV other specifications upon request.

MODULAR TEST SYSTEM (AC, DC AND IMPUISE)

The modular test system is based on portable and light elements which can constitute suitable circuits to provide AC, DC, and impulse voltages. For example a DC test system is based on an AC voltage transformer which charges HV capacitors with a DC voltage through HV diodes and resistors. These systems provide high DC voltages to test HVDC facilities, long AC cables, capacitors and so on.

PORTABLE HIGH VOLTAGE TEST EQUIPMENT

The portable AC voltage test system consists of two separate unites: a control panel and a high voltage transformer with a voltage divider. It's capabilities are as follows:

- Compatibility to provide high DC voltage tests
- LV and MV insulation tests at any location in the factory and before operation on the site
- Light weight
- Easy operation

HIGH VOLTAGE ENGINEERING DIVISION

HIGH VOLTAGE RESONANT TEST SYSTEM

AC resonant test systems are especially valuable in any application where the load is largely capacitive with low loss such as HV cables, GIS, and generator windings. They are built for indoor applications.
Orders are accepted for any voltage and output power as requested.

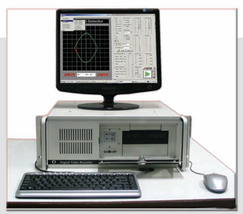
HIGH VOLTAGE LABORATORY TRAINING KIT

The high voltage laboratory training kit constitutes suitable circuits to provide AC, DC, and impulse voltages. Its application is in training and research centres. The classic high voltage test is used to teach high voltage science principles. It is possible to hold various voltage engineering courses with the following syllabus:

- Study of DC high voltage and its measurement
- Study of AC high voltage and its measurement
- Study of impulse high voltage and its measurement
- Study of electrical breakdown in oil
- Study of insulators' ability to withstand high voltage
- Study of discharge in gases
- Paschen's law
- Study of the effect of electrode shapes on air breakdown under AC and DC high voltages
- Study of the corona phenomenon
- Study of load effects on AC and DC high voltage circuits

PC BASED SYSTEM FOR PARTIAL DISCHARGE DETECTION AND ANALYSIS

Partial discharge (PD) measurement is a non-destructive insulation test of HV equipment. It is a vital test for several HV apparatuses according to IEC standards. The PC based system is applicable for PD measurement of equipment such as HV capacitors, transformers, insulators, cables, and electrical machines. In this system, PD pulses generated in the test-object are transmitted to the PC based PD meter, which consists of a high-speed A/D card, a software environment for PD signal processing, an external calibrator and an external synchronizing system. This system has several features to achieve superior performance.

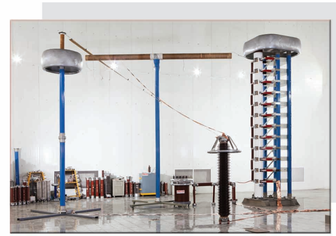


HIGH VOLTAGE ENGINEERING DIVISION

IMPULSE CURRENT GENERATOR TEST SYSTEM

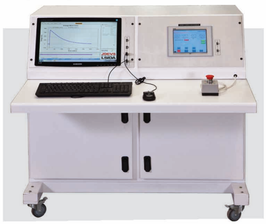
Impulse Current Test Systems are manufactured for testing equipment applied in medium and high voltage transmission & distribution systems against the effects of lightning strokes (direct or indirect) or against electromagnetic interference effects.
The main application fields of impulse current testing are:

- arresters and varistors (elements or complete systems)
- lightning protection elements (for buildings, components of communication and distribution networks)
- vehicles (cars, bus, trucks, trains)
- aircrafts
- wind generators (whole system or blades)
- transmission lines with integrated fibre optic cables



IMPULSE ANALYZER

Control unit for operating an impulse generator. It provides control for the charging and triggering process of an impulse generator.

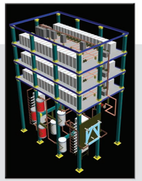


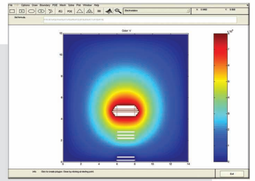
- 14 bit real vertical resolution at 100 MS/s
- 32/64 Mbytes memory
- Automatic evaluation of all common impulse shapes and their parameters
- Support IEC 60060_2010 standards
- Clear documentation and reporting including, Test information, notes, grouping, etc.

SHORT CIRCUIT TEST EQUIPMENT (SYNTHETIC METHOD)

Technical Specifications:

- Carrying out the short circuit tests on MV circuit breaker up to 36 kV / 31.5 kA
- Making and breaking test on MV circuit breaker
- Capability to do T10, T30, T60, T100 s tests
- According to IEC62271-100 , IEC62271-100





RESEARCH AND DEVELOPMENT

The High Voltage Engineering Centre is able to design and manufacture high voltage equipment with different voltage and power levels and to design high voltage laboratories.