

H. V. TESTER



Introduction:

Every electrical apparatus or machine is provided with insulation between live part and earth or between two different sections of live parts. This insulation is required to be tested at high voltage values recommended by applicable relevant standards.

The standard Specification for various electrical apparatus specifies Power Frequency Voltage withstand test at different levels depending upon working voltage of electrical apparatus. It is observed from the various standards for electrical equipment's that the minimum power frequency voltage withstand test level for electrical insulation is 2kV for one minute.

We have, therefore, standardized on manufacturing of **MARSZ High Voltage Breakdown Testers** with rated voltage of 5kV.

High Voltage Tests Sets of higher voltage upto 600kV are also manufactured against specific requirement. The standard voltages are 10kV, 15kV, 20kV, 25kV, 30kV, 50kV, 100kV, 150kV, 200kV & 300kV. The test sets upto 30kV are manufactured in Air Cooled design while the sets of 50kV & above are manufactured in Oil Cooled design. The output of these high voltage testers is single phase 50/60Hz. The standard H.T. current rating of air-cooled design as also of oil cooled design upto 150kV is 100mA for 30 minutes. 'MARSZ' make 5kV A.C. (with 2.5kV tap) **High Voltage Breakdown Tester** is portable, sturdy & plug in to start type construction & requires minimum table space. It broadly consists of 3 main sections.

1) High Voltage Transformer:

The High voltage transformer is single phase, single pole type & is of double wound resin moulded construction. The H.T. winding is provided with graded insulation and is

earthed through a current sensing transformer & milli ammeter whereas other end is insulated for full rated voltage & the same brought out through H.T. Cable & spring loaded Prod.

2) Variable Voltage Source:

Variable Voltage supply is provided through a "VARIVOLT" (Variable auto-transformer) having a suitable rating corresponding to the rating of H.V. Transformer.

Dimmerstat is rated for 230Volts A.C. input & 0-270V output. Limit switch at zero position end of Dimmerstat winding is provided to facilitate the H.T. winding to

3) Control Circuit & Other Features:

- Manual operated control transformer (Variable auto-transformer with zero interlock facility).
- 72mm sq. double range (0-2kV / 0-5kV) moving coil rectifier type voltmeter of class 1.5, provided to read NO LOAD H.T. Voltage.
- 72mm sq. double range (0-100mA) moving coil rectifier type A.C. Mill ammeter of class 1.5, provided in the earth end of the H.T. winding to read H.T. Current.
- Automatic tripping circuit is provided for isolation of supply, in the event of failure of the object under test. Rotary switch with four different settings of 5, 10, 50 & 100mA is provided on front panel with LED indication
- M.C.B. for short circuit protection of H.T. transformer & auto transformer
- H.T. ON push button, Mains ON & H.T ON LED indication.
- Range selection switch to select 2.5kV or 5kV range with LED indication.
- Two spring loaded test prods with 1 meter long cable for safe & easy connection of high voltage to test object, (upto 5kV.)