



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 equipments that the minimum power frequency voltage withstand test level for electrical insulation is 2kV for one minute.

We have, therefore, standardized on manufacture of 'AE' 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. For voltages ranges above 'AE' 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
- 2) Variable Voltage Source
- 3) Control Circuit

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 such that one end is insulated for 2kV insulation and is earthed through a current sensing transformer & milliammeter 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 Dimmerstat (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:

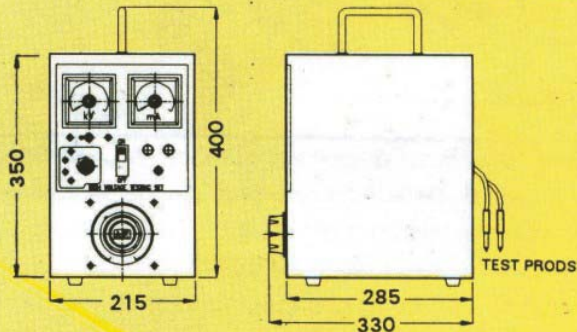
- Manually operated control transformer (Variable auto-transformer) with zero interlock facility.
- 72mm sq. double range (0-2kV / 0-5kV) moving coil rectifier type voltmeter of class 1.5, provided to read NO LOAD H.T. Voltage.
- 72mm sq. double range (0-100mA) moving coil rectifier type A.C. Milliammeter 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 metre long cable for safe & easy connection of high voltage to test object. (upto 5kV.)



ISO-9001

H.V. Tester

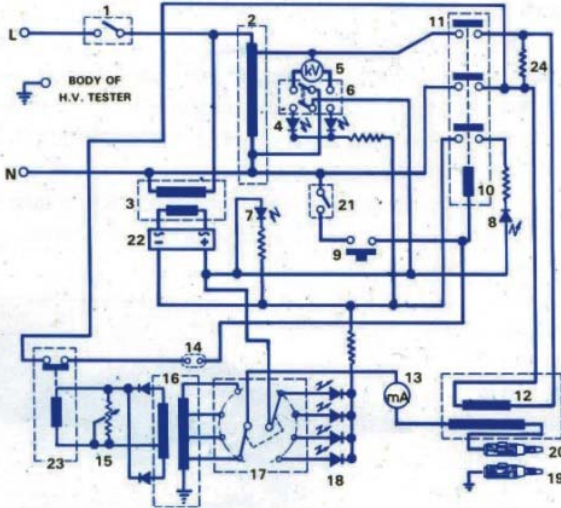
DIMENSIONAL DRAWING : MODEL NO. HVT-2.5/5



2.5kV-5kV TEST SET

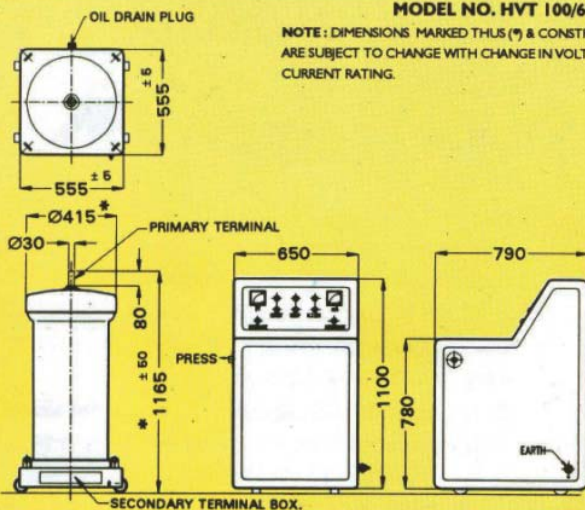
CIRCUIT DIAGRAM :

CIRCUIT DIAGRAM FOR 2.5 - 5kV H. V. TESTER ONLY



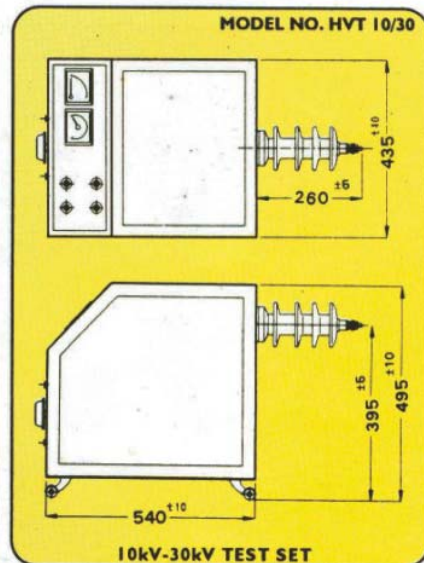
- 1) MINIATURE CIRCUIT BREAKER
- 2) DIMMERSTAT
- 3) AUXILIARY TRANSFORMER
- 4) VOLTAGE RANGE INDICATOR
- 5) KILO VOLT METER
- 6) RANGE SELECTOR SWITCH
- 7) MAIN 'ON' LED YELLOW
- 8) H.T. ON LED RED
- 9) H.T. ON PUSH BUTTON
- 10) MAIN RELAY COIL
- 11) MAIN RELAY
- 12) HIGH VOLTAGE TRANSFORMER
- 13) MILLIAMMETER
- 14) TIMER CONNECTION LINK
- 15) TRIPPING ADJUSTMENT POT
- 16) TRIPPING C, Tr.
- 17) TRIPPING SELECTOR SWITCH
- 18) TRIPPING INDICATOR
- 19) EARTH TEST PROD BLACK
- 20) H.T. TEST PROD RED
- 21) D'STAT ZERO MICRO SWITCH
- 22) RECTIFIER
- 23) TRIPPING RELAY
- 24) BLEEDER RESISTANCE

DIMENSIONAL DRAWING :



100kV OIL COOLED HIGH VOLTAGE TRANSFORMER

MODEL NO. HVT 100/600
NOTE : DIMENSIONS MARKED WITH (*) & CONSTRUCTION ARE SUBJECT TO CHANGE WITH CHANGE IN VOLTAGE & CURRENT RATING.



10kV-30kV TEST SET