

HVA 30-5

4 in 1 Universal High Voltage, High Power, Test System

- ◀ **VLF (High Power)**
- ◀ **DC**
- ◀ **Jacket/Sheath**
- ◀ **Fault Conditioning**



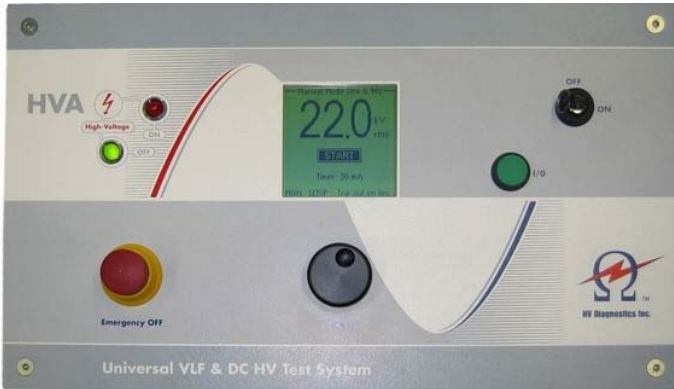
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HVA 30-5

4 in 1 Universal High Voltage, High Power Test System



Faceplate of HVA30-5

Applications Include...

- ✓ Cables: XLPE, PE, EPR, PILC etc.
- ✓ Capacitors
- ✓ Switchgear
- ✓ Transformers
- ✓ Rotating Machines (IEEE 433)
- ✓ Insulators
- ✓ Bushings

Operational Features

- The smallest and most powerful universal high voltage test instrument available, ideally suited for a variety of applications.
- VLF (0.1Hz), DC (\pm), Cable Fault Conditioning (Burning), and Sheath/Jacket Testing modes all included.
- VLF: the proven and accepted replacement for the traditional DC Hipot or "proof" test for solid dielectric cables such as XLPE and EPR.
- Fully Automatic or manual cable test sequences complying with International Standards/Guides such as IEEE 400.2, VDE 0296, CENELEC HD620 S1, etc.
- Meets all your cable testing requirements.
- True Symmetrical Sinusoidal, load independent, output waveform across the full load range.
- Real-time Display of actual output waveform.
- Easy to use, ergonomic, menu guided, large backlit user interface.
- Rugged, one piece portability.
- Large output load capability (up to 15 μ F)
- Automatic and integrated load capacitance measurement with optimum frequency selection.
- Storage of test results for later retrieval or download to a PC/Laptop.
- No oil or arcing contacts that require routine maintenance.
- Short circuited protected with active arc management regulation that avoids the usual nuisance tripping of conventional HV test equipment when

Find Weak Cables without Making Cables Weak!



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Safety Features

- Short circuit protected
- Status display of all important safety functions and messages.
- Safe, easy to use operation with emergency off and key switch lock-out.
- Fully integrated discharge circuit to safely ground the DUT (Device Under Test) after testing.
- Zero start interlock.
- Zero voltage switching

Background

It is well known that DC testing of aged extruded cable such as XLPE and EPR is potentially damaging to the cable insulation causing premature failure of the cable under service conditions.

In addition, DC “proof” or hipot testing has been found to be ineffective in detecting even serious defects in cables. Since this is the main objective of any hipot test, and due to the negative side effects of DC, VLF AC waveform testing is now recommended by almost all cable testing standards/guides such as IEEE, CENELEC, VDE, SABS, etc.

Acceptance or maintenance hipot/proof testing using VLF high voltage sinusoidal AC allows the operator to efficiently detect serious cable insulation defects, before they result in an in-service failure, without affecting those healthy sections of the cable that still have remaining service life.



Design

The HVA30-5 is not only the most advanced HV test system available, it is also the lightest, most compact instrument of its type on the market. The HVA30-5 has the highest power to weight ratio of any comparable unit available.

There is no need to carry two pieces of equipment around and then interconnect them!

Apart from the variable frequency VLF output, the operator can also select dual polarity DC and cable jacket or sheath testing outputs modes.

The applied test voltage, current, capacitance, resistance and time are displayed and recorded.

The instrument is easily programmable allowing the operator to setup or select test sequences in either automatic or manual mode.

The HVA30-5 model is capable of testing 3.4 μ F (Approx. 34,000 ft/ 10 000m of cable*) at 0.1Hz and 33kV peak. The frequency or voltage of the output can also be reduced allowing even larger capacitance loads to be tested - at 0.02Hz, approx. 150,000 ft / 45km of cable can be tested*.

To assist the operator, the instrument will automatically calculate the optimum frequency to be selected for larger loads.

The load independent, symmetrical output waveform avoids the potentially destructive space charge effects caused by DC polarization that occurs in aged extruded cables such as XLPE / PE / EPR, causing them to fail prematurely when exposed to conventional high voltage DC or to test instruments with large non-symmetrical output waveforms.

Should a breakdown occur during testing, the actual voltage at which it occurred is displayed and recorded. If cable burning (fault conditioning) mode is activated, the fault resistance can be conditioned to allow easier and less stressful fault location techniques to be applied.

Test results are stored in the instrument's onboard memory allowing easy retrieval and download to a PC/Laptop for review and analysis.



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Technical Data for HVA30-5 Ultra High Power:

(Part Number 705 001)

Input Voltage	110-240 V (-10% to +5%) 50/60 Hz (1.5kVA)
Output Voltage	Sinusoidal: 0-33 kV peak, Symmetrical DC ±: 0-30 kV Accuracy ±1%
Output Current	0-60 mA rms (Resolution 10µA) Accuracy ±1%
Resistance Range	0.1 MΩ...5 GΩ
Output Frequency	0.02.....0.1 Hz in steps of 0.01Hz (default 0.1Hz)
Output Load (some Key Power Points)	3.4µF @ 0.1 Hz @ 23kV RMS (Approx 6.4 miles / 11 km of cable) 5 µF @ 0.1 Hz @ 19kV RMS (Approx 9.5 miles / 17 km of cable)* 6.25µF @ 0.08 Hz @ 19kV RMS (Approx 11.9 miles / 20 km of cable)* 10 µF @ 0.05 Hz @ 19kV RMS (Approx 19 miles / 33 km of cable)* 15 µF @ 0.02 Hz @ 19kV RMS (Approx 28.4 miles / 50 km of cable)* Other Frequencies are available from 0.02 to 0.1Hz in 0.01 increments.
Output Modes	AC Hipot (VLF) Symmetrical and load independent across full range DC Hipot (plus or negative polarity) Burn / Fault Condition or Fault Trip Mode Jacket / Sheath Testing
Memory	50 Test Records Stored in non-volatile built in memory
Metering	Voltage and Current (True RMS and/or peak) Capacitance, Resistance, Time, Flashover Voltage
Duty	Continuous
HV Cable	15' (4.5m) with Alligator clamps on end (other options available on request)
Weight	100 lbs / 45 kg !!
Computer Interface	RS232 connection (Software Included)
Dimensions** (LXWXH)	18" x 13.5" x 20.5" / 450x340x520mm ** Excludes Carry Handle

Options

* Based on a typical cable: 100pf/ft or 300 pF/m)

Part Number	Description
705 004	HV Test Lead with Quick Coupling MC Connector (15'/4.5m)
705 005	Transport Case for HVA30 including compartment for Test Leads / Hook-up cables.

European and Middle Eastern Office:

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Note: Information subject to change without notice.



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