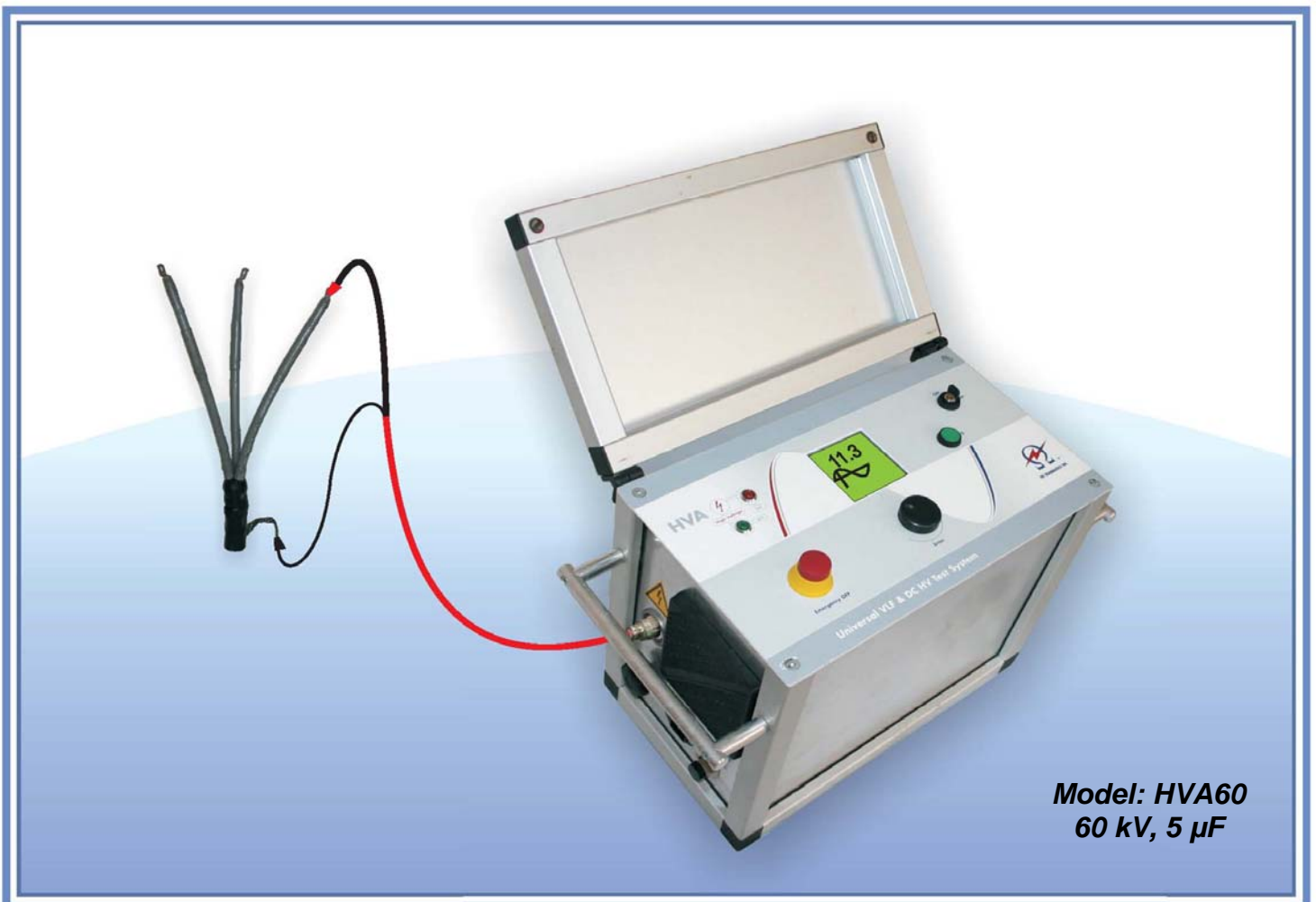


# HVA 60

## 4 in 1 Universal High Voltage Test System

- ◀ **VLF**
- ◀ **DC**
- ◀ **Jacket/Sheath**
- ◀ **Fault Conditioning**



**Model: HVA60**  
**60 kV, 5  $\mu$ F**



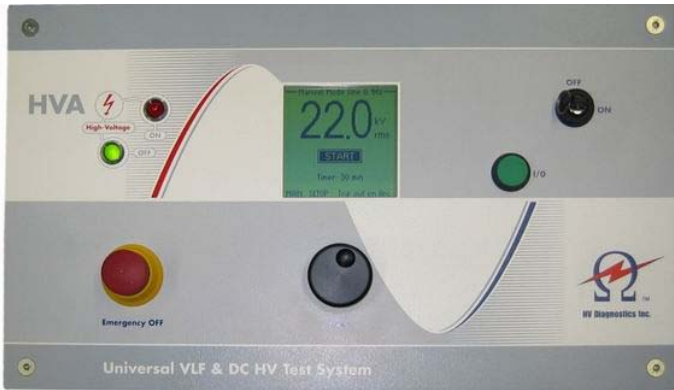
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# HVA 60

## 4 in 1 Universal High Voltage Test System



*Faceplate of HVA60*

### *Applications Include...*

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

### *Operational Features*

- The smallest, lightest, most advanced 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, NEN 3620, SANS 10198. This complies with the present draft of IEC 60060-3.
- 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 5 $\mu$ 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 a dielectric failure occurs.

***Find Weak Cables without  
Making Cables Weak!***



01/10/2006

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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.

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 HVA60 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 HVA60 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 HVA60 is capable of testing 1 $\mu$ F (Approx. 10,000 ft/ 3000m of cable) at 0.1Hz and 62kV peak. The frequency of the output can also be reduced allowing even larger capacitance loads to be tested. At 0.02Hz, approx. 50,000 ft/15,000m 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 (Part Number: 800 001)

<b>Input Voltage</b>	100-240 V 50/60 Hz		
<b>Output Voltage</b>	Sinusoidal: 0-62 kV peak, Symmetrical DC ±: 0-60 kV Accuracy ±1%		
<b>Output Current</b>	0-50 mA (Resolution 10µA) Accuracy ±1%		
<b>Resistance Range</b>	0.1 MΩ...5 GΩ		
<b>Output Frequency</b>	0.02....0.1 Hz in steps of 0.01Hz (default 0.1Hz)		
<b>Output Load</b>	1.0 µF @ 0.1 Hz @ 44kV RMS (Approx 10,000 ft of cable)* 2.0 µF @ 0.05 Hz @ 44kV RMS (Approx 20,000ft of cable)* 5.0 µF @ 0.02 Hz @ 44kV RMS (Approx 50,000ft of cable)* Maximum Capacitance 10µF		
<b>Output Modes</b>	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		
<b>Memory</b>	Minimum 50 Test Records Stored in non-volatile built in memory		
<b>Metering</b>	Voltage and Current (True RMS and/or peak) Capacitance, Resistance, Time, Flashover Voltage		
<b>Duty</b>	Continuous		
<b>HV Cable</b>	15' (4.5m) with Alligator clamps on end (other options available on request)		
<b>Dimensions (LXWXH)</b>	18" x 13.5" x 20.5" / 450x340x520mm	<b>Weight</b>	132 lbs / 60 kg
<b>Computer Interface</b>	RS232 connection (Software Included)		
<b>Temperature</b>	Storage: -25° C to +70°C Operating: -5°C to +45°C		

## Options

\* Based on a typical cable: 100pF/ft (330pF/m)

Part Number	Description
800 004	<b>Heavy Duty HV Test Lead</b> with Quick Coupling MC Connector (15'/4.5m)
800 005	<b>Shipping / Transport Case</b> for HVA60 including compartment for Test Leads.
800 010	<b>Vacuum Bottle Tester Feature Upgrade</b>
700 006	<b>Vise Grip Quick Connector</b>
800 008	<b>External Manual Discharge Rod / Grounding Rod</b>
700 009	<b>Flashing Remote HV Indication Light</b> with clamp and 4.5m / 15ft extension lead.

### European and Middle Eastern Office:

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