

# High Voltage AC Test Systems

## KV30-100 KV50-100



### Features

- 0-30kV (KV30-100) or 0-50kV (KV50-100) output voltage
- 3kVA (KV30-100) or 5kVA (KV50-100) output capability
- Key operated supply switch to prevent unauthorised operation
- Dual overload protection
- Variable electronic trip - 10-110% of rated output
- Voltage and current metering
- External interlock circuit
- Zero-volt interlock
- Visual indication of test piece failure

The high voltage transformer is housed in an oil-filled steel tank fitted with swivel castors for mobility. The units use a high voltage bushing for the HV output, and the other end of the HV winding is earthed. Both the KV30-100 and KV50-100 are equally suited to testing

capacitive, resistive or inductive test objects.

The KV30-100 and KV50-100 are high power, high voltage ac test systems designed for insulation testing. These systems are equally suited to both development and routine testing of electrical insulation systems and plant.

The equipment consists of a control unit and a separate oil filled high voltage transformer, linked by 5 metre supply and control cables. The control unit is fitted with a comprehensive range of facilities for control, metering and protection. The output voltage and current are displayed on large, linear analogue instruments, and a variable electronic trip is provided, allowing the trip current to be set to 10-110% of rated output.

If higher voltage or output power is required, please refer to our KV50-200/ KV100-100 data sheet, detailing our 10kVA high voltage systems. The KV50-200 and KV100-100 are also available in low discharge versions.



*KV100-100 100kV  
Low discharge 10kVA  
system*

## KV30-100/KV50-100 Specification

### Output

The output of the KV series units is by a high voltage bushing. The bushing is designed to be connected to the object under test by an air insulated connection such as copper tubing (not supplied with the system). The earthy end of the HV winding is connected to earth via the current metering circuit.

### Continuous Ratings

	KV30-100	KV50-100
Voltage	0-30kVac	0-50kVac
Current	50mA	50mA
Power	1.5kVA	2.5kVA

### Intermittent Ratings (5 minutes on/15 minutes off)

	KV30-100	KV50-100
Voltage	0-30kVac	0-50kVac
Current	100mA	100mA
Power	3kVA	5kVA

If you require a different output voltage test system, please contact us with your specification and we will quote for a custom design.

### Metering

The output voltage is metered on the primary of the HV transformer, connected to an average-reading dual scaled analogue instrument.

	x0.5 range	x1 range	Accuracy
KV30-100	0-20kV	0-40kV	±2% of FS
KV50-100	0-30kV	0-60kV	±2% of FS

The accuracies shown for voltage metering are for no-load conditions.

Load current is metered in the earthy end of the HV winding by an average-reading analogue instrument.

	mA Meter	Accuracy
KV30-100	0-120mA	±2% of FS
KV50-100	0-120mA	±2% of FS

### Control

The output voltage is set by a continuously variable output control with a zero volt interlock - the output may only be switched on with the control in the zero position. The output voltage is switched on and off by illuminated push button switches.

The mains supply switch for the unit is a key operated switch. The key is trapped in the switch in the 'on' position.

### Supply Requirements

KV30-100	230V±10%	50/60Hz	1ph	3.5kVA max
KV50-100	230V±10%	50/60Hz	1ph	6kVA max

### Protection and Safety

The output of the units are protected by variable electronic trips monitoring the output current, and a fixed over-current trip on the primary of the output transformer. The variable trip is adjustable in 10% steps between 10% and 110% of the rated output current.

The input and control supplies are protected by fuses.

The KV30-100 and KV50-100 are designed to meet the requirements of BS EN61010.

An earth terminal is provided on the transformer which must be connected to a low impedance local earth.

### Interlock Circuits

Two interlock circuits are provided on the kV series test systems. A zero voltage interlock is fitted which prevents the HV output being energised unless the output voltage control is in the zero position. An external interlock circuit is also provided, allowing the fitting of external emergency off buttons and test cage door interlocks. The KV30-100 and KV50-100 external interlocks operate at 230Vac.

### Temperature Range

Storage -20°C to 60°C      Operating 0°C to 45°C

### Dimensions

	Dimensions	Weight
KV30-100 Control Unit	370x480x290mm	25kg
KV50-100 Control Unit	370x480x290mm	25kg
KV30-100 Transformer	480x460x570mm	62kg
KV50-100 Transformer	490x520x795mm	95kg

### Accessories

1 x 5m Power interconnecting lead  
2 x 5m Metering interconnection leads  
Spare fuse set, operating manual.

### Optional Accessories

Test duration timer