

# KV50-200(LD) KV100-100(LD)

# High Voltage AC Test Systems



## Features

- 0-100kV (KV100-100) or 0-50kV (KV50-200) output voltage
- 10kVA output capability
- Low partial discharge option available (LD suffix units)
- Key operated supply switch to prevent unauthorised operation
- Dual overload protection
- Variable electronic trip—10-110% of rated output
- Voltage and current metering
- External 24Vac interlock circuit
- Zero-volt interlock
- Visual indication of test piece failure

Both systems include secondary tap metering as standard to ensure accurate voltage metering. 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.

The KV50-200 and KV100-100 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. Each unit is available in either a low partial discharge version or without a specified discharge level.

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 high voltage transformer is housed in an oil-filled steel tank fitted with swivel castors for mobility. The units use a low-discharge oil-filled bushing for the HV output. Both the KV50-200 and KV100-100 are equally suited to testing capacitive, resistive or inductive test objects.

Low discharge versions of the units are available as an option (KV50-200LD and KV100-100LD), with maximum discharge levels of 1pC and 3pC respectively. The partial discharge levels on the standard KV50-200 and KV100-100 are not specified.



T&R Test Equipment Ltd

## KV50-200/KV100-100 Specification

### Output

The output of the KV series units is by an oil filled 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 and a removable link. The removable link allows equipment supplied by the user to be connected into the earthy end of the HV winding for Tan- $\delta$  measurements.

### Continuous Ratings

	KV50-200	KV100-100
Voltage	0-50kVac	0-100kVac
Current	100mA	50mA
Power	5kVA	5kVA

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

	KV50-200	KV100-100
Voltage	0-50kVac	0-100kVac
Current	200mA	100mA
Power	10kVA	10kVA

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 using a tap on the HV winding connected to an average-reading dual scaled analogue instrument.

	x0.5 range	x1 range	Accuracy
KV50-200	0-30kV	0-60kV	$\pm 2\%$ of FS
KV100-100	0-60kV	0-120kV	$\pm 2\%$ of FS

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

	mA Meter	Accuracy
KV50-200	0-240mA	$\pm 2\%$ of FS
KV100-100	0-120mA	$\pm 2\%$ 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

230V $\pm 10\%$  50/60Hz 1ph 11kVA max

### Partial Discharge

The KV50-200LD and KV100-100LD have a specified low partial discharge level, and are suitable for making partial discharge measurements in the object under test. The partial discharge level of the standard KV50-200 and KV100-100 is not specified.

#### Maximum PD

KV50-200	Not specified
KV100-100	Not specified
KV50-200LD	1pC
KV100-100LD	3pC

The KV50-200LD and KV100-100LD are supplied with a brush noise filter to reduce interference from the mains and control unit variable transformer.

### 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 KV50-200 and KV100-100 are designed to meet the requirements of BS EN61010. The unit must be installed in a high voltage test area complying with the requirements of BS EN50191.

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.

### Temperature Range

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

### Dimensions

		Weight
KV50-200 Control Unit	370x480x290mm	37kg
KV100-100 Control Unit	370x480x290mm	37kg
KV50-200 Transformer	570x500x1020mm	220kg
KV100-100 Transformer	730x650x1350mm	390kg

### Accessories

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

*Note: Due to the company's continuous research programme, the information above may change at any time without prior notification. Please check that you have the most recent data on the product.*

T&R Test Equipment Ltd, 15-16 Woodbridge Meadows, Guildford, Surrey, GU1 1BJ, UK

Tel: +44 (0)1483 207428 Fax: +44 (0)1483 511229 email: sales@trtest.com