



# LIQUID DIELECTRIC TEST SETS

## Description

PHENIX Technologies' Liquid Dielectric Test Sets are designed to measure the breakdown voltage of insulating fluids used in transformers, capacitors, bushings and related high voltage equipment. The units are portable and may be used for either on-site or laboratory testing. Three standard models rated at 60, 75 and 100 kV are available.

## Testing Capacity

These test sets are available with different types of testing cells which are used to hold the liquid during the test. The test sets, with the appropriate test cells, are capable of performing tests to conform to the following standards: ASTM D1816 and D877, IEC 156, BS148, VDE 0370, and other applicable standards.

## Standard Design Features

**Operating Safety** features include an enclosed test chamber with a transparent cover, cover safety switch, and zero-start interlock on the high voltage output.

**Output Voltage** is continuously increased from 0 to the breakdown voltage. The rate of rise may be selected at 500, 2000, or 3000 volts per second (LD60) and 2000 volts per second or continuously variable (LD75 and LD100).

**Simplified Operation** is achieved with the use of cradle contacts for the test cell. The liquid to be tested is placed in the test cell. The test cell is then placed inside the test cage on the cradle contacts.

**Single Range** digital meter is used to record the breakdown voltage. The meter is reset with a switch.

**Operating Controls** are conveniently grouped on the front panel. These include a large, easy-to-read meter, on/off switch with pilot lamp, a rate of rise selector switch, plus a start/reset switch. When a breakdown of the liquid occurs, a failure lamp will light and the meter will lock on the breakdown voltage.

**Motorized Stirrer** is available for testing in accordance with ASTM D1816. A power outlet is located in the test chamber for this test cell.

### Optional Accessories:

- Test cells for the appropriate testing standard
- Comparison meter



Model LD60



Model LD100

## Specifications

Model No.	Input*	Output	Rates of Rise	Metering			Size in. (mm)	Weight lb. (kg)
				Range	Type	Accuracy		
LD60	120 VAC, 60 Hz	0-60 kV, RMS	0.5, 2, 3 kV/s	0-60.0 kV	Digital	+/- 1% FS	21 ¼ W x 16 ¾ D x 13 ¾ H (540) x (426) x (350)	50 (23)
LD75	220 VAC, 50 Hz	0-75 kV, RMS	2 kV/s Variable	0-75.0 kV			30 W x 18 D x 13 H (762) x (457) x (330)	120 (54)
LD100	*Must be specified	0-100 kV, RMS	2 kV/s Variable	0-100 kV			36 W x 20 D x 16 H (914) x (508) x (406)	135 (61)

## Test Cells








TC/DE Test Cell  
for ASTM D877



TC/VDE Test Cell  
for ASTM D1816

PHENIX offers a complete line of test cells to accommodate all domestic and international testing standards. At the right is a chart which depicts the various electrode configurations, gap settings, and voltage rates of rise required for the several standards.

Test Standard	Test Electrodes	Gap	Rate of Rise kV/s
ASTM D877 (USA)	Polished brass disc 1.0 in. (25 mm) dia. 	0.1" +/- 0.0005"	3
ASTM D1816 (USA)	Spherical dome 1.4 in. (36 mm) dia. 	0.040" or 0.080" +/- 0.001"	0.5
VDE (Germany)	Spherical dome 36 mm (1.4 in) dia. 	2.5 mm +/- 0.05	2
IEC (Europe)	Spherical dome 36 mm (1.4 in) dia. 	2.5 mm +/- 0.1	2
BSI (UK)	Spherical cap 12.5 mm (0.5 in) dia. 	2.5 mm +/- 0.1	2

## Comparison Meter

The Model LDCU is a rugged AC voltmeter which is used to compare the meter calibration of the tester periodically or prior to an actual test. It has a range of 0-60 kV with an accuracy of +/- 2% full scale.



LDCU-60  
Comparison Meter

Specifications are subject to change without notice.



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