

# Resonating Inductor



- Expands the range of Capacitance and Dissipation Factor (Power Factor) Test Sets
- Capable of tuning capacitances up to 1 $\mu$ F at 10 kV
- Hand-crank tuning wheel
- Core gap gauge that displays position of inductor core
- Large wheels and handles for easy transport

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## DESCRIPTION

The Resonating Inductor is an accessory for use with the semi-automatic 12 kV Extended-Range Capacitance and Dissipation Factor Test Set, or the Automated Insulation Power Factor Test Set (DELTA-2000).

The Resonating Inductor is used to expand the capacitance range of these test sets and cannot be used with the standard 12 kV Capacitance and Dissipation Factor Test Set.

The Resonating Inductor is connected in parallel with the internal power supply of the test set. A manual tuning wheel on the Resonating Inductor varies the inductance to tune the parallel circuit for minimum load current.

When used with the semi-automatic 12 kV Extended-Range Capacitance and Dissipation Factor Test Set, or DELTA-2000, the Resonating Inductor will extend the short-time rating of the power supply from 200 mA to 4 A. This capacity is suitable for testing capacitance loads of up to 1 mF at 10 kV.

The Resonating Inductor is self-contained and air-insulated. The housing is a sturdy metal enclosure welded throughout to withstand the rigors of field operation. Large wheels and handles are provided for convenience in transportation.

## APPLICATIONS

Capacitance and dissipation factor "power factor" testing is used to determine the quality of electrical insulation.

The insulating quality of electrical insulation may deteriorate due to manufacturer's defects, contamination, physical damage, in-service fault conditions or normal aging.

When the insulating quality of electrical insulation deteriorates, leakage paths develop that allow current to pass through the insulation.

Dissipation factor measurements are used to detect these problems before complete insulation breakdown occurs.

The Resonating Inductor allows the user to perform capacitance and dissipation factor tests on such high-capacitance items as large motors, large generators and long cable runs.

Dissipation factor testing also can be performed on transformers, bushings, circuit breakers, insulators, capacitors, surge arresters, insulating liquids or any other type of equipment that contains electrical insulation.

**FEATURES AND BENEFITS**

- Capable of tuning capacitances up to 1 mF at 10 kV when used with the semi-automatic 12 kV Extended-Range Capacitance and Dissipation Factor Test Set, or DELTA-2000.
- Resonating Inductor can be used in both the UST and GST modes.
- Use of the Resonating Inductor does not affect the accuracy of the test set.
- Hand-crank tuning wheel makes it easy to tune the parallel circuit.
- Core gap gauge monitors the position of the inductor core.
- Large wheels and handles make the Resonating Inductor unit easy to transport.

**SPECIFICATIONS**

15 min on, 2 hrs off

**Maximum Capacitive Load**

1  $\mu$ F at 60 Hz  
1.2  $\mu$ F at 50 Hz

**Minimum Capacitive Load**

0.05  $\mu$ F

**Tuning**

Manual tuning by hand crank

**Test Configuration**

Designed for use in ungrounded specimen test (UST), grounded specimen test (GST) and grounded specimen test using guard connection (GST-G) test modes

**Environmental**

**Operating Temperature Range**

-4 to +140° F (-20 to +60° C)

**Storage Temperature Range**

-58 to +158° F (-50 to +70° C)

**Relative Humidity**

0 to 90%, noncondensing (operating)

0 to 95%, noncondensing (storage)

**Dimensions**

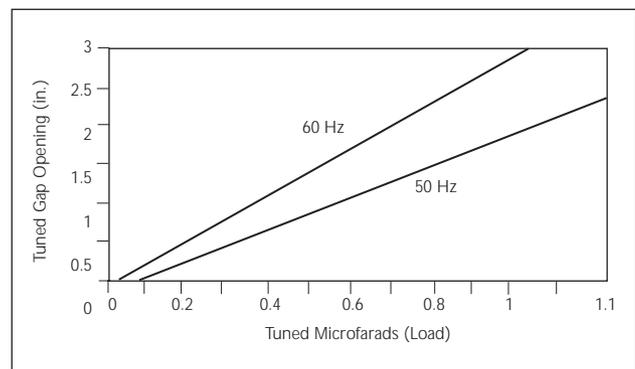
(including wheels and handles)

38.7 H x 21.4 W x 25.3 D in.

(983 H x 543 W x 641 D mm)

**Weight**

280 lb (127 kg)



Resonating Inductor gap opening vs tuned load

**ORDERING INFORMATION**

Item (Qty)	Cat. No.
Resonating Inductor	670600
<b>Included Accessories</b>	
High-voltage lead, double-shielded, with connector termination at each end, 8 ft (2.4 m)	30012-4
Inductor return lead for use with 12 kV Extended-Range Capacitance and Dissipation Factor Test Set(catalog #670070)	30991-1
Inductor return lead for use with DELTA-2000 (catalog #672001)	34654
Ground lead, 15 ft (4.6 m)	4702-5
Instruction manual	AVTM670600

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