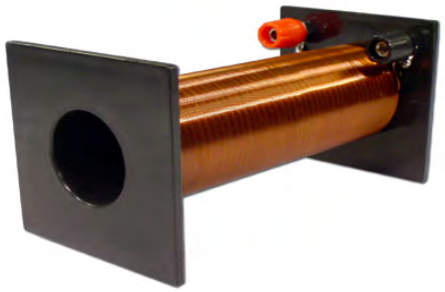
615-4640 (10-141) Air Core Solenoid

Warranty:

We replace all missing or defective parts free of charge. All products guaranteed free from defect for 90 days after sale, defined as 90 days after date of invoice. This guarantee does not include accident, misuse, or normal wear and tear.

Safety:

Do not overheat the coil! It is designed to carry up to ten (10) amperes intermittently and will sustain a continuous current of five (5) amperes. To prevent possible damage to the coil, do not exceed these specifications!



Introduction:

The Air Core Solenoid is useful for many experiments in electricity and magnetism. It provides the magnetic fields necessary for investigations using the Current Balance and Mass of Electron Apparatus as well as for basic studies of solenoids.

Description:

This fully assembled device is constructed with four (4) layers, approximately 710 turns, of #23 gauge (0.67 mm) polyurethane enameled copper wire, wound on a cylindrical bobbin that is 15 cm long. The inside diameter (ID) of the coil is 3.5 cm. The weight of the entire unit is about 1.5 kg.

The coil is designed to carry 7 to 10 amperes intermittently and will sustain a continuous current of five (5) amperes. To prevent possible damage to the coil, do not exceed these specifications.

How to Use:

The coil is fully assembled and ready to use in conjunction with other equipment. It can be used as an accessory for PSSC Experiment 21, "The Measurement of a Magnetic Field in Fundamental Units" and PSSC Experiment 22, "The Mass of the Electron."

It can also be used in any other experiment involving magnetic fields.

To use to demonstrate the properties of a solenoid:

1. Attach a power supply that does not exceed more than five (5) amperes, with the positive lead at one end and the negative lead at the other.
2. The coil now generates a magnetic field when current passes through it.
3. Use accessories such as a compass, iron rod or iron filings to study the nature of the magnetic field generated by this simple electromagnet.

Accessories:

- 615-4645 Current Balance (available from Science First®)
- Mass of Electron Apparatus
- VAC/DC Low-Voltage Power Supply (such as 615-4065 Battery Kit available from Science First®)
- Compass
- Iron Filings
- Iron rod

P/N 24-0141