

## **HELMHOLTZ COILS - pair 400T 1A max.**

Cat: EM1915-001 max: 1A

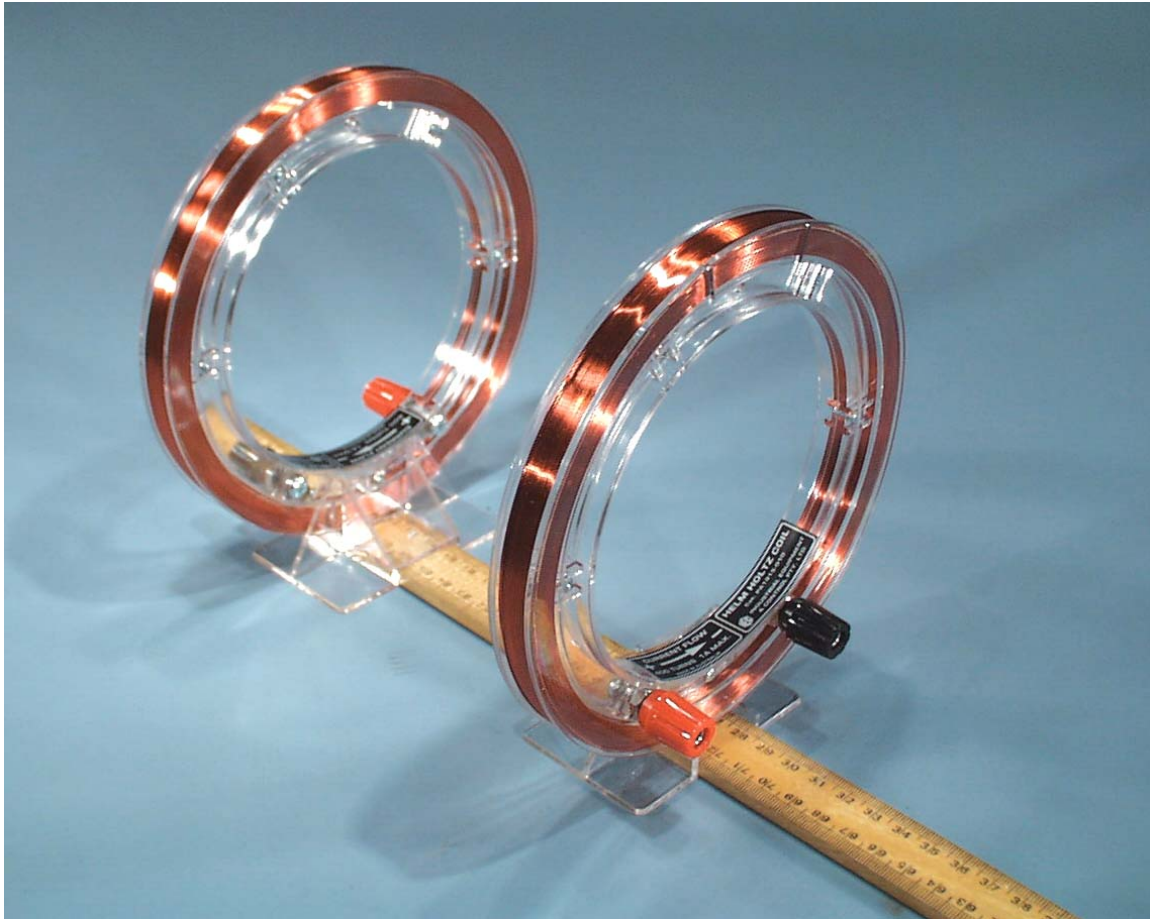
### **DESCRIPTION:**

Helmholtz Coils are air wound coils of large diameter that can be connected to a power source and which can be aligned on a common axis for the measurements and study of magnetic fields. They are normally used with a magnetic measuring probe (Hall Effect probe PA) and a constant current power source. Both the probe and power supply were manufactured by IEC as part of the Hall Effect kit but are now made only to special order.

### **KIT CONTAINS:**

- 2 pce Large coil, with foot, 400 turns. With 4mm socket head spin free terminals.
- 1 pce Rule, metric, 500mm long. For setting distances between coils.

### **EM1915-001 (400t coils)**



**Physical size: 115mm ID 163mm OD 150mm average winding diam. 400 turns**

**Weight: 0.84 kg**

**Resistance: approx 20 ohms when cold approx. 25 ohms when hot 1 amp max.**



Helmholtz coils are normally connected in series so the current passing through them is the same. The power source for these coils is normally a constant current power supply where the current remains exactly constant even when the coils heat and the resistance rises.

See also EM1915-020 for a coil wound with 50 turns of heavier wire. This is similar shape to a Helmholtz coil but carries a larger current and is used for demonstrating magnetic fields.

**SPECIFICATIONS:**

**Coil Diameter:** Inside: 115mm Outside: 163mm

**Average coil diameter:** 150mm

**Number of turns:** 400 per coil

**Maximum current:** 1 amp

**Coil resistance:** Cold: approx 20 ohms Hot: approx 25 ohms

**Power source:** So that the heating of the coil does not change the current flowing, use preferably a constant current supply, adjustable from 0 to 1 amp. The maximum voltage required is about 26 volts.

**Physical:** Weight: 0.84 kg. For the set of 2x coils and the scale.

**CAUTION:** Wire is wound on a plastic former. Although the plastic is rated for high strength and high temperature, do not overheat. If current of 1 amp is exceeded or if the 1 amp current is permitted to flow for prolonged periods, the coil can become very hot. Always turn off power source or reduce current flow after measurements have been taken.

**SPARE PARTS:** Single Helmholtz Coils can be purchased as PA1915-010

**Designed and manufactured in Australia**