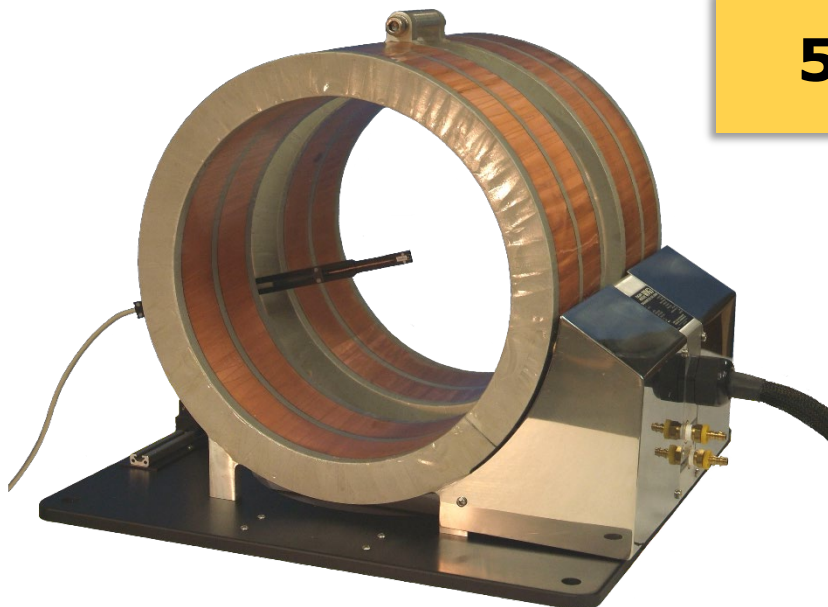


5451 Electromagnet



OVERVIEW

The **Model 5451** Helmholtz Coil Electromagnet is a single axis coil pair arranged in Helmholtz geometry to give a relatively large volume of high uniformity magnetic field. The 5451 Helmholtz Coil Electromagnet has an aperture diameter of 300 mm (11.8 inch) with an operating range to 54 mT.

The Helmholtz Coil Electromagnet can be mounted in any orientation and with a mass of 100 kg the 5451 can be integrated into experimental or test equipment. Since the Helmholtz Coil configuration is not magnetically shielded, magnetic and electrical conducting materials should be kept at least 1 m from the Electromagnet center to avoid excess distortion of the magnetic field within the working volume.

Features

- 54 mT Peak Field
- Large, Open Access to Field
- Compact, Able to be Mounted on Optical Table

Applications

- Low Field NMR & EPR Spectrometry
- Materials Measurement
- Sensor Testing, Development and Calibration
- Electronic Sensitivity
- Biological Affects

GMWAssociates



www.gmw.com



sales@gmw.com



+1-650-802-8292



955 Industrial Road
San Carlos, California, USA

Model 5451 General Specifications

Mechanical

Dimensions

Clear Aperture Diameter	300mm
Overall	338mm L x 481mm D x 415mm H
Coil Spacing	49mm
Weight	100kg
Magnet Field Uniformity (DB/B)	less than ± 200 ppm over a 30mm sphere
Magnet Field (X, Y, Z = 0)	54mT (540 Gauss) at Maximum Power
Magnet Current Calibration Factor	0.77mT / Amp

Coils

Resistance (20°C)	0.32 Ω
Max Resistance (60°C)	0.37 Ω
High Current Inductance	0.022H
Max Continuous Power (air)	25Amps, 9.3Volts (0.23kW)
Max Continuous Power (water)	70Amps, 25Volts (1.81kW)
Water Cooling (18°C)	2liters/min, 1.0bar (0.5US GPM, 15psid)

Safety

Over Temperature Interlock	Contacts closed below 65°C
Water Fittings	¼ NPT
Diameter Sphere Containing 5G-surface ("fringe field")	1000mm

General Assembly

