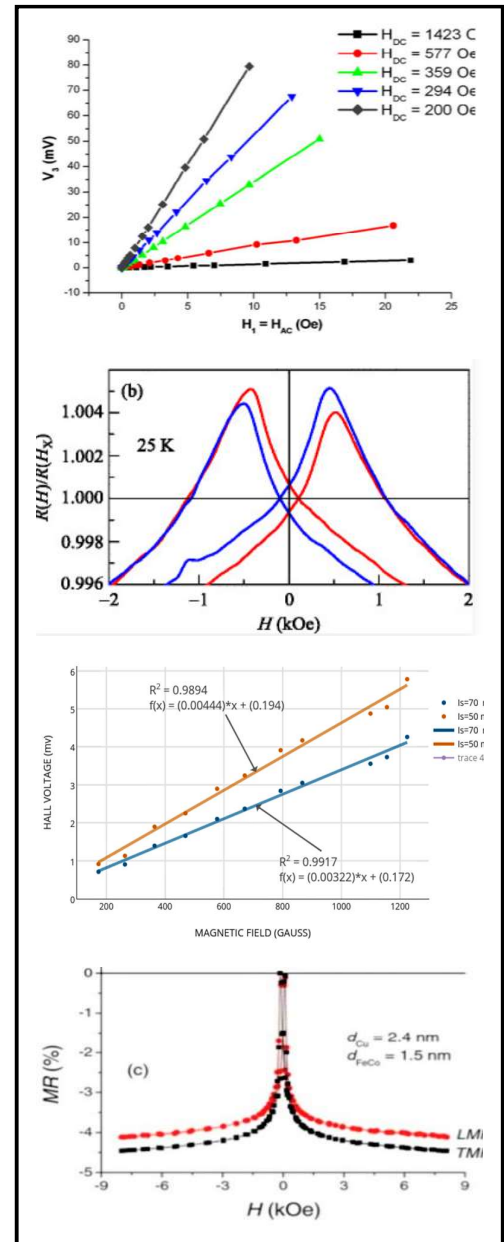


# DC ELECTROMAGNET SYSTEM



## ABOUT THE SYSTEM

An electromagnet is a type of magnet in which the magnetic field is produced by an electric current. Electromagnets usually consist of wire wound into a coil. A current through the wire creates a magnetic field which is concentrated in the hole, denoting the center of the coil. The magnetic field disappears when the current is turned off. The wire turns are often wound around a magnetic core made from a ferromagnetic or ferrimagnetic material such as iron; the magnetic core concentrates the magnetic flux and makes a more powerful magnet. The DC Electromagnet System is designed by our company are most advanced in its specifications and can undertake various tests needed by researchers. The DC Electromagnet system is true bipolar and works in four quadrants just by simple analogue signal  $\pm 10V$ . User can opt for an open-ended PC interface with lab view driver embed in their own applications.



## MODEL: DC 1.8T

### Utility of Electromagnet

- DC ELECTRICAL MEASUREMENTS
- AC ELECTRICAL MEASUREMENTS
- OPTICAL MEASUREMENTS
- MAGNETIC POLLING
- MAGNETO RESISTANCE
- HALL MEASUREMENT

Pole gap	Field
Mm	Tesla
12	1.8
14-16	1.5
16-18	1.2
18-20	0.9

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## TECHNICAL SPECIFICATION

The DC Electromagnet control test software takes care of important functions of magnet control automatically without any human interventions. The control software is open over LabVIEW platform and can be adapted to measure different properties above. Following are highlights of control software.

- Simultaneous of coil current and magnetic field
- Automatic feedback control for desired field.
- A Highly advance software to show values of current at different magnetic field
- Inbuilt Overload protection with thermal shut off.
- A Hall probe display unit provided on front panel of magnetic power supply.
- User can set their own desired field range in any of the four quadrants.
- Data in standard ASCII Format exportable to standard software's like excel origin etc.
- Online export of data from graph.

MODEL	DC 1.8 T
DC Field	0- 18000 Gauss U frame magnets
Field Control	Current/Voltage
Max Pole Gap	80 mm (field vs. pole gap chart provided)
Pole Diameter	4 inches (100mm)
Magnet Diameter	12 Inches
DC Field Resolution	10 Gauss in 2 Tesla Range
Bipolar power supply	120V, 10 Amps
Stability	$\pm 1\%$
Thermal Protection	Over Heating
Overload Protection	Current Controlled
Thermal Shut off	Relay Control
Size/ Construction	U frame constructed with TATA A Grade Steel
Cooling	Air Cooled
Hall Probe	Holzer Sensor
Hall Measurement	Low Noise Signal Conditioning
Field Variation	Analog Input $\pm 10V$
PC Control	Optional
Software	Optional (For four quadrants field variation)
Input	220V/AC 50Hz
Power	1500 Watt

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