

## Magnetic Hyperthermia test system

### About the system

Magnetic nano particles have attracted attention because of their current and potential usefulness as contrast agents for magnetic resonance imaging (MRI) or colloidal mediators for cancer magnetic hyperthermia. Our firm has designed a test setup to test the rise in temperature of nano particles at different magnetic field. The following tests can be performed with the system

- Rise in temperature vs magnetic field intensity
- Rise in temperature vs frequency

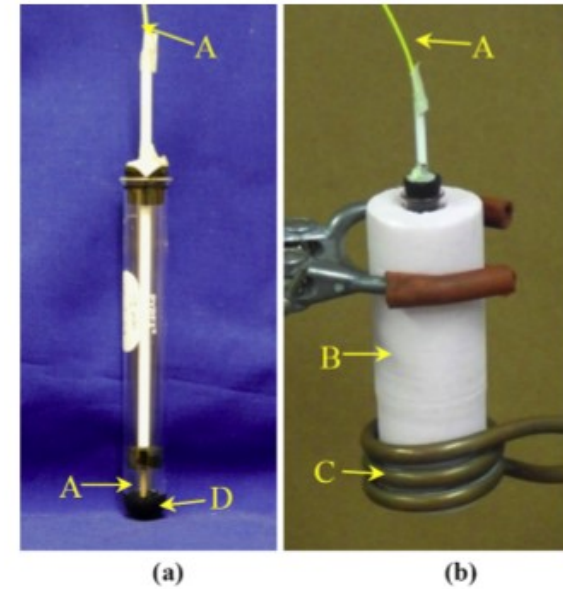


### About Us

Marine India is a Professional company, working in design development and production of material research systems for the welfare of Indian Scientific Natured Groups. The main thrust of our company is to produce highly advanced adaptable and low cost systems to suit both Indian and Foreign research facilities.

### Main Product Line

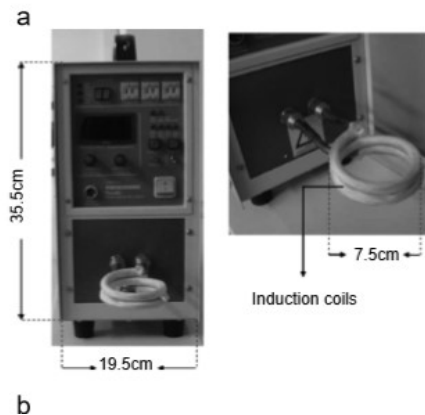
- PE loop tracer system
- BH loop tracer systems
- Multi Ferroic Test system
- Resistance measurement systems
- Strain measurement System
- Electromagnets
- DC polling unit
- AC/DC power supplies
- Source Measure Unit
- LCR Meter/Impedance



## **MARINE INDIA**

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*Application Oriented Basic Science Group*



## Other specifications

- PC interface RS232/USB
- Software to set field and frequency
- NI LabVIEW driver provided
- Variation in field 1%
- Power supply linearity 0.05%
- Input 220 volt AC
- Main control panel
- Resolution 1 %
- Stability 1%
- Fiber optics temperature sensor

## General Specifications

### Magnetic Field Range

- Option A 0- 1000 m tesla
- Option B 0- 10000 m tesla

### Magnetic power supply

- Option A 40V 5 Amp
- Option B 80V 10 Amp

### Operation

- Frequency range 0- 1Mhz
- USB Interface
- LabView driver

### Temperature Measurement range

- Room temperature to 80 degrees. C
- Resolution 0.01 degrees

## Other requirement

- Cu strip Grounding
- Fixed AC source 220 volts 50hz
- Any I3 PC or above with windows 10 for installation

054303-3 Li, Hodgins, and Peterson

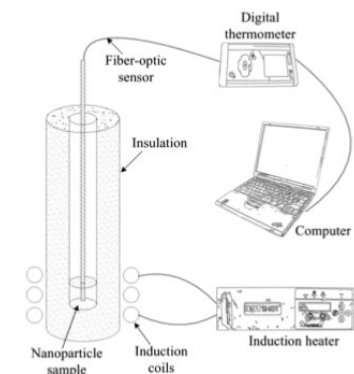


FIG. 4. Sketch of experimental system.

## References

- Solid State Lab (SSPL) Delhi
- IIT Mandi
- Indian Institute of Science Bangalore
- CAT Indore
- IIT Delhi
- Rajkot Saurashtra University
- IIT Roorkee
- Shimla university
- Cat indore
- IIT Chennai
- Delhi University
- IASC Calcutta
- DMRL Hyderabad
- Osmania Univeristy

The full list is very exhaustive but above is only few major references.