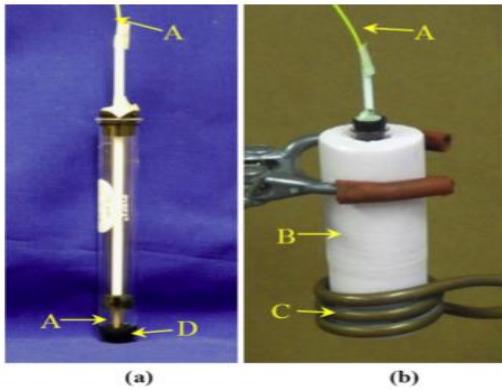


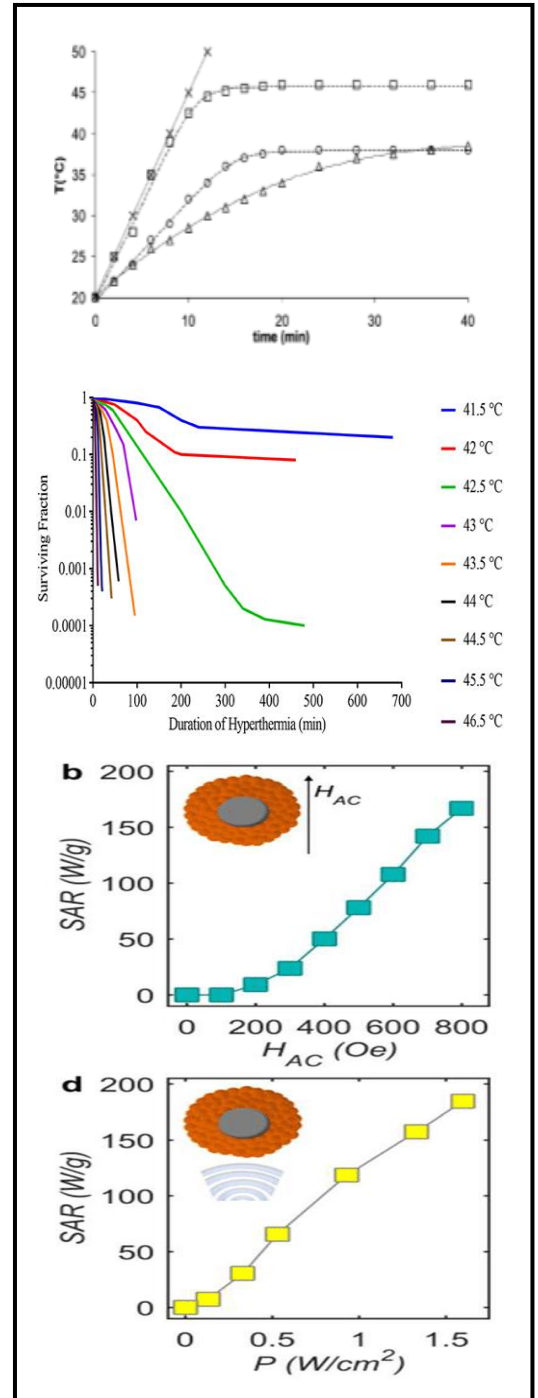
MAGNETIC HYPERTHERMIA TEST SYSTEM



ABOUT THE SYSTEM

Magnetic Hyperthermia Test System to measure rise in temperature of nano fluid in presence of magnetic field. The magnetic nano particles attract attention because of their potential usefulness as contrast agents for magnetic resonance imaging (MRI) or colloidal mediators for cancer treatment. The AC magnetic field can be varied from 0 – 200mT. The temperature is measured using a fiber optic sensor of 0.1-K accurate. The fluid is kept in a quartz tube surrounded by magnetic field coils. The fiber optic sensor probe is dipped into the fluid. The quartz tube is surrounded in an insulated steel chamber to protect heat loss. Full System is configured and controlled by dedicated hyperthermia Software. The Magnetic Hyperthermia Test System is advance in its specifications and can take undertake various test simultaneously. Following are the highlights of the system:

- Field Range: **0 – 200 mT**
- Frequency of Operation: **0 – 1 MHz**
- Operation – I: **Frequency Dependent**
- Operation – II: **Time Dependent**
- Fiber Optic Sensor Temperature Range: **254K - 354-K**
- Accuracy $\pm 0.5^\circ\text{K}$
- Resolution: **0.1°K**



MODEL: MH 200T

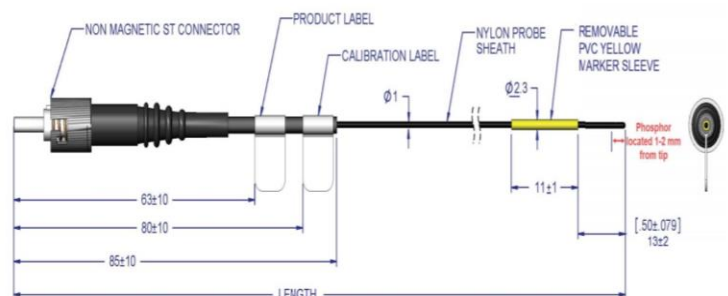
Various tests performed by this model:

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

Optional upgrade of this model:

- Rise in temperature vs pulse magnetic field intensity

Sensor Probe Drawing



MAGNETIC HYPERTHERMIA TEST SYSTEM

TECHNICAL SPECIFICATION

Magnetic Hyperthermia Test System	MH 200T
Field Range	0 – 200 mT
Coil Resistance	0.1 – 0.2 Ω
Nano Fluid Volume	20– 50 ml
Cooling	Water
Water Flow	1-2 lpm
Water Quality	City Water
Inlet Water Temperature	20 – 25°C
Forced Cooling (Optional)	Evaporator Based
Coil Material	Copper 99.9% tube
Coil Diameter	ID: 20 mm
Quartz Tube diameter	ID: 15 mm/ OD: 18 mm
Insulation Housing	Ceramic Wool
Power Supply	Specifications
Voltage	12 V
Current	8 A
Frequency of Operation	0 – 1 MHz
Operation – I	Frequency Dependent
Operation – II	Time Dependent
Frequency Step	1 Hz
Time Step	0.1 Sec
Supply	110/220V 50Hz/60Hz
Size	Rack Mountable Unit 4U
Fiber Optic Temperature Sensor	NY - 2
Temperature Range	254K - 354.K
Accuracy	$\pm 0.5^{\circ}\text{K}$
Resolution	0.01°K
Repeatability/ Stability	0.1°K
Sensor Length	3 mm
Tip Immersion Depth	5mm minimum
Fiber Used	POF, 484 μm core, 500 μm cladding, 1mm OD Polyethylene Sheath
Temperature Measurement Unit	T-354
Temperature Readout	254K - 354.K
Input	Fibre Optic Probe
Resolution	0.1°K
Interface	RS232
Supply	110/220V 50Hz/60Hz

(For optional items separate brochure is available)

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