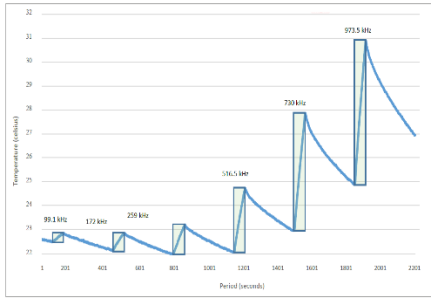
nanoTherics

The Next wave in Nanoparticle Heating Research

magneTherm—RC Software Control

Increase in temperature over 1 minute in a single multi-frequency experiment



This system includes dedicated software, allowing PC or Mac Control for automated resonance tuning, real time data display and graphing, control of fields strength and exposure times with an option for dual or single channel optical sensors for real time temperature sensing.

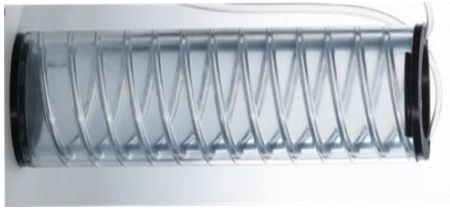
Product Code: NAN201006 10 Standard Frequencies from

100 kHz to1000 kHz Field Strength up to 30mT (with 9 and 18 turn coil)

Single/Dual/Triple channel high resolution fiber optic signal conditioner and fibre optic temperature probes (1m) sensor with protected tip.

Power variation in real time with PID control

Excellent thermal insulation with sample holder/positioner



Accessories for additional applications compatible with this system:

- *In Vivo Water Jacket Option*
- *Live Cell Exposure Option with/without CO2 & Temperature Control*
- *Large Format Coil and Water Jackets Options*
- *Drug Release/Delivery Option*
- *High Field Strength Option up to 50mT*

Computer System Specification:

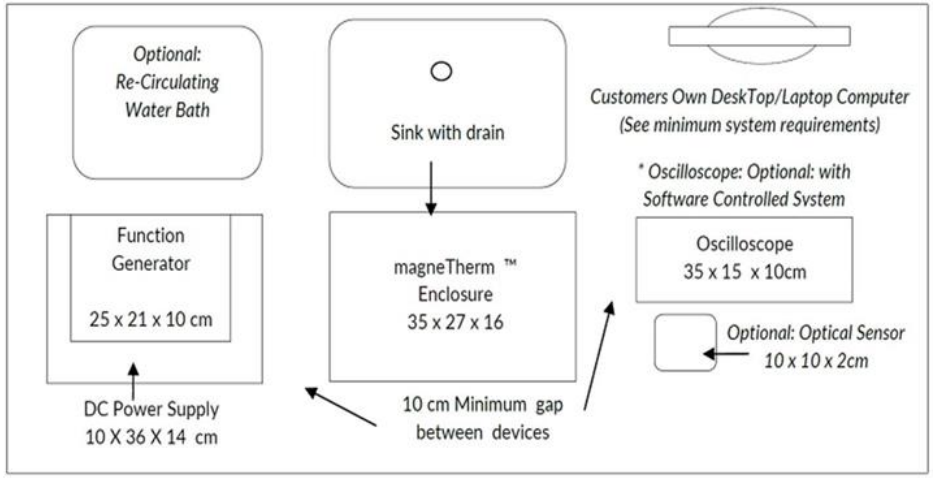
Intel, AMD or processor equivalent to industry standards with 1 GHz or faster.

Operating Systems: Windows 7, Windows 8, Windows 10, Windows 11

1 GB RAM or more, 64/32 bit, 200 MB free hard disk space, USB

port – DVD-ROM drive

Magnetherm Footprint



Power Requirements

85-264V AC 5A/115V AC 2.5A/230V AC Single Phase

Preferably 3 individually switched power sockets, (4 if option Oscilloscope is required), but non-switched and multi adapters can also be used.

Power supply required is single phase only- all power cables will be provided

Electrical specifications

Laboratory Power Supply
Voltage range: 110V/220V: 50/60Hz
Operating Current: 1A/30A
Output Current: 60V/20A

Function Generator
Voltage: 115/230 V: 50/60Hz
Bandwidth: 20MHz

Oscilloscope
Voltage Range: 100-240/100-120V
50/60/400Hz
Power: 30W Max

Magnetherm
Voltage: 115/230 V: 50/60Hz
Power: 15.6W
DC Input: 60V

Mechanical specifications

Laboratory Power Supply
Dimensions: 30 x 24 x 12 cm
Weight: 4.25Kg

Function Generator
Dimensions: 26 x 24 x 9 cm
Weight: 2.8Kg

Oscilloscope
Dimensions: 35 x 15 x 10 cm
Weight: 3Kg

Magnetherm
Dimensions: 32 x 27 x 16 cm
Weight: 10.5Kg

Environmental and safety specifications

Temperature ranges:
Normal operation: 5-40 ºC
At maximum power: 5-35ºC
Storage: -20 – 70ºC
Humidity: 20-80%

Environmental and safety

EMC 2004/108/EC according
UNE-EN 61326-1:2006 Class A
Low Voltage Directive (LVD)
2006/95/EC according to UNE-EN-61010-1

System requirements

Electrical supply: connect all modules following Instruction manual.
Coil Cooling via Laboratory Tap water supply: Typical flow: 700mL/min.
Two flexible tubes of 6mm internal diameter to connect to push fit connectors .
Optional Recirculating chiller: Cooling power 500w min. Typical flow: 1L/min
Typical input pressure: 1 bar.

Standard accessories

Two push fit connectors for the cooling system
Temperature measuring system: Thermocouple 'T' Type /USB Data logger

Temperature measuring

High resolution fiber optic signal conditioner & fiber optic temperature probes (1m) sensor with protected tip.
Measuring range: -10ºC to 150ºC Precision: ±0.2 ºC

Compatible accessories

NAN201010 Drug release option for in vitro tests (optional real time detection)
NAN201007 Live Cell option -temperature and CO2 control
NAN202400 Infrared thermal image option
NAN201008 In Vitro Water Jacket Option
NAN201005 High Field Strength Option
NAN201013 External Petri Dish option
Custom options available on request

Standard Frequencies & Flux Density

Frequency (Nominal)	Bmin [mT]	Bmax [mT]
103	1	35
154	1	25
170	1	23
255	1	23
264	**1**	19
373	**1**	15
436	**1**	20
586	**1**	12
615	**1**	15
968	1	12

*Frequencies and intensities on available devices may differ. Frequencies are nominal and may change according to manufacturers specification. Field strength is provided in peak mT value.