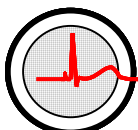


MR-compatible Single Pump Animal Heating System



Control animal temperature in MR

- Flexible heating pads for small animals
- Heating blankets for large animals
- Good temperature response
- System components located near the magnet
- Easy to use



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MR-compatible Single Pump Animal Heating System

The Single Pump Animal Heating System consists of a Fluid Heater Module, a Single Pump Circulator Module, a Reservoir and tubing to connect the Heater Module to a Heating Pad or Blanket in the magnet bore. The system operates with a constant flow of less than 2 GPH with pressure less than 10 psi. Fluid volume is approximately 2 liters. The outlet temperature of the Heater Module is controlled around a user selected set point by SAll software running on a Windows based PC. The Circulator Module consists of a circulation pump, radiator and fan. The pump is low noise, 30 dB at 1 meter, with a service life of 30,000 hours. The Circulator Module will operate in a magnetic field of 100 gauss or less. It has a high magnetic field warning light which illuminates in a field greater than 100 gauss.

Response is better than 30 seconds for a 1 °C temperature rise. Cooling is adequate to maintain the reservoir more than 5 °C below the output temperature of the Heater Module which allows a response for a 1 °C temperature fall of less than 45 seconds.

Specifications

Fluid Heater Module

| | |
|--------------------|--|
| Input connections | power, control, fluid (2) |
| Output connections | fiber optic data, fluid (2) |
| LED indicators | power on – green heater on - yellow |
| Control | fiber optic pulse width modulation |
| Power | 115 VAC, 4 Amps 230 VAC, 2 Amps |
| Size HxWxD, cm | 16.4x8.9x26.0 |
| Weight, with water | 3.3 Kg |

Single Pump Circulator Module

| | |
|-------------------|----------------------------|
| Input connections | power, fluid |
| Output connection | fluid |
| LED indicators | power, high magnetic field |
| Power | 12 VDC, 1 Amp |
| Size HxWxD, cm | 10.8x22.9x20.3 |
| Weight | 2.3 Kg |

Reservoir

| | |
|--------------------|---------------|
| Size HxWxD cm | 8.3x10.2x20.3 |
| Weight, with water | 1.0 Kg |

| | |
|------------------------------|------------|
| Flexible heating pads | ODxLxT mm: |
| mouse | 38x76x3 |
| large mouse | 48x102x4 |
| rat | 57x152x5 |

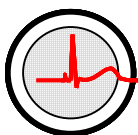
| | |
|----------------------------|-----------|
| Curved heating pads | WxLxT mm: |
| mouse | 30x76x3 |
| large mouse | 35x102x4 |
| rat | 40x152x5 |

| | |
|--------------------------|-----------|
| Flat heating pads | WxLxT mm: |
| mouse | 30x76x3 |
| large mouse | 35x102x4 |
| rat | 40x152x5 |

| | |
|--|-----------------------------|
| In bore tubing for heating pads | |
| length | 2.0 m inlet 2.0 m return |
| OD | 4.0 mm |

| | |
|-------------------------|-----------|
| Heating Blankets | WxLxT mm: |
| medium | 240x450x5 |
| large | 300x560x5 |

Note: heating blankets have 3 m of free tubing to allow connection to the Heater Module without the use of connectors.



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