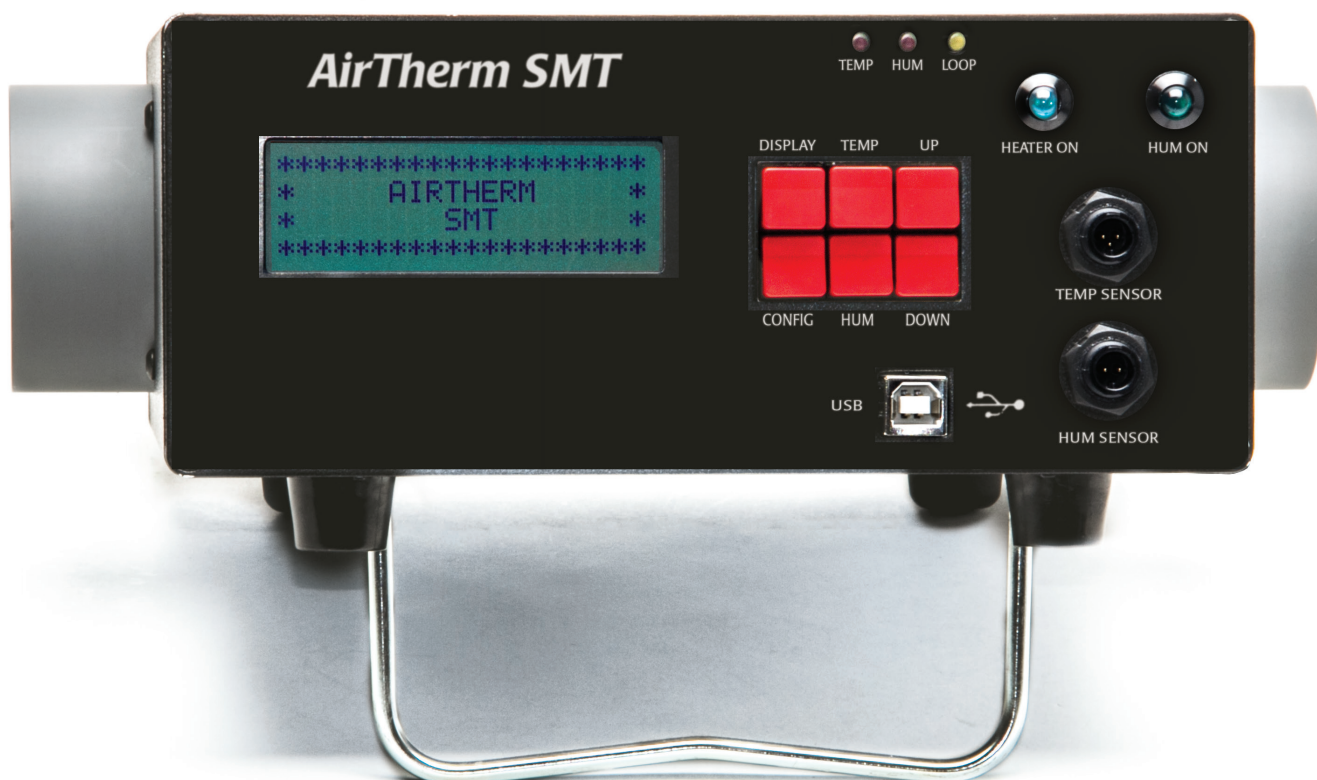




WORLD  
PRECISION  
INSTRUMENTS  
*Instrumenting scientific ideas*

# AirTherm SMT

*Heat Controller*



The **AirTherm SMT** is a new generation of heat control system from WPI designed to be used in Live Cell Imaging applications with microscopes fitted with a full microscope environmental chamber enclosure. The standard **AirTherm SMT** controls temperature and, as an option, monitors humidity.

The **AirTherm SMT** uses a PID control algorithm to maintain tightly controlled loops of heat and humidity environment control.

With **AirTherm SMT**, the temperature of the sample and microscope optics

can be controlled to within 0.2°C.

During operation, air is drawn out of the chamber through a flexible hose, heated by the **AirTherm SMT** heater and re-circulated to the chamber by the return hose.

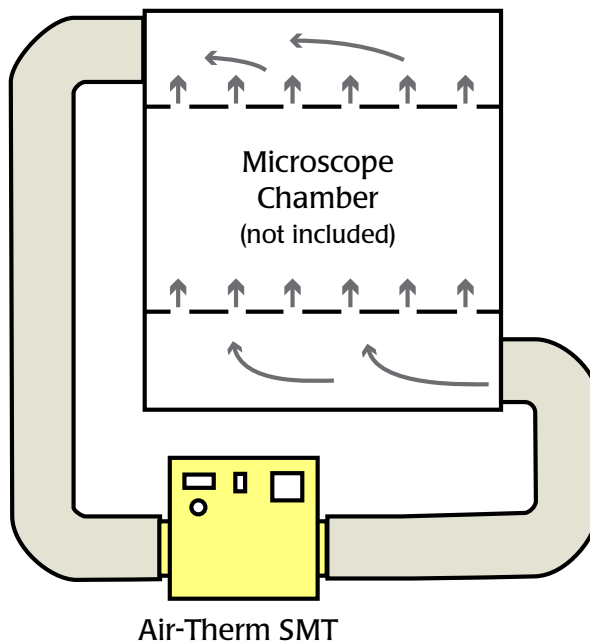
- Precision heat controller for use in live cell imaging and custom incubators
- Control heat and monitor humidity (optional) with a single controller
- Electrically and acoustically quiet
- Quick, precise response to thermal change

# AirTherm SMT

## Heat Controller

The system is typically used in a closed loop configuration.

*A typical AirTherm SMT installation places the heated air inflow at the bottom and the cold air return at the top of the microscope chamber.*



The **AirTherm SMT** system includes:

- **AirTherm SMT**
- Coil-reinforced heater hose pieces, hose clamps
- Temperature sensor for remote placement in environmental chamber

**NOTE:** Humidity probe for monitoring chamber humidity is sold separately.

## SPECIFICATIONS

|                                             |                                               |                                    |                                       |
|---------------------------------------------|-----------------------------------------------|------------------------------------|---------------------------------------|
| Air Flow Rate . . . . .                     | 20–50 CFM (0.55–1.4 m³/minute)                | re-circulating                     |                                       |
| Control Temperature Range . . . . .         | Ambient to 60°C                               | Temperature Sensor Type . . . . .  | Platinum RTD 1000W                    |
| Temperature Resolution . . . . .            | 0.1°C                                         | Humidifier Type . . . . .          | Ultrasonic                            |
| Temperature Accuracy . . . . .              | 0.2°C                                         | Humidifier Tank Capacity . . . . . | 0.5 gallons                           |
| Humidity Control Range . . . . .            | Ambient–90%                                   | Humidifier Daily Output . . . . .  | 2 gallons                             |
| Humidity Resolution . . . . .               | 0.1%                                          | Fuse . . . . .                     |                                       |
| Humidity Accuracy . . . . .                 | 5%                                            | For 120VAC . . . . .               | 8A 250V 5x20mm metric                 |
| Humidity Repeatability . . . . .            | 0.5%                                          | For 230VAC . . . . .               | 4A 250V 5x20mm metric                 |
| Analog Output For Chart Re-corder . . . . . | 0.5°C resolution;<br>0–10V represents 0–100°C | Power . . . . .                    | 450W, 95–135V or<br>220–240V, 50/60Hz |
| Heating Volume . . . . .                    | Less than 50 CF (1400L),                      | Dimensions . . . . .               | 6½ x 8 x 7½”<br>(15.5 x 21 x 19cm)    |



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