

Sweating Guarded Hotplate

**** code 3123 ****

The Sweating Guarded Hotplate, often referred to as the “skin model”, produces accurate, repeatable measurements of the thermal resistance and vapor permeability of textiles. This system was designed in accordance with EN ISO 31092, ISO 11092 and ASTM F1868 to measure both **R_{ct}** (thermal) and **R_{et}** (vapor) characteristics. Its compact design easily fits into existing climate-controlled chambers, if available, or a new chamber can be supplied as an option. Sweating capability is achieved through a unique porous wicking assembly on the surface of the test plate and its outer guard ring.



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The Sweating Guarded Hotplate system includes hotplate with integral sweating surface, variable speed airflow hood, gravity fed fluid supply system, and ambient temperature and humidity probes. An adjustable height airflow hood easily accommodates a variety of sample thicknesses, and our Mesdan Control Software and data logging system that makes testing as simple as clicking the mouse and walking away. Two hotplate sizes are available: an 8” (20.3 cm) square plate with 2” (5 cm) guard, or a 10” (25.4 cm) square plate with 5” (12.7 cm) guard.

- **Square sweating hotplate (two standard sizes) with lateral and lower thermal guards. (Call for custom sizes and geometries).**
- **Copper test plate and guards with ultra-stable resistance wire heating for uniform heat flux.**
- **Height adjustable airflow hood, variable speed fans and air velocity sensor.**
- **System includes two ambient temperature sensors and one relative humidity sensor.**
- **Gravity fed fluid supply regulates flow volume for any sample.**
- **System includes a new PC computer and monitor with exclusive Mesdan Control Software. This intuitive, user-friendly, Windowsbased application provides full thermal control, fault detection, system configuration and calibration, real-time data display, and data logging capabilities.**

Standard Specifications

Copper test plate, ring, and lower guards
Zone heaters and sensors - installed
Variable height acrylic airflow hood and fan plenum
Variable speed fans
Pentium PC control computer and monitor
Mesdan Control Software
Ultra-stable resistance wire heating

Two ambient temperature sensors
One relative humidity sensor
One air velocity sensor
Gravity-fed reservoir and fluid supply system
Signal conditioning electronics
Power and control cabling
Operators manual
One year warranty

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Measurement Range and Accuracy

Rct (thermal resistance) range 0.002 to 2.0m² K/W

Ret (evaporative resistance) range 5 to 1000m² Pa/W

± 0.1°C temperature measurement

± 3% Relative humidity

± 2% Air velocity

± 1% Power measurement

Model Information

Model SGHP-8.2

8" (20.3cm) square test plate

2" (5cm) guard ring

Sample size: 12.2" ± 0.2" (31 ± 0.5cm)

Minimum chamber size: 26"x24"x24" (66x61x61cm)

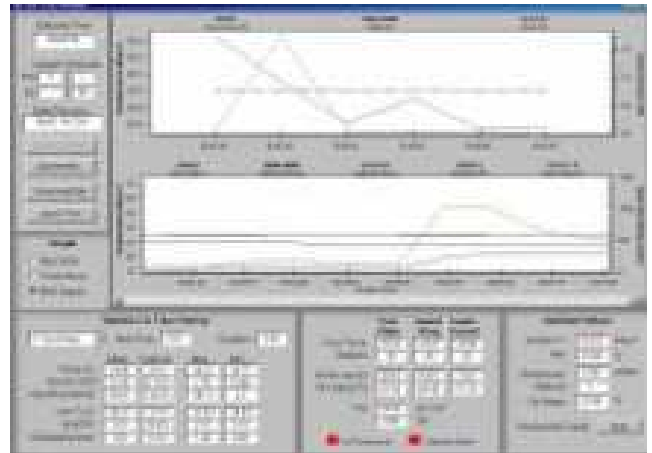
Model SGHP-10.5

10" (25.4cm) square test plate

5" (12.7cm) guard ring

Sample size: 20.2" ± 0.5" (51.3 ± 1.3cm)

Minimum chamber size: 32"x28"x30" (81x71x76cm)



Mesdan Control Software

Mesdan Control Software was developed by Mesdan Lab specifically for hotplate systems. It is a user-friendly, intuitive, Windows-based application providing full thermal control, fault detection, and data logging capabilities. System configuration and calibration are also carried out within Mesdan Control Software.

Several specific software features are included for our hotplate systems. User-defined tests allow operators to define non-standard test conditions and custom tolerance criteria. Red and green lights on the screen indicate steady state and in-tolerance conditions. Multiple graph displays can be viewed, with zooming to view device or ambient conditions in detail. Real-time statistical functions can be applied to the test data over any user-selected time range. Operator training is available from Mesdan spa engineers or regional sales representatives to certify technicians in the use of this device.

Certification

Both models comply with EN ISO 31092, ISO 11092 and ASTM F-1868 (factory calibration with EN ISO 31092 and ISO 11092 Rct reference standard and ASTM F1868 Part 'C' reference fabric). Operator training is available from Measurement Technology NW engineers or regional sales representatives to certify technicians in the use of this device.

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