The Sweating Guarded Hotplate, often referred to as the “skin model,” produces accurate, repeatable measurements of the thermal resistance and vapor permeability of textiles.

Designed to measure both Rct (thermal) and Ret (vapor) characteristics in accordance with ISO 11092 and ASTM F1868, the Thermetrics SGHP system is a proven and trusted device used in testing labs worldwide. Sweating capability is achieved through a unique porous wicking surface on the test plate and outer guard ring, while airflow rates are controlled using an adjustable-height airflow hood that readily accommodates a variety of sample thicknesses.

The SGHP-8.2 and SGHP-10.5 models include hotplate with integral sweating surface, variable speed airflow hood, gravity-fed fluid supply system, as well as ambient temperature and humidity probes, in a compact design that easily fits into existing steady-state chambers. The smaller 8.2 model features an 8” (20.3 cm) test plate with 2” (5 cm) guard, while the larger 10.5 model has a 10” (25.4 cm) test plate with 5” (12.7 cm) guard.

Call for custom sizes and plate geometries. Models with an integrated climate chamber are also available.

ASSOCIATED TEST METHODS

- ISO 11092, ISO 13029
- ASTM F1868, ASTM D1518 (Option II). Mesh fabric hood is available for Option I method.
- GB/T 11048, CEN/TR 16422:2012

FEATURES AT A GLANCE

- Standard 8” or 10” square hotplate with lateral and lower thermal guards. Custom sizes are available.
- Electronics grade copper test plate and guard ring with ultra-stable resistance wire heating to ensure uniform heat flux
- Adjustable height airflow hood, with computer-controlled variable speed fans and air velocity sensor
- Two ambient temperature sensors and one relative humidity sensor
- Gravity fed fluid supply regulates flow volume for any sample
- Complete, ready-to-use SGHP system includes a Dell laptop PC with our exclusive ThermDAC control software

Thermetrics
206-456-9119 • www.thermetrics.com
Specifications

Standard
- Electronics grade copper test plate, guard ring
- Zone heaters and sensors – installed
- Variable height airflow plenum hood
- Variable speed fans
- 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
- Dell laptop PC with ThermDAC Control Software

Options
- Mesh fabric hood for ASTM D1518 (Option I) testing
- Reference fabric for ASTM F1868 Part C testing
- Spacers for thick sample testing
- Cold capable upgrade (for ambient temps to -20°C)
- Cold Plate accessory for thermal conduction tests

Range / Performance / Accuracy
- Intrinsic thermal resistance: 0.001 to 2.0 K•m²/W
- Intrinsic evaporative resistance: 0 to 1000 Pa•m²/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)

ThermDAC Control Software
ThermDAC is a Windows-based application that provides full device control, fault detection, data logging and analysis capabilities:
- User-defined test parameters allow operators to enter non-standard test conditions and custom tolerance criteria
- Multiple graph displays, with zooming feature to view device or test conditions in real-time
- Statistical functions can be applied to test data over any user-selected time range

Service
All systems come with a one year warranty. Please ask about these service options:
- Startup installation and training
- Extended warranty
- Annual Service Care Package—a periodic maintenance and service contract designed to keep your Thermetrics equipment calibrated and in top operating condition

Complete SGHP System