ST-2XL Comfort Test System

Thermal and moisture management testing in the larger subjective area of seating and sleeping comfort presents a particular challenge to industrial designers, especially with the composite nature of the materials involved.

The ST-2XL Comfort Test System is a device developed to support and simplify in-house testing procedures and to help evaluate the need for more advanced thermal instrumentation tests.

The ST-2XL can be used on various seating and sleeping surfaces including mattresses, couches and seat cushions to evaluate the thermal properties and moisture management characteristics of materials.

It can be quickly and easily positioned as needed to evaluate the regional effects of different cover materials or internal construction methods - even with highly insulated products such as mattresses and cushioned furniture.

The carbon-epoxy unit contains one thermally controlled zone, ten miniature ambient temperature/ humidity sensors useful for measuring interface microclimate conditions, and a computer-controlled fluid supply system that simulates metabolic perspiration levels.

Custom specifications are available, including zone number or geometry, and number of sweat pores.

FEATURES AT A GLANCE

- **Evaluate the thermal properties and moisture management characteristics of mattresses, cushions, and a variety of bedding and seating materials.**
- **Lightweight and portable yet ruggedly built, the ST-2XL is designed to simulate bed/seat compression rates that are equivalent to a 175 pound person.**
- **Thermally conductive carbon fiber test zone and guard, with ultra-stable resistance wire heating for accurate and uniform heat flux.**
- **Integrated sweating skin system with computer-controlled fluid supply.**
- **Fluid supply includes UV light and filter for improved reliability and reduced maintenance.**
- **Test zone number, size, and shape can be customized for specific research needs or customer requirements.**
- **Skin temperature is measured by by high temperature coefficient resistance wire sensors embedded beneath the surface. Optional DHS sensor technology is also available.**
- **System includes a Dell laptop PC with exclusive ThermDAC control software featuring full thermal control, fault detection, real-time data display, and data logging capabilities.**

Thermetrics

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ST-2XL Comfort Test System

Specifications

Standard Features

- 15" x 15" square active surface, suitable for represention of seated anatomical contours
- Carbon-fiber construction with distributed resistance wire sensors
- Two temperature controlled guard zones
- Ultra-stable resistance wire heating
- High/Low power control for faster heat-up and more accurate testing
- One computer-controlled sweating zone
- Network of pores across the test zone are used to deliver water to the skin surface
- Includes sweat distribution pump, reservoir, UV water purification, and connection tubing
- 10 interface temperature/humidity sensors
- One ambient RH sensor
- Signal conditioning electronics
- Power and control cabling
- Dell laptop PC with ThermDAC control software
- Operator manual and One year warranty

Options

- DHS dynamic sensor technology
- Additional or customized sweating zones

Range / Performance / Accuracy

- 800 W/m^2 maximum power output
- ± 0.1°C thermal accuracy
- ± 1% power measurement accuracy
- ± 3% relative humidity measurement
- Variable (10°C - 40°C) temperature setpoints
- 0–1000 ml/(hr-m^2) perspiration rate

Model Information

- Device Dimensions: 18"x18"x3.25"H (46 x 46 x 9 cm H)
- Power Requirements: Single phase, 50/60 Hz, 85-265 VAC
- Maximum nominal current: 2.0 kVA

ThermDAC Control Software

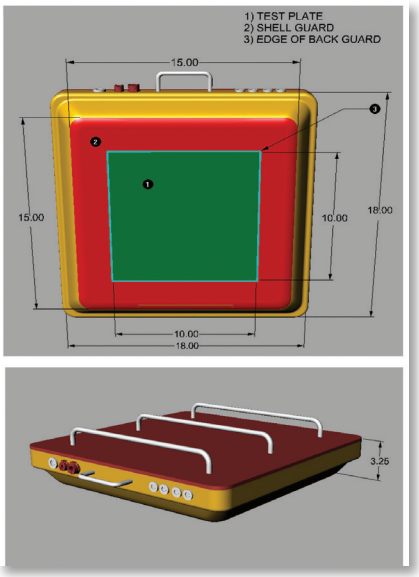
ThermDAC is a user-friendly Windows-based application providing full device control, fault detection, data logging and analysis capabilities. System configuration and calibration can also be carried out within ThermDAC.

- Automatic steady-state detection
- Define non-standard test conditions and custom tolerance criteria
- View multiple device and ambient variables on a single graph screen
- Apply real-time statistical functions to test data over any user-selected time range

Service

Please ask about these popular 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



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