

SEAT TEST AUTOMOTIVE MANIKIN (STAN)

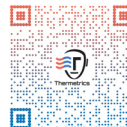
The World's Most Advanced Thermal Manikin

The STAN seat test manikin evaluates the thermal comfort and moisture management characteristics of automobile, truck, and airplane seating.

STAN is a thermal manikin derived from the SAE J826 HPM-II body form in order to ensure compatibility with existing automotive seat positioning methods with H-point.

For passive seats, use STAN to precisely measure heat and moisture exchange. Heated seat evaluations are based on actual energy transfer, not just surface temperature, and realistic perspiration levels also allow for accurate assessment of cooled/ventilated seats.

STAN contains eight independently controlled thermal zones with integrated backside cooling and sweating skin system to simulate metabolic heat and perspiration levels. Sixteen weighted bars are provided to allow control over seat compression rates.





STAN Specifications

- Thermally conductive carbon-fiber shell
- Eight independent thermal zones, with temperature controlled guard zones
- Ultra-stable resistance wire heaters and distributed wire sensors, embedded in the shell for protection against damage
- 10-40°C zone temperature setpoints
- 1500 W/m² maximum power output
- 0-1000 ml/(hr-m²) perspiration rate
- Continuous heat removal capacity: 350 W/m²
- $\pm 0.1^\circ\text{C}$ thermal accuracy
- $\pm 1\%$ power measurement accuracy
- $\pm 3\%$ relative humidity measurement
- Power Requirements: 208-265 VAC, 50/60Hz, Single-phase
- Cooling water requirements: Temperature controlled chiller, 500W heat removal at 30 °C, flow rate of 2 L/min at 15 PSI

Base Products Include:

- Manikin body form with heaters and sensors
- Control electronics
- Two ambient temperature sensors
- Laptop loaded with ThermDAC control software
- Power and control cabling
- One relative humidity sensor
- Standard one-year warranty

STAN Feature Highlights & Benefits

- 50th percentile adult male back + buttocks/thigh manikin
- Eight thermal regions, each with temperature controlled guard zones
- Active cooling technology integrated into the manikin shell, analogous to blood flow in a human, provides the capability to measure heated seats without overheating the manikin
- Dynamic Heatflux Sensor (DHS) integrated into STAN's eight thermal regions measures transient energy exchange between skin and seat surface
- Sweating skin system available, with computer-controlled fluid flow and wicking fabric skin
- Ultra-stable resistance wire heating provides uniform heat flux
- System includes control electronics, laptop PC with ThermDAC software, cables and connectors
- Pre-defined heat difference test included in software





ThermDAC Control Software

ThermDAC is an engineered user interface for thermal manikin systems providing real-time device control, automated testing, and flexible display and logging capabilities, including:

- Manikin control by skin temperature, constant heat flux, comfort equation
- User-programmable test configurations, stability criteria, linked work cycles
- Automatic steady-state detection
- Color-coded manikin pictorial displays, selectable for any manikin variable
- Zoomable time-history graph of multiple device and ambient variables
- Real-time statistical analysis over any user-selected time range
- Logging of raw data, statistical analysis, user-reports
- Device calibration and fault detection



4D

PHYSIOLOGY & COMFORT MODEL INTEGRATION

Bring your manikin to life with the next dimension in testing; ManikinPC

- Real-time data
- Reduce dependence on human testing
- Shorten design cycles
- Design based on comfort metrics



STAN	Description	Product Name	Item #
Base Products	STAN Manikin, Sweating, Male	509.s	19-50901
Standard Options	Chiller, LS Chiller w/Turbine Pump, 120V, 60Hz	—	10-02804
	Chiller, LS Chiller w/Turbine Pump, 240V, 50Hz	—	10-02805

Don't see what you need above? Contact Thermetrics to customize your perfect system. Keep your STAN Manikin in tip-top shape. Discuss service plan options and point-of-sale discounts with us at sales@thermetrics.com.