MEASUREMENT Technology NORTHWEST

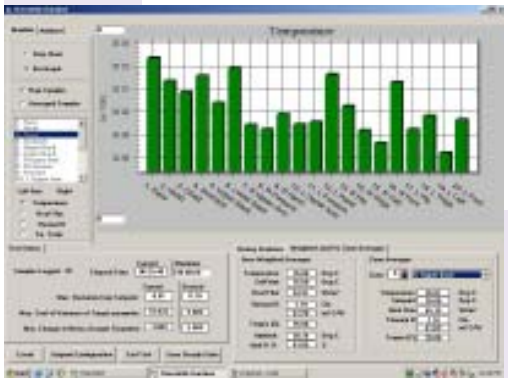
4211- 24th Avenue West, Seattle, WA 98199
Phone/206-634-1308 Fax/206-634-1309
**www.mtnw-usa.com**

# Seat Test Automotive Manikin

- **50th percentile adult male back and buttocks.**
- **Nine thermal sections with two temperature controlled guards.**
- **Porous metal sweating sections available with computerized fluid flow.**
- **Ultra-stable resistance wire heating provides uniform heat flux.**
- **Custom specifications available, including size and location/number of sweating inserts.**
- **System includes a PC Pentium computer and monitor with exclusive ThermDAC control software. This intuitive, user-friendly, Windows-based application provides full thermal control, fault detection, real-time data display, and data logging capabilities.**
- **System configuration and calibration can be carried out within the ThermDAC program, and default test conditions can be saved to disk for future use.**

Our Seat Test Automotive Manikin (STAN) was developed to evaluate the thermal comfort and moisture management of automobile seating. The fiberglass-epoxy back and buttocks STAN manikin contains 9 independently controlled thermal regions with heaters, temperature sensors, and optional sweating inserts with fluid supply system to simulate human metabolic levels. A dedicated PC Pentium computer controls manikin temperature and fluid supply while logging data.

The basic STAN system fits the contours of many common vehicle seats, though a user-specified custom contact profile can be accommodated. The location and number of sweating inserts can also be varied to obtain specific regional data. Weights can be added to control the amount of seat compression. The system is accurate to ±0.1°C, and includes the back and buttocks manikin, automatic PC based ThermDAC control system, and documentation.



## Instruments for Textile and Biophysical Testing

# Seat Test Automotive Manikin (STAN)

## Standard Specifications

Copper filled carbon-fiber shell
Nine independent thermal zones
Zone heaters and sensors - installed
Two temperature controlled guards
Ultra-stable resistance wire heating
Optional porous metal sweating insert sections
(w/sweat distribution pumps, reservoir, and tubing)
Two high-accuracy thermistors per zone
Pentium PC control computer and monitor
Pre-installed ThermDAC control software
Two ambient temperature sensors
One relative humidity sensor
Signal conditioning electronics
Power and control cabling
Operators manual
One year warranty

## Environmental

Variable (10°C - 40°C) temperature setpoints
800 W/m² maximum power output
50-1000 ml/(hr-m²) perspiration rate

## System Accuracy

± 0.1°C thermal accuracy
± 1% power measurement accuracy
± 3% relative humidity measurement

## Thermal Manikin Sizes

50th percentile Western male back and buttocks, modified to match seated anatomical contours.

*Call for a quote on custom sizes*

## ThermDAC Control Software

ThermDAC was developed by Measurement Technology Northwest specifically for manikin and hotplate systems. It is a user-friendly, intuitive, Windows-based application providing full device control, fault detection, and data logging capabilities. System configuration and calibration can also be carried out within ThermDAC.

For manikin operation, ThermDAC includes the following special features:

- Color coded manikin pictorial displays, selectable for any manikin variable (temperature, heat flux, resistance, etc.)
- Automatic steady state detection
- User programmable work cycle simulation
- Instantaneous bar graph and time history line graph for any user selectable manikin variable
- Real-time calculation of test statistics over any user defined time interval
- Manikin control modes: temperature regulation, constant heat flux, and comfort equation.

MEASUREMENT Technology NORTHWEST

4211- 24th Avenue West
Seattle, WA 98199

Phone/206-634-1308
Fax/206-634-1309

www.mtnw-usa.com