

Baby Thermal Manikin



NEW!

Thermetrics Baby Thermal Manikin makes it possible to accurately test the thermal comfort properties of baby clothing and diapers, wearable gear, indoor environments, bedding and carriers - including car seats and strollers.

Thermetrics 11-zone Baby manikin is equivalent to the size of a typical 9-month old child. The Baby manikin is designed and constructed using a thermally conductive carbon-epoxy shell with internal resistance wire heaters and precision skin temperature sensors.

Realistic range of motion is achieved through the use of spherical ball joints at the neck, shoulders, and hips, with single-flexure joints at the knees and elbows. The Baby manikin is also available with Thermetrics exclusive sweating skin system, which utilizes a matrix of pores over the active surface of the manikin coupled with computerized fluid delivery and a wicking fabric skin layer to evenly distribute water over the surface of the manikin. This proven control method allows for precise metering of the sweating rate, selectable by manikin region.

ASSOCIATED TEST METHODS

- ASTM F1291
- ASTM F2370
- ISO 15831

FEATURES AT A GLANCE

- Complete turn-key system for thermal comfort tests of clothing and environments
- 29" (73cm) tall, approximates the dimensions of a 9-month old child
- 11 thermal zones
- Available in dry or sweating skin configuration
- Mitten style hands
- System includes two ambient temperature sensors and one relative humidity sensor.
- Ultra-stable resistance wire heating used to provide uniform heat flux
- For precise temperature measurements, distributed sensor wire elements are embedded within each zone and protected by an epoxy surface coating
- Expanded range of motion due to the use of spherical ball joints at the neck, shoulders, and hips
- Miniaturized components provide the same features and functionality as our full sized thermal manikin systems
- System includes a Dell laptop computer with ThermDAC manikin control software
- Irresistible baby cuteness provided at no charge!



Thermetrics

Child Thermal Manikin

Specifications

Standard

- Thermally conductive carbon-epoxy shell
- 11 independent thermal zones
- Ultra-stable resistance wire heating
- Distributed wire sensors for each zone
- Dell laptop computer pre-installed with ThermDAC control software
- Two ambient temperature and one RH sensor
- One RH sensor and Windspeed sensor
- Signal conditioning electronics
- Power and control cabling (via eye openings)

Options

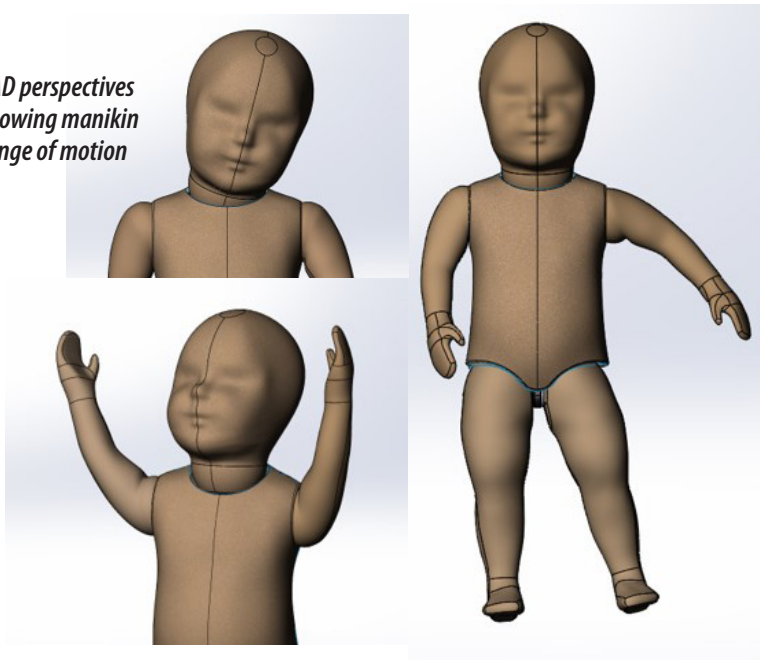
- Optional Windspeed sensor
- Optional removable fabric sweating skin with fluid distribution pump, reservoir, and tubing

Call for a quote on custom sizes

Range / Performance / Accuracy

- -20°C to +50°C operating range
- 0 to 100% R.H. including condensation
- $\pm 0.1^\circ\text{C}$ temperature measurement and setpoint control
- $\pm 3\%$ relative humidity measurement
- 600 W/m² maximum power output

CAD perspectives showing manikin range of motion



“Baby” Manikin Size

• 9-month old body form:

Height 29” (73cm)

Weight 20 lbs (9.1kg)

Surface area 674 sq/in (0.435 sq/m)

ThermDAC Control Software

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

- Preloaded/defined standard tests are available via a convenient drop-down onscreen menu
- Users can also define non-standard test conditions and custom tolerance criteria
- View multiple device and ambient variables on a single graph screen or manikin view screen
- Apply real-time statistical functions to test data over any user-selected time range
- Color coded manikin pictorial displays, selectable for any manikin variable (temperature, heat flux, resistance, etc.)
- Automatic steady state detection
- Manikin control modes: constant temperature, constant heat flux, and comfort equation

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

