

THE WORLD'S MOST ADVANCED THERMAL MANIKINS

# THERMAL MANIKIN - BODY PART HEAD

The advanced Thermal Head and Face Gear Manikin system was developed to provide accurate test measurements for all types of protective helmets, goggles, headwear, VR gear, masks, headphones, and ear muffs.

Precise measurements of heat loss allow our Thermal Head and Face Gear Manikin to quantify the effects of clothing or safety gear design, insulation, and ventilation with repeatable accuracy through a wide range of environmental conditions.

9-zone segmentation is based on the isolation of head regions affected by clothing, respirators, protective eyewear or ear wear, and those head areas which have significantly different heat loss characteristics.

The forehead and/or face are isolated due to their typically high perspiration rates, and to accommodate the effect of headwear that includes straps at the forehead. The hairline is defined to maintain valid test measurements even with the addition of wigs to simulate hair effects.

An optional breathing manifold sits behind the manikin face which allows for breathing through the nose, mouth, or nose/mouth combination.

All Head and Face systems are complete, ready-to-use instruments including manikin, control electronics, laptop PC, and our exclusive ThermDAC control software. Just add your own climate chamber for a comprehensive testing solution.

## Test Methods Supported

- ASTM F3426



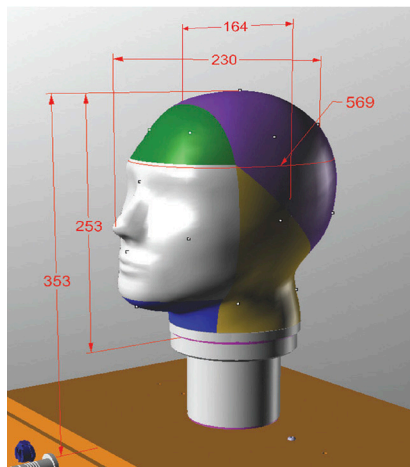


## Thermal Head + Face Gear Specifications

- Helmet/cap size: medium
- Standard operating range: -20°C to +50°C
- Extended operating range: -40°C to +50°C (with "cold capable" option)
- 0 to 100% RH, including condensation
- ±1% power measurement accuracy
- Temperature accuracy: ± 0.1°C
- RH accuracy: ± 3%
- Maximum power output: 600 W/m<sup>2</sup>
- Sweating delivery range: 0-1,000 ml/hr/m<sup>2</sup>
- Power: 85-265VAC, 50/60Hz, Single-phase
- Power/communication cable length: 25 ft./7.5 m

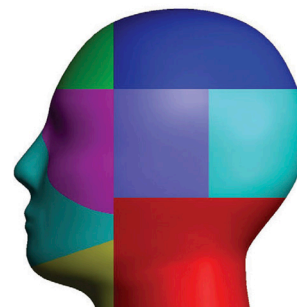
## Base Products Include:

- 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



## Thermal Head + Face Gear Feature Highlights & Benefits

- Zone segmentation isolates key regions of the head which are affected by clothing and safety gear, or that possess significantly different heat loss characteristics, such as the forehead, scalp, and neck
- Male head: 50th percentile
- 9 thermal zones
- Features computerized fluid delivery by zone
- Model designed for easy fitting of headwear
- Ultra-stable resistance wire heating provides uniform heat flux
- Wicking fabric sweating skin system
- External Breathing System with measurement ports and CO<sub>2</sub> input port available to replicate the cycle, frequency, and volume of human breathing
- System includes a laptop computer installed with ThermDAC control software

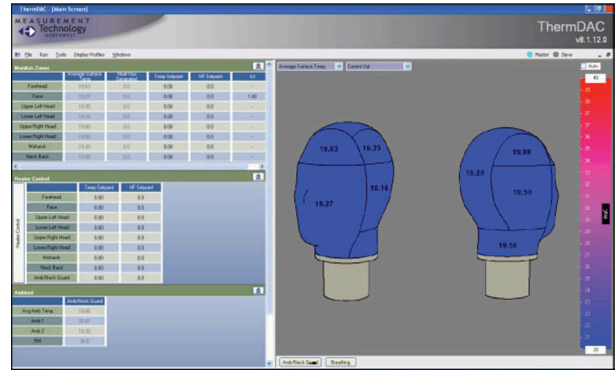




**ThermDAC Control Software**

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



505 - Thermal Manikin - Body Part - Head	Item #	Description	Product Name
Standard Base Product	19-50501	Thermal Head, 9Z, Sweating	505-XXX_s9
Custom Options	19-00001	Non-Humidified Breathing System	—
	19-00002	Humidified Breathing System	—
	20-00776	Chamber, Standalone (Air Cooled)	—
	20-00788	Nano RH Sensors (1 per zone)	—
	XX-XXXX	Cold Capable	—

*Don't see what you need above? Contact Thermetrics to customize your perfect system. Keep your Thermal Head and Face Gear Manikin in tip-top shape. Discuss service plan options and point-of-sale discounts with us at [sales@thermetrics.com](mailto:sales@thermetrics.com).*