



THE WORLD'S MOST ADVANCED THERMAL TESTING MANIKINS

# THERMAL MANIKIN - SUBMERSIBLE NEMO/SHEMO

Thermetrics submersible manikins, offered in male (Nemo) and female (Shemo) body forms, are constructed as fully sealed aluminum manikins with embedded heating and thermistor sensor elements. All heating and fluid control electronics are inside the manikin for maximum accuracy and easy maintenance. This fully waterproof design was developed using advanced CAD digital modeling, and is rated for immersion testing to depths of 10 feet (3 meters). Nemo/Shemo is fully jointed, providing motion at the ankles, elbows, knees, and hips to allow virtually any possible body pose. Joints feature adjustable friction settings, which maintain their watertight integrity in any pose.

All Nemo/Shemo systems are complete, ready-to-use instruments and include the manikin, control electronics, laptop PC, and our exclusive ThermDAC control software. Just add your own climate chamber/water tank for a comprehensive testing solution.

## Test Methods Supported

- Meets ISO/DIS 15831 (stationary test)
- EN13537
- ASTM F1291
- ASTM F2370/F2371 (sweating manikin)



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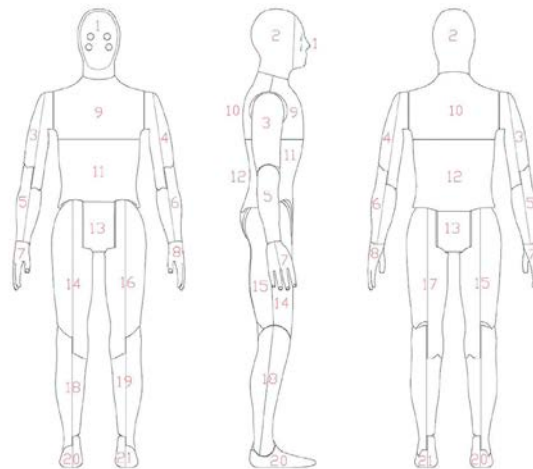


## Nemo/Shemo Specifications

- Male body form height: 5 ft. 10./177 cm
  - Chest: 36 in. /92cm
  - Waist: 29 in. /73 cm
  - Hip: 36 in. / 92 cm
  - Manikin weight: 155 lbs. /70 kg
  - Surface area: 19 sq/ft./1.8 sq/m
  - Male body form: 50th percentile
- Female body form height: 5 ft. 5 in./166 cm
  - Chest: 37.3 in./95 cm
  - Waist: 27.8 in./71 cm
  - Hip: 32.6 in./83 cm
  - Manikin weight: 130 lbs./ 59 kg
  - Surface area: 18.1 sq/ft./ 1.68 sq/m
- -20°C to +50°C operating range
- 0 to 100% R.H. including condensation
- ± 0.1°C temperature measurement and setpoint control
- ± 3% relative humidity measurement
- 1,200 W/m<sup>2</sup> maximum power output
- Sweating delivery range: 0-1,000 ml/hr/m<sup>2</sup>
- Sealed aluminum shell with waterproof joints
- Integrated zone heaters and sensors
- Fully sealed body, fresh water immersion rated to 10-foot (3 meter) depths
- Optional removable fabric sweating skin with distribution pumps, reservoir, and tubing
- Power/communication cable length: 65 ft./19.8 m.

## Nemo/Shemo Feature Highlights & Benefits

- Complete turnkey system for standard or immersion testing of protective clothing and survival gear
- Standard model features 22 independent thermal zones
- Sweating version features computerized fluid delivery by zone
- Ultra-stable heating elements provide uniform heat flux
- Thermistor temperature sensors distributed across each zone
- Optional removable fabric sweating skin with computerized fluid flow
- Rapid heat up and steady-state maintenance with automatic detection for test end



NEMO standard thermal zone schematics

## 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
- One omni directional wind-speed sensor
- Manikin transport chair
- Standard one-year warranty

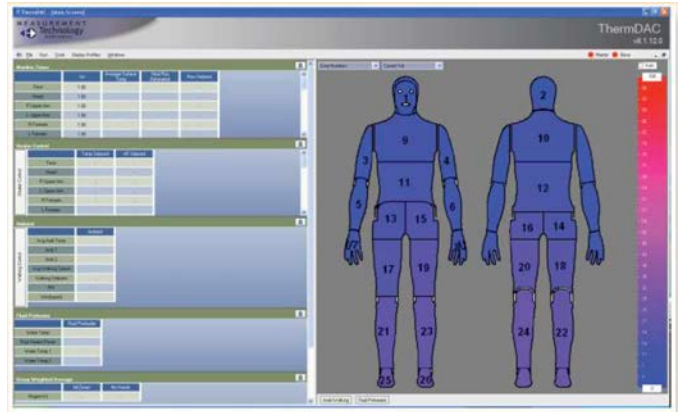
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## ThermDAC Control Software

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



502 - Thermal Manikin - Submersible - Nemo/Shemo	Item #	Description	Product Name
Semi-Custom Base Products	19-50201	Nemo Manikin, 22Z, Dry, Male 178.5 cm	502-XXX_C.d22.M
	19-50202	Nemo Manikin, 22Z, Sweating, Male 178.5 cm	502-XXX_C.s22.M
	19-50203	Shemo Manikin, 22Z, Dry, Female 166 cm	502-XXX_C.d22.F
	19-50204	Shemo Manikin, 22Z, Sweating, Female 166 cm	502-XXX_C.s22.F


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