



10

THE WORLD'S MOST ADVANCED
INSTRUMENTS FOR TEXTILE AND BIOPHYSICAL TESTING

DRYING RATE TESTER (DRT-201)

Thermetrics Drying Rate Tester 201 (DRT-201) determines the drying rate of a fabric based on the evaporative rate that occurs when a predetermined amount of water is absorbed into a fabric that is placed upon a heated plate and then dried with constant controlled air flow.

Quick drying and fast wicking functions are key features of moisture management textiles, and a thorough understanding of moisture management requires a consistent test method to measure the drying rate of textiles.

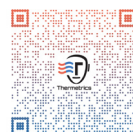
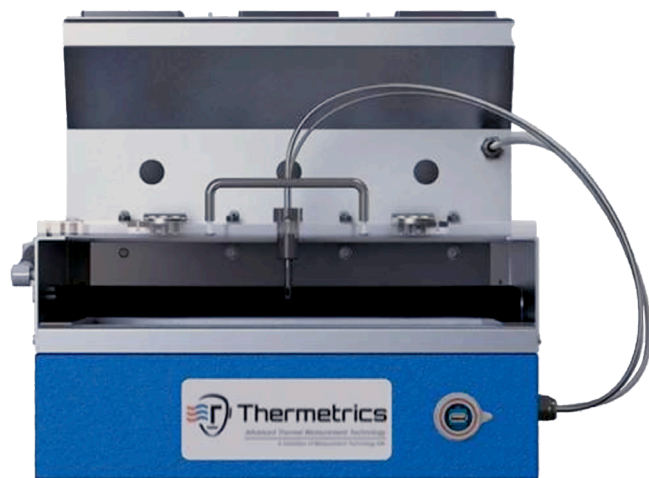
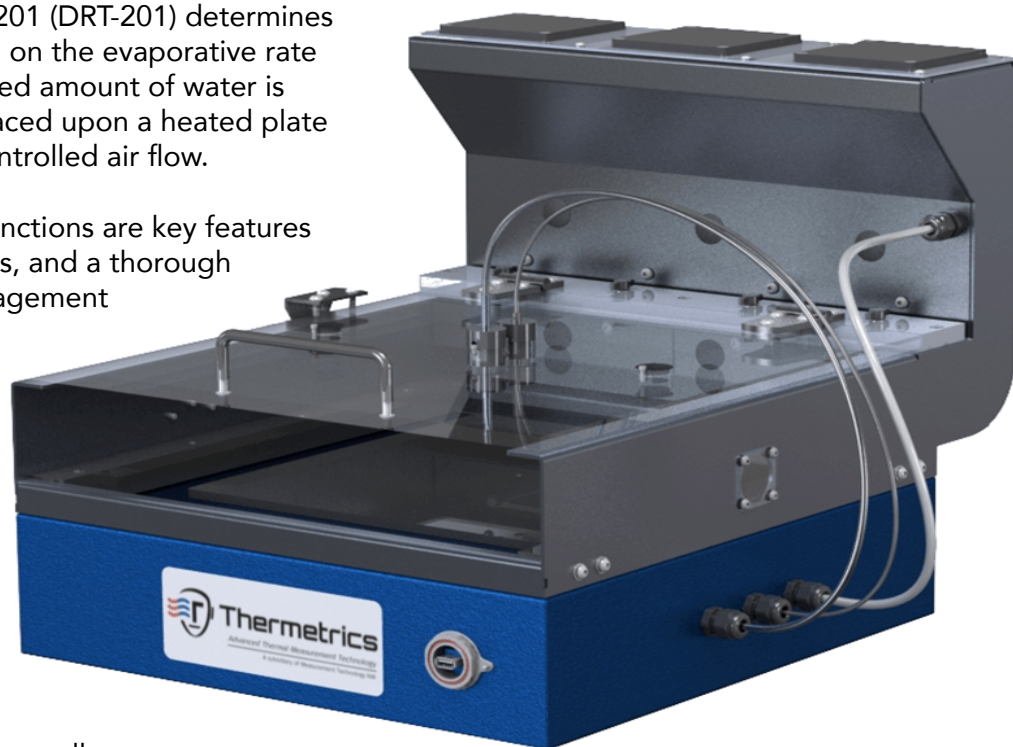
The DRT-201 uses the heated plate method described in AATCC Test Method 201–2012 to study the drying rate of textiles when in contact with a heated plate set to human skin temperature.

Tests begin with the delivery of a small amount of water (0.2 ml) to the sample, which has been placed onto the hotplate surface. ThermDAC software then displays a real-time graph which charts the sample's drying rate over time, and upon conclusion of the test automatically calculates the specimen's drying rate under the measured test conditions.

The DRT-201 system includes a test device with precision air flow hood, computer controlled fluid delivery, wind speed sensor, and ThermDAC control software.

Test Methods Supported

AATCC 201





DRT-201 Specifications

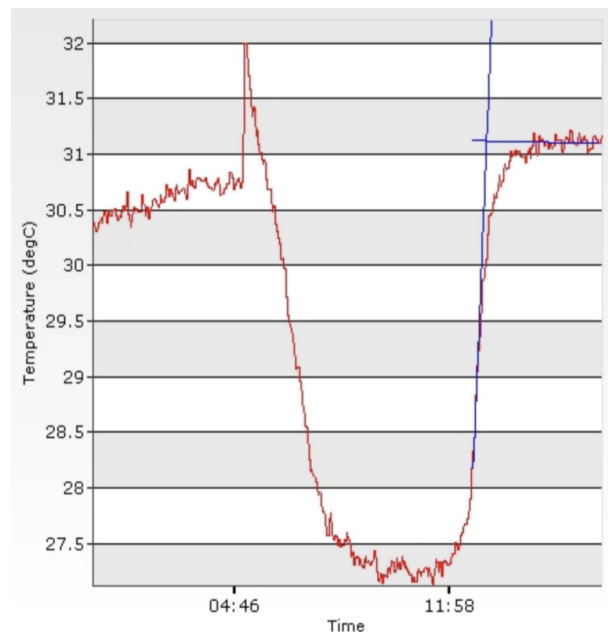
- Unit Dimensions: 53.5 x 48.5 x 41 cm, not including adjustable rubberized feet
- Metal hotplate 30.5 X 30.5 cm, controlled to $37^{\circ}\text{C} \pm 1.0^{\circ}\text{C}$
- Controlled fans generate 1.5 ± 0.2 m/s of air flow across the width of the hotplate
- Infrared thermocouple probe capable of measuring $15.0\text{-}50.0 \pm 0.1^{\circ}\text{C}$
- Anemometer, hot-wire type, capable of measuring air flow from 0.5 to 2.5 ± 0.1 m/s
- Water system delivers a controlled volume of liquid between 0.1 - 1.0 ml ± 0.003 ml
- Space Requirements: Bench top location at standard laboratory temperature and conditions
- Power Requirements: 85-265 VAC, 50/60Hz, Single-phase. Maximum nominal current 5 Amps

Base Products Include:

- Hot plate with heaters and sensors
- Control electronics
- Two ambient temperature sensors
- ThermDAC control software
- Power and control cabling
- One relative humidity sensor
- One air velocity sensor
- Precision-built air flow plenum with air flow tuning gates
- Infrared thermocouple probe
- Standard one-year warranty
- Computer-controlled fluid delivery

DRT-201 Feature Highlights & Benefits

- Precision-built air flow plenum with air flow tuning gates
- Wind speed can be measured at 3 different points to verify air flow uniformity
- Actively controlled, high-performance fans for excellent air flow stability
- Thermetrics-designed control board for data logging and controlling systems features
- Comes standard with NIST traceable sensors for optimal repeatability and trusted results
- USB interface to PC, cable included
- ThermDAC Control Software automatically reports drying curve calculation and water delivery totals
- Computer controlled fluid delivery system



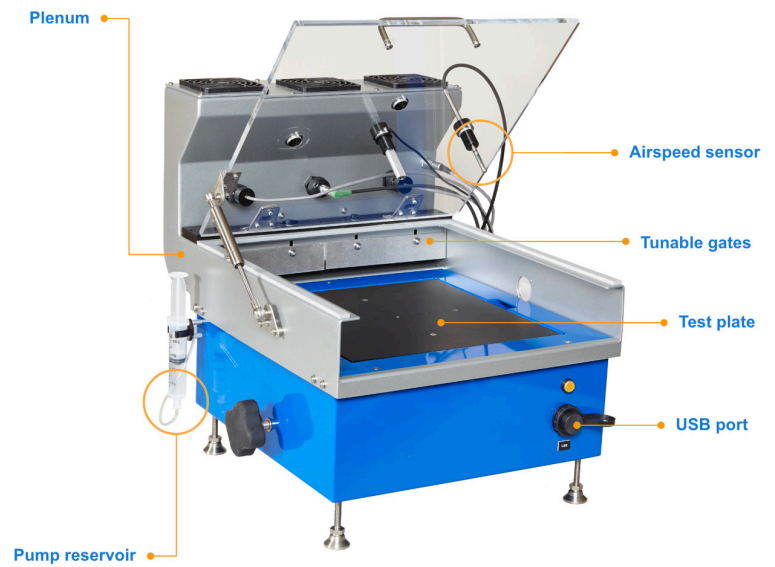
An example of a dryout curve from the DRT-201's connected software that provides a useful measurement of a fabric's wicking performance.



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:

- Real-time display of instrument data and user control of device outputs
- User-programmable test configurations, tolerances, and stability criteria
- Automatic steady-state detection
- 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, integrated report generation
- Device calibration and fault detection



514 - Hotplate - Drying Rate (DRT-201)	Item #	Description	Product Name
Standard Base Product	19-51401	DRT-201 System, Standard	514-XXX

Don't see what you need in the above product table? Contact Thermetrics to customize your perfect system.

Keep your DRT-201 in tip-top shape. Discuss service plan options and point-of-sale discounts with our team at sales@thermetrics.com.