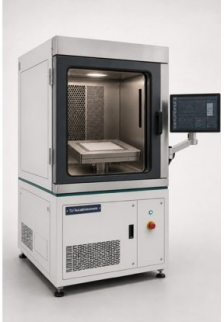
TXL-KMS-047 / 28 October 2026 · One-year manufacturer warranty

# Thermal and Water-Vapour Resistance Tester – Sweating Guarded Hotplate (RET-01A)

Measures thermal resistance (Rct) and water-vapour resistance (Ret) of textiles and textile-like flat materials by the ISO 11092 sweating guarded-hotplate method. 200 × 200 mm porous heated measuring plate, independent active guard and bottom thermal guard; integrated climate chamber (15–55 °C, 30–70% RH), horizontal airflow. Rct 0.002–2.000 m²·K/W, Ret 0–1000 m²·Pa/W; Windows-based software with automatic steady-state detection.



## Model technical data

| | |
|---|---|
| 1 | Method: ISO 11092 sweating guarded-hotplate. |
| 2 | Measured quantities: Rct thermal resistance; Ret water-vapour resistance. |
| 3 | Rct range: 0.002–2.000 m²·K/W; Ret range: 0–1000 m²·Pa/W. |
| 4 | Measuring area: 200 × 200 mm square plate; specimen min. 300 × 300 mm, thickness 0–50 mm (optional 70 mm). |
| 5 | Climate chamber: 15–55 °C, 30–70% RH; horizontal, uniform airflow. |
| 6 | Channels: plate/guard/bottom guard temperature, air T/RH/speed, real power. |
| 7 | Control and report: Windows-based software, independent process control; automatic steady-state detection, Turkish/English report. |

## Physical specifications and utilities

| | |
|---|---|
| Electrical supply | Approx. 220–240 V AC, 50/60 Hz, single phase; build-dependent. |
| Power / connected load | Approx. 3500–6000 W connected load for preliminary planning. |
| Overall instrument dimensions | Approx. 1200 × 1000 × 1800 mm (W × D × H). |
| Instrument weight | Approx. 350–550 kg net. |
| Gross / shipping weight | Approx. 410–712.5 kg gross; estimated packing allowance. |
| Lab requirements | Ventilated installation; purified water and drain for humidification options. Separate conditioning plant depends on order scope. |

Dimension order and approximate values are stated in each row. Packaging data are separate from instrument dimensions and net mass. Approx. rows are preliminary engineering estimates based on comparable equipment and function/capacity; they are not verified manufacturing measurements or standard requirements. Installation and shipment are finalised against the approved drawing and nameplate. Estimate scope: base product / one unit; external computer, bench and auxiliary plant excluded.

Specifications, dimensions, and power requirements are approximate and subject to change without prior notice for continuous design improvements.

Product technical specifications and images may vary according to manufacturing conditions and applicable standards.

## Test and configuration

| | |
|---|---|
| Measured output / function | Thermal resistance Rct and water vapour resistance Ret |
| Parameters selected for the method | Plate temperature, climate, air speed and specimen placement |
| Verification points | Temperature, heating power, air speed and bare-plate correction |

## Control and recording specification

Method-specific software and recording requirements follow. Delivered software modules are defined by the order scope.

• Method code and edition, specimen ID, operator and selected test parameters are linked to the record.

• The calculation and endpoint are defined by the selected method edition; instrument signals and operator assessments are kept distinct.

• Raw measurements, units, valid/invalid test flags and the reported result remain traceable.

• Calculations are checked against known inputs and an independent calculation; sensor channels are checked against calibration values.

## Related test methods

ISO 11092

Listed methods are application references. Suitability is established by assessing hardware, method edition and calibration together.

## Test parameters for the reviewed method

The values below were reviewed in selected clauses of the stated source edition. They are not a declaration of equivalence to a later edition or independent instrument verification.

ISO 11092 (earlier edition) / 5.1-5.3

| | |
|---|---|
| 1 | Effective measuring-plate area at least 0.04 m²; plate temperature stability ±0.1 K; heating-power measurement ±2%. |
| 2 | At the specified measuring point, air speed 1 m/s with test drift no greater than ±0.05 m/s; relative-humidity drift no greater than ±3% RH. |