

TXL-KMS-012 / 27 October 2026 · One-year manufacturer warranty

Water Vapour Permeability Tester (MVTR)

An eight-cup instrument for evaluating water vapour permeability of textiles, particularly clothing fabrics. Includes water containers, specimen holder rings and a reference fabric arrangement.



Model technical data

1	Eight water containers, a permeable reference-fabric arrangement, specimen-retaining rings and a drive/control system.
---	--

Physical specifications and utilities

Electrical supply	Approx. 220–240 V AC, 50/60 Hz, single phase; build-dependent.
Power / connected load	Approx. 100–300 W connected load for preliminary planning.
Overall instrument dimensions	Approx. 650 × 650 × 900 mm (W × D × H).
Instrument weight	Approx. 30–60 kg net.
Gross / shipping weight	Approx. 58–100 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	Water vapour transmission; g/(m ² ·day) or method-specific index
Parameters selected for the method	Cup area, temperature, humidity, sealing and weighing interval
Verification points	Balance, temperature-humidity, cup area and blank test

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.
- For WVTR, mass-time slope / effective area; cup method, time unit and temperature-humidity conditions are stored with the result.
- 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.
- BS 3424-34:1992 Method 37 scope compares coated-fabric water-vapour permeability index against a standard woven polyester monofilament reference. Record specimen and reference identities separately; apparatus clauses were not obtained, so do not automatically equate the BS 7209 numerical recipe with this part.

Related test methods

BS 7209 · BS 3424-34

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.

BS 7209:1990 — Appendix B / B.2.2, B.2.5, B.2.9–B.2.11, B.4.3–B.4.11, Figures 2–3

1	Appendix B: atmosphere 20 ± 2 °C / $65 \pm 2\%$ RH; water-to-specimen air gap 10 ± 1 mm. Figure 2 dish internal diameter about 83 mm; calculate area from actual diameter measured in two perpendicular directions. Weighing within 0.001 g; timing within 1 min.
2	Turntable accommodates at least six dishes; dish linear speed ≤ 6 m/min. About 2 rpm is an example only. Use three specimens and concurrent reference fabric; equilibration ≥ 1 h, measurement interval ≥ 5 h. $WVP = 24M/(At)$, g/m ² /day; index = $100 \times WVP_{\text{specimen}}/WVP_{\text{reference}}$.