

TXL-MBR-006 / 27 October 2026 · One-year manufacturer warranty

External Balance Water Vapour Transmission Rate Tester (WVTR-08E)

Gravimetric water vapour transmission rate tester with eight test positions and an external analytical balance. The operator only weighs the cups; climate control, cup indexing, data transfer and reporting are handled by the system. To ASTM E96/E96M.



Model technical data

1	Reference standard: ASTM E96/E96M-24a — gravimetric water vapour transmission rate.
2	Test positions: 8; suitable for a 6 specimen + 2 blank arrangement.
3	Cup / test area: hard-anodised aluminium cup; Ø76 mm clear opening; 45.36 cm².
4	Specimen: approx. Ø90 mm cut; standard 0-3 mm thickness.
5	Temperature: 20-50 °C; stability ±0.5 °C.
6	Relative humidity: 40-95% RH; stability ±2% RH.
7	Air velocity: 0.05-1.00 m/s, closed-loop adjustable horizontal airflow.
8	Rotary platform: 0.5-1 rpm continuous rotation with automatic cup indexing.
9	External analytical balance: 220 g capacity; 0.1 mg readability; internal calibration; RS-232 and USB.
10	Approx. dimensions and power: 1000 × 900 × 1650 mm; 230 V AC, 50 Hz; installed power approx. 2.5 kW.

Physical specifications and utilities

Electrical supply	Approx. dimensions and power: 1000 × 900 × 1650 mm; 230 V AC, 50 Hz; installed power approx. 2.5 kW.
Power / connected load	Approx. dimensions and power: 1000 × 900 × 1650 mm; 230 V AC, 50 Hz; installed power approx. 2.5 kW.
Overall instrument dimensions	Approx. dimensions and power: 1000 × 900 × 1650 mm; 230 V AC, 50 Hz; installed power approx. 2.5 kW.
Instrument weight	Approx. 120–220 kg net.
Gross / shipping weight	Approx. 157–300 kg gross; estimated packing allowance.
Interfaces	External analytical balance: 220 g capacity; 0.1 mg readability; internal calibration; RS-232 and USB.
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.

Related test methods

ASTM E96 · ISO 12572

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.

ASTM E96/E96M-16 / 6.1-6.3, 11-13

1	Cup method: opening at least 3000 mm ² ; air velocity over the specimen 0.02-0.3 m/s. Balance sensitive to less than 1% of the steady-period mass change. Calculate WVTR = mass-time slope / area from at least six suitable steady points; equivalence to edition 24a is not assumed.
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ISO 12572:2001 / 5

1	Cup method: chamber control within ±0.5 K and ±3% RH of target, air speed 0.02–0.30 m/s. Prefer 0.001 g balance resolution, selected for assembly mass. This is the 2001 apparatus clause; equivalence to the 2016 edition and 2024 amendment is not assumed.
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