



TEWAMETER® TM 330T

Courage & Khazaka

Tewameter® TM 330T

BENEFITS

- Reproducible and accurate TEWL measurement
- Measure three skin sites simultaneously
- Measure larger skin surface
- Measures TEWL continuously without influencing the skin surface
- Stable measurement achieved quickly with no waiting time between measurements
- Small probe head size minimizes influence of air turbulence inside probe
- Low weight has no influence on skin structure
- Does not require frequent, complicated and time consuming recalibration
- Calibration data stored in the probe
- Simple check calibration to ensure accuracy of measurements
- Measure skin surface water loss (SSWL)
- A range of accessories are available for different applications

Transepidermal water loss (TEWL) is the water that passes through the skin and evaporates from the surface in order for the outer cell layers to remain sufficiently moisturised. It is measured in g/m²/h and can be used to measure skin functionality, in particular barrier function.

The Tewameter® is a world renowned TEWL measurement device. It is an open chamber measurement device developed in 1990 which has been used in countless scientific studies since then. The Tewameter® TM 330T is the culmination of many years experience in production of transepidermal water loss equipment, feedback from users and advances in electronics. It is a giant step forward offering the user greater flexibility, stability and speed than was previously possible. At the same time you can measure three skin sites simultaneously with the exact same environmental conditions. It is also possible to place the probe heads together in order to measure a larger skin area.

MEASUREMENT PRINCIPLE

The open chamber method of TEWL measurement is based on the diffusion principle in an open chamber

A = surface (m²), m = water transported (g), t = time (h), D = diffusion constant [=0.0877 g/m/h(mm Hg)], p = vapour pressure of atmosphere (mm Hg), x = distance from skin to point of measurement (m).

The probe consists of a hollow cylinder with two pairs of sensors measuring temperature and humidity, one pair slightly higher than the other. It measures the moisture at two different sites and from this the TEWL can be calculated.

$$dm/dt = - D * A * dp/dx$$

FIELDS OF APPLICATION

- ➊ Ideal for product development, claim support, efficacy testing, and multicentric studies
- ➋ Can be used for objective clinical assessment in dermatology and occupational medicine
- ➌ Can be used for monitoring new-borns and detecting skin damage
- ➍ In-vitro testing of permeability
- ➎ Assessing TEWL and SSWL in a range of research applications
- ➏ Suitable for sweat studies

AVAILABLE FORMATS

MULTIPROBE ADAPTER SYSTEM

The Tewameter® TM 300 probe can be plugged in to all of the computer driven MPA devices (MPA 2, MPA 6, MPA 10 & Cutometer® dual MPA 580)

MULTI DISPLAY DEVICE MDD 4

The Tewameter® TM 300 is available as a stand alone device through the MDD 4. Supplied with a room condition sensor it is possible to add a further two measurements. In addition to the colour screen for displaying results the MDD 4 can be connected to a computer and measurements recorded using the MPA software.

ACCESSORIES FOR TEWAMETER® TM 300 & TM 330T

Probe Heater: shorter measurement times

Special cap: smaller measurement area

Special rings for sterilization

Diffusion cell fixture

TM 330T case and check calibration

TECHNICAL INFORMATION

Dimensions: 3 measuring chambers: each 2 cm, Ø 1 cm, length of the probe: approx. 24 cm, width, when all chambers are located close together: approx. 6.4 cm, cable length: 1,3 m, weight: approx. 120 g, Resolution: relative humidity ± 0.01 % RH, Temp.: ± 0.01 °C, TEWL: 0.1 g/h/m², Measuring area: TEWL 0-320 g/h/m² Accuracy: Rel. Humidity (RH): ± 1.8 %, Temperature: ± 0.2 °C TEWL: between 10 % and 80 % RH: ± 0.25 g/h/m² for TEWL values up to 5 g/h/m² and 5 % for values over 5 g/h/m² 0 -10 % and > 80 % RH: ± 1 g/h/m² for TEWL values up to 5 g/h/m² and 10 % for values under 5 g/h/m². Technical changes may be made without prior notice.