

Introduction

With the Invitro Tewameter® VT 310 a probe for the measurement of the TransEpidermal WaterLoss is available, which offers all benefits of the Tewameter® and is perfectly suited to sit on a Franz cell.

The Measuring Principle

The probe emulates completely the upper part (donor chamber) of a Franz cell (standard is 15 mm Ø, other sizes on request). Thus the probe sits exactly on the membrane of the Franz cell as it would sit on skin directly without needing further adapters.

The measured TEWL-value is expressed in g/h/m², the worldwide acknowledged absolute measuring value for skin.

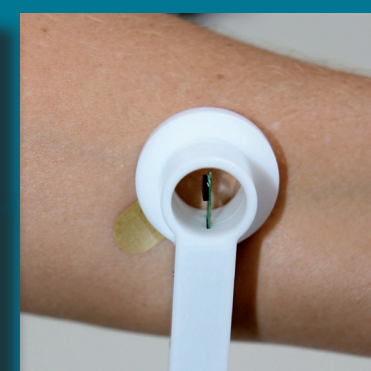
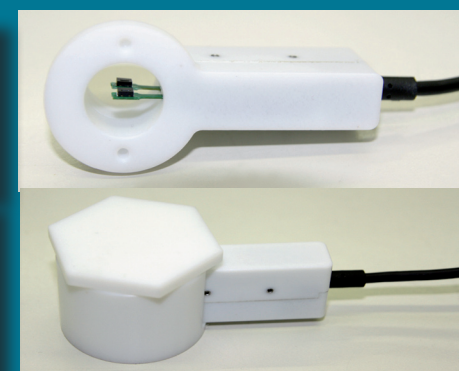
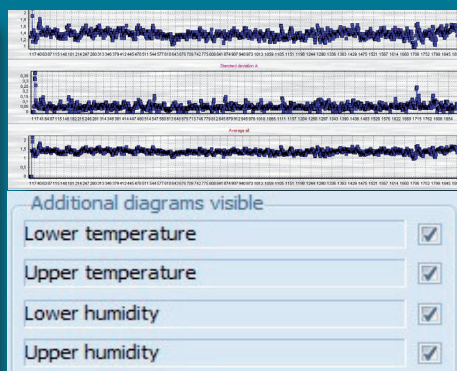
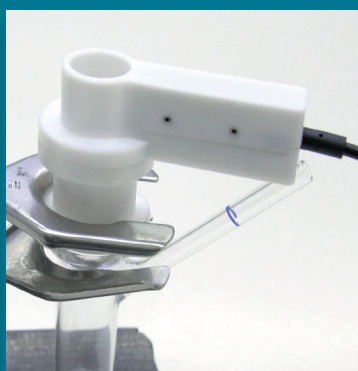
Fields of Application

- Inexpensive prescreening before in vivo tests (no ethic commission, no expensive volunteers).
- Only way to study skin permeability and dermal absorption necessary for safety and efficacy testing.
- In vitro tests are established in several worldwide acknowledged guidelines: WHO, SCCS and OECD.

Advantages

- It offers all advantages of the open chamber measurement of the Tewameter®, the worldwide most used TEWL-measuring device.
- Fully comparable to in vivo measurements as the results are expressed in g/h/m².
- Standard probe for Franz cells of 15 mm Ø, other sizes can be custom made.

- If preparations are applied to the membrane during the measurement, a special high quality Teflon centerpiece emulating the donor chamber can be put between probe and membrane. The probe fits exactly to the center-piece without further adapters.
- Up to 10 probes can measure simultaneously.
- Continuous measurements over long periods possible
- During the measurement all TEWL values, averages and the standard deviations as well as the information on temperature and relative humidity of the two sensor pairs in the probe can be recorded and displayed.
- With the open chamber measurement even higher waterloss values can be detected accurately as no water is collected inside the probe.
- Accuracy of the probe can be checked any time.
- The probe is very light and therefore convenient for other applications (e.g. fixing the probe to the skin with double sided sticking rings for long-term measurements, measurements under movements, etc.).



Technical Data

Dimensions: Length: 6.5 cm, Measuring chamber: Height: 2 cm, Inner Ø: 1.5 cm, Outer Ø: 3 cm, Cable length: 1.3 m, Weight: approx. 60 g; Teflon-centerpiece: Height: 2.5 cm, Inner Ø: 1.5 cm, Outer Ø: 3 cm (all data for standard probe)
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.

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