

DermaLab[®] COMBO SkinLab

Specification Sheet - version 2.0

ULTRASOUND/COLLAGEN

Principle	Rotating X-tal
X-tal center frequency	20 MHz
Band-width	5-35 MHz
Focus-distance from x-tal	13 mm
Travelled distance over skin	17,6 mm
Max penetration into skin	3,37 mm
Lines per image	188
Gain-range	+/-10 dB (1 dB resolution)
Intensity resolution	8 bit (256 color scale)
Image resolution (horizontal x lateral)	200 µm x 60 µm
Picture format (horizontal x lateral)	376 x 256 pixels
Intensity	0-170 (representing the average intensity in the upper dermis)
Thickness measurement	0 to 3.37 mm (26 um resolution)

Highlights:

- Instant assessment of collagen intensity
- Easy measurement of lateral structures (e.g. thickness of dermis)
- Automatic detection of the border between epidermis and dermis, thickness of dermis, intensity of dermis and low echogenic band
- Easy to operate — no training needed

MOISTURE/HYDRATION

Principle: Conductance, single frequency.

Hydration: 0 ... 9999 uSiemens (1 uSiemens resolution)

Calibration: Calibration checker available (optional).

Accuracy: 5%

Probe types:

- Pin probe with eight pins minimizing moisture accumulation under the probe surface. Spring loaded action triggers/stops measurement. Ideal for dry skin and scalp applications.

Highlights:

- Instant assessment of the water binding capacity in the stratum corneum
- Pin-probe design facilitating dry skin and scalp applications
- Pin-probe design minimizes occlusion reducing water accumulation around the probe electrodes.

ELASTICITY

Principle: Stress/strain by applied vacuum elevating the skin followed by a retraction phase

3 elasticity measures available:

- Young's Modulus (resolution 0,1 MPa)
- ViscoElasticity (resolution 0,1 MPa)
- Retraction time (resolution 1 ms)

Accuracy: 2%.

Continuous real-time curve of elevated height of the skin

Probe: 10 mm aperture. Ultra low weight (approx. 7 grams) for minimum skin bias. Adheres to the skin by double adhesive sticker.

Highlights:

- Minimum skin bias due to low weight of the probe
- Reliable operation due to the use of double adhesive sticker
- Soft, Normal and Firm setting of vacuum for extended dynamic range
- 3 measures of elasticity available with real time curve

SEBUM

Sebum collection material: Microporous polymer film.

Measurement principle: Translucency characteristics of sebum collecting material.

Sebum score: 0 - 99

Accuracy: 5%

Measurement procedure: Sequential and screen guided

Operation: On screen guided measurement sequence

Sebum collecting strip: Microporous polymer film mounted on light absorbing substrate.

Highlights:

- Sebum (oil) specific collecting material
- Quick and objective assessment of oiliness

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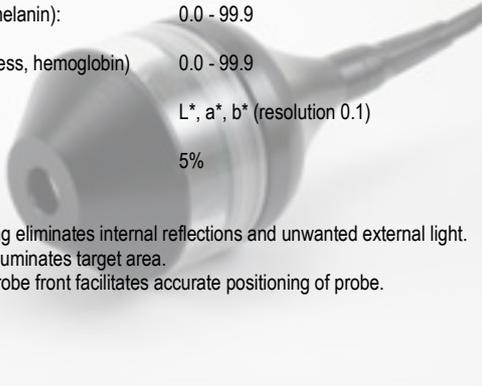
Specification Sheet

SKIN COLOR METER

Principle:	High sensitivity digital color detector
Light Source:	High intensity white LED
Color Sensor:	4 x 16 active elements
Target area:	7 mm diameter
Pigmentation (melanin):	0.0 - 99.9
Erythema (redness, hemoglobin)	0.0 - 99.9
CIELAB:	L*, a*, b* (resolution 0.1)
Accuracy:	5%

Highlights:

- Optical focusing eliminates internal reflections and unwanted external light.
- Guiding light illuminates target area.
- Transparent probe front facilitates accurate positioning of probe.



TEWL

Principle: Open chamber diffusion gradient.

Range: 0 - 250 g/m²/h.

Resolution: 0.1 g/m²/h.

Accuracy: 5%

Environment check: Relative humidity and temperature.

Display: Continuous real-time readout of TEWL during measurement and display on graph.

Stop criteria: The standard deviation of the diffusion gradient is measured in a 5 sec. moving window. When the standard deviation drops below 0.3 then the measurement is stopped.

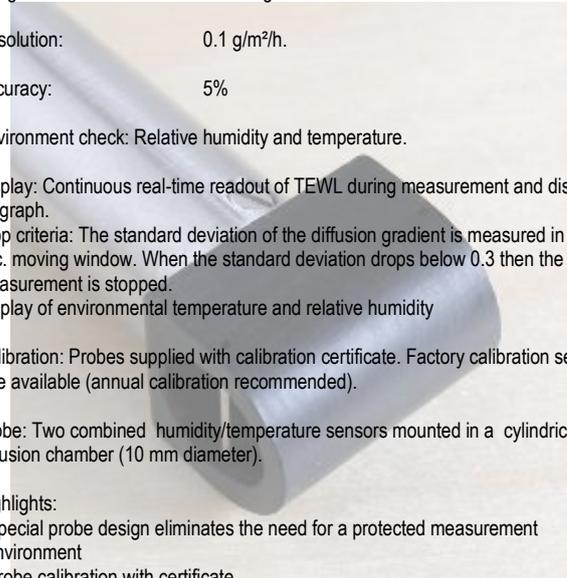
Display of environmental temperature and relative humidity

Calibration: Probes supplied with calibration certificate. Factory calibration service available (annual calibration recommended).

Probe: Two combined humidity/temperature sensors mounted in a cylindrical diffusion chamber (10 mm diameter).

Highlights:

- Special probe design eliminates the need for a protected measurement environment
- Probe calibration with certificate



SKIN PH METER

Probe type:	Standard gel-filled surface type probe, Fast response time.
Range:	1.00 - 11.00 pH.
Accuracy:	0.01 pH @ 25 deg. C.



SKIN THERMOMETER

Measurement principle: Non-contact infrared detection.

Range: 10 - 50 deg. C.

Resolution: 0.1 deg. C.

Accuracy: +/- 0.1 deg. C.

Display Mode: Deg. Celsius or deg. Fahrenheit.



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VIDEO SCOPE

Principle: Sensitive digital camera with diffused or polarized light source.

Readout: Digital Image 1.3M pixels (SXGA)

2 magnification ranges with auto focus:

- ~15x and ~50x using the internal 8,4" screen
- ~30x and ~100x using external 19" computer screen

Built-in 8 white LED illumination

Highlights:

- Single hand operation including adjustment of magnification
- Selection between diffused and polarized light source
- Two ranges of focus



DermaLab Combo

Dimensions (W x H x D):	TBD
Operating temperature range	+5 °C to +40 °C
Storage temperature range	-20 °C to +60 °C
Operating humidity	Up to 90% rel. non-condensing
Operating system:	Windows 8,1
Storage	4 GB RAM, 32+ GB Solid State Disk
USB-connector	1x USB 2.0
HDMI-connector	1
Power supply	100-240 V input, 12 V / 2,75 A output
Display	12" 1366x768 color LCD
Input:	Touch screen
Data storage:	Measurement files with time stamp Excel compatible data-files Bitmap (.bmp) compatible image files
Options:	USB Keyboard/mouse, HDMI monitor, USB printer, USB disk, USB foot switch

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