



CUTOMETER® DUAL MPA 580

Courage & Khazaka

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BENEFITS

-  World renowned, reproducible and accurate measurement of skin elasticity
-  Quick measurement time
-  Spring in probe head for constant pressure on the skin
-  Low weight of probe ensures easy handling for measurements on all skin sites
-  Different aperture sizes for different measurement applications
-  Two probes of different aperture size can be connected at same time
-  Flexible program settings for different applications
-  Calibration data stored in the probe
-  Check calibration to ensure accuracy of measurements
-  Curve data can transferred to Microsoft Excel® for further analysis

The mechanical properties are important physiologically, socially and emotionally. Physiologically they provide the strength and flexibility of the skin. Socially and emotionally, it is the mechanical properties of the skin that keep us looking youthful. Viscoelastic measurements provide an objective measure of the mechanical properties of the skin.

The Cutometer® has been recognized as a standard for measurement of elasticity and other biomechanical properties for many years. Used by many scientist to provide new discoveries in dermatology and cosmetology fields. The Multiprobe adapter function allows connection of further measurement probes (operated through a separate software).

MEASUREMENT PRINCIPLE

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The Cutometer® has a suction based measurement method. Negative pressure is created by the pump in the device. The negative pressure draws the skin into the aperture of the probe. Inside the probe is a non contact optical measuring system, consisting of a light source projected across the aperture to a light receiver, measuring the distance into the aperture that the skin travels. The resistance of the skin to being sucked into the aperture is determined by the firmness of the skin while the ability of the skin to return to its previous position is the elasticity. The results are displayed in a curve from which a series of interesting parameters can be calculated. The parameters calculated include the R-parameters, the F-parameters and the new Q-parameters.

FIELDS OF APPLICATION

-  Ideally suited for product development, claim support and efficacy testing
-  Used for research and clinical diagnosis, e.g. measurement on scars, gynaecology
-  Assessing elasticity in a range of research applications (e.g. nutrition, diabetes)
-  Other materials like food can also be assessed

SOFTWARE AND PARAMETERS

Using the software it is possible to calculate a lot of interesting parameters. The calculated data can be exported to Excel® for further analysis.

R-PARAMETERS

-  R0: This parameter represents the passive behaviour of the skin to force
-  R1: The ability of the skin to return to its original state
-  R2: Gross elasticity, the closer to 1 (100%) the more elastic
-  R3: Maximum amplitude of last and first curves compared to give "tiring effects" of skin
-  R4: Minimum amplitude of last and first curves compared to give "tiring effects" of skin
-  R5: Net elasticity, the closer to 1 (100%) the more elastic the skin
-  R6: Portion of visco-elasticity on the elastic part of the curve (the smaller the value the higher the elasticity)
-  R7: Portion of elasticity compared to complete curve, closer to 1 (100%) the more elastic

 R8: Ability of the skin to return to normal state

 R9: Tiring effects of the skin after repeated sucking, the smaller R9 the smaller the effect

F-PARAMETERS

 F1: Elasticity, the closer to 0 the more elastic (based on area of curve)

 F2: Area above the upper envelope curve

 F3: Area within the envelope curve

 F4: Firmness, the smaller F4 the greater the ability to resist suction

Q-PARAMETERS

 Q0: Maximum recovery area, decreases with increasing firmness of the skin

 Q1: Elastic recovery, higher with greater firmness

 Q2: Viscous recovery

 Q3: Viscoelastic recovery (overall elasticity), higher with more skin firmness

TECHNICAL INFORMATION

Device: Dimensions: 39 x 22.5 x 7.6 cm, Weight: 3.9 kg, Power supply: external 100-240 VAC, 47-63 Hz, DC 12V/9A, Port: USB Probe: Dimensions: 10.7 cm x \varnothing 2.4 cm, Weight: 165 g incl. air tube, Measuring aperture: 2 mm \varnothing standard (4, 6 and 8 mm \varnothing on request), Measurement principle: suction (pressure setting up to 500 mbar), Units: mm penetration depths shown as curves, Accuracy: \pm 3% Computer: Windows® XP, Vista or 7, performance must meet system requirements, USB 2.0. Technical changes may be made without prior notice.