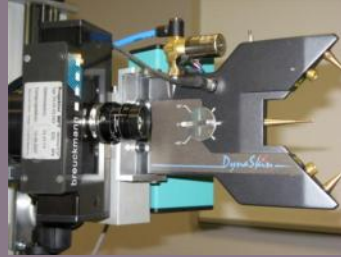


Skin measurement solutions: Firmness

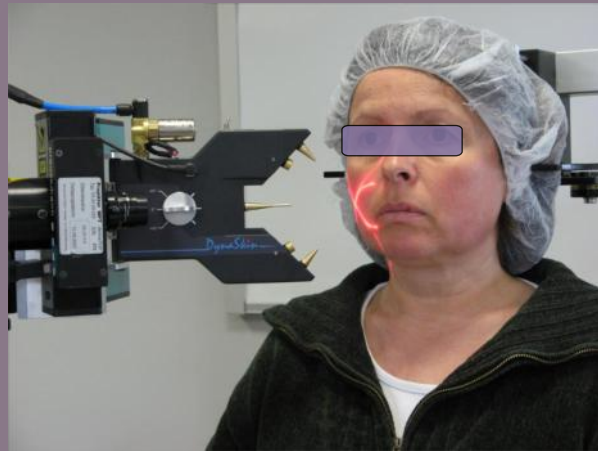
The Dynaskin is an add-on to the dermaTOP system to provide firmness evaluation with a complete non contact method. It produce a deformation close to the clinical approach by blowing air perpendicular to he area of interest or with a dedicated angle of 45°. The system can measure in any position. The 3D sensor using fringe projection technique capture before deformation the shape of the local surface, then when the deformation is applied, and just after it.



1: Dynaskin mounted on the dermaTOP sensor and control unit



2: Dynaskin in situation



Developped in collaboration with Orion-Concept

Performances:

Equipement: Blowing head with control system for non contact deformation
 Software: Acquisition/Processing of raw data/ extration and calculation of parameters
 Acquisition: In Vivo / Automatic / 3sec.
 Measurement locations: face and body
 Repetitivity Reproducibility (R&R): 2.40% (time/location effect - no user effect)
 Validation: Product effect/correlation with age

A dedicated software module compute automatically the difference between before and during the deformation providing the absolute deformation of the skin and sub-jacent tissues. Using the perpendicular air beam, the pure compression contribution of the skin and tissue are measured (firmness) while using the 45° angle introduce the sliding contribution effect on the tissues as well (mobility laxity). The air pressure can be set accordingly to obtain the desire deformation on different part of the body



3: dynaskin principle with 90° and 45° angle





Skin and body measurement



Applications:

The Dynaskin is suitable to measure firmness change before and after treatment under very reproducible conditions. These conditions are pressure, area of interest and sensor orientation to have an air beam perpendicular to the surface.

Because of the dermaTOP coupling, the system can measure anywhere on the body using the Viso-3D for the face and cellulite, tripods for any other part.

In its principal, this technique gives visual and quantitative, approach similar to real tactile perception of firmness and laxity of the skin and its sag. This system has been validated and compared to other reference techniques for both product efficacy evaluation and for studying skin typologies changes versus age.

SPECIFICATIONS:

Dimensions:

Weight:

angles: 90°, -45°, 45°

Air pressure range: 0.05 to 0.5N

Air pressure requirements: 4 bars min

Computed values:

- Max height, mean height, volume, area and circumference of the deformation
- Deformation anisotropy

Expected parameters :

- Tension, Firmness, Laxity / Plasticity
- Isotropy of skin mechanical characteristics (Forthcoming)

Measured zones :

- Face : sides, eye bags, front, chin, neck
- Body: all locations (Leg, knee, belly, abdomen, haunch, back, arm...etc.

Product claims :

- Firmness, Restructuring (Anti-ageing, body care, fitness, draining, tonic, oval of face, lifting...)
- Tension effect (Anti-ageing, anti-wrinkles, lightening...)

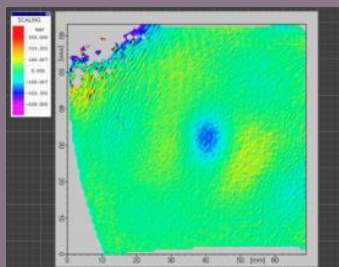


Alignment and positioning

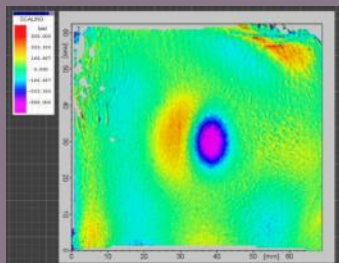
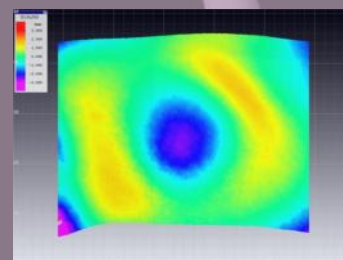
deformation and acquisition



Young subject

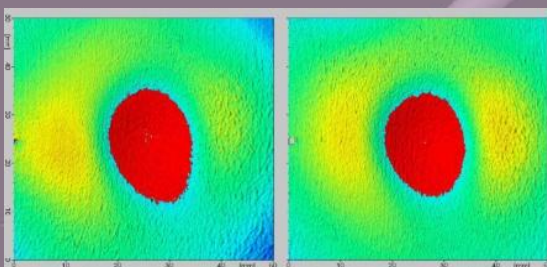
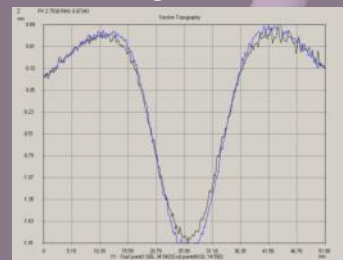


3D results of the deformation



Old subject

Sections through the deformation



deformation analysis: volume, depth, area