

**What Does It Measure?**

The Visioscan® VC 20plus is a unique **LED UV-A light video camera** with high resolution to study the skin surface directly. The images show impressively the **structure of the skin** and the level of dryness/sca-liness on the skin. With its multi-functional software, the Visioscan® VC 20plus is a very flexible system to characterize skin surface condition easily, accurately and very economically.

**The Measuring Principle**

The camera features a **high resolution b/w video sensor and a LED UV-A light** source with circular diffusor for uniform illumination of the skin. **Autofocus** function is provided by the liquid lens system.

**Fields of Application**

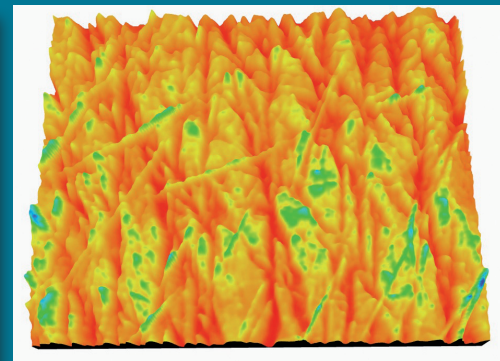
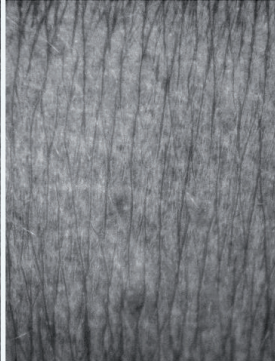
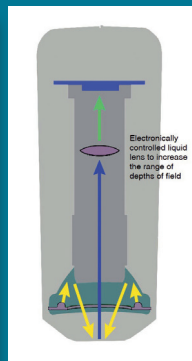
- **Efficacy testing & claim support** for cosmetics, pharmaceuticals and detergents, regarding skin roughness and microtopography.
- Typical claims: e.g. improves **skin texture**, anti-ageing, wrinkle smoothing, fighting dry skin.
- Dermatological **basic research**.

**Advantages**

The new Visioscan® generation with improved hard- and software offers a multitude of possibilities:

- Very sharp, **high resolution** & non-glossy images due to special LED UV-light and diffusor.
- Electronically controlled lens (autofocus) for **maximum depth of focus**.
- **Easy handling** of the ergonomic camera and the comfortable software.
- Worldwide established method used in **many studies**.

- A **check calibration function** ensures the accuracy of geometry of the camera.
- Quick and easy display of **“3D” images** in false colour or grey values.
- The extremely **economic** system can easily compete with the more expensive, complex devices.
- **Convenient organisation** of images and results in studies. Evaluation of all data together by one click.
- Easy **filter and export functions** of data to Excel® are integrated.
- A Visioscan® based system was even used on the **ISS in space** (Study by DermaTronnier, instruments verified for space by Kayser-Threde GmbH on behalf of the DLR space travel management).
- The Visioscan® VC 20plus can be combined with the **Skin Visiometer® SV 700**.



**Technical Data**  
 Dimensions: 12.6 x 5.8 x 5.0 cm; Weight: 230 g; Image size: 10 x 8 mm; Sensor resolution: 1/2» B/W CMOS-sensor 1.3 MPix (1280x1024 pixels); Light source: UV-A LED approx. 390 nm (no hazard for normal human skin); Objective 20 mm; f/2.8  
 Connection box: Dimensions 14 x 5.5 x 15 cm; Weight 1 kg; Interface: USB 2.0, type B connector  
 Power supply: Input: 110-250 V, 47-63 Hz, Output: DC 12V/4A  
 Measurement principle: optical, reflected light from skin

Technical changes may be made without prior notice.

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**Software & Parameters**

The camera system is connected to the computer by USB. A variety of interesting parameters can be determined:

- The evaluation method **SELS®** (Surface Evaluation of the Living Skin - developed by the Institute for Experimental Dermatology, Prof. Tronnier, University of Witten-Herdecke, Germany) analyses the grey level distribution and allows the calculation of **four clinical parameters** to quantitatively and qualitatively describe the skin surface as an index:

- Skin smoothness ( $SE_{sm}$ )
- Skin roughness ( $SE_r$ )
- Scaliness ( $SE_{sc}$ )
- Wrinkles ( $SE_w$ )

- For **topographic measurement** according to DIN, lines are drawn on the images and the profile and the results are shown directly. Roughness indices for up to 180 lines arranged vertically, horizontally or circularly are immediately available.
- To describe virtually the skin topography **volume (mm<sup>2</sup>) and unfolded surface in %** special parameters were created.
- Ageing parameters** such as anisotropy (directionality of the lines) and cell size (closed polygons between the visible lines) are at your disposal.
- Lines and free-hand objects** can be drawn in the picture. They **can be measured** accurately (e.g. length of hair after shaving, hair thickness, pigmented spots and lesions, etc.).
- Evaluation of **desquamation** (scaliness/dryness) of the skin with the foil Corneofix® F 20. A desquamation index is calculated.
- Determination of **sebum production** with the foil Sebufix® F 16. The sebum production of each sebum gland can be monitored impressively in real time on the screen. The sebum spots are evaluated by size and number. During the measurement a gradient for the sebum production is displayed.
- Images with **all results** are shown side by side.

SEr (Roughness)	1.26
SEsc (Scaliness)	2.46
SEsm (Smoothness)	334.37
SEw (Wrinkles)	39.98

SEr (Roughness)	1.79
SEsc (Scaliness)	0.11
SEsm (Smoothness)	174.51
SEw (Wrinkles)	46.02

#	Length/mm	Min GL	Max GL
1	1.74	35	189
2	1.72	24	153
3	1.01	68	187
4	0.11	45	80
5	1.9	57	216
6	0.66	38	108

#	Area/mm <sup>2</sup>	Circumference/mm	Mean GL	Range	Mean Deviation
1	0.82	5.02	73.81	107	15.14
2	7.11	16.74	70.43	176	18.4

Cell size (mm)	0.01-0.05	0.05-0.1	0.1-0.2	0.2-0.5	0.5-1	1+
Cell count	11	3	2	5	10	13

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