



New. Compact. skintrek PT3.

Digital Phototherapy.
Treats skin lesions with automated
high contour precision.



skintrek[®] PT3



Digital phototherapy with skintrek® PT3

Skintrek® PT3 digital phototherapy device is a modern, medical device created to treat skin diseases and conditions:

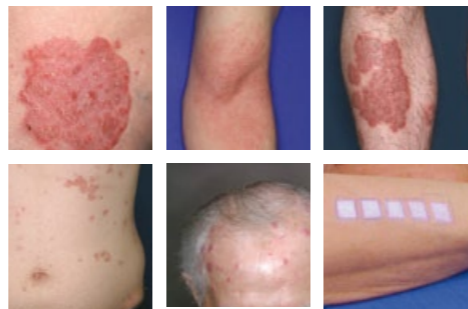
Treats the following:

- Psoriasis
- Vitiligo
- Eczemas (i.e. neurodermatitis)

Offers:

- MED / MPD value determination
- Photopatch testing

The therapeutic efficiency of phototherapy is proven in the treatment of many skin diseases. Compared to therapies using medication, it is often more effective and considerably more affordable. During treatment, the UV-exposure of skin lesions is performed with high contour precision, in a very localized and selective manner.



Benefits of digital phototherapy

With the use of digital phototherapy it is possible to treat skin lesions with high contour precision using either UVA or UVB rays. Compared to the common phototherapy, the core benefits are:

- no UV exposure to healthy skin
- minimized carcinoma risk
- prevention of therapy-related skin ageing and pigmentation of healthy skin
- fewer sessions for treatment of psoriasis



Phototherapy device skintrek[®] PT3

Automatic detection of lesions

The patented skintrek[®] technology and the camera within the exposure head allow automatic and precise detection of diseased lesions on the patient's skin.

Precise and automated UV-dosage

The dosage and application of the UV rays can be precisely calculated for each individual treatment. For example, UV-dosage will gradually decrease around the edges of the lesion, and stop automatically when edge is reached.

The topology of the skin surface is automatically calculated. Skin areas that lie at an angle to the incidence angle of the rays are also treated with the exact dose.

Easily adjustable exposure head

The exposure head is easily adjusted and positioned by hand. With the exposure size of 277 mm x 208 mm large areas of the body can be irradiated in one step.

Automatic motion tracking

The patient does not have to be immobilized during the treatment as small movements will be detected and tracked.



Switchable UV-spectrums

Depending on the pattern of disease the UV-spectrum output of the skintrek[®] PT3 can easily be switched from UVA (320 – 400 nm) to UVB (300 – 320 nm).

Easy to control software interface

An easy to use software interface allows the doctor to adjust the exposure area before treatment is started.

Automated digital pictorial documentation

Photos can be taken at each therapy session and saved to the device for accurate tracking of the lesions being treated.

Specifications

Dimensions (L x W x H): 1.086 mm x 656 mm x 1.280–2.054
Weight: approximately 70 kg

Power: 230 V~, 50 Hz (L/N/PE), max. 1.000 Watt

UV-Spectrum (choice):

UVA, 320–400 nm

UVB, 300–320 nm



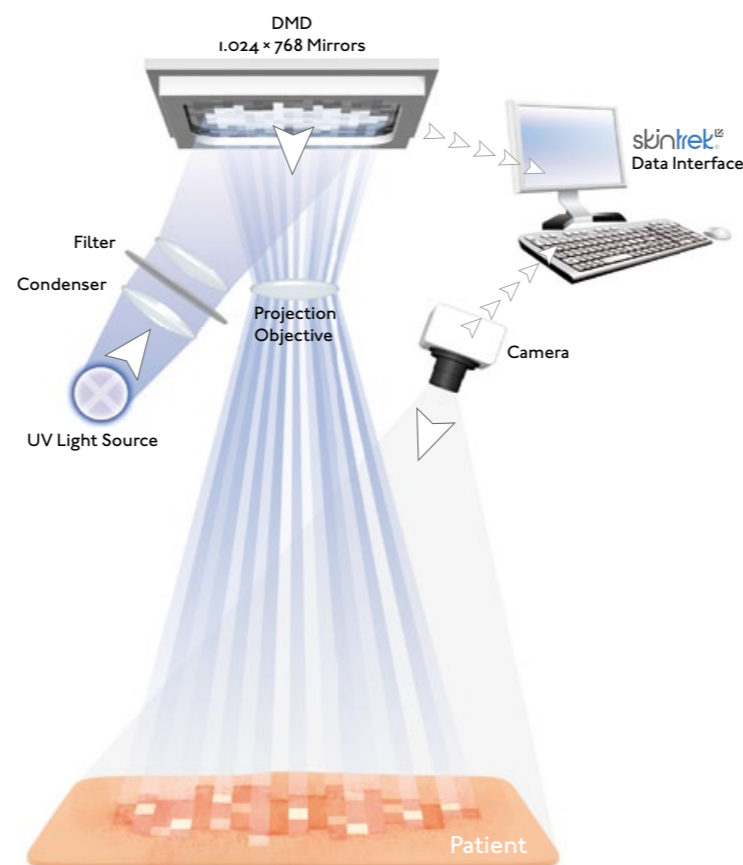
The skintrek® technology

Continuous rays from the UV-light source are bundled and filtered in such a way that either UVA rays (with a spectrum of 320–400 nm) or UVB rays (with a spectrum of 300–320 nm) reach the digital light modulator (DMD, Digital Micro mirror Device). The DMD then digitizes the UV light in approximately 800,000 individual, controllable single rays (“pixel-rays”).

These pixel-rays are then projected onto the skin surface. Each pixel-ray is approximately 0,27 mm × 0,27 mm.

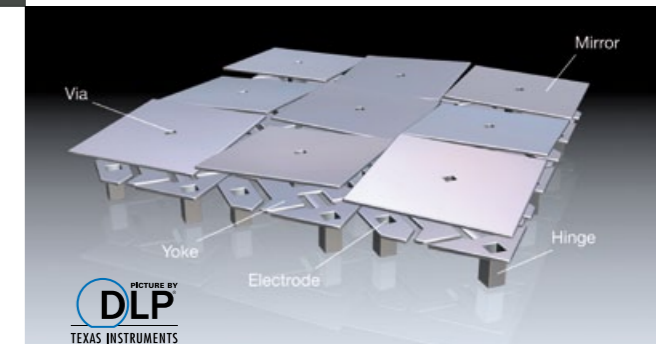
The combination of data from an automated image recognition and a dosage calculation allows that only pixel-rays are activated that affect diseased skin areas (lesions).

To automatically detect the affected skin areas (lesions) the exposure head is equipped with a special camera. The image camera data is processed by the computer and the contours of the lesions are defined precisely along their edges. It is possible to adjust the irradiance areas at any time.



The calculation of the required dose is based on the treatment data of the doctor and the topological information of the skin surface. The topological data is previously calculated in a separate process. This ensures a very precise and accurate dosage of the affected area in comparison with UV-exposure cabins or treatments using UV-lasers. The doctor is able to choose from a multitude of dosage profiles, for example a lower dosage near the edge of a lesion.

skintrek® technology allows the patient to lie freely on the table. Slight movements of the patient are registered by the camera causing the UV-exposure to be automatically adjusted within fractions of a second. No healthy skin will be exposed to UV-rays even if the patient moves during the treatment.

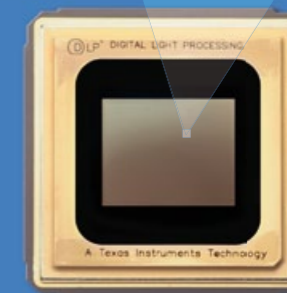


PICTURE BY
DLP
TEXAS INSTRUMENTS

The digital light modulator - DMD

Texas Instruments developed the DLP™ technology that is used to digitally modulate the pixel-rays.

The DMD is micro-mechanic semiconductor consisting of a matrix of 768 × 1024 tiny micro mirrors (size of 11 μm × 11 μm). Each of them can mechanically be tilted by ± 12°.





more information:
www.skintrek.com



Contact

Lüllau Engineering GmbH
Auf dem Schmaarkamp 21
D-21339 Lüneburg

Tel +49 4131 709799-0
Fax +49 4131 709799-90
info@luellau-engineering.de

