Technical data*

Type	HILARIS® FL 250 blue	HILARIS® FL 1000 blue
Output power	250 mW	1000 mW
Wavelength	405 nm	404 nm

Laser classification: 2 according to EN 60825-1:2014
*subject to modifications and amendments

Dimensions and weights:

Control unit HILARIS® CONTROL:	196 x 310 x 123 mm, approx. 4 kg
Surface irradiation adapter HILARIS® FL:	164 x 110 x 50 mm, approx. 1 kg
Blood irradiation adapter HILARIS® HAEMO:	60 x 60 x 30 mm, 0.2 kg
Device trolley HILARIS® CART:	600 x 1000 x 600 mm, 11 kg

Quality controlled manufacturing from Austria

Regularly monitored, documented in individual test protocol.

Additional specifications

- long lifespan of at least 20,000 hours through the application of highest quality materials and components
- all performance powers in the visible wavelength range
- individual positioning possibilities through innovative, flexible swivel head
- 3 years guarantee

CE 1304

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HILARIS® FL/HAEMO blue
Low-Level-Laser

HELTSCHL Medizintechnik

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Biological effect of the blue laser light

Proliferative effect of the blue laser light

The DNA synthesis is significantly increased by irradiation with red or blue light, although in the blue wavelength range a required dose is a tenth of that necessary in the red wavelength range.
The clinical effects are on the one hand accelerated cell proliferation, and as a result better bone, cartilage, tendon and nerve growth, and accelerated scar-free wound healing.

Generation of oxygen radicals by means of blue laser light

Light is able to regulatively generate radicals in the body. This can happen through increased electron transport in the respiratory chain, as cytochromes, flavins and endogenous porphyrins are stimulated by the action of the laser. Another possibility is the stimulation of NADPH oxidase in the cell membrane of certain phagocytes. This process serves as a defence against pathogens. In low concentrations, oxygen radicals act like messengers that stimulate DNA synthesis.
This leads to increased proliferation of fibroblasts and improved wound healing.

Bacteria elimination by means of blue laser light

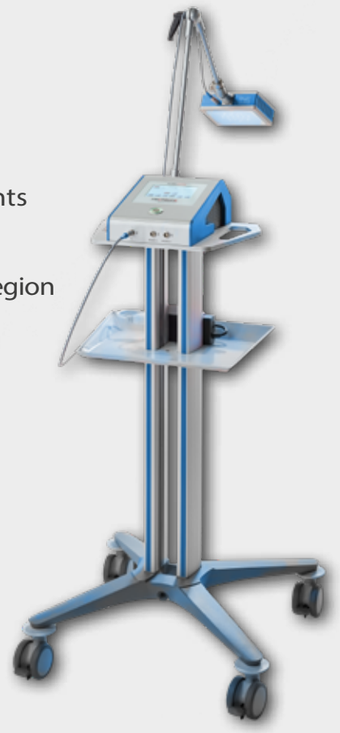
Blue light activates porphyrins, which are produced by bacteria themselves. A photodynamic reaction occurs in which oxygen radicals are formed. These oxygen radicals can cause damage to the bacteria, in which the singlet oxygen produced in particular has a cytotoxic effect on the cell membranes due to oxidation processes

Indications for local irradiation with blue laser light

- Local irradiation of psoriasis plaques
- Atopic eczema
- Chronic and bacterially infected wounds and wound environments
- Acne
- Reduction of pathogenic germs in the dental, oral and maxillofacial region

Indications for intravascular blood irradiation with blue laser light

- Improvement of wound healing in ulcus cruris in combination with local low-level-laser therapy
- Pain therapy for rheumatic diseases
- Reduction of blood glucose levels in type II diabetes patients
- Tinnitus
- Chronic and acute liver diseases



Technical advantages of the area laser HILARIS® FL

- Multifunctional control unit:

  All device functions are controlled by a 5“ touch-screen. Preferred base settings can be preinstalled for a quick and easy handling.

- Shortest therapy times:

  With an output power of up to 1000 mW also big surfaces can be treated within shortest times effectively.

- Low protection measures:

  Through the classification in the laser class 2 the laser registration and the appointing of a laser safety officer are no longer necessary. It is recommended to wear laser protection glasses.

- Integrated dosage recommendations:

  Study based and practically tested dosage recommendations can be accessed in the device.

- Upgradable for intravasal laser blood irradiation (Haemo-Laser® - Therapy)
- Ergonomic design for comfortable and safe working.
- Study based and practically tested dosage recommendations can be accessed in the device.