Operating manual

HANDcure

Translation of the original operating instructions

This operating manual must be kept permanently at hand at the location of the IST® device and must be read carefully by the operating staff.

Further language versions on: www.ist-uv.com/handcure

Please observe all safety instructions.

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Imprint

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EC/EU DECLARATION OF CONFORMITY

The manufacturer

IST METZ GmbH
Lauterstraße 14-18
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hereby declares that the design of:

Device type: IST® HANDcure

from batch no.: 62114172

complies with the following European directives and harmonized standards.

Relevant EC/EU Directives:

2014/30/EU	Electromagnetic Compatibility Directive
2015/35/EU	Directive on the provision of electrical equipment for use within certain voltage limits on the market
2011/65/EU	Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment

Applied harmonized standards:

EN 60335-1:2012 + AC:2014 + A11:2014 + A13:2017

EN 62233:2008 + AC:2008

EN 55014-1:2016, EN 55014-2:2015

IEC/EN 62471:2008

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Definition of Symbols

Stop (Stop Danger). This symbol warns of serious danger of severe injury to persons. It must be strictly observed.

Attention (Warning). This symbol indicates information the non-observance of which can lead to extensive damage to property. The safety warning must be strictly observed.

Information. This symbol indicates key information on use. Non-observance can lead to failure.

5 Page number

Warranty

Warranty

The manufacturer‘s warranty expires in case of improper operation and improper use, as well as unauthorized modifications to the HANDcure or components supplied by IST METZ GmbH

1 SAFETY

Safety information

Read all the safety information and instructions carefully. Ignoring safety information and instructions may result in electric shock, fire or severe injuries.
Use the HANDcure and accessories in accordance with these instructions

1.1 UV light

Danger

The UV light emitted by the HANDcure presents risks.

Never look into the light source, as this can cause permanent damage to the eyes. Never point the light source directly at people or animals.
To prevent uncontrolled emission of light, wrap the safety loop around your wrist.
Always wear the safety gear provided (gloves and glasses). Long-sleeved clothing is recommended.

People without safety gear must maintain a safety distance of 4 m from the light source when it is being operated.

Reflected light

To prevent risks from reflecting UV light, maintain a distance of at least 750 mm between unprotected skin and the object being irradiated.
In addition, the object to be irradiated should be placed on a dark, matt surface.

1.2 Operation of the Unit as Directed

The “HANDcure” hand-held UV device is constructed in accordance with both the state of the art and recognized safety regulations. Nevertheless, if it is not used properly or in accordance with its intended purpose, it may present hazards to the health of the user or of third parties or damage may be caused to the device itself or to other assets.
This device is a UV light source typically used in cross-linking and detection.

Prerequisite

Operation of the device in accordance with intended use assumes that the operating and servicing specifications and the safety information they contain are followed and that the HANDcure is operated only when it is in a safe state to do so.
Any use outside this scope is considered not in accordance with purpose.
The manufacturer will not be held liable for damages or for risk to life and limb arising from such use.

Users

Only trained or instructed specialists may operate the device.

Do not allow persons who are unfamiliar with the HANDcure or who have not read these instructions to use it.

Keep the device out of the reach of children.

1.3 Improper use

Product misuse

The HANDcure is used in curing and detection by means of long-wave UVA light. This includes the cross-linking of UV adhesives, the cross-linking of UV-cured sealing compounds and resins and the detection and inspection of material properties and particle contamination.
The device may only be used for the specified sphere of application.
If the HANDcure is used in a different way, the manufacturer will not accept any responsibility. The user acts at his own risk.
Product misuse covers using the device for tanning purposes or to illuminate a room, for example.

Modifications

Autonomous modifications to the HANDcure are prohibited for safety reasons.

Spare parts

Return the device to the manufacturer for repairs.
Do not switch on the device if device parts are missing or defective.
Always contact IST METZ GmbH directly.

Repairs

If repair work is carried out on this device by unauthorized persons, the risk of danger increases. As a consequence, any claim on IST METZ GmbH for warranty or liability will be excluded.

1.4 Safety Instructions

Front screen

If the HANDcure is operated without the safety loop wrapped around your wrist, then if it drops in an uncontrolled manner, the front screen may break resulting in a risk of cuts.
Do not operate the device with a defective screen or without a screen.

Risk of burns

Depending on the duration of irradiation, the front screen and the plastic frame will be heated up by the UV radiation emitted, so never handle the front screen or its immediate environment directly.
Keep the front screen clean to prevent it overheating. Clean it with a lint-free cloth and pure alcohol.

Ambient conditions

Do not work in an environment at risk of explosion consisting of flammable liquids, gases or dusts. The device may produce sparks which may ignite the dust or vapours.

Keep the HANDcure away from heat and fire.

Do not use or store the device in the rain or where there is high humidity. Operate the device only in a moderate climate.

Observe the specified storage temperature of between +10 °C and +25 °C. If the product is brought from a cold room into a warm one, condensation may form.

Stationary operation

It is possible to fix the HANDcure in a bracket or jig using two threads at the sides.
If this is necessary for reasons of application technology, the device must be securely fixed in position and screened.

Taking out of operation

Always switch off the HANDcure and remove the rechargeable battery when the device is not in use.

Battery

Only use the enclosed charger to charge the rechargeable batteries. Ignoring this instruction creates a risk of fire.

Use only the rechargeable batteries intended for the purpose. Ignoring this instruction creates a risk of injury.

In general, note the information below:
- Keep battery packs out of the wet!
- Do not use defective or deformed battery packs!
- Do not open battery packs!
- Do not short-circuit the contacts of the battery packs!
- Do not expose battery packs to fire!
- A slightly acid flammable liquid may escape from defective Li-ion battery packs!

If the skin is contaminated with battery liquid, rinse it off with plenty of water. If battery liquid gets into the eyes, flush the eyes with clean water. Then obtain medical treatment without delay!

1.5 Symbolism

Warning of UV radiation
Exposure can lead to irritation of the eyes or skin. Ordinary individuals are forbidden to use it. Use suitable screens. According to EN 62471, the HANDcure was classified in Risk Group 3.

Safety gear required
It is essential to avoid visual contact with the illuminated LED. Wear the safety glasses and safety gloves enclosed with the HANDcure.

2 DESCRIPTION OF THE UV-TECHNIQUE

2.1 Process of UV-Drying

Principle

UV crosslinking is a chemical process. The action of UV light cross-links the liquid constituents of the binder.
We refer to this as polymerization and thus curing.

2.2 UV-Radiation

Electromagnetic Radiation

Visible light at wavelengths between 380 nm and 780 nm represents just a fraction of potential electromagnetic rays. Light at wavelengths greater than 380 nm is perceived as blue to violet. The human eye is unable to perceive the radiation of wavelengths in the ultraviolet range, which is even shorter.

Generation of UV radiation by UV LEDs

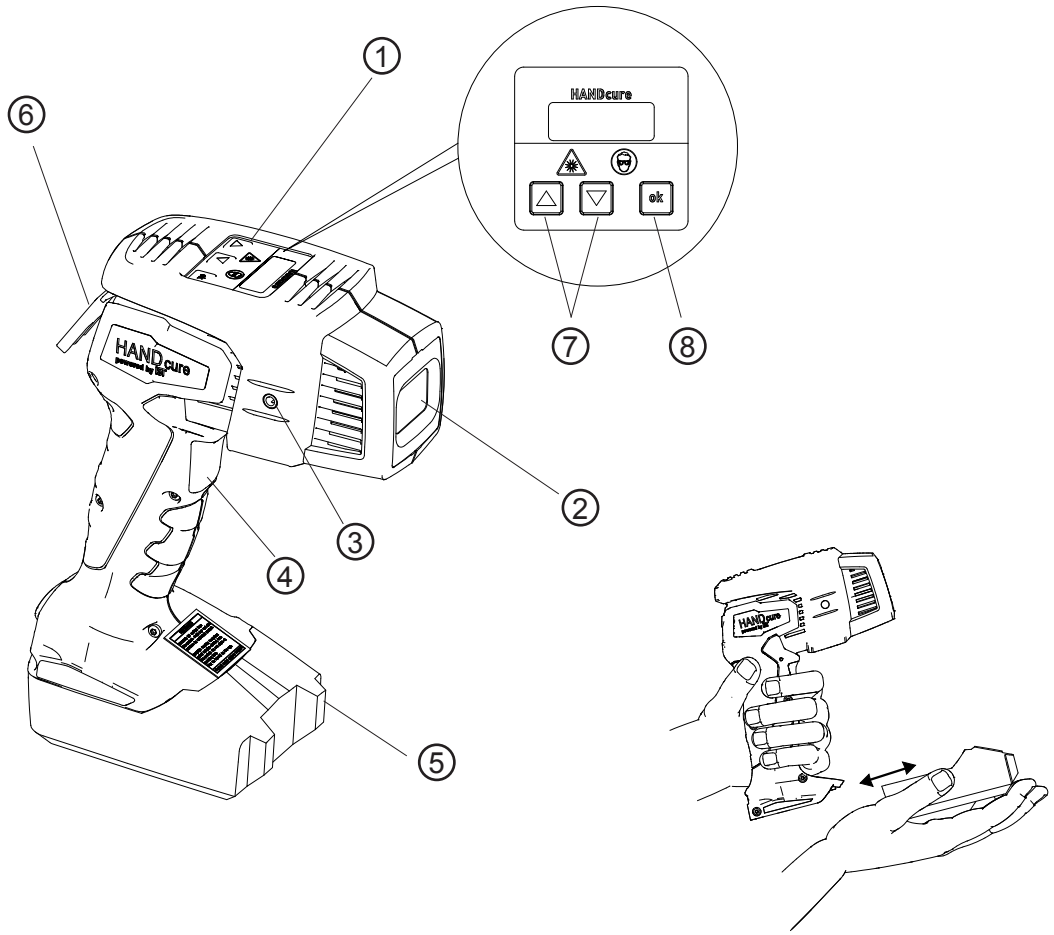
LEDs are based on semiconductor connections which convert the current directly into light. If current flows through an LED in the forward direction, it emits energy in the form of light. Each LED can only give off light in a narrow spectral range depending on the material used for the semiconductor component. Typical LED systems work in the wavelength range from 365 nm.

Hazard from UV radiation

Natural UV radiation causes skin cells to change (tan), ultimately developing sunburn. Artificially generated UV-radiation, however, is much more intensive than the sun's radiation to earth, creating a hazard to eyes, lips and skin, in particular.

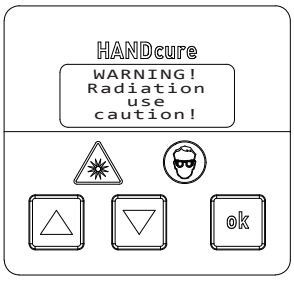
UVA rays may lead to irritation of sensitive mucous membranes in the eye and under certain circumstances, also to skin irritation.

3 START UP



① Display with control panel
② Front screen
③ Attachment thread (on both sides)
④ OFF/ON -Switch
⑤ Battery pack
⑥ Fastening for wrist strap
⑦ Up/Down arrow keys
⑧ oK key

3.1 Starting

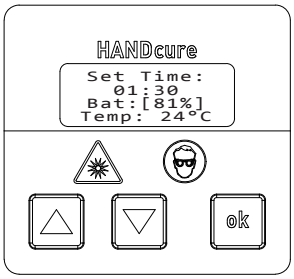


Insert the battery pack until it engages

The warning below appears in the display:
WARNING! - Radiation, use caution!

Safety glasses and gloves must be worn!

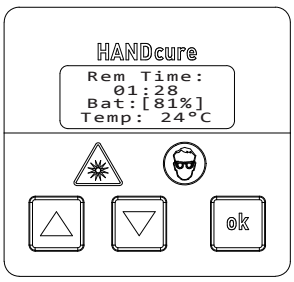
Confirm the warning with the oK key



The following variables are displayed:
- Set Time (exposure time) in min
- battery capacity in %
- LED temperature in °C

Setting exposure time:
Press the Up/Down arrow keys
- in increments of 1 s from 0 to 2 minutes
- in increments of 10 s from 2 to 10 minutes
- in increments of 1 min from 10 minutes

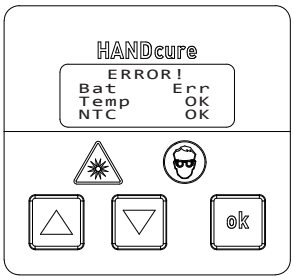
Starting exposure:
Press the On/Off switch to start the set exposure time



The exposure phase starts after 3 brief warning pulses.
The preset time elapses. The exposure phase ends when the set time elapses

Switching off:
Exposure can be interrupted at any time using the On/Off switch.

3.2 Error messages



Error messages are shown under ERROR.
- Battery capacity too low
- Temperature of LEDs too high (90 °C)
- Temperature measurement errors

If the error is no longer current, the message can be acknowledged by pressing and holding the oK key

3.3 Cleaning

Check the front screen for dirt before using the device and, if required, clean it with a lint-free cloth and alcohol.

Take out the battery pack of the HANDcure before cleaning it.

Do not clean the device using aggressive cleaning agents.

The contacts and the front screen must be dry before the battery pack is put back in.

3.4 Recycling

Recycling

Device, accessories and packaging should be routed into environmentally-friendly recycling programs.

Disposal

Do not dispose of electrical goods in domestic waste! According to European Directive 2002/96/EC pertaining to waste electrical and electronic equipment, used electrical goods must be collected separately and routed into environmentally-friendly recycling programs.

Before disposing of the device, discharge the battery pack in the electrical equipment. Secure the contacts against being short-circuited (with adhesive tape, for example).

4 TECHNICAL DATA

4.1 HANDcure

Operating voltage:	15 – 18 VDC
Power consumption:	30 W
Spectral range (standard):	365 – 415 nm
Spectral range (option):	395 nm
Spectral range (option):	385 nm
Angle of aperture:	~ 90°
Operating temperature:	-10°C – +38°C
Storage temperature:	+10°C – +25°C
Weight:	1 kg [2 Ah] – 1,25 kg [5,2 Ah]

4.2 Accessories

Charger

Mains connection EU:	220 – 240 V / 50 Hz / 60 Hz
Mains connection USA:	115 VAC / 60 Hz
Power input:	85 W
Output:	12 – 42 VDC
Operating temperature:	0°C – +50°C

Batteries

Capacity	Operating period	Charging time	Quick charging time*
2,0 Ah	65 min	40 min	40 min
4,0 Ah	130 min	80 min	35 min
5,2 Ah	170 min	100 min	45 min

* Values for optional quick charger