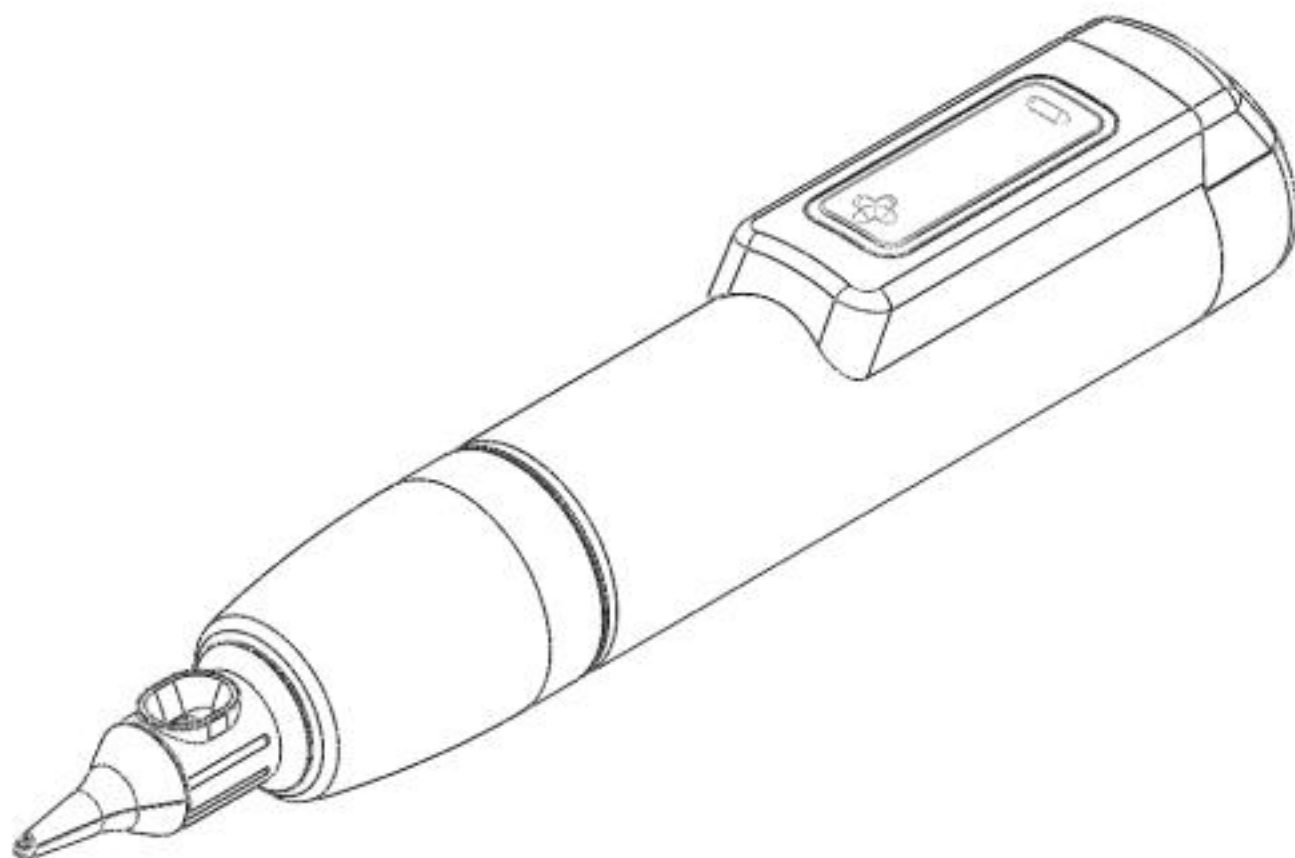


H4

3.0



Gebrauchsanweisung
Operating instructions
Instrucciones de uso

Manual de instruções
инструкции
kullanım kılavuzu

Instructions
说明

 **NOTE:**
Follow these
instructions for use
for proper and safe
use.
Keep them in a safe
place for later use.

Illustration types used

Instructions for action

Perform an action as follows:

- 1. Do this.
- 2. Do that.
 - ◆ This is the interim result.
- 3. Do that.
 - ✓ You have performed the action.

Danger classes and advice

 WARNING	Life-threatening injury
 CAUTION	Minor to moderate injury
ATTENTION	Property damage possible
 NOTE	Advice / useful information

© MT.DERM GmbH

These instructions for use are protected by copyright.
All rights reserved, in particular the right of
reproduction and electronic processing.

Table of contents

1	Safety	6
1.1	Intended use	6
1.2	Misuse	6
1.3	Warning signs	6
1.4	Requirement signs	7
1.5	Qualification	7
1.5.1	Required qualification	7
1.5.2	Personal protective equipment	7
1.6	Limited abilities	7
1.7	Basic security	7
1.7.1	Modifications	8
1.8	Contraindications	8
1.9	Risks and dangers	9
1.9.1	Explosion hazard	9
1.9.2	Toxic substances	9
1.9.3	Poor hygiene	9
1.9.4	Risk of stabbing and cutting	10
1.10	Adverse effects	10
1.11	Behaviour in an emergency	11
2	Product description	12
2.1	Functional description	12
2.2	Scope of delivery	12
2.3	Symbols on the product	13
2.4	Available accessories and consumables	13
2.5	Technical data	14
2.5.1	Ambient conditions	14
2.5.2	Dimensions	14
2.5.3	Operating values	14
2.5.4	Charger data	15

2.5.5	Battery data	15
2.6	Material compatibilities	16
2.6.1	Standard disinfectant	16
2.6.2	Other disinfectants	16
2.7	Operating concept	17
2.7.1	Operating elements	17
2.7.2	Error displays and device warning signals	17
2.7.3	Navigation	18
3	Transporting, storage, unpacking	19
3.1	Transport	20
3.2	Storing	20
3.3	Unpacking	20
4	Prepare for use	21
4.1	Disinfecting the equipment	21
4.2	Working on the battery	22
4.2.1	Charging the battery	23
4.2.2	Replacing the battery	25
4.3	Attaching the protective tube	26
4.4	Installing the tattoo module	27
4.5	Checking the equipment	29
5	Use	30
5.1	Preparation on the person to be tattooed	30
5.2	Start and stop	30
5.3	Needle protrusion	30
5.4	Penetration frequency	32
5.5	Steady Mode and Responsive Mode	33
5.5.1	Steady Mode	33
5.5.2	Responsive Mode	33
5.6	Picking up ink	33

Operating instructions

Table of contents

6	Faults, messages, and errors	34
6.1	Procedure in case of faults	35
6.2	Unstable needle protrusion.....	35
7	Care	36
7.1	Periodic inspection	36
7.2	Cleaning	36
7.2.1	Surface	37
7.2.2	Clean the grip in an ultrasonic bath	37
7.2.3	Sterilising a contaminated handle in an autoclave	38
7.2.4	O-rings	38
7.3	Repair.....	38
8	Storage and disposal.....	39
8.1	Repacking and storage	39
8.2	Disposal and recycling	39
9	Annex.....	40
9.1	Warranty statement	40
9.2	EU/EC Declaration of Conformity.....	41

List of figures

Figure 2-1:	Scope of delivery	12
Figure 2-2:	Symbols on the product	13
Figure 2-3:	Operating elements	17
Figure 4-1:	Unscrewing the grip	22
Figure 4-2:	Screwing on the grip	22
Figure 4-3:	Charger polarity	24
Figure 4-4:	Turn the cap with bayonet locking and remove it.	25
Figure 4-5:	Removing the battery	25
Figure 4-6:	Inserting the battery	25
Figure 4-7:	Put the cap on and close it.	25
Figure 4-8:	Unscrewing the grip	26
Figure 4-9:	Pulling on the protective tube	26
Figure 4-10:	Tightening the grip	26
Figure 4-11:	Unscrewing tattoo module	28
Figure 4-12:	Pulling out tattoo module	28
Figure 4-13:	Inserting the tattoo module	28
Figure 4-14:	Latching the tattoo module	28
Figure 5-1:	Increasing the needle protrusion.	31
Figure 5-2:	Reducing the needle protrusion ..	31
Figure 5-3:	Alternative: Ink opening	33

List of tables

Table 2-1:	Identification features	12
Table 2-2:	Ambient conditions	14

Table 2-3:	Dimensions	14
Table 2-4:	Dimensions	14
Table 2-5:	Charger data	15
Table 2-6:	Battery data	15
Table 2-7:	Disinfectant	16
Table 3-1:	Dimensions transport case	20

1 Safety

1.1 Intended use

The H4 is to be used in the commercial sector.

The H4 is a professional tattoo machine for tattooing human skin.

These instructions for use do not contain all the information required for the safe operation of H4 and its accessories. Please also note the following documents:

- Information on tattoo modules and tattooing inks,
- Safety data sheets for disinfectants and cleaning agents,
- Workplace safety regulations and legal requirements for tattooing.

1.2 Misuse

Any other or additional use of the H4 other than that described in the chapter “1.1 Intended use” is considered improper and thus inappropriate.

Misuse is defined as, in particular failure to comply with the specified environmental and operating conditions for the use of H4 as set out in Section 2.5.1 “Operating Conditions,” use of colors other than approved by MT.DERM GmbH, or tattooing animals.

1.3 Warning signs

	General warning
	Substances harmful to the skin
	Danger from batteries
	Biological hazard
	Electrical voltage
	Toxic substances
	Pointed object

1.4 Requirement signs



Observe instructions



Use hand protection (protective gloves)

1.5 Qualification

1.5.1 Required qualification

The tattooing machine must only be used by persons who have acquired the following knowledge:

- basic knowledge of the tattooing process, in particular the correct puncture depth and frequency
- Knowledge of hygiene and safety regulations (see chapter “1.9 Risks and dangers” on page 9)
- Knowledge of what the tattooing ink does under the skin
- Knowledge of risks and side effects (see chapter “1.9 Risks and dangers” on page 9 and “1.10 Adverse effects” on page 10).

1.5.2 Personal protective equipment

Always use disposable nitrile or latex gloves when working with or on the H4.



1.6 Limited abilities

Persons with reduced physical, sensory, or mental abilities or persons with a lack of experience or knowledge must not use the H4.

There is a risk of suffocation from plastic bags and if swallowed.

Keep children away from packaging material (e.g., film, polystyrene) and H4.

Children will underestimate the danger of using electrical appliances.



Rechargeable batteries can be life-threatening. Keep batteries out of reach of small children accordingly. Medical assistance must be sought immediately if a battery has been swallowed.



1.7 Basic security

Special safety provisions may apply to particular activities. Safety notices and warnings can be found in the respective chapters of these instructions for use.

Ensure that the safety notices in these instructions for use are observed. Read these instructions for use carefully, especially the safety-related information, and adhere to these instructions for use before using the H4.

1 Safety

1.8 Contraindications

Only work with the H4 if you can perform the work reliably. **Do NOT** use the H4 if your ability to react is affected, e.g., by drugs, alcohol, or medication.

1.7.1 Modifications

Modifications of the H4 are strictly prohibited.

Please discuss any necessary modifications with MT.DERM GmbH in advance and obtain written authorisation.

Otherwise, your warranty and guarantee rights will be voided, and a new conformity assessment may be necessary.

1.8 Contraindications

The H4 **MUST NOT** be used:

- in cases of haemophilia or other blood clotting disorders,
- while taking blood thinners (e.g., acetylsalicylic acid, heparin, aspirin, warfarin),
- in cases of uncontrolled diabetes mellitus,
- in cases of any form of active acne in the skin area to be tattooed,
- in cases of dermatoses (e.g., skin tumours, keloids, or extreme tendency to develop keloids, solar keratosis, warts, and/or moles) in the skin area to be tattooed,

- if there are any open wounds and / or eczema and / or skin rashes in the skin area to be tattooed,
- if there are any scars in the skin area to be tattooed,
- in cases of systemic infections and infectious diseases (e.g., hepatitis type A, B, C, D, E or F, HIV infection) or acute localised skin infections (e.g., herpes, rosacea),
- during chemotherapy, radiotherapy, or high-dose corticosteroid therapy (recommendation: from four weeks before the start to 4 weeks after the end of therapy),
- for up to 12 months after cosmetic surgery in the skin area to be tattooed,
- for up to 6 months after filler injections in the skin area to be tattooed,
- under the influence of alcohol and / or drugs,
- during pregnancy and breastfeeding.

Treatment must be **STOPPED IMMEDIATELY** if the tattoo recipient experiences excessive pain, fainting spells, or dizziness.

1.9 Risks and dangers

1.9.1 Explosion hazard

Damaged batteries cells may cause explosion and fire.

- ▶ **NEVER** use a damaged battery.
- ▶ Charge the battery in an ambient temperature of +10 °C ... +40 °C.
- ▶ **NEVER** charge any obviously damaged batteries.
- ▶ **NEVER** recharge a deep-discharged battery.
- ▶ **ONLY** charge rechargeable batteries.
- ▶ **NEVER** use any damaged chargers.
- ▶ Dispose of damaged batteries or chargers immediately.



1.9.2 Toxic substances

Danger to life possible due to unsuitable tattooing inks.

- ▶ Only work with the H4 if you are sufficiently trained.
- ▶ Only use dermatologically safe inks intended for tattooing.



1.9.3 Poor hygiene

Possible danger to life due to infection.

- ▶ Only work with the H4 if you have received sufficient training.
- ▶ Only handle the H4 and its accessories with clean, disinfected gloves.
- ▶ Use a new protective tube, new gloves, and a new tattoo module for every person to be tattooed.
- ▶ Dispose of used protective tubes, gloves, and tattoo modules properly after use.
- ▶ Do not touch any freshly tattooed skin.
- ▶ Protect freshly tattooed areas of skin from dirt, UV, and sunlight.



1.9.4 Risk of stabbing and cutting

Careless operation may cause cuts and punctures.



- ▶ Only work with the H4 if you have received sufficient training.
- ▶ Only use original tattoo modules from Cheyenne.
- ▶ Touch the tattoo module **ONLY** on parts that remain outside the machine, but not on the tip.
- ▶ Switch off the H4 to change a tattoo module.
- ▶ **NEVER** push the needles out of the tattoo module.
- ▶ When removing the tattoo module, check that
 - the needles are completely in the tattoo module,
 - no ink residue runs into the handle.
- ▶ Dispose of tattoo modules professionally.
- ▶ Only remove tattoo modules from their sterile packaging immediately before use
- ▶ Place the H4 so that the tattoo module is **NOT** touching any surface.
- ▶ Have any wounds examined by a doctor immediately.

1.10 Adverse effects

In some cases, slight adverse effects may occur during and after tattooing. These are listed below.

Frequent:

- Localised bleeding in the tattooed skin area,
- Pain and discomfort on the first day after tattooing,
- Short-term inflammatory reactions, erythema, and/or oedema up to 6 days after tattooing,
- Skin irritation (e.g., itching or warming); this usually subsides in the first 12 to 72 hours after tattooing,
- Formation of scabs that will usually disappear within the first 5 days,
- Temporary flaking of the skin that usually subsides within 8 days.
- Increased UV sensitivity.

Rare:

- Formation of blisters from herpes simplex virus type I (HSV-I),
- Formation of small pustules, or milia as a result of careless skin cleansing before tattooing,
- Hyperpigmentation with the body's own pigments, in particular in darker skin types; this will disappear entirely again within a few weeks,
- Retinoid reaction (slight reddening or even peeling of the skin),

1 Safety

1.11 Behaviour in an emergency

- possible heating of the pigmented area.

The following problems can also occur with the tattoo:

- Differences in the shade of color,
- Pigment loss,
- Allergic reactions to components of the aseptic pigment ink.

1.11 Behaviour in an emergency

Switch off the H4 if there is a risk of:

- injuries,
- damage to the H4.

Take immediate action and call the local emergency number in cases of accidents.

2 Product description

2.1 Functional description

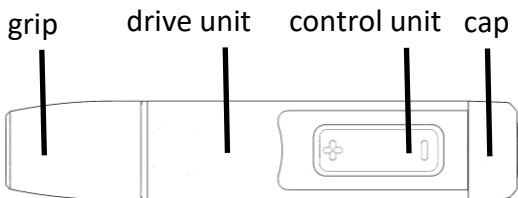
Table 2-1: Identification features

Product name / designation	Item number
H4 machines	CB64* * (Stroke-)Variants X00 – X10 CB64X00X* * Color variants X01 – X99

The H4 injects ink into the skin of a person to be tattooed using a high-frequency piercing needle.

The H4 is generally operated via the following options:

- Plus button,
- Minus button,
- Power button



2.2 Scope of delivery

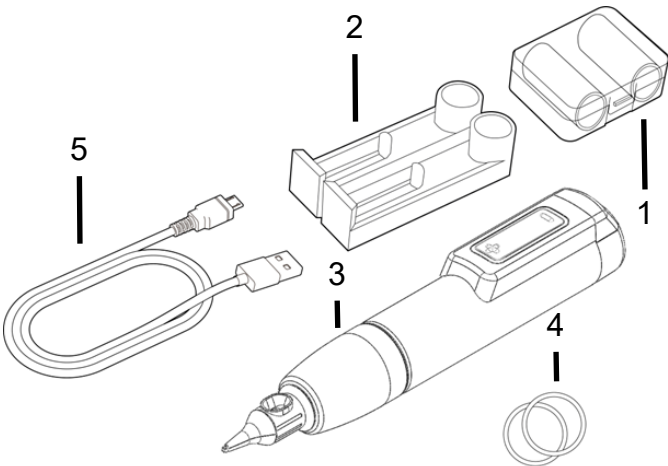


Figure 2-1: Scope of delivery

Item	Designation
1	1 Battery box with 2 lithium-ion batteries
2	1 Charger
3	1 H4 machine
4	2 O-rings
5	1 USB cable
	1 Short Guide
	1 Declaration of conformity

2.3 Symbols on the product

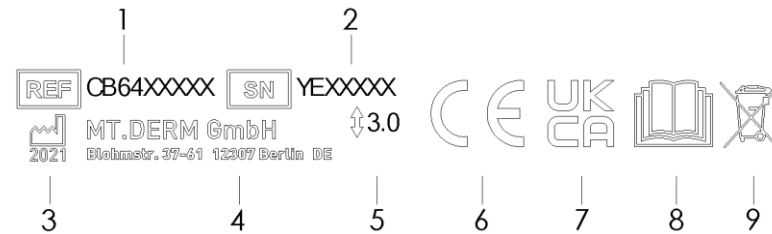


Figure 2-2: Symbols on the product

Item	Designation
1	Model number
2	Serial number
3	Year of manufacture
4	Manufacturer
5	Stroke
6	Satisfies UK legislation
7	Complies with the CE directives
8	Follow the instructions for use!
9	Dispose of old electronics properly

2.4 Available accessories and consumables

The following parts must be replaced for each new person to be tattooed:

- Protective tubes with diameters of 31 ... 35 mm,
- Tattoo module.

NOTE

- ▶ *Protective tubes must be replaced for each new person to be tattooed.*
- ▶ *Dispose of the protective tube after each tattoo.*

2 Product description

2.5 Technical data

2.5 Technical data

2.5.1 Ambient conditions

Table 2-2: Ambient conditions

Operation		
Ambient temperature	[°C]	+10 ... +35
	[°F]	+50 ... +95
Charging temperature	[°C]	+10 ... +40
	[°F]	+50 ... +104
Relative humidity	[%]	30 ... 75 (non-condensing)
Air pressure	[hPa]	200 ... 1060
Emitted noise level	[dB]	≤ 70
Storage		
Storage temperature	[°C]	-20 ... +50
	[°F]	-4 ... +122
Relative humidity	[%]	30 ... 75 (non-condensing)
Air pressure	[hPa]	200 ... 1060

The conditions at the place of use of H4 must at least comply with these conditions. Any use under other conditions is at your own risk. We recommend contacting [our customer service](#) beforehand.

2.5.2 Dimensions

Table 2-3: Dimensions

Length	[mm]	134
Diameter (thickest point)	[mm]	25.4 (31)
Weight	[g]	132
Weight (without battery)	[g]	106

2.5.3 Operating values

Table 2-4: Dimensions

Penetration frequency	[Hz]	30 ... 150
Stroke	[mm]	3.0
Needle protrusion	[mm]	-1 ... 4
Total vibration value	[m/s ²]	< 2.5

2 Product description

2.5 Technical data

2.5.4 Charger data

Table 2-5: *Charger data*

Designation	Efest SLIM K2
Input power	DC 5V 2A
Charging end voltage	4.20V ± 0.05V
Storage temperature	-40°C ~ + 70°C
Operating temperature	0° - 40°C
Charging current	1000mA ± 10 % x2
Quiescent current consumption	20mA

2.5.5 Battery data

Table 2-6: *Battery data*

Battery designation	P1835C2
Battery type	Li-ion
Nominal battery voltage [V]	3.7
Length [mm]	38.8
Diameter [mm]	18.3
Battery weight [g]	26
Nominal capacity [mAh]	1200
Charging voltage [V]	4.2
Max. charging current [A]	1.1
Insulation class	III
IP code	IP20

Note

- When H4 is powered on for the very first time, it performs an automatic battery calibration. During this short calibration period of 2–3 minutes, the battery level indicator may temporarily display as empty even though the battery has charge. Once calibration is complete, the correct battery level will be shown. This process only occurs once. After the initial calibration, the device will remember the battery information and display the charge level correctly on all future starts.

2.6 Material compatibilities

2.6.1 Standard disinfectant

Preferably use one of the following disinfectants:

Table 2-7: Disinfectant

Manufacturer	Product	Application time
Antiseptica	Big Spray “new”	1 to 5 min
Bode Chemie	Bacillol	30 s to 1 min
Ecolab	Incidin Foam	1 to 2 min
Schülke & Mayr	Mikrozid Liquid	1 to 2 min

2.6.2 Other disinfectants

You can also use the following material compatibilities to determine which other cleaning agents and disinfectants are suitable.

The anodised aluminium components, plastic parts, silicone parts and seals of H4 are resistant to:

- weak acids (e.g., boric acid $\leq 10\%$, acetic acid $\leq 10\%$, citric acid $\leq 10\%$),
- aliphatic hydrocarbons (e.g., pentane, hexane),
- ethanol,
- most inorganic salts and their aqueous solutions (e.g., sodium chloride, calcium chloride, magnesium sulphate).

The anodised aluminium components, plastic parts, silicone parts and seals of H4 are not resistant to:

- strong acids (e.g., hydrochloric acid $\geq 20\%$, sulphuric acid $\geq 50\%$, nitric acid $\geq 15\%$),
- oxidising acids (e.g., peracetic acid),
- caustic solutions (e.g., caustic soda, ammonia, and all substances with a pH value > 7),
- aromatic / halogenated hydrocarbons (e.g., phenol, chloroform),
- acetone and petrol.

2.7 Operating concept

2.7.1 Operating elements

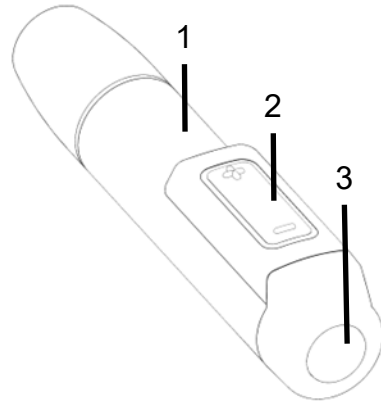


Figure 2-3: Operating elements

Item	Designation
1	Plus button - increasing value
2	Minus button - decreasing value
3	Power button - Switching the machine/ motor on/off

NOTE

The minus button and plus button must **NOT** be pressed simultaneously. This can damage the display, as it is a rocker switch.

2.7.2 Error displays and device warning signals

The following error codes are defined in H4:

- 01 - Motor stall
- 02 - Undervoltage
- 03 - Overvoltage
- 04 - Overcurrent
- 05 - Temperature

NOTE

► Error messages can be acknowledged by pressing the Power button.

To fix errors, refer to the troubleshooting table in section “6 Faults, messages, and errors”.

2 Product description

2.7 Operating concept

2.7.3 Navigation

The H4 is operated as follows:

Switching on/off

Machine: Hold down Power button until the menu appears

Motor: Press Power button

Setting penetration frequency

Press plus/minus button: Steps

Hold down plus/minus button: Scroll through

Switching motor mode

(Device: On/ Motor: Off)

Hold down Power button and press plus button

Switch volts/hertz

(Device: On/ Motor: Off)

Hold down Power button and press minus button

NOTE

► *H4 switches off after 3 minutes of inactivity.*

3 Transporting, storage, unpacking

WARNING

Risk of explosion and fire due to improper transport of lithium-ion batteries.

- ▶ Only transport and store your batteries subject to the specified storage and transport conditions.
- ▶ Always use the plastic battery box to transport the batteries.
- ▶ **NEVER** transport the batteries loose in the bag since metal parts (e.g., keys) may cause a short circuit.
- ▶ Remove the battery before transporting the H4 and store it in the battery box.



ATTENTION

Damage to the motor may occur if H4 falls.

- ▶ Always put the H4 down carefully so that it cannot roll away and fall down.
- ▶ Perform a visual inspection and a listening test for unusual noise by gently shaking the device if the H4 has fallen.

CAUTION

Injuries may occur due to malfunction of H4.

- ▶ Do not switch on H4 if it looks or sounds unusual.
- ▶ Do not continue to use H4.
- ▶ Send H4 to your dealer or MT.DERM GmbH for testing and repair.



3 Transporting, storage, unpacking

3.1 Transport

3.1 Transport

Table 3-1: Dimensions transport case

Length	[mm]	215
Width	[mm]	128
Height	[mm]	70

H4 is shipped in a cardboard and plastic parcel.

 NOTE

- *Either send H4 in the original box or label the box as hazardous goods because of the batteries.*
-

Transport the H4 as follows:

1. Transport H4 and its accessories with sufficient padding.
 2. Observe the ambient conditions, see chapter “2.5.1 Ambient conditions”.
 3. Always carry the case with H4 to its destination with care.
- ✓ You have transported H4.

3.2 Storing

Observe the information on storage temperature and humidity, see chapter “2.5.1 Ambient conditions”.

 NOTE

- *Most airlines will only permit transport of H4, including the batteries, in an aircraft in hand luggage.*
 - *Check with the airline before travelling.*
 - *Always store H4 and its accessories under the specified storage conditions.*
-

3.3 Unpacking

The packaging material comprises cardboard and plastic.

 NOTE

- *Keep the packaging in case you need to repack H4 or want to store it for longer.*
-

Recycle the packaging material in an environmentally friendly manner.

4 Prepare for use

ATTENTION

Condensation may cause damage to the electronics.

- ▶ Do not use H4 for at least 30 minutes to allow H4 to acclimatise if H4 has been exposed to large temperature fluctuations, for example during transport.
 - ▶ Check that H4 has reached the ambient temperature before commissioning.
 - ▶ Wait for at least 3 hours per 10 °C temperature difference before operating H4 after any large temperature fluctuations.
 - ▶ Observe the specified ambient conditions, see chapter “2.5.1 Ambient conditions”.
-

4.1 Disinfecting the equipment

ATTENTION

Penetrating liquids may damage the drive.

- ▶ **NEVER** soak H4 (drive unit + control unit) in any disinfectant.
 - ▶ **NEVER** spray any liquids directly onto H4.
-

ATTENTION

Unauthorised disinfectants may cause damage.

- ▶ Disinfectants that are not compatible with the materials of the product may cause damage to its surface.
 - ▶ Only use disinfectants that are approved in accordance with the regulations of your country.
 - ▶ Observe the list of recommended disinfectants, see chapter “2.6.1 Standard disinfectant”.
-

4 Prepare for use

4.2 Working on the battery

Disinfect H4 as follows:

1. Switch off H4.
2. Check whether H4 is grossly contaminated by ink or body fluids that have run back.



Figure 4-1: Unscrewing the grip

3. Unscrew the grip from the drive unit.
4. **ATTENTION! Physical damage caused by penetrating liquids. Do not** spray any liquids onto H4 and do not soak it in disinfectant.
5. Wipe the H4 and its components with a soft cloth moistened with cleaning agent or disinfectant.
6. Use a soft nylon brush or a cotton bud to clean surfaces that are difficult to access, such as the thread of the drive unit.
- ♦ Ink streaks may occur due to the nature of the surface.
7. Screw the grip onto the drive unit and insert the operating unit.



Figure 4-2: Screwing on the grip

- ✓ You have disinfected H4.

4.2 Working on the battery

⚠ WARNING

Contaminated accessories may lead to infection.

- ▶ Touch H4 and its accessories ONLY with clean, disinfected gloves.



⚠ WARNING

Risk of explosion and fire due to incorrect handling of batteries.

- ▶ ONLY charge the battery in an ambient temperature of +10 °C ... +40 °C.
- ▶ NEVER recharge any deeply discharged batteries. Battery cells that have been discharged below 2.5 V are irreversibly damaged.
- ▶ ONLY charge rechargeable batteries.
- ▶ NEVER charge any damaged batteries.
- ▶ NEVER use any damaged chargers.
- ▶ Dispose of damaged batteries or chargers immediately.



4.2.1 Charging the battery

ATTENTION

Incorrect power supply may cause physical damage.

- ▶ Only use the charger included in the scope of delivery or a charger recommended by MT.DERM GmbH.
- ▶ Observe the output data of the USB socket used.
- ▶ Only use USB sockets whose output data matches that of the charger, see chapter “2.5.4 Charger data”.
- ▶ If the output current is too low, the charging time will be accordingly longer.
- ▶ Suitable voltage sources include:
 - the USB power adapter from your smartphone or tablet,
 - your power bank.

You can use the charger included in the scope of delivery for the following Li-ion batteries:

- with the voltage: 3.6 / 3.7 V,
- of the types IMR / INR / ICR,
- sizes 18350 / 16340 / 10440 / 14500 / 18500 / 18650 / 20700 / 26650.

NOTE

- ▶ *The battery is supplied partly charged.*
 - ▶ *Fully charge the battery with the charger before using the device for the first time to ensure full battery performance.*
 - ▶ *You can charge an additional battery at any time.*
 - ▶ *Interrupting the charging process will not harm the battery.*
 - ▶ *The charger works best with a power supply with a maximum charging current of 2A.*
-

4 Prepare for use

4.2 Working on the battery

Perform a charging process as follows:

1. Connect the charger to a USB socket using the USB cable.

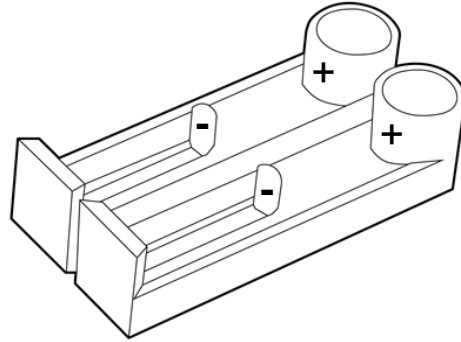


Figure 4-3: *Charger polarity*

2. Place one or two rechargeable batteries in the slots of the charger in the orientation / polarity shown.
 - ♦ The charger charges each battery with a maximum charging current of 1.0 A. The charging time for a 1200 mA battery is approx. 1 hour.
 - ♦ The LEDs on the charger flash while the battery is charging.
 - ♦ Depending on the charge level, the LEDs start to light up continuously:
 - LED1 ... LED4 flash: State of charge 0 ... 25%,
 - LED1 lights up, LED2 ... LED4 flash: State of charge 25 ... 50%,

- LED1 ... LED2 light up, LED3 ... LED4 flash: State of charge 50 ... 75%,
- LED1 ... LED3 light up, LED4 flashes: State of charge 75 ... 99%,
- LED1 ... LED4 light up: Charge level 100%.
- ♦ All LEDs flash simultaneously if an error has occurred.
This happens, for example, in case of a short circuit or if the battery is inserted the wrong way around.
- ✓ You have completed the charging process.

4.2.2 Replacing the battery

Replace the battery as follows:

1. Switch off H4.

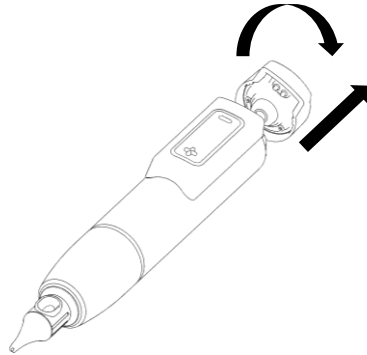


Figure 4-4: Turn the cap with bayonet locking and remove it.

2. Pull the battery out of the machine.

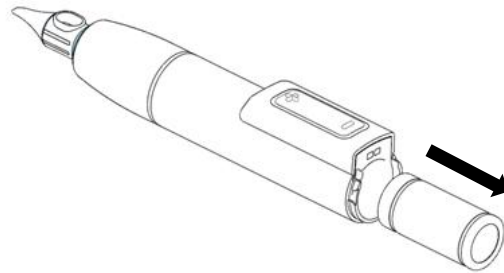


Figure 4-5: Removing the battery

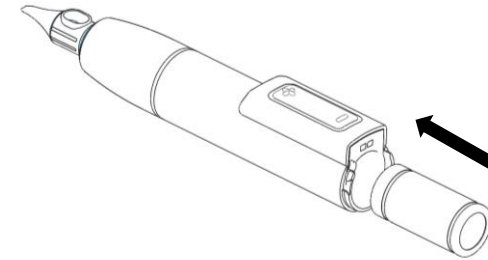


Figure 4-6: Inserting the battery

3. Insert a charged battery into the machine.
4. Ensure that the positive pole of the battery is pointing towards the tattoo module.

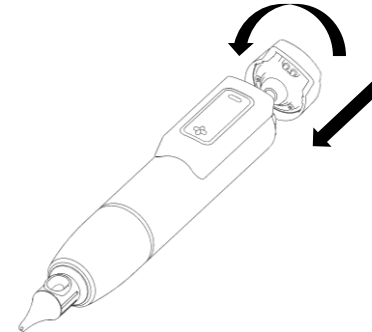


Figure 4-7: Put the cap on and close it.

3. Put the cap on and turn it until it clicks into place.
- ✓ You have changed the battery.

4 Prepare for use

4.3 Attaching the protective tube

4.3 Attaching the protective tube

WARNING

Contaminated protective tubes may cause infection.



- Use a new protective tube for each person to be tattooed.

ATTENTION

Penetrating liquids may damage the drive.

- Only use protective tubes with suitable dimensions.

Pull on the protective tube as follows:

1. Prepare a protective tube of sufficient length.



Figure 4-8: *Unscrewing the grip*

2. Unscrew the grip from the drive unit entirely.

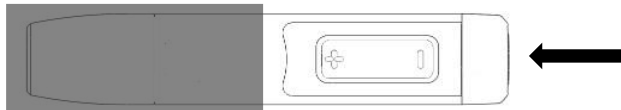


Figure 4-9: *Pulling on the protective tube*

3. Pull the end of the protective tube completely over H4.

4. Prepare the grip hygienically:

- Aluminium grip: Clean the grip by wiping, in an ultrasonic bath or in an autoclave, see chapter “7.2 Clean”.
- Disposable grip: use a new, sterile grip.



Figure 4-10: *Tightening the grip*

5. Screw the grip onto the thread of the drive unit.

- ✓ You have put on the protective tube.

4.4 Installing the tattoo module

WARNING

Contaminated needles may cause infection.

- ▶ **NEVER** work without disposable gloves
- ▶ **NEVER** touch the used tattoo module by the tip or the needle shaft.
- ▶ Check that the needles are fully retracted into the tattoo module after removing a used tattoo module.
- ▶ Consult a doctor after any injuries with a contaminated needle.
- ▶ The tattoo modules are delivered in sterile packaging. Only remove them from their sterile packaging immediately before use.
- ▶ Only use original Cheyenne tattoo modules. The built-in safety diaphragm prevents ink and bodily fluids from penetrating your H4_{KL1}.
- ▶ Dispose of used tattoo modules properly, see chapter “8.2 Storage and disposal”.



CAUTION

Punctures from the needle may occur.

- ▶ Switch off H4 before changing the tattoo module.
- ▶ **NEVER** touch the needle module by its tip or the bayonet catch.
- ▶ Always place H4 so that the tattoo module is not resting on top.
- ▶ **NEVER** push the needles out of the tattoo module.
- ▶ Prevent ink residue from running into the handle when removing a used tattoo module.
- ▶ Initiate suitable first aid measures immediately after any injury with a contaminated needle.
- ▶ Consult a doctor after any injuries with contaminated needles.
- ▶ Dispose of used tattoo modules properly, see chapter “8.2 Storage and disposal”.



4 Prepare for use

4.4 Installing the tattoo module

Change the tattoo module as follows:

1. Switch off the H4.

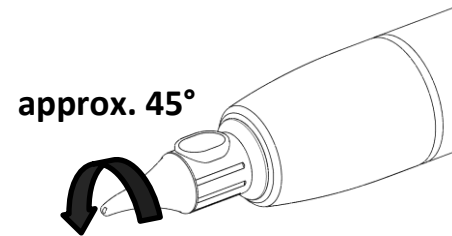


Figure 4-11: Unscrewing tattoo module

2. Turn the old tattoo module counterclockwise by approx. 45°.

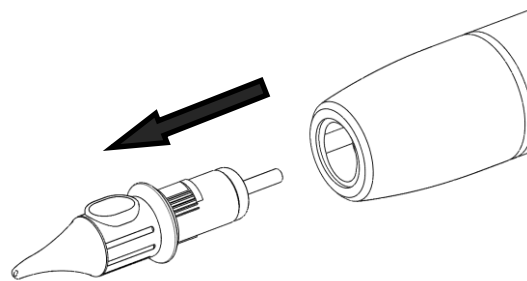


Figure 4-12: Pulling out tattoo module

3. Pull the old tattoo module out of the opening of the grip.

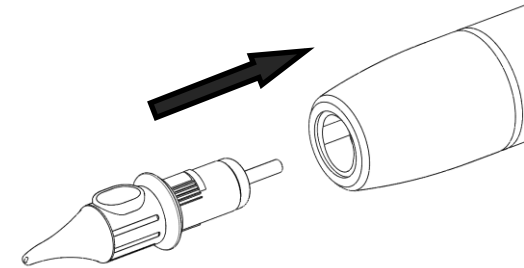


Figure 4-13: Inserting the tattoo module

4. Insert the new tattoo module into the opening of the grip.

You can only insert the tattoo module into the oval opening in two ways due to its locking points.

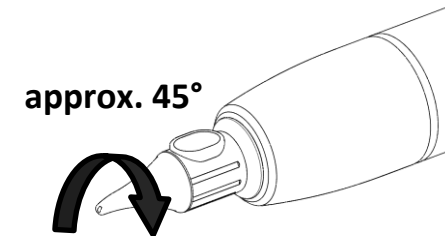


Figure 4-14: Latching the tattoo module

5. Rotate the tattoo module clockwise by approx. 45°.

You will feel several locking points until the tattoo module engages completely when turning.

6. Check that the tattoo module is firmly in place.
- ✓ You have changed the tattoo module.

4.5 Checking the equipment

Check the equipment of H4 as follows:

1. Check H4 equipment for external damage.

2. **WARNING! Damage to H4 may cause injuries and property damage.**

- If you notice any external damage, do not use H4.
- Contact MT.DERM GmbH or your specialist retailer for repair.



3. Check that the tattoo module is correctly aligned.

4. **WARNING! A damaged tattoo module may cause injuries and property damage.**

- Always use a tattoo module with correct alignment.



5. Check the battery for visible damage.

6. **WARNING! Damaged battery cells may pose a risk of explosion and fire.**

- **NEVER** use any damaged batteries.
- Dispose of any damaged batteries in accordance with the provisions in your country.



7. Switch on H4 and perform a listening test.

8. **WARNING! Damage to H4 may cause injuries and property damage.**



- Switch off H4 immediately if you hear any noticeably loud or unusual noises. This suggests damage to H4.
- Contact MT.DERM GmbH or your specialist retailer for repair.

- ✓ You have checked the equipment of H4.

5 Use

5.1 Preparation on the person to be tattooed

Clean the skin of the person to be tattooed as follows before tattooing:

1. Use disposable gloves made of nitrile or latex.
 2. Disinfect the disposable nitrile or latex gloves.
 3. **CAUTION! Aggressive disinfectants may cause skin damage.**
 - Observe the applicable guidelines in your country when selecting suitable cleaning agents and disinfectants.
 4. Clean the affected areas of the skin of the person to be tattooed with a mild cleanser and disinfectant person to be tattooed.
- ✓ You have cleaned the skin of the person to be tattooed before tattooing.



5.2 Start and stop

NOTE

- *Operation is as described in the chapter “2.7 Operating concept”.*
-

Start and stop H4 as follows:

1. Switch on H4: Long press Power button.
 2. Start the motor: Press Power button.
 - ✦ The motor starts.
 3. Stop the motor: Press Power button
 - ✦ The motor stops.
- ✓ You have started and stopped H4.

5.3 Needle protrusion

CAUTION

Punctures may reach the subcutaneous fatty tissue at excessive needle protrusion.

- A large needle protrusion enables a large penetration depth.
- If the needle protrusion and penetration depth are too great, the subcutaneous fatty tissue can be damaged.
- Always start with a low needle protrusion when using H4.
-



ATTENTION

The safety membrane may be damaged if the needle protrudes too far.

- The safety membrane of the tattoo modules can be overstretched and damaged if the needle protrudes too far.

Set the needle protrusion as follows:

1. Switch on H4: Long press C button.
2. Turn the grip to adjust the needle protrusion.

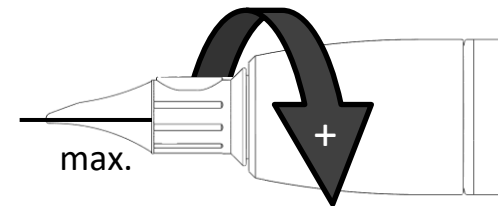


Figure 5-1: Increasing the needle protrusion

3. Increase the needle protrusion by turning clockwise.

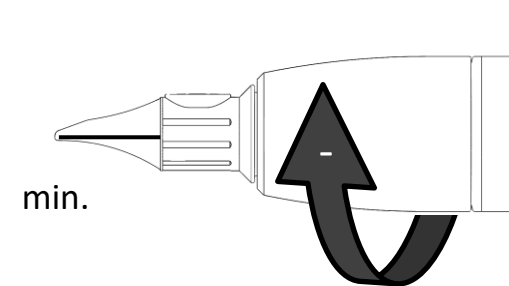


Figure 5-2: Reducing the needle protrusion

4. Reduce the needle protrusion by turning counterclockwise.
 5. Check the needle protrusion of H4 before tattooing.
- ✓ You have adjusted the needle protrusion.

5.4 Penetration frequency

CAUTION

An excessive penetration frequency may cause cuts.

- ▶ Always start with a low penetration frequency.



NOTE

- ▶ *The adjustable frequency is between 30 Hz and 150 Hz / 5.0-12.5 V.*
- ▶ *The machine only saves the settings when it is switched off correctly.*
- ▶ *Operation is as described in section “2.7 Operating concept”.*
- ▶ *The minus button and plus button must **NOT** be pressed simultaneously. This can damage the display, as it is a rocker switch.*

Set the penetration frequency as follows:

1. Switch on H4: Hold down the Power button.
 - ✦ The menu screen will appear on the display and show the last set or used penetration frequency as a frequency (Hz) or as a voltage (V), depending on the setting.
 2. Set the appropriate penetration frequency with + / - buttons.

The penetration frequency must match:

 - Skin condition of the person to be tattooed,
 - Needle protrusion and individual penetration depth when working and
 - Working speed.
- ✓ You have set the penetration frequency.

5.5 Steady Mode and Responsive Mode

With the H4, you can choose between the two operating modes: “Steady Mode” and “Responsive Mode”. The operating modes differ due to a different motor control.

You can only change the mode of H4 when the motor is stopped.

NOTE

► *Operation is as described in the chapter “2.7 Operating concept”.*

5.5.1 Steady Mode

In “Steady Mode,” H4 always operates at the same piercing frequency.

H4 adapts to the load and supplies the motor with the appropriate power.

5.5.2 Responsive Mode

In “Responsive Mode,” the motor reacts more sensitively to skin resistance. This means that the piercing frequency decreases slightly after a short delay.

5.6 Picking up ink

Pick up ink with the needles as follows:

1. Dip the tip of the tattoo module into the desired ink for 2 to 3 seconds while the machine is running immediately before use.
2. Avoid contact with the ink tank.
 - ♦ The needles absorb the ink.

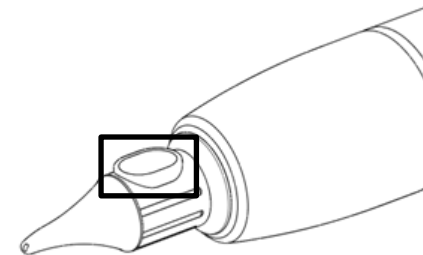


Figure 5-3: *Alternative: Ink opening*

3. Alternatively, you can fill the ink into the opening on the tattoo module using a sterile pipette.
 - ✓ You have picked up ink with the needles.

6 Faults, messages, and errors

-  **Note**
- ▶ *After three acknowledged errors, H4 prompts you to restart it.*
 - ▶ *If you cannot fix the error, contact MT.DERM GmbH or your local dealer.*

Table 6-1 - Troubleshooting

Errors	Fix
01 - Motor Stall	Change the tattoo module.
	If “Please exchange battery” appears on the display, the battery needs to be charged.
	If the error persists: Send HAWK Pen 2 in.
02 - Undervoltage	Recharge battery.
	The battery may be defective. Replace it.
	An unsuitable battery has been used. Please use an original battery.
	If the error persists: Send HAWK Pen 2 in.

Errors	Fix
03 - Overvoltage	The battery may be defective. Replace it.
	An unsuitable battery has been used. Please use an original battery.
	If the error persists: Send HAWK Pen 2 in.
04 - Overcurrent	Try starting HAWK Pen 2 without the tattoo module.
	Change the tattoo module.
	If the error persists: Send HAWK Pen 2 in.
05 - Temperature	Pause the tattooing process. Allow HAWK Pen 2 to cool down.
	If the error persists: Send HAWK Pen 2 in.

6.1 Procedure in case of faults

Always remedy any faults as follows:

1. Make sure that there is no danger to any persons or objects. Switch off H4 immediately if any danger threatens.
 2. Record the circumstances that led to the fault.
 3. Record the error messages displayed, see chapter “2.7.2 Error displays and device warning signals”.
 4. Check whether you can remedy the fault directly (check Table 6-1) or whether you need to instruct authorised specialists to do so.
 5. Contact MT.DERM GmbH if necessary.
- ✓ You have remedied the fault.

6.2 Unstable needle protrusion

Eliminate an uncontrolled change in needle protrusion as follows:

1. If the grip no longer remains fixed, thoroughly clean the inside of the handle, the thread of the drive unit, the grooves and the small O-ring (see chapter “7.2 Clean”).
 2. Also replace the small O-ring if the problem persists.
 - ♦ The needle protrusion should be fixed during operation.
 3. If the problem persists, please contact your local dealer or MT.DERM GmbH.
- ✓ You have eliminated the uncontrolled change in needle protrusion.

7 Care

7.1 Periodic inspection

Table 7-1: Inspection schedule

Interval	Component	Inspection / work
Before each use	H4	Visual inspection for wear or damage
	grip, surfaces	Clean / disinfect
At visible soiling	grip	Clean in an ultrasonic bath
		Sterilise in an autoclave
Daily	Labelling and / or engraving on the components	Visual inspection, clean illegible labelling and / or engravings as necessary
In case of wear	O-rings	Visual inspection, replace O-rings as necessary

NOTE

- Contact MT.DERM GmbH if you encounter any difficulties during the activities / tests that you cannot resolve.

7.2 Cleaning

ATTENTION

Damage to the drive due to short circuit possible.

- **NEVER** disassemble or clean any components of H4 while they are energised.
- Always disconnect H4 from its power source entirely for any cleaning and maintenance work (remove control unit, remove battery).

ATTENTION

Penetrating liquids may damage the drive.

- ▶ Never soak H4 in disinfectant.
- ▶ **NEVER** clean the drive unit, the control unit, and other electrical parts (e.g., battery) in an autoclave or in an ultrasonic bath.
- ▶ When selecting cleaning agents and disinfectants, observe the material compatibility, see chapter “2.6 Material compatibilities”.

7.2.1 Surface

Clean the surfaces of H4 before and after each use as follows:

1. Disinfect all surfaces of H4, see chapter “4.2 Disinfecting the equipment”.
2. Check for external soiling.
3. Remove the grip from the drive unit if there is any external soiling.
4. **ATTENTION! Damage to the drive unit possible.** Ensure that the contact pins are not damaged during cleaning.
Wipe the handle, drive unit, control unit, and the protective tube with a soft cloth moistened with cleaning agent or disinfectant.
5. Dispose of the protective tube properly.

6. Use a soft nylon brush or a cotton bud to clean surfaces that are difficult to access, such as the thread of the drive unit.

Due to the nature of the surface, ink fogging may occur on H4.

7. Screw the grip and drive unit together.

✓ You have cleaned the surfaces of H4.

7.2.2 Clean the grip in an ultrasonic bath

Clean the handle in an ultrasonic bath as follows if it is very dirty:

1. Use the cleaners Tickomed 1 or Tickopur R33 from the manufacturer Dr H. Stamm GmbH according to the manufacturer’s instructions.
 2. The pH value must not exceed 7.
 3. Perform the cleaning for 10 minutes at a frequency of 35 kHz.
 4. Dry the grip completely after cleaning before using it again.
- ✓ You have cleaned the grip in an ultrasonic bath.

7.2.3 Sterilising a contaminated handle in an autoclave

Sterilise the contaminated grip in the autoclave as follows:

1. Disinfect all surfaces of H4, see chapter “4.2 Disinfecting the equipment”.
 2. Sterilise the grip in the autoclave for 20 minutes at a temperature of 121 °C and a pressure of 2 bar.
 3. Dry the grip completely after cleaning before using it again.
- ✓ You have sterilised the contaminated grip in the autoclave.

7.2.4 O-rings

Clean or replace the O-rings if the handle is too easy to turn and the needle protrusion changes uncontrollably as follows:

1. Degrease the O-rings with a soft cloth moistened with cleaning agent or disinfectant.
 2. If the problem persists, replace the O-rings with new ones and grease them with silicone grease if necessary.
- ✓ You have cleaned or changed the O-rings.

7.3 Repair

If your H4 is damaged, send it in.

Contact your specialist retailer or MT.DERM GmbH

For further contact details, see the end of these instructions.

8 Storage and disposal

8.1 Repacking and storage

ATTENTION

Incorrect storage may cause damage.

- ▶ Observe the information on storage temperature and humidity, see chapter “2.5.1 Ambient conditions”.
- ▶ Only store H4 in its case and original packaging.
- ▶ If the machine is not going to be used for a long period of time, remove the battery from the machine.

8.2 Disposal and recycling

Ensure safe and proper disposal, in particular of parts or substances that are harmful to the environment.



Disposal of H4, including operating materials and cleaning fluids, is subject to local disposal regulations and environmental laws.

The local municipal authority can provide you with information on this.

Properly dispose of any materials that can be recycled with consideration for our environment.

Rechargeable batteries (including damaged ones) should not be disposed of in the household waste.



Li-ion

Dispose of any old or used batteries properly, e.g., in the collection boxes in shops or at municipal collection centres.

The packaging material comprises cardboard and plastic. Separate the packaging materials and recycle each fraction in an environmentally friendly manner.

9 Annex

9.1 Warranty statement

You have purchased a high-quality branded product with the H4 from Cheyenne.

The H4 is guaranteed to be reliable based on the latest testing techniques and certification. MT.DERM GmbH is certified to DIN EN ISO 13485:2016 (quality management system for medical devices).

The product is guaranteed for two years against malfunctions caused by defects in material or workmanship.

We guarantee sterility of the tattoo modules in sealed and undamaged packaging in compliance with the transport and storage conditions until the specified expiry date.

The expiration date can be found on the label of the tattoo modules. If you have a complaint about tattoo modules, please inform us of the batch number printed on the label.

MT.DERM GmbH accepts no liability for the following damage:

- Damage and consequential damage caused by improper use or non-compliance with the instructions for use.
- Damage caused by the ingress of liquids or dirt into the drive unit.
- Damage and consequential damage caused by falling or dropping.

9 Annex

9.2 EU/EC Declaration of Conformity

9.2 EU/EC Declaration of Conformity^[JK2]

The manufacturer: MT.DERM GmbH, Blohmstraße 37-61, 12307 Berlin, Germany

Hereby declares on its own responsibility that the following products:

Product name: Battery-powered permanent makeup machine

Product name: Pulse / H4

Item numbers: CB64X00X*; CB64X01X*

comply with the provisions of the following directives:

EU

Machinery Directive 2006/42/EG

EMC-Directive 2014/30/EU

RoHS-Directive 2011/65/EU

UK

Electromagnetic Compatibility Regulations 2016

Electrical Equipment (Safety) Regulations 2016

The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

The following standards were applied:

IEC 60335-1:2020

Household and similar electrical appliances - Safety - Part 1: General requirements

CISPR 14-1:2020-09 and DIN EN IEC 55014-1:2022-12

Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission

CISPR 14-2:2020-08 and DIN EN IEC 55014-2:2022-10

Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 2: Immunity - Product family standard

DIN EN IEC 63000:2019-05

Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

Authorized representative for compiling the relevant technical documentation: Dr. Jan Tentrop, MT.DERM GmbH, Documentation Officer

This declaration is made on behalf of the manufacturer by:



Berlin, 01.08.2025 Jörn Kluge
(Signature of the managing director or his authorized representative)

7EEGCB64

MT.DERM GmbH · Blohmstraße 37-61 · 12307 Berlin, Germany
Fon: +49 30 76766220-0