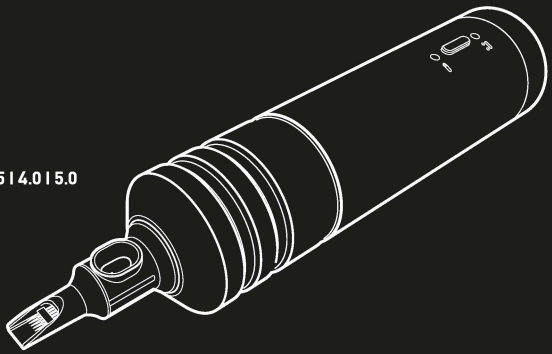
CHEYENNE®

SOL NOVA UNLIMITED 2.5 | 3.5 | 4.0 | 5.0



Gebrauchsanweisung
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Gebruiksaanwijzing
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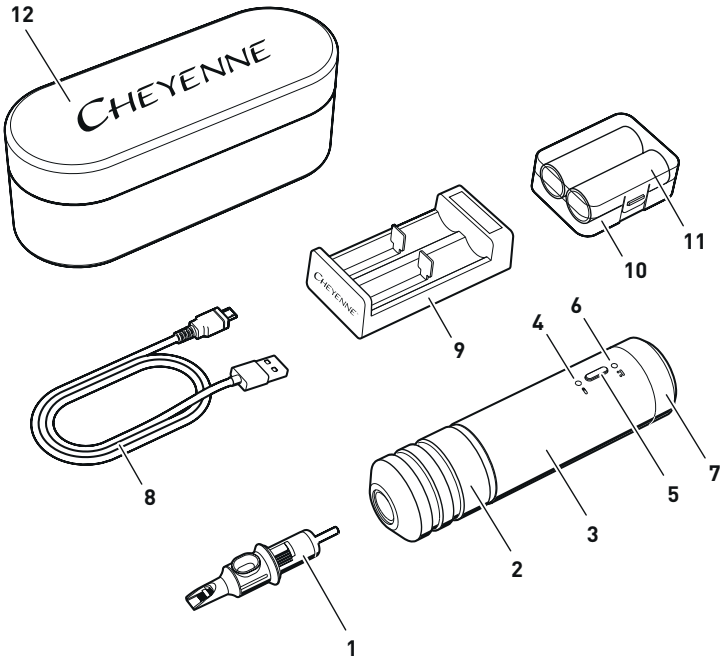

CHEYENNE®
SOL
NOVA UNLIMITED 2.5 | 3.5 | 4.0 | 5.0

English
Version 1.6 –
01/09/2022

Translation of the original instructions for use. The original instructions for use were written in German.

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SOL NOVA UNLIMITED 2.5 | 3.5 | 4.0 | 5.0

Instruction for use
Table of Contents

1 About this Operating Manual

This operating manual applies to the Cheyenne tattoo machines SOL Nova Unlimited 2.5, SOL Nova Unlimited 3.5, SOL Nova Unlimited 4.0 and SOL Nova Unlimited 5.0 as well as their accessories. It contains important information about how to operate and maintain these products safely and in the intended manner.

This operating manual does not contain all of the information needed for safe operation of tattoo machines and their accessories. Therefore, observe the following additional documents:

- Information about needle cartridges and tattoo inks
- Safety data sheets about disinfectants and cleaning agents
- Health and safety information and statutory provisions relating to tattooing

1.1 Depiction of warnings

Warning notices draw attention to the risk of personal injury and damage to materials and are structured as follows:

⚠ SIGNAL WORD
Type of hazard Consequences ▶ Remedy

Element	Meaning
⚠	Indicates a risk of injury
Signal word	Specifies the severity of the hazard (see table below)
Type of hazard	Gives the type and source of the hazard
Consequences	Describes potential consequences of non-compliance
Remedy	Indicates how to avoid a hazard

Signal word	Meaning
Hazard	Indicates a hazard that will definitely lead to death or to serious injury if the hazard is not avoided
Warning	Indicates a hazard that may lead to death or to serious injury if the hazard is not avoided
Caution	Indicates a hazard that can lead to minor to relatively serious injury if the hazard is not avoided
Attention	Indicates potential risks to the environment, property or equipment if this hazard is not avoided

Symbols used in this operating manual

Symbol	Meaning
▶	Call for action
•	List point
-	List sub-point

2 Important safety information

2.1 General Safety Information

- The device may not be used by persons (including children) with reduced physical, sensory or mental capabilities or lack of experience or knowledge.
- Children must be instructed not to play with the item.
- If the device is not being used for a longer period of time, remove the battery.
- Keep your tattoo machine away from children.
- Carefully read this entire operating manual.
- Keep the operating manual in a readily accessible location for everyone who uses, cleans, disinfects, sterilizes, stores or transports the machine.
- When sharing your tattoo machine with someone else, always enclose this operating manual.
- Follow the safety regulations applicable to tattooing in your country. Keep your tattoo studio in a hygienic, clean condition and provide sufficient lighting.
- Only ever use your tattoo machine and its accessories in perfect technical condition.
- Only use genuine needle cartridges, accessories and spare parts from Cheyenne.

2.2 General Safety Information on Lithium-Ion Batteries

- Read and observe the safety information and instructions in all of the operating manuals for your machine. Any failure to observe the safety information and instructions may result in electric shock, a fire and/or cause serious injuries.
- Keep all safety information and instructions for future use.
- Take the battery out of the machine before transporting or storing it. If the machine is unintentionally activated, there is a risk of injury.
- Protect the battery from heat (such as from continuous sun exposure), fire and immersion into water. Do not store or operate the battery near hot or flammable objects. There is a risk of explosion.
- Always place the battery in the battery box when not in use in order to protect it from external influences.
- When not in use, keep the battery away from paper clips, coins, keys, nails, screws or any other small metal objects that cause the contacts to be bridged.
- A short circuit between the battery contacts may cause burns or result in a fire.
- Do not place the charger and the battery near flammable materials. Only charge the battery in dry state and at a fireproof location. There is a risk of fire due to the heat that builds up while charging.
- The battery must not be charged unsupervised.
- Fluid may leak from the battery if it is improperly used. Avoid contact with it. Rinse with water if you accidentally

come in contact with it. If the liquid gets into your eyes, also seek out your physician for additional help.

- Leaking battery fluid may cause skin irritations or burns.
- Batteries must not be exposed to mechanical impacts. There is a risk of damaging the battery.
- If damaged, or if the battery is improperly used, vapors may escape from the battery. Introduce fresh air and seek out a physician if you have any physical symptoms. Vapors may irritate the respiratory system.
- Only use the original charger to charge the battery. The risk of fire cannot be excluded if you do not use an original charger.
- Only use the battery in connection with original Cheyenne battery-driven tattoo machines. Only this protects the battery from a dangerous overload.
- Only use the supplied battery type NCR18500A or other battery approved by Cheyenne for your machine. Any other batteries may cause severe injuries and a risk of fire. Cheyenne will accept no liability and warranty if other batteries are used.
- Keep the battery away from children.
- Check the battery for damage.
- Do not charge a damaged battery or use it.
- Charge the battery fully prior to use.
- Observe all other requirements relating to the handling of lithium-ion batteries in this operating manual.

2.3 Product-dependent safety information

- Never modify the machine, the needle cartridges or their accessories.
- Prevent fluids from entering the drive unit.
- During the tattooing process, protect the drive with a protective sleeve (see chapter 5.5 on page 41).
- If you are not using your tattoo machine, switch it off and place it in a secure location so that it cannot roll away and fall down.
- Note the technical data quoted in this operating manual and comply with operating, transport and storage conditions (see 4 on page 37).
- Hand over the machine to a specialist retailer for inspection if it exhibits any external signs of damage or if it does not function in the usual manner.

2.4 Important hygiene and safety regulations

To prevent infectious diseases as a result of tattooing from being transmitted to the client or to the tattoo artist:

- Before use, follow the steps required to disinfect the equipment (see chapter 5.2 on page 39).
- During the tattooing process, wear disposable nitrile or latex gloves and disinfect them before use.
- Before applying a tattoo, clean the affected areas of the customer's skin with a mild cleaning and disinfectant agent. When selecting an appropriate disinfectant,take note of the applicable regulations in your country.

- ▶ For each client always use new, sterile-packaged needle cartridges. Before each usage, ensure that the packaging is undamaged and that the use-by date has not passed.
- ▶ Dispose of used or defective needle cartridges in a sharps container (safety box) in accordance with your' country's regulations.
- ▶ Prevent needle cartridges from coming into contact with contaminated objects, e.g. clothing. Dispose of contaminated needle cartridges immediately.
- ▶ Always use dermatologically safe inks designed specifically for tattooing.
- ▶ Avoid contact with freshly tattooed skin. Protect freshly tattooed areas of skin from dirt and from exposure to UV light and sunlight.
- ▶ Check regularly to determine whether there is visible soiling of the tattoo machine. If this has happened, in addition to regular disinfection, you must perform all the steps described in the chapter 7 on page 46.

2.5 Contraindications

Tattooing is **not** permitted in case of the following:

- Hemophilia or other blood coagulation disorders
- Current consumption of blood thinners (e.g. acetylsalicylic acid, heparin, aspirin, warfarin)
- Uncontrolled diabetes mellitus
- Any form of active acne in the skin region to be tattooed
- Dermatosis (e.g. skin tumors, keloids or extreme inclination for keloid formation, solar keratosis, warts and/or moles) in the skin region to be tattooed
- Open wounds and/or eczema and/or skin rashes in the skin region to be tattooed
- Scars in the skin region to be tattooed
- Systemic infections and infectious diseases (e.g. hepatitis A, B, C, D E or F; HIV infection) or acute local skin infections (e.g. herpes, rosacea)
- During chemotherapy, radiotherapy or high-dosage corticosteroid therapy (recommendation: less than four weeks before the beginning until four weeks after the end of the therapy)
- Up to twelve months after plastic surgery in the skin region to be tattooed
- Up to six months after filler injections in the region to be tattooed
- Under the influence of alcohol and/or drugs
- Pregnancy and lactation

The treatment must be terminated immediately in the event of:

- Excessive sensations of pain
- Fainting / dizziness

2.6 Risks

In some cases, minor side effects can appear during and after the tattooing process, as described below.

Frequent:

- Local bleeding in the region of the skin surface to be tattooed
- Pain and discomfort on the day after tattooing
- Temporary inflammatory reactions, erythema and/or edema up to 6 days after tattooing
- Skin irritations (e.g. itching or heating), which normally wear off during the first 12 to 72 hours after the tattooing process
- Scabbing, which normally recedes within the first 5 days
- Temporary flaking of the skin, which normally wears off within 8 days

Rare:

- Formation of blisters of the herpes-simplex virus type I (HSV-I)
- Formation of small pimples or skin eruptions if skin is not cleaned carefully after the tattooing process
- Hyper-pigmentation with body's own pigments, in particular on dark skin types, but which disappear completely within a few weeks
- Retinoid reaction (slight irritation up to peeling of skin)
- Possible warming of the pigmented area when exposed to PET and MRT radiation

As a general rule, recently treated areas of skin should be protected from UV radiation and sunlight.

Furthermore, the following problems may occur in response to tattooing:

- Ink shade differences
- Pigment loss
- Allergic reactions to components of the aseptic pigment color

2.7 Required qualification

The tattoo machine must only be used by those who have acquired the following knowledge:

- Basic knowledge of the tattooing process, in particular correct insertion depth and frequency
- Knowledge of the hygiene and safety regulations (see chapter 2.4 on page 33)
- Knowledge of the impact of tattoo ink below the skin
- Knowledge of the risks and side effects (see chapters 2.5 on page 34 and 2.6 on page 34).

2.8 Intended Use

The SOL Nova Unlimited 2.5, SOL Nova Unlimited 3.5, SOL Nova Unlimited 4.0 and SOL Nova Unlimited 5.0 are professional tattoo machines for the application of tattoos to the human skin in dry, clean and smoke-free environments, and under hygienic conditions. The tattoo machines must be prepared, used and maintained in the manner described in this operating manual.

In particular, the applicable provisions for workplace layout must be observed, and all materials used must be sterile.

Intended use also includes thoroughly reading and understanding this operating manual, in particular the chapter 2 on page 32.

Unintended use is defined as using the tattoo machine or its accessories in a way not described in this operating

manual, or failing to comply with their operating conditions. In particular, the tattooing of mucous membranes, or the eyes, and the tattooing of minors is prohibited.

2.9 Symbols on the product

The following symbols can be found on the machine, its accessories or packaging:

Symbol	Meaning
	Refer to operating manual!
CE	Satisfies the requirements of directives 2014/35/EC (Low-Voltage Directive) and 2014/30/EU (EMC Directive)
	Attention!
	Manufacturer
	Date of manufacture
REF	Catalog number, order number
SN	Serial number
LOT	Lot code
STERILE EO	Sterilized with ethylene oxide
	Use-by date
	Temperature limit
	Humidity limit
	Store in a dry place
	Fragile
	Cannot be used if packaging is damaged
	Do not reuse
	Old electronics, batteries and battery packs must not be disposed of in household waste, but instead must be disposed of professionally.
	Positioning the cell
IP20	Protection class (DIN EN 60529)
	Protection class 3
UK CA	The product satisfies the applicable requirements stipulated in legal regulations of the United Kingdom.

3 Scope of delivery

1 Cheyenne SOL Nova Unlimited 2.5, SOL Nova Unlimited 3.5, SOL Nova Unlimited 4.0 or SOL Nova Unlimited 5.0

1 Quick guide

1 Case

1 battery box with 2 lithium-ion batteries

1 Charger including USB cable

1 Declaration of conformity

4 Product information

The Cheyenne SOL Nova Unlimited 2.5, SOL Nova Unlimited 3.5, SOL Nova Unlimited 4.0 and SOL Nova Unlimited 5.0 as high-performance devices are much quieter and vibrates less than conventional tattoo machines. They have powerful skin piercing power and frequency.

4.1 Technical Data

Handpiece

Model	CB526*/CB522*/ CB523*/CB524*/ CB526X1*/CB522X1*/ CB523X1*/CB524X1* * Color variant 01-99 / * Country code AA – ZZ
Power intake	3 W
Stitch frequency	25 to 140 Hz
Stroke	2.5 mm (SOL Nova Unlimited 2.5)/3.5 mm (SOL Nova Unlimited 3.5)/4.0 mm (SOL Nova Unlimited 4.0)/5.0 mm (SOL Nova Unlimited 5.0)
Needle depth	0 to 4.0 mm (SOL Nova Unlimited 2.5)/ 0 to 4.0 mm (SOL Nova Unlimited 3.5)/ 0.25 to 4.25 mm (SOL Nova Unlimited 4.0)/0.25 to 3.25 mm (SOL Nova Unlimited 5.0)
Drive	Brushless DC motor
Operating mode	Continuous operation
Diameter	33 mm
Length	125 mm
Weight	184 g (not including battery pack 152 g)
Emission sound pressure level	max. 70 dB (A)
Vibration total value	max. 2.5 m/s²
Degree of protection	
Protection class	III

Battery

Battery designation	NCR18500A
Rated battery voltage	3.6 V
Battery type	Lithium-ion
Dimensions	Diam. max. 18.15 mm Length: 49.36 mm
Min. capacity	1940 mAh
Rated capacity value	1900 mAh
Typical capacity	2040 mAh
Charging method	CC-CV
Charging voltage	4.2 V
Weight	33.5 g max.
Energy density	536 Wh/l, 204 Wh/kg

Charger

Designation	Efest Slim K2
Input voltage	5 V DC
Input current	2.0 A
Charging current, max.	1 A x 2
Charge cut-off voltage	4.2 ± 0.05 V
Charge cut-off current	< 100 mA

4.2 Operating conditions

Ambient temperature	+10 °C to +35 °C +50 °F to +95 °F
Relative humidity	30% to 75% non-condensing
Ambient temperature while charging the battery	+10 °C to +40 °C +50 °F to +104 °F

4.3 Accessories

The following accessories can be purchased from your local specialist retailer:

- Cheyenne tattoo needle cartridges
- Cheyenne Grips

Protective sleeves must have a diameter of 34 – 40 mm. This corresponds to a sleeve width of 54 – 63 mm.

5 Preparing the tattoo machine for use

NOTICE

Damage from condensate

If the device is exposed to significant variation in temperature, e.g. during transport, condensate can form inside which can damage the electronics.

- ▶ Ensure that the machine has reached ambient temperature before using it. If it was exposed to high temperature fluctuations, wait for at least 3 hours for every 10 °C of temperature difference before putting it into operation.
- ▶ Only use the device at ambient temperatures of +10 °C to +35 °C.

5.1 Checking equipment

- ▶ Conduct a visual inspection of the equipment:
  - – Are there any visible signs of external damage (e.g. loose or bent components?)
  - – Are there any exposed cables?
  - – Are the needle cartridge and the needles correctly aligned?

⚠ WARNING

Danger of explosion

Damaged battery cells can explode or burn.

- ▶ Never use a damaged battery.
- ▶ Dispose of a damaged battery immediately (see chapter 9 on page 49).

- ▶ Check the battery for visible damage before using it.
- ▶ Switch on the machine and conduct a noise test: Can you hear any unusual operating noises, or is the unit running loudly?
- ▶ If you detect anything unusual, refer to chapters 10 on page 49 and 11.1 on page 50.

- If the machine is no longer operating safely, take it out of service and consult your local specialist retailer.

5.2 Disinfecting equipment

NOTICE

Damage to drive caused by fluid

If disinfectant gets inside the drive, this may corrode the electrical and mechanical components.

- Never immerse the drive in disinfectant.

NOTICE

Product damage caused by non-approved disinfectants

Disinfectants that are not compatible with the materials of the product may damage its surface.

- Always use disinfectants that are approved, i.e. that comply with stipulations in your country.
- Note the list of recommended disinfectants in chapter 7.1 on page 46.
- Switch the tattoo machine into idle mode (see chapter 6.3 on page 43).
- Check if the machine has become heavily contaminated by the return flow of inks or bodily fluids. In such cases, perform the steps described in chapter 7.3 on page 47.
- Wipe down the drive and handpiece with a soft cloth moistened with disinfectant.

5.3 Charge battery

⚠ WARNING

Danger of explosion

There is a danger of explosion when charging outside of the temperature range.

- Charge the battery at ambient temperatures of +10 °C to +40 °C.

⚠ WARNING

Danger of explosion

Battery cells that were discharged below 2.5 V are irreversibly damaged and may explode or burn if they are recharged.

- Never try to recharge a deep-discharged battery.

⚠ WARNING

Danger of explosion

Impermissible charging of a non-rechargeable system can cause the battery to burst or explode.

- Never attempt to charge a non-rechargeable battery.

⚠ WARNING

Danger of explosion

Damaged battery cells can explode or burn.

- Never use a damaged battery.
- Dispose of a damaged battery immediately (see chapter 9 on page 49).

⚠ WARNING

Danger of explosion

A damaged and not properly functioning charger may cause the battery cells to explode or burn.

- ▶ Never use a damaged charger.
- ▶ Dispose of a damaged charger immediately (see Chapter 9 on page 49).

⚠ CAUTION

Infection due to contaminated accessories

Accessories contaminated with pathogens can result in the transmission of diseases.

- ▶ Only ever touch the machine and its accessories while wearing clean and disinfected gloves.

- ▶ Always use the charger included in the scope of supply or a charger recommended by Cheyenne for charging.
- ▶ Connect the charger to a USB port using the USB cable included in the scope of supply.
- ▶ Observe the output data of the used USB port. The output voltage should be 5 V and the output current should be at least the 2.0 A. Any lower output current will significantly lengthen the charging time of your battery! Suitable, for example, is:
  - – The USB power adapter of your smart phone or table.
  - – Your power bank.

The information on the output power can generally be found on the nameplate of the power adapter or the power bank.

The battery is delivered partially charged. To guarantee the full output of the battery, charge it completely with the charger prior to first use. The battery can be charged separately at any time without shortening the battery life. An interruption in the charging process will not damage the battery.

- ▶ Place one or two batteries in the bays of the charger in the direction/polarity indicated.

Each battery is charged with a charging current of a maximum of 1 A. Charging time is approx. 3 hours.

The charging state is indicated with a 2-color LED.

The LED will be illuminated in white while the battery is charging.

The LED will be blue once the battery is fully charged.

If there is a defect, for example a defective battery or if the battery was inserted the wrong way, the LED will not be illuminated.

5.4 Inserting and removing the battery

⚠ WARNING

Danger of explosion

Damaged battery cells can explode or burn.

- ▶ Never use a damaged battery.
- ▶ Dispose of a damaged battery immediately (see chapter 9 on page 49).

⚠ WARNING

Danger of explosion

Non-inspected and certified lithium-ion batteries represent a large safety risk, because they can start burning or explode.

- ▶ Only use the supplied battery type NCR18500A or other battery approved by Cheyenne for your machine.
- ▶ Cheyenne will assume no liability for damage to your machine caused by other batteries.

⚠ CAUTION

Infection due to contaminated accessories

Accessories contaminated with pathogens can result in the transmission of diseases.

- ▶ Only ever touch the machine and its accessories while wearing clean and disinfected gloves.

- ▶ Always turn off the machine and place it in idle mode before removing the battery.
- ▶ Unscrew the cover on the rear end of the machine in counterclockwise direction and pull the battery out of the machine.
- ▶ Insert a charged battery in the machine. The battery's positive terminal shows in the direction of the needle cartridge.
- ▶ Screw the cover back on to the rear end of the machine.

5.5 Fitting the protective sleeve

⚠ CAUTION

Infection from contaminated protective sleeve

Failure to replace the protective sleeve can lead to a transmission of diseases.

- ▶ Use a new protective sleeve for each customer.

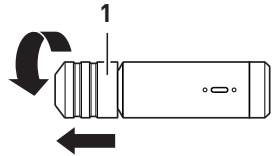
NOTICE

Damage to drive caused by fluid

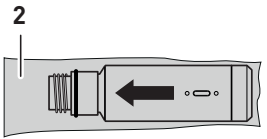
If fluid gets inside the drive or on the connection, this can corrode the electrical and mechanical components.

- ▶ Always use a protective sleeve (1) with a suitable diameter (see chapter 4.3 on page 38).

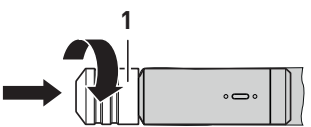
- ▶ Cut off a section of protective sleeve of an appropriate length.
- ▶ Completely unscrew the grip (1) from the drive.



- Pull the end of the protective sleeve (2) completely over your tattoo machine.



- Screw the grip (1) back onto the thread of the drive unit.



5.6 Replacing the needle cartridges

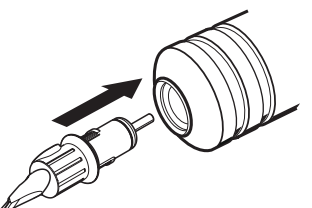
⚠ WARNING

Risk of injury from needles

Injuries caused by contaminated needles from the needle cartridges can lead to the transmission of disease.

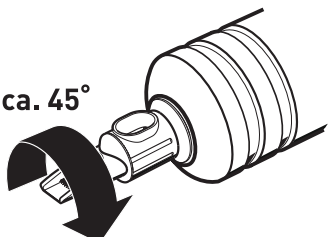
- Always use original Cheyenne needle cartridges for the tattoo machine. The installed safety membrane on these needle cartridges prevents the ingress of ink into the drive, and also prevents pathogens from entering the appliance.
- Never hold the needle cartridge by its tip or the bayonet connector.
- Switch off the tattoo machine before changing the needle cartridge.
- Ensure that when removing a used needle cartridge, no ink remnants can run into the grip.
- Never push the needles out of the needle cartridge.
- Check during the removal of a used needle cartridge that the needles are completely retracted into the needle cartridge.
- Dispose of used needle cartridges that are no longer required for the current application (see chapter 9 on page 49).
- The needle cartridges are supplied in sterile packaging. Do not remove them from their packaging until immediately before you intend to use them.
- Always place the tattoo machine down so that the needle cartridge is not on it.
- Seek medical attention if injured by a contaminated needle.

- Turn the machine off.
- Insert the needle cartridge in the opening in the grip, as illustrated below.



Due to its locating points on the top and bottom, each needle cartridge can only fit in the oval opening in two ways.

▶ Rotate the needle cartridge clockwise by approx. 45°. As you rotate it, the multiple locating points will engage audibly until the needle cartridge is firmly locked into position.



▶ Check that the needle cartridge is firmly seated.

▶ To remove the needle cartridge, turn it anti-clockwise and remove it from the grip.

6 Using the tattoo machine

6.1 Waking up the machine

After inserting the battery, your tattoo machine is in idle mode to protect the battery. The machine must first be woken up so that the motor can be started.

▶ Keep the multi-switch pressed for at least 1 second. The LEDs will then start to light up.

The battery LED shows you the charging status. Here, the meanings of the colors are as follows:

- White: > 50%
- Yellow: 50% - 26%
- Orange: 25% - 1%
- Red: 0%

If the battery status is too low, the battery LED will show red for 5 seconds and the machine is automatically switched to idle mode.

An error can be assumed if the machine does not respond as expected and does not turn back off. You can find more information on this in chapter 10 on page 49.

6.2 Starting and stopping the machine

▶ Press the multi-switch briefly once to start the motor.

▶ You can also press the multi-switch briefly to stop the motor.

Keep in mind that you cannot start the motor unless you have first woken up the machine as described in chapter 6.1 on page 43. An error can be assumed if the machine does not respond as expected and does not turn back off. You can find more information on this in chapter 10 on page 49.

To ensure you can work with your machine uninterrupted, while the motor is running, the LEDs will turn off after 3 seconds.

6.3 Switching the machine into idle mode

If not used for a longer period of time, your tattoo machine can be placed in idle mode to save power and the battery.

▶ If the motor is still running, turn it off by pressing the multi-switch briefly.

- ▶ Keep the multi-switch pressed for at least 3 second to switch the machine to idle mode.
- ▶ Keep in mind that idle mode can only be switched on when the motor is not running.

Your machine will switch into idle mode automatically if it was not used for about 5 minutes and the motor is not running or if the charging status of the battery has reached 0%.

6.4 Setting the needle depth

⚠ CAUTION

Risk of injury from excessive needle depth

A large needle depth permits a deep piercing depth. If needle depth and piercing depth are excessive, this can damage the subcutaneous layer.

- ▶ Start with just a short length of needle depth.

NOTICE

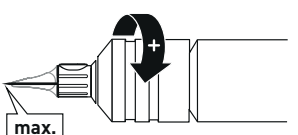
Damage to the safety diaphragm from excessive needle depth

The safety membrane of the needle cartridges can be overextended and damaged if the needle depth is excessive.

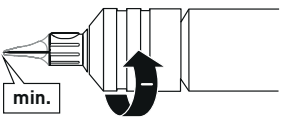
- ▶ Check that the needle depth is limited to 3.0 mm at a stroke of 5.0 mm.

- ▶ Start the tattoo machine.
- ▶ Adjust the needle depth while the machine is switched on; to do this, turn the grip.

Turning clockwise increases the needle depth:



Turning counterclockwise reduces the needle depth:



- ▶ Check the needle depth status of the machine.

If the needle protrusion status is altered accidentally during operation because the grip does not remain fixed in position, then clean the inside of the grip, the thread of the drive, the grooves and the small o-ring thoroughly (see chapter 7.4 on page 47). If the problem continues, replace the small o-ring as well (see chapter 7.6 on page 48). If the problem still persists, consult your local specialist retailer.

6.5 Setting the stitch frequency

⚠ CAUTION

Risk of injury due to high stitch frequency

If the stitch frequency is too high, the skin can be cut.

- ▶ Always start at a low stitch frequency.

- ▶ Start the machine as described in chapter 6.2.
- ▶ Keep the multi-switch pressed. The LED of the battery status indicator starts to pulse.
- ▶ Changing the position of the machine. The further the tip of the machine points upward, the faster the motor will run. The further the tip of the machine points downward, the slower it will run.
- ▶ Let go of the multi-switch and the frequency is saved.
- ▶ Set an appropriate stitch frequency. The stitch frequency must suit the characteristics of the customer's skin, the needle depth and the individual piercing depth when working, as well as the operating speed.

The minimum frequency that can be set is 25 Hz and the maximum frequency is 140 Hz. If you hold the machine horizontally, a frequency of 90 Hz is set. For both operating modes (Responsive and Steady Mode), the machine remembers the frequency that was set last, if you have turned off the machine as described in chapter 6.3 on page 43.

The frequency can only be set when the motor is running.

6.6 Setting Steady Mode and Responsive Mode

You can switch between "Steady Mode" and "Responsive Mode" operating modes on the machine. The two operating modes differ by the motor control. In Responsive Mode, the motor responds more sensitively to the resistance of the skin.

- ▶ Stop the machine as described in chapter 6.2 on page 43.
- ▶ Press the multi-switch for about 1 second to switch back and forth between the two modes. The LED of the mode indicator will change its behavior as a result.

A blinking mode LED shows that the machine is currently in "Responsive Mode". The "Steady Mode" is indicated with a continuously illuminated mode LED.

The mode of the machine can only be set when the motor is stopped.

6.7 Loading with ink

- ▶ Immediately before use, dip the tip of the needle cartridge in the desired color of ink for 2 to 3 seconds with the unit running. Avoid contact with the ink container. The ink is picked up by the needles. Alternatively, the ink can be filled into the opening on the needle cartridge using a sterile pipette.

7 Cleaning and maintaining the tattoo machine

⚠ CAUTION

Risk of short-circuit

If components of the tattoo machine are dismantled and cleaned while still powered, there is a risk of damage to the electronics in the drive unit.

- ▶ For any cleaning and maintenance work, always disconnect the tattoo machine completely from its voltage source (power unit, power adapter or remove battery).

NOTICE

Damage to drive caused by fluid

If cleaning fluid or disinfectant gets inside the drive, this can corrode the electrical and mechanical components.

- ▶ Never immerse the drive in disinfectant.
- ▶ Never clean the drive and other electric parts (such as cord, battery) in an autoclave or an ultrasonic bath.
- ▶ Pay attention to compatibility of materials when selecting cleansers and disinfectants (see chapter 7.1 on page 46).

7.1 Material compatibilities

- ▶ Wherever possible, use one of the following disinfectants:

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

Based on the following material compatibilities, you can assess which other cleaning agents and disinfectants are suitable.

The anodized aluminum components and seals of the tattoo machine are **resistant** to:

- Weak acids (e.g. boric acid ≤ 10%, acetic acid ≤ 10%, citric acid ≤ 10%)
- Aliphatic hydrocarbons (e.g. pentane, hexane)
- Ethanol
- Most inorganic salts and their aqueous solutions (e.g. sodium chloride, calcium chloride, magnesium sulphate)

The anodized aluminum components and seals of the tattoo machine are **not resistant** to:

- Strong acids (e.g. hydrochloric acid ≥ 20%, sulphuric acid ≥ 50%, nitric acid ≥ 15%)
- Oxidizing acids (e.g. peracetic acid)
- Lyes (e.g. caustic soda, ammonia and all substances with a pH value > 7)
- Aromatic/halogenized hydrocarbons (e.g. phenol, chloroform)
- Acetone and benzene

7.2 Disinfecting surfaces

Before and after each usage:

▶ Disinfect all surfaces of the tattoo machine and its accessories as described in chapter 5.2 on page 39.

7.3 Cleaning surfaces

In the event of external contamination:

▶ Disassemble the grip and drive.

▶ Wipe the grip, the drive and the protective sleeve with a soft cloth dipped in a cleaning agent or a disinfectant.

▶ Clean inaccessible surfaces, e.g. the thread of the drive unit, with a soft-bristled nylon brush or a swab.

▶ Note that due to the surface quality, streaks of ink may occur on the tattoo machine.

7.4 Cleaning grip in an ultrasonic bath

If the grip is severely soiled:

▶ Use cleaning agent Tickomed 1 or Tickopur R33 from manufacturer Dr. H. Stamm GmbH in accordance with the manufacturer's instructions.

▶ Make sure that a pH value of 7 is not exceeded.

▶ Conduct the cleaning operation for 10 minutes at a frequency of 35 kHz.

▶ Dry the grip entirely after cleaning before you reuse it.

7.5 Sterilizing grip in an autoclave

Whenever grip is contaminated:

▶ Perform all steps described in chapter 5.2 on page 39.

▶ Autoclave the grip for 20 minutes at a temperature of 121°C and a pressure of 2 bar.

▶ Dry the grip entirely after cleaning before you reuse it.

7.6 Cleaning or replacing o-rings

Both o-rings prevent the grip from being turned too easily.

If it is too easy to turn the grip, causing the needle depth to alter accidentally:

- ▶ Degrease the o-ring with a soft cloth dipped in a cleaning agent or a disinfectant.
- ▶ If the problem persists, replace the o-rings with new ones and if necessary, grease them with silicone grease.

8 Transport and storage conditions

⚠ WARNING

Danger of explosion and fire

Improper transport and storage conditions can damage lithium-ion batteries and fires or explosions may be triggered.

- ▶ Only transport and store your batteries in compliance with the specified storage and transport conditions.
- ▶ When transporting the batteries, always use the plastic battery box.
- ▶ Never transport batteries loose in your pocket, because metal parts (such as keys) can result in a short circuit.
- ▶ Never transport the machine with the battery installed. Take it out first and keep it in the battery box.

NOTICE

Damage to product caused by dropping it

If the tattoo machine is dropped, its motor can be damaged.

- ▶ Always set the tattoo machine down carefully so that it cannot fall.
- ▶ If the tattoo machine does fall, perform a visual inspection and a test for unusual noises.
- ▶ Deliver the tattoo machine to a specialist retailer for inspection if it has visible signs of damage, if the operating noise level changes significantly or if it stops functioning normally.
- ▶ Always transport your tattoo machine and its accessories ensuring they are sufficiently padded. Leave the grip attached during transport to protect the drive.
- ▶ Use the supplied case to transport the machine and accessories.

When traveling by air, most airlines will only allow you to transport your machine, including its battery, in your carry-on luggage.

- ▶ Obtain the information from your airline before your departure.
- ▶ Always store your tattoo machine and accessories under the following conditions:

Ambient temperature	-20 °C to +50 °C -4 °F to +122 °F
Relative humidity	30% to 75%
Air pressure	200 hPa to 1060 hPa

9 Disposal of equipment

▶  Dispose of the machine and accessories bearing the following designation in accordance with the applicable regulations for used electronic equipment (WEEE Directive 2012/19/EU). If necessary, consult the specialist retailer or the responsible authorities to learn about applicable regulations for used electronic equipment.

- ▶ At the workplace, have containers available that allow contaminated parts to be disposed of properly.
- ▶ Dispose of used or defective needle cartridges in a see-through container (safety box) in accordance with the regulations applicable in your country.
- ▶ Never dispose of the battery in household waste, but instead in accordance with the applicable regulations for batteries and accumulators (EU Directive 2006/66/EU). If necessary, consult the specialist retailer or the responsible authorities to learn about applicable regulations.

10 For questions or problems

If there is a malfunction:

- ▶ First disconnect and remove all components from the tattoo machine.
- ▶ Check all connections and contacts and then reassemble the components.
- ▶ Check the functions of the machine again.

If the machine cannot be woken up:

- ▶ Check to ensure that the battery is inserted the right way around.
- ▶ Check whether you are using the correct battery type (lithium-ion 3.6 V)
- ▶ Check the charging status of the battery.
- ▶ Check to ensure that the battery has sufficient contact with the contact springs.

If the battery LED flashes three times:

- ▶ Check the battery voltage. The battery may be deep discharged or damaged otherwise. Do not use this battery anymore and do not try to recharge it.

If the battery LED flashes briefly twice:

- ▶ The battery has a voltage of more than 4.2 V. Never use an overcharged battery.
- ▶ Check the battery charger. The charger included in the scope of supply automatically stops the charging process at 4.2 V.

If the Mode LED is flashing and the motor shuts off:

The drive is overloaded.

- ▶ Check to ensure that your tattooing cartridge is correctly installed and running easily.

If the battery LED and Mode LED are flashing:

- ▶ Remove the battery, Insert a new battery and try to wake up the handpiece. Test all of your machine's functions.

Your tattoo machine has a temperature switch. For safety reasons, the motor shuts itself off automatically if high temperatures are reached.

If the temperature switch-off was triggered:, the battery LED and Mode LED are flashing:

- ▶ Remove the battery and check it for damage or unusual heat build-up. The battery may be defective. Do not use this battery anymore and do not try to recharge it.
- ▶ Let the machine cool down to room temperature and then restart it.

If malfunctions persist, and if you have any questions or complaints, please contact the specialist retailer responsible.

Lithium-ion batteries are subject to regulations applicable to dangerous goods. In the event of a complaint, you must only return the machine without the batteries. Never ship damaged lithium-ion batteries. Private individuals may transport undamaged batteries by road without any restrictions.

To obtain information about our current offers, the selection of needle cartridges and accessories, please visit our website www.cheyennetattoo.com.

11 Manufacturer Declarations

11.1 Disclaimer of warranties

With the Cheyenne SOL Nova Unlimited 2.5, SOL Nova Unlimited 3.5, SOL Nova Unlimited 4.0 or SOL Nova Unlimited 5.0 you have purchased a high-quality brand product.

The reliability of this machine is assured through application of the latest inspection technologies and certification. MT.DERM GmbH is certified in accordance with DIN EN ISO 13485:2016 (quality management system for medical products).

A warranty period of one year applies to malfunctions resulting from defects in material and workmanship for the product.

For the needle cartridges, we guarantee sterility until the indicated expiration date subject to sealed and undamaged packaging, and to compliance with transport and storage conditions. The "expiration date" is indicated on the module label. For complaints relating to needle cartridges, please advise us of the batch number printed on the label.

We do not provide warranty cover in respect of the following types of damage:

- Damage and secondary damage arising from unintended use or failure to comply with the operating manual.
- Damage arising from the ingress of fluids or dirt into the drive
- Damage and secondary damage arising from dropping it or it falling

11.2 Declaration of Conformity

The manufacturer	MT.DERM GmbH Blohmstr. 37 – 61 12307 Berlin, Germany

hereby declares on their own responsibility that the following products:

Product designation:	Tattoo machine
Product name:	SOL Nova Unlimited 2.5, SOL Nova Unlimited 3.5, SOL Nova Unlimited 4.0, SOL Nova Unlimited 5.0
Article description:	CB526*/CB522*/CB523*/CB524*/CB526X1*/CB522X1*/CB523X1*/CB524X1* * Color variant 01-99 / * Country code AA – ZZ

The provisions in the following directives:

EU	UK
EMC Directive 2014/30/EU	Electromagnetic Compatibility Regulations 2016
Machinery Directive 2006/42/EC	Supply of Machinery (Safety) Regulations 2008
RoHS Directive 2011/65/EU	The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

The following standards were applied:

EN 60335-1:2012 + AC:2014 + A11:2014 + A13:2017 + A1:2019 + A2:2019 + A14:2019	Household and similar electrical appliances – Safety – Part 1: General requirements
EN 55014-1:2017 + A11:2020	EMC Requirements for household appliances, electric tools and similar apparatus - Part 1: Emitted interference
EN 55014-2:2015	Electromagnetic Compatibility – Requirements for household appliances, electric tools and similar apparatus – Part 2: Immunity
EN IEC 61000-3-2:2019	Electromagnetic compatibility (EMC) – Part 3-2: Limits – Limits for harmonic current emissions (equipment input cur-rent ≤ 16 A per phase)
EN 61000-3-3 :2013 + A1:2019	Electromagnetic compatibility (EMC) - Part 3-3: Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current <= 16 A per phase and not subject to condi-tional connection
EN 62233:2008 + AC:2008	Measurement methods for electromagnetic fields of household appliances and similar apparatus with regard to hu-man exposure
EN ISO 14118:2018	Safety of machinery - Prevention of unexpected start-up
EN ISO 14971:2019 + A11:2021	Medical products – Application of risk management to medical devices

Authorized representative for compiling the relevant technical documentation:

Dr. Andreas Pachten, MT.DERM GmbH, Documentation Officer

This declaration is issued on behalf of the manufacturer by:

Berlin, dated 9/01/2022, Jörn Kluge

(Signature of CEO or deputy)

Original