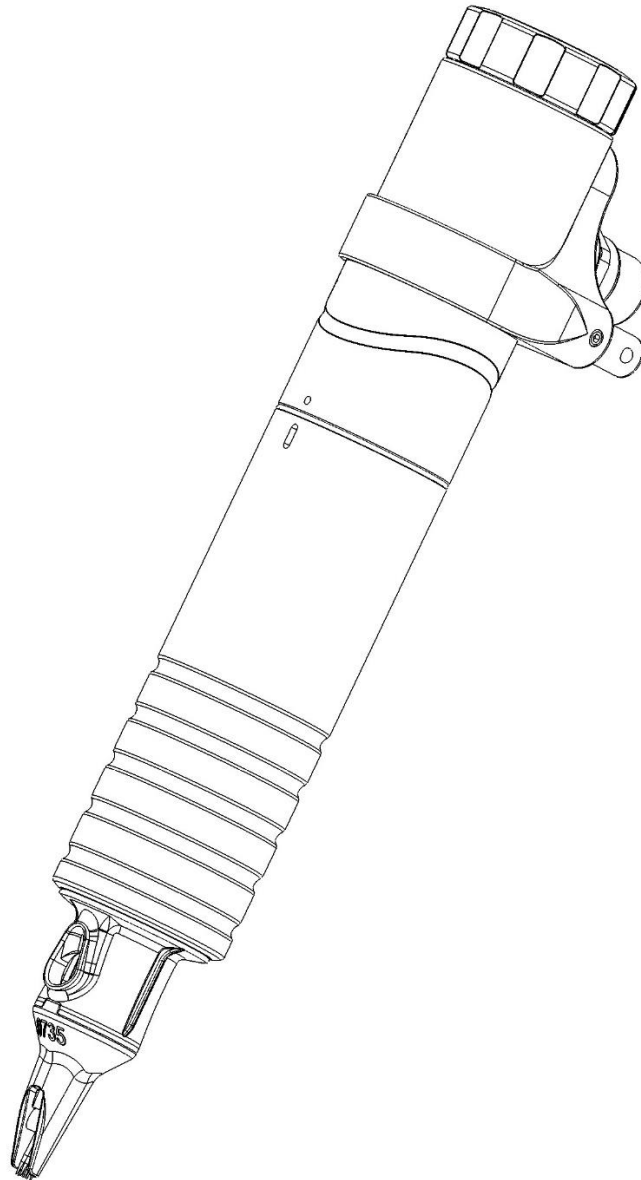


# Manual for **Scorpion** tattoo machine rev.2



Manufacturer: InkMachines Sweden AB  
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**Document history**

Date (YY-MM-DD)	Changes	Revision
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### App.

Declaration of Conformity for FCC and CE

Warranty

Certificate Electromagnetic compatibility

## Introduction

### ***Document information***

Information in this document is subject to change without notice. InkMachines assumes no responsibility for any errors that may appear in this document.

### **Stylistic conventions**

In this manual all references texts are shown in the text font *italic*.

Cautions and Notes are shown as below.

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*Text*

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## Description

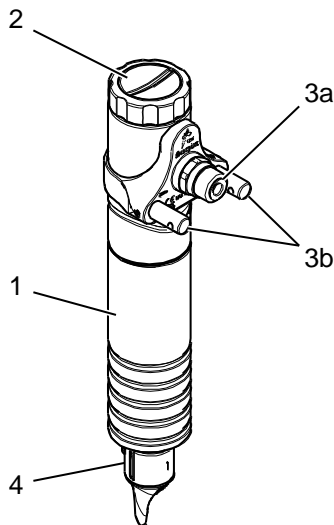
**Scorpion** is a tattoo machine intended for tattooing of humans for the use by professional tattoo artists. The machine is intended to use together with Neo-Cartridge tattoo needles and is prepared for wireless use with power supply *TPS-500*.

When wireless use of **Scorpion** with power supply unit *TPS-500*, **Scorpion** is used together with the batteries (powerpacks) associated with *TPS-500*. **Scorpion** can then be controlled wirelessly using the power supply unit *TPS-500* and the associated wireless foot switch. **Scorpion** can also be connected to *TPS-500* or other power supply unit intended for the purpose, by RCA cable or clip cord.

**Scorpion** is provided with active vibration damping which means when the tattoo needle is mounted in the tattoo machine the vibrations from the machine is extremely low which makes it easy and ergonomic to work with.

**Scorpion** is, as previously mentioned, intended to be used together with Neo-Cartridge tattoo needles. The needles are easily fitted to the tattoo machine. The needle movement is driven magnetically. This together with the needle design with a one-piece housing minimizes the risk of cross-contamination between the needle and the tattoo machine. The needles are easy to change and easy to handle during the with the supplied needle stand. The contactless magnetic needle drive makes the needle drive smooth and the machine starts effortlessly and safely.

### Parts of the tattoo machine



Tattoo machine, *Scorpion*

1. Grip
2. Adjusting knob (needle protrusion)
3. Power connection
  - a. Connection for RCA cable
  - b. Connection for clip cordThe battery (powerpack) should be installed over all of the pins on the connection.
4. Needle (Neo-Cartridge)

## Description

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### *Intended use*

The **Scorpion** tattoo machine is designed and developed solely for tattooing of humans for the use by professional tattoo artists with good knowledge of hygiene, how to prevent spreading infections and local regulations regarding this.

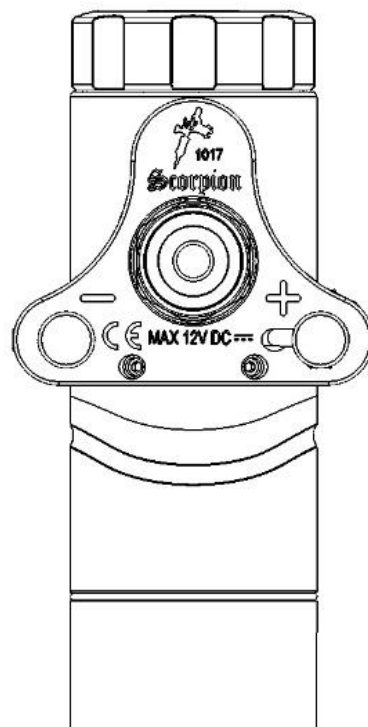
## Approvals

This product complies with the Europe requirements for CE-marking towards the Machine Directive, 2006/42/EC.

See Declaration of conformity in the end of the manual.

### Identification labels

The product is labelled according to below;



## Safety

### Regulations

Always follow local regulations concerning the tattoo operation. It is the operator's responsibility to follow regulations and to provide a reliable environment for their customers.

The manufacturer does not have responsibility for any kind of material or personal damage or infection caused by the operator. Negligence or misuse of the machine or the components attached to the machine is the operator's responsibility.

The manufacturer does not have responsibility for contamination or infection.

### Product

To keep your product in good shape handle it with care!

The product should not under any circumstances come in direct contact with fluids. If fluids will get in contact with the electronics it can damage the product.

Keep the product away from warm places.

### Customer

InkMachines only provide products for professional tattoo artists and the product may only be used by professionals with knowledge about diseases and how to maintain a clean working environment and a sterile equipment.

Always use:

- sterile grips and needles
- rubber/disposable gloves
- plastic bags and wraps for tattoo equipment; around the power supply and the machine with the Powerpack or the power cord

Always keep your equipment clean! See below for further instruction.

## Cleaning and hygiene

### Cleaning

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**Caution!** Never spray or pour fluids directly on any of the units, it can cause short circuit and will void the warranty.

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It is important for the tattoo operation to keep a clean and hygienic environment to avoid infection.

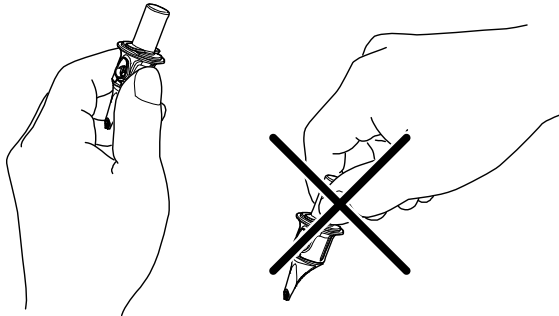
Do NOT use strong alkaline (high pH) or acid (low pH) cleaning agents. Only use pH neutral cleaning agents and alcohol disinfectants. Use a damped piece of paper or cloth to gently wipe off surfaces of the units.

### Hygiene

- Do not touch sterilized grip or sterile needles with bare hands. Use disposable gloves!



- Needles would be hold as shown in the picture. Do not touch the part of the needle to be inserted into the tattoo machine.



- Clean the work surface thoroughly and cover the surface with plastic film before the tattoo session.
- Wrap the equipment with plastic film and arrange it as described in chapter *Getting started* on page 10.
- Follow local laws and regulations concerning the tattoo operation.

## Instruction

### Delivery

When your package is delivered please check that:

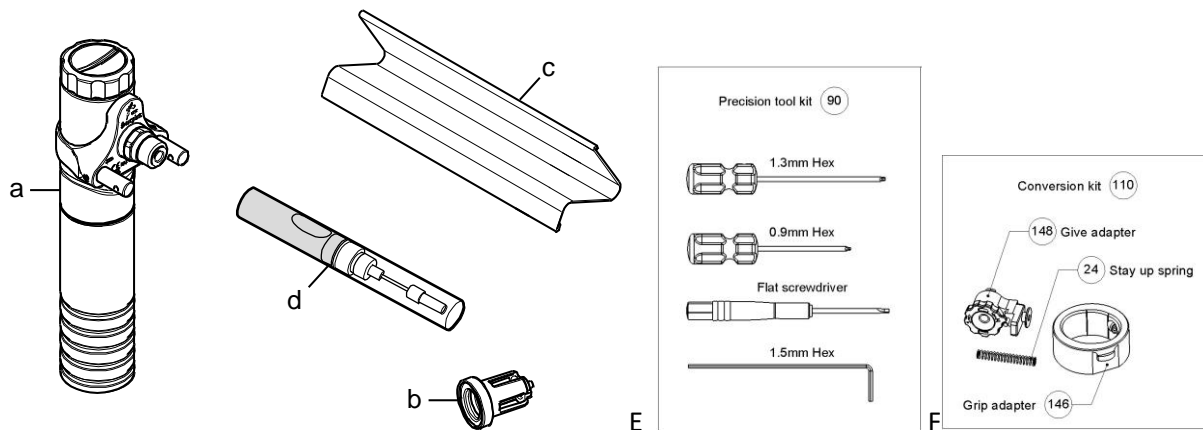
- there are no transport damages
- everything is delivered accordingly.

### Unpacking



**Note!** Before unpacking make sure the area is cleaned!

Standard parts delivered:



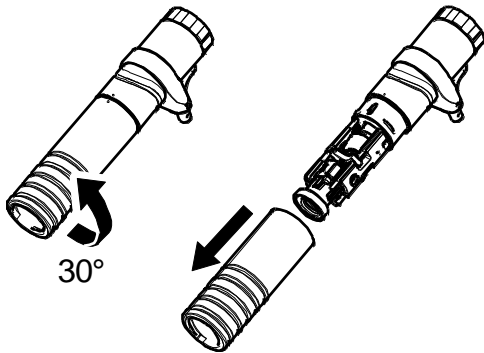
- 1pc **Scorpion**, tattoo machine
- 1pc Magnet Red (in the box). White standard in the machine
- 1pc Stand for tattoo needles (Neo-Cartridges)
- 1pc oiler
- 1pc Precision tool kit No-90
- 1pc Conversion kit No.110

## Getting started

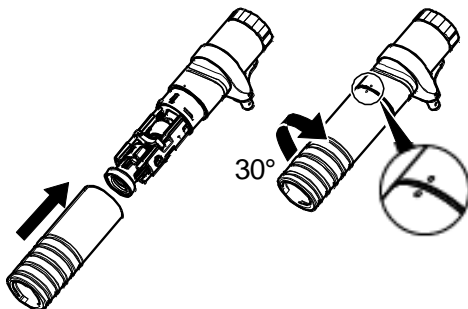
**Note!** The product is not equipped with a power on button.



1. Make sure the workspace is thoroughly cleaned and disinfected.
2. Use disposable gloves when preparing the tattoo machine and work surface.
3. Cover the work surface with plastic film.
4. Hold the tattoo machine and turn grip 30° counterclockwise to remove the grip from the tattoo machine.

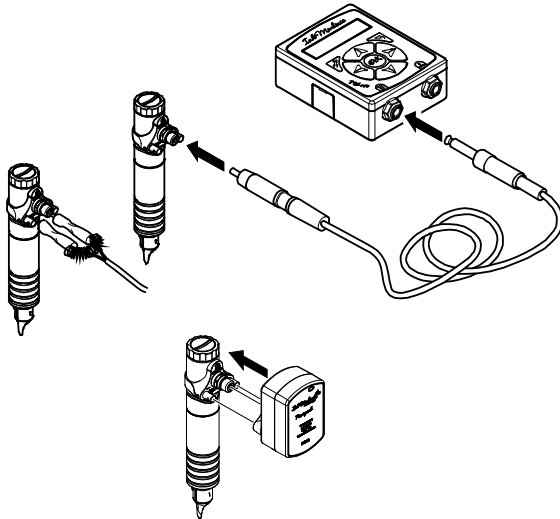


5. Sterilize the grip.  
If disposable grips are used; discard the grip and use a new one.

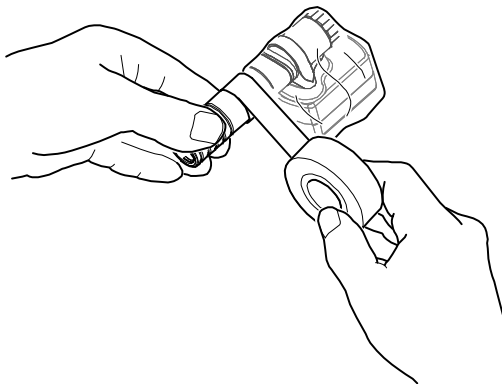


6. Fit the grip as shown in the picture.
7. Turn the grip 30° clockwise.

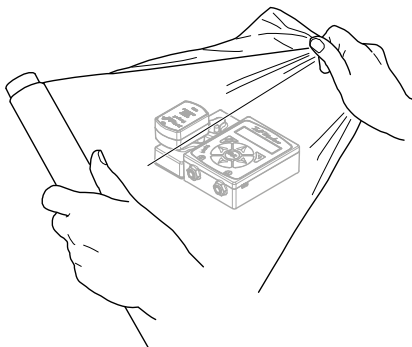
**Note!** The mark on the grip and the mark on the tattoo machine should be aligned when the grip is correctly fitted to the tattoo machine.



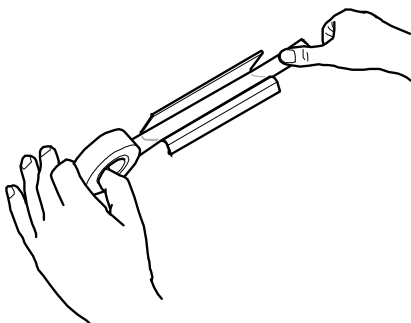
8. Connect the cable (RCA or clip cord) or the powerpack (see manual for power supply unit *TPS-500*) to the tattoo machine.



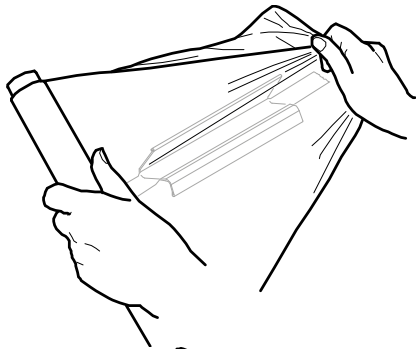
9. Wrap the tattoo machine and the powerpack, or cable, with plastic film or similar. Seal with tape.



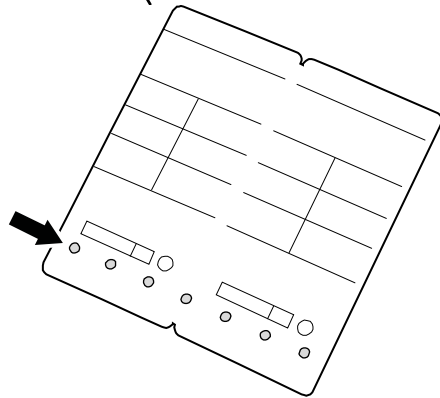
10. Wrap the power supply unit with plastic film (see the manual for the power supply unit).



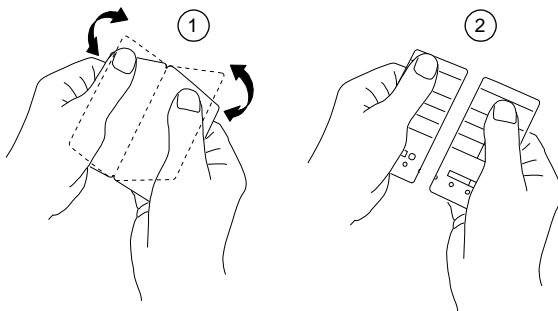
11. Tape the needle stand to the table.



12. Wrap the needle stand with plastic film.



13. Check that the dots at the bottom of the needle package are **NOT** Blue.  
If the dots are blue the needle package is not sterile and should not be used.

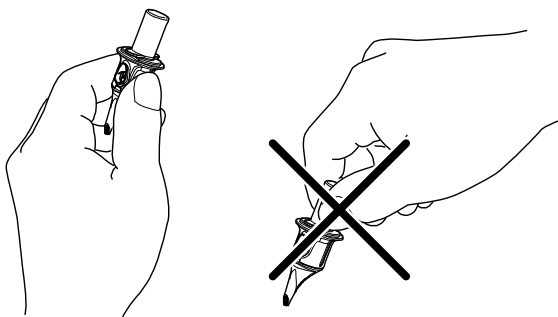


14. Remove a needle package from the other and open it.

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**Note!** When a needle package is to be parted from the other do not tear them apart. Fold back and forth repeatedly until the package releases from the rest. Otherwise there is a risk of damaging the adjacent package. The needle in the package is then no longer sterile and should not be used.

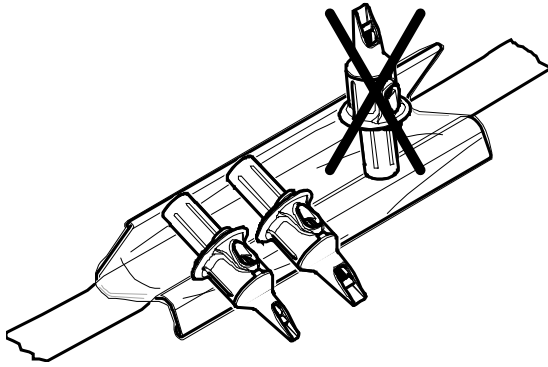
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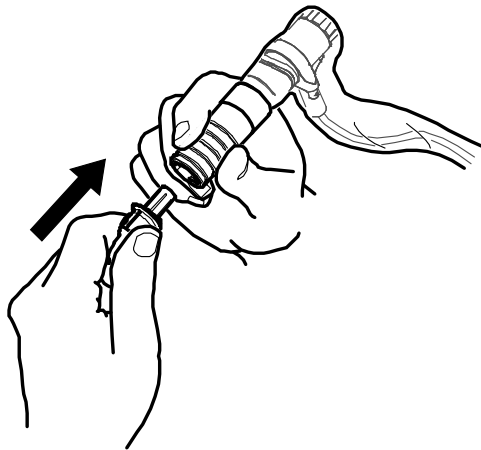
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**Note!** When handling the needle, do not touch the part of the needle that is to be inserted into the tattoo machine

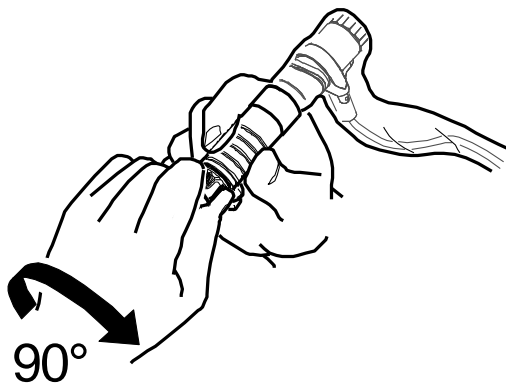
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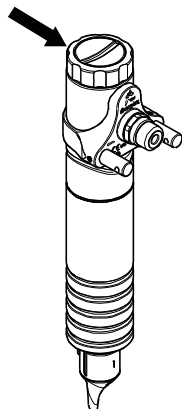
15. Place the number of needles needed during the work in the needle stand. The needles should be placed as shown. If you need more needles use one more stand.



16. Insert a needle in the tattoo machine.



17. Turn the needle 90° to lock it.



18. Set the voltage on the power supply unit (see the manual for TPS-500).

Appropriate start value: 8 – 11 V.

19. Adjust the needle's protrusion (depth) with the adjustment knob. One revolution equals 2mm.

20. The tattoo machine is now ready to use.

## ***After each tattoo session***

After each tattoo session the used tattoo needles should be destructed. Consumables and packaging such as plastic film, plastic bags, needle packaging etc. should be disposed.

Remove the grip from the tattoo machine and sterilize it.

## Converting to regular cartridges

InkMachines recommends that Neo-cartridges are always used for optimal performance and safety with the Scorpion machine. With regular cartridges some advantages will be lost. For example, the Neorail cannot be used with the TPS-500 and the advantages of Neo-cartridges will be lost.

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**Caution!** InkMachines does not have responsibility for any fluids or pigments entering the machine after using other cartridges than original Neo-cartridges. InkMachines does not have responsibility for contamination or infection of any kind. To avoid cross-contamination between the needle and the tattoo machine with regular cartridges, always use cartridges with membrane.  
**Never use cartridges without a sealing membrane.**

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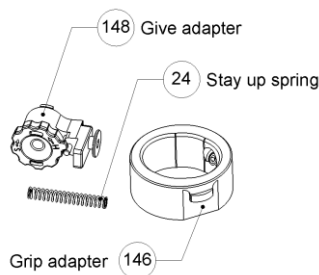
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**Note!** Save all removed parts for the future if you want to convert back to Neo-Cartridges again.

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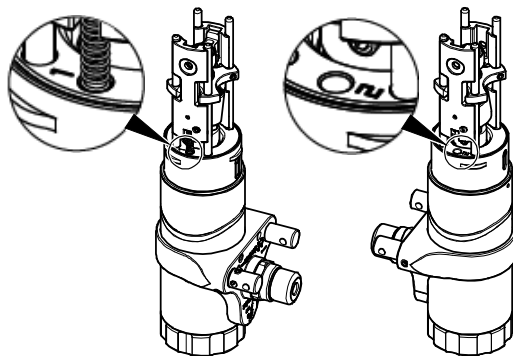
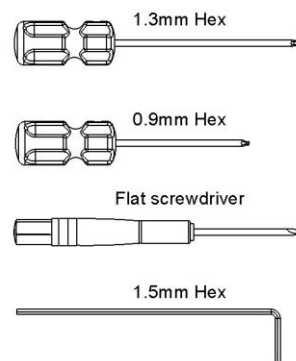
You need one *Conversion kit No. 110* for regular cartridges and one *Precision tool kit No. 90*.

### Conversion kit No. 110



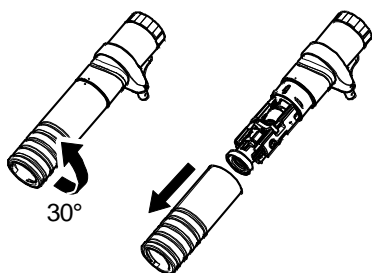
Stay up spring No. 24 (optional use)  
Give adapter No. 148  
Grip adapter No. 146

### Precision tool kit No. 90

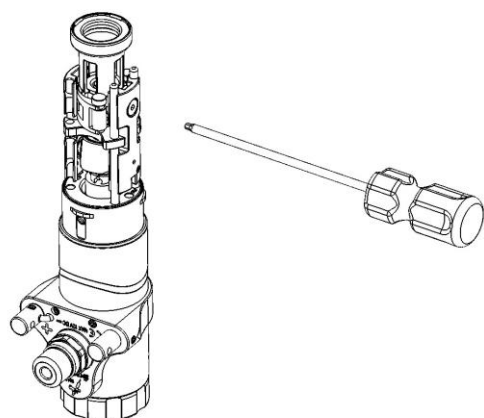


**NOTE!** One side of the inner tube is engraved with the number "1" (originally the side with the Stay up spring and Counter weight) and the other side with the Drive magnet is engraved "2".

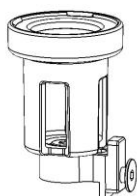




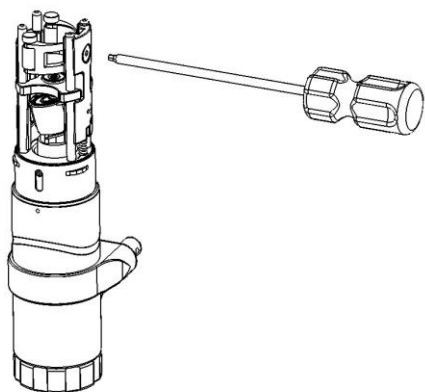
1. Remove the grip from the tattoo machine and turn the adjustment knob counter clockwise so the inner tube (No.137 motor sleeve) is as far out as possible, it will make it easier to reach all components.



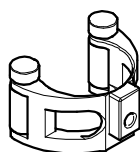
2. Remove the Drive magnet by loosen the Magnet holder screw on the side of the plastic slide with the 1.3 Hex key from the *Precision tool kit No.90*.

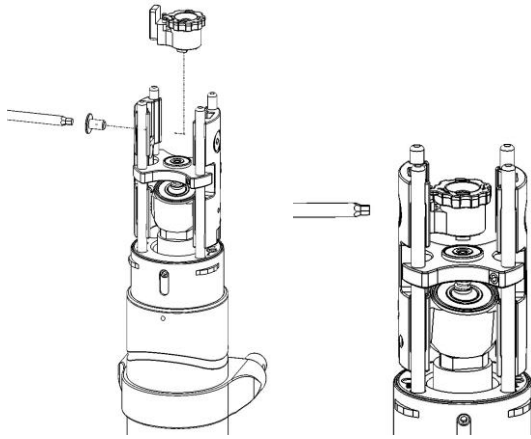


3. Leave the Magnet holder screw in the Magnet holder to prevent the screw from disappearing. Keep the magnet in a plastic bag to keep free from dirt.

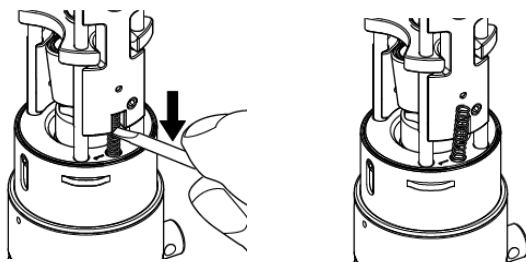


4. Use the 1.3 Hex key to remove the Counterweight screw on the "1" side of the machine, remove the Counterweight.





5. Mount the Give adapter No. 148 (included in *Conversion kit No. 110*) on the slide of the "2" side, make sure the screw goes smooth into the Give adapter, if not back the screw out, align and try again so that the thread is not damaged. Tighten gently.



6. Remove the Stay up spring No. 24 placed on the side "1", by pressing down the spring with the small flat screwdriver. Put one corner of the screwdriver between the fourth and fifth coil and press the spring down as straight as possible until it comes clear and can be taken out.

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**Note!** Be very careful when pressing down the spring not to bend it.

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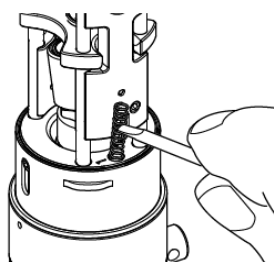
**IMPORTANT!** Depending on the stiffness of the membrane in the cartridges you are about to use, you can choose to place the spring at the opposite side "2" of the machine or not use the spring at all.

Different Cartridge brands have different stiffness of the membrane. Cartridges with a stiff membrane sometimes makes it harder for the machine to start and needs to be accounted for when deciding where to place the spring. If the spring is placed on the "2" side of the machine it will help the forward motion and start the machine with ease even with very low voltage and long protrusion of the needle. But if the cartridge membrane is soft or normal the spring is not needed.

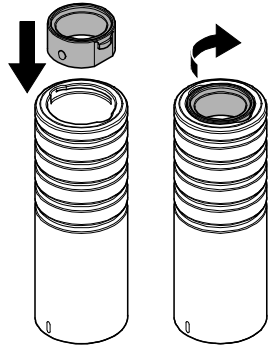
The spring should only be located at the original "1" side when using Neo-cartridges.

If soft membrane cartridges are used: Don't use the spring at all.

If stiff membrane cartridges and low voltage are used and kick start is not available: Place the spring at the "2" side.



7. Place the Stay up spring No. 24 in the hole of the machine on the side you decide, Put one corner of the screwdriver between the fourth and fifth coil and press the spring down as straight as possible until it comes clear and can be inserted.



- Place the Grip adapter No. 146 (included in the *Conversion kit No. 110*) in the grip and turn the grip adapter 90° clockwise. The Grip adapter is only for metal grips and not for disposable grips.

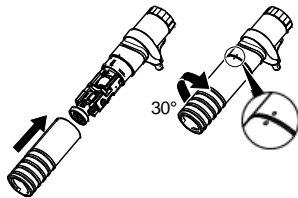


- Tighten the screw with the 0.9 Hex key (red) from the *Precision tool kit No. 90*. Make sure the key engages in the screw properly before tightening so the screw is not damaged. Tighten medium hard and make sure you don't bend to the side which can damage the key or screw.

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**Note!** Do not tighten the screw to tight.

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- Fit the grip and then turn the grip 30° clockwise.

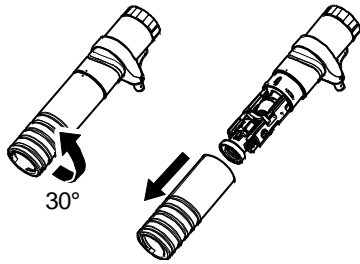
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**Note!** The mark on the grip and the mark on the tattoo machine should be aligned when the grip is correctly fitted to the tattoo machine. But is of less importance when using regular cartridges.

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The tattoo machine is now ready to be used with regular membrane cartridges.

## Converting back to Neo-cartridges

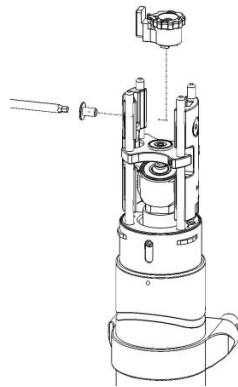


1. Remove the grip from the machine.
2. Put back the spring at the side marked "1". How to mount the spring correct, see chapter above *How to convert to regular cartridges*.

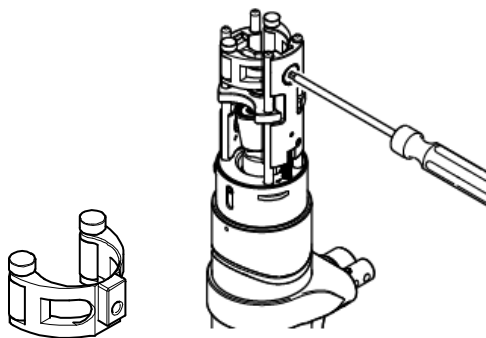
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**Note!** Be very careful when pressing down the spring.

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3. Remove the Give adapter No.148 from the plastic slide by using the 1.3 Hex key from the *Precision tool kit No.90*.



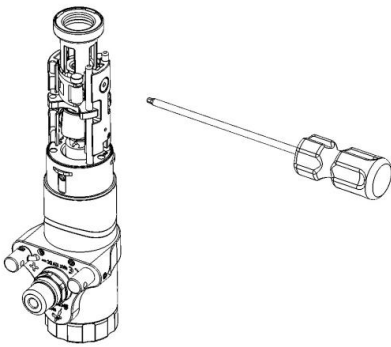
4. Mount the Counterweight on the Slide on the side marked "1". When correct mounted, the counterweight and the spring should both be located on the "1" side of the machine.

Tighten this screw quite gently. If overtightened, it can cause the machine to run slower.

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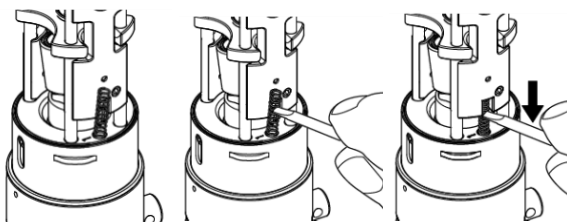
**Note!** Do not tighten the screw to tight.

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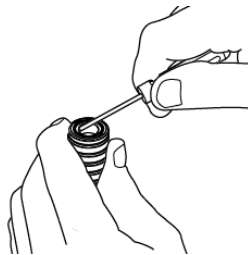


5. Mount the Magnet holder with magnet on the Slide on the machine side marked "2".

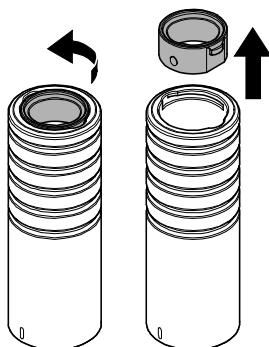
Tighten this screw quite gently. If overtightened, it can cause the machine to run slower.



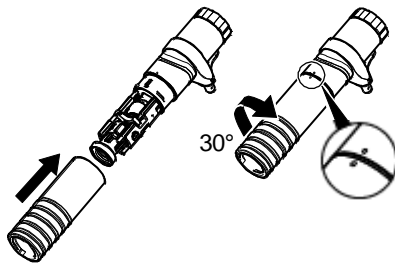
6. Mount the Stay up spring No. 24 placed on the machine side "1", by pressing down the spring with the small flat screwdriver. Put one corner of the screwdriver between the fourth and fifth coil and press the spring down as straight as possible until it comes clear and can inserted.



7. Loosen the grip adapter screw with the 0.9 Hex key from the *Precision tool kit No. 90*.



8. Turn the grip adapter 90° counterclockwise and remove it from the grip.

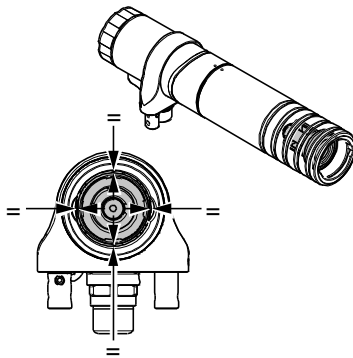


9. Fit the grip and then turn the grip 30° clockwise.

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**Note!** The mark on the grip and the mark on the tattoo machine should be aligned when the grip is correctly fitted on the tattoo machine. Important when using Neo-cartridges.

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10. **IMPORTANT!** Check visually that the magnet is centered in the grip. If it is not centered, remove the grip and correct it by pushing the magnet gently to the side with your thumb. Refit the grip and check again.

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**Note!** The gap between the magnet and the grip should be equal all around. If the magnet is not centered power consumption and battery life can be affected (if wireless is used). The machine can also become warm.

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The tattoo machine is now ready to be used with Neo-cartridges.

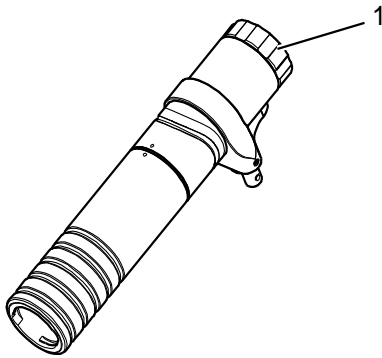
## Service and maintenance

For service and repair visit [www.inkmachines.com/service](http://www.inkmachines.com/service)

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**Caution!** Changes or modifications not approved by the manufacturer could void the warranty.

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1. Adjusting knob

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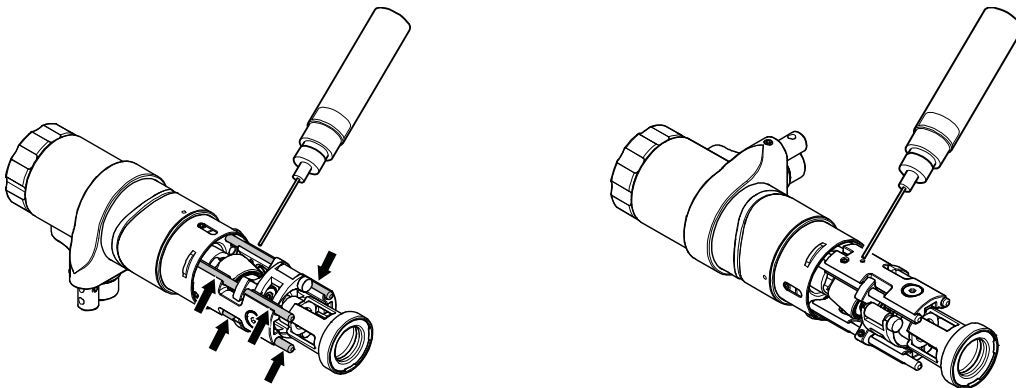
**Caution! Do not remove the adjusting knob (1) at the end of the tattoo machine. The warranty is void if this is removed.**

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### Lubrication

The tattoo machine should be lubricated every 100-150 hours for optimal performance and service life. Use the oil included in the delivery of the machine.

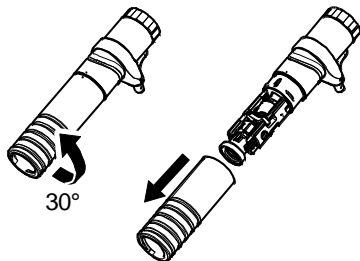
- Remove the grip (see point 4 at page 10).
- Lubricate the following spots on the tattoo machine. Do not leave oil on bearings, between the outer and the inner tube and do not let oil enter the motor. This can compromise the electric properties.



- Run the tattoo machine for a while to distribute the oil.
- Wipe off redundant oil with a soft cloth.
- Refit the grip on the tattoo machine (see point 6-7 on page 10).

## Change drive magnet

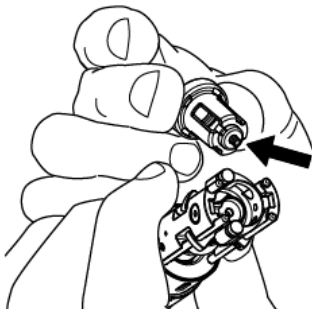
If a harder punch is required, the standard Drive magnet (white) can be replaced with a stronger Drive magnet (red). The red Drive magnet is 25 % stronger and good for tough skin and larger needle groups. The red magnet is included in the tattoo machine box.



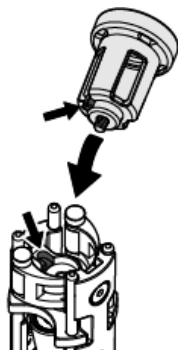
1. Remove the grip, Hold the tattoo machine and turn the grip 30° counterclockwise to remove the grip from the tattoo machine.



2. Remove the drive magnet by loosen the screw in the middle of the magnet with the T6 Torx key from the scorpion box or the black 1.3 Hex key from the *Precision tool kit No. 90*.



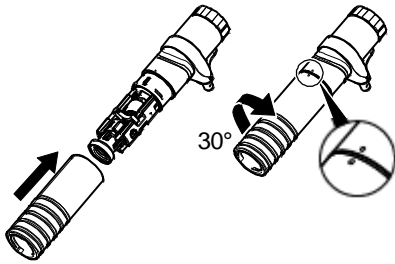
3. Leave the screw on the magnet to prevent the screw from disappearing.



4. Place the red drive magnet in the magnet holder of the machine. Check that the plastic part of the drive magnet is inserted correctly so that it fits in the groove of the magnet holder. Fasten the magnet with the screw.

**Note!** Do not tighten the screw to tight. Very light will be enough.



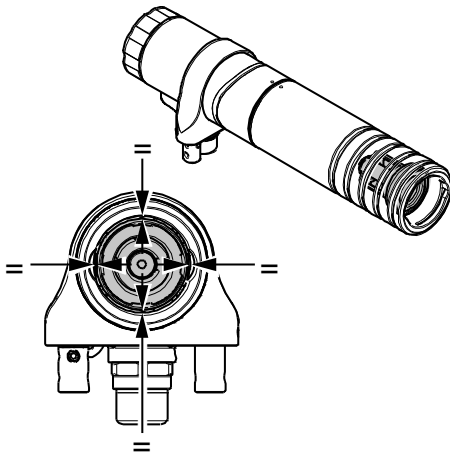


5. Fit the grip and then turn the grip 30° clockwise.

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**Note!** The mark on the grip and the mark on the tattoo machine should be aligned when the grip is correctly fitted to the tattoo machine.

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6. **IMPORTANT!** Check visually that the magnet is centered in the grip. If it is not centered, remove the grip and correct it by pushing the magnet gently to the side with your thumb. Refit the grip and check again.

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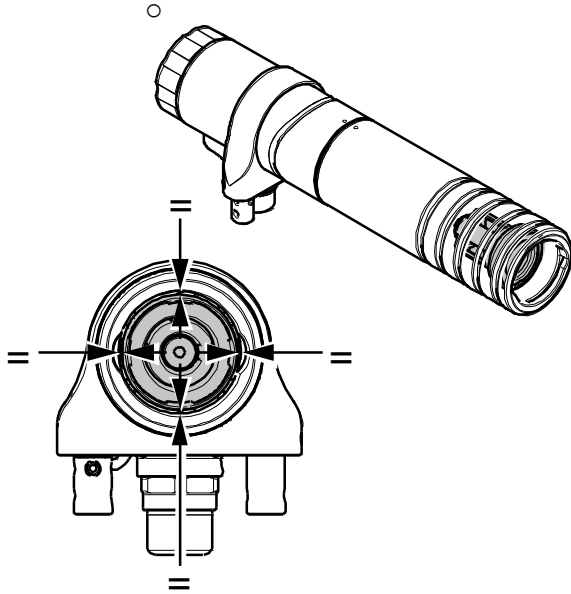
**Note!** The gap between the magnet and the grip should be equal all around. If the magnet is not centered power consumption and battery life can be affected (if wireless is used). The machine can also become warm.

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## Trouble shooting

Check the following steps if you encounter problems.

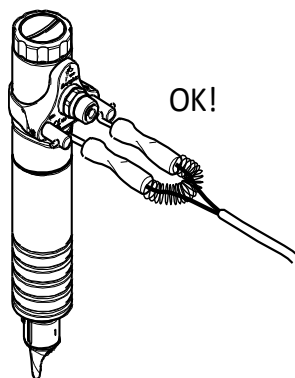
- **If the tattoo machine sounds different and/or runs sluggish:**
  - **Important!** Check that the magnet is centered in the grip. **The gap between the magnet and the grip must be equal all around.** If the magnet is not centered power consumption and battery life can be affected (if wireless is used). The machine can also become warm.



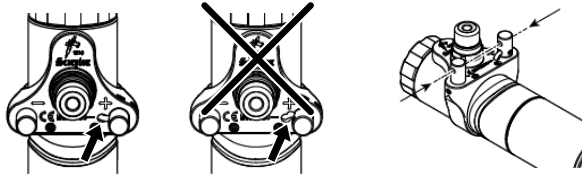
Remove the grip (see point 4 on page 10)  
Bend the magnet holder gently to center it.  
Refit the grip (see point 6-7 on page 10).

If the problem remains, also try a different needle cartridge or contact InkMachines ([www.inkmachines.com](http://www.inkmachines.com))

- **If the machine does not start or fluctuates:**
  - Check that the contacts for connection of powerpack/cables is clean and look ok.
  - Test the machine with clip cord and RCA cable to isolate the problem. Make sure that the power supply and cables are working. If the machine runs with clip cord but not with the RCA try to re-adjust the RCA contact.



- If powerpack (TPS-500) is used:  
Check the motor cable location. It should be straight according to the picture.



Otherwise align it and make sure the motor cord is not interfering with the Powerpack. The powerpack should be flush with the connecting part of the machine.

- Make sure that the two M2 screws that hold the + Bindingpost is not too tight, if they come through the plastic insulation sleeve it will cause short circuit.
- The Machine can fluctuate while the adjustment knob is turned but the power should be stable when the adjustment is not touched.
- The + power is transferred by a connecting pin, stay away from the ends of the adjustment with a few clicks to ensure the best connection.
- If the problem remains, contact InkMachines ([www.inkmachines.com](http://www.inkmachines.com))

## Waste

The manufacturing company is responsible for disposal of the Product. To avoid environment pollution and human injury follow local regulation concerning waste of electronic products.

This product contains rechargeable and not rechargeable batteries. In the interest of protecting the environment and human health, please send the rechargeable batteries back to the manufacturer for exchange and follow local regulations concerning waste of batteries.



This symbol indicates that the product and its electronic accessories are not to be disposed with other house hold waste.

## Technical specification

### Scorpion ©

Dimension, D x L	Ø22 x 113 mm
Weight	107 gram
Power connections	RCA or clip cord (clip cord end diameter, max. Ø1.6 mm)
Wire less ready	Yes
Input voltage	0 – 12 V DC (max. 12 V DC)
Rotational speed interval	0 – 8000 rpm
Stitches/second	0 - 130
Stroke length	4 mm
Needle adjustment	4 mm
Needle type	Neo-Cartridge
Max. needle size	27 Magnum

## Warranty

This product includes a 12 months warranty from the date of purchase. The warranty applies to factory faults and not to wear of any components caused by normal or abnormal use.

If this product becomes defective during the Warranty period, InkMachines shall have the option, in its sole discretion, to either repair the product or replace the product. Shipping costs to repair destination is not covered.

The warranty is void if:

1. The machine has been opened in an inappropriate way.
2. The machine has been autoclaved or cleaned in an ultrasonic cleaner.
3. Components have been damaged by misuse or carelessness.
4. Components have been manipulated in a harmful way.
5. Alkaline or acid cleaning agents with strong bases (high or low pH) have been used on the products.
6. More than 12 Volts have been applied to the machine.

**InkMachines** entire aggregate liability for losses and damages for any cause related to or arising out of the purchase and/or use of the product will in no event exceed the purchase price paid for the product. In no event will InkMachines be liable: (a) any indirect, special, incidental, consequential or punitive loss or damage, or other economic loss of any kind, in any case, even if advised of, or if InkMachines could reasonably foresee, the possibility thereof. The limitations, exclusions and disclaimers in this agreement shall apply irrespective of the nature of the cause of action, demand, or proceeding including but not limited to, breach of contract, negligence, tort, strict liability or any legal or equitable theory.



# Declaration of Conformity

## **Manufacturer**

InkMachines Sweden AB  
Grusåsvägen 8  
352 45 Växjö  
Sweden

## **Equipment**

Tattoo machine Scorpion  
Year of manufacturer 2018

We InkMachines Sweden AB hereby declare that the Scorpion tattoo machine specified above conforms with the following directives:

**Machine Directive 2006/42/EC**

Växjö 2018-06-01

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Christian Johansson CEO