

# TINY S



## Set of Equipment supplied

- 1 Tiny S
- 2 rechargeable batteries 3.7 V
- 1 remote with cable
- 1 charger
- 1 cable with USB- and Micro-USB-plug
- 1 wall wart 5V
- 6 fluid reservoirs filled with 5 milliliter fluid each  
to be screwed in
- 1 refill set  
to refill the fluid reservoir
- 1 bottle of fluid (250 milliliter)

Please check whether all ordered products are supplied.

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# 1. Procedure of the Tiny S

The **Tiny S** is a battery-powered, microprocessor-controlled mini fog generator. It is based (as most fog generators are) on the vaporizer principle, i.e. a glycol fluid is evaporated and condenses into fog when leaving the fog nozzle. However, the **Tiny S** only heats when fog is actually produced.

The machine switches off automatically after approx. one minute. Thus, the electronics of the **Tiny S** does not use any current.

If the receiver of the radio remote is connected to the machine, some current will be needed. **Please note:** Thus, the battery can be destroyed by completely discharging and cannot be used anymore!

**Generally the battery must be disconnected and regularly recharged (at least every 6 months) if the machine will be not in use or stored for a longer period.**

When emitting fog a strong current of 5 to 6 A runs with peak levels of 12 to 13 A.

The following sequence produces fog:

- a) Warm up (1 second, without pumping fluid).
- b) The pump runs, machine produces fog
- c) Post-run mode (15 seconds to vaporize the fluid remaining in the vaporizer).

In the post-run mode the fogging process can be started via the start button in the lid or via the start button on the cable remote or radio remote.

## 2. Safety instructions

### A fog machine is not a toy!

- Very hot steam escapes from the nozzle. Risk of scalding.
- Occasionally very hot droplets of fluid may escape when in operation. Thus never aim at persons directly and keep a minimum distance of 3 m to the nozzle.
- Never touch the nozzle when in operation. Risk of getting burnt.
- The location for the machine must be non-flammable, non-combustible and not sensitive to heat. Its surface area has to be twice as big as the machine.
- Keep a minimum distance of 60 cm to all flammable, combustible objects and objects sensitive to heat.
- Glycol is alcohol and burns with a slightly bluish, almost invisible flame. Never point the fog at strong sources of ignition like fire or pyrotechnic effects.
- Never open the machine and leave it unattended when connected to a power supply.
- The visibility has to be more than 2 m in rooms where people walk around.
- Only use the supplied TINY-FLUID. Different types of fluid do not generate the fog you require and will damage your fog generator.
- Do not swallow the fog fluid. Keep it away from children. In case of eye contact, rinse well with water. Consult a doctor should you accidentally swallowed some fluid.
- Spilled fluid or splashed fluid droplets can cause a slip hazard. Mop up the fluid and dispose of it according to regulations. TINY-FLUID is completely water-soluble and biodegradable.
- Fog may activate smoke detectors.

Artificially-made fog can be produced in many different ways. The method used here to produce fog, with a device which works according to the vaporizer principle, is the most harmless one.

No case has so far been reported in which a healthy human being has been harmed because of using our device to produce artificial fog. However, this can only be guaranteed if the professional fog generators are used appropriately, i.e. at the correct vaporization temperatures as well as with the correctly mixed fog fluid.

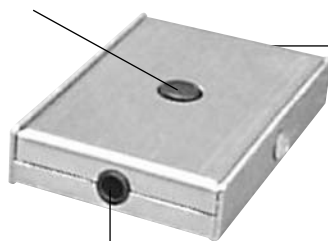
We, however, recommend: **People with health problems or problems of the respiratory tract or with an inclination for allergies should avoid any contact with artificially-made fog.**

### 3. Description of the parts



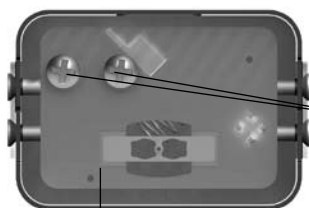
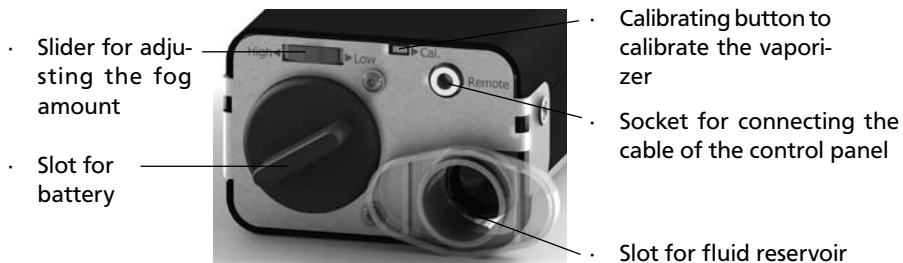
- 1: · Ventilation slots
- 2: · Fog nozzle
- 3: · Screws to unscrew the stainless steel hood
- 4: · Start button
- 5: · Yellow LED
- 11: · Fluid reservoir to be screwed in
- 13: · Battery to be screwed in
- 14: · Charger

· Start button

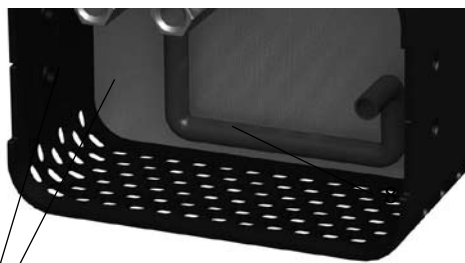
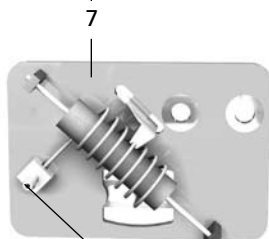


· Sockets for connecting cable

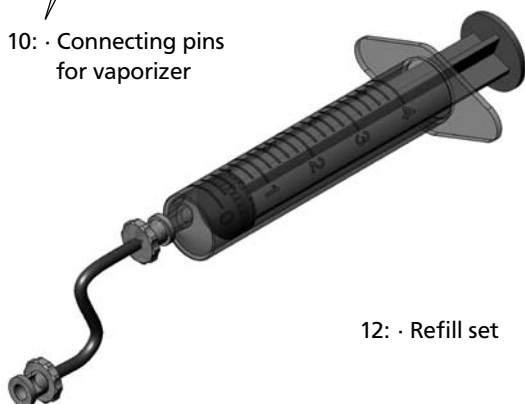
### 3. Description of the parts



6: · Screws for connecting the vaporizer to the connecting pins



10: · Connecting pins for vaporizer



12: · Refill set

## 4. Fluid

### 4.1 General

The **Tiny S** is built to be used with original Look Tiny-Fluid. Use of other liquids will clog the vaporizer and void the warranty.

### 4.2 Refilling the fluid reservoir

The fluid reservoir can be refilled using the delivered refilling set [12]. Thus, the reservoirs can be used several times.

- a) Mount 5 ml of Tiny-Fluid from the original fluid bottle with the refilling set.
- b) Connect the adaptor of the refilling set with the reservoir you would like to refill.
- c) Disconnect the adaptor and screw the refilled reservoir into the **Tiny S**. If you refill reservoirs for stock, please use the covers to avoid small bits of dirt inside the reservoir and make sure the reservoir cannot leak.

## 5. Operating the Tiny S

### 5.1 Selecting the Location

The location for the **Tiny S** must

- be dry
- guarantee sufficient air supply
- be at least 60 cm from inflammable materials
- have very little vibration
- have an ambient operating temperature between 5° C and 45° C
- have a relative air humidity of less than 80%.

### 5.2 Mounting the Tiny S

If the **Tiny S** is built into props or similar, make sure that a fog-free air supply is guaranteed. Too high a fog concentration can condense inside the machine and can result in damages caused by moisture.



## 5. Operating the Tiny S

When installing the **Tiny S** make sure that

- no fog is passed back into the fog generator,
- no condensed fluid runs into the apparatus,
- the air vents [1] are not covered or concealed,
- no objects protrude into the fog nozzle [2]. This may destroy the vaporizer.

### 5.3 Starting up

- a) Remove both covers from the already filled fluid reservoir. Screw the reservoir into the **Tiny S**.

The covers should be stored. The reservoirs can be refilled with the delivered refilling set and can be used several times.

Check the cleanliness, so that no dirt (fluff etc.) can be sucked in by the pump. Even the smallest impurity immediately leads to clogging of the machine.

- b) Connect the battery to the machine by putting it into the slot. Make sure the starting point of the milled flute/groove is up. Press the battery slightly into the slot and rotate it clockwise until it locks in place. The yellow LED [5] will start to flash.

To remove the battery, press it slightly into the slot, rotate it anti-clockwise and withdraw it.

- c) Press and hold the start button in the lid of the machine [4]. After approx. 3 seconds the unit generates fog as long as the button is hold.

If you would like to control the machine via the cable remote, connect the control cable for the remote to the machine. You can start the fogging process by pressing the start button at the cable remote.

**Caution:** Do not put anything into the fog nozzle. This may destroy the vaporizer and it then has to be changed (see point 7.1)

If the **Tiny S** is not generating fog, the machine switches off automatically after approx. 1 minute. The yellow LED [5] does not light anymore. The machine can still be activated at any time by pressing the start button in the machines lid or the cable remote.

## 5. Operating the Tiny S

### 5.4 Adjusting the fog amount

At the **Tiny S** two different fog amounts can be adjusted: high and low.

Adjust the amount by switching the slider at the back of the machine into the right position.

H = High (higher fog output)

L = Low (lower fog output)

### 5.5 Battery Status Display

The yellow LED [5] on the **Tiny S** indicates (among other things (see point 7.2)) how strong the battery still is and/or when it may need to be recharged.

1) LED flashes slowly:

Battery capacity of 15% – 100%, the battery is fully operational

2) LED flashes fast:

Battery capacity below 15% – the battery should be changed and/or charged.

3) LED lights up permanently:

The battery is flat

### 5.6 Wiring of Connectors

**Mini-Stereo jack plug:**

Sleeve = Ground, Ring = switch on/off, Tip = 3.7 V DC (+) output, max. 50 mA

## 6. The Battery

### 6.1 General

The supplied battery is a maintenance-free 3.7V Lithium-Ion battery. It can be used in any position.

The connection to the **Tiny S** is established by putting the battery into the slot at the back of the machine.

### 6.2 Capacity and Lifetime

The battery has a capacity of 1500 mAh and is supplied in a 50% charged status.

Charge the battery before using it the first time with the supplied charger. Please note the operating instructions of the charger (see point 6.4).

A fully-charged battery can generate more than 100 fog emissions of 4-5 seconds. The permanent fogging time amounts to approx. 10 minutes.

The battery will lose its capacity with use and will wear out after approximately two or three years.

### 6.3 Operating and Storing

Lithium-Ion batteries are modern energy suppliers with huge capacity, small dimensions and light weight. Due to its high energy seal and the materials used these batteries may be harmful. Therefore please read the safety instructions carefully (see point 6.6)!

Optimal storage of the fully charged battery at 15° C and an air humidity of 45 - 85%.

**If the battery will not be used for a long time it must be recharged regularly (approx. every six months).**

### 6.4 Charging the Battery

For charging the battery please use the supplied automatic charger. A discharged battery can be charged within 2 hours.

- Connect the USB-plug of the cable to the wall wart or your computer. If you use the wall wart, connect it to a power socket (100-240 V~/50Hz-60Hz).
- Connect the micro-USB-plug to the charger.
- Place the battery on the charger.  
The Charge-LED lights red as long as the battery is charging. When the battery is fully charged, the Charge-LED will change its colour to green.
- Disconnect the charger from the battery.

## 6. The Battery

Disconnect the battery from the **Tiny S** after each use and recharge it, or, when the yellow control-LED in the machines lid [5] flashes fast, recharge immediately.

**Avoid complete discharge (control-LED does not light at all) because this will cause irreversible damage to the battery-pack.**

Lithium-Ion batteries must only be recharged and stored on fireproofed and non-flammable surfaces! The battery must not be recharged unsupervised.

The ambient operating temperature while charging should be between 10° C and 40° C.

### 6.5 Safety Regulations

- Keep away from children
- Do not heat up over 60° C (for example by sun exposure) or expose to fire
- Keep away from moisture
- Do not short-circuit
- Do not dismantle or deform
- Do not use defective or deformed battery-packs

Batteries can leak or be damaged if used incorrectly.

In some extreme cases, there is danger of:

- Fire
- Explosion
- Smoke- and gas exposure

In this event, please note:

- If there is no suitable extinguisher available, let the battery burn down and avoid breathing the fumes
- To extinguish the fire use sand or a fire extinguisher filled with powder only
- Never use water to put out the fire. Danger of explosion!
- If the electrolyte inside the battery comes into contact with skin or eyes, immediately rinse with water or consult a doctor.

## 6. The Battery

### 6.6 Technical Data

Model	Lithium-Ion battery
Output voltage	3.7 V
Capacity	1500 mAh
Temperature range	10° C to 40° C
Fuse	7.5 A Miniblade, Art. No. 40177
Dimensions	L = 7.7 cm, Ø = 2.0 cm
Weight	50 g

## 7. Service and Maintenance

### 7.1 Changing the Vaporizer

The micro vaporizer especially developed for the **Tiny S** has a limited working life. Depending on application duration, the fogging output will reduce after a while and the vaporizer will need to be changed.

#### 7.1.1 Removal of the Vaporizer

- a) Separate the **Tiny S** from the battery. To remove the battery, press it slightly into the slot, rotate it anti-clockwise and withdraw it.
- b) Unscrew the four screws [3] with a suitable screwdriver to release the stainless steel hood.
- c) Remove the stainless steel hood.
- d) Unscrew the two screws [6] at the vaporizer with a suitable screwdriver.
- e) Slide out the vaporizer [7] forwards.
- f) Remove the fluid tube [8] from the tubing spout [9] of the vaporizer. If the tubing does not come off, you can pull on it with a pair of small pliers or a similar tool.
- g) Clean the interior of the unit with an absorbant, fluff-free cloth.

#### 7.1.2 Installation of the Vaporizer

- a) Plug the fluid tube [8] onto tubing spout [9] of the new vaporizer.
- b) Mount the new vaporizer to the connecting pins [10] with the two screws [6] .
- c) Check the connections and make sure that the fluid tubing is not twisted or bent.
- d) Mount the stainless steel hood with the four screws [3] at the machines cover. Ensure that the hood engages into the corresponding guide groove of the lid part.

## 7. Service and Maintenance

### 7.1.3 Calibrating the Vaporizer

Since all vaporizers have different electrical qualities, the **Tiny S** must be recalibrated after every exchange of the vaporizer.

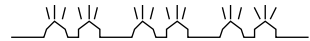
**IMPORTANT:** During the calibration process the vaporizer temperature must be at 20° C. Never start fogging before the calibrating process. Too cold or too warm units must first adapt to the room temperature (20° C).

a) Connect the battery to the machine.

**Please note:** Do **not** switch on the machine by pressing the start button in the machines lid. If the LED is flashing, wait until the machine switches off and the LED stop flashing (approx. 1 minute).

b) Press the calibration button at the back of the machine with a small screwdriver or something similar.

The calibrating process now starts automatically. The yellow LED [5] flashes six times with a short pause after the second and the fourth flash to confirm the calibration.



c) The calibration process is now complete.

## 7. Service and Maintenance

### 7.2 If the machine does not work perfectly

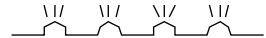
#### 7.2.1 There will be no fog, if...

- the battery is discharged (yellow charge indicator (LED) [5] lights up permanently, the pump automatically cuts off) => charge the battery
- the fluid reservoir is empty  
=> refill the fluid reservoir, check whether the reservoir is properly screwed in
- the vaporizer is clogged or broken => change the vaporizer (see point 7.1)

#### 7.2.2 Status and error display

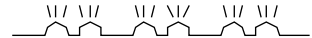
The yellow LED [5]...

- flashes once



Battery status display: if the LED flashes slowly, the battery is well charged, if the LED flashes quickly the battery has to be recharged.

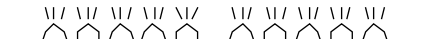
- flashes twice in a row



Vaporizer is broken: change the vaporizer as described in point 7.1.

Important: The new vaporizer must be calibrated!

- flashes five times in a row



Vaporizer cannot be calibrated: Try once again to calibrate the vaporizer as explained in point 7.1. If this should not help, the vaporizer is broken and cannot be used.

- lights permanently



The battery is completely discharged: Disconnect the **Tiny S** from the battery-pack and recharge the battery.



## 7. Service and Maintenance

### 7.3 Care and Maintenance

To ensure optimal performance of the **Tiny S**, you should consider the following notes:

- Make sure the fluid reservoir is clean and free from small bits of dirt.
- Clean the unit from time to time, especially if you use it in a built-in state/condition. Unscrew the unit with a suitable screwdriver and wipe it out carefully using a dry, fluff-free cloth.
- Should the vaporizer become clogged, please change as described in section 7.1.
- The battery should always be charged before storing and recharged every six months.

## 8. Technical Data

<b>Procedure</b>	Vaporizing fog generator
<b>Power requirement</b>	30 Watt
<b>Voltage</b>	3.7 V battery
<b>Warm up time</b>	approx. 3 sec
<b>Fluid tank capacity</b>	50 ml
<b>Fluid consumption</b>	2.3 ml/min. at continuous output
<b>Fogging time</b>	programmable
<b>Continuous output with battery</b>	approx. 10 min.
<b>Temperature control</b>	Microprocessor
<b>Control</b>	Cable remote Radio remote
<b>Dimensions Tiny S (L x W x H)</b>	10.3 x 5.0 x 3.5 cm
<b>Weight Tiny S incl. fluid accessor and battery</b>	approx. 250 g

Manufactured for:

**Look Solutions** - Fog machines made in Germany · Buenteweg 33 · DE - 30989 Gehrden

## 9. Warranty conditions

For the miniature fog machine **Tiny S Look'** warranty is:

1. Free of charge, subject to the following conditions (No. 2 - 6) we will repair any defect or fault in the unit if it is caused by a proven factory fault and has been advised immediately after identification and within 24 months of delivery to the end user. Insignificant deviations of the regular production quality does not guarantee replacement rights, nor do faults or defects caused by water, wrong fog fluid, by generally abnormal environment conditions or Force Majeure.
2. Warranty Service will be done in the following way: Faulty parts will be repaired or replaced (our choice) with correct parts. Faulty units have to be returned to us or our service centres or to be sent to us or our service centres at customer's expense. The invoice and/or receipt showing the purchase date and the serial number has to come with the faulty unit, otherwise the repair will not be covered under warranty. Replaced parts become our property.
3. The micro vaporizer is a consummable part with limited lifetime. No warranty can be given on this part.
4. The customer loses all rights for warranty services if any repairs or adjustments are done to the units by unauthorized persons and/or if spare parts are used which are not approved by us. The right of warranty service is also lost if fluids other than the original Look Tiny-Fluid have been used or if units are sent to us with full fluid bottles. Also non compliance with the instructions in this manual or mistakes by incorrect handling/treating of the machine will lead to a loss of warranty and also any faults and damages caused by undue force.
5. Any freight costs arising in connection with the warranty services have to be born by the customer.
6. Warranty services do not cause an extension of the warranty time or the start of a new warranty period. The warranty for replaced parts ends with the guarantee time of the whole unit.
7. If a defect/fault can not be repaired by us in a satisfactory time, we will, within 6 months after sale of the unit, on choice of the customer, either:
  - replace the whole unit for free or
  - refund the lesser value or
  - take back the whole unit and refund the purchase price, but not more than the usual market price at the time of the refund.
8. Further claims, especially for damages, losses etc. outside the unit are excluded.

Other warranty regulations may be valid outside Germany. Please check with your dealer!

If you should send the unit for service, do not forget to remove any liquid from the fluid bottle.

Wir / we / nous

OTTEC Technology GmbH

Anschrift/ address/ adress

Bünteweg 33  
DE - 30989 Gehrden  
Germany

erklären in alleiniger Verantwortung, daß das Produkt  
declare under our sole responsibility, that the product  
declarons sous notre seule responsabilité, que le produit

Bezeichnung / name / nom

Nebelmaschine  
Fog machine  
Générateur de fumée

Typ / type / type

Tiny S

mit den Anforderungen  
der Normen übereinstimmt

EN 55014 Teil 1/Part 1  
EN 55014 Teil 2/Part 2

: Generic emission standard  
: Generic immunity standard

fulfills the requirements of the standard  
satisfait aux exigences des normes

EN 60335-1

: Electrical safety

VDE 0700 Teil 245/Part 245 : Electrical safety

Das Produkt erfüllt somit die Forderungen der EG-Richtlinie

Therefore the product fulfills the demands of the following EC-Directive

Le produit satisfait ainsi aux conditions des directives suivantes de la CE

2004 / 108 / EG

Richtlinie über die elektromagnetische Verträglichkeit

Directive relating to electromagnetic compatibility

Directive relatives à la compatibilité électromagnétique

Gehrden, 01.02.2013

Jörg Pöhler

Ort, Datum der Ausstellung

Place and Date of Issue

Lieu et date d'établissement

Name und Unterschrift des Befugten

Name and Signature of authorized person

Nom et signature de la personne autorisée

