POWER TINY

with Lithium-Ion-Battery pack

Set of Equipment supplied

– 1 **Power-Tiny** with Lithium-Ion-battery pack and fluid tank 250 ml
– 1 charger for Lithium-Ion batteries
– 1 bottle of fluid 250 ml

When the order includes a radio remote, the following items are supplied additionally:

– 1 receiver with 3 pin XLR-plug
– 1 radio remote
– 1 manual „Radio remote control"

Please check whether all the products you ordered are supplied.

Content

1. Procedure of the Power-Tiny

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

Because of the sleep mode the machine uses only 15 milliamperes in idle status and consequently it may remain connected to the the battery for several hours with no discharging to speak of – the stanby-time is approx. 250 hours.

The following sequence produces fog:

a) Warming up (1 second, without pumping fluid).
b) The pump runs
c) Pump stops but fog will be produced for another 15 seconds to get all the fluid out of the vaporizer.

Always disconnect the battery when storing or transporting the machine!

---

2. Safety instructions

A fog machine is not a toy!

- Very hot steam escapes from the nozzle. Danger of getting burnt.
- 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. Danger of getting burnt.
- The location for the machine must be non-flammable, non-combustible and not sensitive to heat. It 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 the machine 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 destroy your fog generator.
- Do not swallow the fog fluid. Keep it away from children. In case of eye contact, rinse with a lot of water. Consult a doctor should you have accidentally swallowed some fluid.
- Spilled fluid or splashed fluid droplets can cause 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 sound 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 accordingly, 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
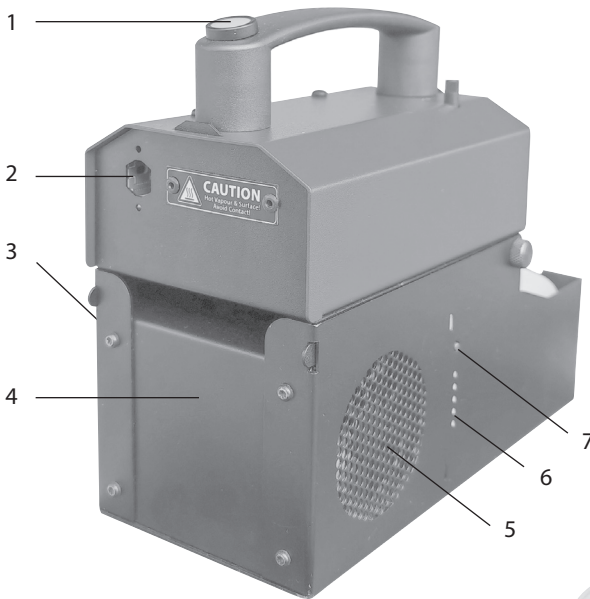
1: Start button
2: Fog nozzle
3: Socket for charger
4: Battery pack
   (Battery with housing,
   PCB, fuse and connector)
5: Fan
6: Battery charge indicator
7: Button for displaying the
   charge level

8: Fluid tube
9: Battery connector (Speakon)
10: Screws („Rändel")
11: Quick-connector for fluid tube
12: Fluid tank
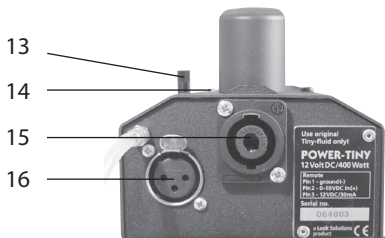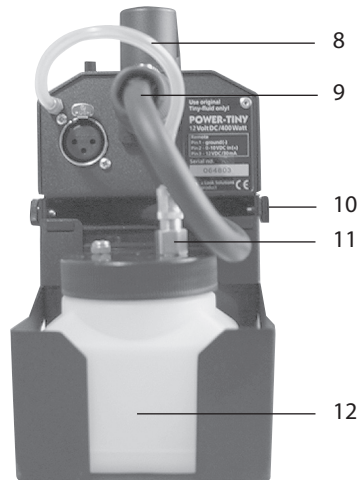
13: Adjusting knob
14: LED/Battery status display
15: Socket for battery plug
16: 3pin-XLR-socket

4. Fluid

4.1 General

The **Power-Tiny** is built to be used with original Look Tiny-fluid. Use of other liquids will clogge the vaporizer and void the warranty.

Please do not use Tiny-fluid if it looks blue or green. This can clog the vaporizer!

Note: If the **Power-Tiny** will not be in use for a long period, please empty the fluid tank and pour the fluid back into the original fluid bottle despatched with the unit.

5. Operating the Power-Tiny

5.1 Selecting the Location

The location for the **Power-Tiny** must
* be dry
* guarantee sufficient air supply
* have sufficient distance (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 Power-Tiny

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

When installing the **Power-Tiny** make sure that
* no fog is passed back into the fog generator,
* no condensed fluid runs into the apparatus,
* no objects jut out into the fog nozzle [2]

5.3 Starting up

1) Pour the TINY-FLUID into the fluid bottle and firmly lock the bottle. Plug the connecting spout of the fluid tubing into the quick connector of the fluid bottle (audiable click). Check the cleanness of the fluid bottle, so that no dirt (fluff etc.) can be sucked in by the pump. Even the smallest impurity immediately leads to clogging of the machine.

5. Operating the Power-Tiny

2) Connect the battery pack to the machine. Therefore plug in the battery connector (Speakon) [9] into the socket [15], at the back of the machine.
3) Press Start-key (grey) [1] briefly.

5.4 Control choices

You can control the **Power-Tiny** externally through the XLR socket [16].

5.4.1 0 - 10 Volt (+) DC control

Connect the **Power-Tiny** to an analog desk or with the cable remote (available as an optional extra), using the XLR socket [16] at the back of the machine.
a) Connect the cable from the desk or the cable remote into the XLR socket at the back of the machine [16].
b) The knob on the cable remote or the fader on the analog desk will control the level of the pump.
c) Pressing the On/Off switch at the cable remote starts the fog process.

5.4.2 Control via Radio remote

A radio remote is available as an option. It will be delivered with a 3pin XLR plug.
a) Connect the receiver of the radio remote to the machine, using the 3pin XLR socket [16] on the back of the machine.
b) Adjust the requested pump output at the machine, turning the adjusting knob [13].
c) Press the first button at the transmitter of the radio remote as long as you want fog to be produced (see manual „Radio remote").

5.4.3 Other controls

DMX 512: Connect the DMX-converter (DMXit, available as an option) to the machine, using the 3pin XLR-plug [16].
Now the **Power-Tiny** can be connected to a DMX desk and can be controlled via DMX.

Timer: Connect the Timer (TIMEit, available as an option) to the machine, using the 3pin XLR-plug [16].
Now the wait and the fog time as well as the output can be programmed in.

5. Operating the Power-Tiny

5.5 Battery Status Display/Sleep mode

The yellow light-emitting diode (LED) [14] on the **Power-Tiny** indicates how strong/efficient the battery still is and/or when it must 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 or the vaporizer is damaged
4) LED does not light although the battery is connected:
   Approx. 10 Seconds after the last fogging the **Power-Tiny** changes into the sleep mode automatically. It then only needs a current of 15 mA. To awake the machine press the startbutton [1].

5.6 Changing the battery pack

The Li-Ion-battery pack [4] can be changed on site, for example if one battery pack is empty and there is not enough time to recharge it.
To change the battery pack [4] unplug the battery connector [6] from the machine. Unscrew the screws [10] and disconnect machine and battery pack.
Put the **Power-Tiny** onto a new battery pack and fix it with the screws.
Connect the battery pack to the machine.

5.7 Wiring of the connector

3pin XLR (analog):
Pin 1 = Ground, Pin 2 = 0-10 V + DC in, Pin 3 = 12 V + DC out, max. 50 mA

6. The Battery pack

The supplied battery pack is equipped with a 10.8V Li-Ion-battery, which is calibrated in the best possible way with the connected loads of the **Power-Tiny**. It can be used in every position. The connection to the **Power-Tiny** is done with a Speakon NL4FX high current plug, the connecting to the charger is done with a small connector.

6.1 Capacity

The battery has a capacity of 12 Ah and is supplied in a 30% charged status. A fully-charged battery can generate more than 100 fog emissions of 4-5 seconds. The permanent fogging time amounts to 12 minutes. When used correctly, the battery holds its capacity for several years and/or some hundred charge/discharge cycles.

> **Always disconnect the battery when storing or transporting the machine!**

6.2 Operating and Storing

To check the charge status of the battery, briefly press the button located on the side above the LEDs.
The LEDs now display the charge status for five seconds:

5 LEDs light up: 80-100% capacity, the battery is fully loaded
4 LEDs light up: 60-80% capacity
3 LEDs light up: 40-60% capacity
2 LEDs light up: 20-40% capacity
1 LED light up: 0-20% capacity, the battery is empty

If none of the LED lights up: Error. **The battery must be reset**.
• To do this, disconnect the Speakon plug from the Power-Tiny. The two 25 A flat fuses must be plugged in.
• Press and hold the reset button on the back of the device for at least 5 seconds. If the malfunction persists after resetting several times, the battery pack must be returned to the manufacturer.

The charge level indicator is not used to indicate capacity under load. During operation with the **Power-Tiny**, the LED on the device serves as a capacity indicator. To display the battery pack correctly, the **Power-Tiny** must be in idle mode or unplugged.

If one or both of the 25 A flat fuses of the battery pack need to be replaced due to a malfunction of the **Power-Tiny** or the connection cable, the battery pack must be reset after the replacement (see instructions above).

6. The Battery pack

6.3 Charging the battery

For charging the battery use only the supplied charger. A discharged battery can be charged within 4 hours.

If the battery is in charge, the LED at the charger lights red/orange. If the battery is fully charged, the LED lights green.

6.4 Safety Regulations

- The battery supplied can deliver high discharge currents. Therefore:
  – Never short-circuit
  – Never change the cable cross-sections
- Placing the battery
  – Place the battery at a sufficient distance from heat sources
  – If the battery is placed near a heat source, the performance drops as the temperature rises
- Use in sealed devices
  – Do not use the battery in fully sealed housings or devices
- Avoiding a short circuit
  – Do not short-circuit the Speakon supply line. This will destroy the FKS flat fuses.
- Avoid fire
  – Do not expose the battery to fire or burn it. This could cause the battery to explode.

6.5 Technical Data Li-Ion-battery

Type:	Lithium-Ion
Voltage:	10.8 V
Capacity:	12 Ah
Energy:	129.6 Wh
Charging voltage:	12.6 V max.
Charging current:	4 A max.
Operating temperature:	0 °C – 45 °C
Dimensions:	222 x 100 x 97 mm
Weight:	1.63 kg
Fan noise level:	28.5 dB(A)

The battery is equipped with a temperature-controlled fan cooling.

7. The Charger

Only use the supplied charger to charge the battery!

7.1 Operating

- Connect the charger to a power socket (100-240 V~/50Hz–60Hz).
- Connect the output line of the charger with the battery to be charged.
- Check whether the charge display (LED) lights red/orange.
- A green lightning LED shows that the battery is fully charged.
- Disconnect the charger from the socket.
- Disconnect the battery from the charger.

7.2 General Notes

1) If the control display lights up red permanently, this might indicate battery problems:
   - short circuit within the battery or in the output lines
2) Protect the unit against rain
3) Use the charger exclusively for charging the **Power-Tiny** Li-Ion-battery

7.3 Technical Data

Type:	Mascot 3-cell Li-Ion battery Charger Type 2440
Power:	51 W max.
Input voltage:	90 - 264 VAC / 50 - 60 Hz / 1.6 A max.
Output-/Charging voltage:	12.6 VDC +/- 0.1 V max.
Charging start voltage:	12.3 VDC +/- 0.1 V

   Note: Charging start voltage <u>does not mean</u> that the charging cycle starts at 12.3 V, but that the battery must be at least below the threshold of 12.3 V before the charger starts the charging cycle. If a battery has a voltage of 12.4 V, for example, the charger will not start the charging cycle.

Charging current:	4 A +/- 0.2 A max.
Temperature range:	0° C bis + 45° C
Protection class:	IP 41
Display:	CC Charge 4 A - LED rot/orange
	CV Charge < 1.8 A, 12.6 V - LED gelb
	Charge complete < 0.3 A - LED grün
Dimensions (L x W x H):	13.5 x 8.0 x 4.4 cm
Weight:	390 g

8. Service and Maintenance

8.1 The machine does not work perfectly

8.1.1 There will be no fog if...

- the battery is discharged (yellow charge indicator (LED) lights up permanently, the pump automatically cuts off) => charge the battery

- the fluid tank is empty => refill the fluid tank

- the vaporizer is clogged or broken

8.1.2 The yellow LED lights permanently if...

- the battery is discharged => disconnect the machine from the battery and charge the battery

8.2 Care and Maintenance

To ensure perfect performance of the Power-Tiny, you should consider the following notes:

- Make sure the fluid bottle 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.

- If the **Power-Tiny** is not in use for a longer time, please take care that the battery is disconnected. The battery should be charged before storing.

- **PLEASE NOTE**: It is not necessary to clean the vaporizer! Cleaning with any liquid/fluid can destroy the heat exchange module!

9. Technical Data

Procedure	Vaporizing fog generator
Power requirement	400 Watt
Voltage	12 V battery
Warm up time	1 sec
Fluid tank capacity	250 ml
Fluid consumption	10 ml/min. at continuous output
Fogging output	adjustable
Continuous output with battery	approx. 12 min.
Temperature control	Microprocessor
Control	Cable remote
	Radio remote
	DMX 512 via converter
	Timer
Dimensions Power-Tiny (L x W x H)	22.3 x 10 x 19.5 cm
Weight with battery pack and fluid tank	3.3 kg

10. Warranty Conditions

For the fog machine **Power-Tiny** Look' guarantee 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 appearance and within 24 month 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, by generally abnormal environment conditions or Force Majeure.

2. Guarantee Service will be done in the following way: Faulty parts will be repaired or replaced (our chioce) with correct parts. Faulty units have to be brought to us or our service centres or to be sent to us or our service centres at customer's expenses. The invoice and/or receipt showing the purchase date and the serial number has to come with the faulty unit, otherwise this will not be guarantee service. Replaced parts become our property.

3. The warranty for the battery is limited to six months from purchasing.

4. The customer looses all rights for guarantee services, if any repairs or adjustments are done to the units by unauthorized persons and/or if spare parts are used which are nor approved by us. The right of guarantee 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 guarantee and also any faults and damages caused by undue force.

5. Any freight costs arrising in connection with the guarantee services have to be born by the customer.

6. Guarantee services do not cause an extension of the guarantee time or the start of a new guarantee time. 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 guarantee 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.