SCHNIER

MINI Flocker Evo

HAND-FLOCK-GENERATOR

Art. Nr: 810464

BETRIEBSANLEITUNG

Content

1. Product and manufacturer

1.1. Description

THE PROFESSIONAL AMONG THE HAND FLOCKING UNITS

Ergonomic and powerful

The MINI Flocker Evo is a very versatile flocking device.
Through innovative 3D printing technology, it was possible to achieve a pleasant ergonomics and haptics, which allows comfortable work even over a longer period of time. Its output voltage of approx. 70 kV is the basis for a dense and perfect flock pattern that inspires and convinces.
The MINI Flocker Evo sets new standards in the field of hand-held flockers and is designed for a long service life.
The modern 21700 Li-Ion battery from the SCHNIER-Power-Series allows flocking for several hours.
Due to the quick-change flap, the battery can be changed within seconds. For continuous flocking no external power supply is needed anymore.
The LED indicators on the handle show the operation and the charging status of the Li-Ion battery.

1.2. Specifications

Input voltage	3,7 Volt Li-Ion battery, rechargeable
Output voltage	70 kV negative
Output current	50 µA
Max. discharge energy	350 mJ
Environmental conditions	+5°C to +40°C max. 70% r.F.
Dimensions	ca. 260x70x70mm (without Applikator)
Weight	0,4 kg
Protection class	IP 54

1.3. Product identification

These operating instructions are part of the device:

Product:	Hand flocking device
Type:	MINI Flocker Evo
Item No:	810464

1.4. Warranty

The warranty is 24 months after delivery.
Any kind of warranty expires if the device has been opened, modified, parts have been replaced with non-original parts or these operating instructions have not been observed.

1.5. Manufacturer

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Hauptsitz: Reutlingen HBR 354 531
USt.-IdNr.: DE 146 481 986
Geschäftsführer: Olav Schnier

2. Guide to these operating instructions

These operating instructions must be read, understood and observed in all points by all persons who are responsible for the equipment. Only with knowledge of these operating instructions can errors be avoided and safe and trouble-free operation be ensured. SCHNIER Elektrostatik GmbH does not accept any liability for damage resulting from non-observance of these operating instructions!

3. Intended use

This device is intended exclusively for use as a hand flocking device.

The MINI Flocker Evo complies with the safety requirements of the product standard EN 50050-3:2013.

It may only be operated outside of an explosive atmosphere.

	**WARNING** Any commissioning outside this provision is prohibited.

3.1. Further notes on hazard prevention

Hazard:
Direct contact

Description:
When troubleshooting the open device, contact with high-voltage components may occur.

	**DANGER!** Warnings, instruction, use by authorized personnel only.

Hazard:
Breathing difficulties, suffocation

Description:
Flocking flight possible by cleaning the flocking table.

	**ATTENTION!** Perform full cleaning of the flocking table only with the suction unit running.

Hazard:
Explosion

Description:
Organic flock (cotton, artificial silk, ...) can lead to glow nests in the applicator during creep currents.

	**DANGER!** Use only approved flock types within the processing specifications. When using organic flock (cotton, artificial silk, ...) additional protective measures may have to be taken.

Hazard:
Explosion

Description:
Operation of the hand-held flocking unit without permanently acting suction unit.

	**DANGER!** The quantities of flock and solvent normally expected to be released during the operation of purely electrostatically operating manual flocking units are so low due to their design that the formation of an explosive atmosphere is not to be expected. When using adhesives containing solvents, the risks must nevertheless be evaluated in more detail by means of a hazard analysis and the preparation of an explosion protection document.

Hazard:
Other electrical hazards

Description:
Electrical malfunction due to damage to the housing structure and insulation.

	**WARNING!** Preventive maintenance by checking the device and applicators for damage.

Hazard:
Lethal electrocution

Description:
Danger of unintentional contact to the high voltage due to insulation faults.

	**DANGER!** Preventive maintenance to avoid insulation faults.

Hazard:
Slipping, tripping and falling

Description:
Loose flock on the floor may cause slipping hazard.

	**ATTENTION!** Regular cleaning of the surrounding area from loose flock and adhesive residues.

Hazard:
Fire

Description:
Fire load due to stored flock.

	**WARNING!** Keep away from sources of ignition and fire.

Hazard:
Fire/explosion

Description:
Flock-air mixtures can lead to explosions if the ignition energy is sufficient.

	**WARNING!** Remove any excessive flock deposits that may occur.

General:

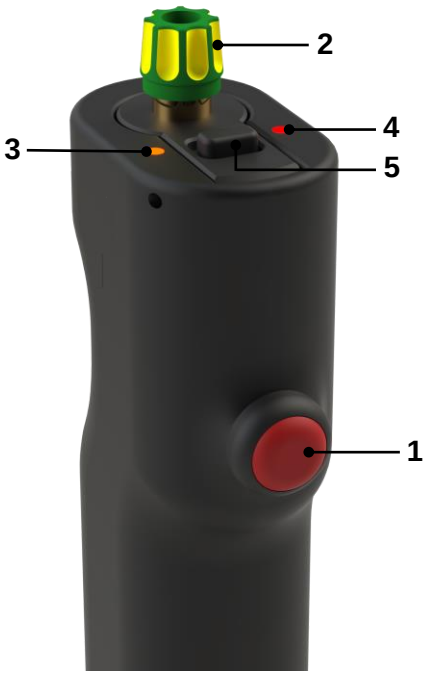
- Deviation from the conditions for above intended use is not permitted.
- Not a toy. Keep away from children.
- Remove flammable liquids, vapors and flammable gas mixtures before start-up.
- Do not operate if persons with pacemakers are in the vicinity.
- Do not touch electrodes.
- Store in a dry place, protect from moisture.
- Deviation from the conditions for the above-mentioned intended use is not permitted.

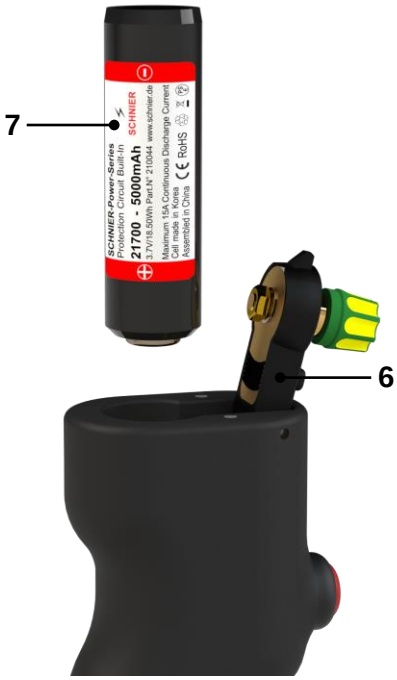
Damages / modifications:

	No structural modifications of any kind may be made to this device.

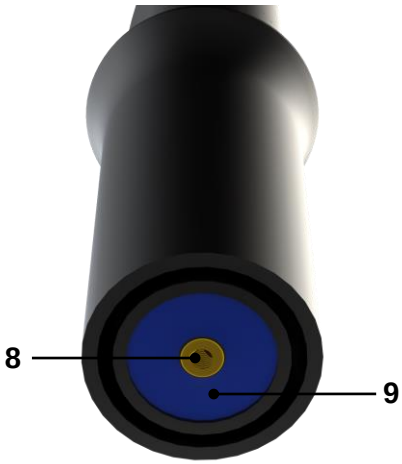
4. Structure and overview

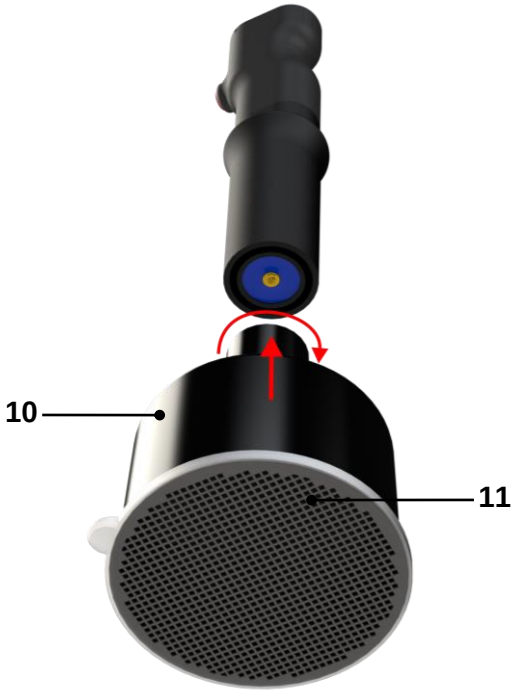
4.1. Device overview





1 Pushbutton High Voltage on
2 4 mm socket for ground wire
3 Battery indicator
4 Operating indicator
5 Battery lock
6 Quick change flap
7 Li-Ion battery (please insert (+) pole downwards into the device)





8 High voltage connection
9 Damping resistor, encapsulated
10 Applicator with cast electrode
11 Flocking screen

5. Functional description

5.1. Mode of operation

The specially treated flock fibers are electrically charged at the electrode by the high voltage of the MINI Flocker Evo.
This causes the flock fibers to jump from the unit along the electrostatic field lines to any grounded surface. As soon as the fibers penetrate the conductive adhesive layer, they are discharged and remain aligned in the adhesive.
The effect of the electrostatic field depends on the field strength. This results from the voltage applied in the device and the distance between the applicator and the flocked part.

5.2. Installation

- Open the battery lock [5] and insert the 3.7 V Li-Ion battery from the SCHNIER Power Series with the plus pole (+) facing down. Close the quick-change flap [6] tightly again. A different battery may only be used at your own risk!
- Place the applicator in the lower end of the MINI Flocker Evo and screw it on hand-tight.
- Fill with the desired flock fibers and place the appropriate sieve.
- Connect the ground wire to the workpiece with the ground connection [2].
- Switch on the high voltage with the On/Off button [1].
- When the high voltage is switched on, LED [4] lights up.
- After switching on, the LED for the battery display [3] lights up briefly and then goes out again. If the battery is weak, it lights up permanently and the battery should be recharged.

Now apply the adhesive to the surface to be flocked and fix the ground cable with the clamp to a counter pole (nail, screw, ...) which is in the adhesive. The optimal layer thickness of the adhesive (dried) is 1/10 of the length of the flock fibers.
Now move the MINI Flocker Evo with a light shaking motion over the areas coated with glue while pressing the On/Off button. The LED at the end of the handle signals operation, or whether voltage is present.
After the adhesive has dried, the excess fibers can simply be vacuumed off.

6. Declaration of conformity

Manufacturer:	SCHNIER Elektrostatik GmbH Bayernstrasse 13 D-72768 Reutlingen
Product:	Hand flocking device
Type	Elektrostatic hand flocking device
SCHNIER No.:	MINI Flocker Evo Art-Nr. 810464
Trade name:	MINI Flocker Evo

It is expressly declared that the device complies with all relevant provisions of the following EC directives and regulations:

2014/34/EU	Directive 2014/34/EU of the European Parliament and of of the Council of 26.02.2014 on the harmonization of the laws of the member states For equipment and protective systems for intended use in potentially explosive atmospheres. Published in 2014/L 96/309 of 29.03.2014
2006/42/EG	Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery and amending Directive 95/16/EC (recast) (1) Published in L 157/24 of 09.06.20
2014/30/EU	Directive 2014/30/EU of the European Parliament and of the Council of 26.02.2014 on the harmonization of the legislation of the member states On electromagnetic compatibility (recast). Published in 2014/L 96/79 of 29.03.2014

Reference of the harmonized standards applied in accordance with Article 7, para. 2:

EN 50050-3	Electrostatic hand spraying equipment - Safety requirements - Part 3 Part 3: Hand-held spraying devices for flammable flock; German version EN 50050-3:2012
EN ISO 12100:2010-11	Safety of machinery - General principles for design – Risk assessment and risk reduction (ISO 12100:2010)
EN 60204-1:2018	Safety of machinery - Electrical equipment of machines - Part 1: General requirements (IEC 60204-1:2016, modified)
EN 55011:2009	Industrial, scientific and medical equipment Radio disturbance characteristics - Limits and methods of measurement (IEC/CISPR 11:2009, modified); German version EN 5511:2009

EN 61000-3-2:2006	Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic currents (equipment input current 16 A per conductor) (IEC 61000-3-2:2005 + A1:2008 + A2:2009); German version EN 6100-3-2:2006 + A1:2009 + A2:2009
EN 61000-3-3:2008	Electromagnetic compatibility (EMC) - Part 3-3: Limits Part 3-3: Limits - Limitation of voltage variations, voltage fluctuations and flicker in public low-voltage supply systems for equipment with a rated current < 16 A per conductor and not subject to a special connection condition. (IEC 61000-3-3:2008); German version EN 61000-3-3:2008
EN 61000-6-1:2007	Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial, and light-industrial environments Immunity for residential, commercial and light-industrial environments. (IEC 61000-6-1:2005); German version EN 61000-6-1:2007
EN 1127-1:2019	Explosive atmospheres - Explosion prevention and protection - Part 1: Basic concepts and methodology

Rommelsbach 01.04.2021

Olav Schnier (Geschäftsführer)