



SCHNIER



AIR Flocker **PRO**

ELECTROSTATIC-PNEUMATIC FLOCKER

Part. N°: 810489

OPERATING MANUAL






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On our Youtube channel www.youtube.com/schnierelektrostatik, we have produced interesting videos around flocking for you:



The following instruction videos are available for AIR Flocker PRO:

	<p>Tutorial about the AIR Flocker PRO settings https://youtu.be/RX5fOEvLvAg</p>
<p>Tutorial about the advanced menu https://youtu.be/EDyS4dn4yjc</p>	
	<p>AIR Flocker PRO - Basic setup tutorial https://youtu.be/qBoltLUUOQk</p>
<p>AIR Flocker PRO - changing dosing brush https://youtu.be/F3G13ckcRj4</p>	
	<p>AIR Flocker PRO - Changing and adjusting dosing sieve https://youtu.be/SYApGtzZ3sU</p>

1. Product and manufacturer

Congratulations on the purchase of your AIR Flocker PRO!

1.1. Product description

The AIR Flocker PRO is the electrostatic-pneumatic flocking unit for professional use. Sophisticated mechanics in combination with a modern control system is a guarantee for sophisticated flocking with consistent quality. The parameters for high voltage, blower and metering can be set quickly and easily via the convenient operating unit. In addition, parameter sets can be stored and recalled just as quickly.

Made in Germany" is particularly important for the metering unit and the powerful blower motor. The high-voltage supply is based on a modular system from SCHNIER Elektrostatik that has been perfected over many years.

The innovative hand-held flocking gun uses the latest 3D manufacturing technology, which makes previously unattainable geometries possible. Special attention was paid to the ergonomics of the handle and the durability of the switch unit. The aim was to make working as comfortable as possible, even over a longer period of time.

1.2. Specs

Variation	230 V	115 V
Input voltage	230 V +/-10%	115 V +/-10V
Input current	Max. 4 A	Max. 8 A
Output voltage	80 kV negative	
Output current	Max 300 µA	
Surroundings	+15°C to 40°C max. 70% rel. humidity, non-condensing.	
Size	Approx. 885x500x865 mm	
Weight	Approx. 120 kg	

1.3. Product identification

Product: Electrostatic-pneumatic flocking machine
 Type: AIR Flocker PRO
 Part number: 810489

1.4. Warranty and service notice

The warranty is 24 months after delivery.

Any kind of warranty is void if the device has been opened, modified, parts have been replaced with non-original parts or this operating manual has not been observed. parts have been replaced with non-original parts or these operating instructions have not been observed.

Repairs to the AFP can be carried out by SCHNIER Elektrostatik GmbH or an expert authorized by SCHNIER Elektrostatik GmbH.

When repairs are carried out by authorized experts, only original spare parts may be used. These can be obtained from SCHNIER Elektrostatik GmbH.

If you send an AFP to SCHNIER Elektrostatik GmbH, use only the original packaging for transport.

1.5. Manufacturer

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1.6. Legal notice

This manual may not be reproduced in part or in whole in any form, e.g. print, photocopy, etc., or processed, duplicated or distributed using electronic systems.

The reproduction of trade names, common names, product designations, etc. in this manual, even without special identification, does not justify the assumption that such names are to be considered free in the sense of trademark and brand protection legislation and may therefore be used by anyone.

1.7. Means of representation used

The following means of representation are used in these operating instructions to identify hazards, notes and tips:

Symbol	Impact
	This symbol warns of potentially hazardous situations which, if not avoided, could result in death or injury.
	This symbol warns of potentially dangerous electric shocks that can result in death or injury if not avoided.
	Warning of damage to the equipment or malfunctions
	Note for simple, rational procedure

2. Guide to this manual

These operating instructions must be read, understood and observed in all points by all persons who are responsible for the devices and electrostatic systems. Only with knowledge of these operating instructions can errors be avoided and safe and trouble-free operation be guaranteed. SCHNIER Elektrostatik GmbH accepts no liability for damage resulting from non-observance of these operating instructions!

This guide will allow you to:

- The safe handling of the AIR Flocker PRO.
For this purpose, you must be aware of the omnipresent and possible dangers emanating from the AIR Flocker PRO. The hazards with the corresponding instructions for hazard avoidance are listed from page 8 in this manual.
- The proper and professional operation of the AFP. This is described in these instructions.

Please read these instructions carefully and act in accordance with the descriptions, instructions and work procedures listed therein.

2.1. Persons to whom this manual is addressed

The AFP may only be operated by persons who have been instructed in its operation and who have read these instructions carefully.

This operating manual applies to:

Persons who assemble, commission, perform flocking operations, maintain, service, assemble, disassemble, repair, dispose of, and/or recycle the AFP.

Installation and maintenance personnel (e.g. machine setters, electrically qualified persons) who have been trained by the manufacturer or operator with regard to the manual and corresponding safety regulations.

Operating personnel (e.g. machine setters, persons with electrical qualifications) who have been trained by the manufacturer or operator with regard to the manual and corresponding safety regulations.





2.2. Accessibility of the operating instructions / storage

The operating manual must always be available at the plant for the responsible qualified personnel (operating, maintenance, repair personnel, etc.) and must be ready to hand. The manual must be kept by the operator for the entire service life of the plant. In case of resale of the plant or parts of the plant, the manual must be handed over to the new owner, as it is part of the plant.

2.3. Work safety symbols and expressions

Notice:

In this operating manual, the expressions "live parts" or "active parts" refer to parts that have a high-voltage potential during normal operation.

Symbol	Impact
	This symbol warns of potentially hazardous situations which, if not avoided, could result in death or injury.
	This symbol warns of potentially dangerous electric shocks that can result in death or injury if not avoided.
	Warning of damage to the equipment or malfunctions
	Note for simple, rational procedure

3. Instructions for avoiding hazards

Omnipresent and possible dangers emanate from the AFP.

There is also a risk that the AFP will be damaged and/or destroyed by improper operation.

The basic prerequisite for avoiding these dangers is that you read these operating instructions carefully, especially this chapter. Act in accordance with the descriptions, notes and operating procedures.



Risk of cuts and/or eye injuries

When cutting the outer and inner tensioning straps, you may suffer cuts and/or eye injuries as well as cuts when lifting the AFP down or up on its transport pallet.

Injury prevention:

Only cut the outer and inner tensioning straps from the left or right narrow side of the AFP.

Never cut the outer and inner tensioning straps when facing them head-on.

Wear suitable gloves when lifting or lowering the AFP from the transport pallet.



Risk of spinal injuries

You may suffer spinal injuries when lifting the AFP down or up on its transport pallet.

Injury prevention:

Before lifting down or up, assume the squatting position and straighten the spine. From the squatting position, lift the AFP onto or off the transport pallet.



Risk of burns

You can suffer burns by touching the ball electrode (44).

Injury prevention:

Do not touch the ball electrode after the AFP has been connected to the power supply.



Danger of electric shocks

Avoid electric shocks:

The AFP must not be connected to the mains before and during assembly or disassembly. For cleaning, maintenance or repair purposes, disconnect the AFP from the mains.

Disconnect the AFP from the power supply before removing the control and high-voltage plug-in unit (13).

Disconnect the AFP from the power supply before replacing the cup electrode (45).

The ball electrode (44) must not be touched after the AFP has been connected to the power supply.



Damage due to improper storage

Improper storage of the AFP can damage and/or destroy the unit.

Damage prevention:

Only store the AFP in its original packaging.

Avoid storage locations and installation sites with:

- high humidity
- strong solar radiation
- humidity and/or moisture
- strong temperature fluctuations
- extreme heat or extreme cold
- For information on the installation site and substrate, refer to chapter 8.



Transport damage due to improper transport

Improper transport of the AFP can damage and/or destroy the device.

Damage prevention:

Only transport the AFP in its original packaging.



During operation, interference may occur due to emitted interference at the devices that are in the immediate vicinity.

4. Intended use of the AFP

This chapter describes the purposes for which the AFP may be operated. It also describes the conditions under which the AFP must not be operated.

The AFP may only be used and operated for the purposes described in this chapter.

4.1. Fields of application

The AFP can be used for electrostatic-pneumatic flocking of moldings, surfaces or cavities. The AFP is particularly suitable for flocking complex moldings and cavities, such as those found in automotive glove boxes and profiles with undercuts.

4.2. Proper and professional operation



There is a **risk of explosion** if adhesives containing solvents accumulate to form an explosive gas atmosphere. This is particularly the case if there is no or insufficient technical ventilation. An explosion can be triggered by an electric arc, as can occur at the ball electrode (44) of the Flocking Gun (10).

Fire hazard exists with ignitable surfaces. An ignitable surface can be, for example, the surface of an object to be flocked and grounded. The absence or inadequate technical ventilation is conducive to the formation of ignitable surfaces. A fire can be triggered by an electric arc, as can occur at the ball electrode (44) of the Flocking Gun (10).



In the event of structural modifications or optimizations to the unit by the customer without prior consultation with SCHNIER Elektrostatik, all warranty claims will be voided.

5. Protective equipment for persons operating the AFP

To maintain your health when handling the AFP, you should have the protective equipment described below.

5.1. Dissipative footwear and gloves

By wearing dissipative footwear and dissipative gloves, you prevent the accumulation of electrostatic charges that can lead to electric shocks.

5.2. Ear protection

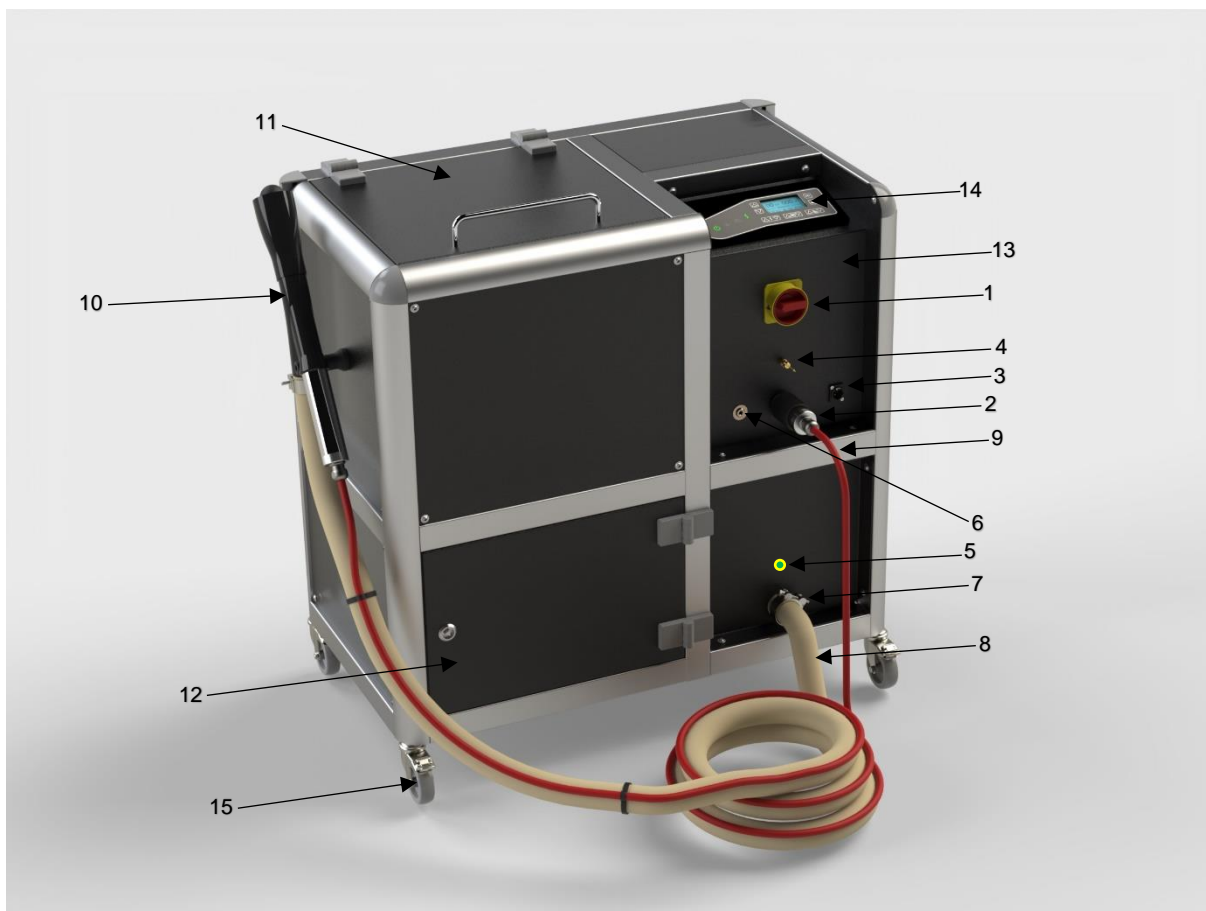
During continuous operation of the AFP, its sound emission can possibly contribute to hearing damage.

Therefore, use suitable hearing protection that reduces the sound emissions to a level that is not harmful to health.

5.3. Eye, nose and mouth protection

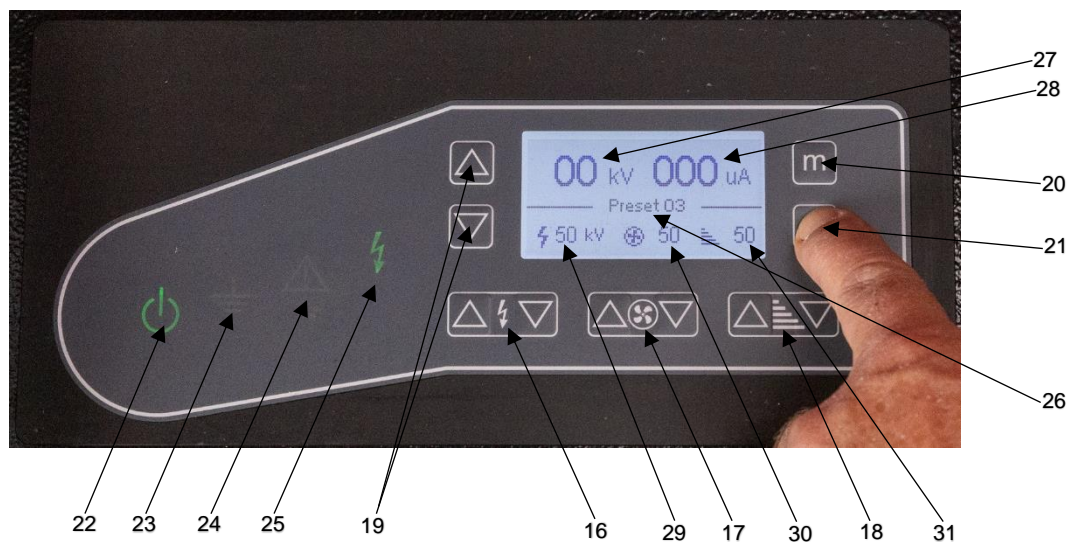
To prevent flying flock from entering the eyes and/or entering the body through the nose or mouth, wear eye protection in the form of suitable goggles and a suitable nose and mouth guard.

6. Structure of the AFP



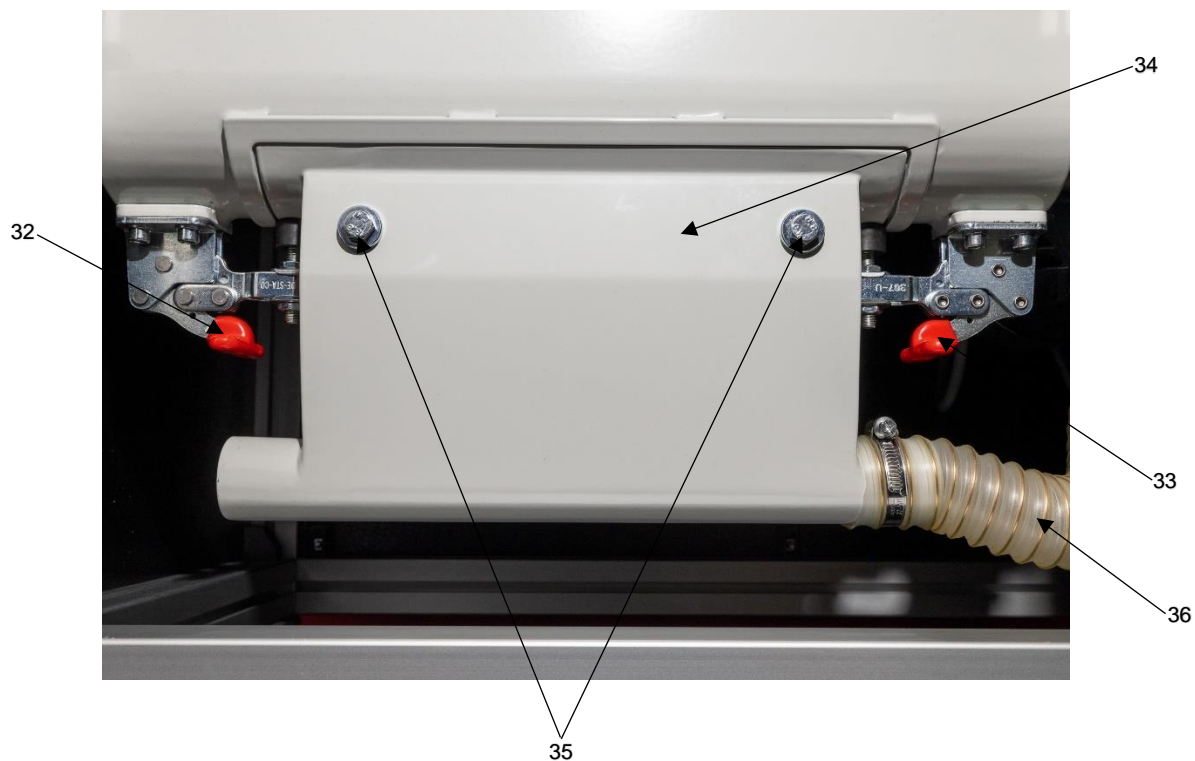
1. Main switch
2. High Voltage connection
3. Powercon connection for power cable
4. Screw for grounding cable
5. Grounding connection for grounding air hose
6. Jack socket 6,3 mm for remote control
7. Connection for air hose
8. Air hose
9. High Voltage cable
10. Flocking Gun
11. Flock reservoir
12. Service flap
13. High Voltage module with control
14. Control with display and membrane keypad
15. Castor wheels with brake

6.1. Control with display and membrane keypad



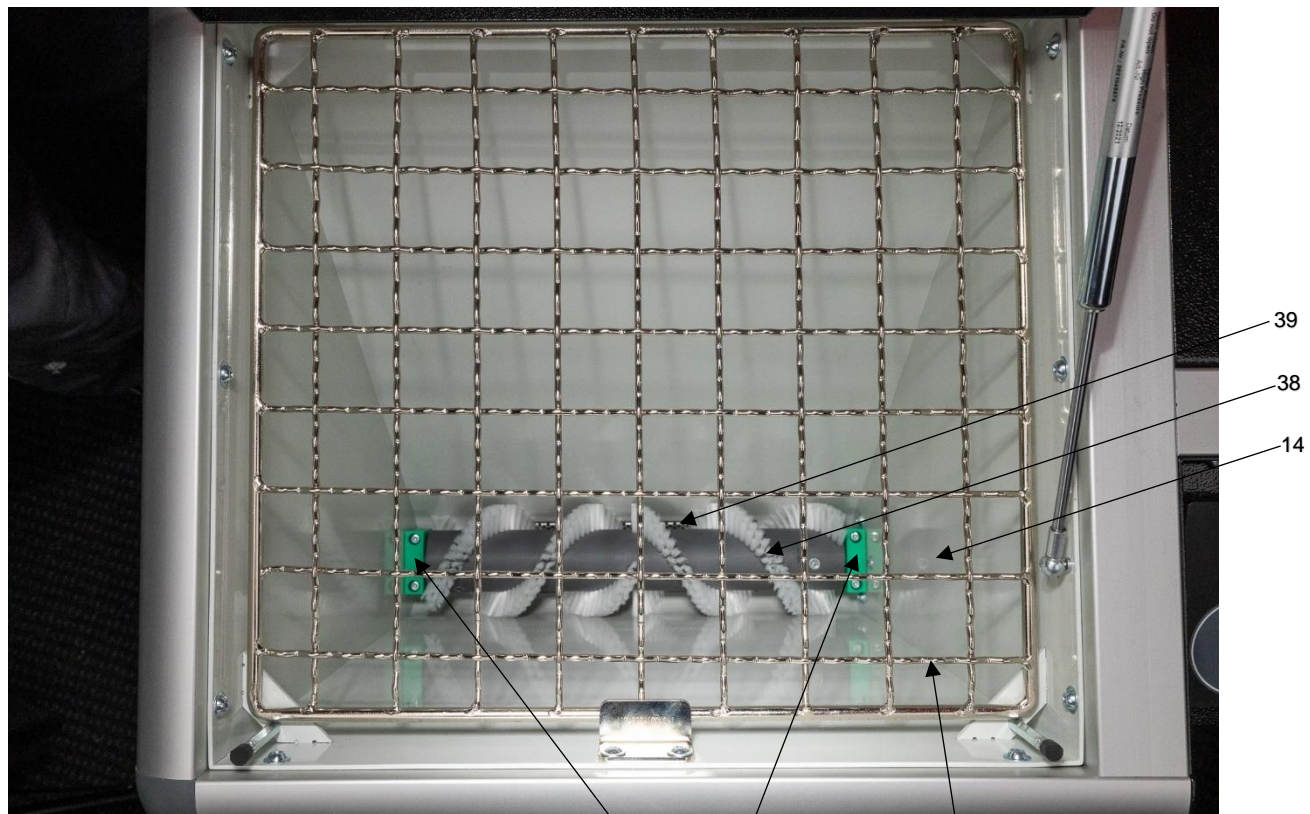
- 16. High Voltage Up/Down
- 17. Blower Up/Down
- 18. Dosing Up/Down
- 19. Preset Up/Down
- 20. Menu
- 21. Enter
- 22. LED operation
- 23. LED grounding
- 24. LED malfunction
- 25. LED high voltage
- 26. Active preset
- 27. Actual value high voltage
- 28. Actual value operation current
- 29. Target value high voltage
- 30. Target value blower
- 31. Target value dosing

6.2. Flocking hopper and motor for dosing brush



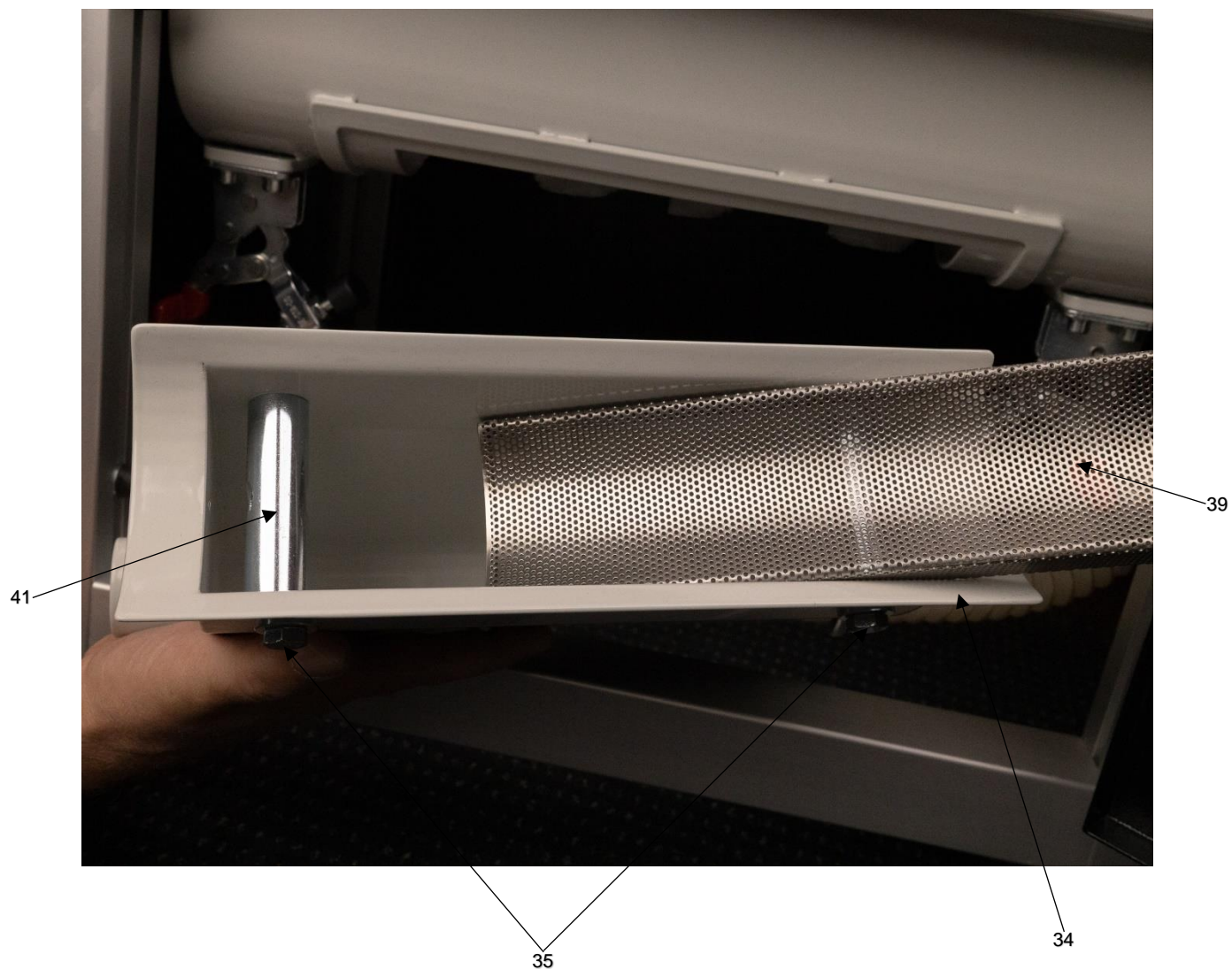
- 32. Quick release left
- 33. Quick release right
- 34. Flock hopper
- 35. Locking screws for the eccentric axles located inside the flock hopper.
- 36. Air hose

6.3. Flock reservoir container with dosing brush, brush bearing and sieve



- 37. Brush bearings
- 38. Dosing brush
- 39. Sieve
- 14. Flock reservoir container
- 40. Protective grid

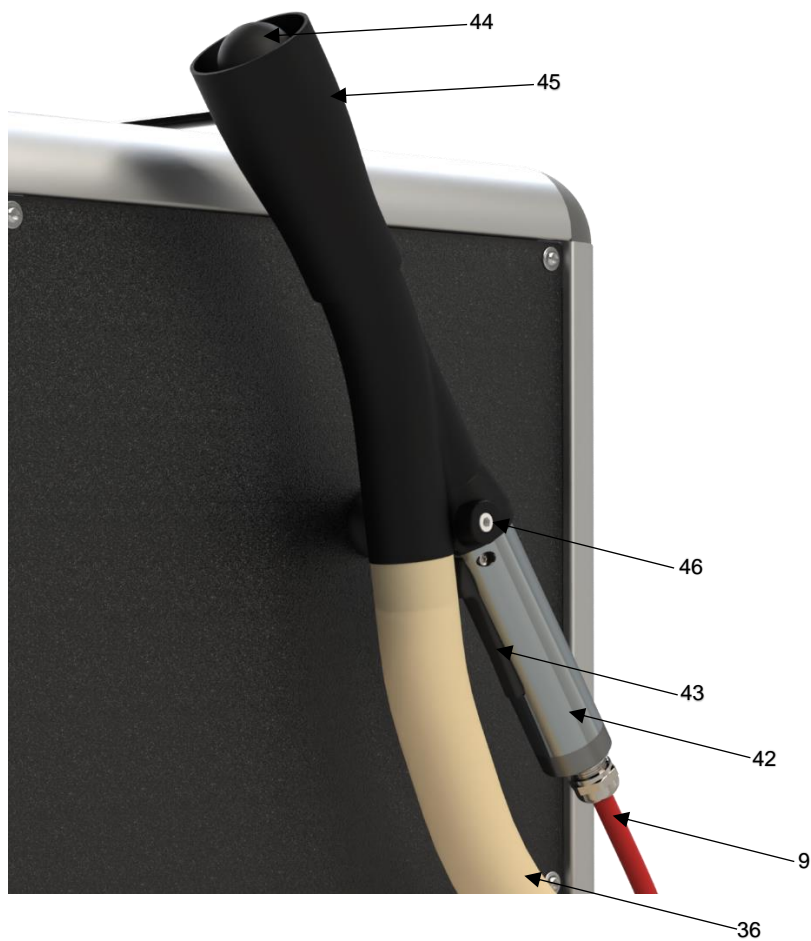
6.4. Flock hopper with eccentric axes and sieve



The flock hopper (34) is located behind the service flap (12).

- 34. Flock hopper
- 35. Locking screws for the eccentric axes located inside the flock hopper.
- 39. Sieve
- 41. Eccentric axe

6.5. Flocking Gun



- 42. Handle
- 43. Push button
- 9. High voltage cable
- 44. Ball electrode Ø 33,5 mm
- 45. Cup electrode
- 46. Magnetic holder
- 36. Air hose

7. Operating modes of the AIR Flocker PRO

The AFP can be operated not only electrostatically-pneumatically, but also exclusively electrostatically. These two application possibilities are described in this chapter.

7.1. Operation electrostatic-pneumatic

Characteristic of this operating state is that the AFP functions as an electrostatic-pneumatic flocking device.

For this purpose, the flock in the flock supply container (14) is metered out by the rotating metering brush (38) through a perforated plate screen insert (39) arranged under the metering brush into the flock hopper hanging below.

The amount of flock to be dosed out can be varied by changing the speed of the dosing brush. The speed can be changed with the Dosing Up/Down keys (18). A low speed means a correspondingly low flock quantity to be dosed out, a high speed means a correspondingly large flock quantity to be dosed out.

The flock metered into the flock hopper is drawn off by the blower and transported on an air stream through the PU air hose (36) connected to the blower connection piece to the flocking gun (10).

The amount of air sucked in and thus the speed of the flock to be transported can be varied. The air volume sucked in can be changed with the Blower Up/Down keys (17). The air volume must be set in such a way that the transport of the flock to the flocking gun is guaranteed.

The flock transported through the air hose (36) is blown through the handle (42) and the cup electrode (42) of the Flocking Gun past the ball electrode (45) onto the object to be flocked. During this process, the ball electrode is under high voltage. As a result, the flock flowing past is electrostatically charged and aligned in one direction. The strength of the charge can be changed with the High voltage up/down keys (16). Depending on the set dosage, the flock used and the distance between the flocking gun and the object to be flocked to the flocking object, a higher high voltage can achieve a higher flock density, and a lower high voltage can achieve a lower flock density.

7.2. Operation electrostatic

For purely electrostatic operation, the HV cable of the flocking gun must be completely disconnected from the AIR Flocker PRO and pulled out of the HV connection.

For this purpose, the "EASY Flocker hand cable" (Art. No. 810471) is connected to the HV connector.

The blower motor is set to the value 0 using the "Blower down" key (17) and the dosing is set to the value 0 using the "Dosing down" key (18).

The flock fibers are now no longer applied to the workpiece with air assistance, but purely electrostatically. For this purpose, the flock fibers are first filled into the applicator of the hand cable and a corresponding sieve is put on.

7.3. Flocking

Flocking processes can be performed or terminated by pressing or releasing the button (13) of the flocking gun.

When the switch is pressed, the Operation LED (22) starts to light up in green. This lights up as long as the button remains pressed. The blower is then briefly ramped up to maximum speed. Afterwards, the speed is reduced to the value set with the Blower Up/Down keys (17). Due to the ramp-up to the maximum speed, a stronger sound emission is generated for a short time than is the case in continuous operation of the AFP. Any flock in the air hose (36) is blown out when the blower is ramped up. The metering brush (38) is then rotated and flock is metered out. The high voltage set with the HS Up/Down keys (16) is then generated.

When the button is released, the blower is shut down, the dosing brush is stopped and the high voltage is discharged. The LED flashes until the voltage is completely discharged. The LED then goes out.

8. Site of installation

This chapter describes the conditions that must be met by a suitable installation site so that the AFP can be operated properly and professionally. The overall view of the AFP with the part markings can be found on the last page of these operating instructions.

8.1. Conditions for a suitable installation site

A suitable installation site for the AIR Flocker PRO must meet the following conditions:

- The installation site must be covered and dry. This prevents damage to the AFP due to humidity and moisture.
- The base must be firm and level. This ensures that the AFP stands firmly and securely and cannot be displaced by vibrations.
- The base must be free of impurities such as dust, etc., so that these cannot be sucked in by the blower via the suction port and block the air hose if necessary.
- An unobstructed air supply must be ensured so that the blower does not overheat. To this end, a minimum distance of 10 cm must be maintained from boundary surfaces.
- The unimpeded opening of the lid of the flock reservoir container (14) must be ensured.
- The unimpeded opening of the service flap (12) must be ensured.

9. Commissioning of the AIR Flocker PRO

This chapter describes how the AIR Flocker PRO can be put into operation after proper and professional installation.

Commissioning is understood to mean connecting the AFP to the power supply and testing the AFP for function.

The following description of commissioning refers to the use of the AFP in conjunction with the associated electrostatic manual spraying device (Flocking Gun).

The initial start-up is carried out **without flock** in the flock storage container.



- To avoid electric shocks and burns, do not touch the ball electrode (44) after making the power connection.
- To avoid high-voltage flashovers to flocking objects or machine parts, a minimum distance of 10 cm from the ball electrode (44) to flocking objects or machine parts must be maintained.

9.1. Commissioning of the AIR Flocker PRO

1. Establish the power connection. To do this, plug the Powercon connector into the connector (2) on the front of the AFP. The mains plug is plugged into the mains socket provided.
2. Insert the HV connector plug of the flocking gun into the HV connector socket of the AFP. It is essential to ensure that the entire plug is dry and clean.
3. Screw the union nut only slightly tight.
4. Push the air hose over the connection on the AFP and secure it with the clamp. Insert the end of the hose wire into the ground socket and screw it tight.
5. Connect the ground wire for grounding your workpiece to the screw with the wing nut and screw it tight. Also connect the ground wire for grounding the AFP here. The AFP must always be grounded separately!
6. Turn the main switch (1) clockwise to the I ON position.
7. The display shows the last preset called up (preset 1 is preset during initial start-up).
8. Now the AIR Flocker PRO is ready for operation. When the switch of the flocking gun is actuated, the fan, the dosing and the high voltage are started with the set parameters.
9. The blower is briefly brought up to maximum speed to blow out any excess flock still in the hose. Afterwards, the blower will ramp down to the set value. The duration of the blow-out process can be set in the advanced menu.

10. Flocking

10.1. Types of flock

The following types can be processed with the AFP:

- Cotton
- Viscose
- Polyamide (Nylon, Perlon)
- Polyester

10.2. Quality of flocking

The quality of flocking can be influenced by the following parameters:

Flock

The moisture and flowability of the flock used is decisive for the flocking quality. Basically, the use of dry and free-flowing flock leads to better flocking results.

Flock quantity

Basically, a larger flock quantity means a higher flock density. The decisive factor here is the type of flock used.

Strength of charging the flock

Basically, a stronger charge on the flock means better alignment of the flock on the object to be flocked.

Distance of the Flocking Gun to the object to be flocked

In principle, a smaller distance from the Electrostatic Hand Spray Unit to the flocking object results in a higher flock density.

Adhesive

The flocking quality depends largely on the adhesive used and its opening time.

10.3. Process of flocking

1. Place the object to be flocked on the grid bottom of the flocking booth. (Art.No. 810477).
2. Ground the object to be flocked. To do this, clamp the alligator clip of the grounding cable to the object to be flocked. Make sure that the alligator clip has sufficient contact with the adhesive.
3. Switch on the suction unit (Art. No. 810495).
4. Switch on the AFP. To do this, turn the main switch (1) clockwise to the I ON position.
5. If necessary, set the settings of dosing, blower and high voltage to medium values.
6. Take the Flocking Gun.
7. To blow out residual flock from the air hose and to set a continuous flock flow, direct the Flocking Gun in the flocking booth next to the object to be flocked.

8. Press the button of the Flocking Gun. Flock is blown into the flocking booth.
9. If necessary, regulate the amount of flock, the amount of air and/or the strength of the high voltage.
10. As soon as the blower has been run down to the preset value and a continuous flocking flow has been established, you can flock the object to be flocked. To do this, guide the Flocking Gun in continuous movements over and/or into the object to be flocked.
11. When the object is flocked as desired, release the switch.
12. Attach the Flocking Gun to the inside of the flocking booth or to the outside of the AFP using the magnetic holder.
13. Disconnect the alligator clip of the grounding cable from the flocked object.
14. Remove the flocked object from the flocking booth.







11. Menu and settings via the membrane keypad

11.1. LED indicators

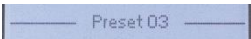






1. LED High voltage (25)
Green: High Voltage is off
Red: High voltage is on (LED is blinking, until voltage is discharged)
2. LED operation (22)
Green: AFP is powered and main switch is I ON
3. LED ground (23)
Yellow: not grounded
4. LED malfunction (24)
Red: malfunction

11.2. Keys and functions


1. Use the High voltage up/down keys (16)  to set the high voltage.
2. Use the Blower Up/Down keys (17)  to set the blower.
3. Use the Dosing Up/Down keys (18)  to set the flock dosing.
4. Use the Up/Down keys (19)  to scroll through the presets and menu items.
5. Press the menu key (20)  to access an extended setup.
6. Actuation key (21)  to confirm the entries.

11.3. Settings


1. As soon as a setpoint is adjusted, the "Preset" display  flashes, indicating that a value has been adjusted but not yet saved.
2. To save the settings in the preset, press the Enter key  for approx. 3 seconds. To discard the settings again, simply change the preset with the Up/Down keys (19)  and change back again.





3. The presets can be changed with the Up/Down (19)  keys. Then press the confirmation key  for confirmation.

11.4. Advanced settings

1. Press the "m" key (20)  to enter the menu.
2. The password is set using the High Voltage, Blower and Dosing keys.





1st digit with HS Up/Down, 2nd digit with blower Up/Down and 3rd digit with dosing Up/Down. Then confirm with the confirmation key (21) . Default setting on delivery is 1 2 3.

3. You can scroll through the settings with the Up/Down (19)  keys and confirm with the confirmation key (21) . The selected value then flashes and can be adjusted using the Up/Down (19)  keys. Afterwards, please confirm again .

The following settings can be selected:

- Pre-Blowing: Setting the time of pre-blowing (default setting is 2 s)
- Max-I: Setting of max. current (Max. 300 μ A)
- Safety: Setting of the approvals (default setting is „All unlocked“)
 - All unlocked: user can change everything
 - All locked: user can change nothing
 - Select presets: user can select presets
- Code: Setting the password (default setting is 1 2 3)

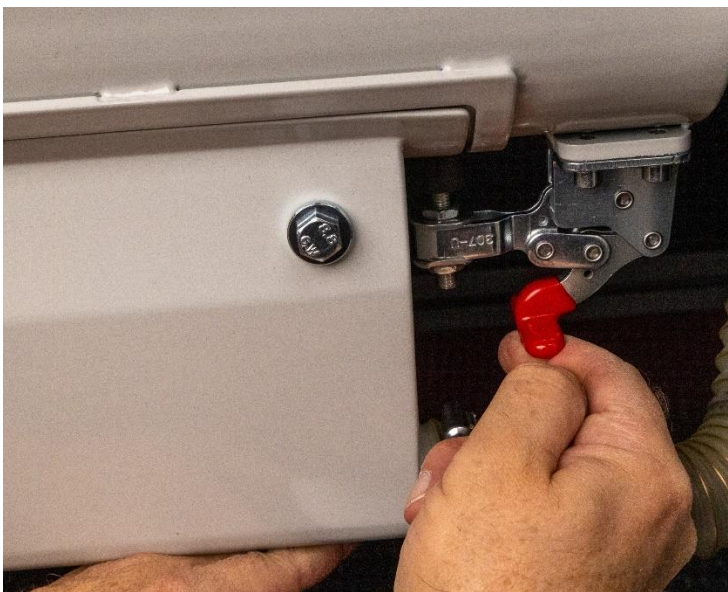
4. Exit the menu with the "m" key (20) . The menu is exited automatically after 30 s.

	Tutorial about the AIR Flocker settings https://youtu.be/RX5fOEvLvAg
Tutorial about the advanced menu https://youtu.be/EDyS4dn4yjc	

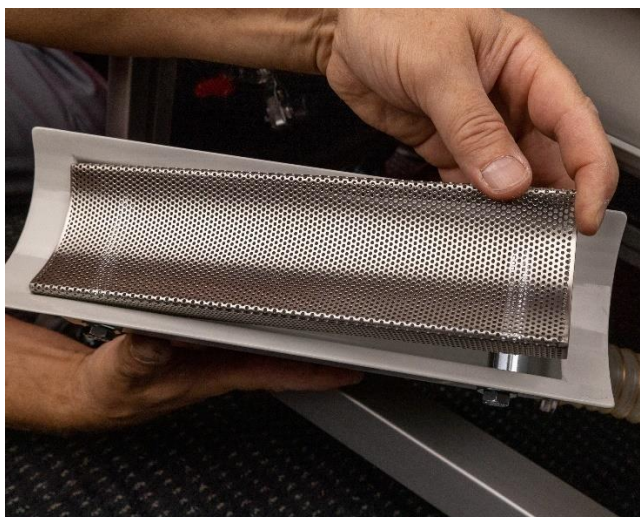
12. Working steps

12.1. Changing the sieve

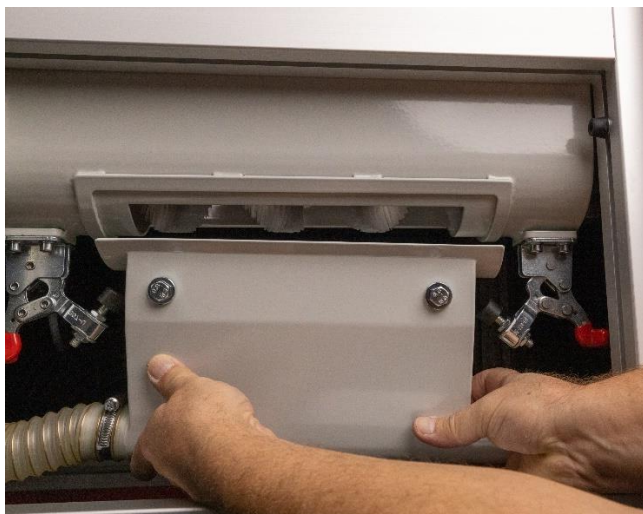
1. Switch off the Air Flocker PRO: Turn the main switch (1) counterclockwise to the 0 off position.
2. Disconnect the AFP from the power supply. To do this, disconnect the power plug on the mains side.
3. Open the service flap (12) with the supplied triangular key.
4. Hold the flock hopper (34) firmly with one hand.
5. With the other hand, first press down the lever of the quick release on the right (33), then the left (32).



6. Remove the sieve (39).
7. Insert the new sieve into the flock funnel (34) with the curvature facing downwards. Press the insert firmly by hand until it rests on the eccentric axles (41) located in the hopper.



8. Place the flock hopper with the sieve facing upwards under the flock supply container.



9. Lock the flock hopper by first pressing the quick-release lever on the left (32) and then the quick-release lever on the right (33) upwards.

10. Close the service flap (12) and unlock it with the supplied triangular key.

11. Restore the power supply. To do this, insert the power plug into the power socket.



AIR Flocker Pro – Changing dosing sieve
<https://youtu.be/SYApGtzZ3sU>

12.2. Change contact pressure between dosing brush and sieve

The AIR Flocker PRO is delivered with the correct contact pressure set between the dosing brush and the perforated plate screen insert mounted as standard.

For this reason, it is not necessary to change the contact pressure.

A change of the contact pressure can be considered if it is reduced due to the wear of the spiral brush lining of the dosing brush and it is not to be replaced. In this case, the contact pressure can be increased.

If the metering brush is replaced at a later time, the contact pressure must be reduced accordingly. If the contact pressure is not adjusted to the new metering brush, the spiral brush coating will wear out much faster.

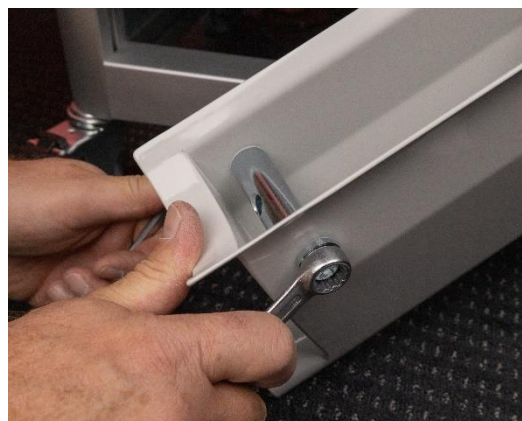
The contact pressure is increased if the distance between the metering brush and the perforated plate screen insert is reduced. Conversely, the contact pressure is reduced if the distance between the metering brush and the perforated plate screen insert is increased. The distance between metering brush and perforated plate screen insert can be varied by means of two eccentric shafts on which the perforated plate screen insert rests.

The eccentric shafts are mounted in the flock hopper.

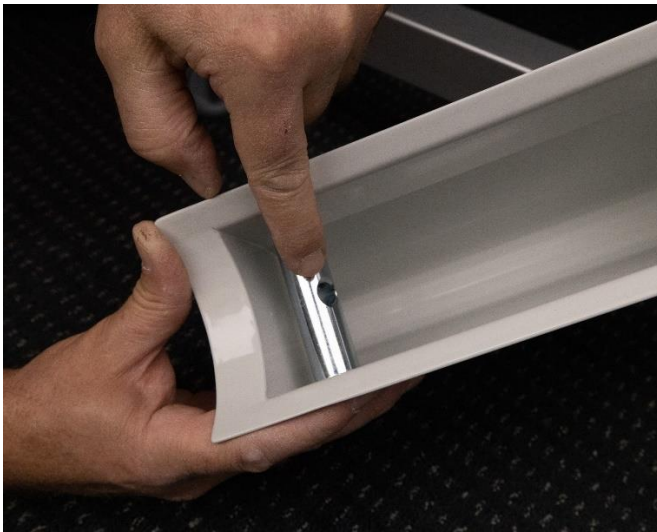


The dosing brush may only be replaced by designated persons.

1. Switch off the Air Flocker PRO: Turn the main switch counterclockwise to the 0 off position.
2. Disconnect the AFP from the power supply. To do this, disconnect the power plug on the mains side.
3. Open the service flap (12) with the supplied triangular key.
4. Hold the flock hopper (34) firmly with one hand.
5. With the other hand, first press down the lever of the quick-release on the left (32). Then the right one (33)
6. Remove the sieve (39)
7. Loosen the screws (35) located at the front and rear of the flock guide (34) until you can turn the eccentric axles (41) by hand.



8. To increase the contact pressure, you must reduce the distance between the metering brush and the sieve insert. To do this, turn the eccentric axles (41) so that the distance of the flock funnel (34) is reduced.
9. To reduce the contact pressure, you must increase the distance between the metering brush and the sieve insert. To do this, turn the eccentric axles (41) so that the distance between the eccentric axes and the upper edge of the flock funnel increases.



10. Tighten the screws (35) of the eccentric axes (41).
11. Place the sieve (39) in the funnel (34) with the bulge facing downwards.
12. Press the sieve firmly until it rests on the eccentric axles (41) located in the flock funnel.
13. Place the flock hopper (34) with the sieve (39) facing upwards under the flock supply container (14).
14. Lock the flock funnel (34) by first pushing the lever of the quick release on the left (32) and then on the right (33) upwards.
15. Close the service flap (12) with the supplied triangular key.
16. Restore the power supply.

12.3. Changing the dosing brush

Replacement of the dosing brush (38) can be considered if the spiral brush coating is worn or if the flock funnel or the dosing brush are to be cleaned. Cleaning is recommended whenever a flock change is performed.

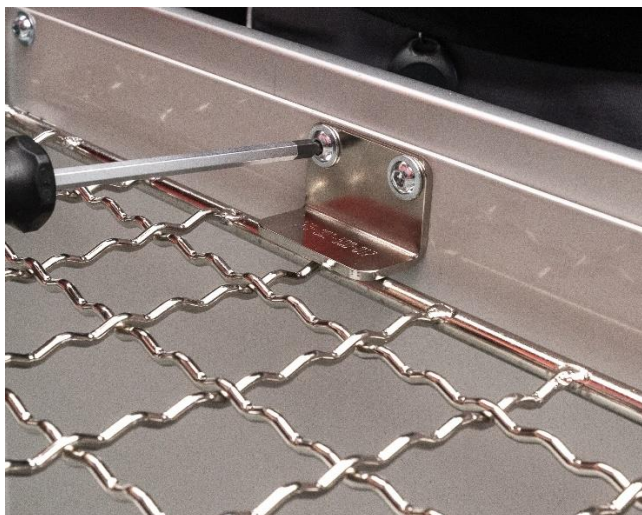
The procedure for changing the dosing brush includes the work sequences for removing the dosing brush and installing the dosing brush. These work sequences are described below.



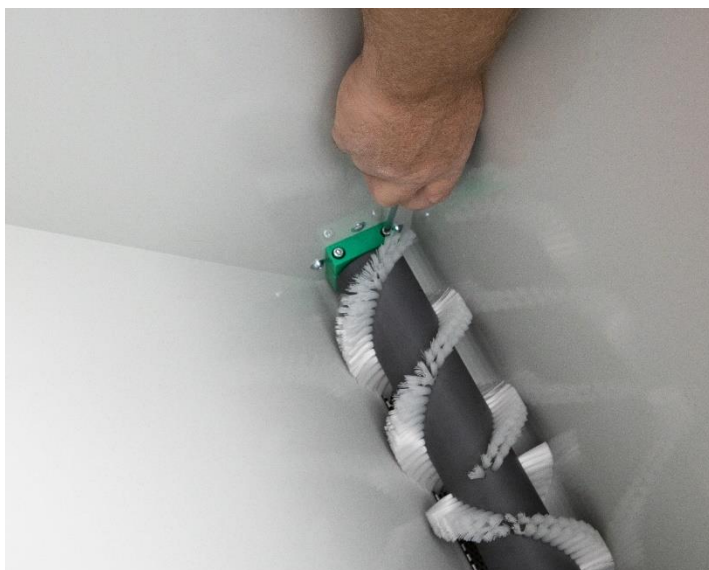
The dosing brush may only be replaced by designated persons.

Removal:

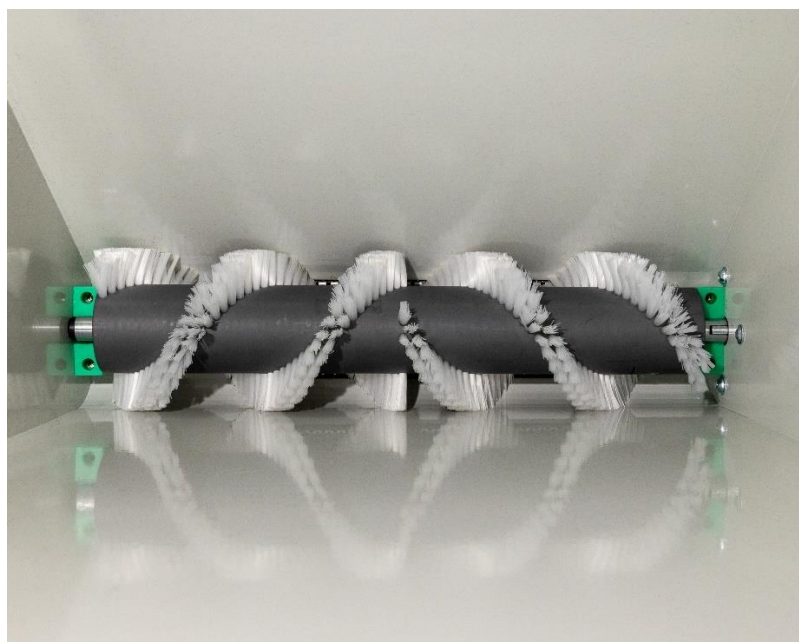
1. Switch off the AIR Flocker PRO: Turn the main switch (1) counterclockwise to the 0 off position.
2. Disconnect the AFP from the power supply. To do this, disconnect the power plug on the mains side.
3. Open the lid of the flock supply container (14).
4. Remove the protective grid (40).



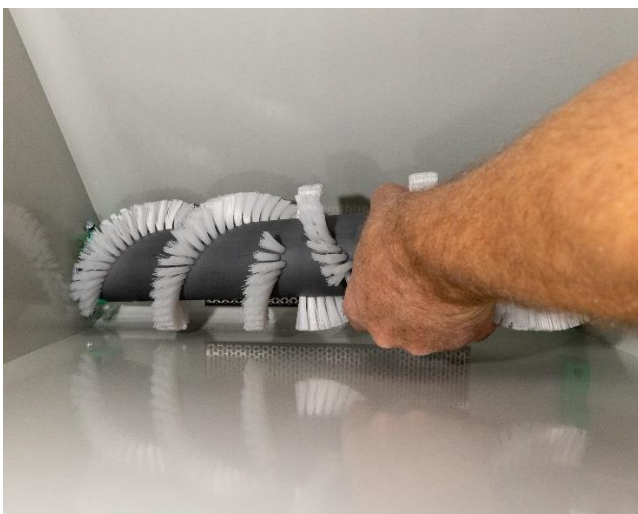
5. Use the supplied screwdriver to loosen and remove the hexagon socket screws located in the brush bearings (37). These are located to the left and right of the dispensing brush (38).



6. Remove the bearings (37) upwards.
7. If the driver for the dosing brush is not vertical, you must move the brush to the corresponding position. To do this, establish the mains supply by inserting the mains plug into the corresponding mains socket on the mains side. Set the parameters Dosing, Blower and High voltage to the value 0. Press the key of the flocking gun. Adjust the dosing so that the brush starts to rotate slowly. Observe the driver. If it is vertical, set the dosing to 0. Release the button.



8. Disconnect the AFP from the power supply again.
9. Remove the dosing brush from the flock supply container. To do this, grasp the side opposite the driver under the dosing brush with one hand. Lift the brush until you can pull it out upwards.



Installation:

1. Insert the dosing brush with the plastic cover marked in black into the brush bearing.
2. Insert the opposite end of the dosing brush into the driver.
3. Press the brush on the left side firmly down into the brush bearings.
4. Reposition the upper bearings on the lower bearings.
5. Tighten the hexagon socket screws with the supplied hexagon socket wrench.
6. Insert the protective grid into the flock supply container.
7. Connect the power supply.

AIR Flocker Pro - changing dosing brush
<https://youtu.be/F3G13ckcRj4>











13. Malfunctions and their correction

In the event of a malfunction, first carry out a check of the AIR Flocker PRO using the points listed below. If you are unable to rectify the fault, contact SCHNIER Elektrostatik GmbH. The possibilities of contacting are listed on page 5 of these operating instructions.

malfunction	possible cause	remedial measures
The AIR Flocker Pro cannot be switched on	No power supply	Check whether the power plug of the AFP is plugged in. Check the power cable for mechanical damage. Check whether the power plug is correctly mounted on the power cable. Check whether fuses are defective at the AFP workstation.
	Ground cable of the mains cable is not connected or interrupted	Check whether the ground cable in the mains plug is correctly connected. Check the power cable for mechanical damage.
No function	Damage to the high-voltage cable due to leakage currents	Check the high-voltage cable and replace it with a new one if necessary
	The knurled union nut has loosened. As a result, the contact between the high-voltage plug-in unit and the electrostatic manual spraying device is interrupted.	Tighten the nut by hand.

No, or extremely little flock	Air hose is connected incorrectly	Check whether the air hose is correctly connected to the AFP and the electrostatic hand spray device. The arrows on the PU air hose must point to the electrostatic hand spray device.
	No flock in the reservoir	Refill flock
	The parameters for dosing, blower and high voltage are set to 0	Set the affected parameters correctly
	The air hose is blocked	Check the hose for possible blockage.
	Spiral brush worn out	Increase the contact pressure between the dosing brush and the perforated plate screen insert. Replace the brush
	Non processable flock	Check the flock for pourability, moisture
	Unsuitable ratio of hole diameter of the screen insert used and flock used	Replace the sieve insert with the corresponding sieve insert
	Too high/low contact pressure between brush and sieve insert	Remove foreign bodies from the flock supply container.

LED	Meaning	possible cause	fixing
	operation	AFP on power and switched on	
	Ground monitoring	poor / no grounding	grounding AFP correctly
	malfunction	look below	look below
	high voltage	Button from Flocking Gun is pressed	
possible malfunction			
	Low voltage of the internal power supply	Hardware failure	AFP for review to SCHNIER
	Hardwaredefekt der begrenzten Überspannung	Hardware failure	AFP for review to SCHNIER
	Hardwaredefekt der Ist- Strommesseinrichtung	Hardware failure	AFP for review to SCHNIER
	Programmspeicher ist nicht in Ordnung	Hardware failure	AFP for review to SCHNIER

14. Service and maintenance

14.1. Maintenance

Wear parts of the AIR Flocker PRO must be checked for wear at regular inspection intervals and replaced if necessary.

The wearing parts are the spiral brush lining of the metering brush, the nylon flap bearings and the carbon brushes in the drive motor of the metering brush.



To avoid electric shocks, the AFP must be disconnected from the power supply before maintenance.

Maintenance and cleaning work may only be carried out by appropriately trained personnel. Only use lukewarm water with a mild cleaning agent to clean the AFP.

The description of the inspection of the drive motor and the replacement of the carbon brushes is carried out exclusively by SCHNIER Elektrostatik GmbH or by an expert authorized by SCHNIER Elektrostatik GmbH.

14.2. Cleaning

Regularly remove flock that has deposited on the AIR FLocker PRO, in and on the air hose and the flocking gun. If you change the flock, remove residual flock from the flock supply container, the PU air hose, the flocking gun and the flock funnel beforehand.

Regularly remove adhesive from the handle of the flocking gun and the ball electrode. In particular, the switch should be regularly cleaned of adhesive and flock.

Clean the plug of the high-voltage connection regularly.

15. Accessories and spare parts

- Flocking Gun (Art.No. 810497)
- Standard electrode set (ball electrode and cup electrode) (Art.No. 810475)
- Air hose (Art.No. 320002)
- Foot switch (Art.No. 810086)
- Generator with control unit (Art.No. 810522)
- Dosing brush (Art.No. 220025)
- Sieve insert fine, medium, coarse (Art.No. 080403, 080404, 080405)
- Brush bearing (Art.No. 220024)
- Blower motor (Art.No. 100406)
- Connection cable (Art.No. 050090)
- Ground cable (Art.No. 810005)

16. Type plate



1. Specifies the machine type, AIR Flocker PRO.
2. Indicates the individual serial number of the respective AFP.
3. Indicates the year in which the respective AFP was built.
4. Specifies the line voltage in (V), frequency in (Hz), and amperage in amps (A) at which the AFP must be operated.
5. Indicates the maximum output voltage for the high voltage in (kV) and the maximum current in (µA) that can be provided by the AFP for operation.
6. Indicates the maximum discharge energy in kilo joules (kJ).
7. Atex classification
8. Applied standards
9. Indicates the manufacturer SCHNIER-Flock.

17. Declaration of Conformity

Manufacturer: SCHNIER Elektrostatik GmbH
 Bayernstrasse 13
 D-72768 Reutlingen
 +49 7121 90973 60
 info@schnier.de

Product: Hand flocking unit
 Type: Elektrostatic-pneumatic hand flocking unit
 SCHNIER Item.-No.: AIR Flocker PRO Item-No. 810489
 Trade name: AIR Flocker PRO
 Function: Device for flocking of various flat and molded parts

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

2014/34/EU Directive 2014/34/EU of the European Parliament and of the Council of 26.02.2014 on the harmonization of the laws of the Member States relating to equipment and protective systems intended for use in potentially explosive atmospheres (recast). 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 17.05.2006 on machinery and amending Directive 95/16/EC (recast) (1) Published in L 157/24 of 09.06.2006

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 relating to Electromagnetic Compatibility (recast). Published in 2014/L 96/79 of 29.03.2014

Reference of the harmonized standards applied in accordance with Article 7(2):

EN 50050-3 Electrostatic hand spraying equipment- Safety requirements Part 3: Hand-held spraying Equipment for flammable flock; German version EN 50050-3:20213

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 55011:2009
- EN 61000-3-2:2006 Electromagnetic compatibility (EMC) - Part 3-2: Limits
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 61000-3-2:2006 + A1:2009
+ A2:2009
- EN 61000-3-3:2008 Electromagnetic compatibility (EMC)
Part 3-3: Limits
Limitation of voltage variations,
voltage fluctuations and flicker in public
low-voltage supply networks for equipment
With a rated current < 16 A per conductor, which are not
subject to any
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.
establishments. (IEC 61000-6-1:2005); German version
EN 61000-6-1:2007
- EN 1127-1:2019 Explosive atmospheres - Explosion prevention and
protection
Part 1: Fundamentals of the methodology

Rommelsbach 19.10.2021



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