Blown Electrostatic Flock Application System

Table of Contents

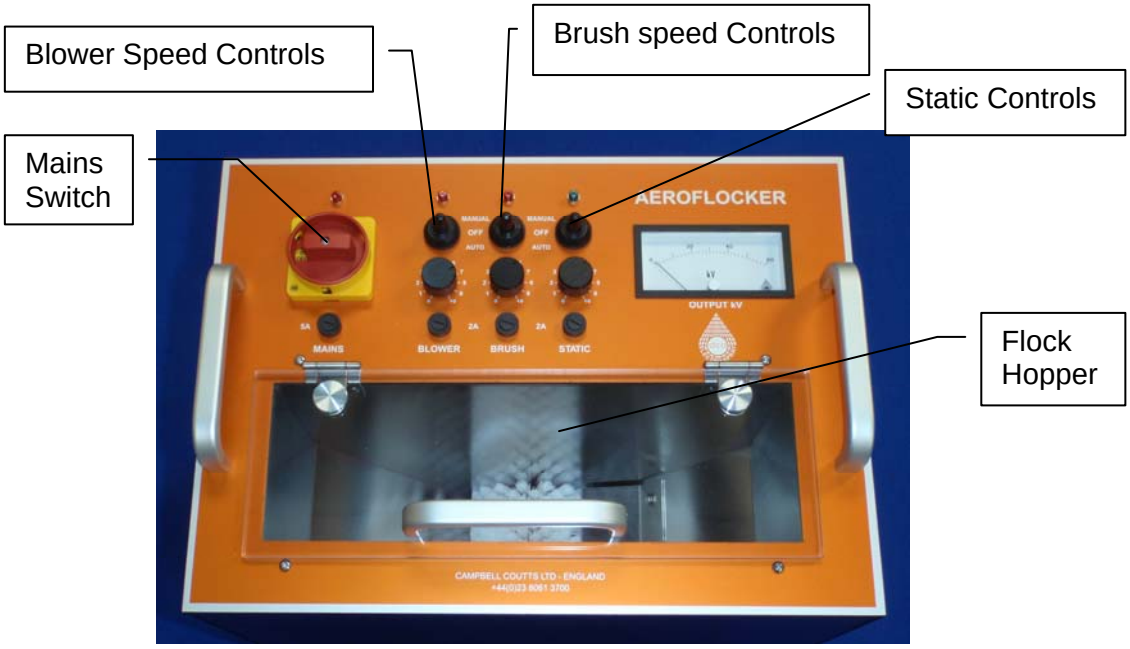
Glossary

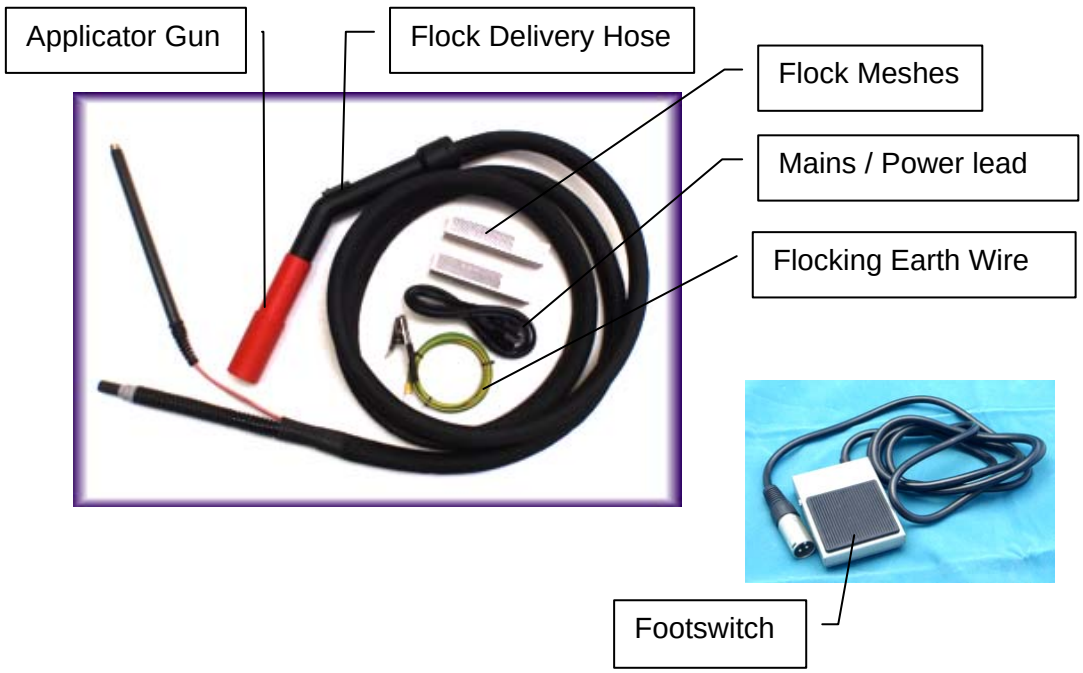
AeroFlocker	Name given to a particular blown & static DCA flocking machine, which is portable.
Adhesive	A substance, such as paste or liquid, that causes two surfaces to stick together. Adhesives are made of gelatin or other substances, such as epoxy, resin, or polyethylene.
Ammeter	Meter on the Turbo Flocker showing the current being drawn when the static is activated.
Applicator Gun	Hand-held implement used to direct the flow of flock.
Arcing	Arcing is the flow of electricity through the air from one conductor to another. Arcing can produce visible flashes and flames along with a crackling sound.
Blower	The fan used to blow the flock fibres out of the Main Process Unit, through the Flock Delivery Hose and out of the Flock Applicator.
Charge	(to supply with) a quantity of electric charge or electrical energy
Conductivity	Ability to conduct / transport electricity.
Control Connection	Point on the Main Process Unit ,at which the Flock Applicator / Footswitch is connected to the Main Process Unit.
Decay Probe	A device that expedites the gradual decrease of electric energy stored in an object.
Delivery Hose	The flexible hose / plastic tube which flock flows down from the Main Process Unit to the Flock Applicator
Dissipate	To become dispersed or dispelled
Earth Lead	Lead that connects electrically to the ground.
Earth Stud	Metal knob to which the Earth Lead is connected on the Main Process Unit
Earthing / Grounding	Connecting electrically to the ground.
Electric Shock	Trauma caused by the passage of electric current through the body; can involve burns and abnormal heart rhythm and unconsciousness.
Electrode	A solid electric conductor through which an electric current enters or leaves a substance / object.
Electrostatic Charging Plate	Metal disc used to electro-statically charge flock fibres.
Flock	Finely cut fibres of nylon, viscose, cotton, etc., most commonly used for producing a velvet-like pattern/coating on wallpaper or cloth or for coating metal.
Flock Applicator	Hand-held implement used to direct the flow of flock.
Flock Hopper	Container in which the flock is stored prior to being electro-statically charged and expelled from the Flock Applicator.
Flock Mesh	Mesh is material like a net made from wire, thread, or plastic. It is used here to sieve the flock, allowing for a more even and steady flow of flock from the Flock Applicator and discouraging blockages.
Flocked Finish	The end result of the flocking process. The final flocked coating.
Flocking Earth Lead	Lead that electrically connects the item being flocked to the ground.
Gland Nut	The name given to a particular type of nut. A nut is a type of hardware fastener with a threaded hole.
Gun Nozzle	Projecting spout on applicator gun from which flock is discharged
HT Cable	High Tension or High Voltage Cable
Humidity	The amount of water vapor contained in a given volume of air.
Main Process Unit	The main body of the flocking machine, housing all the major processes and controls.
Mains Lead	Lead that connects the Main Process Unit to a mains power source.
Metering Brush	The brush which controls the dispensing of the flock from the flock hopper to the blower.
Non-Blown	A system that does not use a jet of air to propel the flock.
Set Time Delay	The period of time that elapses between the trigger/footswitch being depressed and flock coming out of the applicator nozzle when operating in “Auto” mode. This is pre-set by the manufacturer.
Shroud	The extended plastic rim on the applicator gun enclosing/protecting the nozzle.
Sieve Metering Unit	The part of the Main Process Unit containing the Flock Mesh, which sieves the flock en route to the blower, allowing for a more even and steady flow of flock from the Flock Applicator and discouraging blockages.
Spray Pattern	Configuration of the spray of flock leaving the flock applicator.
Static	High Voltage Static Electricity
Turbo Flocker	Name given to a particular blown & static DCA flocking machine.

Checking the Package Contents

Make sure you have received the following items in the package. If any of these items are missing or damaged, please contact Campbell Coutts Ltd.

- **Manual**
- **Main Process Unit**
- **Mains Lead**
- **Flock Delivery Hose**
- **Applicator Gun**
- **Footswitch**
- **Flocking Earth Wire**
- **2 Flock Meshes (one fine, one coarse)**





Introduction to the AeroFlocker

The flocking of objects which have deep recesses or sharp angles has always created problems for flock coaters. This is the result of the Faraday Cage effect, where the electro-statically charged fibres are attracted to the nearest earthed surface which stops them reaching into cavities. To overcome this problem, a pneumatic or blown electrostatic flocking system is required. The AeroFlocker is a blown electrostatic system that delivers an easily adjustable steady stream of charged flock. It is suitable for flocking into profiles and pockets in addition to external surfaces. The standard system comes complete and ready to go. The process parameters can be set very quickly. An optional hand held hopper for electrostatic only applications is available.

- The system consists of the main process unit, applicator gun and footswitch.
- The main process unit is a self contained portable mains operated unit.
- The flock delivery unit sieves the flock before delivering it to the gun via the flock delivery hose.
- The flock hopper holds up to 1kg of flock, but successfully operates with as little as 100gm of flock.
- The high voltage generator has a fully adjustable output of up to 60kV.
- The generator will supply up to 350uA output.
- Charging voltage meter shows charge setting.
- Independent controls allow the flock delivery, air flow and electrostatic charge to be adjusted to suit the application and required work rate.
- The main unit allows non-blown hand held applicators or flock chambers to be connected to the generator.
- A variety of applicator pots and meshes are available.

Health & Safety Instructions

IMPORTANT	**READ AND UNDERSTAND THESE OPERATING INSTRUCTIONS BEFORE USING THE AEROFLOCKER**

	THIS EQUIPMENT MUST NOT BE OPERATED BY ANY PERSON THAT IS FITTED WITH A 'PACEMAKER' DEVICE OR HAS A HEART CONDITION.
	REMEMBER - Electricity and water do not mix! - Keep the Equipment clear of all known liquid sources.
	IMPROPER USE CAN CAUSE ELECTRIC SHOCK **RESPIRATORY & EYE PROTECTION** must be worn while applying or handling loose flock. Disposable respirators should be CE marked and should also be marked with disposable respirators standard EN 149: 2001. The masks should provide protection to at least FFP2 level.

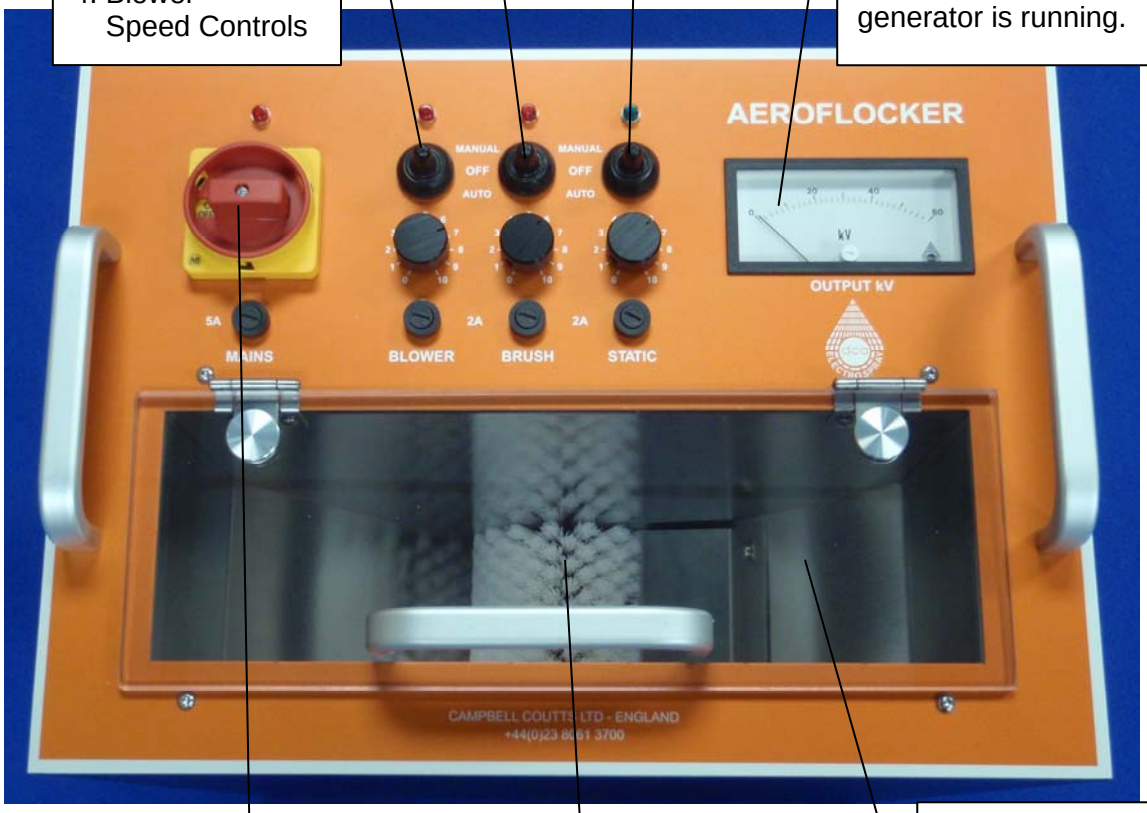
- **NEVER** use as a 'STUN GUN' or 'IMMOBILSER'
- **NEVER** look into the applicator gun when the unit is switched on.
- **NEVER** touch the electrostatic charging plate in the flock applicator when the unit is switched on. The charging plate will hold a charge for up to one minute after the system has been switched off.
- **NEVER** use near paints, adhesives or powders which are flammable. If in doubt please consult the relative manufacturers' data sheet.
- **Ensure** that the HT cable is kept clean to ensure no leakage of static charge.
- The mains supply to the Generator must be earthed / grounded. If using an 'Extension' mains cable, it is imperative that it has an earth/ground conductor.

It is recommended that an EARTH strap is worn. This will assist in the dissipation of static charges from the operator, limiting the chance of shock from charge build up.

- **ALWAYS** wear eye & respiratory protection when operating the AeroFlocker
- **NEVER** drop the applicator as damage may occur which could compromise its safe operation.
- **AVOID** allowing the Flock Applicator to Discharge / Arc to Earth / Ground. Serious damage to the high voltage generator may result. If necessary, use the optional Decay Probe.

DO NOT dispose of this equipment with normal waste.
Under the WEEE directive (Waste Electrical and Electronic Equipment Directive 2002/96/EC), electrical equipment should be returned to the manufacturer for possible recycling. To recycle or dispose of the equipment safely, please return it to Campbell Coutts Ltd.

The Control Panel



1. **Volt Meter** –

   Displays voltage being supplied to the applicator gun / flock applicator. The meter will only register voltage being supplied when the static is activated via the gun trigger/foot pedal.

2. **Mains power switch and Fuse –**

   There are 2 positions the Mains Power Switch can be set to, either “Off” or “On”. The fuse indicator light will light up when there is mains power being supplied to the AeroFlocker Unit. If the Mains Power Switch is set to “On” and the light is not on, the fuse should be checked, in case it has blown.

Setting and using the Auto/Manual/Off Controls

4. Static (High voltage) controls –

3 way switch	Manual -	The high voltage output is switched on and off by the pedal on the footswitch
	Off -	The high voltage output is disabled
	Auto -	The high voltage output is switched on and off by the pedal on the footswitch
Potentiometer	0 - 10	Adjusts the output voltage level

5. Brush speed controls -

3 way switch	Manual -	Switches metering brush motor on immediately
	Off -	Switches metering brush motor off immediately
	Auto -	The metering brush motor is switched on and off by the pedal on the footswitch
Potentiometer	0 - 10	Adjusts the brush motor speed and dispense rate

6. Blower speed controls -

3 way switch	Manual -	Switches blower motor on immediately
	Off -	Switches blower motor off immediately
	Auto -	The blower motor is switched on and off by the pedal on the footswitch
Potentiometer	0 - 10	Adjusts the blower speed and flock speed

Automatic Operation Mode

In the 'Auto' mode the unit operates in the following way:

- Depressing the pedal on the footswitch immediately switches on the high voltage generator, blower and the metering brush.
- Releasing the pedal on the footswitch immediately switches off the metering brush, the blower and the generator.

How to set the Static (High Voltage) Controls

The high voltage controls are set to determine how much charge is applied to the flock. It will be necessary to experiment with varying degrees of charge in order to achieve the desired flocked finish.

IMPORTANT – It is advisable not to set the High Voltage higher than required, as this will increase the risk of electric shocks.

Setting the High Voltage	
Too High	**Too Low**
• Flock may not get into corners, of object being flocked, properly. • Increased risk of electric shock. • Increased risk of arcing and sparks (which can be heard as crackling).	• Flock will not get charged properly which will result in a poor quality of finish to the flocking (e.g. low flock density, flock fibres deposited in varying directions, luscious velvet effect not created).

ADDITIONAL INFORMATION

The conductivity of flock is dependent on its humidity. Ensure the flock fibres are stored in line with the manufacturer's requirements. (Refer to their Data Sheet)

How to set the optimum Brush and Blower speeds

Setting the (Flock Delivery) Blower Speed

The adjustable speed blower transports the flock down the flock delivery hose to the applicator gun. The blower speed should be set to ensure that all the flock being delivered by the metering brush is expelled from the gun.

It is advised that the blower speed should be set first, and then the metering brush speed set to compliment the blower speed. The smaller the object to be flocked, the lower the blower speed will need to be set.

Using a test area first will enable the user to adjust the controls until the desired flocking effect has been created.

IMPORTANT - Too high an airflow (blower speed) and the flock will be delivered so quickly that it is blown flat as it hits the surface to be flocked.

When flocking into recesses the airflow should be adjusted in conjunction with the electrostatic (high voltage) charge to ensure that the flock reaches the bottom of the object being flocked.

IMPORTANT - If the charge is too high or the airflow too low the flock will be attracted to the sides of the recess and not reach the bottom.

Setting the Blower Speed	
Too High	**Too Low**
• Flock will be delivered so quickly that it is blown flat as it hits the surface to be flocked, resulting in a poor flocked finish. • Flock may not be charged properly. • Uneven flock density on finished product.	• Flock may not be delivered to internal corners sufficiently. • Excessive build-up of flock in sieve box & flock delivery hose, resulting in lumps of flock being deposited by the applicator gun and potential blower blockages.

How to set the optimum Brush and Blower speeds

Setting the (Metering) Brush Speed

The supply unit is fitted with a metering brush at the base of the flock hopper. This variable speed metering brush runs against a stainless steel mesh which sieves the flock as it is dispensed into the delivery air flow. The faster the metering brush runs, the higher the delivery rate of flock.
The metering brush speed needs to be adjusted in conjunction with the blower speed to ensure that all the flock being dispensed is transported down the flock delivery hose and out of the applicator gun nozzle.

The flock dispense mesh is removable through the air inlet port on the side of the cabinet. Different size meshes are available to suit various flock lengths.

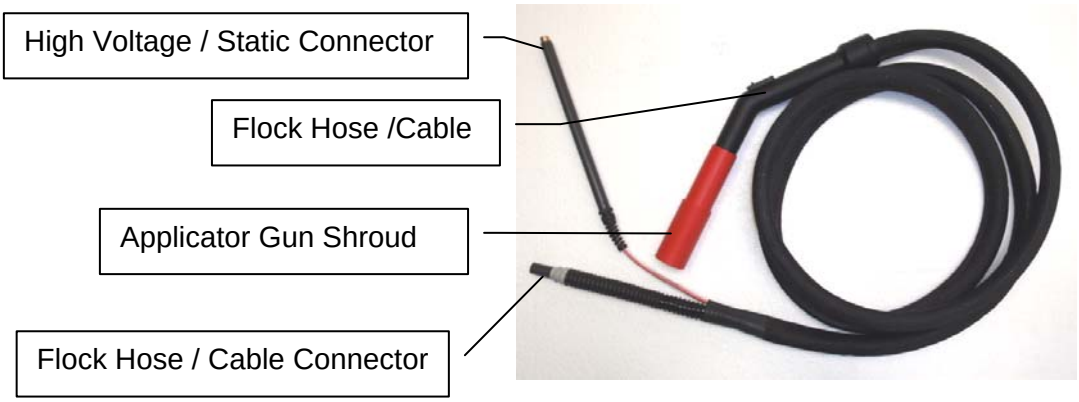
IMPORTANT – If the metering brush speed is set too high for the blower speed, then "clumping" of the flock could result, which could lead to the blower becoming blocked *(see trouble shooting guide)*.

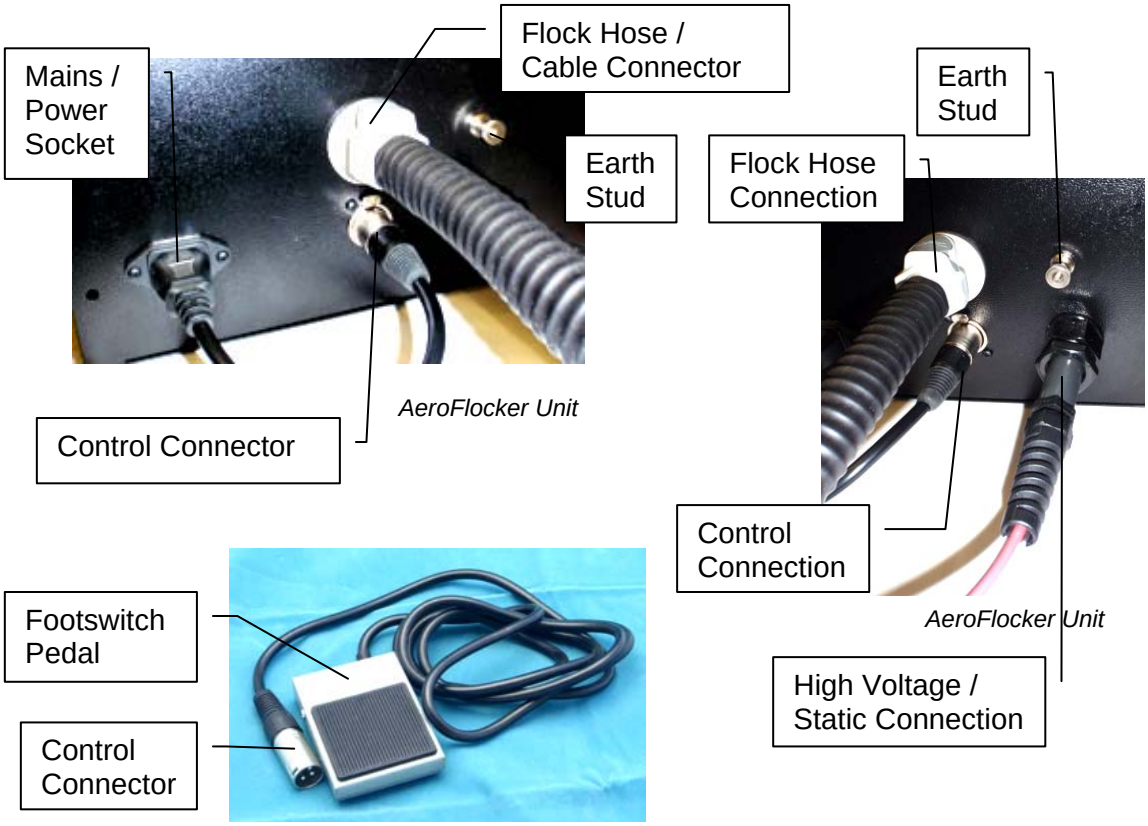
In order to find the optimum metering brush speed, the metering brush speed should be set low to begin with and then incrementally adjusted up until the desired flocking effect has been attained. For this reason, it is advised that a test area is always flocked first to enable the controls to be set to the appropriate levels.

Setting the Metering brush Speed	
Too High	**Too Low**
• Uneven flow of flock, which could result in intermittent lumps of flock being deposited by the applicator gun. • Potential of blower blockage.	• Amount of time it takes to flock an object increased and/or low flock density. • Could impair the final flocked finish.

AeroFlocker Applicator Gun

AeroFlocker Applicator gun





AeroFlocker Unit

AeroFlocker Unit

Footswitch

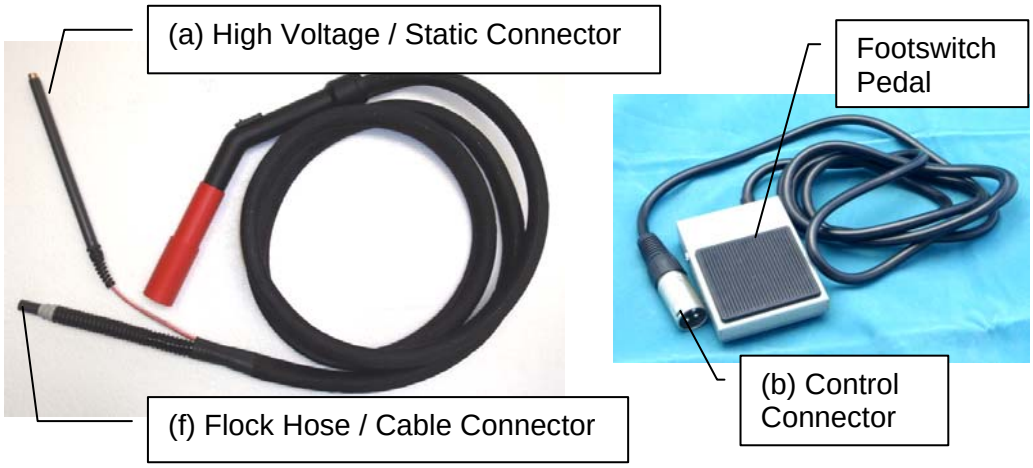
WARNING: The Applicator Gun will retain a static charge after the power has been switched off. This charge is capable of delivering an electric shock. Keep clear of the charging electrode until the charge has dissipated. The decay probe (an optional extra) can be used to hasten the dissipation of the static charge or else it is recommended that the operator wait one minute for the charge to fully dissipate.

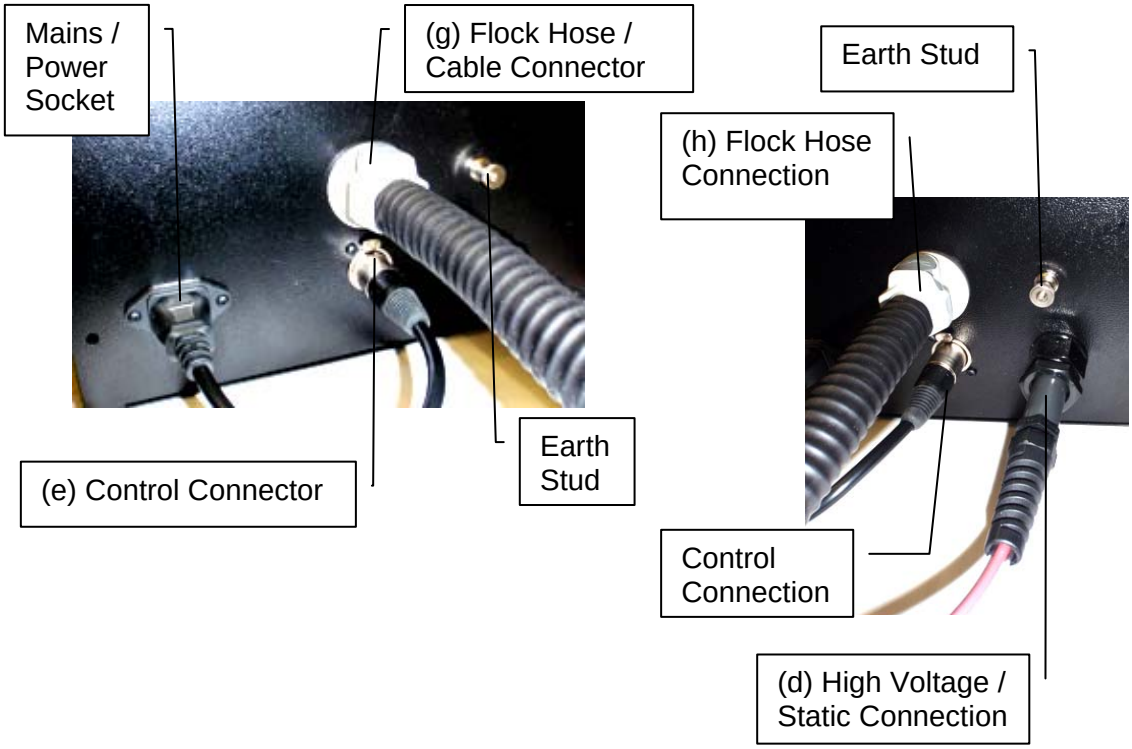
Connecting the Applicator Gun to the AeroFlocker

1. First, fully insert the high voltage connector (a) into the side panel of the AeroFlocker at point (d). It should be completely pushed against the spring and the black gland nut tightened to hold it securely in place.

2. Now push the Flock Hose (f) into its connector on the side of the AeroFlocker (g). The dark grey button should “click” when the Flock Hose is properly in position (h).

3. Next insert the Control Connector (b) (attached to the Footswitch) into the side panel of the AeroFlocker at point (e).



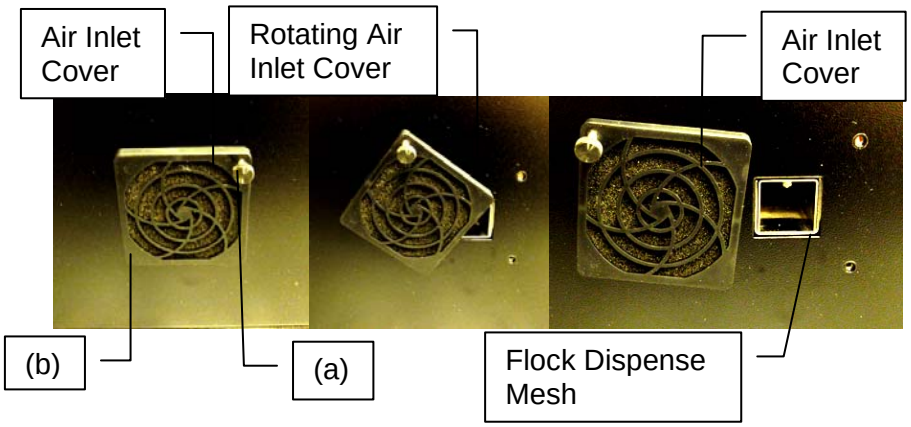


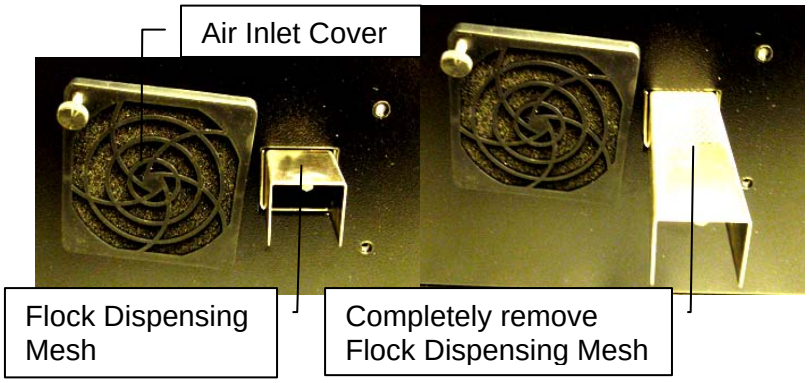
Filling the AeroFlocker with Flock

1. Ensure the mains switch is set to the “Off” position.
2. Open the hinged, clear, polycarbonate lid at the top of the AeroFlocker.
3. Pour in the flock to be used. A minimum of 100gm up to a maximum of 1000gm can be used at any one time.
4. Close the lid.

Changing or emptying the flock

1. Ensure the mains switch is set to the “Off” position.
2. Open the hinged, clear, polycarbonate lid at the top of the Aeroflocker.
3. Scoop out the bulk of the residual flock left in the hopper of the AeroFlocker.
4. Any flock still remaining in the AeroFlocker will need to be discharged to prevent cross-contamination. Set the mains switch to the “On” position.
5. Point the gun into a flocking cabinet, bin bag or some other repository for the residual flock.
6. Switch the blower to manual and set it to maximum.
7. Switch the metering brush to manual and set it to maximum.
8. Switch the static to the “Off” position.
9. Once the flow of flock from the applicator gun has stopped, turn off the AeroFlocker.
10. Using a vacuum cleaner suck the remaining flock from the flock hopper (lift the lid to access this).
11. Use the vacuum cleaner to suck any residual flock from the metering brush, then use it to suck any residual flock left in the flock hose (hold the vacuum to the end of the applicator gun in order to suck the remaining flock from the hose).
12. Next, clear the mesh box, by rotating the air inlet cover across (in the same way as you would when changing the flock dispense mesh). To do this, loosen the screw in the top right hand corner of the air inlet cover (a) and pivot it around the point of contact in the bottom left hand corner (b).





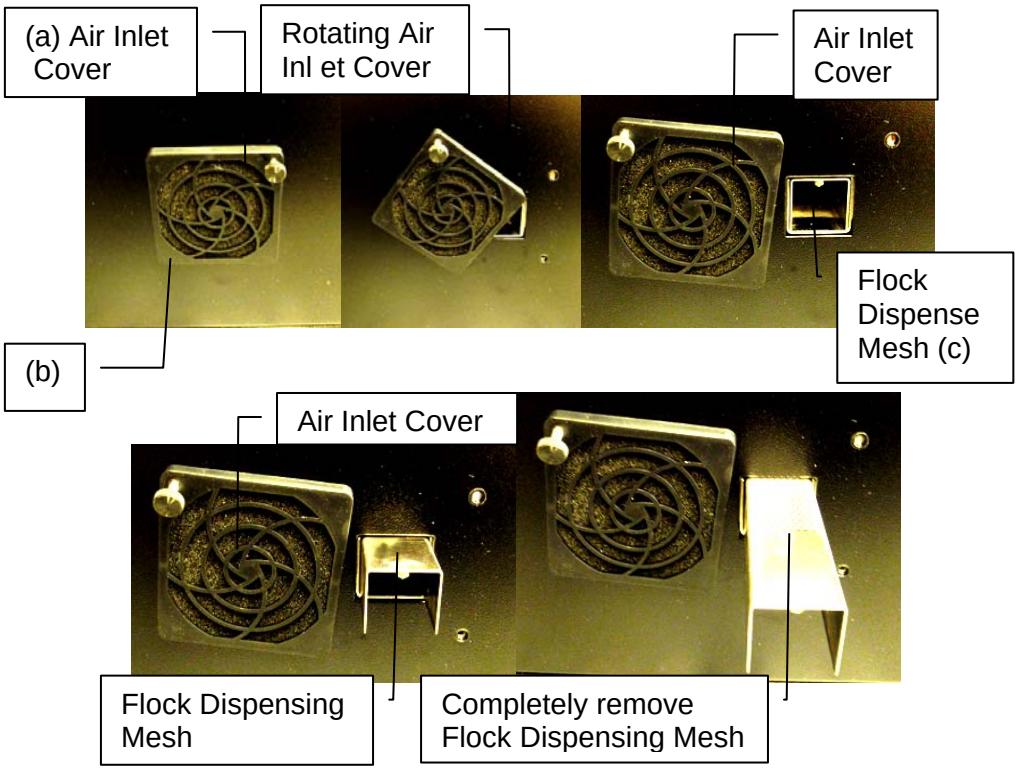
13. Pull out the Flock Dispensing Mesh completely and clean any flock from it.
14. Place the vacuum cleaner nozzle to the hole left by the Flock Dispensing Mesh and suck out any flock from inside the AeroFlocker.
15. Replace the Flock Dispensing Mesh and rotate the Air Inlet Cover back into position and secure.
16. The new flock can now be placed in the flock hopper, as described on the previous page (Filling the AeroFlocker with Flock).

Flock Dispensing Mesh

The AeroFlocker comes with two interchangeable meshes, one coarse the other fine. The fine mesh is suitable for use with flocks of length up to 1mm, the coarse mesh is suitable with flocks of lengths over 1mm. If the flock flow rate obtained when using the fine mesh is not sufficient, change to the coarser mesh. Due to the compact size of the AeroFlocker's Blower, using flocks with lengths above 2mm is not recommended.

How to change the Flock Dispensing Mesh

1. Ensure that the mains switch is set in the "Off" position.
2. Access the side panel of the AeroFlocker, housing the air inlet cover (a).

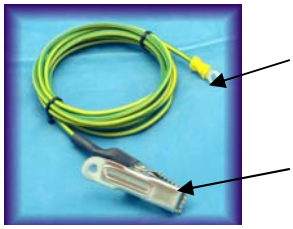


3. Slide the cover around by loosening the screw in the top right hand corner and then pivoting it on the bottom left hand screw (b).
4. Once the cover has been moved enough to expose the opening, slide out the existing mesh (c).
5. Replace the mesh with the alternative mesh and then replace the air inlet cover.

AeroFlocker Operating Instructions

NB **As part of correct production management procedures all operators must be drilled in the safe operation of this equipment.**

1. Ensure mains switch is set to the “OFF” position (until otherwise instructed).
2. Prepare the area where the flocking is to be carried out. Ensure that the appropriate safety clothing and equipment is being used.
3. Connect the applicator gun and the footswitch to the AeroFlocker, following the instructions from page 13 of this manual. Connect the Flocking Earth Wire to Earth Stud on the AeroFlocker. Do this by removing the nut from the Earth Stud, placing the ring (from one end of the Flocking Earth Wire) over the Earth Stud and replacing and tightening the nut.



Flocking Earth Wire

4. Check that the correct flock dispensing mesh is fitted, see page 16 for instructions on how to change the mesh if required. The fine mesh should be used for flock of up to 1mm in length and for anything over 1mm (but no more than 2mm) the coarser mesh should be used.
5. Fill the hopper with the flock to be used, following the instructions from page 14 of this manual.
6. Prepare the item(s) to be flocked using a suitable adhesive.
7. Attach the flocking earth wire to the item to be flocked using the crocodile or alligator clip. It is important to ensure a good grounding / earthing of the product to be flocked, without a good earth connection the final flock finish will be impaired. If the item to be flocked is non-conductive, flat and thin (e.g. t-shirt, wallpaper, greetings card, etc) a metal plate can be placed below / behind the object and the crocodile / alligator clip connected to that. For 3-D objects the adhesive should be conductive enough, so that, as long as the flocking earth wire is connected to the adhesive, a sufficient earthing / grounding should have been achieved. A piece of conductive wire may be used to extend the length of the flocking earth wire (simply clip one end to the crocodile clip and attach the other to the item being flocked), a piece of wire can also be used to provide a less intrusive connection.
8. Ensure the earthing / grounding of the adhesive coated article (item to be flocked) is as perfect as possible. If using the adhesive as the conductor, it is especially important to ensure that the adhesive coating is sufficient and that it connects solidly to the earth / grounding wire. Larger (especially non-conductive) objects (e.g. a 2m² piece of wood) may need to have more than one point of earth / grounding attached to them.

AeroFlocker Operating Instructions

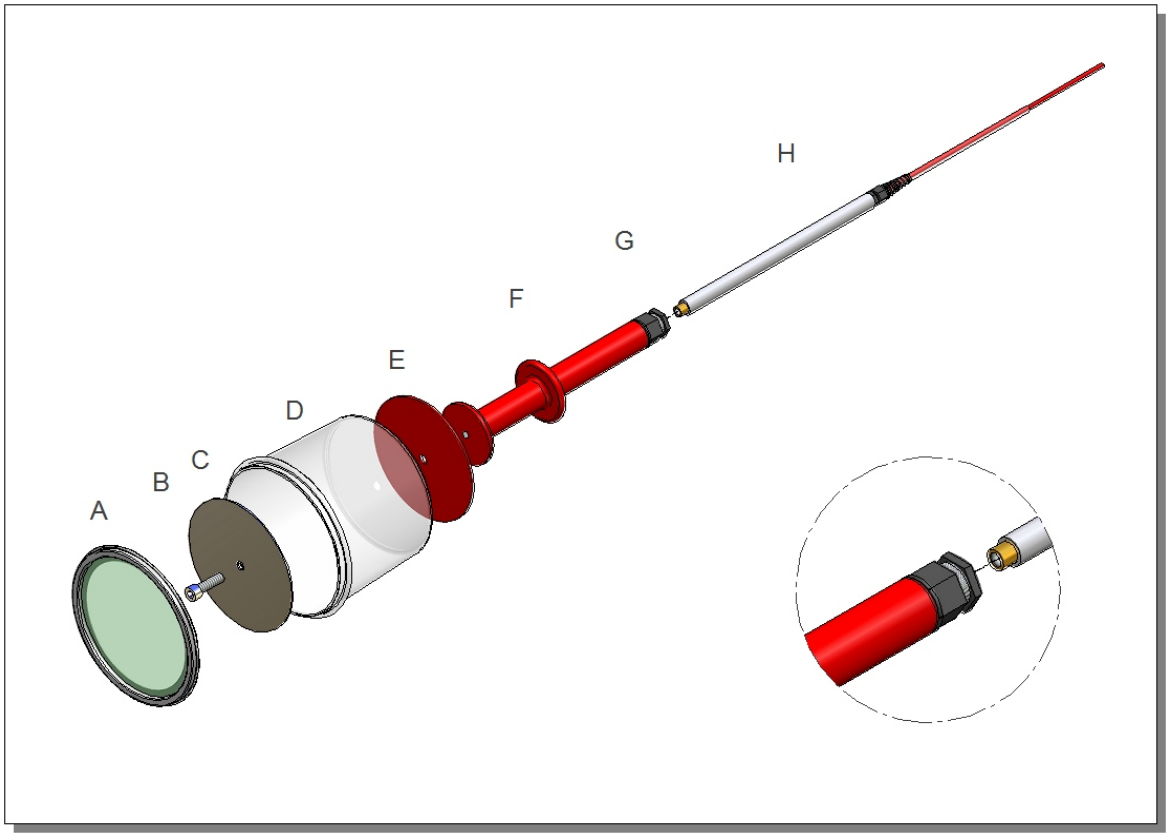
(continued)

WARNING: **After the next step the AeroFlocker and the Gun Applicator will energized with electrostatic charges. Ensure that all safety protocol is being adhered to.**

9. Set the mains switch to the “ON” position.
10. Switch the High Voltage to either “Auto” or “Manual” (see page 8 for details). Set the High Voltage / Static to the required level (see page 9 of this manual).
11. The AeroFlocker is now ready to flock. To start flocking, point the applicator gun nozzle at the area to be flocked and, if the AeroFlocker is set to “Auto”, depress the footswitch.
12. The applicator gun should be approximately 200-400mm away from the object being flocked.
13. When finished, set the mains switch to “Off”.

WARNING: **The Applicator Gun will retain an electrostatic charge for approximately one minute after the AeroFlocker has been switched off. This charge is sufficient to deliver an electric shock. Wait for the charge to fully dissipate before handling.**

OPTIONAL ELECTROSTATIC APPLICATOR ASSEMBLY



INSTRUCTIONS

1. Pass retaining screw '**B**' in turn through holes in electrode plate '**C**', insulated container '**D**', red Perspex backing plate '**E**' and screw onto handle tube '**F**', ensuring that all items are correctly aligned before tightening.

2. Slacken off gland nut '**G**', and insert high voltage cable '**H**' until its threaded boss locates with the end of the retaining screw '**B**', then tighten by the clockwise rotation of the applicator assembly as a whole. Ensure that a good Electrical / Mechanical connection / contact is made.

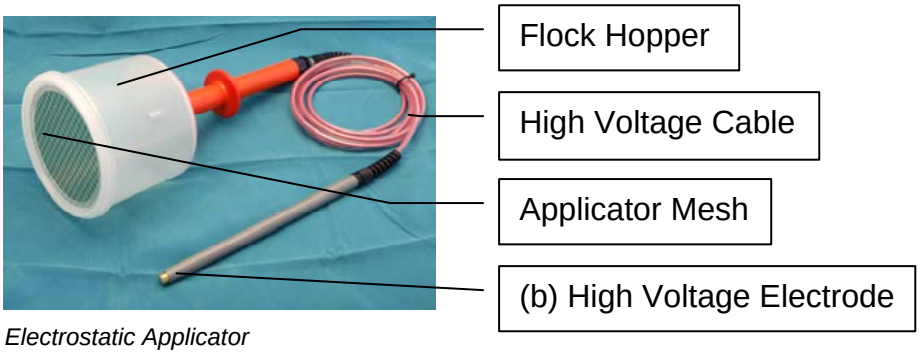
3. **If** for any reason a good Electrical / Mechanical connection / contact is not properly made. Electrostatic arcing may take place, which **WILL** cause damage to the equipment.

4. Finally, tighten gland retainer nut '**G**' to secure handle assembly to grey cable end.

IMPORTANT: **When in use, ensure that the applicator is only held by the handle portion between 'G' and 'F'.**

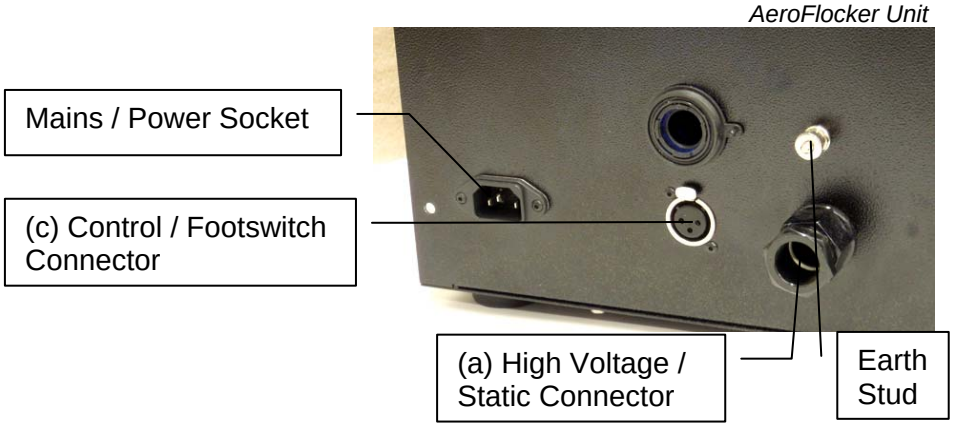
IMPORTANT: **Ensure that any residual static has drained away BEFORE replenishing with flock.**

CONNECTING THE ELECTROSTATIC APPLICATOR TO THE AEROFLOCKER



Electrostatic Applicator

AeroFlocker Unit



1. Ensure mains switch is set to the “OFF” position.

2. Remove any applicator already connected to the AeroFlocker by pushing down the dark grey button on top of the Flock Hose Connector, whilst pushing down on the button, pull to remove the applicator. Now remove the other applicator’s control connection simply by pressing the release button and pulling the connector out. Finally remove the High Voltage Cable by loosening / slackening the black gland nut and removing the electrode.

3. Insert the grey electrode (“probe” end of electrostatic applicator), shown at point (b) in the picture above, into the connector (a). Push the electrode into the connector all the way (you should feel a spring compressing at the end, the electrode should be pressed fully against it), once the electrode is in as far as it can be, secure it place by tightening the black gland nut.

4. Attach the Footswitch, via its control connector, into the Control Connector (c) on the AeroFlocker (in the same way that you would for the standard AeroFlocker Applicator Gun).

5. To remove the electrostatic applicator, ensure that the mains switch is in the “Off” position and that all charge has been dissipated. Then loosen / slacken the black gland nut (a), and remove the electrode from the connector.

Filling, changing & emptying flock in the electrostatic only applicator

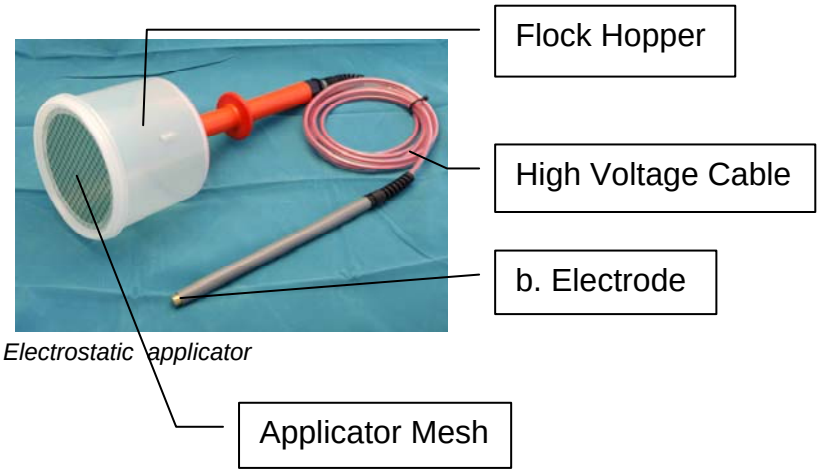
1. **BEFORE** re-filling the Flock Hopper / Applicator Head, **ENSURE** the power is switched **OFF**.

2. Attach Decay Probe Lead (an optional, but recommended extra), to the Generator Earth / Ground Terminal.

3. Remove applicator mesh.

4. Carefully, hold the Decay Probe to the metal charging plate for about 3 seconds to dissipate any static residue.

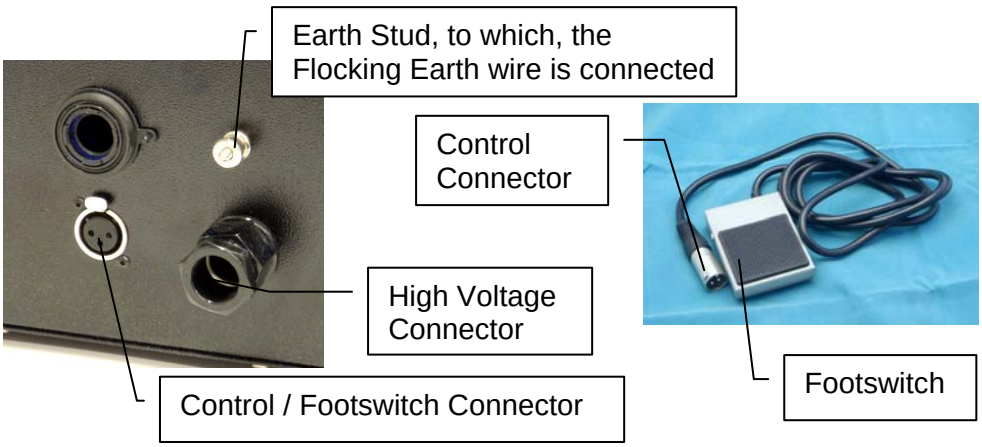
5. The Flock Hopper / Applicator Head can now be emptied / filled / changed safely.



Electrostatic applicator

Flocking using the optional electrostatic only applicator

1. Ensure the mains switch is in the “OFF” position.
2. Prepare the area where the flocking is to be carried out. Ensure that the appropriate safety clothing and equipment is being used.
3. If the High Voltage Cable is not already attached to the electrostatic hand applicator, secure it in position now (for instructions on how to do so, please refer to page 19 of this manual).
4. Attach the electrostatic applicator to the AeroFlocker (as described on page 20 of this manual).
5. Fill the Flock Hopper/Applicator head with flock (as described on page 21 of this manual).
6. Fit the appropriate mesh to the electrostatic applicator. If using flock of up to 1mm in length, fit the fine mesh and for flock over 1mm in length use the coarse mesh.
7. Plug the footswitch into the control connector on the AeroFlocker.
8. Prepare the item(s) to be flocked using a suitable adhesive.
9. Attach the flocking earth wire to the item to be flocked using the crocodile or alligator clip. It is important to ensure a good grounding / earthing of the product to be flocked, without a good earth connection the final flock finish will be impaired. If the item to be flocked is non-conductive, flat and thin (e.g. t-shirt, wallpaper, greetings card, etc) a metal plate can be placed below / behind the object and the crocodile / alligator clip connected to that. For 3-D objects the adhesive should be conductive enough, so that, as long as the flocking earth wire is connected to the adhesive, a sufficient earthing / grounding should have been achieved. A piece of conductive wire may be used to extend the length of the flocking earth wire (simply clip one end to the crocodile clip and attach the other to the item being flocked), a piece of wire can also be used to provide a less intrusive connection.
10. Ensure the earthing / grounding of the adhesive coated article (item to be flocked) is as perfect as possible. If using the adhesive as the conductor, it is especially important to ensure that the adhesive coating is sufficient and that it connects solidly to the earth / grounding wire. Larger (especially non-conductive) objects (e.g. a 2m² piece of wood) may need to have more than one point of earth / grounding attached to them.



Flocking using the optional electrostatic only applicator (continued)

WARNING: After the next step, the electrostatic applicator will be energised with electrostatic charges. Adhere to all safety instructions.

11. From this point on the electrostatic applicator must only be held or touched on the recommended portion. Please refer immediately to the diagram and instructions on page 19 of this manual if unsure in any way. Holding or touching the applicator anywhere other than the recommended portion can result in electric shock. Set the mains switch to "On".
12. Set the static to between 40-60kV to start with and then adjust the level to suit the specific conditions.

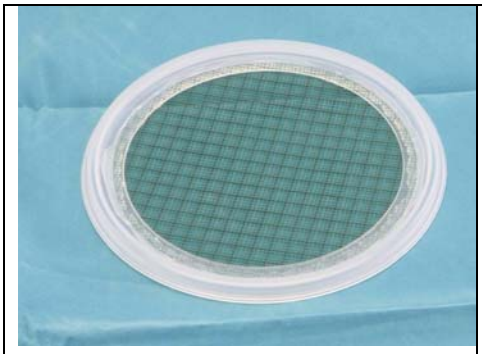
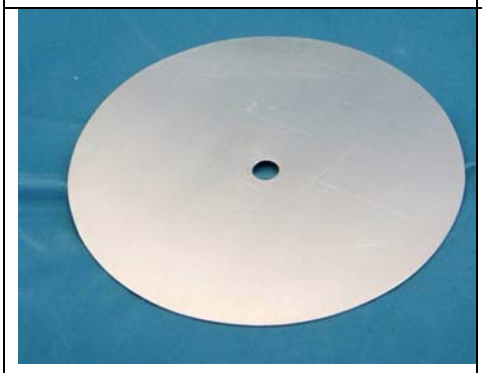
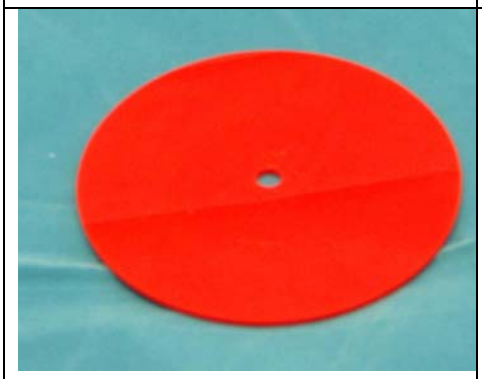
WARNING: The static should **NOT be set above 60kV** when using the electrostatic only applicator. Doing so increases the risk of electric shock and arcing.

13. Set the Brush Speed and Blower Speed to "OFF" and the Static to "AUTO".
14. Hold applicator approximately 100-200mm from the object to be coated. Depress the foot switch to activate the unit. The electrostatic field will draw the flock to the object. It may be necessary to agitate the flock by gently shaking the applicator handle.
15. When finished, switch the mains off and allow the charge to dissipate (this will take approximately one minute).

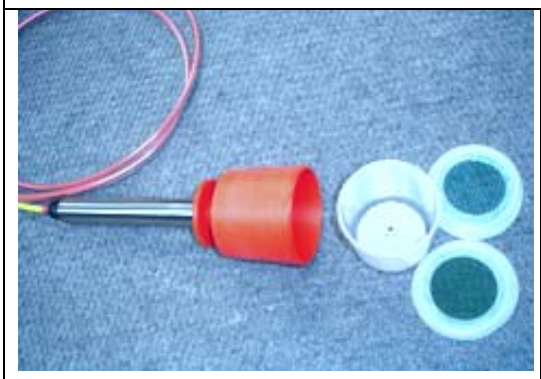
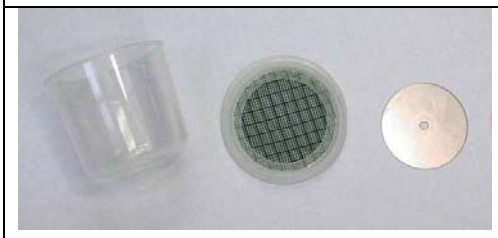
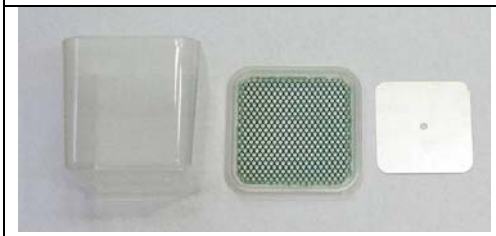
WARNING: The electrostatic applicator will retain a charge (for approximately one minute) once the power has been switched off. This charge will be capable of delivering an electric shock. Using the decay probe (a recommended optional extra) will greatly hasten the dissipation of the electrostatic charge.

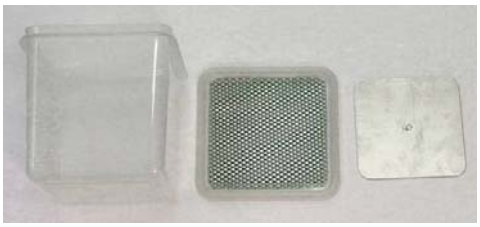
AEROFLOCKER OPTIONAL EXTRAS

Description		Part No.#
	**Electrostatic only applicator** - 175mm Hand applicator with fine mesh & high voltage cable	
	**Electrostatic only applicator** – 4m high voltage cable	
	**Electrostatic only applicator** - applicator handle	
	**Electrostatic only applicator** – 175mm applicator pot	

	**Electrostatic only applicator** – 175mm fine or coarse applicator mesh	
	**Electrostatic only applicator** – 175mm charging plate	
	**Electrostatic only applicator** – 175mm insulating disc	
	**Electrostatic only applicator** – applicator bolt	

AEROFLOCKER OPTIONAL EXTRAS

Description		Part No.#
	**75mm Applicator Assembly Kit** Complete with two applicator pots, a fine mesh and a coarse mesh	
	**35mm Applicator Assembly Kit** Complete with two applicator pots, a fine mesh and a coarse mesh	
	**MF/4** - Small round 0.03 ltr pot complete with connector, charging plate and fine mesh front	
	**MF/1** - Small round 0.25 ltr pot complete with connector, charging plate and fine mesh front	
	**MF/2** - Medium square(0.8 ltr/4" sq.) pot complete with connector, charging plate and coarse mesh front	

	**MF/3** - Large square (1.8 ltr/5”sq.) pot complete with connector, charging plate and coarse mesh front	
	**MF/Adp** – Adaptor to fit 100mm and 125mm applicator pots to 75mm applicator handle	
	**FB/1A** - Fine or Coarse mesh front for medium 3” round pot	
	**FB/2A** - Fine or Coarse mesh front for medium 4” sq. pot	
	**FB/3A** - Fine or Coarse mesh front for large 5” sq. pot	

AEROFLOCKER

EQUIPMENT SPECIFICATION

GENERATOR

Mains input voltage supply **:** 240 vac / 0.5A (UK)
50 Hz

: 110 vac / 1A (USA/ CANADA)
60 Hz

FUSE RATING

Control Panel	**Power**	: 5A 20mm (slow blow / anti surge type)
	Static	: 2A 20mm (slow blow / anti surge type)
	Brush	: 2A 20mm (slow blow / anti surge type)
	Blower	: 2A 20mm (slow blow / anti surge type)

OUTPUT VOLTAGE : 60Kv d.c. (Max)

OUTPUT CURRENT (A) : 350 uA (Max)

OUTPUT VOLTAGE POLARITY : (-) Negative

REMOTE SWITCHING CONTROL : Via footswitch or gun trigger. 24 v dc supply

CABINET DIMENSIONS : 56cm(H) x 41cm(W) x 30cm(D)

(All dimensions are approximate) : (22”) x (16”) x (12”)

CABINET WEIGHT : 25Kg

CABINET MATERIAL : Powder Coated Mild Steel

APPLICATOR GUN & ASSEMBLY

CABLE LENGTH : 3m (standard) (Non-standard lengths also available)

CABLE VOLTAGE RATING : 60Kv dc maximum

HOPPER CAPACITY

MINIMUM TO OPERATE : 100gm

MAXIMUM : 1000gm

OPTIONAL ELECTROSTATIC APPLICATOR SPECIFICATIONS

EHT CABLE TYPE 820B

CABLE LENGTH	: 4 m (standard) (Non-standard lengths also available)
CABLE RESISTANCE	: 10m ohm +/- 10%
CABLE VOLTAGE RATING	: 60Kv dc
CABLE TERMINATION – Generator	: PVC Probe terminated with Brass Stud
Applicator	: PVC Probe terminated with M10 Threaded Socket
CABLE WEIGHT	: 1 Kg (approximately)

FLOCK APPLICATOR

WEIGHT	**:** 1 Kg (approximately)
MESH TYPES	**:** Fine or Coarse

TROUBLE SHOOTING GUIDE – ELECTRICAL

AeroFlocker

PROBLEM	CAUSES	SOLUTION
Unit fails to operate		
(No 'Mains On' indicator)	Fuse blown	Fit new fuse to front panel - 5A slow blow / anti surge
	Mains not switched on	Switch Mains on
	Bad connection in mains supply cable or plug	Check connection(s)
	Blown circuit breaker OR fuse in mains supply to generator	Reset circuit breaker or replace mains supply fuse
(No 'Static On' Indicator)	Fuse blown	Fit new fuse to front panel - 2A slow blow / anti surge
	Static switch not in Manual or Auto position	Make sure Static switch is in Manual or Auto position
(No 'Brush On' Indicator)	Fuse blown	Fit new fuse to front panel - 2A slow blow / anti surge
	Brush switch not in Manual or Auto position	Make sure Brush switch is in Manual or Auto position
(No 'Blower On' Indicator)	Fuse blown	Fit new fuse to front panel - 2A slow blow / anti surge
	Blower switch not in Manual or Auto position	Make sure Blower switch is in Manual or Auto position
Mains indicator 'ON' but no electrostatic operation (view also panel meter)	Static switch not in Manual or Auto position	Make sure Static switch is in Manual or Auto position
	Incorrect footswitch / gun trigger operation	Check footswitch / gun trigger is connected properly
	Footswitch not depressed	Depress footswitch
	Voltage control set to minimum (anti-clockwise)	Check the setting of the Voltage control and increase, if necessary.
	HT cable not inserted / connected properly	Refer to instructions
	Faulty cable	Refer to DCA Service Department

Electric shocks	Static build-up in operators body then a 'Discharge' to earth / ground	Wear leather soled shoes (not PVC or rubber) Wear earthed / grounded wrist / shoe straps Refer to DCA Service Department if necessary
	Mains supply not earthed or grounded	Check supply. Has 'extension' lead an earth / ground conductor? Check applicator gun/footswitch earth / ground conductor Refer to DCA Service Department if necessary
	Voltage set too high	Check the setting of the voltage and turn down, if necessary
	Dirty Applicator (Gun) or cable	Clean Applicator Gun &/or cable
Electric shocks / excessive arcing or sparking	HT Cable **not** inserted / connected properly	Refer to instructions
	Faulty cable	Refer to DCA Service Department
	Electro-static only Flock applicator held incorrectly	Hold behind Red Safety Disc on assembly 'G' *(refer to applicator assembly instructions)*
	Gun or Applicator held too close to the area being flocked	Move Gun or Applicator further away from the area being flocked.
	Static set too high	Lower the static setting
WARNING **Excessive arcing or sparking will damage the equipment**		

TROUBLE SHOOTING GUIDE FOR FLOCK SPRAYING

PROBLEM	CAUSES	SOLUTION
Flock not adhering to adhesive	Too thin a layer of adhesive	Increase adhesive application
	Adhesive has been allowed to skin	Consult adhesive manufacturer in order to increase 'open' time of adhesive
		Flock more rapidly after applying adhesive
		Prime surface
	Rapid absorption of adhesive into porous substrates i.e. wood, paper etc	
	Poor Earthing / Grounding	Improve Earthing / Grounding. If necessary using an earth pin into adhesive
Flock not forming pile effect	Poor electrostatic charge	Check the voltage setting and increase, if necessary
	Poor Earthing / Grounding	Improve Earthing / Grounding
	Blower set too high	Check the blower setting and reduce, if necessary
	Poor electrostatic charging as a result of poor condition of flock	Change flock (also refer to Manufacturers Data Sheet)
Problem applying correct amount of adhesive	Viscosity of adhesive low	Reduce addition of water / solvent or consult adhesive manufacturer
	Surface preparation of the article required	Prepare surface so that it accepts adhesive
	Incorrect adhesive for the surface	Consult adhesive manufacturer
	Contamination of the surface i.e. silicone release agents on plastics	De-grease & key articles to be flocked with correct cleaning solution

PROBLEM	CAUSES	SOLUTION
Flock not flowing out of Applicator/Gun or flow significantly diminished.	Insufficient flock in flock hopper Power not switched on Blower not switched on or set at an insufficient speed. Metering brush not switched on or set to an insufficient speed.	Check the flock hopper contains at least 100gm of flock Make sure power is switched on. Make sure blower is switched on and, if necessary, turn up the speed. Make sure brush is switched on and, if necessary, turn up the speed.
Blower Indicator Fuse is lit, but the fan is not turning (you will be able to tell this because you will not be able to hear the fan turning)	**Flock blockage** Causes of a fan blockage – • Brush Speed set too fast • Blower Speed set too slow • Flock is damp • Flock fibres are too long (flock fibres of above 2mm in length are not recommended for use with the AeroFlocker)	*Appendix A* 1) Switch fan off immediately (otherwise the fan is liable to burn out. 2) Turn off the power at the mains. 3) Wait for any built up static to dissipate (roughly one minute). 4) Open the air inlet cover (as you would when changing the mesh box). 5) Remove any flock from the mesh box. 6) Using a vacuum cleaner, placed up against the air inlet opening, vacuum out any flock from the mesh box and as much flock from the fan as is possible. 7) Disconnect the flock delivery hose and place the vacuum cleaner nozzle at the flock delivery hose connection point on the AeroFlocker. Hoover out any flock from this point. 8) Without reassembling the various parts, switch the power and the fan back on. If the fan can not be heard turning, carry on to steps 9, 10, 11, 12 & 13. 9) Switch off the power. 10) Place vacuum nozzle back into the mesh box and leave switched on in position there. 11) Using an air line, blow air down the flock delivery hose port in the AeroFlocker (this should be done simultaneously to the vacuum sucking flock from the fan via the mesh box). 12) Leave the air line and the vacuum in place for about 30 seconds and then remove them. 13) Switch the power to the AeroFlocker back on and check if the fan is now turning. 14) If the fan still does not turn, then you should contact the supplier.