



AIROFOG MACHINERY CO., LTD.

1st Fl. Blk.1 No. 67 Lane 1768 Li Yue Road, Minhang
Shanghai 201114, China

Tel: +86-21-5190.5296 ~ 5190.5299
www.airofog.com, airofog@airofog.com

AIROFOG GERMANY

Gladenbacher Weg 13
35444 Biebertal
Germany
Tel: +49(0) 6446 889 481
info@airofog.de



AIROFOG USA

16136 Flight Path Drive
Brooksville, FL 34604
USA
Tel: +1-352-593.5152
airofogusa@airofogusa.com



***AiroStar
Cordless ULV Cold Fogger
Instruction Manual***

V. 2021-07



Table of Content

Table	1
General Information	2
1. Main Features	3
2. Specifications	4
3. Safety Instructions	5-6
4. Universal Application	7
5. Check the Appliance and Battery Pack	8
6. Prepare for Use	9
6.1 Install battery pack	9-10
6.2 Charging	11
6.3 Switch	12
7. Nozzle and Flow Rate	13
7.1 Metering nozzle and fog time	13
7.2 Changing nozzle	14
8. Use the Appliance	15
8.1 Attaching and unattaching the body to the solution tank	15
8.2 Filling solution	16
8.3 Fogging	17
8.4 After fogging	18
9. Application	19
9.1 Outdoors	19
9.2 Indoors	19-20
10. Maintenance and Guarantee	21-22
11. Explosive Drawing	23
12. Spare Part List	24-25

General Information

Thank you for purchasing AIROFOG quality product.

This instruction manual expatiates all the information necessary for the use of AiroStar by means of explosive drawing, start-up, operation, maintenance, cleaning and trouble-shooting as well as safety precautions to be carried out throughout the lifetime of this product.

Airofog coldless cold fogger AiroStar is driven by rechargeable Lithium-ion battery. To provide to our consumers at the greatest extent a guarantee for safety, this product is certified with conformity to EC Council Directive 2014/35/EU Compatibility, United Nations "Recommendations on the Transport Of Dangerous Goods" manual of tests and criteria ST/SG/AC.10/11/Rev.6 38.3, IATA Dangerous Goods Regulations (DGR) UN3480 and UN3481.

All data and information concerning in this instruction manual are based on and given to the best of our experience and knowledge so far. This manual might change to meet our technical improvement without notice along with the continuous technological development. Please feel free to contact us for updated information.

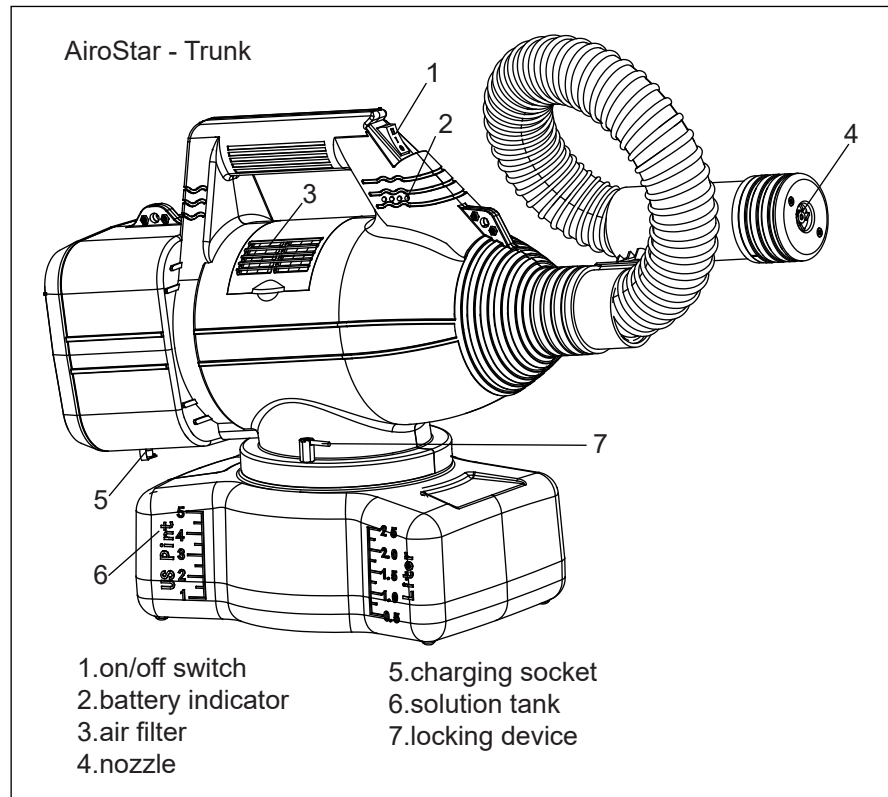
Definition of the symbols used in this manual:

- Read this instruction manual carefully
- General warning, pay particular attention
- Risk of electrical danger, follow the instruction carefully
- Not to dispose together with household waste material
- Recycle the battery
- Do not distroy the battery by fire
- Not to expose the battery to water or rain
- The CE mark indicates that the appliance conforms to the EC directives
- All other relevant advice

1. Main Features

AiroStar is Airofog's latest patented innovation.

This high-efficiency portable cordless cold fogger is the ideal appliance for application both indoor and outdoor. By the unique mechanical design and modern electronics technology, this appliance is able to deliver a consistent fine aerosol throughout the whole fogging procedure, its battery is smartly programmed for recording the charging cycle numbers and interval time, its lower noise decible gives operator a more comfortable using experience.



2. Specifications

AiroStar Technical data	
Li-ion battery	24VDC, 11.6Ah UN38.3 / UN3480 / UN3481 certified
charging time	approx. 4.5 hour
running time, approx.	※ 1 hour continuously by one full charge
fan motor	brushless
solution discharge	diaphragm pump
solution tank	polyethylene, UV-resistant
capacity	2.5L (5 US pint)
filling	wide-mouth opening Ø70mm (2 3/4 inch)
flow rate, water	approx. 2.5 / 4.5 / 7 L/hr (5 / 9.5 / 15 US Pint/hr)
fogging mode	ULV (Ultra-Low-Volume), LV
fogging system	automatic
fogging start	after fan runs
fogging stop	before fan stops
fogging distance	approx. 11m (36 feet) in verticle, indoor
application solution	water-based / oil-based (non-flammable liquid) acid solution (on request)
extension hose	AiroStar-Trunk: 50cm (20 inch)
noise level	75dBA
dimension	approx. 39 x 17 x 35cm (15.4 x 6.7 x 13.8 inch)
net weight, with battery	approx. 3.7kg (8.1 pound)
Standard Accessories	
battery charger	input: 100-240VAC, 50/60Hz 2.5A (max.) output: 29.4VDC, 3.0A
shoulder strap	width 50mm (2 inch) with shoulder pad
dosage nozzle	approx. red 7L/h (15 US Pint/h), installed blue 4.5L/h (9.5 US Pint/h) white 2.5L/h (5 US Pint/h)
service kit	tank gasket / tank ventilation filter / air filter / solution filter / o-ring
※ Running time will vary depending on the battery level and temperature condition.	
Above data is based on the ambient temperature of 20°C (68°F).	
Airofog Machinery Co., Ltd. reserves the right to alter specifications without obligation.	

3. Safety Instructions



Please read carefully and understand this instruction manual before working on or operating to avoid potential problems.

- It is the operator's responsibility to ensure the safe use of Li-ion battery.
- The use of appliance should be fully compliant with national or local law.
- Ensure instruction manual is kept with appliance at all times.
If the appliance is transferred, give the manual to the new owner.
- Use the appliance only for the purpose it is designed for.
- Operator should be aware of protection and safety measures before use.
- The battery charger is for AC100V-240V 50/60Hz power supply.
Unplug battery charger from the appliance when charging is finished or before anything needs to be done on the appliance.
- Do not charge the appliance in the temperature above 40°C (104°F) or below 0°C (32°F).
- Do not use or store the appliance in the temperature above 60°C (140°F) or below 0°C (32°F).
- Do not use the charger if power cord or plug is faulty, or, battery pack or appliance's charging socket is damaged.
- The battery is not waterproof. Store the appliance in a dry and cool condition.
- Keep the appliance and battery pack out of reach by children and persons who are unaware of dangers / risks could be involved.

- Do not fog powder, viscous solution or inflammable liquid eg. strong acid, alkaline, petrol and etc.
- Follow chemical supplier's instructions for the safe use of fog products.
Never apply a pesticides, disinfectant or odor counteractant at application rates higher than the manufacturer's recommendation.
- Do not use the appliance or charge the battery pack near combustible or inflammable materials.
- When fogging, use recommended personal protective equipment including respiratory, eye protection, gloves and coverall.
- During fogging, never leave the appliance unattended.
- For application indoors, fog in the way of leaving the treated area through untreated area towards direction of the exit.
- For application outdoors, always carry the appliance with the nozzle pointing in the direction of wind.
- Only service the appliance by the qualified personnel.
- Do not disassemble, modify or alter the charger and the appliance.
Modification or alteration will invalidate the warranty.

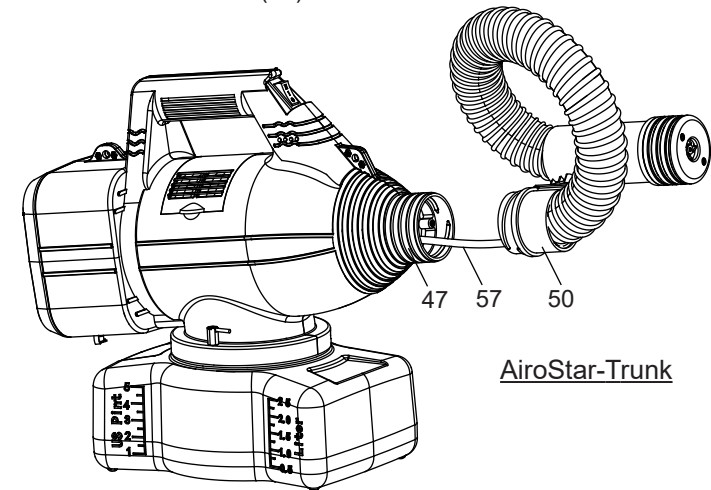
4. Universal Application

- public hygiene and sanitation in community, hotel, restaurant, school, office, bank, shop, transportation eg. aircraft, train, bus...and etc.
- disinfection in food industry, livestock farm, breeding ground and greenhouse
- pest control against flying and crawling insects
- control of mildew and fungus
- fumigation
- odor removing

5. Check The Appliance and Battery Pack

The appliance and battery pack are supplied in a carton. Please check and make sure they are in a good condition without damage when you remove them out of the carton.

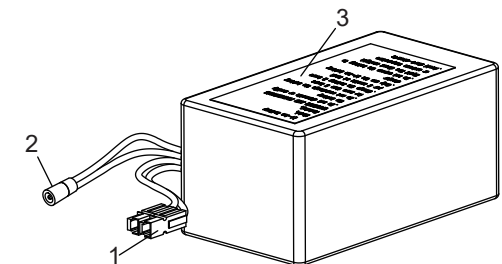
For AiroStar-Trunk, please assemble the trunk (extension hose) by turning hose adaptor (50) onto the extension hose adaptor (47), pay attention not to bend or twist the extension solution tube (57).



Read through carefully and understand fully the safety instruction labelled on the battery pack.

Battery Pack:

1. battery power plug
red: positive
black: negative
2. charging plug
3. instruction label

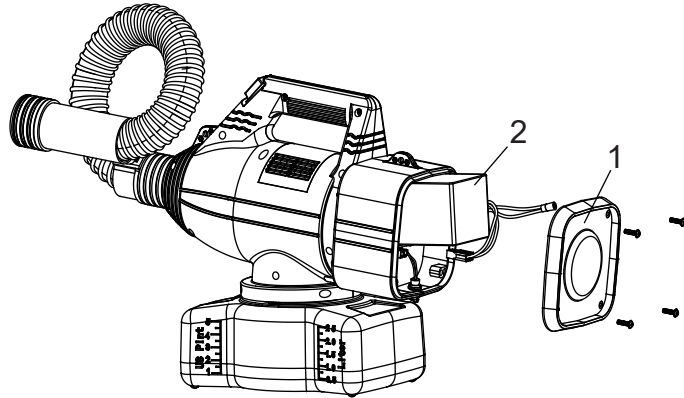


6. Prepare for Use

6.1 Install battery pack:

6.1.1 Take off the back cover (1)

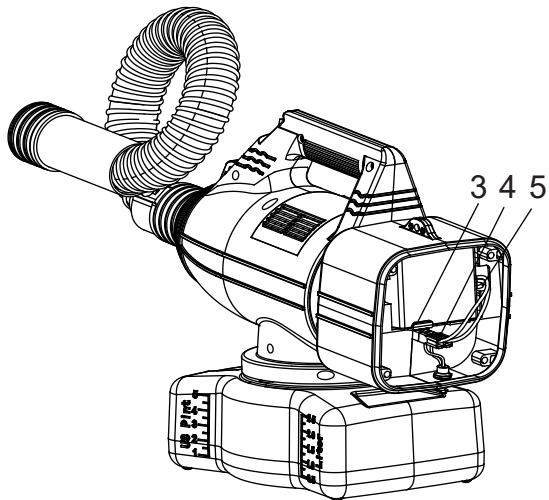
6.1.2 Slot the battery pack (2) into the battery housing of appliance



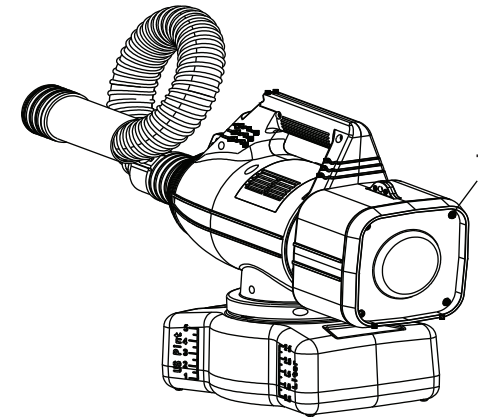
6.1.3 Make sure the battery pack is held steadily by the battery holder (3)

6.1.4 Insert the power plug (4) to the power socket, red to red and black to black.

6.1.5 Store the other cables in the duct (5)



6.1.6 Fix the back cover (6) by screwing on the 4 bolts (7)




6.2 Charging:

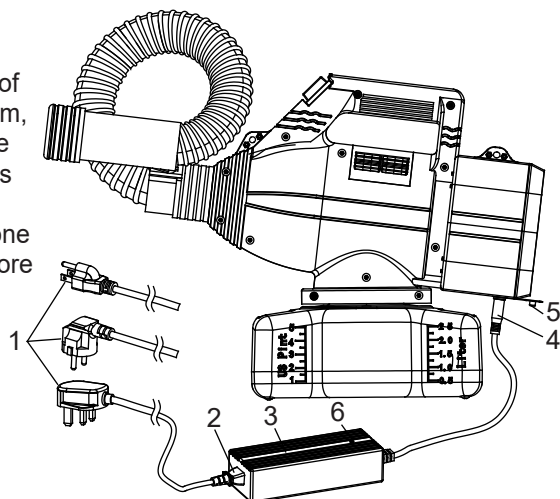
 Only use qualified Lithium Ion battery charger, max. output 29.4VDC, 4.0A
Do not run the appliance during charging.

 Must unplug the battery charger from appliance when charging is finished or anything is to be done on the appliance.

- Every new battery pack comes with 30% power;
- Before the first use, the battery must be fully charged;
- Charge battery at least 1 time every 2 months even when the appliance or battery is not used.

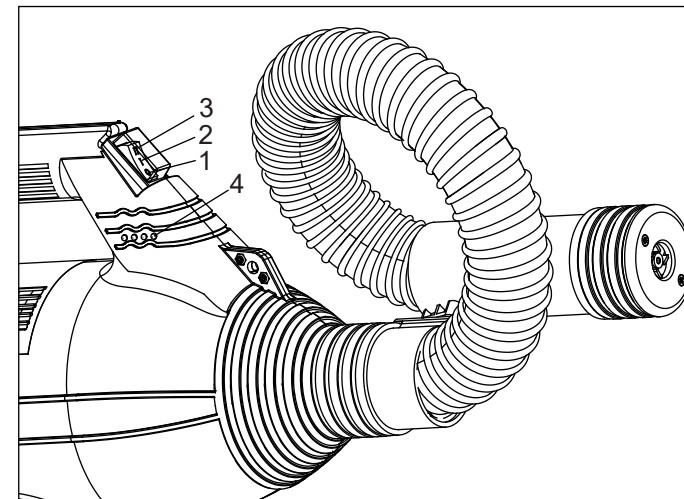
- 6.2.1 Choose the suitable power cord plug (1)
- 6.2.2 Connect the other end (2) of power cord to the battery charger (3)
- 6.2.3 Insert power cord plug (1) to the proper AC voltage socket.
Charging light on the charger (6) will turn green color repeatedly.
- 6.2.4 Insert the battery charger plug (4) into the socket of appliance or battery pack when it is to be charged separately outside the appliance.
- 6.2.5 One full charge takes about 4.5 hours
- light on the charger (6) turns red: charge ongoing
 - light on the charger (6) turns green: charge full
- 6.2.6 After charging, disconnect the battery charger plug (4) from the socket of appliance or battery pack, then cover the socket by the protector (5) to prevent the socket out of dirt and wet.

 To make sure the capacity of battery goes to the maximum, suggest to charge one more hour after charger light turns green.
However, we recommend one continuous charge is not more than 6 hours.



6.3 Switch:

- Position "0" (1) : Appliance is off
- Position "I" (2) : To show battery volume by indicating light (4)
- Position "II" (3) : Appliance is fogging



7. Nozzle and Flow Rate

7.1 Metering nozzle and fog time (measured with water)

nozzle	flow rate	
	L / h	US Pint / h
white	2.5	5
blue	4.5	9.5
red	7	15

The ideal condition for suspension of the tiny droplets is around 25°C temperature and 75% relative humidity. Since fine mist is difficult to be seen, to achieve a satisfying treatment, it is usually carried out by calculating the fog time and chemical volume rather than by relying on visible indication.

To get to the fog time,

1. firstly determine the total volume of chemical to be applied according to the formula as below:
 $(\text{treated area, M}^3) \times (\text{required chemical ML for 1M}^3) = \text{total chemical, ML}$

2. secondly work out the fog time in accordance with following formula:

$$\frac{\text{total chemical, ML}}{\text{flow rate, ML/minute}} = \text{fog time by minute}$$

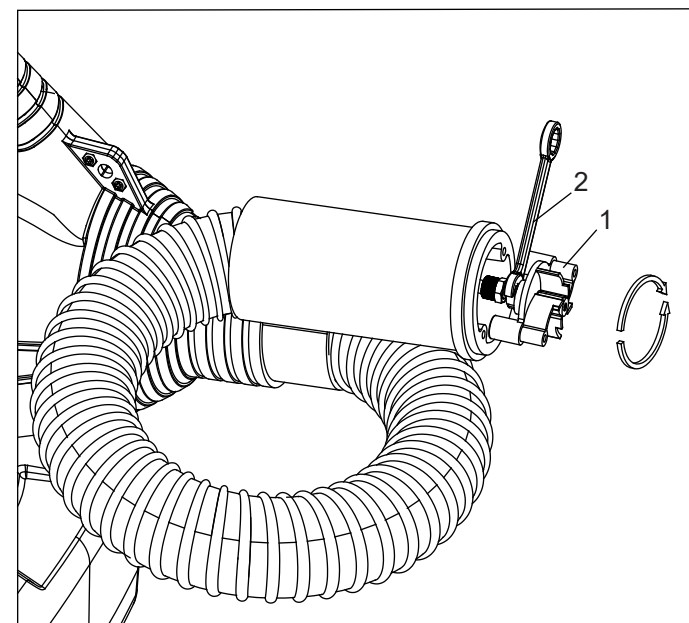
Before application, make sure you know the size of area to be treated, total volume of chemical to be used and fog time to be required.

7.2 Changing nozzle


A different nozzle can achieve a different flow rate. As AiroStar uses diaphragm pump to achieve flow rate, whether it is oil-base or water-base solution does not affect much on the flow rate.

To change nozzle, hold the tube adaptor by a 9mm spanner (2) and turn nozzle (1) clockwise or anti-clockwise.

 **Do not turn or twist the tube.**



8. Use the Appliance

 Before using, battery charger must be unplugged from the appliance.

8.1 Attaching and unattaching the body to the solution tank

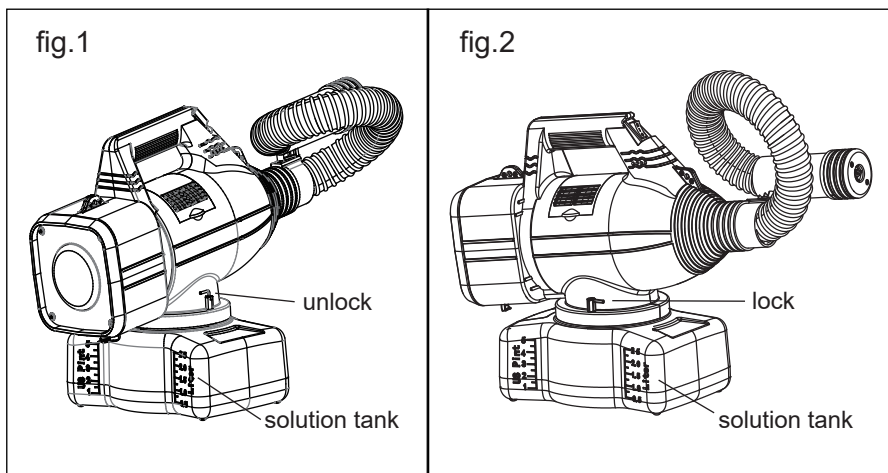
When the appliance arrives to you, its body and solution tank are attached with each other positioning in axial alignment.

To loosen or remove the body from the solution tank (fig. 1):

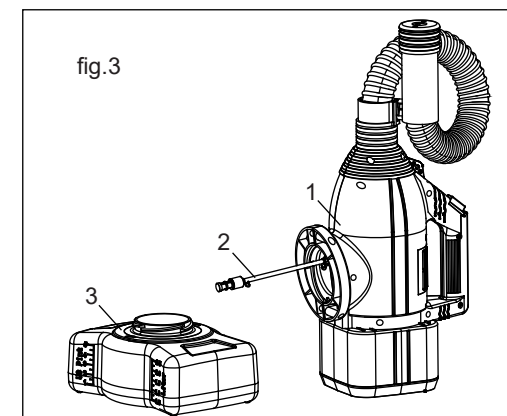
- lift the lever and turn it to unlock the locking device;
- turn the body 90 degree anti-clockwise.

To tighten back the body onto the solution tank (fig. 2):

- turn the body 90 degree clockwise to make 2 parts are positioned in axial alignment;
- turn the lever to lock the locking device.



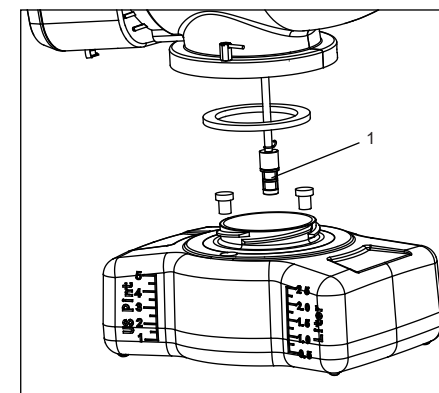
After removing body (1) from solution tank (3), put it as shown in fig. 3 to avoid the solution tube (2) is damaged.




8.2 Filling solution

- Always follow chemical supplier's instruction on the product label for safe use.
- Only prepare sufficient fogging mixture to be required, not to over-fill the solution tank.
- No inflammable liquid is allowed in the solution tank.

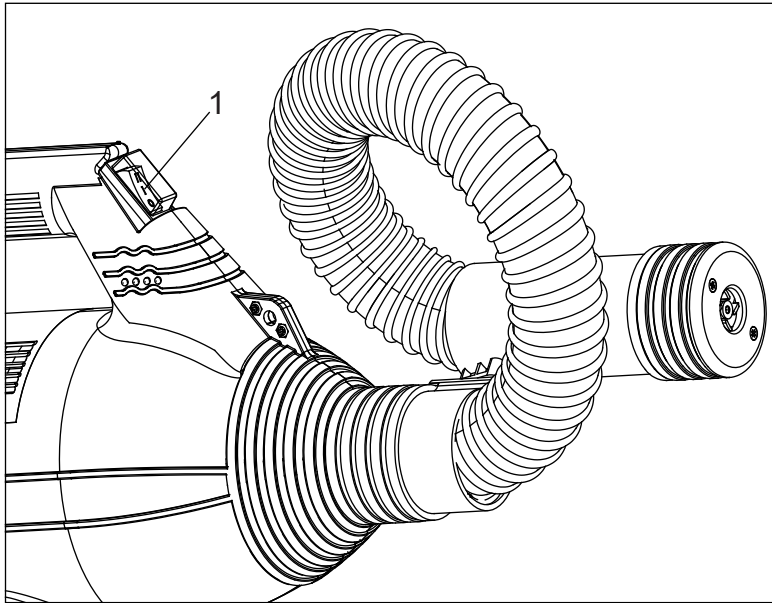
 To avoid clogging of nozzle, never run the appliance without solution filter (1).



8.3 Fogging

 Never apply a pesticides, desinfectant or odor counteractant at application rate higher than the manufacturer's recommendation.

- Press the switch (1) to position II, the fan starts to run; then after 4 seconds, fogging begins automatically.
- Press the switch (1) to position 0, fogging and the fan stop.



8.4 After fogging

- Once fogging completes, to avoid contamination, empty the residue in the solution tank and fog with clean water or appropriate solvent through the appliance and rinse the solution tank thoroughly.
- Fill the solution tank with clean water, then run the appliance for about one minute to flush the solution system.
- If necessary, clean 2 ventilation filters the solution tank by running water.
- Remove all residue water contents in the solution tank.

 **If necessary, charging the battery after fogging.**

9 Application

9.1 Outdoors

- The ideal application time is the cooler period of the day, e.g. early morning or evening when insects are most active.
- The ideal wind speed is 5-10 km/h. If the wind speed is higher than 15 km/h, the substance is quickly dispersed and is weakened on the effect, we suggest to avoid fogging.
- The ideal direction is starting at the point upwind of the area to be treated and keeping the nozzle downwind at chest height.

9.2 Indoors

Before application:

- Except for the operator, keep people and animals away from the treated area.
- Close all doors and windows. Keep all air conditioning systems and fans be switched off for at least an hour after the treatment.
- Extinguish all flames, lamps, gas and so on to avoid the risk of explosion although it is remote.
- All foodstuffs, food containers, plants, surfaces and etc. exposed in the air that could come into contact with the fogged substance should be removed, sealed or covered.
- To obtain the best result, leave the doors, drawers and cabinets open inside the area to be treated.



Never exceed quantity specified on the formulation on label instruction when fogging within an enclosed space.

During application:

- Always move starting from the furthest corner against the exit towards the exit. This will minimize the exposure time to the substance.
- Walk slowly through the area to be treated, taking into consideration the application time.
- Always keep a minimum distance of 1 meter between the nozzle and all objects. Short bursts of mist is acceptable aimed at a suspected or contaminated area, which should leave no traces of substance on the surfaces.

After application:

- Keep the aerosol to rest for as much time as possible, preferably 2-6 hours with the recommended minimum time of 1 hour.
- Open the doors and windows to circulate the fresh air of the treated area.

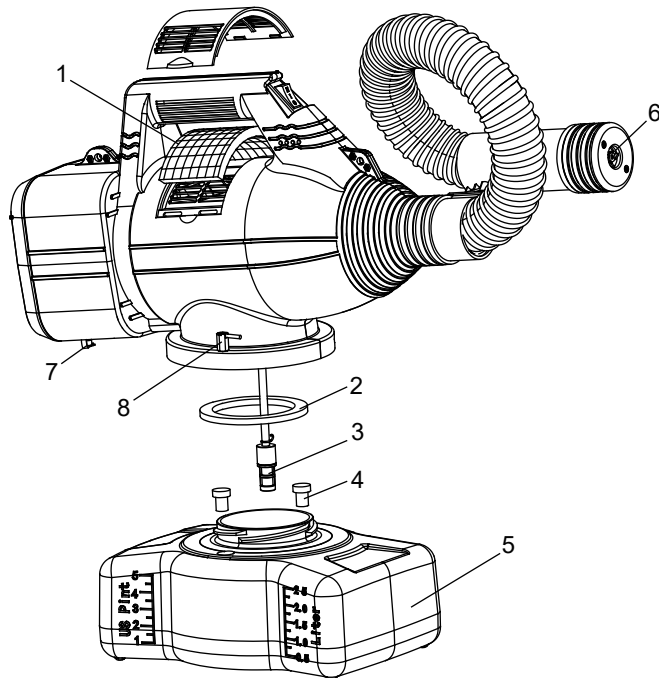
10 Maintenance

To ensure the appliance is ready for use at all times, we give following recommendations for standard maintenance.

- 10.1 Rinse solution tank (5) with a suitable cleaning agent diluent or diluent approximate 1/4 L (16 foz) of water in the solution tank, shake well and fog to clear the pipe system.
- 10.2 Periodically check air filter (1) to keep it dry and cleanliness.

⚠ If motor does not breathe a sufficient quantity of clean air, the appliance operation will be inefficient and motor could be overheated.

⚠ If appliance runs in a confined area, mist inhaled through air filter can cause motor short circuit.



- 10.3 Check tank gasket (2), replace it if necessary.
- 10.4 Clean solution filter (3) and ventilation filter (4) of solution tank. Take out filters and rinse them with running water to remove clinging particles.
- 10.5 Clean nozzle (6) to prevent clogging.
 - do not insert metal objects into the tip orifices
 - cleaning detergent or solvent can be used to soak the nozzle (do not use ammonia which can corrode brass)
 - soak nozzle in warm, soapy water
 - blow compressed air through back and front of nozzle
- 10.6 When the appliance is not in use, cover charging socket by protector (7) to keep it from dirt and wet.

⚠ **Charge battery pack at least 2 hours every 2 months even when the battery is not used.**

11. Certificate Of Guarantee

AIROFOG MACHINERY CO., LTD. (called AIROFOG) guarantees “Airofog ULV Cold Fogger” to be free of defects in materials or workmanship to the original purchaser for a period of one (1) year, on labour and parts which are not subject to usual wear. Single battery has six months warranty.

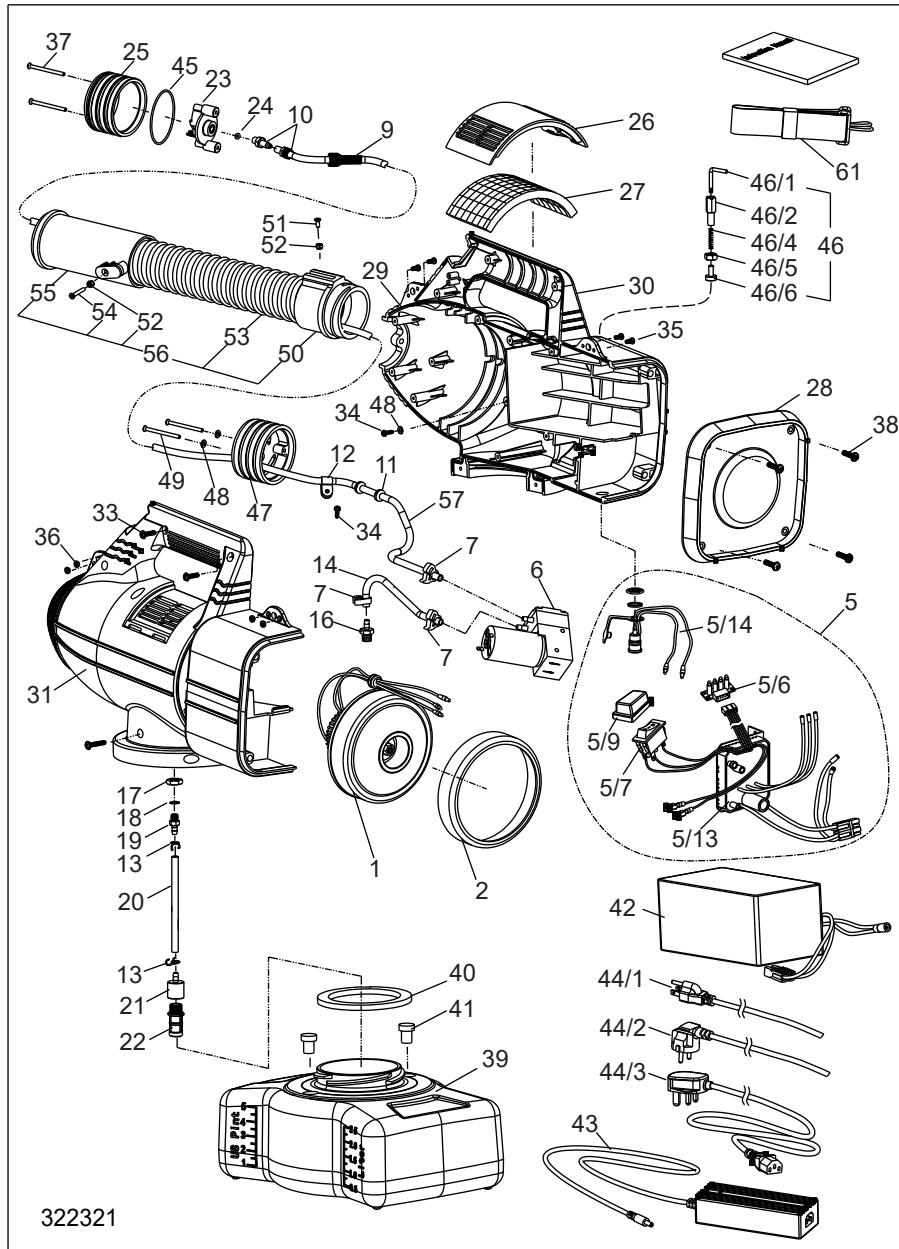
During this period, AIROFOG will replace and/or repair the parts with material and/or manufacturing faults (on the exclusive judgement of our technical department) free of charge.

The despatch and return expenses will be borne by the customer.

The guarantee does not cover any damage occurred during transport or by incorrect handling, tempering, improper use, the use of non-recommended products and so on.

Under no circumstances will AIROFOG be liable for damages due to improper use or application. Under no circumstances will AIROFOG be responsible for damages done to any property or persons.

11 Explosive Drawing - AiroStar



12 Spare Part List

Pos.	Part no.	Description - AiroStar
1	200-001-000	Brushless Fan, model W38016-105
2	200-002-000	Fan Sealing Ring
5	200-005-650	PCB Assembly
5/6	200-005-006	Indicating Light
5/7	200-005-007	On/Off Switch
5/9	200-005-009	Protective Cover
5/13	200-005-265	Circuit Board
5/14	200-005-014	Charger Button, Assembly
6	200-006-100	Solution Pump
7	200-007-000	Plastic Clam
9	260-017-030	Protective Spring
10	200-010-000	Tube Adapter
11	800-004-220	Grommet
12	260-025-000	Tube Holder
13	260-017-000	Wire Clip
14	200-014-000	Angle Feed Tube
16	200-016-000	Tube Adapter
17	505-001-100	Hexagon Nut
18	505-002-020	Gasket
19	260-016-000	Feed Tube Adapter
20	200-020-000	Feed Tube
21	200-021-000	Solution Filter Adapter
22	200-022-000	Solution Filter
23	200-023-030	Nozzle Assembly, White
23	200-023-050	Nozzle Assembly, Blue
23	200-023-070	Nozzle Assembly, Red
24	601-007-100	O-Ring, Viton
25	200-025-000	Nozzle Holder
26	200-026-000	Air Filter Cover
27	200-027-000	Air Filter
28	200-028-000	Cover
29	260-031-000	Seal
30	200-030-000	Housing "R"
31	200-031-000	Housing "L"
33	200-033-000	Tapping Screw, M4x14
34	260-010-000	Tapping Screw, M2.9x9.5
35		Fillister Screw, M3x6

Pos.	Part no.	Description - AiroStar
36		Lock Nut, M3
37	260-063-000	Countersunk Screw, M3x35
38		Disc Fillister Screw, M4x16
39	200-039-000	Solution Tank, 2.5L
40	200-040-000	Tank Gasket
41	240-029-000	Ventilation Filter
42	200-042-000	Li-ion Battery, Model T7S4P, 278.4Wh
43	200-043-000	Battery Charger
44/1	200-044-100	Power Cord, 3 Flat Pin, US
44/2	200-044-200	Power Cord, Round Pin, CE
44/3	200-044-300	Power Cord, 3 Pin, UK
45	260-045-000	O-Ring
46	200-046-000	Locking Device
46/1	200-046-001	"L" Pin
46/2	200-046-002	Housing
46/4	200-046-004	Spring
46/5		Hexagon Nut, M6
46/6	200-046-006	Locking Pin
47	200-047-000	Extension Hose Adapter
48	260-048-000	Washer
49	260-049-000	Screw M3x20
50	200-050-000	Hose Adapter
51	260-051-000	Countersunk Screw, M3x10
52	505-009-141	Lock Nut, M3
53	260-053-050	Extension Hose, 0.5m
54	260-054-000	Countersunk Screw, M3x20
55	200-055-000	Handle
56	200-056-050	Extension Hose, 0.5m Assembly
57	200-057-050	Solution Tube, for Ext. Hose 0.5m
61	260-061-000	Carrying Strap
	200-062-000	Standard Accessories :
23	200-023-030	Nozzle Assembly, White
23	200-023-050	Nozzle Assembly, Blue
	200-062-001	Screw Driver
	200-062-002	Open Ended Spanner 9 mm
	200-063-000	Service Kit (incl. 18, 22, 27, 40, 41x2, 45)
	200-200-000	Instruction Manual

Conversion Factor:

1 yard = 3 feet = 0.91 metre
 1 metre = 39.37 inches = 1.09 yards
 1 metre/sec = 2.237 miles per hr = 196.9 ft/min

1 US gal = 0.83 Imp gal = 3.78 litres
 1 Imp gal = 1.20 US gals = 4.54 litres
 1 litre = 0.26 US gal = 0.22 Imp gal
 1 US pint = 16 US fl ounces = 0.47 litre
 1 Imp pint = 20 Imp fl ounces = 0.57 litre

1 pound = 16 ounces = 0.45 kilogram
 1 kilogram = 2.20 pounds = 35.3 ounces
 1 ounce = 28.35 grams

1 pound/sq inch = 0.068 atmosphere = 0.067 bar
 1 atmosphere = 14.70 pounds/sq in = 1.01 bar
 1 bar = 14.50 pounds/sq in = 0.98 atmosphere
 1 kilopascal = 0.01 bar = 0.145 pounds/sq in