ATO

Direct current ion blower

Operation manual

Notice:

- The product belongs to electrical products, shall comply with the safety matters to prevent accidents.
- The manual pointed out the important matters of prevention accident and operation method of product, please read carefully and use safety.
- After reading, please keep well for rereading.

www.ato.com sales@ato.com 800-585-1519 Global Shipping

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Content

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⚠ High voltage will be generated inside the main engine，please read carefully and comply with following safety caution and warning,usage error may lead to death or serious injury of staff,less can cause the machine damaged.

⚠ Safety caution

- Please read carefully specification and operation of the guider before using □
- Please make sure that the product’ s voltage meet the local applicable voltage,avoid the permanent damage to the ion fan.
- The power socket should be set in a place that can easily touch by hand,please make sure the power is grounded well.
- If the power cord is damaged, please turn off the power immediately and replace new power cord.
- If not used for a long time,please turn off the power and unplug,ensure safety.
- When replace the parts,please use the original parts.

⚠ Warning

- Please don’ t touch the ion emitting needle when the power is on.
- High voltage generated inside the product,therefore the ion emitting needle need to cleaned and replaced by professional staff,must discharge the two closer ion emission needles before proceeding.
- Please don’ t plug foreign matters into the air inlet or outlet.
- Regularly routine inspection and maintenance.
- Please don’ t use in flammable and explosive environment.

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Packing list

Name of list	QTY
Power cord	1PCS
Operation manual	1PCS
Warranty card/qualified certificate	1PCS
Ground wire	1PCS
Install screw	4PCS
Hanger fixed plate	2PCS
Flange Hexagon nut (M5)	4PCS
Large screw(M5X16)	4PCS

Specification

Name	Direct current air blower
Input voltage	AC110V/60HZ
Power	45W
Wind flow	Max95CFM(adjustable)
Ion balance degree	0±5V
Static elimination time	≤1s
Effective cover area	90(H)x70(W)cm²
Ozone concentration	≤0.03ppm (150mm from the center of the air outlet)
Outer volume	600(L)x170(W)x75(H)mm
Weight	≈4.5kg
Working humidity	＜75%RH
Working temperature	-5~45℃

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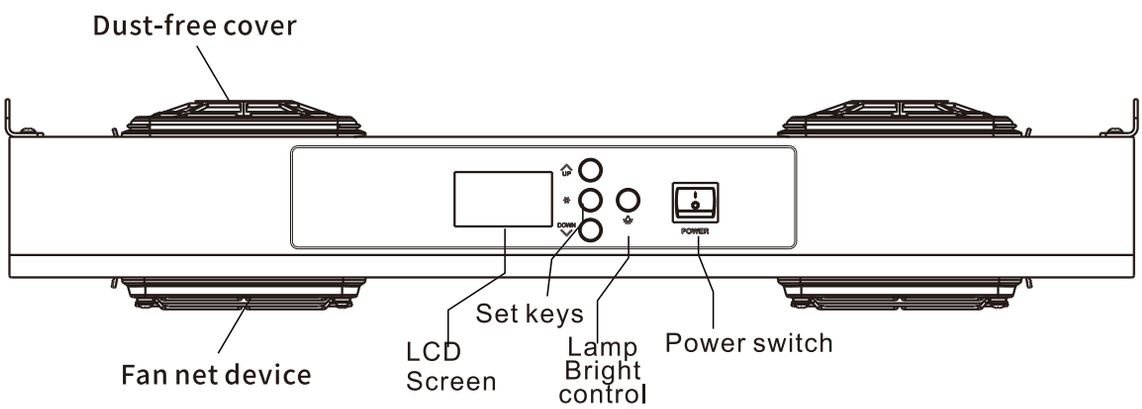
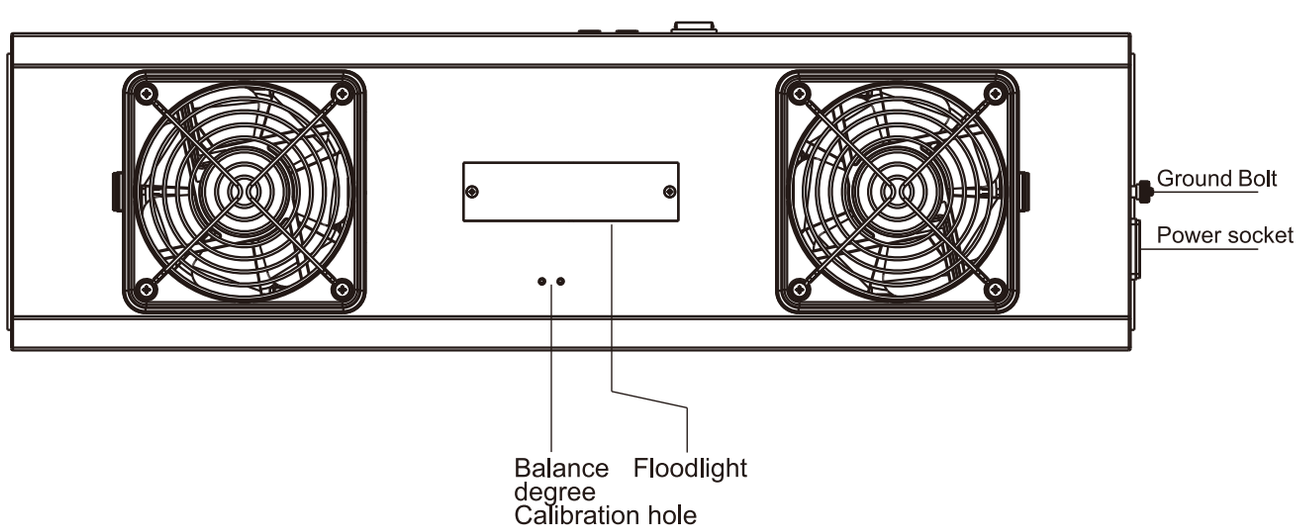
Product overview

The ion blower is our company’s latest R&D direct current ion blower in the international market.Several superior performance:low power consumption and high efficient(Direct current load working power 45W,only equivalent to the power of small energy-saving lamp); Stable performance of balance degree of voltage when measure distance （30CM） The balance degree of static elimination of direct current blowers up to 0±5V below (A grade),it’s the highest level of static elimination ability,the direct current ion blower has strong anti-static ability,can eliminate 1KV static electricity to 100V below in 1 second.

The blower is used to eliminate the static that come from human body,instrument equipment and sensitive electronic element etc.It’s for anti-static and professional design manufacturing of static prevention. Suitable for anti-static dust free workshop,electrical warehouse, laboratory and so on other static prevention places.





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Feature

一：Structure design feature

1、The front cover of the product’ s body adopts double layer detection and isolation design,this design can detect the unbalance voltage and isolate the signal of external interference source.

2、The machine design adopt direct current blower preposition， high voltage
Launcher postposition design layout， this design can makes the high pressure ionized positive and negative ions has better effect of static elimination after blower stir fully mixed.

3、The back cover of device adopts the buckle prevention design,this design can disassemble the protective cover easily,instantly clean the high pressure emit needle and fan blade.

4、The built-in design has a circuit switch,cut off the power supply immediately after removing the protective cover， the maintainer is protected safely from high voltage shocked.

5、The emit needle design is easy to replace pull out plug type, the emit needle can be replaced easily and conveniently without launcher replacement.simultaneously save the maintain cost.

6、Automatic clean device, maintain the ion emit needle easily.

二：Electronic technical performance

1、Maintenance early warning function, when the ion concentration is too low, or due to dust caused by the self-balancing circuit adjustment is too large, please prompt maintenance.

2、LCD display：the interface is clear, bright, concise and intuitive, the ion balance degree can be monitored and displayed in real time, and the multi-order menu can be operated manually, fast and convenient.

3、Wind flow adjustment， adopt high quality double roller DC fan,Long life, stable air volume, relatively small noise, air volume can be set 1-5 through the software, adjust the different air volume according to the scene need.

4、Automatic alarm technology for unbalance， the alarm threshold voltage can be set manually. When the ion balance voltage is unbalance and exceeds the set threshold voltage, the ion blower will automatically alarm.

5、Password protection function technology:default password is “000”,the parameter are set and cannot changed by non-relevant personal.

6、Unique amendment techniques of ion self-balance voltage, the monitor and test function for balance voltage in air inlet (5MM)

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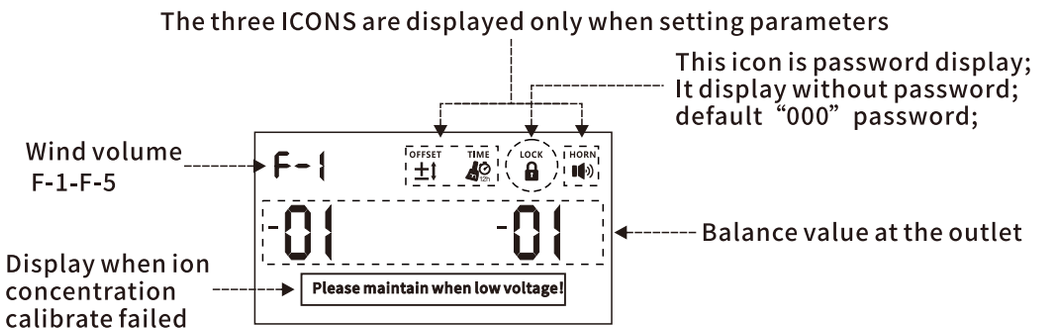
Power on and operation

Connection

1. Place or fix the ion blower in a stable position.
2. Connect the power socket of ion blower with assembled wire, making sure it is grounded.
3. Open power switch.

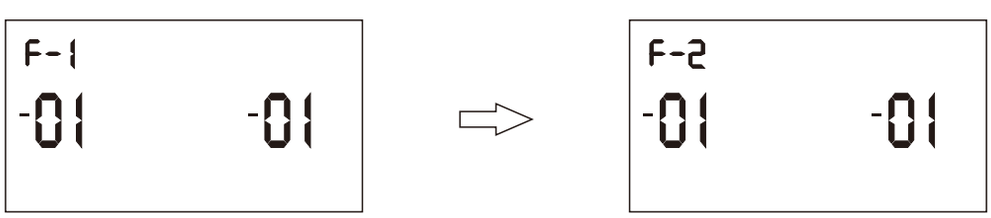


Interface

Please press “✳” button enter into main menu if has password set on interface.The first turn on don’t required to enter the password and direct to the interface.

Wind volume setting

Press “↑” button or “↓” button to set the air volume F-1 to F-2 on main interface（“↑” plus botton “↓” reduce button，Air volume can be set 1-5. If need password, need to enter first then set, if don’t have password, can direct adjust on main interface）



Menu setting

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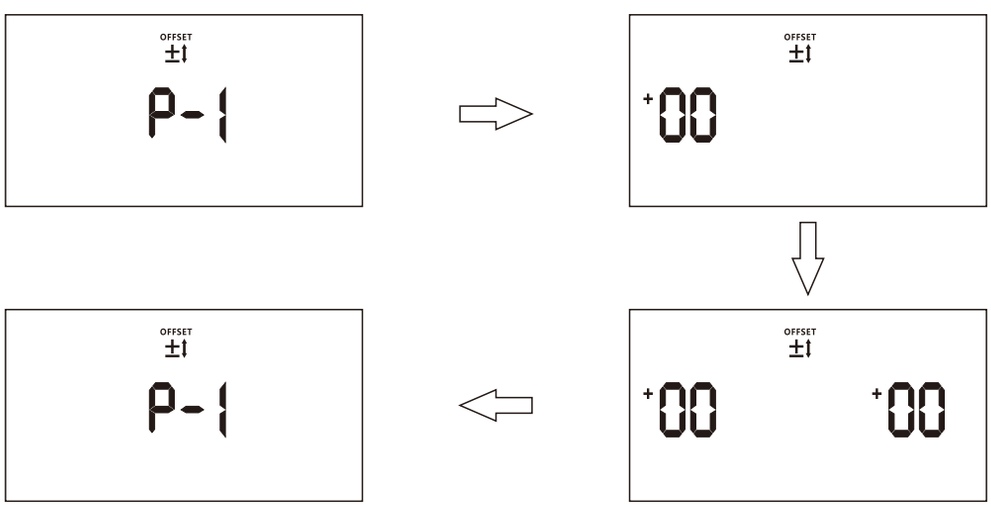
1： Amendment of monitoring value of ion balance degree

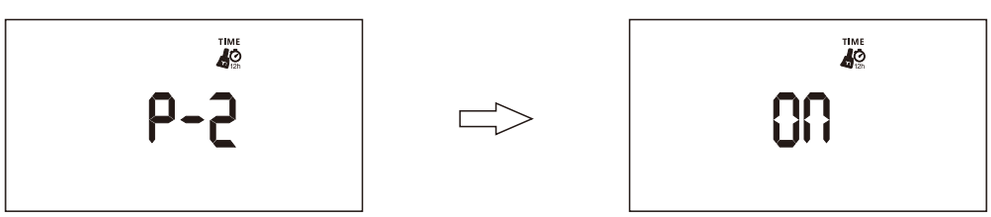
1.Amendment of the error between the balance value at the standard 30CM and the monitoring value at the air outlet of the ion blower(Do not operate this item for non-professional operators).
2.CPM(ion blower comprehensive test) move to the air outlet of the ion fan 30CM， the CPM test plate is perpendicular to the center point of the ion fan.
3.Read the CPM balance voltage value, such as the ion blower balance voltage deviation from the standard value, can be fine tuning panel balance circuit fine tuning hole.
4.The monitoring voltage of the ion fan window is consistent with the CPM equilibrium voltage correction at 30CM. The corresponding tuyere can be added or subtractable through the following menu, and the display error is about 5V.

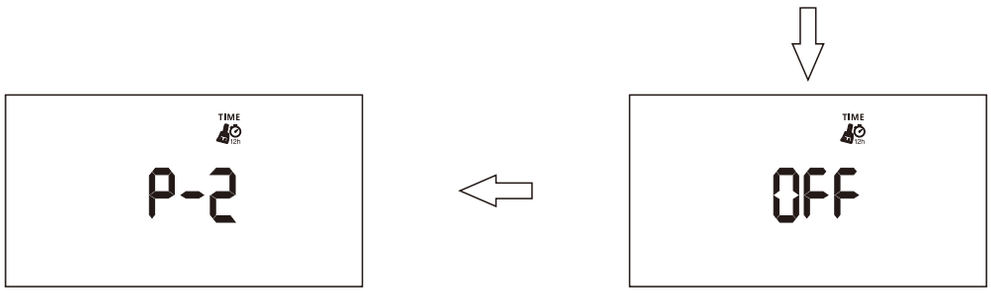
Press “∗” button enter main menu setting option,press “↑” “↓” button to menu switches,when switch to P-1 menu, after press” ∗” button and when parameter is flashing, press “↑” and “↓” buttons to set the parameter.After setting then pres” ∗” button back to menu. (Default value:00V; Parameter range:±01V---±50V,00V)



2: Timed cleaning setting

Press “∗” button enter into menu setting option, press “↑” “↓” button to menu switches,when switch to P-2 menu，after press” ∗” button and when parameter is flashing, press “↑” and “↓” buttons to set the parameter.After setting then pres” ∗” button back to menu。 (Default:ON； setting range:OFF/ON，timed cleaning time:12H)

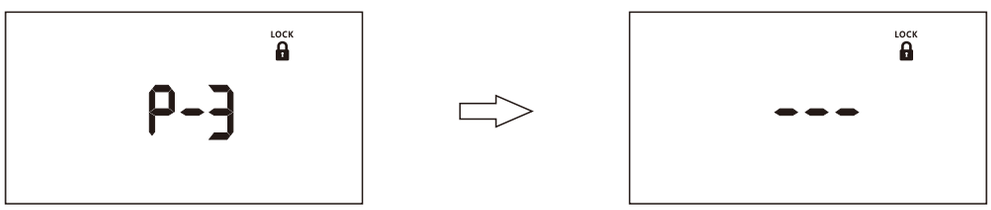




3： Password setting (amendment)

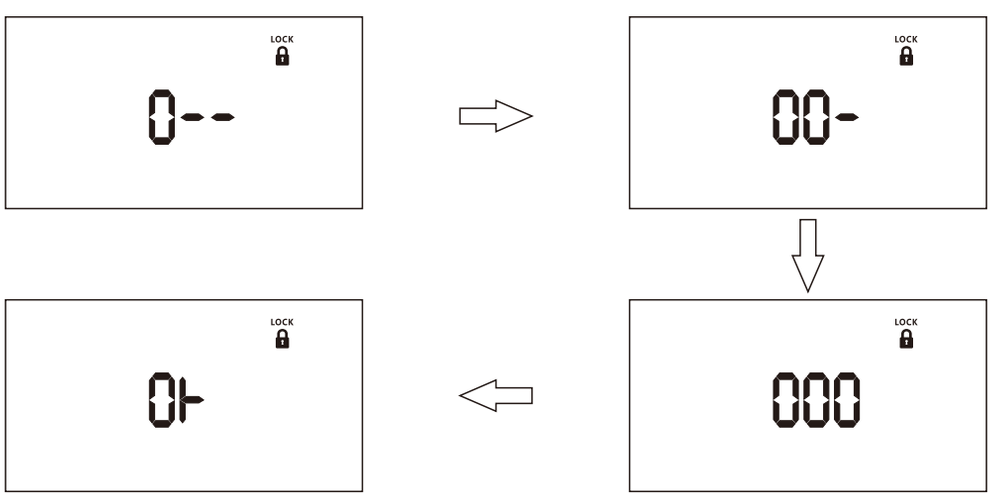
The factory set password of device is “000”, treat as no password when password is “000,now take the password from 000 to 123 amendment as an example to illustrate the setting of the password (amendment method). After press “↑” “↓” “∗” buttons at the same when device is power off,can cleaned the password when power on.

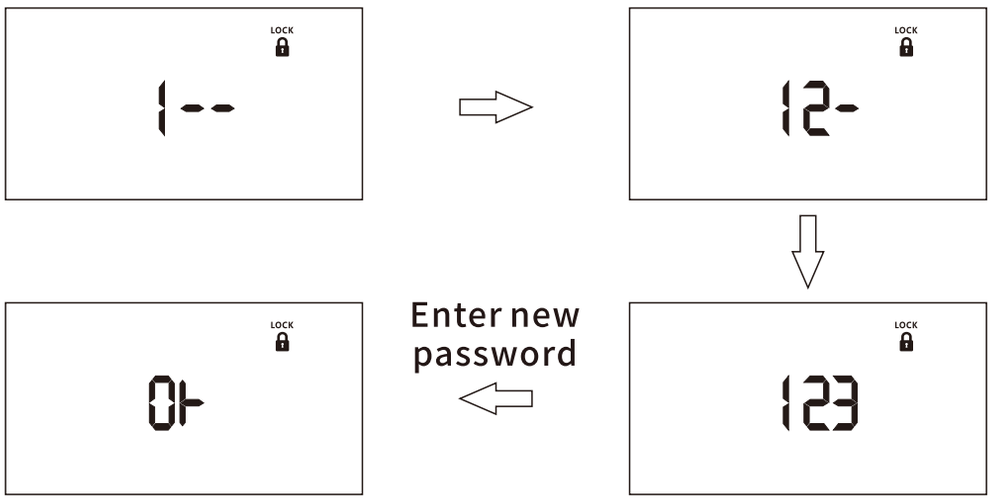
Step1：press “∗” button enter into main menu setting option,press “↑” “↓” button to menu switches,when switch to P-3 menu,press “∗” button enter setting interface



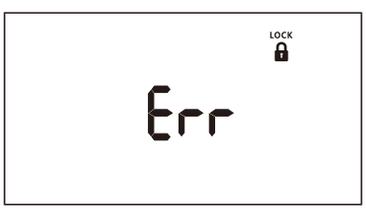
Step2：Press “∗” button confirm old password is “000”，then enter new password, press “↑” “↓” buttons to set first digit of password to “1”，then press “∗” button，with same method set second digit of password to 2，and set third digit to “3”，then press “∗” button to enter new password, enter again with same method，password set successfully.

(set success 0K fail Err)



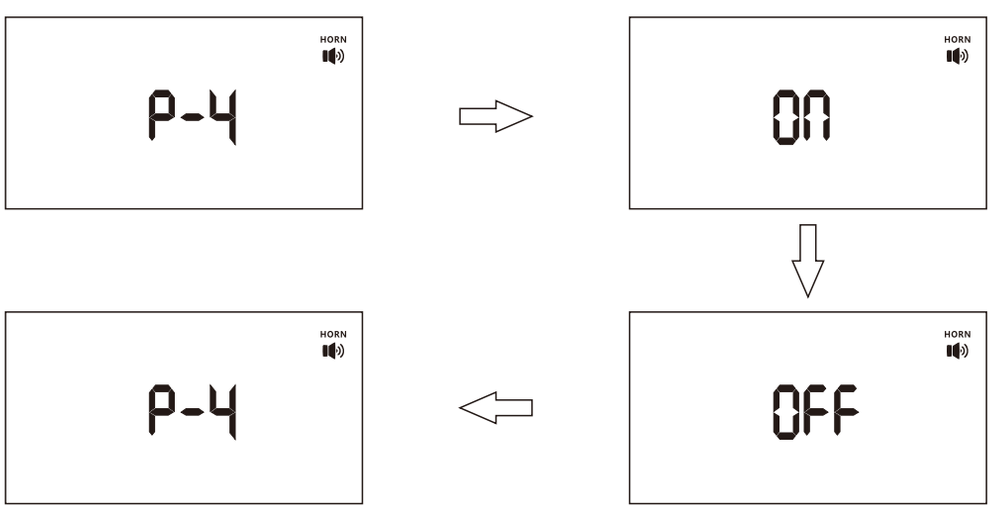


Password enter is wrong will be show below:



4: Sound setting

Press “∗” button enter into menu setting option, press “↑” “↓” button to menu switches,when switch to P-4 menu，after press”∗” button and when parameter is flashing，after setting then pres”∗” button back to menu. (Default:ON；setting range:OFF/ON)



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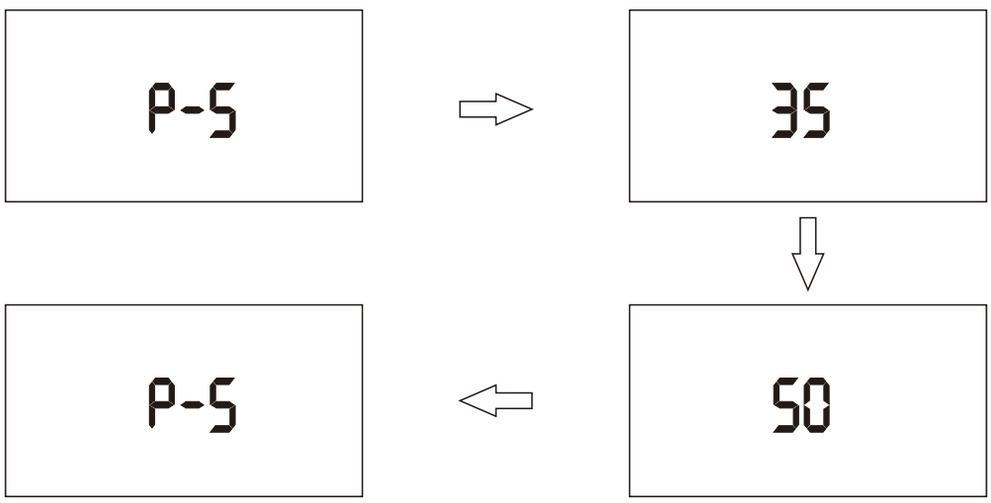
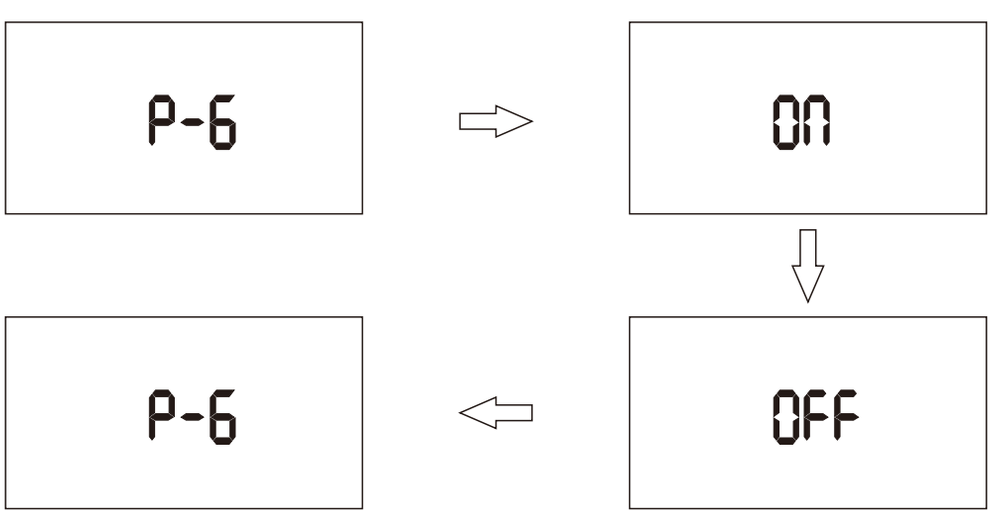
5: Alarm threshold setting

Press “∗” button enter into menu setting option, press “↑” “↓” button to menu switches,when switch to P-5 menu，after press”∗” button and when parameter is flashing，after setting then pres”∗” button back to menu. (Default:35V;parameter range:01V---50V)



6: Power on automatic cleaning setting

Press “∗” button enter into menu setting option, press “↑” “↓” button to menu switches,when switch to P-6 menu，after press”∗” button and when parameter is flashing，after setting then pres”∗” button back to menu. (Default:ON；setting range:OFF/ON)



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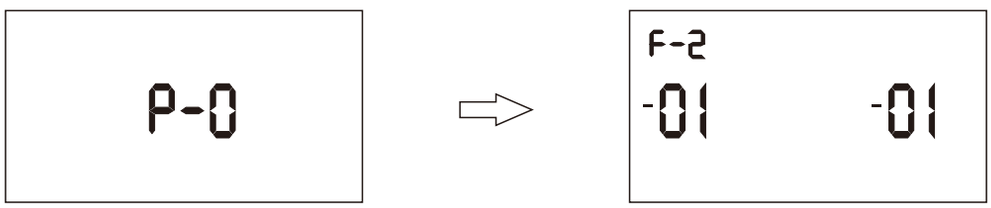
7: Menu exit

Press “∗” button enter into menu setting option, press “↑” “↓” button to menu switches,when switch to P-6 menu，then pres” ∗” button back to menu.

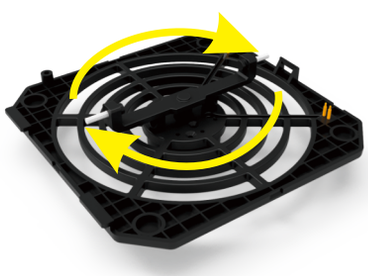


Automatic clean function**(additional function):**

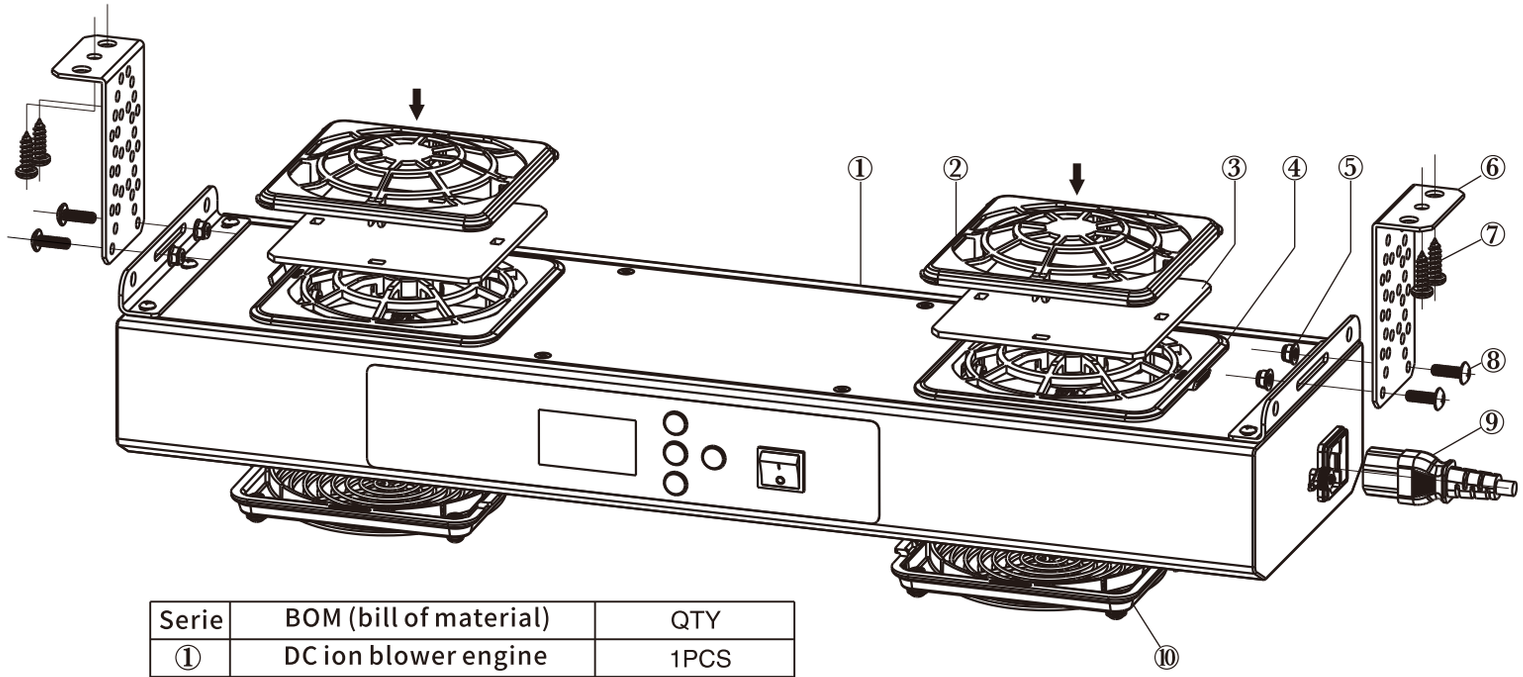
Through the menu, you can set a time of 12 hours for cleaning and automatic cleaning can reduce the frequency of manual maintenance.

After setting up automatic cleaning, according to the dust condition, manual intervention can be cleaned once a week.

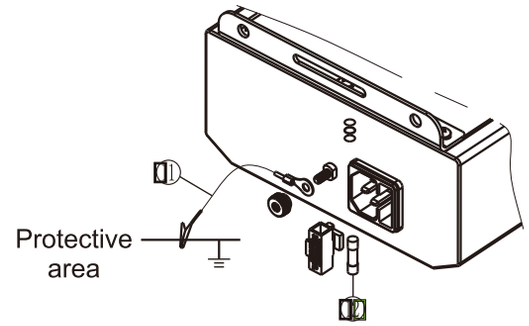
Self-clean and maintain free



Details diagram



Serie	BOM (bill of material)	QTY
①	DC ion blower engine	1PCS
②	Dust protective cover	2PCS
③	Dust protect net 25PPI	2PCS
	Dust protect net 30PPI (for strength dust environment)	2PCS(Optional)
④	Automatic clean setting	2PCS
⑤	Flange Hexagon nut (M5)	4PCS
⑥	Hanger fixed plate	2PCS
⑦	Install screw	4PCS
⑧	Large screw(M5*16)	4PCS
⑨	Power cord	1PCS
⑩	Fan net device	3PCS
⑪	Ground cord	1PCS
⑫	Fuse tube	2PCS



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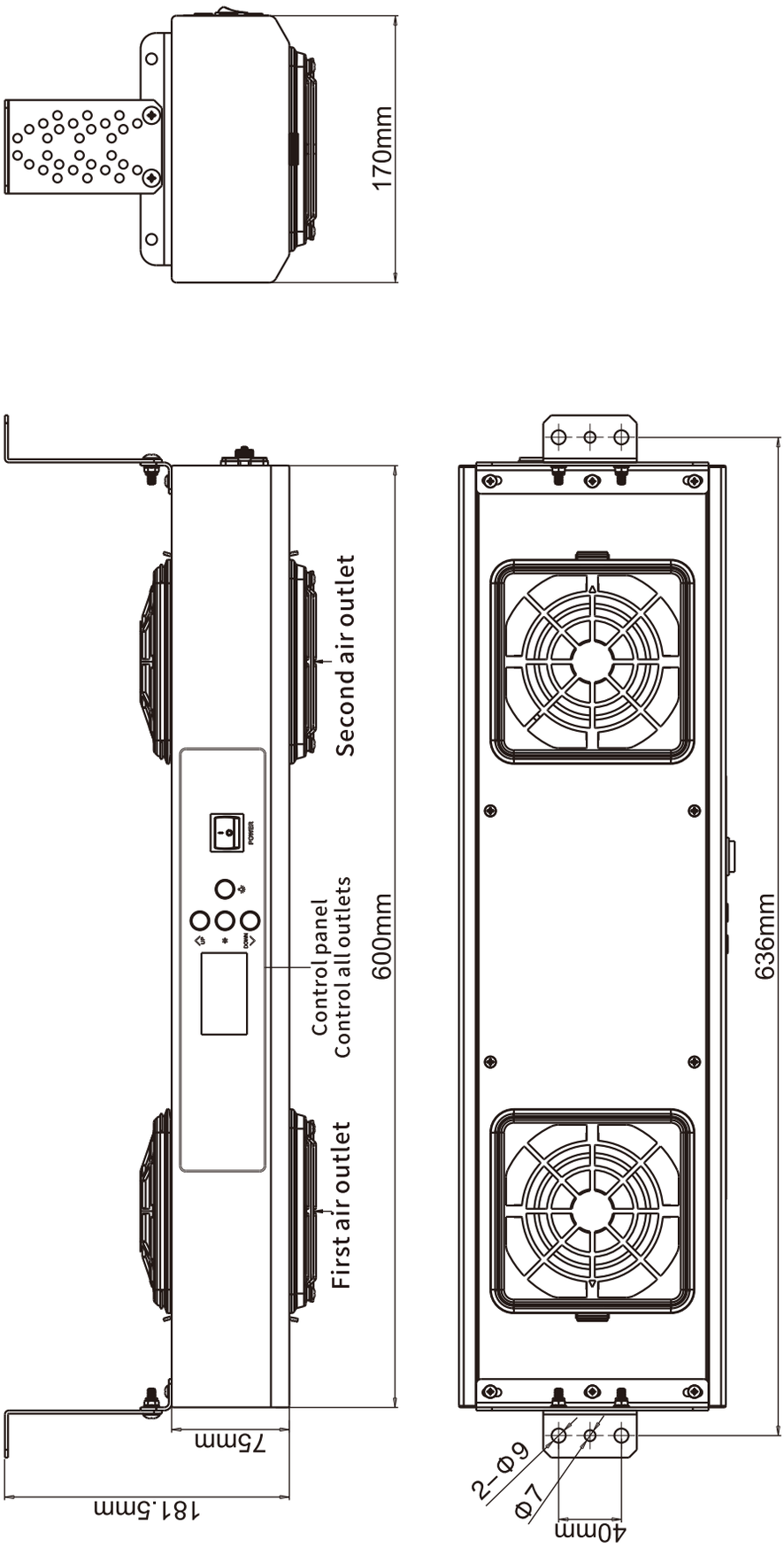
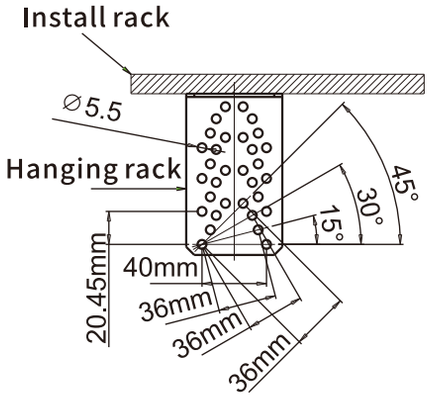
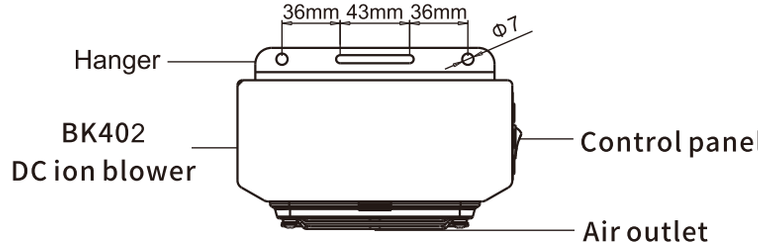
Product size

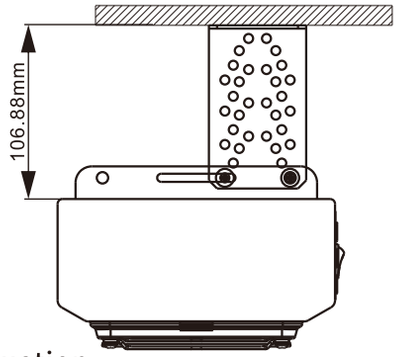


Side view product size

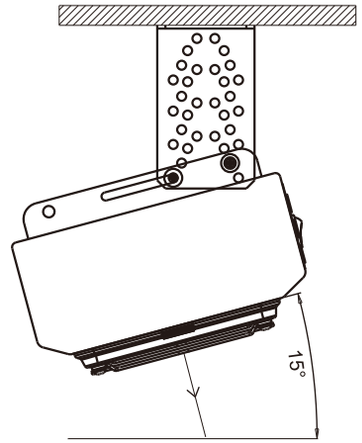
Hanger and hanging rack connection
1.Lock two pairs of screws on each side
2.A pair of screws contains M5 stainless steel screws and nuts
Hanging rack and install rack It depends on installation
1.Lock two pairs of screws on each side
2.One screw is the external hexagonal bit tail screw (M6)or machine tooth M6 screw

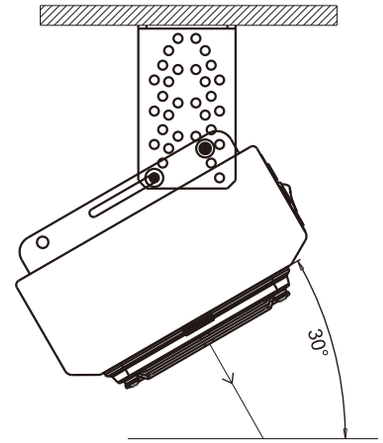


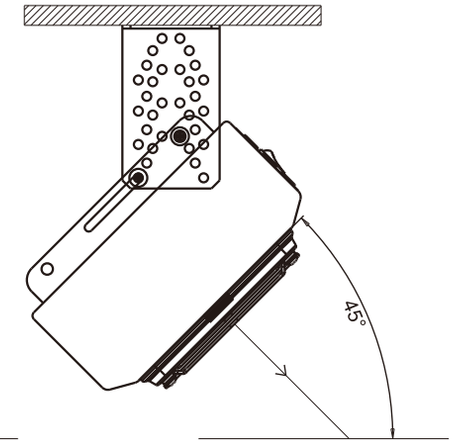




Install situation
A bracket preposition installation







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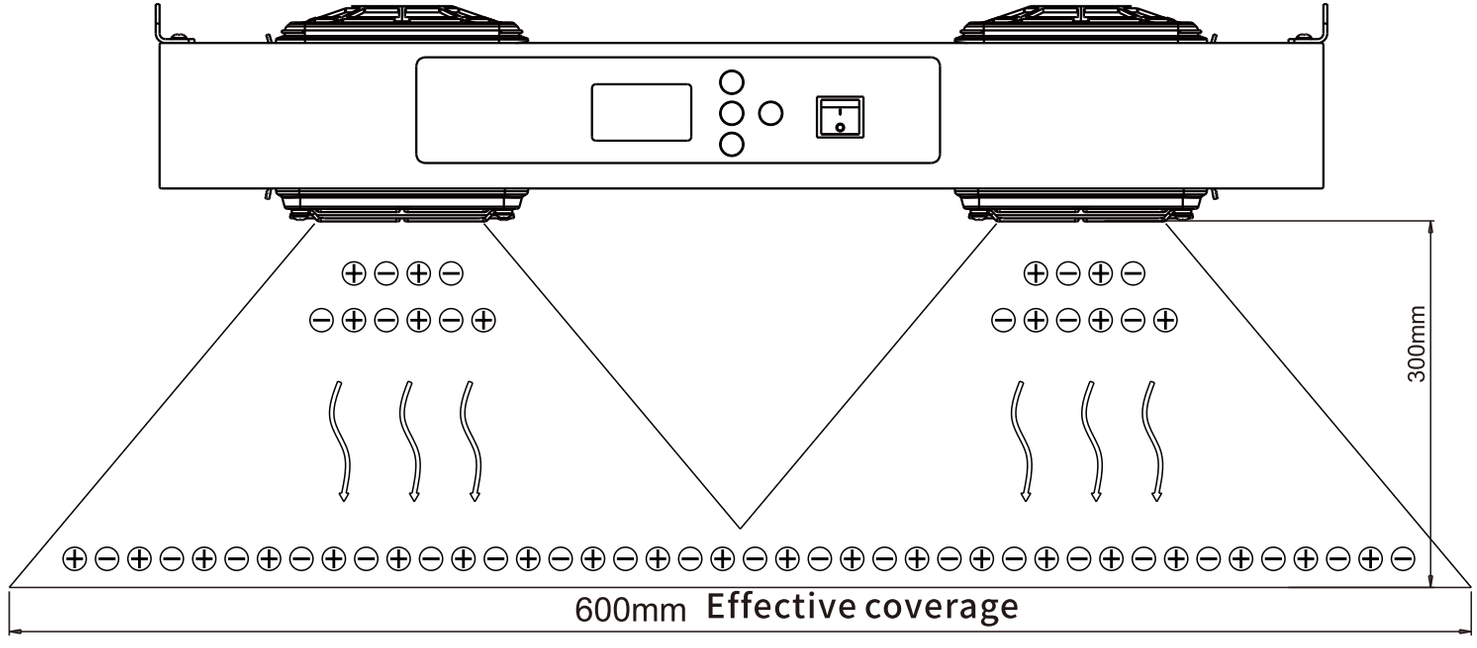
Install situation
Two brackets
middle
installation

IInstall situation,
3 brackets
postposition

Scene application



Max Effective Range 90(H)x70(W)cm

Result of anti static test

Work voltage	AC110V	Test voltage	1KV-100V	Environment temperature	25℃
Test distance(cm)		30	60	90	
Measure static elimination(S)		0.9	2.5	5	
Real measure ion balance degree(V)		0±5	0±4	0±3	
Wind speed (1-5 gear)		5	5	5	

Notice□ The results is different depend on the humidity and cleanliness of the test environment. Anti-static time□ No dust protect net).

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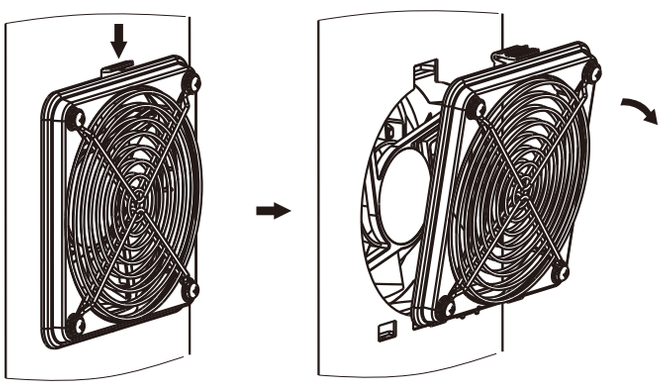
Maintenance

一：Cleaning and replacement of ion emit needle

⚠ Warning：This product is generated by high voltage inside, so it must be cleaned or replaced by professionals. Before cleaning, please discharge the two closer ion emitting needles within 5 minutes.

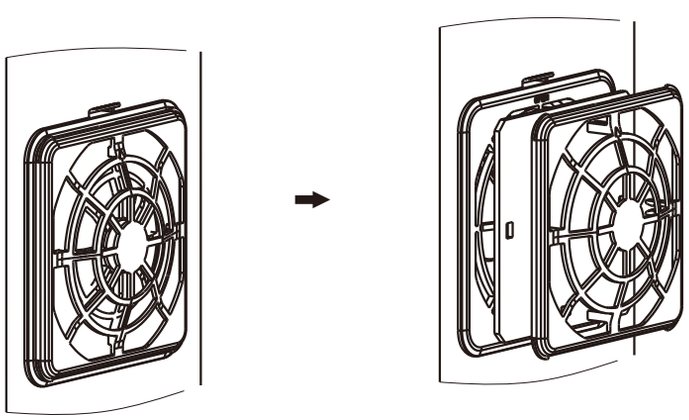
Press the card buckle



After removing the fan net device, the fan will not detect the ion wind voltage and balance degree of the corresponding air outlet.

Inspection net cleaning: remove the fan net device from the equipment and clean the dust with brush cloth or ultrasonic cleaning.

After the fan net is removed, the air chamber of the equipment can be cleaned with cleaning equipment such as brush, cloth, air gun etc.



Remove the dust cover
remove the filter sponge

Inspection net cleaning: remove the fan net device from the equipment and clean the dust with brush cloth or ultrasonic cleaning.

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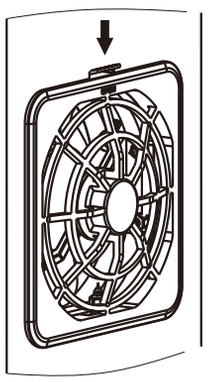
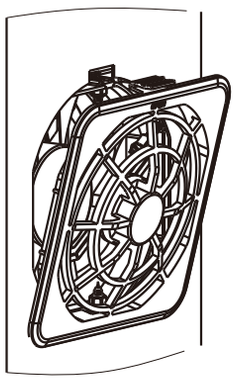
Press the card buckle





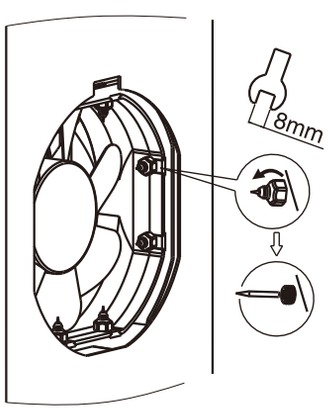
After removing clean device，
Fan stop working.

Sweep device cleaning： remove the cleaning device from the fan, discharge the ions on the ground and clean the dust with brush and cloth etc
After the cleaning device is removed, brush, cloth and other cleaning equipment can be used to clean the dust in the fan air chamber.
Note: Ion needle sharp, pay attention to safety during cleaning.

Replace the ion emit needle

1. Turn off the power,wait for 5 minutes and discharge to ground;
2. Removing the clean device;
3. If found that

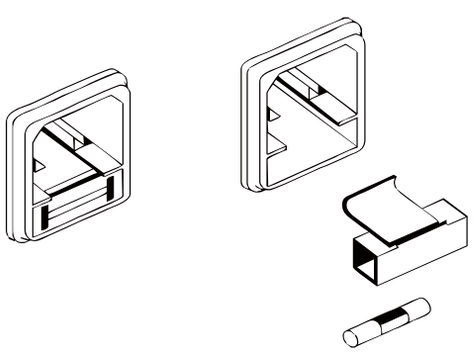
the emitter tip is passivate, needs to replace;
a.Use 8mm inner hexagon wrench or open spanner unscrew the ion needle cover;
b.Remove the passivated emitting needle and replace new one.
（ The emitting needle needs to purchase original accessories）



The emit needle should be replaced according to usage and needle frequency change list, otherwise,it will be serious effect the ability of electrostatic elimination.

二： Replace fuse

1. Unplug the power plug from socket.
2. Take down fuse cover.
3. Take out the bad fuse.
4. Replace new fuse(2A/250V).
5. Install fuse cover.



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Regularly asked question

Name of device	Abnormal state	Reason analysis	Treat method
Ion blower series	No start while power on	1.The fuse tube is not installed or burned out 2.Poor connection of thimble of back cover window. 3.The mainboard is burned out.	1. inspect the circuit if normal, confirm The fuse tube if installed or open circuit,please add the fuse tube according to the case. 2.Please check the thimble on back cover if damaged or out of shape,if any problem please replace in time and adjust to good position for installation. 3. Replace the mainboard.
	Abnormal alarm （The ability of static elimination disappeared）	1.Balance module damaged or not crowded. 2.High press pack abnormal （Use the metal object to get close the emit needle , see if have no arc discharge phenomenon,pay attention to hand insulation protection. If don’ t have that it’ s normal）. 3.Dust cover on emit needle effect the performance. 4.Upper limit set too low.	1.Disassemble the main engine and press down the balance module. If the module is damaged, please replace it. 2.Replace high press pack. 3.This series of products all have automatic cleaning brush, can be set in the system to start up automatic cleaning, cleaning the emission needle at regular time every day, at the same time has a filter net, reduce a lot of dust into the blower. 4.Reset the standard of upper limit.
	Screen display tolerance Low voltage please maintain!	1. Emit needle passivation seriously. 2. Too much dust on emitting holder, lead to high pressure Abnormal. 3. No high voltage output.	1. Replace the emit needle. 2. Clean the emitting holder. 3.High press pack abnormal, replace new one.

Ion output test

1. Can use static tester Charge Plate Monitor Measure the time and balance degree of static elimination.