Operation Manual

Overhead ionizer

Content

1. Product Details

KESD Over head ionizer is one necessary equipment to eliminate static, which belong to a series of ionizer fan. It has the characteristics of simple installation, stable operation and quick static elimination. Which is an ideal static eliminator for industries such as precision electronic products, electronic assembly lines, pharmaceutical manufacturing assembly, packaging and small product molding.

This ionizer uses piezoelectric high-voltage power supply which is of light weight and small size. There is no electromagnetic interference and no security risks. Easy combination with automatic ion balance system and high-pressure anomalies monitoring system. This ionizer is designed for some sensitive electronic components and electrostatic discharge and other issues, which can also be used in to solve the problem which are caused by electrostatic discharges such as the problem like the component misalignment and the gel adhesion.

The air speed of this ionizer has seven free control and can use the increase and decrease button to adjust the fan air flow. It can be directly displayed by the LED and has truly realized the visual management; It has power input function (power switch indicator), static removal operation function (Green indicator), High Voltage Power Abnormality Indication (red indicator),fan normal operation (green LED on right and fan anomaly alarm function (the red LED on the left)

This ionizer has abnormal shutdown, or power-down memory function, such as: a sudden power failure or abnormal shutdown, and then remain powered off after power, or in the state before power off.

This ionizer can produce ion current flow in the set area. The time of neutralizing the static electricity depends on many factors. There are two main factors. First, the effective distance.

The ion will constantly neutralize each other within the effective distance. The positive and negative ions will be attracted mutually because of the static. When the positive and negative ions collision, the charge will converse and then the ion will be recontaminated.

Secondly, air flow rate . If the air flow is faster, the ions flow also will be faster before recombination. The wind speed needed to set to the highest speed to achieve the fastest neutralization effect.

When using this ionizer in an electronics manufacturing area, the area must be covered by ion wind as much as possible and the area charge can be neutralized by ions passed by the ion wind.

2. Product Features

2.1 Automatic ion balance, up to 0±10V

2.2 Tungsten alloy discharge needle, long term usage and not worn easily;

2.3 Wind speed can be directly displayed by LED light, which can truly realize the

visual management:

2.4 Discharge needle assembly and front windshield can be disassembled, it is convenient to do the cleaning, maintenance and replacement;

2.5 Equipped with fan running indicator and abnormal alarm indicator;

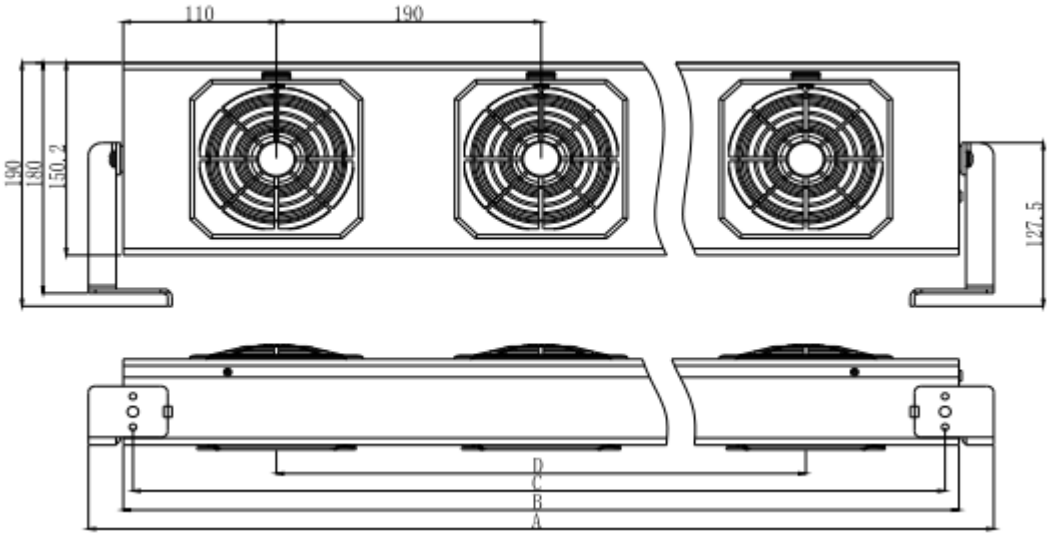
2.6 Equipped with the static removal running and abnormal alarm indicator;

2.7 With the function of shutdown or power-down memory.

2.8 Using a special tungsten alloy discharge needle, long-term use and is not easy to be worn out

2.9 Discharge needle assembly and front windshield can be easily removed for cleaning, maintenance and replacement.

3. Product appearance dimensions and model comparison



Model	Overall length A	Housing length B	Installation Length C	Fan distance D	Fan Nos.
KF-60AR	650mm	600mm	583mm	380mm	3
KF-80AR	850mm	800mm	783mm	570mm	4
KF-100AR	1050mm	1000mm	983mm	760mm	5
KF-120AR	1250mm	1200mm	1183mm	950mm	6
KF-150AR	1450mm	1400mm	1383mm	1140mm	7

4. Performance parameters

4.1 Technical Parameters

Model number Over head ionizer

Supply voltage: AC 110V /60HZ AC 220V /50HZ

High pressure output: AC 2200V

Display led: H.V Indicator light , H.V ALARM Indicator light

LED display:

1:Fan Indicator light Blue light on Fan operate normally

2: Fan alarm Indicator light Red light on Fan operate abnormally

3: H.V Indicator light Blue light on, static removal operate normally

4:H.V ALARM Indicator light Red light on, static removal operate abnormally

Decay time: 1.0s within 300mm

Ion balance automatic ion balance up to 0±10v

Air volume 2.56-4.07m³/min(per blower)

Ozone concentration: below 0.004ppm (distance within 150mm)

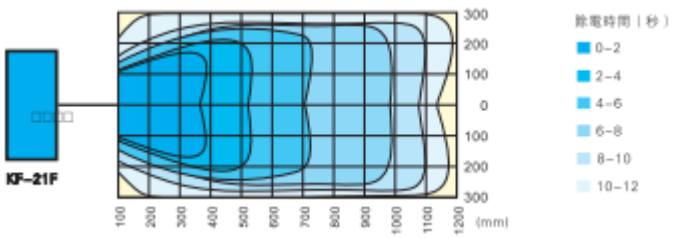
Applied environment temperature 0-40 °(no condensation)

Applied environment temperature 30-70%RH(no water drop condensation)

Anti static test condition

Operating voltage: DC24V Test voltage:±1100v Environment temperature:23° +/-2°

Distance		300mm	600mm	900mm
Decay time	Positive	1.1s	1.5s	2.2s
	Negative	1.3s	1.7s	3.0s
Ion balance	Positive			
	Negative	<0-±10V		

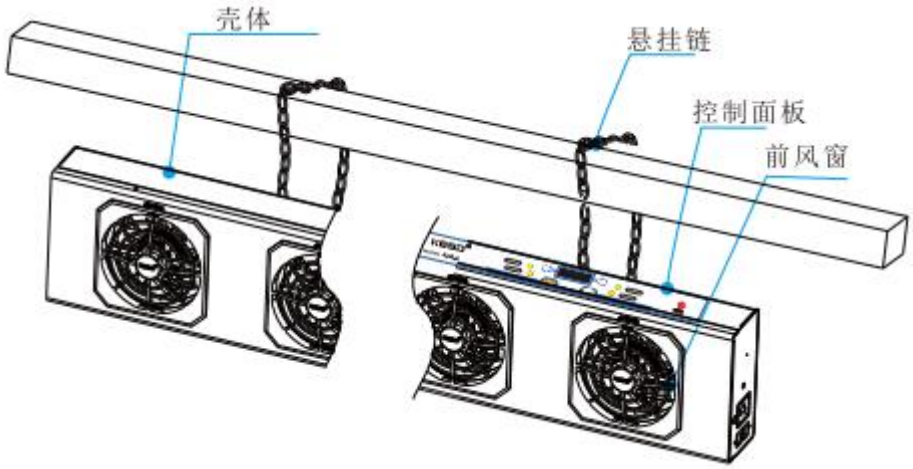


Note: 1: The measuring method is applying 20PF ,150mm decay time and measure according to the company measuring condition;

2: Decay time means the fall time from ±1000v to ±100v when the air filter is not installed and the air volume is the maximum;

3: Decay time from the distance of the middle of the blow-off nozzle.

5. 产品总装图 Product assembly drawings

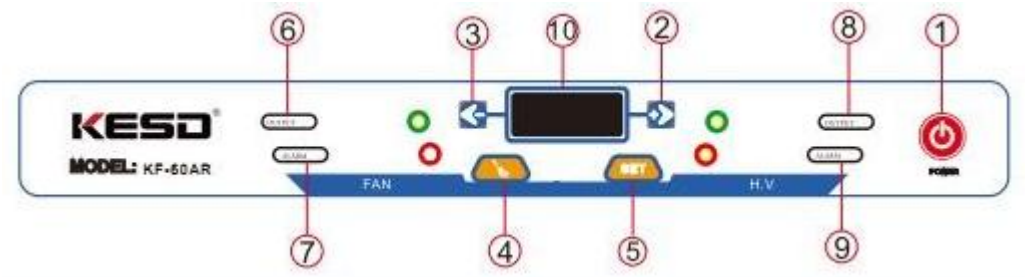


外壳： Shell　前风窗：Front window

固定按钮 Fixed button　支架 Bracket　电源开关 Power

风量调节展示区域 Air volume

Functions indicator



1：Power switch button

2：Fan speed increase button

3：Fan speed decrease button

4: Manual cleaning button

5：Settings button

6: Fan normal operation indicator

7：Fan abnormality indicator

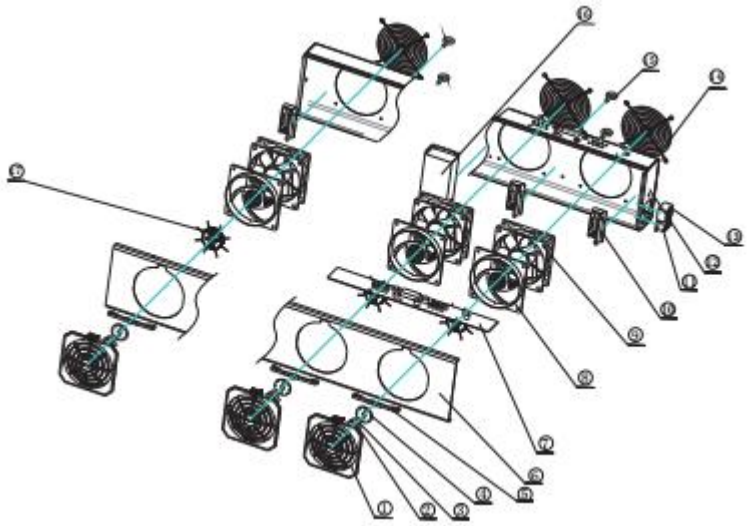
8： High-voltage normal indicator

9：High-voltage abnormal indicator

10：Display

Button additional features, press button 2 and 3 at the same time more than 5 seconds, the whole machine will be locked automatically.

6. Breakdown Drawing

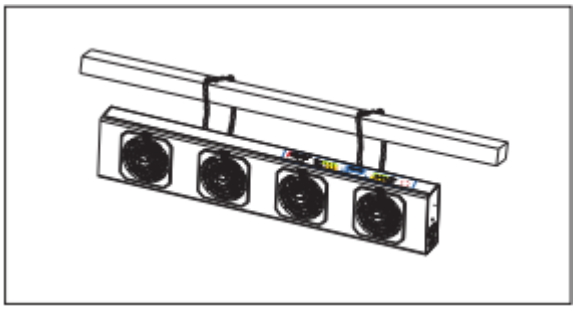


No	Name	No	Name
1	Front Window	9	Ionizer
2	motor	10	Network control panel
3	magnet	11	Rear motherboard
4	Front windshield motor cover	12	Power socket
5	brush	13	Metal air filter
6	Front motherboard	15	Chain link rings
7	Output control board	16	Switch power supply
8	Discharge needle holder	17	Discharge needle seat

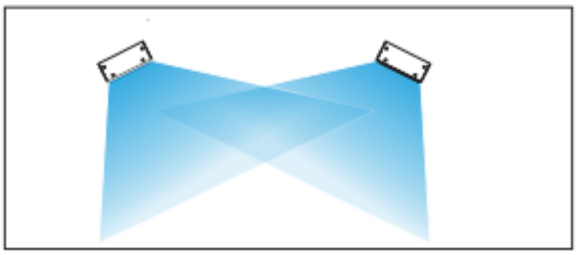
7. Installation and Operation

7.1 Installation (KF-80AR)

7.1.1 The device is designed for easy installation, using the chain through the rings in the back of this ionizer and it can be fixed with the shelf on the wall.



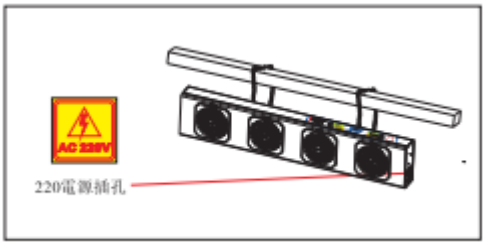
7.1.2 Device to be placed in the distance ＜900mm to the object, to ensure good ion balance performance



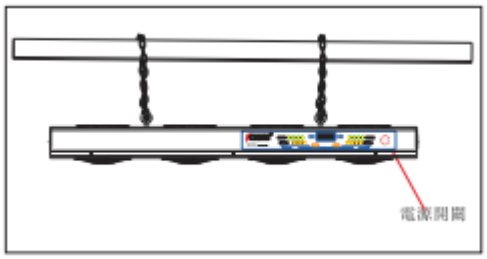
7.1.3 Adjust the single ring position of the hanging chain and the rings in the back of the device to change the angle

7.2 Operation

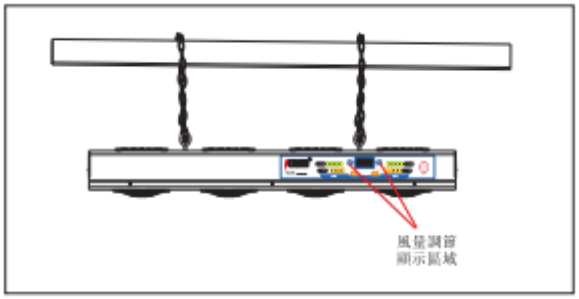
7.2.1 Connect DC power supply with the device and then connect with AC electricity



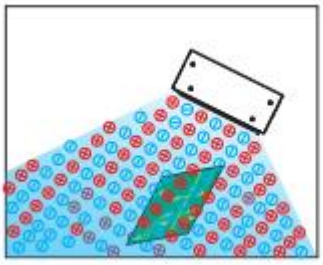
7.2.2 Turn on the power source



7.2.3 Adjust the air volume according to the requirement



7.2.4 Fixed in the functional area, towards to the object, realize static elimination



8. Cautions

Danger

The emitter needle loaded with high voltage, would cause electric shock. No contact with the emitter needle when powered on

Alarm

Caution of the sharp end of the needle, would be injured with default operation

Caution

Static ionizer will generate ozone. When using one unit device, ozone density will saturation and won't exceed the standard

When using multiple unit devices, ventilate immediately if you feel ozone. Please do not close face to the fan to test ozone, or you nose and throat will get pain

Please do not use the device for other purpose

The life time of the emitter demand on the environment, the performance will be declined in a critical surrounding (high temperature), or not clean in a long time, so maintenance is necessary in a certain period

9. Maintenance

Brief introduction on maintenance of Over heads ionizer, operation methods on the problems and make sure it works in a good condition, prolong the life

The dust in the air will be inhaled into the device accompany with the air flow, and absorb on the window and emitters, that will get blunt of the emitter needle, and inflect the performance of static eliminating, so it is required to clean the dust.

9.1 Manual maintenance and items maintenance methods

Emitting needles Grind each emitting needles with fine abrasive paper and clean with alcohol dipped cotton bud

Front window Remove the front window and clean it with a brush outside

Rear window Remove the rear window and clean it with a brush outside

9.2 Cleaning setup and manual maintenance schedule (reference only)

workshop cleanliness	Automatic setting time reference	Manual maintenance cycle
10-100 level	192 Hours	30-60 days
100-1000 level	120 Hours	25-40 days
1000-10000 level	72 Hours	15-30 days
General workshop	60 hours	15-30 days
Thick dust workshop	24 hours	10 days

10. After-sale service

a) Warranty time

All equipment sold from KESD have one year warranty, free maintenance for the problem or damage by the product itself, like the material and architecture, but not including the easy broken parts

b) Service surpass warranty period

Continued support and maintenance for the products from KESD

11. Normal problems and disposal

Over head ionizer Normal problems and disposal

Normal problem	Analyze	Disposal
a) Indicating light and the fan could not work when powered on	a) The wire not connected well or damaged b) Short circuit internal of the device	Connect the power again, or change a adapt
b) Indicating light and HV normal, but fan not work	a) PCB problems b) Fan motor damaged c) Wires not fine	a) Change the PCB b) Change the motor c) Connect the wire
c)Fan works fine, but HV abnormal	a) PCB problem b) Wires not fine c) Generator problem	a) Change the PCB b) Connect the wires c) Change the generator
d) Fan woks fine, but no performance on static eliminating	a) Emitter smudged b) HV board problem	a) Clean or change the emitter b) Change the board

Contact us immediately if you can't work out the above problems

12. List of packing

1. Ionizing air blower 1set
2. Adapt 1pc
3. Operation manual 1pc
4. Warranty card 1pc
5. Inspection report 1pc
6. QA approved card 1pc