AP&T®

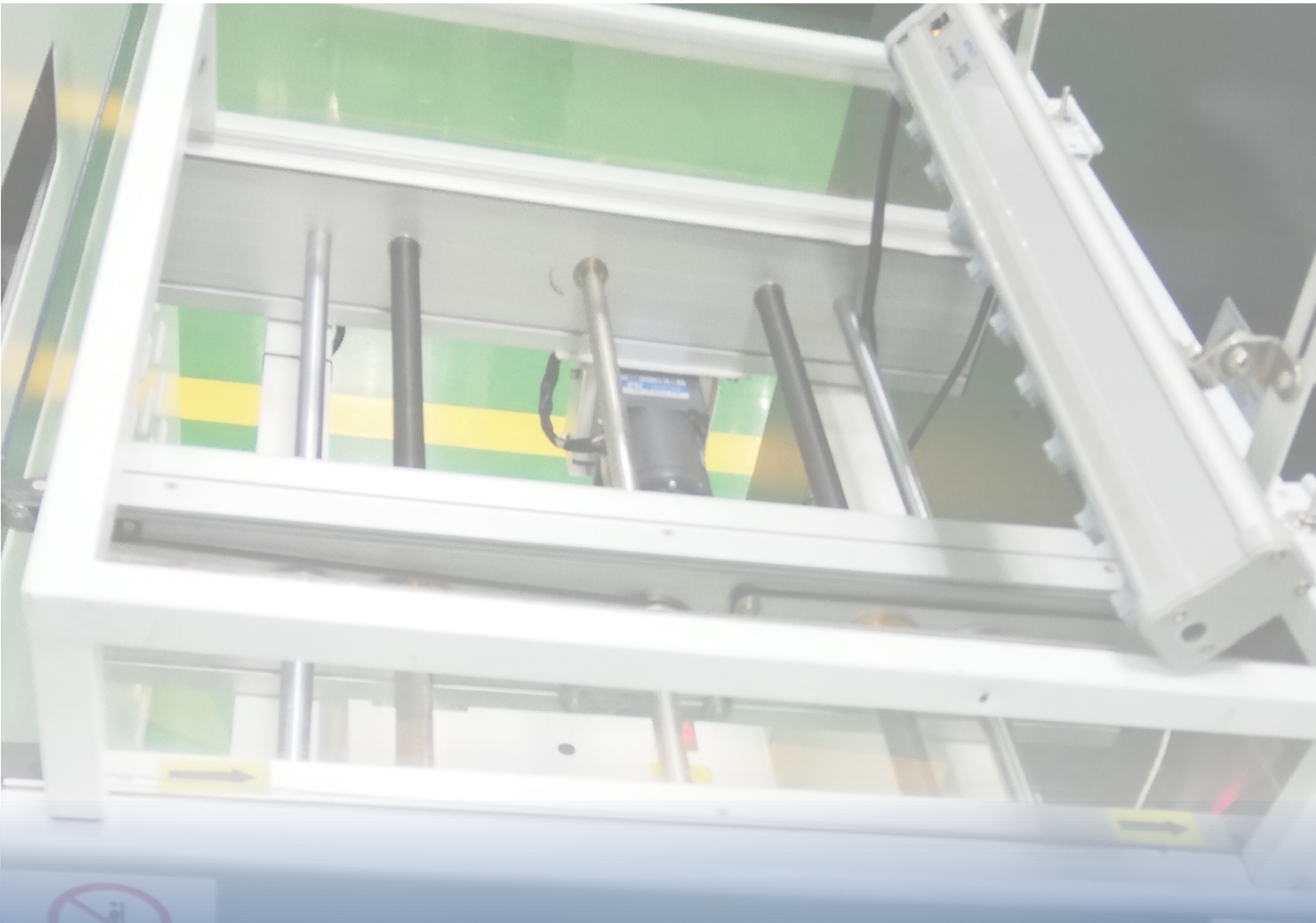
Shanghai Anping Static Technology Co.,Ltd

High Efficient Electroshock-proof

Intelligent Ion Bar

AP-AB1216

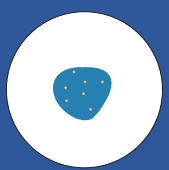
— AP&T—



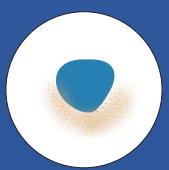
Widely used in electronics, optoelectronics, semiconductor and other industries

Effectively solve the problem caused by static electricity

Static removal

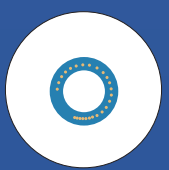


Prevent adhesion of objects

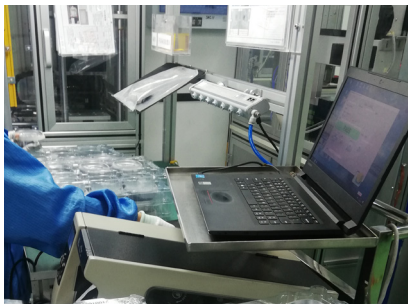


Prevent sticking

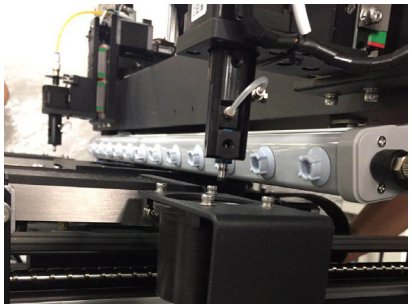
Control ink splashing

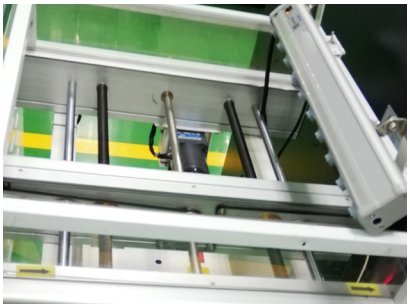


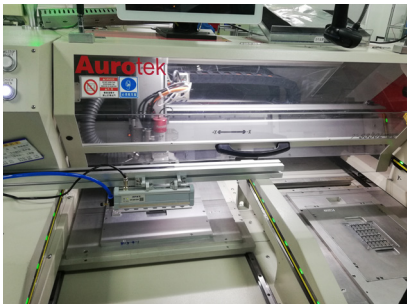
Prevent uneven scattering



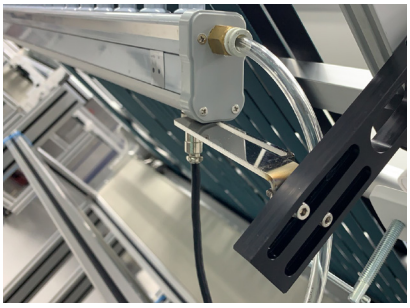
High efficient

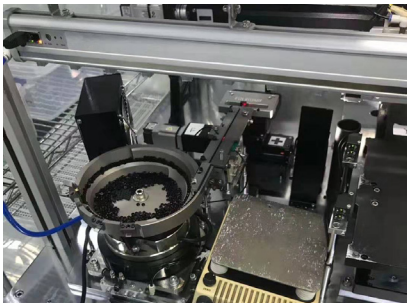






Safe





Static removal

Intelligent Control

Ion balance /
Ion output frequency adjustable

Remote control button

"R/S": Run and pause.

"IB"+: Increase the duty cycle to eliminate excess negative charges on the surface of the object;

"IB-": Reduce the duty cycle to eliminate excess positive charge on the surface of the object.

"P": Only work with positive high voltage;

"N": Only work with negative high voltage.

"Bar" + "1": Set the working frequency of the ion bar to 1 Hz;

"Bar" + "2": Set the working frequency of the ion bar to 3 Hz;

"Bar" + "3": Set the working frequency of the ion bar to 5Hz;

"Bar" + "4": Set the working frequency of the ion bar to 10 Hz;

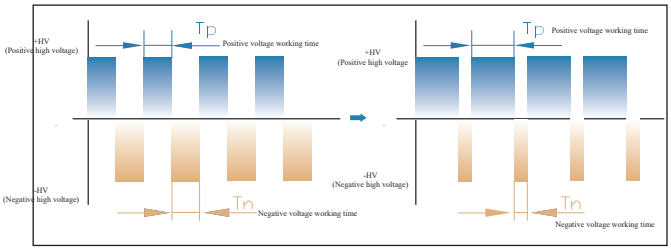
"Bar" + "5": Set the working frequency of the ion bar to 20 Hz;

"Bar" + "6": Set the working frequency of the ion bar to 30 Hz;

"Bar" + "7": Set the working frequency of the ion bar to 50 Hz.

Ion balance adjustment

Press “IB-“ when positive voltage on plate tester or target object is large or “IB+“ when negative voltage on plate tester or target object is large until the ion balance reaches to ideal status. Static removing speed can be raised by adjusting the output ratio of positive and negative ion.

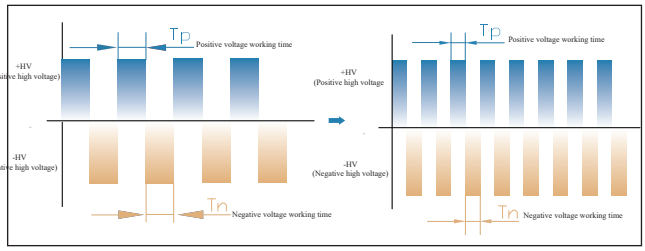


Output frequency of positive & negative ions adjustment

Adjust the output frequency of positive and negative ions to apply to different elimination distances.

No matter the distance is long or short, it can exert its static elimination ability.

The factory setting is 30Hz. A handheld terminal is required or return to manufacturer if output frequency need to be adjusted.



Working frequency (Hz)	Discharge distance (mm)	Application
50	100-300	Low balance requirements such as semiconductor devices;
30	300-450	Low balance requirements such as optoelectronic devices;
20	450-600	Lower balance requirements such as electronic devices;
10	600-750	Material filling and transfer
5，3，1	750-1000	Discharge at a longer distance

Pulse AC

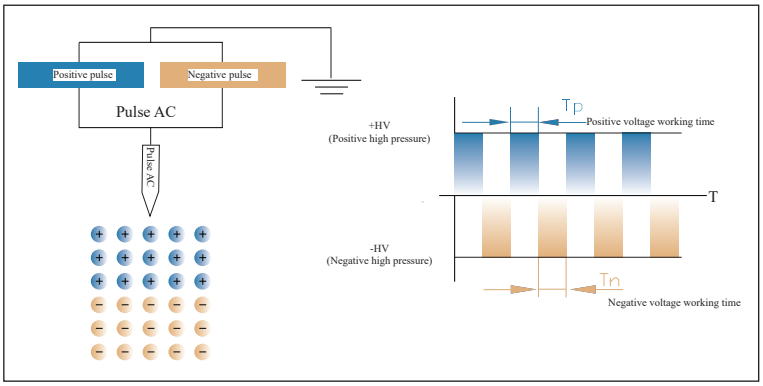
The effect of static eliminating is better compare to power frequency AC ion bar

Comparison with traditional AC

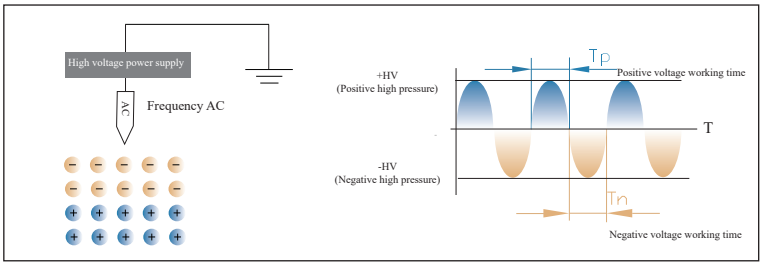
The pulsed AC method alternately applies "+" and "-" high voltage to one electrode needle to generate two polar ions.

Compared with the traditional AC method, the amount of generated ions is increased and no uneven static elimination is found.Static elimination ability fits for both short or long distance.

Pulse AC



Traditional AC



3 situations of static on the surface of the object

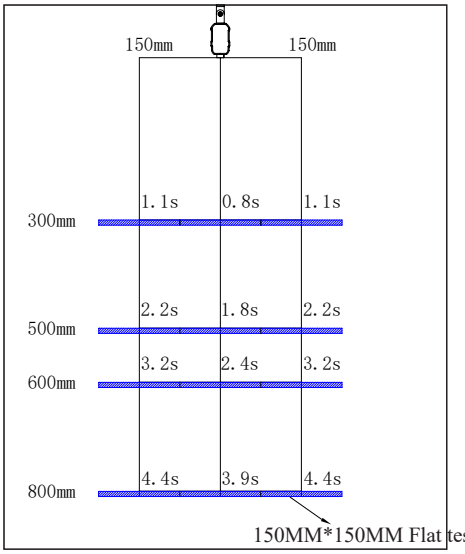
Decrease Tp so that the positive voltage becomes smaller and the acting time becomes shorter. Less positive ions and more negative ions output to neutralize the excess positive charge on the surface of the object.

Increase Tp so that the positive voltage acting capacity becomes greater and the acting time becomes longer. More positive ions and less negative ions output to neutralize and excess negative charge on the surface of the object.

Adjust the duty ratio [Tp/(Tp+Tn)] to an appropriate ratio and send out the same amount of positive and negative ions to neutralize the static charge on the surface of the object.

Efficiently static removal

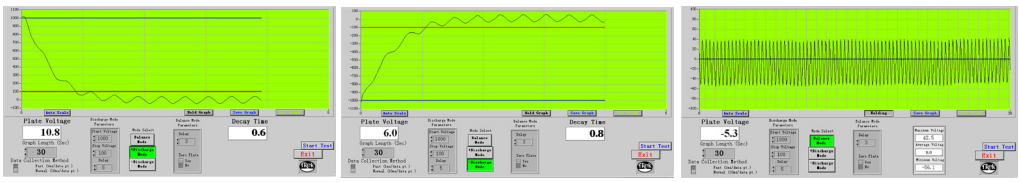
Stay away from static electricity &
for clean production environment



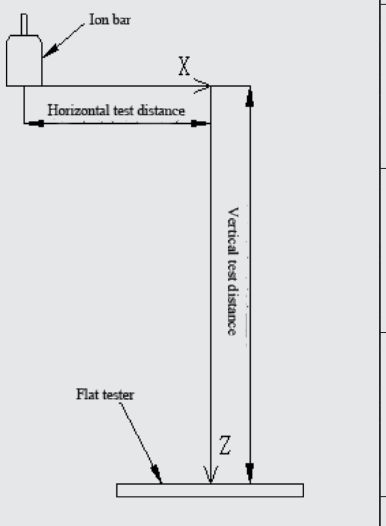
Test Conditions：Ion bar length：360mm
Air pressure：0.2Mpa
Working frequency：30Hz

Test standard: ANSI/ESD.STM3.1, SJ/T 11446—2013
Test instrument: Trek157 static tester
Test voltage: ±1000V → ±100V attenuation
Test environment: humidity 50±5%; temperature 23±3℃

The test data diagram is as follows (test distance: 300mm, ion bar length: 360mm, air pressure: 0.2Mpa, working frequency: 30Hz):



Test data under other conditionsare as follows



Test diagram

Ion bar length: 360mm; working frequency: 30Hz;

Test distance (mm)		Air flow pressure (MPa)Remarks: 1*	Duty factor (%)	Discharge speed		
Vertical	Level			Positive discharge time (S)	Negative discharge time (S)	Ion Balance voltage (V)
300	-150	0. 2	50	0. 9	1. 1	11. 0
	0		50	0. 6	0. 8	8. 0
	150		50	0. 7	1. 0	-4
	-150	0. 4	51	0. 6	0. 6	4. 0
	0		51	0. 5	0. 6	14
	150		51	0. 5	0. 6	5
	-150	0. 6	51	0. 6	0. 6	17
	0		51	0. 4	0. 4	-2
	150		51	0. 4	0. 4	6
500	-150	0. 2	50	1. 7	2. 2	10. 0
	0		50	1. 4	1. 8	8. 0
	150		50	1. 5	2. 1	-6
	-150	0. 4	51	1. 4	1. 4	13. 0
	0		51	1. 0	1. 3	12
	150		51	1. 1	1. 4	-6
	-150	0. 6	51	1. 1	1. 3	-17
	0		51	1. 0	1. 2	15
	150		51	1. 0	1. 2	9
600	-150	0. 2	50	2. 3	3. 2	6. 0
	0		50	2. 0	2. 4	7. 0
	150		50	2. 0	3. 2	3
	-150	0. 4	51	1. 6	2. 1	13. 0
	0		51	1. 4	1. 9	-10
	150		51	1. 5	2. 0	7
	-150	0. 6	51	1. 4	2. 0	-13
	0		51	1. 3	1. 6	-4
	150		51	1. 3	1. 7	-4
800	-150	0. 2	50	3. 9	4. 4	7. 0
	0		50	2. 8	3. 9	3. 0
	150		50	3. 4	4. 3	4
	-150	0. 4	51	2. 7	3. 4	7. 0
	0		51	1. 9	2. 8	15
	150		51	2. 2	3. 0	6
	-150	0. 6	51	2. 0	2. 6	-13
	0		51	1. 6	2. 4	4
	150		51	1. 7	2. 5	8

Remarks: 1*——Real-time pressure value during gas flow.
The balance voltage performance of the ion bar varies with the length of the bar, airflow pressure, working frequency, and installation distance; the duty cycle should be adjusted according to the specific use environmental conditions to make the balance performance of the ion bar reach the best state.

Features

Safe / Easy to use / Durable

No.1

Easy installation

Provide stainless steel mounting angle and can adapt to various installation environments.

No.2

Electroshock-proof

Protection against electroshock.

No.3

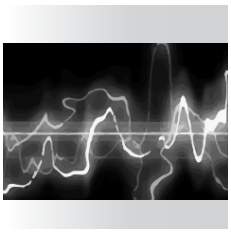
Intake throttle valve

The specification is Φ8-G1/8 Grey

No.4

Working status visualization

Green light-----working normally
Red light------abnormal high voltage



No.5

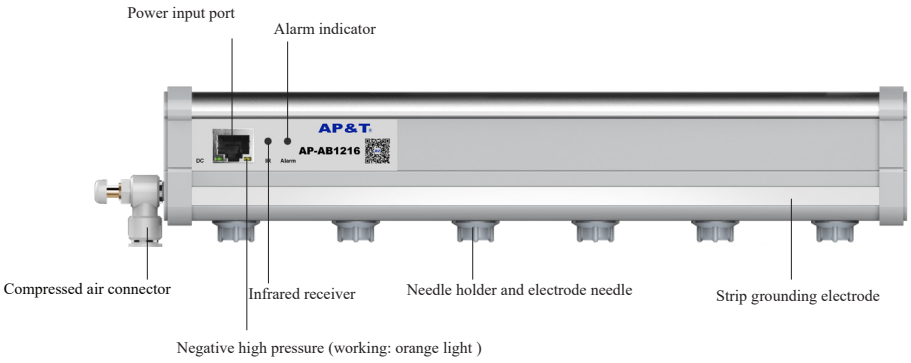
CE certification

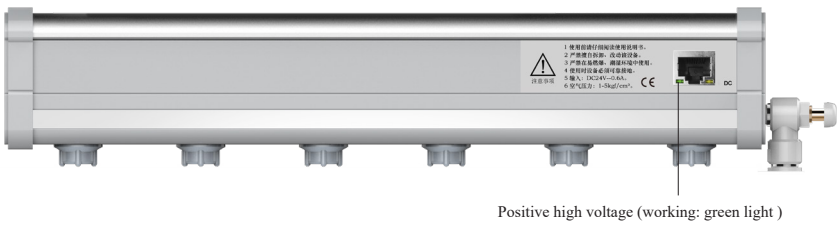
It can effectively prevent the external electromagnetic interference from affecting the normal operation of the ion bar. This is a static electricity eliminator with high safety and high reliability.

Specification

Details / Size / Parameter

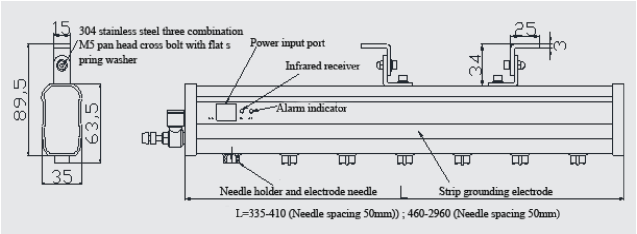
Product Details



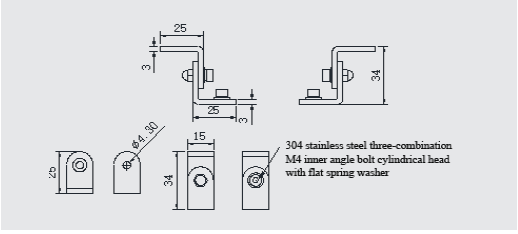


Product Size

Unit: mm



Ion bar size drawing



Mounting bracket size drawing

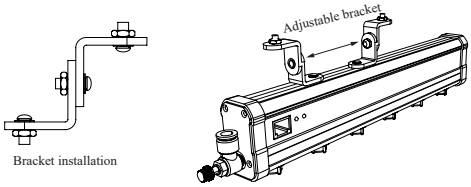
Product Parameter

Model	AP-AB1216
Input voltage	DC 24V
Input Current	＜ 600mA
Power	10W
Working voltage	DC±5KV
Ion emission	Pulse AC
Emitter electrode	SUS
Discharge structure	Resistance coupling
Output frequency	1,3,5,10,20,30,50Hz；(Ex-work setting: 30Hz)
Duty factor	10%—90%
Discharge range	L*W*H：(335-410mm；460-2960)*300*1000mm
Installation distance	100→1000mm
Ion balance	≤|±30V|（AVG）
Discharge speed	≤2S
Status indicator	High pressure alarm indicator (green light------normal operation ; red light------abnormal high voltage)
Air pressure	≤0.6MPa
Compressed air connector	Φ8-G1/8 Grey
Working temperature	0℃-50℃
Working humidity	＜ 70%
Dimensions	L*W*H：(335-410mm；460-2960)*35*63.5mm
Bar material	Flame retardant PVC、AL、SUS
Packaging accessories	180°rotating installation angle
Adapter power	GRT-240200： DC24V 2A，dual network port output, 123*61*40.5mm（L*W*H）
Power cord	2.5m
Warranty	1 year
Certification	CE

Use of product

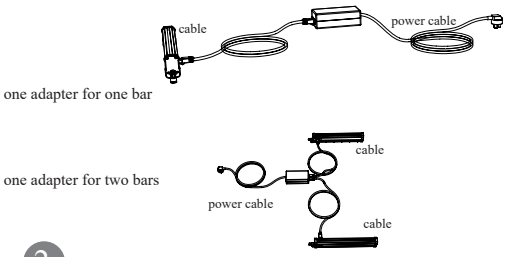
Installation step / Installation positon /
Packaging accessories

Installation step



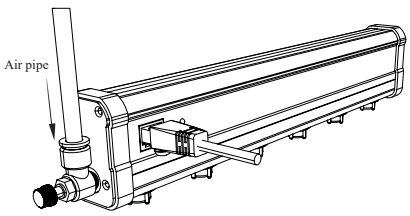
1

1.Take out the ion bar, adapter power supply, power supply network cable , stainless steel mounting brackets and other accessories from the packing box.
2.Install the stainless steel mounting brackets on the base mounting slot on the ion bar.



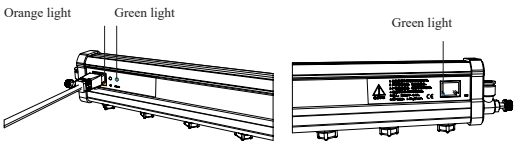
2

Insert one end of the power cord into the RJ45 socket of the power adapter and the other end into the power RJ45 socket on the bar body. One adapter can connect up to two ion bars.



3

Connect the air source connector on the bar body to the air source generating device, turn on the air source switch and control the maximum operating pressure of the compressed air flow to avoid malfunction of the ion bar.

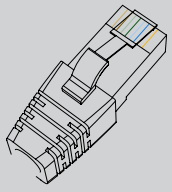


4

1.The adaptable power indicator light is on and the ion bar panel indicator light is green to indicate that the ion bar is working.
2.The positive and negative high voltage indicators flash alternately with frequency.
3.The front network port only lights up with orange light-negative high voltage and the rear network port only lights up with green light-positive high voltage.

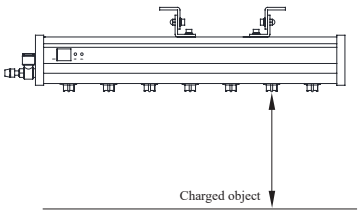
5

Use the remote control to adjust the voltage output parameters under the appropriate air pressure,When the positive voltage on the surface of the flat panel detector or the de-energized object is large, press to adjust "IB-"; when the negative voltage on the flat panel detector or the surface of the de-energized object is large, press to adjust "IB+" until the balance is adjusted to the ideal status.

Power connector			
	1、2	Orange,white-orange	VCC：+24VDC
	3	Blue	RS485+B
	4	White-blue	RS485+A
	5	Green	0V
	6	White-green	0V
	7、8	Brown,white-brown	GND/PE

Installation position

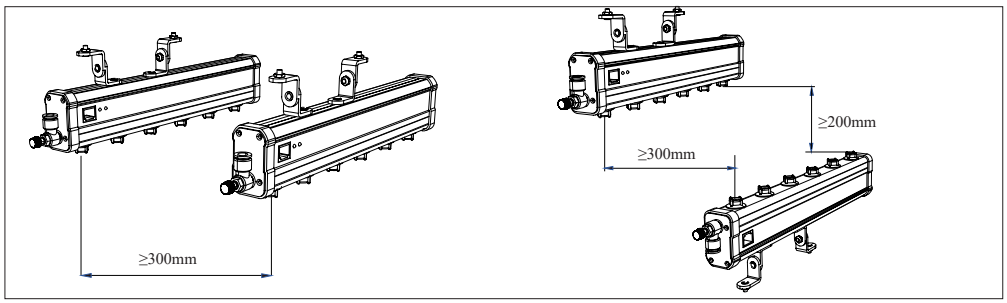
1. Choose the best power elimination position and install the rod body and the matching power adapter firmlyafter the static detection of the on-site working environment. The installation angle should be perpendicular to the surface of the charged body, and the installation distance can be referred to the following table. (Ex-work setting is 30Hz. Use the remote control to adjust if you need to adjust the output frequency. Configure a flat panel tester if you want to see the adjustment results)



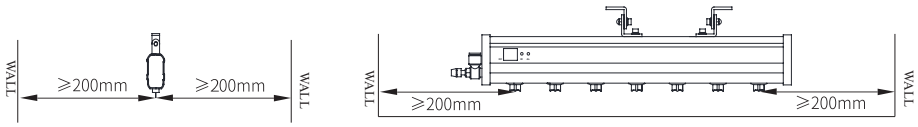
Working frequency （Hz）	Installation distance （mm）	Application
50	100-300	Low balance requirements such as semiconductor devices;
30	300-450	Low balance requirements such as optoelectronic devices;
20	450-600	Low balance requirements such as electronic devices;
10	600-750	Material filling and transfer
5、3、1	750-1000	Discharge at a long distance

2. The ion bar grounding electrode is not allowed to be covered other objects.

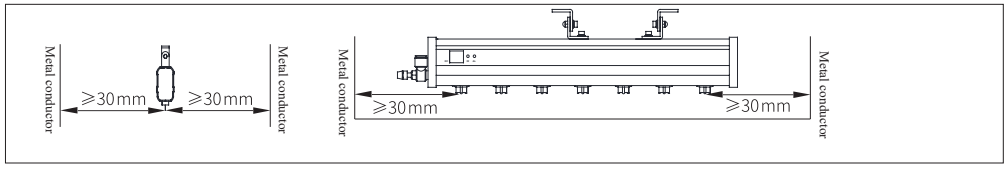
3. It is advisable to install two ion bars side by side with an interval of more than 300mm.
Two ion bars should be staggered by more than 300mm If they are to be installed face to face.



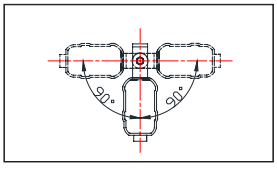
4. It is advisable to be more than 200mm away from obstacles such as walls.



5. For the safe use of the ion bar, the ion bar discharge electrode should be at least 30mm away from the metal conductor and metal grounding body and the bar body must be reliably connected to the grounding wire.



6. The installation angle of the ion bar can be adjusted.



Packaging accessories

Name	Image	Part No.	Specification	Quantity
Power Adapter		OSP000601	GRT-240200: DC24V 2A, dual network port output, Size: 123*61*40.5mm (L*W*H)	1
National standard power cord		8YXG25110	Standard:1.8m, optional:3m/5m	1
Crystal head black shield at both ends cable		8WXI00004	Standard:2.5m, 5m/10m:optional	1
Single-ended crystal head black shield cable		8WXI00002	FUTP CAT.5E 26AWG 4Pair Jacket PVC OD:5.6±0.2mm	Optional
L-shaped stainless steel mounting bracket		AP8038005	Height 25mm/Width 16mm/ Thickness 3mm Aperture 5mm (measured 4.8mm)	4
Square nut		AP8933000	M5*12*12*4	2
304 stainless steel spring washer		AP8943000	M5	6
304 stainless steel flat gasket		AP8946004	M5	6
304 stainless steel pan head Phillips screw		AP8900001	M5*12	6
Hex nuts		1LML05000	M5	4
Intake throttle valve		3JTQF0801	Standard:8mm, optional:6mm	1
Needle holder		AP6604000	——	——
Remote control		ZX2253000	Infrared remote control, neutral panel (L*W*H: 85.76*39.76*6.66)	1

AP&T®

Speciality Creates Value

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