AP&T®

Shanghai Anping Static Technology Co.,Ltd

Explosion-proof Ion Bar Series

—AP&T—

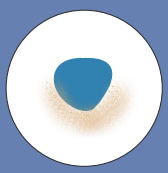
Suitable for coating, printing, film and other industries with flammable working conditions

Effectively solve the problems caused by static electricity

Static Removal

Prevent adhesion of objects

Prevent blockage of adhesion



Control ink splashing

Prevent uneven scattering

Can be used safely in flammable and explosive environments

Explosion-proof certificate No.： GYB21.3386X　　Explosion-proof mark： Ex sc Ⅱ B T4 Gc

This product can be used in flammable and explosive working places corresponding to Ⅱ B or lower level with this safe explosion-proof function.

EXPLOSION PROTECTION
CERTIFICATE OF CONFORMITY

Cert NO.GYB21.3386X

This is to certify that the product
Explosion-Proof AC Voltage Static Eliminator
manufactured by Shanghai Anping Static Technology Co.,Ltd.
(Address:3/F, Building 27, No.69 Guiqing Road, Shanghai, China)
which model is AP-AB1601A；AP-AB1602A
Ex marking Ex sc IIB T4 Gc
product standard Q31/0112000117C005-2016
drawing number AP1.970.0F1, AP1.970.0F5

has been inspected and certified by NEPSI, and that it conforms to GB 3836.1-2010, SITHAS-05-J07-001,GB/T 3836.24-2017.
This Approval shall remain in force until 2026.09.14
Remarks 1.Conditions for safe use are specified in the attachment(s) to this certificate.
2.Symbol "X" placed after the certification number denotes specific conditions of use, which are specified in the attachment(s) to this certificate.

Director
National Supervision and Inspection Centre for Explosion Protection and Safety of Instrumentation
Issued Date 2021.09.15

This Certificate is valid for products compatible with the documents and samples approved by NEPSI.

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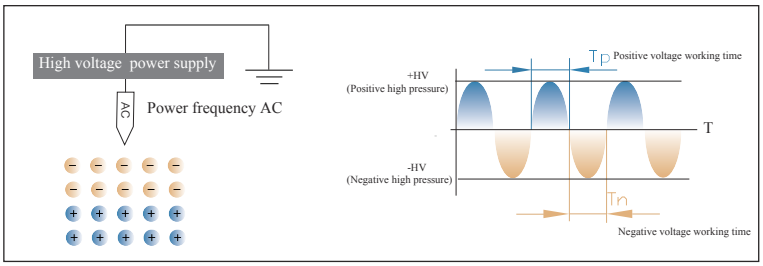
High Efficiency Static Removal

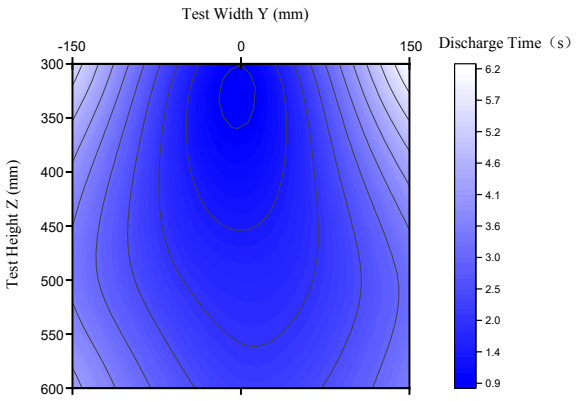
Keep a clean production environment and stay away from static electricity

Working way

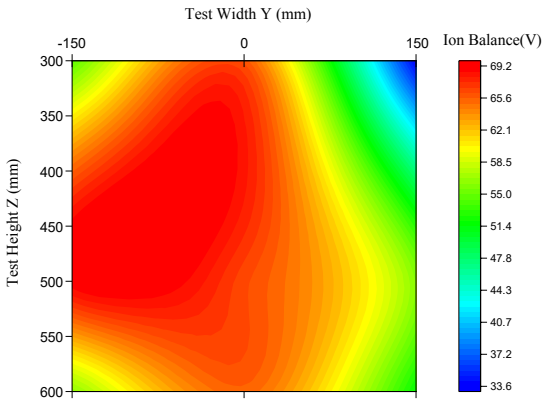
Ion bar adopts power frequency AC high voltage and acts on the dedicated emitter electrode through impedance coupling devices to ionize air molecules to generate positive and negative high voltage ions and transport them to the surface of the object to be eliminated to neutralize positive and negative electrostatic charges to achieve efficient and reliable static elimination.



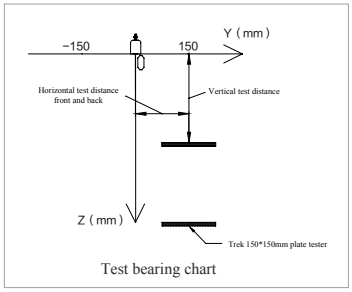
Discharge ability



Discharge time distribution diagram of AP-AB1602A with 1000mm bar length at 0.4MPa air pressure



Ion balance voltage distribution diagram of AP-AB1602A with 1000mm bar length at 0.4MPa air pressure



Test bearing chart

Test standard：ANSI/ESD.STM3.1，SJ/T 11446—2013

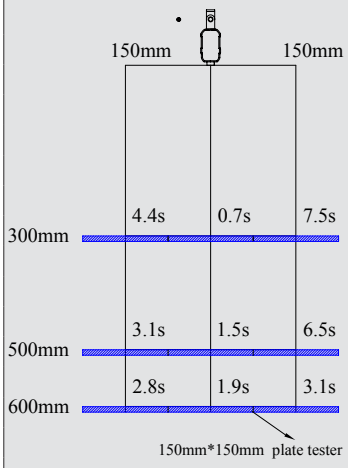
Test instrument：Trek charge plate tester

Test voltage：±1000V → ±100V attenuation

Test environment：humidity 50±5%；temperature 23±3℃

Other test data

AP-AB1602A
with air source



Product model: AP-AB1602A							
Power: 7KV 1 capacitor			Test instrument: TREK158		Ion bar length:100cm		
Test distance(mm)		Air pressure (MPa)1*	Discharge performance				
Vertical	Horizontal		Positive discharge time (S)	Negative discharge time (S)	MIN	Balance voltage AVE(V)	MAX
300	-150	0.2	7.461	6.049	-59.4	35.35	130.1
	0		1.525	1.397	-56.7	40.7	138.1
	150		4.127	4.773	-65.8	40.3	146.4
	-150	0.4	4.697	5.487	-34.6	54.6	143.8
	0		0.888	0.778	-20.6	66.1	152.8
	150		6.225	4.253	-98.9	33.65	166.2
	-150	0.6	4.439	3.527	-21.4	69.3	160
	0		0.706	0.571	-10	77.5	165
	150		7.514	4.231	-78.8	51.65	182.1
500	-150	0.2	6.783	6.225	-36.7	28.85	94.4
	0		2.785	2.487	3.4	52.35	101.3
	150		5.16	4.349	-31.3	37.15	105.6
	-150	0.4	3.295	3.46	28.1	69.15	110.2
	0		1.683	1.408	13.9	66.4	118.9
	150		3.213	2.911	-1.7	56.1	113.9
	-150	0.6	3.164	2.785	29.1	77.3	125.5
	0		1.506	0.98	44.7	92.05	139.4
	150		3.646	2.324	24	78.55	133.1
600	-150	0.2	7.988	6.336	-14.7	35.35	85.4
	0		3.128	2.794	-4.2	44.95	94.1
	150		6.431	6.559	6.6	47.75	88.9
	-150	0.4	4.254	3.215	11.4	56.35	101.3
	0		2.178	1.814	24	65.45	106.9
	150		3.498	2.733	0.7	51.8	102.9
	-150	0.6	2.886	2.468	37.6	79.35	121.1
	0		1.931	1.285	58.6	96	133.4
	150		3.191	2.504	33.7	80.15	126.6

Features

Safe / Easy to use / Durable

No.1

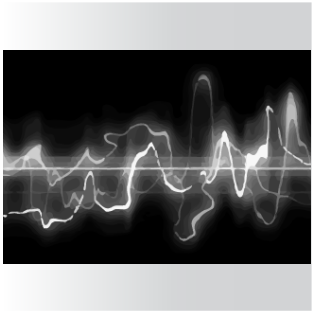
Electroshock-proof

Protection against human electro-shock.

No.2

Easy installation

Hexagonal bolts are provided and put the slider nut into the special strip notch on the back of the bar body which are removable to left or right and can be easily installed in different environments.



No.3

CE certification

It can effectively avoid external electromagnetic interference affecting the normal operation of the ion bar which is a high-security and high-reliability static eliminator.

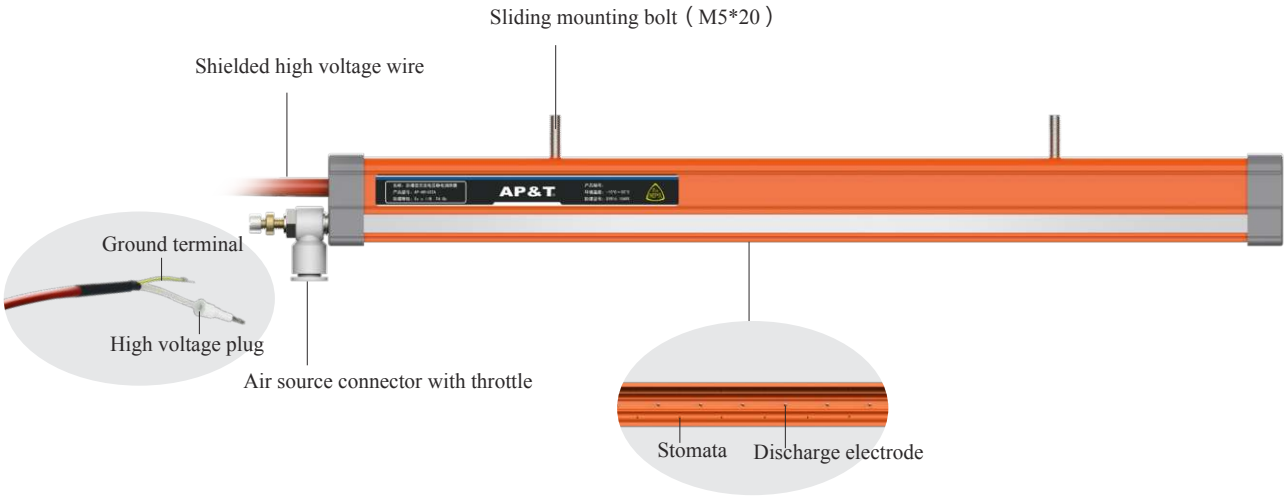
Product specifications

Product details / Product specifications / Product size

Product specifications

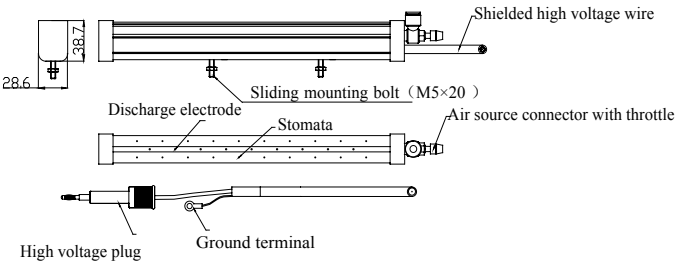
Model	AP-AB1602A
Explosion-proof mark	Ex sc Ⅱ B T4 Gc
Explosion-proof certificate No.	GYB21.3386X
Working voltage	Power frequency≤ AC7000V
Power	20W
Ion emission	Power frequency AC
Emitter electrode	SUS
Discharge structure	Resistance coupling
Electrode high voltage	≤ 7000V
Electrode needle combined capacitance	＜ 3.5pF
Discharge range (L*W*H)	（110mm → 3000mm）*300mm*600mm
Installation distance	100 － 600mm
Air pressure	≤ 0.6MPa
Compressed air connector	Φ8-G1/8 white
Ion balance	≤ |±50V|
Discharge speed	≤ 2.5S（Test data may vary with test conditions）
Working temperature	0℃ – 50℃
Working humidity	＜ 70%
Bar material	Flame retardant PVC、AL
Dimensions (L*W*H)	（110mm → 3000mm）*28.6mm*38.7mm
Packaging accessories	Hex bolt M5*20
Power supply	AP-AY1604/2604
Power cord	2.5m（Customizable upon request. Maximum 8m）
Warranty	1Year
Certification	CE

Product details



Product size

Unit：mm



Products Use

Step of use/Installation position/Packing accessories

Step of use

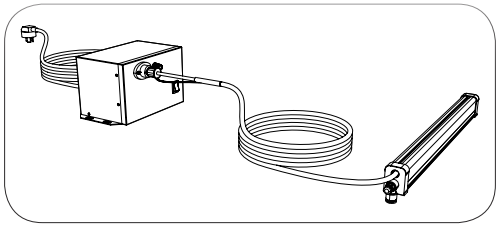
① Select the best static discharge position and install the bar body and the supporting power supply firmly.

② Insert the high-voltage plug of the bar body into the high-voltage output connecting seat of the supporting high-voltage power supply.

③ Connect the grounding terminal of the bar body to the grounding stud of the high voltage power supply.

④ Connect the air source connector on bar body(air source type) to the air source generating device and turn on the air source switch.

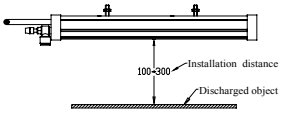
⑤ Turn on the power switch and indicator light on shows the power work. Adjust the proper air source pressure to generate positive and negative ions at the electrode needles to neutralize the surface static electricity of the object.



Installation position

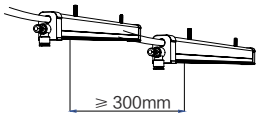
⚠ Warning It is necessary to ensure that the air is dry and clean when using a compressed air source to enter the ion bar to avoid the moisture, grease, and dust in the air source from contaminating electrode needles causing high-voltage insulation failure which affects normal use.

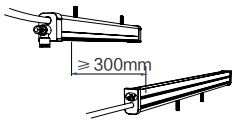
① P lace the ion bar in the working area where static electricity is to be eliminated. The AP-AB1602A ion bar should be about 100~ 300mm away from the surface of discharged object and the installation angle should be perpendicular to the surface of the charged body.



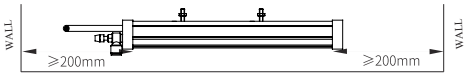
② The surface of ion bar is not allowed to be covered by other objects.

③ Two AP-AB1602A ion bars should be installed side by side with an interval of more than 300mm and should be staggered by more than 300mm if installed face-to-face.

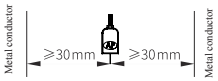


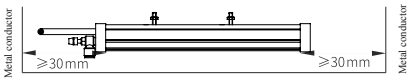


④ More than 200mm away from obstacles such as walls.



⑤ Ion bar should be at least 30mm away from the metal conductor and metal grounding body around the electrode. And the bar body must be reliably connected to the AC equipment grounding wire and the grounding resistance should be less than 1 ohms.





Packing accessories

Part name	Picture	Part No.	Specification
Galvanized Hexagon Bolt		1LML05000	M5
Hex nuts		1SL00520X	M5*20

⚠ Warning

Special conditions for the safe use of products

The suffix “X” of the explosion-proof certificate No. indicates that the product has special conditions for safe use. The specific contents are as follows:

- The product cannot be used in places where conductive objects may adhere to the static elimination electrodes (Static eliminating electrodes may not work when attached to conductive materials such as carbon and metal foil).
- It should be more than 20mm away from the static elimination object when the static elimination electrode is installed.
- The distance between the static elimination electrode and the mechanical frame should be more than 10mm.
- Keep the static-eliminating electrode clean and it is strictly forbidden to dry-clean the static-eliminating electrode support.
- The power supply unit which does not have an explosion-proof structure must be installed in a non-hazardous location.
- The maximum length of high-voltage cable is 8m.
- It is strictly forbidden to open the cover.
- It is strictly forbidden to rub the surface of the product shell to prevent the risk of static electricity ignition.

⚠ Warning

Precautions for product use

- The environment range of products allowed to use:

Temperature：（0 ～ +50）℃
Relative humidity:：35% ～ 75%
Altitude：not more than 1000m

- The product is equipped with a grounding terminal, users should ground it reliably during installation and use.
- The principle of “No opening with power on” must be observed during on-site use and maintenance of the product.
- Users are not allowed to replace parts or components of this product by themselves and should work with the product manufacturer to solve the faults in operation to prevent damage.
- The electrical parameters of the eliminator are as follows:

Discharge device	Static elimination electrode			Power supply unit				
Model	Voltage(V)	Frequency (Hz)	Needle binding capacity(pF/ group)	Primary voltage(V)	Secondary voltage (V)	Frequency (Hz)	Capacity (VA)	Insulation class
AP-AB1602A	≤ 7000	50	3.5	100 110 220	≤ 7000	50	25	E

- The installation, use and maintenance of the product should also abide by the product manual and the requirements of the following related standards and specifications:

GB 3836.13–2013 Explosive environment Part 13: Repair, overhaul, repair and modification of equipment
GB 3836.15–2000 Electrical equipment for explosive gas atmospheres Part 15: Electrical installations in hazardous locations (except coal mines)
GB 3836.16–2006 Electrical equipment for explosive gas atmospheres Part 16: Inspection and maintenance of electrical devices (except coal mines)
GB 50257-2014 Explosion and fire hazard environment of electrical equipment installation engineering construction and acceptance specification for electrical equipment
GB 3836.18–2010 Explosive environment Part 18: Intrinsically safe system

- Read the operating instruction carefully before installing and using the device.
- The whole equipment must be reliably connected to the ground of the AC equipment and the grounding resistance is less than 1 ohms during use; Otherwise, it is easy to cause abnormal or even damage of ion bar.
- It is strictly forbidden to disassemble products without authorization. Internal maintenance and repair must be carried out by professional personnel.
- The product is strictly prohibited to touch liquid during use, otherwise there will be abnormal, resulting in electric shock or fire.
- Power must be turned off during inspecting or replacing the product, otherwise it may cause electric shock or fire.
- The product is specially designed for removing static electricity and is strictly prohibited for other purposes. Any abnormal use may cause machine failure, electric shock, fire and other hidden dangers.
- It is strictly forbidden to touch the electrode needles when power is on, otherwise it is easy to cause fault and electric shock accident.
- Discharge needle is a sharp metal object, please use it with care.
- Please check the specifications of the power supply before powering on the product. Any power supply that does not meet the specifications may cause damage or even failure to the product.
- Check the power cord regularly. If it is damaged, replace it immediately; otherwise, leakage and abnormal operation may occur.

⚠ Operation guide

1. Select the best static discharge position and install the bar body and the supporting power supply firmly.
2. Insert the high-voltage plug of the bar body into the high-voltage output connecting seat of the supporting high-voltage power supply.
3. Connect the grounding terminal of the bar body to the grounding stud of the high voltage power supply.
4. Connect the air source connector on bar body(air source type) to the air source generating device and turn on the air source switch. (The compressed air source must be equipped with a filter to ensure that the air is dry and clean to avoid the moisture, grease in the flow affecting the insulation performance of the ion bar.)
5. Turn on the power switch and indicator light on shows the power work. Adjust the proper air source pressure(air pressure ≤ 0.6MPa) to generate positive and negative ions at the electrode needles to neutralize the surface static electricity of the object.

⚠ Trouble shooting

NO	Problems	Reasons	Solutions	Remark
1	The discharge electrode ignites the ground electrode on the side of the bar body	Dust accumulation on bar body causes a decrease in the surface insulation resistance	Power off and clean bar body	The carbon deposits on the discharge electrode and bar body should be cleaned and maintained regularly with electrostatic brush, dust-free cotton swab, dust-free cloth dipped in anhydrous alcohol according to the use environment and the required electrostatic protection requirements in order to ensure the good performance of the product
2	The discharge electrode ignites other metal grounding bodies	The bar body is installed too close to other metal grounding bodies	Move the installation position of the bar body and keep it more than 50mm away from other metal grounding bodies to ensure safe use and discharge performance	
3	The electrostatic removal performance is obviously reduced	Discharge needle is polluted and damaged	Clean or replace the ion bar	
		Bearing set of ion bar is improper	Confirm the best bearing set	
4	The electrostatic removal performance is reduced	There are conductors or other ion bars around	Remove conductors or other ion bars	
5	Unable to discharge	High-voltage connecting wire is damaged	Return to factory for maintenance	
		Ion bar insulation is damaged	Return to factory for maintenance	
		Poor grounding/no grounding	Check the electrical grounding of ion bar and plant equipment	
6	Product burnout	Ion bar insulation is damaged	Return to factory for maintenance	

⚠ Maintenance

1、Do not disassemble the equipment.

2、Do not short-circuit the high-voltage power cable to avoid permanent damage to the power supply.

3、Please check the product power cable regularly, and replace it immediately if it is damaged, otherwise it is easy to cause problems such as electric leakage and abnormal work.

4、The power supply should be stored in a cool and dry environment.

5、Stop using immediately and send the power supply to Anping Company for processing if abnormalities or problems are found during use.

⚠ After-sales service

1. AP-ABAP-AB1602A explosion-proof ion bar has undergone rigorous testing and aging treatment before ex-work. Its performance has completely reached the relevant indicators marked in the usage instruction.
2. AP&T makes a commitment to the customer that any defective parts inspected by AP&T will be repaired or replaced free of charge within one year from the date of purchase. However, this commitment does not apply to:
   (1) The device is incorrectly used or installed.
   (2) Damage caused by negligence or accident during use.
   (3) Modified, disassembled or repaired by other service departments not authorized by Anping Company.
3. AP&T shall not be liable for any incorrect use of the products except for repair or replacement of parts as specified above.

AP&T®

AP&T

Professional electrostatic intelligent monitoring/analysis
and elimination solution provider

Speciality Creates Value

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