

Instruction Manual

Ion blow gun

【 Piezonizer Model AGZIII-US 】

Thank you for purchasing the Piezonizer AGZIII. As to the use of this product, you must have sufficient considerations after reading this manual carefully because it deals with alternating currents with high voltage of 2500V, although the products is not stipulated as high-voltage equipment in the electric equipment standard. Please read this manual before using the product in order to fully understand its functions. Also make sure to store this manual so that it can be referred to in the future.

Warning

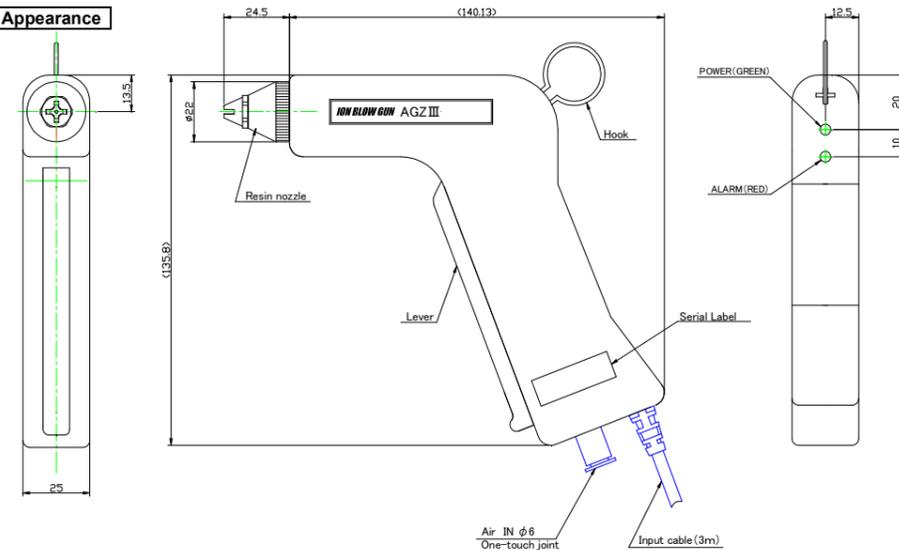
- This Product is not specified as an Explosion-proof Type. Do not use this product at a location or an atmosphere, in which combustible gas or solvent is handled, or else ignition or explosion may occur.
- A high voltage is applied to the discharge needle. Do not allow any conductive material, including your finger, any part of your body, wire or any tool to get close to the discharge needle, or an electrical shock accident or a malfunction of the product may occur.
- The tip of the discharge needle is sharp, be careful not to touch the discharge needle.

1. Outline

- This product is an air gun type ionizer. It is possible to hold with your hand and to use it freely.
- The high-voltage power supply and the air valve are mounted in the inside of a main unit. External controllers are unnecessary.
- This product is spraying ionized air on a charged object and neutralizes the static electricity of a charged object quickly and effectively, and the dust which has adhered to the charged object with static electricity is removed, and contamination is prevented.

2. Specifications

Appearance



List of Specifications

Model No.	AGZIII
Discharge Method	High frequency AC corona discharge method
Power-supply voltage	Accessory AC adapter input: 100 V to 240V AC, 50/60Hz (Output: 24V DC)
Input voltage	24 V DC ± 5%
Capacity	2.4 VA
High voltage output	AC 2,500V approx. (3pF, 100MΩ)
Applicable fluid	Air (dried clean air)
Air pressure range	0.05 to 0.60 MPa
Supplied air flow	370 l/min(ANR) or less
Dimensions: (mm)	164.6W x 25W x 135.8H (mm) (Not including protruding parts)
Weight	200g approx. (Not including cable)
Ambient temperature	0 to 40°C
Ambient humidity	65% or less(No condensation allowed)
Indicator LED	Green: Normal high voltage output / Red: Abnormal high voltage output
Quantity of produced ozone	0.04 ppm or less (by air pressure 0.2MPa and 200mm apart from the nozzle)
Ion balance	±15 V or less
Material	Main body: PBT, Nozzle: PPS
Accessories	Instruction manual (This manual), AC adapter

3. Static Removing Characteristics

Static Removing Characteristics

Air pressure [MPa]	0.1	0.2	0.3	0.4	0.5	0.6
+ Static charge removal time [sec.]	0.5	0.3	0.3	0.2	0.2	0.2
- Static charge removal time [sec.]	0.6	0.3	0.3	0.2	0.2	0.2
Ion balance [V]	-15 ~ +15V					

- *Measured distance : 150mm
- *Measuring instrument : Charged plate monitor (Plate size 150mm x 150mm, Electric capacity 20pF)
- *Static charge removal time : Decay time from ±1000V to ±100V.

4. Wiring and piping

Warning

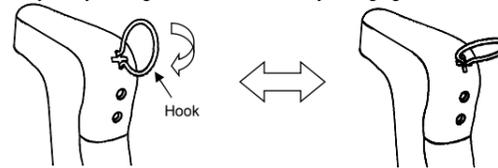
- Be sure to turn OFF the power and air before installing, wiring, or piping the product.

Caution

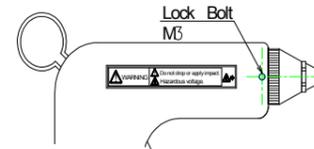
- For installation or using of this product, pay attention to the contamination by oil/water, high temperatures or high humidity. Especially, avoid a place subject to dew condensation.
- If the air includes water and oil, inside of the main unit or the nozzle gets dirty, the ability to remove electricity is lowered, or causing deterioration of the main unit.

Installation

- Use this product by holding main unit with your hand. It is possible to suspend main unit by using a piece of hook. Hook can be rotated by every 90 degrees. Use main unit by changing its direction freely.

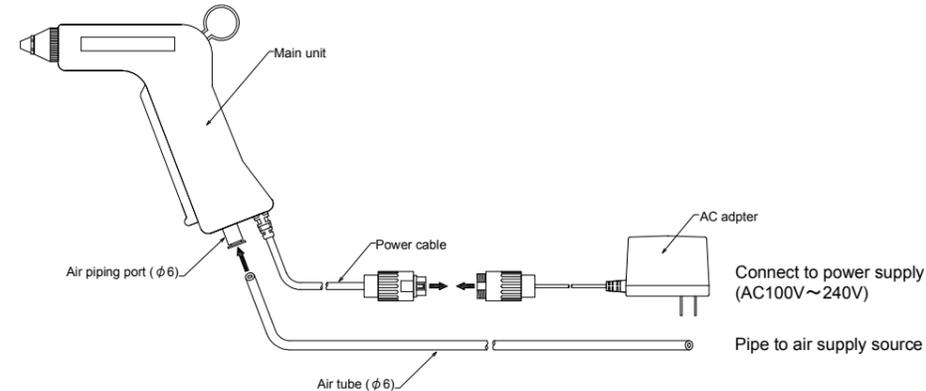


- This finished product can lock a nozzle. Please tighten a whenever-the-necessity-arises lock screw.



Wiring

Carry out wiring for the main unit and the AC adapter in accordance with diagram below.



- Connect the power cable of a main unit to the AC adapter.
 - Connect an AC adapter to a power supply (AC100V~240V 50/60Hz).
- Note1: The grounding wiring of this product is unnecessary.

Piping

Carry out piping for the main unit in accordance with diagram above.

- Install an air tube (external diameter 6 mm) to the air piping port of the main unit.
- Supply the main unit with clean air (not containing any water or oil portion).

5. Operation

Warning

- Do not operate the main unit by turning the nozzle to human body, especially to the face or to the eye of a person. This may cause serious injury to the person.
- Always supply the power of this product with applying air. Otherwise, the ozone concentrations inside the main unit would increase due to electric discharge, which may cause detrimental effect on this product and its surroundings.
- Do not let the nozzle of the main unit touch conductive or live parts, because it is connected to the inside circuit.
- Since piezoelectric ceramics is built in the inside of the main unit, do not give fall or shock.
- This product emits ozone into an atmosphere. Do not use this product in an enclosed space.

Operation

- (1) Open the main valve of the air supply equipment (of your company), and supply the specified the air to the main unit.
- (2) Hold the main unit and turn the nozzle to the workpiece (the object charged with static electricity to be worked upon). Pull the lever of the main unit, and power supply is turned on. The ionized air blows out from the nozzle simultaneously. The static electricity of the charged object placed into the flow of air is neutralized and removed, and the dust adhering to the object is removed.
- (3) Release the lever of the main unit that you have pulled, and the ionized air will stop.
- (4) When you are shutting down this product, close the main valve of the air supply equipment, and then shut down the power supply the main unit.

6. Maintenance

Warning

- Before care and maintenance of the product, make sure to turn OFF the power and air. Otherwise accidents or problems may occur.
- The tip of the discharge needle is sharp, be careful not to touch the discharge needle.

- If this product was splashed with water, oil, or paint, wipe it out with waste or cloth. Especially, when it stuck to the discharge needle and the nozzle inside, wipe it off immediately.
- Contamination of the discharge needle will deteriorate the static removal effect. If deterioration of the static elimination effect is observed, remove the nozzle from the main unit, and clean the discharge needle and its surrounding area.
- Clean the discharge needle regularly about once two weeks, otherwise optimum charge removal performance may not be obtained and operating problems may occur.
- When dirt accumulates in the inside of the nozzle, clean it, and remove dirt.
- The discharge needle is a consumable part. It is necessary to change the discharge needle when you use this product for a long term. If operational time is over 20,000 hours, change the discharge needle.

Cleaning Method

- Rotate the nozzle to remove it from the main unit. Clean the discharge needle inside the main unit and the surrounding area by using a cotton swab soaked with alcohol (IPA). Contamination of the tip of the discharge needle will cause the static electricity elimination effect to be deteriorated. After cleaning the needle, restore the nozzle to the original condition and confirm that it is securely attached.

Replacement of the discharge needle

- The discharge needle is a consumable part and needs to be replaced in time. When replacing the discharge needle (5pcs/set: DN-W17), be sure to use the dedicated tool in combination with a torque driver. Set the tightening torque to 15 ~ 20N·cm. Tightening with incorrect torque may damage the screw on the main unit.

7. Troubleshooting

Problem	Main case	Remedy
The power cannot be supplied to the product.	The input power is not supplied.	Check the AC adapter to confirm that it is connected to the power source and main unit.
No ionized air is supplied even when you pull the lever	The compressed air is not supplied.	Check that compressed air is supplied to the main unit.
Alarm LED (red) lights up.	Discharge needle is dirty.	Clean the discharge needle and its outskirts on main unit.
	Discharge needle has short-circuited.	Check that there is not a conductive object near the discharge needle.
	The nozzle touches to the grounded object.	Check the nozzle to confirm that it is not touching any grounded object.
	The nozzle is loosening.	Tighten the nozzle firmly to the main unit.

8. Cautions

- This product was designed and manufactured as parts for use in General Industrial Machinery.
- Do not use this product for any purpose other than charge removal.
- Do not disassemble or remodel the product.
- This product emits ozone into an atmosphere. Do not use this product in an enclosed space.
- Do not insert any foreign objects into the product. Doing so may result in a short circuit or current leakage, and cause fire or electrocution.
- If the product emits any abnormal odors or sounds, smoke, or heat, turn OFF the main power immediately, remove the power cord, and contact your point of purchase. Failure to do so may result in fire or a short circuit.
- Do not sprinkle water on this product. If sprinkle water, or it washes or is used underwater, it will become a cause of the injury by unusual operation, an electric shock, and a fire.
- Do not directly touch the discharge needle with your hands.
- Do not turn ON the Ionizer immediately after you have turned it OFF, or else and alarm LED lights up. After turning OFF this product, wait 1 second or more before turning it ON again.
- Do not run the wires together with high-voltage lines or power lines or put them in the same raceway. This can cause malfunction due to induction.
- Do not use the supplied cable for AC adapter or power cable in this products for a moving section. Otherwise, they may break down.
- Avoid scratching the cable, etc. Letting the cable be subject to scratching, excessive bending, pulling, rolling up, or being placed under heavy objects or squeezed between two objects, may result in current leaks or defective continuity that lead to fires, electric shocks, or abnormal operation.
- Do not pull out the connectors while the power is ON. Also, do not apply unnecessary stress on the connector. It could result in erratic equipment operation that could lead to personal injury, equipment breakdown, or electrical shocks, etc.
- For safety purposes, power OFF if you plan on not using the product for an extended period of time.

Letter of Guarantee

1. This product has passed the inspection carried out by our company. This product will be subject to repair or replacement, free of charge, of any failed or broken part, if a failure or a breakage should occur during the guarantee period under the condition of normal use, caused by a defect in the design or manufacture by our company.
2. The Period of Guarantee: One (1) year starting from the date of delivery.
3. Any repair work or replacement for any failure or breakage caused by any of the following reasons will be carried out by the user bearing the cost:
 - (1) Any failure or breakage caused by usage or storage not under the normal condition.
 - (2) Any failure or breakage caused by an unauthorized repair or a modification carried out by other person than our company, or not in accordance with the specifications provided by our company.
 - (3) Any failure or breakage caused by a disaster or force majeure such as fire, natural calamity, or an act of God.
 - (4) Any failure or breakage caused by any other reason that cannot be attributable to our company.

Product Name	Ion blow gun (Air gun type ionizer)	Model Name	Piezonizer model AGZIII
Serial Number		Date of Delivery	Inspection Seal

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