Nozzle-type high frequency model

PEIZONIZER Zapp II
Compact AC Ionizer with an Ultra-small Built-in Piezoelectric Transformer

Main Features
- Highly reliable
- Air joint with increased ozone resistance.
- Maintains safety
- Newly-designed transformer box stops high voltage output when the emitter needle is being cleaned or changed.
- Better ozone resistant nozzles
- Wide range of nozzle applications for better ozone resistance.
- Easy maintenance
- The emitter needle can be easily removed and replaced through the back part of the transformer making for easy cleaning and replacement of the emitter needle.

High voltage stop alarm
An alarm warning and two no voltage relays (normal open and normal close) indicate when there is a high voltage stoppage.

Cleaning check [C.C.]
An LED and a normal open no voltage relay warn of abnormal discharges from the emitter needle.

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Static Decay Characteristics and Ion Balance Characteristics of the Zapp Model

![Static Decay Characteristics Graph]

(Note 1) Using Shishido Electrostatic’s standard nozzle OZ-9.
(Note 2) Distance is measured 50mm from the plate monitor.
(Note 3) Using Shishido Electrostatic’s standard nozzle OZ-S.
(Note 4) Distance is measured 50mm from the plate monitor.

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Dimensional Diagrams


Eliminating static from electronic devices
1. Eliminating static at the wafer lever (film separation process and in the vicinity of the carriers)
2. Eliminating static from dicing equipment (film separation process and in the vicinity of the carriers)
3. Device inspection equipment
4. ESD countermeasures during the conveyance of items after the mounting process
5. Equipment used in the device mounting process
6. Eliminating static from the operating parts of robots used for mounting components and so forth
7. Assembly lines for small products such as mobile phones
8. Pinpoint ionizing of products such as DVD pickups that are susceptible to ESD

A wide variety of nozzle applications provided to meet various application needs.

**Option**
- Seamless carrier pipes nozzle (external diameter: φ11)
  - There is a teflon tube in the pipe.
  - It is bent more freely than a past DK pipe.

**These nozzles are not for Nitrogen use.**
- Nozzle (standard type)
- Shower nozzle (60° spray angle)
- Bar nozzles Stainless steel pipe (external diameter: φ4; internal diameter: φ3)
- Bar nozzles (straight type)
- Bar nozzles (L-type)
- Teflon carrier tube nozzle (external diameter: φ6; internal diameter: φ4)
- Silicon carrier tube nozzle (external diameter: φ6; internal diameter: φ4)
- AC adapter, Connection cable (OZ-24V)
  - Power supply only
  - Power supply + signal cable + grounding wire

**For Nitrogen application OZ-N series**

These nozzles are for only nitrogen use.
- Seamless carrier pipes nozzle (external diameter: φ11)
  - There is a teflon tube in the pipe.
  - It is bent more freely than a past DK pipe.
- Nozzle (standard type)
- Teflon carrier tube nozzle (external diameter: φ6; internal diameter: φ4)
- Silicon carrier tube nozzle (external diameter: φ6; internal diameter: φ4)
Gun-type and Pencil-type
high frequency model

Gun-type
Ion Blow Gun PIEZONIZER AGZII

AGZII

AGZII with OAG-F

The nozzle OAG-F is an optional and need to be purchased independently.

Main Features
The AGZ is an air gun-type ionizer with a built-in electrode for static elimination and, as well as neutralizing the electric charge of the charged object, boasts a function for removing dust adhering to the object due to electrostatic attraction by blowing it away with air. It is compact and lightweight, and fits snugly into the operator’s hand.

-The plastic air gun fits snugly into the operator’s hand, and, at a lightweight 250 grams, greatly increases work efficiency.
- The built-in piezoelectric transformer ensures a safe product design with no exposed high-voltage parts or high-voltage cable.
- Corona discharge is generated at an energy-saving low voltage.
- Air pressure range: 0.05 to 0.6 MPa
- Air consumption rate: 314 Nℓ/min (at 0.5 MPa)
- Babies high-frequency AC method increases static elimination and, as well as neutralizing the electric charge of the charged object, boasts a function for removing dust adhering to the object due to electrostatic attraction by blowing it away with air.

Main Features
The PIEZONIZER AGZII-PA is a compact and lightweight air gun type ionizer that eliminates static electricity from charged objects as well as a wave motion nozzle feature to powerfully blow away dust attached by static electricity with pulses of air.

- Fits well into the operator’s hand and, at a lightweight 330g, greatly increases work efficiency.
- Wave motion nozzle powerfully blows away dust with pulses of air.
- High frequency AC method increases static elimination and achieves a good ion balance.
- Accompanying cable uses a robot cable and is very flexible.
- High voltage power supply and air valve are attached to the main unit so there is no need for a separate controller.

Static Decay Characteristics and Ion Balance Characteristics of the Zapp Model

<table>
<thead>
<tr>
<th>Model</th>
<th>AGZII</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input power supply</td>
<td>24 VDC (with AC100 to 240 VAC adapter)</td>
</tr>
<tr>
<td>Electric consumption</td>
<td>Approx. 100 mA</td>
</tr>
<tr>
<td>Output voltage</td>
<td>Approx. 2000 VAC</td>
</tr>
<tr>
<td>Indicator lights</td>
<td>Green: power indicator, Red: abnormality indicator</td>
</tr>
<tr>
<td>Weight</td>
<td>Approx. 330 g (when only the wave motion nozzle is attached)</td>
</tr>
<tr>
<td>Main unit dimensions</td>
<td>180×25×175 mm (L×W×H) (when wave motion nozzle is attached)</td>
</tr>
<tr>
<td>Ozone density</td>
<td>0.04 ppm (200 mm from the nozzle hole)</td>
</tr>
<tr>
<td>Fluid used</td>
<td>Clean air</td>
</tr>
<tr>
<td>Air pressure</td>
<td>0.1 to 0.6 MPa</td>
</tr>
<tr>
<td>Operating Environment</td>
<td>0 to 40°C (with no condensation)</td>
</tr>
<tr>
<td>Accompanying items</td>
<td>Operation manual, AC adapter, connector cable, wave motion nozzle, adjustable flow nozzle</td>
</tr>
</tbody>
</table>

Notes:
- Be sure to use clean, dry air for the supply air. Moreover, when the ionizer’s power supply is in the ON status, make sure that air is being supplied when the ionizer is being used. (Applies to all models that use air)
The PIEZONIZER models are air nozzle ionizers that incorporate an ultra-small high-voltage transformer that does not require any high-voltage wiring. Since the high-voltage transformer is a piezoelectric type that produces a high-frequency output, the ionizers can very efficiently generate a high concentration of ions with a good ion balance, and at a lower voltage than that required by a conventional AC type ionizer. The PIEZONIZER models generate very little noise, and since they operate on DC power only, the wiring is very simple. Moreover, these ionizers incorporate safety circuits to detect high-voltage abnormalities as a standard feature, and can output an alarm whenever such an abnormality occurs.

**Pencil-type**

Pencil Type Ionizer PIEZONIZER ANZ-SC2

**Main Features**

The ANZ models are pencil-type air nozzle ionizers with a built-in high-voltage power supply. Even though the power supply is built in, these ionizers weigh only 95 g, which makes them ideal for long hours of static and dust elimination work.

- The pencil unit is a slim 20 mm in diameter to ensure a comfortable grip, and, as it weighs only 95 g, does not cause fatigue even after long hours of work.
- The high-frequency corona discharge method used provides highly effective static elimination and a good ion balance. (A self-adjusting ion balance function is provided.)
- The high-voltage output and air control provided by the dedicated controller can be selected as ON or OFF by the fingertip switch on the pencil unit.

**Static Decay Characteristics and Ion Balance Characteristics of the Zapp Model**

**Eliminating static and dust from plastic parts**

The air pressure supply of up to 0.5 MPa easily removes foreign matter adhering to charged resin surfaces, making these products ideal for use in the assembly of lenses, transparent printed circuit boards, and covers.