High Power
High Quality

Suitable for high-speed static elimination in wide areas, including clean room environments
High-speed static elimination and high-precision ion balance

**Pulse AC method**
The SJ Series has adopted the pulse AC method that applies alternating high voltage to the electrode probe, producing ions of both polarities. Compared to the conventional AC method, the amount of ions generated is higher and the oscillating frequency can be changed. Therefore, the pulse AC method can be used in all conditions, from high-speed moving applications to static elimination of a work area.

**Dual I.C.C. (Dual Ion Current Control) system enables optimum static elimination**
The dual I.C.C. system is further advanced from the conventionally proven I.C.C. system found in other KEYENCE models. The SJ Series bar-type static eliminators adopt a dual I.C.C. system that can change the applied voltage in addition to the variable pulse width, thus providing more flexible control of ion generation level per unit time. This system enables optimum static elimination relative to a change in the ambient environment (temperature, humidity, etc.) and the electrode probe condition.

**Low-voltage 24V wiring**
Low-voltage 24V wiring eliminates the adverse effect of discharge on cabling and surrounding equipment, allowing the construction of a highly reliable system.

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*LOW-VOLTAGE 24V WIRING*

Low-voltage 24V wiring eliminates the adverse effect of discharge on cabling and surrounding equipment, allowing the construction of a highly reliable system.
The I.R.G. (Insert Ring Ground) structure provides the world's-highest static elimination speed. [Newly developed] [5 times faster than conventional models]

The SJ Series bar-type adopts the I.R.G. structure that incorporates the GND plate essential for ion generation into the ionizer body. This GND plate is externally mounted on conventional models. The I.R.G. structure directs the flow of generated ions toward the target object, instead of toward the GND plate. This structure increases the quantity of ions applied to the target, providing static elimination speed five times faster than conventional models.

Double Port Electrode Probe [Double Port Electrode Probe] [Newly developed]

In addition to the sheath air guide structure that minimizes dust adhesion, the double port electrode probe cap is used to ensure high-speed static elimination while maintaining laminar flow.

INDICATORS & OUTPUTS

Safety functions, abnormal discharge detection output, electrostatic charge monitor, and ion level alarm are standard features.

SJ-H Models

* Elective length indicates the static elimination range at 50 mm operating distance.

<table>
<thead>
<tr>
<th>Static elimination length (Effective length)</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>380 mm (360 mm)</td>
<td>SJ-H036A</td>
</tr>
<tr>
<td>600 mm (600 mm)</td>
<td>SJ-H066A</td>
</tr>
<tr>
<td>840 mm (840 mm)</td>
<td>SJ-H084A</td>
</tr>
<tr>
<td>1080 mm (1080 mm)</td>
<td>SJ-H108A</td>
</tr>
<tr>
<td>1320 mm (1320 mm)</td>
<td>SJ-H132A</td>
</tr>
<tr>
<td>1560 mm (1560 mm)</td>
<td>SJ-H156A</td>
</tr>
<tr>
<td>1800 mm (1800 mm)</td>
<td>SJ-H180A</td>
</tr>
<tr>
<td>2040 mm (2040 mm)</td>
<td>SJ-H204A</td>
</tr>
<tr>
<td>2280 mm (2280 mm)</td>
<td>SJ-H228A</td>
</tr>
<tr>
<td>2520 mm (2520 mm)</td>
<td>SJ-H252A</td>
</tr>
<tr>
<td>3000 mm (3000 mm)</td>
<td>SJ-H300A</td>
</tr>
</tbody>
</table>
The sheath air guide structure reduces maintenance downtime

[5 times less maintenance than conventional models]

The supplied air is conveyed through a three-stage port in the probe cap, fully contained within the air chamber. The air contained in the chamber passes through the channel around the probe to generate a laminar flow. The concave structure at the air outlet blocks external disturbance, resulting in an excellent protective effect. This structure can remarkably reduce adhesion of foreign objects on the electrode probe tip. This results in five times less maintenance than conventional models.

Maintenance indicators

The SJ Series bar-type static eliminator includes a self-diagnosis function that monitors the ion generation level. With the bar LED indicators and alarm outputs, the ionizer alerts you of the need for maintenance.

3-way alarm output

The SJ Series provides the self-diagnosis function that monitors three types of abnormalities. If an abnormality is detected, the LED indicators identify the error condition and an external output is activated. Centralized control of ionizers is enabled by monitoring the external output.

- Cleaning warning
  Monitors reduction in ion generation level due to dirt or wear of the electrode probe.

- Condition warning
  Monitors a high charge level that cannot provide a sufficient static elimination effect.

- Alarm warning
  Monitors abnormal discharge or damage to the ionizer.

Easy electrode probe replacement

Since the electrode probe is attached with a PIN connector or cassette, users can easily replace the electrode probe.

Air purge function

The clean air supply function blows air from the area surrounding the electrode probe. This function helps to prevent dust adhesion to the electrode.

N₂ (nitrogen) purging static elimination

As a standard feature, N₂ purge systems used in semiconductor and liquid crystal manufacturing processes are compatible with the SJ-H Series static eliminators.
APPLICATIONS

Static elimination of slitters
Prevent dust adhesion to ampoules after heat treatment
Prevent foreign material adhesion between heat seal layers

Static elimination in the coating process of bumpers
Chip removal during cutting sashes
Defect prevention in the offset printing process

Static elimination of unwoven cloth
Defect prevention of adhesive painting on cardboard
Static elimination when attaching copper plates/films

Prevention of adhesion in metal moulds
Static elimination of building material boards
Static elimination of films

Static elimination during assembling car navigation systems
Static elimination of EDU substrates on conveyor lines
Static elimination in the air shower
**SPECIFICATIONS**

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Ion generation method</td>
<td>Corona discharge method</td>
<td></td>
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<td></td>
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<tr>
<td>Structure</td>
<td>Shock-proof, resistance-coupled type</td>
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<tr>
<td>Voltage application method/applied voltage</td>
<td>Pulse AC method/±1000 V</td>
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<tr>
<td>Ion balance control method</td>
<td>Dual I.C.C. method</td>
<td></td>
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</tr>
<tr>
<td>Ion balance</td>
<td>±30 V</td>
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</tr>
<tr>
<td>Operating distance</td>
<td>50 to 2000 mm</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Control input</td>
<td>NPN open collector or non-voltage contact signal</td>
<td></td>
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<tr>
<td>Control output</td>
<td>NPN type photo-relay, 100 mA max. (40 V max.)</td>
<td></td>
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</tbody>
</table>

**Ratings**

- **Power supply voltage**: 24 VDC, 36 V±10%
- **Current consumption**: 500 mA (at 24 VDC), 350 mA (at 36 VDC)
- **Overvoltage category**: 2
- **Pollution degree**: 2

**Primary features**

- Condition alarm, ion level alarm, alarm output

**Air purge connection port**

- RC, 1/8

**Air purge air supply pressure**

- 0.5 MPa or less

**Materials**

- **Electrode probe**: Tungsten
- **Body**: ABS resin/PC

**Environmental resistance**

- **Ambient temperature**: 0 to +40°C
- **Relative humidity**: 35 to 85% RH (No condensation)

**Effective length**

1. The value is measured under the following conditions:
   - Operating distance: 300 mm (22 Hz), 600 mm (10 Hz), 1500 mm (1 Hz)
   - Operating ambient temperature: 0 to +40°C
   - Operating ambient humidity: 35 to 65% RH

**Total length (A)**

1. The effective length is determined based on the static elimination range at a distance of 50 mm.
2. The total length includes the end units.

**Weight Controller**

- 150 g

**Static elimination bar**

- 750 g, 780 g, 800 g, 1200 g, 1400 g, 1500 g, 1750 g, 2000 g, 2350 g, 2700 g, 3150 g

**Supplied air volume (Nl/min)**

<table>
<thead>
<tr>
<th>Air pressure (MPa)</th>
<th>Operating distance (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5</td>
<td>2000 mm</td>
</tr>
<tr>
<td>0.4</td>
<td>1500 mm</td>
</tr>
<tr>
<td>0.3</td>
<td>1000 mm</td>
</tr>
<tr>
<td>0.2</td>
<td>500 mm</td>
</tr>
<tr>
<td>0.1</td>
<td>0 mm</td>
</tr>
</tbody>
</table>

**Characteristics**

- **Static elimination range vs. static elimination time (33 Hz)**
- **Static elimination range vs. static elimination time (10 Hz)**
- **Static elimination range vs. static elimination speed and operating distance according to air pressure**
- **Static elimination range vs. static elimination time (Maximum air supply)**

**Measurement conditions**

- Static elimination time from ±1000 V to ±100 V
- Using a 150 x 150 mm plate monitor (20 pF)
- Model: SJ-H108A, No downflow

- Static elimination time from ±1000 V to ±100 V
- Using 150 x 150 mm plate monitor (20 pF)
- Model: SJ-H108A, under a 0.3 m/s (0.98 ft/s) downflow

**Operating distances**

- 0.4 sec
- 0.6 sec
- 0.8 sec
- 1.0 sec
- 1.2 sec

**Static elimination range (at ±1000 V)**

<table>
<thead>
<tr>
<th>Air pressure (MPa)</th>
<th>Operating distance (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5</td>
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</tr>
<tr>
<td>0.1</td>
<td>0 mm</td>
</tr>
</tbody>
</table>

**Supplied air volume (Nl/min)**

<table>
<thead>
<tr>
<th>Air pressure (MPa)</th>
<th>Supplied air volume (Nl/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5</td>
<td>2000 mm</td>
</tr>
<tr>
<td>0.4</td>
<td>1500 mm</td>
</tr>
<tr>
<td>0.3</td>
<td>1000 mm</td>
</tr>
<tr>
<td>0.2</td>
<td>500 mm</td>
</tr>
<tr>
<td>0.1</td>
<td>0 mm</td>
</tr>
</tbody>
</table>
When the end units are attached

**DIMENSIONS**

Unit: mm

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**Table of dimensions by model**

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A Total length</td>
<td>380</td>
<td>600</td>
<td>840</td>
<td>1080</td>
<td>1320</td>
<td>1560</td>
<td>1800</td>
<td>2040</td>
<td>2280</td>
<td>2520</td>
<td>3000</td>
</tr>
<tr>
<td>B Static elimination bar length</td>
<td>340</td>
<td>560</td>
<td>800</td>
<td>1040</td>
<td>1280</td>
<td>1520</td>
<td>1760</td>
<td>2000</td>
<td>2240</td>
<td>2480</td>
<td>2960</td>
</tr>
<tr>
<td>C Mounting pitch</td>
<td>365</td>
<td>585</td>
<td>825</td>
<td>1065</td>
<td>1305</td>
<td>1545</td>
<td>1785</td>
<td>2025</td>
<td>2265</td>
<td>2505</td>
<td>2985</td>
</tr>
<tr>
<td>D Electrode pitch and length</td>
<td>P60 x 3=180</td>
<td>P60 x 7=420</td>
<td>P60 x 11=660</td>
<td>P60 x 15=900</td>
<td>P60 x 19=1140</td>
<td>P60 x 23=1380</td>
<td>P60 x 27=1620</td>
<td>P60 x 31=1860</td>
<td>P60 x 35=2100</td>
<td>P60 x 39=2340</td>
<td>P60 x 47=2820</td>
</tr>
</tbody>
</table>

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**Note:**

1. The SJ-H036A does not have this modular part.
2. SJ-H036A only

**Left side of the bar (Common to all models)**

- A = 39.5
- B = 45
- C = 45
- D = 48
- Rc1/8
- (R24)
- (28)

1. The SJ-H036A does not have this modular part.
2. SJ-H036A only

**Right side of the bar (Common to all models longer than and including the SJ-H228A model)**

- A = 39.5
- B = 45
- C = 45
- D = 48
- Rc1/8
- (R24)

1. Not provided for the SJ-H204A or shorter models.

**End unit (OP-84301)**

**End unit L**

- 4 x slot (Note)
- Note: Detail of slot
- 6

**End unit R**

- 4 x slot (Note)
- Note: Detail of slot
- 6

**Intermediate support bracket (OP-84300)**

**End unit L**

- 2 x slot (Note 1)
- (Thickness: 5)

**End unit R**

- 2 x slot (Note 2)
- (Thickness: 5)
When a rotating mounting bracket is attached

![Diagram of rotating mounting bracket](image)

**Rotating mounting bracket (side) OP-84297**

- **Total length (A)**: 451 mm for the SJ-H036A
- **Mounting pitch (B)**: 452 mm
- **Mounting pitch (C)**: 450 mm

**Options**

- **SJ-C2U/C5U/C10U**: 10-pin I/O cable (2 m, 5 m, 10 m)
- **OP-42210/OP-42211/OP-42212**: OP-84363 (Spare)
- **OP-84299**: Electrode probe replacement kit for SJ-H Series (4 pieces)
- **OP-54363 (Spare)**
- **OP-84293**: Tungsten electrode probe for SJ-HA (4 pieces)
- **OP-84296**: Junction relay box for SJ-H Series
- **OP-84300 (Spare)**
- **OP-84301 (Spare)**
- **OP-84297**: Intermediate support bracket for SJ-H Series
- **OP-84298**: End unit for SJ-H Series
- **OP-84299**: Rotating mounting bracket pair (right and left sides)
- **OP-84300 (Spare)**
- **OP-84301 (Spare)**
- **OP-84297**: Rotating mounting bracket (intermediate)

**Contact Information**

<table>
<thead>
<tr>
<th>Regional sales offices</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BELGIUM</strong> Tel: +32 1-528-1220 Fax: +32 1-520-1623</td>
</tr>
<tr>
<td><strong>AUSTRIA</strong> Tel: +43 22-36-3702-66-0 Fax: +43 22-36-3702-66-30</td>
</tr>
<tr>
<td><strong>CZECH REPUBLIC</strong> Tel: +420 221-131-483 Fax: +420 221-131-516</td>
</tr>
<tr>
<td><strong>HUNGARY</strong> Tel: +36 1-802-73-60 Fax: +36 1-802-73-61</td>
</tr>
<tr>
<td><strong>NETHERLANDS</strong> Tel: +31 40-206-110 Fax: +31 40-206-111</td>
</tr>
<tr>
<td><strong>POLAND</strong> Tel: +48 71-36881-60 Fax: +48 71-36881-60</td>
</tr>
<tr>
<td><strong>ROMANIA</strong> Tel: +40 236-232-908 Fax: +40 236-232-808</td>
</tr>
<tr>
<td><strong>SLOVAKIA</strong> Tel: +41 23-3809-600 Fax: +41 23-3809-600</td>
</tr>
<tr>
<td><strong>SLOVENIA</strong> Tel: +386 1-4701-666 Fax: +386 1-4701-699</td>
</tr>
<tr>
<td><strong>SWITZERLAND</strong> Tel: +41 43-45577-30 Fax: +41 43-45577-40</td>
</tr>
</tbody>
</table>

**SAFETY INFORMATION**

Please read the instruction manual carefully in order to safely operate any KEYENCE product.