KEYENCE

NEW **Air Blow Gun Attachment, High-Pressure Blow Spot Type Static Eliminator**

SJ-M400 Series

SJ-M040

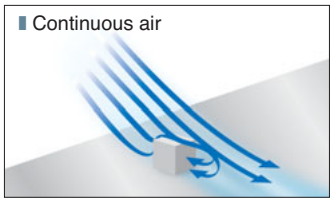
When the SJ-MG01 is attached

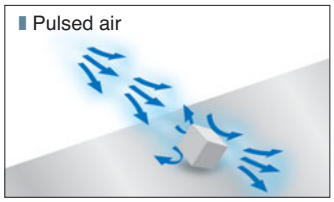
# High-Pressure Blow Spot Type Static Eliminator

## Air Blow Gun Attachment available

## High-pressure air purge with an air pulsing function

The solenoid valve control function allows intermittent generation of powerful ion air flow at a maximum pressure of 0.7 MPa. The dust or dirt which adheres to the probe is hard to remove from a surface & can be effectively removed by the vibration caused by pulsing the air flow.




## Air blow gun attachment

In response to strong demand, an air blow gun attachment is now available for handheld operation. You can use the SJ-M400 Series easily and quickly to prevent dust adhesion in production cells or other processes.

## Multi-functional controller indicates various conditions

### Electrostatic charge monitor

The electrostatic charge monitor indicates the strength and polarity of the target at a glance. The static elimination effect can be seen easily and quickly.

Not charged　　Positively charged

### Ion level monitor

The amount of ion generation is determined by self-diagnosis and the result is indicated not only with the LED bars but also with an alarm output which is issued when the quantity falls below a certain level. This allows monitoring of problems such as dirt accumulation on electrode probes.

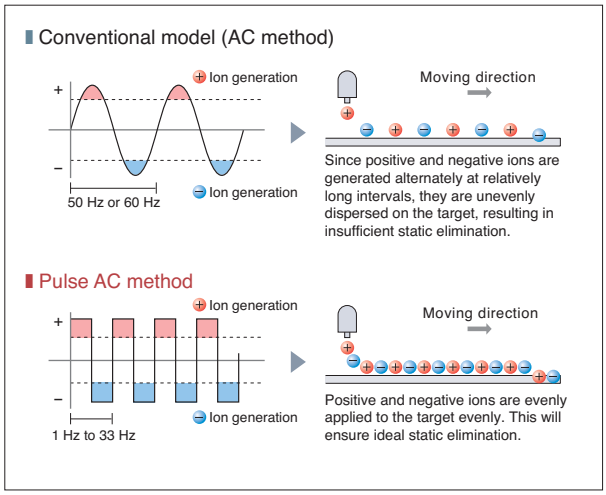
Ion level: Normal　　Ion level: Abnormal (Example: Drop in positive ions)

### Condition monitor

The LED indicator and alarm output notifies you that the electrostatic charge of the target is too strong to obtain a sufficient static elimination effect.

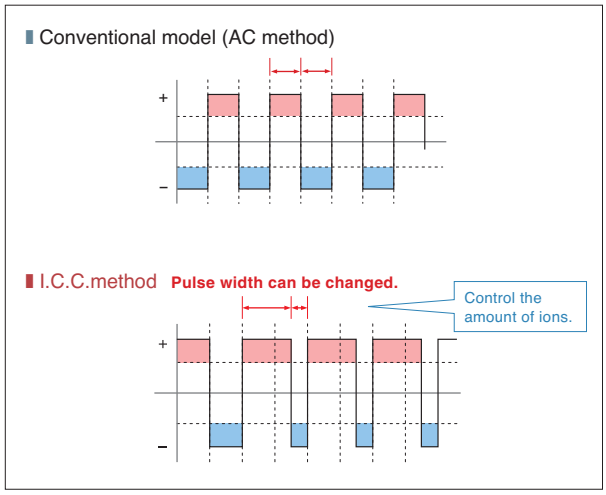
## High-speed static elimination using KEYENCE's original pulse AC method

The pulse AC method applies positive and negative high voltage alternately to each electrode probe to generate ions of both polarities. It generates more ions than the normal AC method. Furthermore, the changeable oscillation frequency ensures effective operation under all conditions, including the static elimination of fast-moving targets or of an entire area.




## Accurate ion balance with the I.C.C. method

The I.C.C. method is a process that ensures quick static elimination by supplying ions according to the electrostatic charge of the target, which is calculated by sensing the ion current generated from the potential difference between the target and electrode probe. This achieves both accurate ion balance while also providing quick and effective static elimination.




## Automatic sensing & feedback with the I.C.C. process

Since appropriately balanced ions are supplied according to the electrostatic charge of the target, no labourious initial settings are required during introduction or maintenance, ensuring more effective static elimination.

High-speed static elimination by supplying ions according to the target's charge

Continuous monitoring to ensure a stable ion balance for a long period of time

### Pursuit of safety and maintainability on the site

**Low-voltage 24 V wiring**

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

**Static elimination stop input**

The application of voltage to the electrodes can be stopped while the main power supply is still active. This feature ensures safety during work or maintenance.

**Cleaning alarm**

The self-diagnostic function outputs an alarm when it detects that cleaning is necessary due to dirt accumulated on the electrodes. The cassette type electrode allows easy maintenance.

**Abnormal discharge detection circuit**

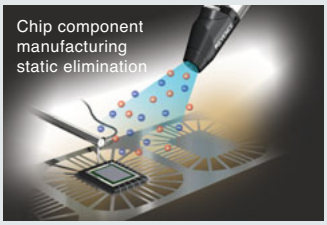
When abnormal discharge is detected, the eliminator issues an alarm output and cuts off the high-voltage power supply simultaneously to prevent problems.

**CE-compliant**

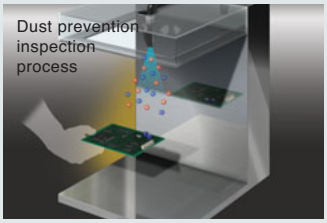
The SJ-M400 Series is compliant to CE standards, further increasing the reliability and safety of the high level of static elimination.

CE

### Applications







## Specifications

### Static elimination head/Controller

| Model | Controller | SJ-M400 |
|---|---|---|
| | Static elimination head | SJ-M040 |
| Voltage application method | | Pulse AC method |
| Applied voltage | | ±5.5 kV |
| Rated output voltage | | ±6 kV |
| Ion balance control method | | I.C.C. method |
| Ion balance | | ±30 V [1] |
| Maximum air pressure | | 0.7 MPa |
| Connection tube | | Outer diameter: 6 mm, Inner diameter: 4 mm |
| Control input | Trigger input | Non voltage input |
| Control output | Alarm | NPN open collector 100 mA (40 V max.) |
| | Ion level/condition alert | |
| | Valve control | |
| Primary features | | Condition alert output, Ion level alert output, Alarm output, Ion balance adjustment function, Solenoid valve control function |
| Ratings | Power supply voltage | 24 VDC ±10% |
| | Current consumption | 450 mA or less |
| Environmental resistence | Ambient temperature | 0 to 40°C |
| | Ambient humidity | 35 to 65% (No condensation) |
| Weight | Static elimination head | Approx. 650 g |
| | Controller | Approx. 300 g |

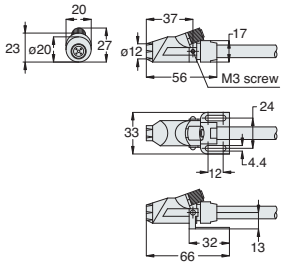
1. With an operating distance of 150 mm and air purge is not used.

## Dimensions

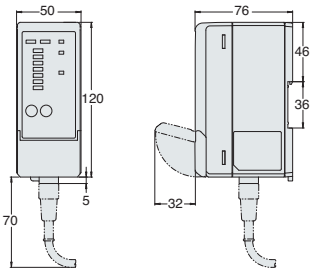
### Main unit

Unit: mm

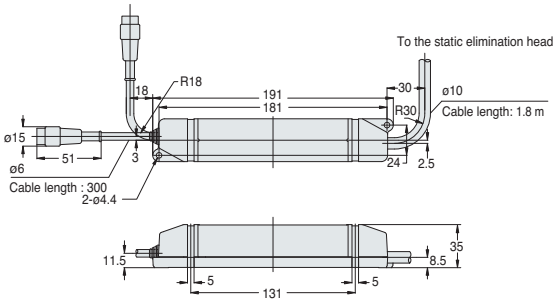
Static elimination head/SJ-M040 (head)



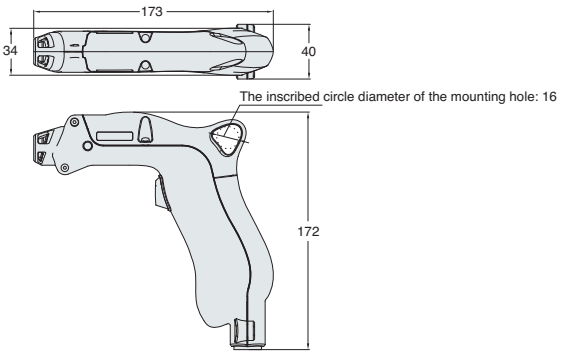

Controller/SJ-M400




(High-voltage unit)



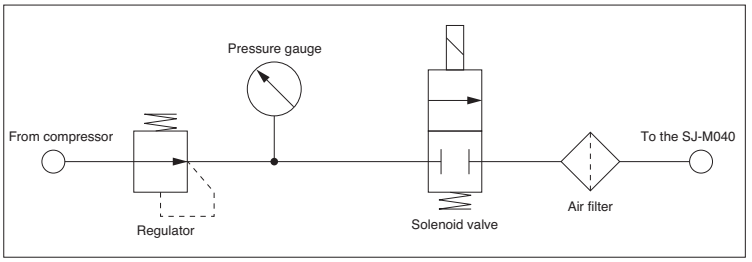

Air blow gun attachment/SJ-MG01




## Power supply cable/Options

- **AC adapter : SJ-U1***
- **Extension cable for SJ-M040 (3 m) : SJ-C3**
- **Electrode probe for SJ-M040 : OP-84383**
- **Protective tube for SJ-MG01 : OP-84373**

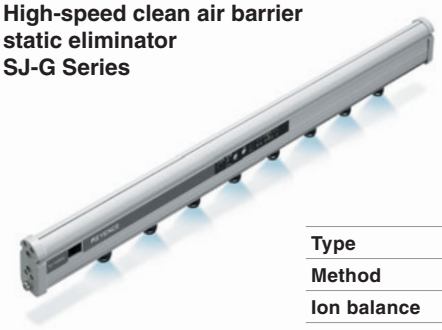
## System diagram of the solenoid valve control function



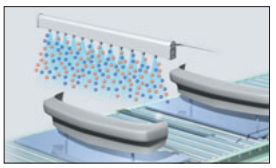

* For information about the AC cable, contact your nearest KEYENCE office.

## Bar type

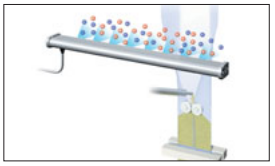
### High-speed clean air barrier static eliminator SJ-G Series



| | |
|---|---|
| **Type** | High speed, clear air barrier |
| **Method** | I.C.C. method |
| **Ion balance** | ±30 V |
| **Applications** | High-speed static elimination of a wide area such as glass panes or sheet material |



Preventing dust adhesion on plastic moulds

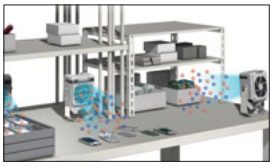


Prevent bunching with a heat seal

## Blower type

### Free-layout, high-power static elimination blower SJ-F300

| | |
|---|---|
| **Type** | Free-layout, high-speed/wide-area static elimination blower |
| **Method** | Variable DC |
| **Ion balance** | ±5 V |
| **Applications** | Wide-area/high-speed type which can be freely laid out |



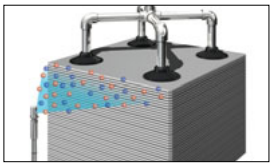
Cell production for mobile phones

In space-saving cell processes

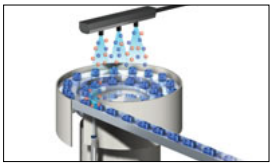
## Spot type

### High-performance micro static eliminator SJ-M

| | |
|---|---|
| **Type** | Micro spot type |
| **Method** | Pulse AC |
| **Ion balance** | ±15 V |
| **Applications** | Utility type with 8 selectable heads |



When transporting ceramic sheets



On a part feeder

Specifications are subject to change without notice.

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