

VESSEL®



Static Control Product Catalog

<http://www.vessel.co.jp/english/staticelectric/>

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Static Control Product Catalog Contents

Ionizers (For use at electronics plants)

These products are engineered to solve static electricity problems such as static electricity-triggered device failures in semiconductor and electronic device assembly plants, liquid crystal display (LCD) and plasma display (PDP) production plants, and clean rooms.



F6CL-E



F6ST-E

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SFQ9-E



F12E-E

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3F-12-E

6



CF-30-E



G7R-E

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N-2

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PAC-8

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B-series

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Ion Parts Cleaners

These products provide a single-device solution that can erase static electricity, eliminate dust, and absorb ejected foreign materials from products in a static-free space.



IPC20-E



IPC30-E

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IPC40-E



IPC60-E

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IPC-A4

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Static Electricity Measuring Instruments

These products provide an easy way to measure and display invisible static electricity.



Eye-01

15

EPA Systems



Conductive rubber mat

17

Clean Walker

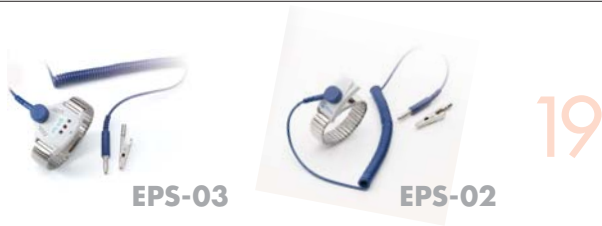


CW-900B

18

ESD Countermeasure Wrist Straps

This series of wrist straps is designed for workers who handle devices that are sensitive to static electricity.



Ionizers (For use at resin molding plants)

For resin molding, mold, packaging, printing, painting, and food product plants, etc.



Options and replacement parts 25

StatClean Series Functionality

Functions

- FAN OFF** Allows the model in question to be used with no airflow.
- CAPACITIVE COUPLED** Maintains optimal ion balance (patent pending).
- ADJUSTABLE ION BALANCE** Indicates that the ion balance can be adjusted.
- OPERATING STATE INDICATOR** Indicates that the operating state of the model in question is displayed by LED lamps.
- LED ILLUMINATION** Indicates that the model in question has LED illumination.
- ANTI-METAL ALLERGY** Indicates that the model in question uses stainless steel that is chemically formulated to be less likely to give off nickel.

Drive Power Supply

- LOW-VOLTAGE DRIVE 24 VDC**
- INCLUDED TRANSFORMER 100-240 VAC**
- INCLUDED TRANSFORMER 200-240 VAC**
- POWER SUPPLY 100 VAC**
- POWER SUPPLY 230 VAC**

Built-in Fan

- HIGH-SPEED 60 RPM FAN**
- 60 MM FAN**
- 90 MM FAN**
- 120 MM FAN**
- 120 MM 3 FANS**
- CROSS-FLOW FAN**

Air Pressure

- AIR/N₂ MAX. 0.3MPa**
- AIR/N₂ MAX. 0.5MPa**
- AIR/N₂ MAX. 0.6MPa**
- AIR/N₂ MAX. 0.7MPa**

Safety

- ALARM & SIGNAL FAN LOCKUP**
- ALARM FAN LOCKUP**

These icons indicate that the model in question provides an alarm to alert the operator if the fan locks up.

- ALARM & SIGNAL H.V.**
- ALARM H.V.**

These icons indicate that the model in question provides an alarm to alert the operator of a high-voltage malfunction if the high-voltage transformer stops generating output.

- OVERLOAD PREVENTION FUNCTION** Indicates that the model in question provides an overload prevention function.
- ALARM & SIGNAL LOW ION LEVEL** Indicates that the model in question provides functionality for alerting the operator if ion levels fall.
- ALARM & SIGNAL CLEAN ELECTRODES** Indicates that the model in question provides functionality for alerting the operator when electrode needles need to be cleaned.
- ALARM CHANGE BATTERY** Indicates that the model in question provides functionality for alerting the operator when the battery charge falls to or below 20%.
- ALARM BAD GROUND** Indicates that the model in question provides functionality for alerting the operator if it is not properly grounded.

Maintenance

- ELECTRODE CLEANING TIMER 200 HOURS**

These icons indicate that the model in question alerts the operator when the indicated value is reached.

Measurement Conditions

Ion balance : 300 mm from the front of the device at maximum airflow setting

Decay time : 300 mm from the front of the device at maximum airflow setting
(given as the time required for the voltage to attenuate from $\pm 1,000$ V to ± 100 V)
(Charged plate monitor: 150 mm \times 150 mm square, 20 pF)

Noise level : 1 m from the front of the device at maximum airflow setting

*Measured values given in this catalog are provided as representative values obtained using a sample device. They do not constitute a guarantee of performance.

Preventing Static Breakdown of Electronic Devices and Adhesion of Airborne Dust to Products

Ionizers and Ion Parts Cleaners

These extensive product lines provide solutions ranging from static erasing and dust removal from the vicinity of work benches to comprehensive anti-static measures for entire clean rooms.

Pulse Ion Bar

11P~12P

Top Fan

6P

Fan Type

4P~6P

Static Electricity Measuring Instrument

15P

Ion Parts Cleaner

13P~15P

Pulse Air Controller

9P

Gun-type Ionizer

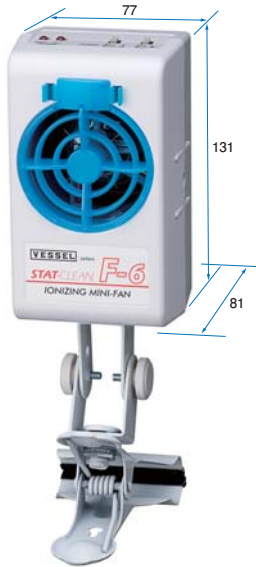
7P

F6CL-E

Ionizing Mini Fan with clip
(EDP No. 621632)

Ionizing method: Piezoelectric high-frequency AC corona discharge
Electrode needles: Inconel

This compact-sized mini fan comes with a clip for ready installation anywhere on a workbench.



A built-in LED inside lights up during operation



CE RoHS

- Compact and light body. Comes with a clip for easy installation.
- Fan speed can be switched to High/Low.



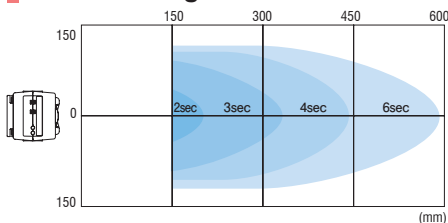
Primary specifications

Applied voltage	3.5 kVAC
Power supply and current consumption	24 VDC ±5%, 253 mA (typ.)
Weight	514 g (clip included)
Airflow	0.87 m ³ /min (Fan speed: HI) 0.4 m ³ /min (Fan speed: LOW)
Noise level	58.5 dBA (Fan speed: HI) 40.4 dBA (Fan speed: LOW)
Ozone production	0.05 ppm or less (measured 50 mm from device)
Operating temperature and humidity	5°C to 40°C, 35% to 65% RH (non-condensing, non-freezing)
Accessories	Power supply transformer No. AD24-ITF6-E, AC cable (1.8m)

Static erasing performance

Ion balance: Within ±10 V; Decay time: 2.7 sec or less

Static erasing area



Accessories



Power Supply Transformer
AD24-ITF6-E
(EDP No. 806096)
Input: 100 to 240 VAC, 0.4 A
Output: 24 VDC, 0.75A

F6ST-E

Ionizing Mini Fan with Stand
(EDP No. 621631)

Ionizing method: Piezoelectric high-frequency AC corona discharge
Electrode needles: Inconel

This compact-sized mini fan comes with a stand for ready installation anywhere on a workbench.



Easy to open and close the cover



CE RoHS

- Compact and light body. Comes with all-purpose stand.
- Fan speed can be switched to High/Low.



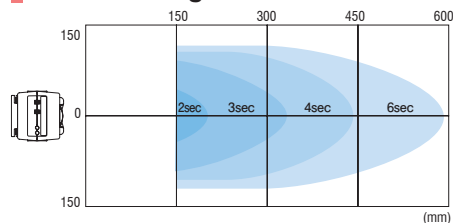
Primary specifications

Applied voltage	3.5 kVAC
Power supply and current consumption	24 VDC ±5%, 253 mA (typ.)
Weight	460 g (stand included)
Airflow	0.87 m ³ /min (Fan speed: HI) 0.4 m ³ /min (Fan speed: LOW)
Noise level	58.5 dBA (Fan speed: HI) 40.4 dBA (Fan speed: LOW)
Ozone production	0.05 ppm or less (measured 50 mm from device)
Operating temperature and humidity	5°C to 40°C, 35% to 65% RH (non-condensing, non-freezing)
Accessories	Power supply transformer No. AD24-ITF6-E, AC cable (1.8m)

Static erasing performance

Ion balance: Within ±10 V; Decay time: 2.7 sec or less

Static erasing area



Accessories



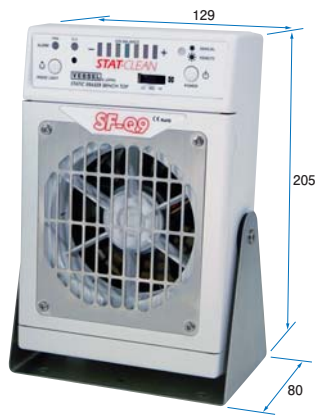
Power Supply Transformer
AD24-ITF6-E
(EDP No. 806096)
Input: 100 to 240 VAC, 0.4 A
Output: 24 VDC, 0.75A

SFQ9-E Fan-type Ionizer with Integrated Sensor

(EDP No. 621626)

Ionizing method: Piezoelectric high-frequency DC corona discharge
Electrode needles: Tungsten

Ion balance is monitored by a sensor and adjusted automatically. Dual piezoelectric transformers deliver the ultimate in high performance.



A built-in LED inside



CE RoHS

- A proprietary feedback sensor corrects the ion balance to within ± 5 V.
- Dual piezoelectric transformers deliver exceptional static-erasing performance over the long term.
- Airflow can be set to any of three quiet settings (with a noise level of just 49.6 dB at the highest setting).
- In another industry first, a high-brightness LED lets you check for dirt on the discharge electrode visually.
- The electrode needle unit is removable for improved maintenance.
- Comes with a terminal for externally outputting warning signal to be installed in machines.



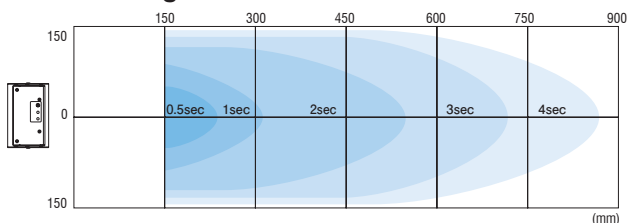
Primary specifications

Applied voltage	± 4.0 kVDC to ± 8.0 kVDC
Power supply and current consumption	24 VDC $\pm 5\%$, 340 mA (typ.)
Weight	966 g
Airflow	1.8 m ³ /min (at max. airflow)
Noise level	49.6 dBA (measured 1 m from device at max. airflow)
Ozone production	0.05 ppm or less (measured 50 mm from device)
Operating temperature and humidity	5°C to 40°C, 35% to 65% RH (non-condensing, non-freezing)
Accessories	Power supply transformer No. AD24-IT-EX

Static erasing performance

Ion balance: Within ± 5 V; Decay time: 1.2 sec or less

Static erasing area



Accessories



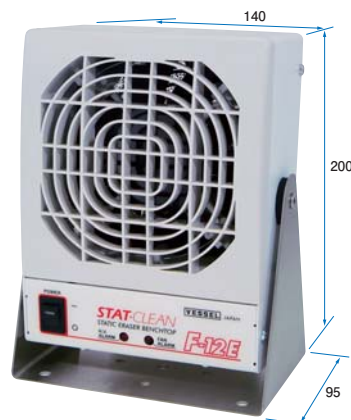
Power Supply Transformer
AD24-IT-EX
(EDP No. 806050)
Input: 100 to 240 VAC, 0.4 A
Output: 24 VDC, 0.75A

F12E-E Fan-type Ionizer

(EDP No. 621369)

Ionizing method: Piezoelectric high-frequency AC corona discharge
Electrode needles: Inconel

Maintains an ion balance of ± 5 V using capacitive-coupled electrode needles (patent pending).



CE RoHS

- Airflow can be varied continuously over the full range of the unit's performance.
- Includes both straight and diffusing front covers.
- The electrode needle unit is removable for improved maintenance.



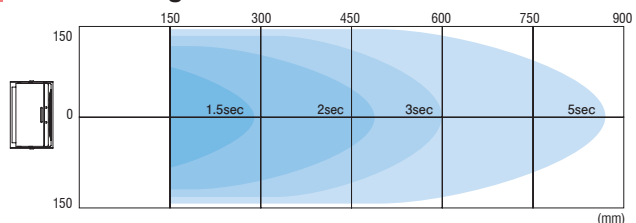
Primary specifications

Applied voltage	2.4 kVAC
Power supply and current consumption	24 VDC $\pm 5\%$, 375 mA (typ.)
Weight	1.4 kg
Airflow	3.25 m ³ /min (at max. airflow)
Noise level	58.1 dBA (measured 1 m from device at max. airflow)
Ozone production	0.05 ppm or less (measured 50 mm from device)
Operating temperature and humidity	5°C to 40°C, 35% to 65% RH (non-condensing, non-freezing)
Accessories	Power supply transformer No. AD24-IT-EX

Static erasing performance

Ion balance: Within ± 5 V; Decay time: 1.7 sec or less

Static erasing area



Accessories



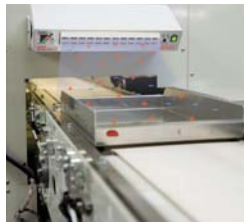
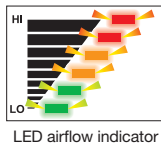
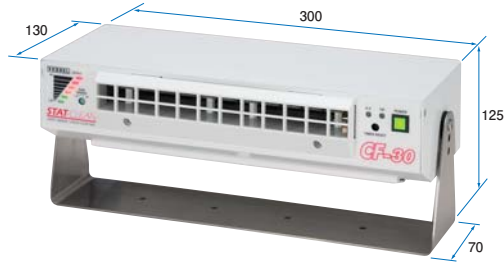
Power Supply Transformer
AD24-IT-EX
(EDP No. 806050)
Input: 100 to 240 VAC, 0.4 A
Output: 24 VDC, 0.75A

CF-30-E Wide-type Ionizer with Cross-flow Fan

(EDP No. 621375)

Ionizing method: Piezoelectric high-frequency AC corona discharge
Electrode needles: Inconel

*Compact, low-profile design saves space.
Secures wide static-free workspace.*



CE RoHS

- Maintains an ion balance of ± 5 V using capacitive-coupled electrode needles.
- LED indicator lights up progressively to indicate airflow, which can be varied continuously over the full range of the unit's performance.
- The electrode needle unit and front cover are both removable for improved maintenance.
- Comes with a terminal for externally outputting warning signal to be installed in machines.



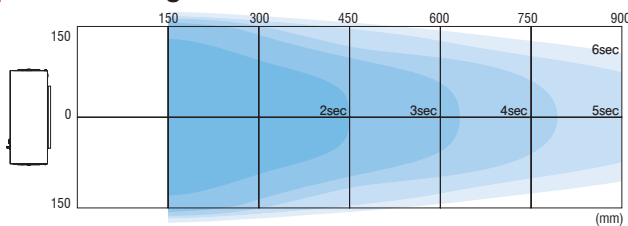
Primary specifications

Applied voltage	3.5 kVAC
Power supply and current consumption	24 VDC $\pm 5\%$, 650 mA (max.)
Weight	2.1 kg
Airflow	1.58 m ³ /min (at max. airflow)
Noise level	51.2 dBA (measured 1 m from device at max. airflow)
Ozone production	0.05 ppm or less (measured 50 mm from device at max. airflow)
Operating temperature and humidity	0°C to 40°C, 35% to 65% RH (non-condensing, non-freezing)
Accessories	Power supply transformer No. AD24-ITCF-EX

Static erasing performance

Ion balance: Within ± 5 V; Decay time: 1.4 sec or less

Static erasing area



Accessories



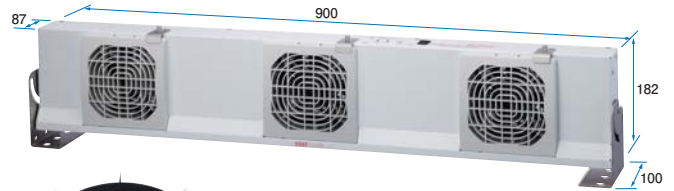
Power Supply Transformer
AD24-ITCF-EX
(EDP No. 806074)
Input: 100 to 240 VAC, 1.2 A
Output: 24 VDC, 1.5A

3F-12-E Overhead Triple-fan Ionizer

(EDP No. 621378)

Ionizing method: Piezoelectric high-frequency AC corona discharge
Electrode needles: Inconel

Erases static electricity over a large area by installing above your work bench or conveyor belt.



New capacitive-coupled electrode needle design



- Maintains an ion balance of ± 5 V using capacitive-coupled electrode needles (patent pending).
- Includes 24 VDC 300 mA service power supply.
- The electrode needle plate is removable for improved maintenance.
- Comes with a terminal for externally outputting warning signal to be installed in machines.



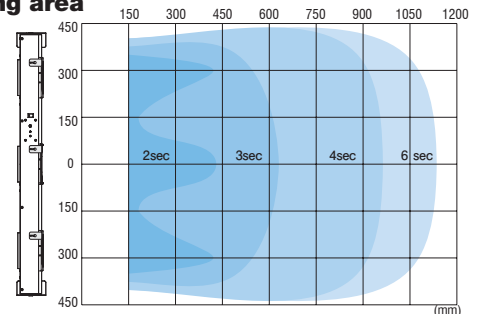
Primary specifications

Applied voltage	2.4 kVAC
Power supply and current consumption	24 VDC $\pm 5\%$, 1,200 mA (max.)
Weight	5.3 kg
Airflow	3.4 m ³ /min (at max. airflow)
Noise level	58 dBA (measured 1 m from device at max. airflow)
Ozone production	0.05 ppm or less (measured 50 mm from device)
Operating temperature and humidity	5°C to 40°C, 35% to 65% RH (non-condensing, non-freezing)
Accessories	Power supply transformer No. AD24-IT19

Static erasing performance

Ion balance: Within ± 5 V; Decay time: 1.8 sec or less

Static erasing area



Accessories



Power Supply Transformer
AD24-IT19
(EDP No. 806080)
Input: 100 to 240 VAC, 1.2 A
Output: 24 VDC, 1.9A