

VESSEL

ESD PRODUCT CATALOG



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- The specifications, dimensions, and others may be subject to change without prior notice.
- The ionizing performance shown in this catalogue is according to our measurement environments, and the results may differ depending on the actual using environment.

VESSEL, the ionizing and dust elimination expert, helps solve your quality problems.

Product quality is very important issue at manufacturing sites.

Since 2000, VESSEL has focused on solutions for static electricity and dust elimination, with aspiration for improvement in the product quality of all customers.

VESSEL, the ionizing and dust elimination expert, is ready to help.

3 reasons why VESSEL ionizers are chosen

1

Abundant line-up of products

VESSEL's line-up of reliable and wide range from fan, gun, and bar-type air blow ionizers, EPA mats and wrist straps that prevent static discharge, to adhesive mats that prevent dust from scattering. Our products provide solutions to your problems in relation to static electricity and dust.

2

User-friendly products

To provide optimum products for production sites, our design is oriented in the ease-of-use. VESSEL aims for user convenience in various applications.

3

Direct support from our specialists

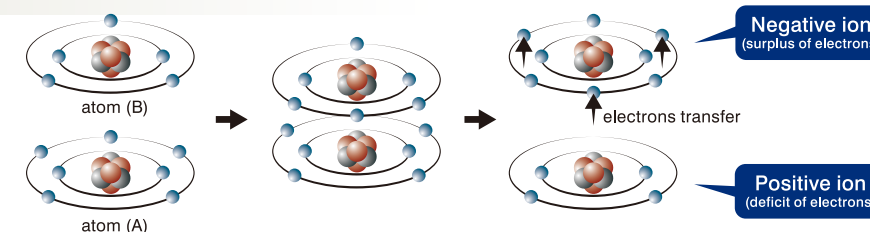
Our static elimination and dust removal specialists will visit your production site to propose the best available products. Customization is also available upon request.



THE STATIC ELECTRICITY

Theory

The static electricity comes from the transfer of electrons between two or more atoms becoming electrically unbalanced.

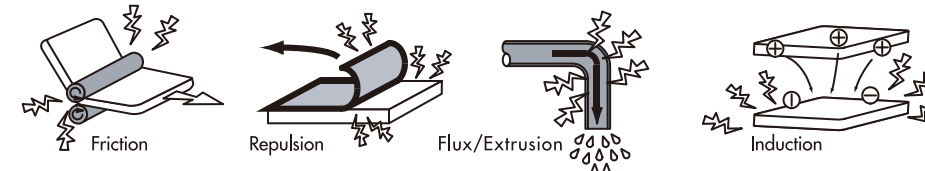
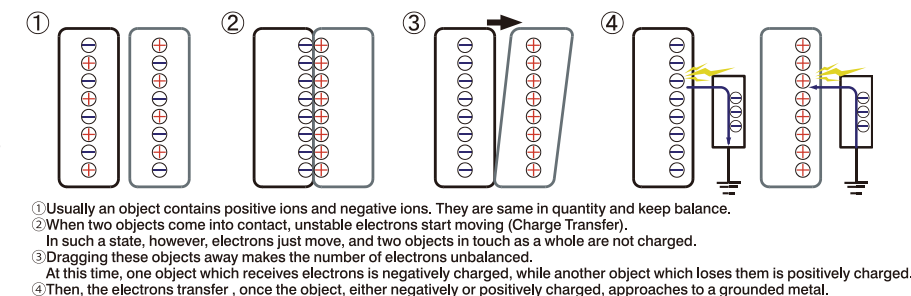


How is it created?

The static electricity is created after contact between two materials (one of which at least is an insulator).

The static electricity level depends on humidity, materials, as well as on the pressure, the time, and the surface of contact.

An electric voltage of several kV might be easily generated.



Triboelectric series

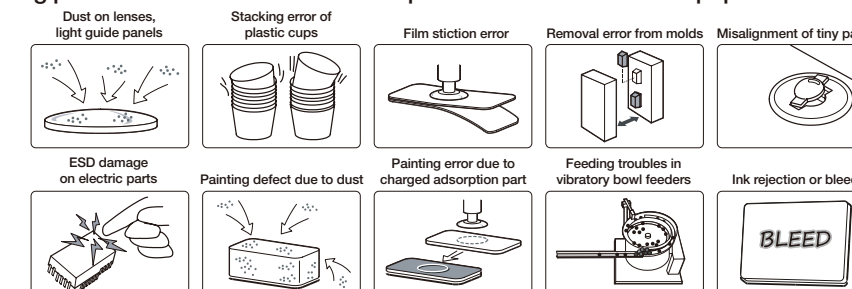
The Triboelectric Series chart shows the relative positive or negative charge of various materials.



Consequences

Three types of problems can result from static electricity:

- Apparition of electric arcs, which can damage the electronic circuits,
- Dust attraction, which can lead to unwanted defaults after parts painting or cause hygiene and cleanliness problems,
- And attraction or repulsion of other materials, which can cause, for instance, printing problems due to the repulsion of the ink or labeling problems due to the unwanted repulsion or attraction of the paper when being positioned.



How is it eliminated?

Different methods are used:

- The voltage of the part will be equal to 0V. However in certain cases, in order to avoid any sudden discharge, which could lead to electric arcs, in order to avoid any sudden discharge, which could lead to electric arcs, it is necessary to use dissipative material with a controlled conductivity.

Otherwise use an ionizer:

- The ionizer will send positive and negative ions to be combined with the positive and negative charges on the targeted surface. The ions are created thanks to the corona discharge principle. The static electricity elimination is made without any contact.

Realize ionizing and clean control from your fingertips to your toes.

VESSEL's line-up of a reliable and wide range of anti-static products.

Fan Type	Nozzle Type	Gun Type	Bar Type	Ion Parts Cleaner	EPA Working Mat	Clean Walker	Options
Mount on a cell workbench, parts stock shelf, or belt conveyor. Switch the fan speed for neutralization in the close or far distance. <Mini> F-6BF-E →P6 <Mini> F-6RCL-E F-6RST-E →P6 <Standard> F120R-E F120S-E →P7 <Wide width> CF-300-E →P8 CF-600-E →P8 L-90-E →P9	Assemble into manufacturing devices for pinpoint neutralization and dust-elimination within cramped spaces. Just replace the nozzle to use for various applications (N-1, N-3). N-1 N-3 →P12 <High Power Series> HPN-1 →P37 HPF-1 →P38	Ideal for air cleaning and neutralization of parts after having received and before assembling them. Also good for resin molded parts before painting them. G-5 →P14 G-7R-E →P15 G-2-E →P16 <High Power Series> HPG-1 →P39	Suitable for neutralization in clean rooms, and for prevention of static electricity on films moving at high speeds. <Built-in power supply> C-series →P19 SL-series →P21 <High Power Series> HPB-series →P40	Air cleaning in non-static area. Scattered dust is collected by a dust collector. Our Ion Parts Cleaner maintains the clean environment. <Gel Dust Collection Type> IPC-A4 IPC-A3 →P24 IPC-250CR →P28 <Vertical Type> IPC-V4 →P27 <All-in-one Type> IPC-200 IPC-400 IPC-600 →P25,26	ESD control mats for use in areas where parts are handled, assembled, repaired and tested. Conductive Rubber Mat →P30 <Wrist Strap> EPS-05 →P31 <Grounding Kit> EPS-GK →P31 Anti-static Vinyl Floor Sheet →P32 Conductive Vinyl Floor Sheet →P32 <Surface resistance checker> SRC-01 →P33 <Electrostatic Field Meter> Eye-02 →P34	Adhesive mat placed before a clean room, collects dust off soles of work shoes. Non-peeling, washable type. <Clean Walker> CW-900B →P36	Options and replacement parts. →P41
→P05	→P11 High Power Series P37	→P13 High Power Series P39	→P17 High Power Series P40	→P23	→P29	→P35	→P41

Measurement Conditions

Ion balance : 300 mm from the front of the device at maximum airflow setting (As of ionizing gun and nozzle, measured at 150mm from the front)
Decay time : 300 mm from the front of the device at maximum airflow setting
(Decay time from ±1000V to ±100V)(Charged plate monitor: 150 mm × 150 mm square, 20 pF)
Noise level : 1 m from the front of the device at maximum airflow setting

※Measurement values given in this catalog are typical values from a sample unit, and do not guarantee the performance.

Fan Type



F-6BF-E

Exquisite wind for secure ion transfer without scattering dust.

Decay time 8.0 sec. or less



F-6RCL-E/F-6RST-E

Compact. Can install in any location. Pinpoint neutralization.

Decay time 3.0 sec. or less



F120R-E

Butterfly louver realizes high-speed neutralization.

Decay time 1.5 sec. or less



F120S-E

Low airflow model not disturbing the work environment.

Decay time 2.5 sec. or less



CF-300-E

Wide area neutralization. Easy cleaning of the discharge needles.

Decay time 1.5 sec. or less



CF-600-E

Wide area neutralization. Slim & 600mm wide space-saving model.

Decay time 1.5 sec. or less



L-90-E

Versatile neutralization by combination of the louvers, wide or straight.

Decay time 1.5 sec. or less

Why is VESSEL's fan type our customer's top choice?

1

High neutralization performance through efficient ion generation

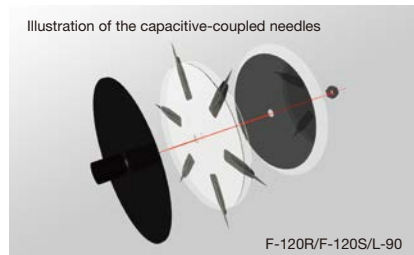
The high frequency piezoelectric transformer generates large volumes of ions, and eliminates losses caused by recoupling.



2

Advanced control technology with stable ion balance

The capacity coupling type discharge needle ensures a stable ion balance, and prevents static destruction of the semiconductor.



3

Improved maintainability by the louver type cover with the discharge needles integrated

Easy to detach the cover. Can clean the discharge needles in other area, not causing contamination in the work environment.



Ionizing Mini Fan with Stand

Exquisite wind for secure ion transfer without scattering dust.

F-6BF-E



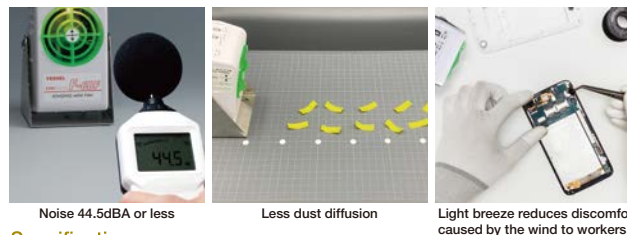
Low Noise Fan

Code No. 621677

High Voltage Transformer	Ion balance	Decay time	Directive
Coiled, AC	within ± 10 V	8.0 sec. or less	CE UK

Input voltage 24VDC	Fan Speed 2 steps	LED illumination	AC adapter 100-240V included	Needle electrode unit replacement	ALARM FAN LOCKUP	ALARM H.V.
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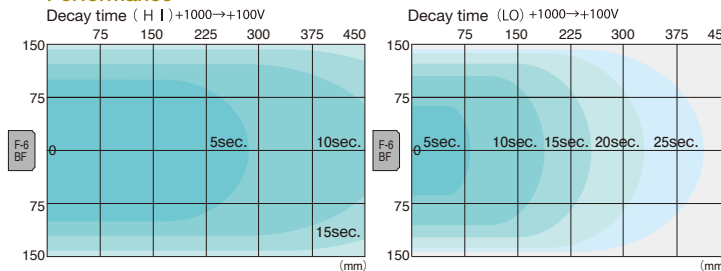
- Compact and lightweight.
- Easy to detach the louver.
- Confirm operation status and needle tip contamination with built-in light.



Specifications

Model No.	F-6BF-E
Ionizing method/Applied voltage	High frequency AC corona discharge / 3.5kVAC
Input voltage/Current consumption	24VDC $\pm$ 5% / 180mA (typ.)
Ion balance	within ± 10 V (150mm at front)
Decay time	HI: 8.0 sec. or less (300mm at front) / LO: 17.3 sec. or less (250mm at front)
Operating distance	150~300mm
Dimensions	H131 x W77 x D81mm (not including the stand)
Weight	360g (not including the stand)
Fan speed	HI : 0.36m / s / LO : 0.19m / s
Noise level	HI : 44.5dBA / LO : 40dBA
Ozone production	0.05ppm or less(50mm)
Operating temp./ humidity	5~40°C / 35~65% RH (no dew condensation or freezing)
Accessories	AC adapter AD24-ITF6-E, AC input cable 1.8m

Performance



Accessories



AC Adapter
AD24-ITF6E
EDP No.806138
I/P : 100~240VAC 0.4A
O/P : 24VDC 0.75A

Ionizing Mini Fan with Clip

Clip type for attachment to a workbench or a desk support.

F-6RCL-E



Low Noise Fan

Code No.621663

Ionizing Mini Fan with Stand

Compact. Install anywhere for pinpoint neutralization.

F-6RST-E



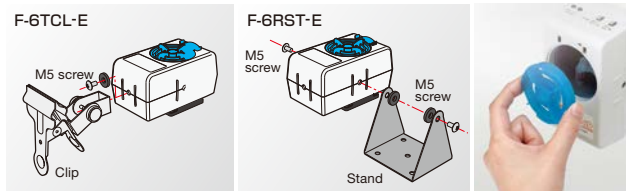
Low Noise Fan

Code No.621662

High Voltage Transformer	Ion balance	Decay time	Directive
Coiled, AC	within ± 10 V	3.0 sec. or less	CE

Input voltage 24VDC	Fan Speed 2 steps	LED illumination	AC adapter 100-240V included	Needle electrode unit replacement	ALARM FAN LOCKUP	ALARM H.V.
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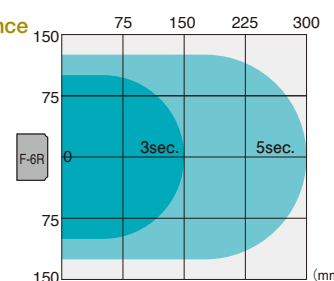
- Compact and lightweight.
- Easy to detach the louver.
- Confirm operation status and needle tip contamination with built-in light.



Common Specifications

Model No.	F-6RCL-E	F-6RST-E
Ionizing method/Applied voltage	High frequency AC corona discharge/ 3.5kVAC	
Input voltage/Current consumption	24VDC $\pm$ 5% / 210mA (typ.)	
Ion balance	within ± 10 V (150mm at front)	
Decay time	3.0 sec. or less (150mm at front)	
Operating distance	150~600mm	
Dimensions	H254 x W77 x D108mm (Clip included)	H142 x W90 x D81mm (Stand included)
Weight	520g	470g
Air volume	0.78m ³ /min(Max. airflow)	
Noise level	HI 58.5dBA / LO 39.5dBA	
Ozone production	0.05ppm or less(50mm)	
Operating temp./ humidity	5~40°C / 35~65% RH (no dew condensation or freezing)	
Accessories	AC adapter AD24-ITF6-E, AC input cable 1.8m	

Performance



Accessories



AC Adapter
AD24-ITF6E
EDP No.806138
I/P : 100~240VAC 0.4A
O/P : 24VDC 0.75A

Ionizing Fan

Butterfly louver,
for neutralization in a wide area.

F120R-E

Code No. 621651

High Voltage Transformer	Ion balance	Decay time	Directive
Piezoelectric, AC	within ± 10 V	1.5 sec. or less	CE

Input voltage 24VDC	Fan Speed 3 steps	AC adapter 100~240V included	Electrode needle unit replacement	ALARM FAN LOCKUP	ALARM H.V.	External output terminal
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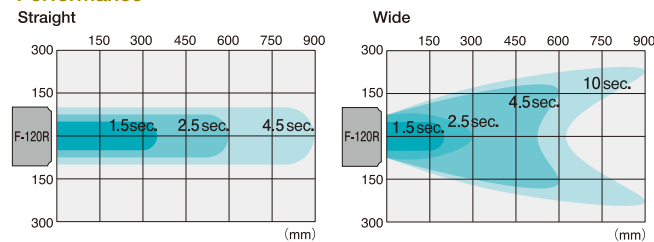
- ▶ Butterfly Louver. Press outer side to disperse air. Press around the center to let air go straight for quick neutralization.
- ▶ Apparent indication of operating status: 2-color LED illuminates red when errors or malfunction occurs.
- ▶ Easy maintenance. The needle electrode is set into the front cover.



Specifications

Model No.	F120R-E
Ionizing method/ Applied voltage	High-frequency AC corona discharge/ 10kVAC (p-p) (H/V power unit)
Input voltage/ Current consumption	24VDC $\pm 5\%$ / 700mA (max.)
Ion balance	within ± 10 V (at factory shipment, max. airflow, straight, at 300mm)
Decay time	1.5 sec. or less (at factory shipment, max. airflow, straight, at 300mm)
Operating distance	150 ~ 900 mm
Dimensions	H198×H162×D70mm(Stand included)
Weight	0.9kg
Airflow	3.66m ³ /min (Max. airflow)
Noise level	HI : 61dBA / LO : 55dBA
Ozone production	0.05ppm or less (50mm)
Operating temp./ humidity	5~40°C/ 35~65% RH (no dew condensation or freezing)
Accessories	AC adapter AD24-ITE, AC cable(1.8m)

Performance



Accessories



AC Adapter
AD24-ITE
Code No.806135
I / P : 100~240VAC 0.4A
O/P : 24VDC 0.75A

Ionizing Fan

Silent fan model
with mild airflow.

F120S-E

Code No. 621646

High Voltage Transformer	Ion balance	Decay time	Directive
Piezoelectric, AC	within ± 10 V	2.5 sec. or less	CE

Input voltage 24VDC	Fan Speed 3 steps	AC adapter 100~240V included	Electrode needle unit replacement	ALARM FAN LOCKUP	ALARM H.V.	External output terminal
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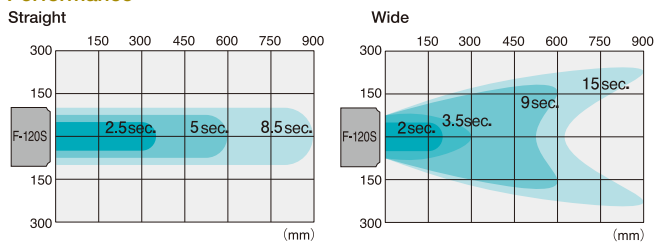
- ▶ Butterfly Louver. Press outer side to disperse air. Press around the center to let air go straight for quick neutralization.
- ▶ Apparent indication of operating status: 2-color LED illuminates red when errors or malfunction occurs.
- ▶ Easy maintenance. The needle electrode is set into the front cover.



Specifications

Model No.	F120S-E
Ionizing method/ Applied voltage	High-frequency AC corona discharge 10kVAC (p-p) (H/V power unit)
Input voltage/ Current consumption	24VDC $\pm 5\%$ / 500mA (max.)
Ion balance	within ± 10 V (Max. airflow, w/o filter, at 300mm)
Decay time	2.5 sec. or less (Max. airflow, w/o filter, at 300mm)
Operating distance	150 ~ 900 mm
Dimensions	H198×H162×D70mm(Stand included)
Weight	0.9kg
Airflow	2.21m ³ /min (Max. airflow)
Noise level	HI : 51dBA / LO : 44dBA
Ozone production	0.05ppm or less (50mm)
Operating temp./ humidity	5~40°C/ 35~65% RH (no dew condensation or freezing)
Accessories	AC adapter AD24-ITE, AC cable(1.8m)

Performance



Accessories



AC Adapter
AD24-ITE
Code No.806135
I / P : 100~240VAC 0.4A
O/P : 24VDC 0.75A

Ionizing Cross-Flow Fan

Wide area neutralization
Evenly, straight, and far.

CF-300-E

Code No. 621657

High Voltage Transformer	Ion balance	Decay time	Directive
Coiled, AC	within ± 10 V	1.5 sec. or less	CE

Input voltage 24VDC	Fan Speed Stepless	AC adapter 100~240V included	ALARM FAN LOCKUP	ALARM H.V.	External output terminal
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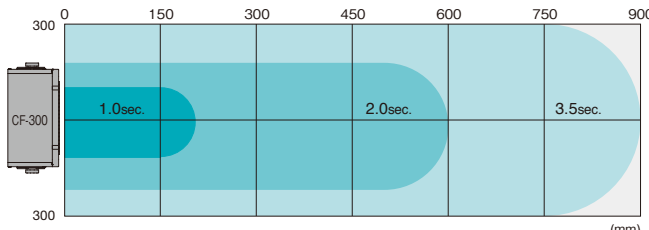
- ▶ Superior ionizing performance with a combination of a cross-flow fan for neutralization in a wide area with a straight front cover.
- ▶ Easy maintenance of needle electrode with a brush that can be just slid by a finger.



Specifications

Model No.	CF-300-E
Ionizing method/ Applied voltage	AC(20kHz) corona discharge / 9.2kVAC(p-p)
Input voltage/ Current consumption	24 VDC ripple (p-p) within $\pm 10\%$ / 500mA(max.)
Ion balance	within ± 10 V (at factory shipment, at 300mm)
Decay time	1.5 sec. or less (300mm at front, max. airflow)
Operating distance	150 ~ 900 mm
Dimensions	H157×W348×D165 mm
Weight	2.9 kg
Airflow	2.5m ³ /min (Max. airflow)
Noise level	HI : 48dBA (at 1m)
Ozone production	0.05ppm or less (at 50mm)
Operating temp./ humidity	5~40°C/ 35~65% RH (no dew condensation or freezing)
Accessories	AC adapter AD24-ITE, AC cable(1.8m) Cleaning brush 1pc.

Performance



Accessories

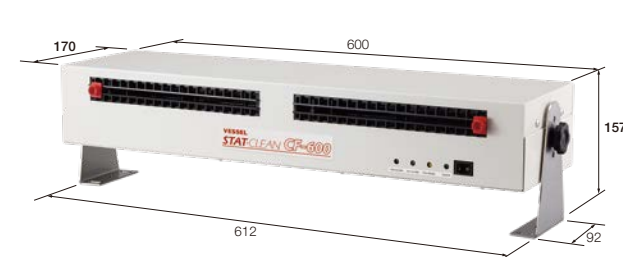


AC Adapter
AD24-ITE
Code No.806135
I / P : 100~240VAC 0.4A
O/P : 24VDC 0.75A

Options and replacement parts
⇒P.38

Ionizing Cross-Flow Fan

Slim and 600mm wide model
for wide area neutralization.

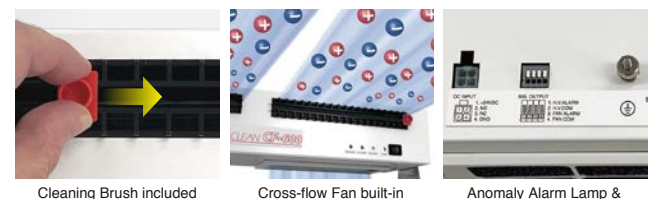
CF-600-E

Code No. 621674

High Voltage Transformer	Ion balance	Decay time
Coiled, AC	within ± 10 V	1.5 sec. or less

Input voltage 24VDC	Fan Speed Stepless	AC adapter 100~240V included	ALARM FAN LOCKUP	ALARM H.V.	External output terminal
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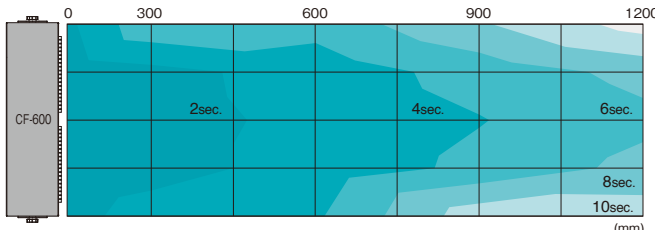
- ▶ Superior ionizing performance with a combination of a cross-flow fan for neutralization in a wide area with a straight front cover.
- ▶ Cleaning brush that can be just slid by a finger is included.



Specifications

Model No.	CF-600-E
Ionizing method/ Applied voltage	AC(20kHz) corona discharge / 9.2kVAC(p-p)
Input voltage/ Current consumption	24 VDC ripple (p-p) within $\pm 10\%$ / 900mA(max.)
Ion balance	within ± 10 V (at factory shipment, at 300mm)
Decay time	1.5 sec. or less (300mm at front, max. airflow)
Operating distance	Approximately 150 ~ 900 mm
Dimensions	H157×W640×D170 mm
Weight	4.6 kg
Airflow	5m ³ /min (Max. airflow)
Noise level	HI : 51.7dBA (at 1m)
Ozone production	0.05 ppm or less
Operating temp./ humidity	5~40°C/ 35~65% RH (no dew condensation or freezing)
Accessories	AC adapter, AC cable(1.8m), Cleaning brush 2pcs. (already mounted), Rubber washer 2pcs., Stand 2 pcs., Angle adjustmet knob 2pcs.

Performance



Accessories



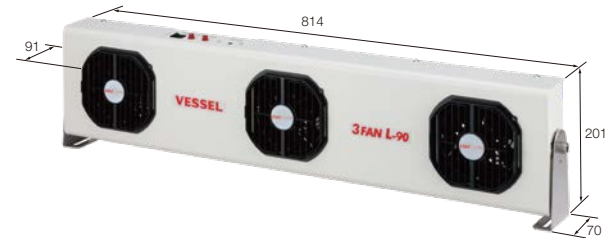
AC Adapter
AD24-ITE
Code No.806081
I / P : 100~240VAC 1.2A
O/P : 24VDC 1.9A

Options and replacement parts
⇒P.38

Overhead Ionizing Triple Fan

Versatile neutralization by combination of the louvers, wide or straight.

L-90-E

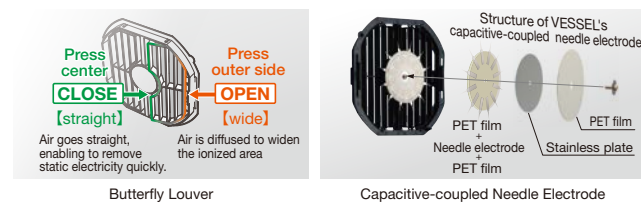


Code No. 621628

High Voltage Transformer	Ion balance	Decay time
Piezoelectric, AC	within ± 10 V	1.5 sec. or less

Input voltage 24VDC	Fan Speed Stepless	AC adapter 100-240V included	Needle electrode unit replacement	ALARM FAN LOCKUP	ALARM H.V.	External output terminal
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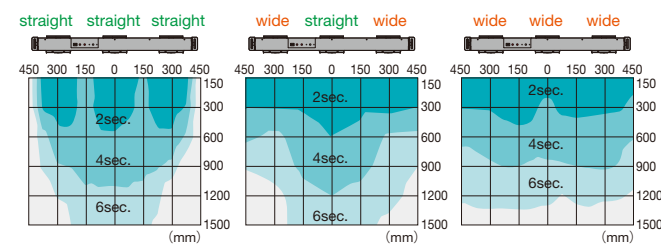
- Butterfly louver is equipped on each fan.
Press outer side to disperse air and around the center to let air go straight for quick neutralization.
- Capacitive-coupled needles ensure stable and long-lasting ionizing performance.
- Easy maintenance: needle electrode is integrated to the front cover.



Specifications

Model No.	L-90-E
Ionizing method/ Applied voltage	High-frequency AC corona discharge/ 9.5kVAC(p-p) (H/V power unit)
Input voltage/ Current consumption	24 VDC $\pm 5\%$ /3.0A(max.)
Ion balance	within ± 10 V (at factory shipment, at 300mm)
Decay time	1.5 sec. or less (at 150mm)
Operating distance	150 ~ 900 mm
Dimensions	H182×W814×D91 mm (with stand: H201×W880×D91 mm)
Weight	5.7kg
Airflow	7.1m ³ /min (a total of 3 fans) (max. airflow)
Noise level	HI : 75.4dBA, LO : 71.9dBA (at 1m)
Ozone production	0.05 ppm or less (at 50mm)
Operating temp./ humidity	5-40°C / 35-65% RH (no dew condensation or freezing)
Accessories	AC adapter, AD24-IT37E, AC cable(1.8m)

Performance



Accessories



AC Adapter
AD24-IT37E
Code No.806139
I/P : 100-240VAC 1.5A
O/P : 24VDC 3.75A

VESSEL ionizers for a variety of applications.



Inspection process



Neutralization on the transporting belt conveyor



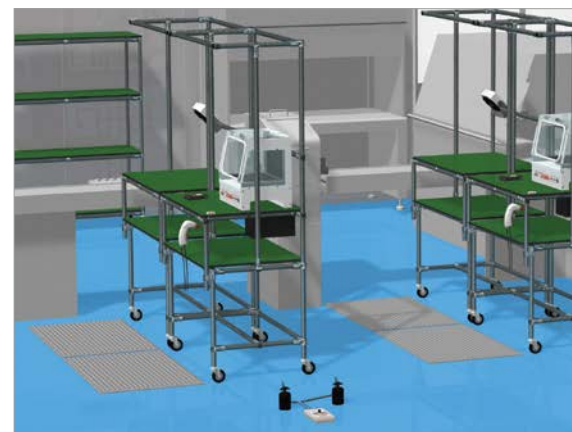
Dust prevention on molded parts



Cell production table



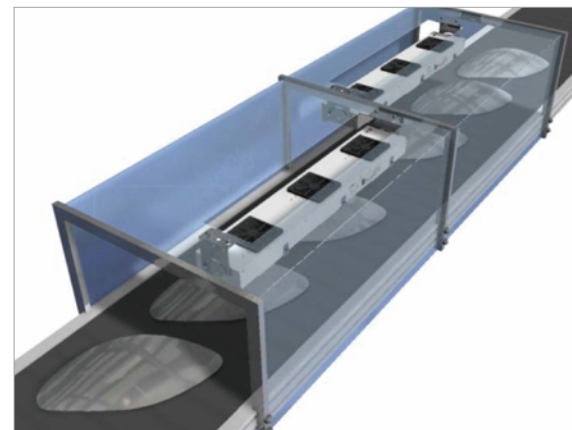
Neutralization and dust removal of molded bumpers before painting process



ESD measured area



Winding and unwinding of films



Neutralization and dust removal during transport after injection molding

Nozzle Type



N-1

Ultra-compact slim ionizing nozzle for pin-point neutralization.

Decay time 1.0 sec. or less



N-3

LED lamp for operation status. For a versatile application with interchangeable nozzles.

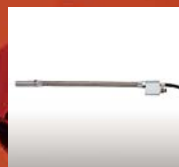
Decay time 1.0 sec. or less



HPN-1 →P37

Good for highly charged products. Suitable for an automated production line.

Decay time 0.5 sec. or less



HPF-1 →P38

Good for highly charged products. Flexible nozzle angle adjustment.

Decay time 1.0 sec. or less

Why is VESSEL's nozzle type our customer's top choice?

1

Operation lamp enables to see the operating status at a glance.

The bright LED lamps show the operating status even when installed in equipment that has no lights.



2

Diverse optional nozzles support various applications.

Use the Silent Nozzle, reducing the exhausting noise.



3

Daisy-chain wiring. Safe because the high voltage cables stay inside the product.

Power can be supplied to multiple units by the daisy-chain wiring. 24 VDC wiring enhances safe connection.



Super Slim Ionizing Nozzle

Super compact slim body, best for neutralization in a cramped area.

N-1



Code No. 621639

High Voltage Transformer	Ion balance	Decay time
Piezoelectric, AC	within ± 10 V	1.0 sec. or less

Input voltage 24VDC	Air pressure max.0.6MPa	AC Adapter (Option)	Screw-type needle electrode	Operation lamp	ALARM H.V.	External output terminal
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- ▶ Super slim and compact design enabling to be installed at any place for any direction. 27.5mm×28mm.
- ▶ Equipped with 6-pole terminals enabling high voltage alarm signal output as well as 24VDC daisy-chain wiring.

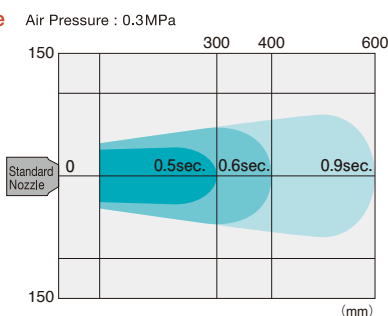


Alarm outputs and daisy chains possible.

Specifications

Model No.	N-1
Ionizing method/ Applied voltage	High frequency AC corona discharge /5kVAC(p-p)
Input voltage/ Current consumption	24VDC $\pm$ 5%, ripple(p-p) 10% or less/ 100mA
Ion balance	within ± 10 V (w/standard nozzle, 0.3MPa, at 150mm)
Decay time	1.0 sec or less (0.3MPa, at 150mm)
Operating distance	50 ~ 600 mm
Dimensions	H28×W27.5×D109.6mm
Weight	62g (with standard nozzle mounted)
Air supply house diameter	Tube fitting O/D6mm
Operating fluid	Clean dry air (0.1 ~ 0.6MPa), N ₂ (0.1 ~ 0.6MPa)
Air consumption	160L/min (w/standard nozzle mounted, 0.2MPa)
Noise	94.2dBA (0.3MPa)
Ozone production	0.05ppm or less (50mm)
Operating temp./ humidity	5~40°C/35~65% RH(no dew condensation or freezing)
Accessories	Standard nozzle (already mounted)

Performance



Options and replacement parts

⇒P.37

Pinpoint Ionizing Nozzle

LED indicator to see the operation status at a glance, for various applications by replacing the nozzles.

N-3



Code No. 621654

High Voltage Transformer	Ion balance	Decay time	Directive
Coiled, AC	within ± 10 V	1.0 sec. or less	CE

Input voltage 24VDC	Air pressure max.0.6MPa	AC Adapter (Option)	Screw-type needle electrode	Operation lamp	ALARM H.V.	External output terminal
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- ▶ Easy to wire with connector terminals.
- ▶ Diverse nozzles support various applications.



Standard Nozzle (included as accessory)

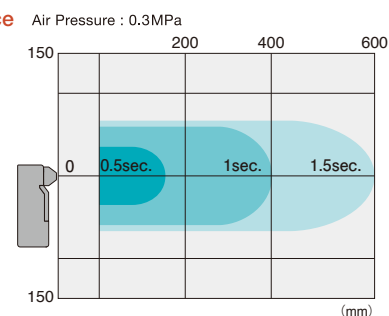


Alarm outputs and daisy chains.

Specifications

Model No.	N-3
Ionizing method/ Applied voltage	High frequency AC corona discharge / 5.6kVAC(p-p)
Input voltage/ Current consumption	24VDC $\pm$ 5% / 90mA(max.)
Ion balance	within ± 10 V (w/standard nozzle, 0.3MPa, at 150mm)
Decay time	1.0 sec or less (0.3MPa, at 150mm)
Operating distance	50 ~ 600 mm
Dimensions	H48×W50×D95mm
Weight	104g
Air supply house diameter	Tube fitting O/D6mm
Operating fluid	Clean dry air (0.1 ~ 0.6MPa), N ₂ (0.1 ~ 0.6MPa)
Air consumption	210L/min (w/standard nozzle mounted, 0.3MPa)
Noise	99.4dBA (0.3MPa)
Ozone production	0.05ppm or less (50mm)
Operating temp./ humidity	5~40°C/35~65% RH(no dew condensation or freezing)
Accessories	Standard nozzle (already mounted), Power supply harness

Performance



Options and replacement parts

⇒P.37

Gun Type

G-5

Power cord is not needed!
Compact and light-weight
ionizing gun for the new era.

Decay time 1.0 sec. or less

G7R-E

Compact and light-weight
High discharge air blow ionizer

Decay time 1.0 sec. or less

G-2-E

Body has a groove in which
the cable can be put.
Dramatically improved workability.

Decay time 0.8 sec. or less

HPG-1 →P39

Good for highly charged products.
Large lever improves workability.

Decay time 0.5 sec. or less

Why is VESSEL's gun type our customer's top choice?

1

No power cord!

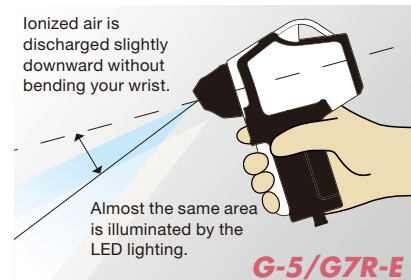
Since a power cord is not necessary, no
cable disconnection occurs.
The compressed air generates power.



2

Ergonomic design grip is
easy to hold and can be
adjusted to the most
appropriate angle.

Holding the grip, the nozzle will be
oriented to the appropriate direction for
immediate work.



3

Built-in high voltage power unit.
Safe because the high voltage
cable does not come out.

The high-voltage cable is not exposed, so
there's no need to worry about current leakage
or electric shock caused by wire disconnection.



Air-Powered Ion Gun

Power cord is not needed! Compact and light-weight ionizing gun for the new era.

G-5



Code No. 621681

High voltage transformer	Ion balance	Decay time	Directive
Coiled, AC	within $\pm 20V$	1 sec. or less	CE

Air pressure max. 0.7MPa	Screw-type needle electrode	LED illumination	Operation lamp	ALARM H.V. lamp
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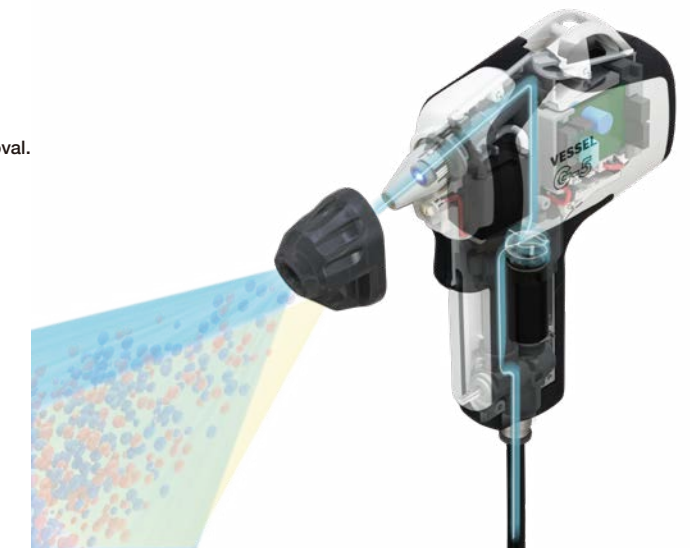
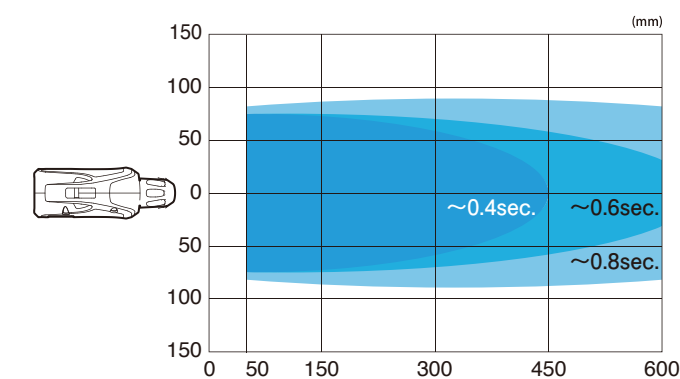
- ▶ Can be used just by connecting to the air supply. Simple design model that does not need power supply or adjustment.
- ▶ Can be used with 0.2~0.7MPa air pressure! Supports various applications.
- ▶ Ion balance within $\pm 20V$ has become a reality (0.4MPa or less).
- ▶ Air discharging power is increased. Blow-off effect is improved.
- ▶ Equipped with LED lighting that illuminates workpiece. Can check dust removal.
- ▶ The nozzle orients downward when the product is held with a hand. Nozzle direction matching the actual work.

Specifications

Model No.	G-5
Ionizing method/Applied voltage	AC corona discharge / 8kVAC p-p
Ion balance	within $\pm 20V$ (~0.4MPa), within $\pm 40V$ (~0.7MPa)
Decay Time	1sec. or less $\pm 1000V \rightarrow \pm 100V$ (0.5MPa, at 150mm)
Operating distance	50~600mm(Indoor)
Dimensions	H164xW139xD51mm
Mass	Approx. 365g
Air connection	O/D 8mm Tube applied, air joint
Operating fluid/Input pressure	Clean dry air / 0.2 ~ 0.7MPa (Rated 0.5MPa)
Air volume	422L/min (0.5MPa)
Noise	Approx. 99.3dBA (Air supply condition 0.5MPa, at 1000mm)
Protective circuit	High-voltage short-circuit detection circuit / Overloaded voltage protection circuit / High temp. abnormality stop circuit
Operating temp./humidity	5~45°C/ 10~90% RH (no dew condensation or freezing)
Accessories	Instruction manual, Air joint $\phi 8mm$ (already mounted), Nozzle guard (already mounted)

Performance

Air Pressure: 0.5MPa $\pm 1000V \rightarrow \pm 100V$ Decay time (measured value)



Can use in a spacious area just by
extending the air hose!

Status indicator LED showing the operation
status.



Normal
POWER
Green light during operation.

Abnormality
ABN STOP
Red light: Abnormality in relation to
the power generation.
Red flash: Abnormality in relation to
the high temperature.

Abnormality
H.V.
Red light: Abnormality in relation to
the high voltage power.

Options

Nozzle guard
G-5NZG



Standard nozzle
G-5SN



Plug with urethane tube
G-9UTP
Hose: $\phi 8 \times \phi 5mm$ (Length: 3m)



Needle electrode
GN-H



Ionizing Gun

Our most popular ionizing air gun.
Designed in pursuit of compactness, light-weight, and user-friendliness.

G7R-E



Code No. 621621

High Voltage Transformer	Ion balance	Decay time	Directive
Piezoelectric, AC	within ± 10 V	1.0 sec. or less	CE UK

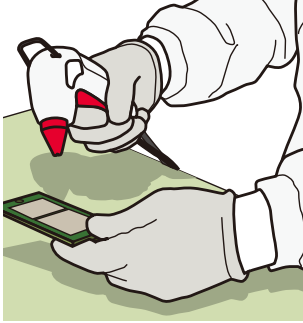
Input voltage 24VDC	Air Pressure max 0.6MPa	LED illumination	AC adapter 100-240V included	Screw-type needle electrode	Operation lamp	ALARM H.V.
------------------------	----------------------------	---------------------	------------------------------------	-----------------------------------	-------------------	---------------

- ▶ Bright white LED lamp makes dust visible.
- ▶ Ideal for neutralization and dust elimination from precision parts, for example, at hand in a cell production.
- ▶ Diverse options support various applications.

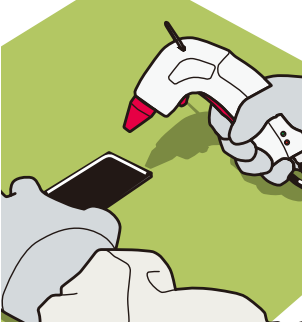
Dust removal from plastic trays



Dust removal from substrates



Dust and static-electricity removal from mobile phone parts



Dust and static-electricity removal from bumpers

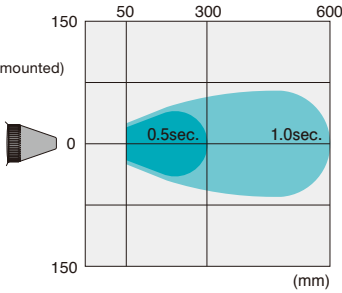


Specifications

Model No.	G7R-E
Ionizing method/ Applied voltage	High frequency AC corona discharge / 6.0kVAC(p-p)
Input voltage/ Current consumption	24VDC $\pm 5\%$ / 74mA(typ. LED lamp:ON)
Ion balance	within ± 10 V(at factory shipment, input air pressure 0.3MPa, at 150mm)
Decay time	1.0 sec or less (0.3MPa, at 150mm)
Operating distance	50 ~ 300 mm (Installation: indoor, non-hazardous area)
Dimensions	H150xW36xD102mm
Weight	198g
Air supply house diameter	Tube fitting O/D6mm
Operating fluid	Clean dry air (0.1 ~ 0.6MPa)
Air consumption	180L/min (0.3MPa)
Noise	92dBA (0.3MPa)
Ozone production	0.05ppm or less (50mm)
Operating temp./ humidity	5~40°C/35~65% RH(no dew condensation or freezing)
Accessories	AC adapter AD24-ITC-E, AC cable (1.8m), Standard Nozzle (Already mounted)

Performance

Air Pressure : 0.3MPa
(with Standard nozzle mounted)



Accessories



AC Adapter
AD24-ITC-E
Code No. 806067
I / P : 100~240VAC 0.4A
O / P : 24VDC 0.75A

Options and replacement parts

⇒P.41

Ionizing Gun

Improved workability with the cables in the grooves on the grip.

G-2-E



Code No. 621659

High Voltage Transformer	Ion balance	Decay time	Directive
Piezoelectric, AC	within ± 10 V	0.8 sec. or less	CE

Input voltage 24VDC	Air Pressure max 0.6MPa	AC adapter 100-240V included	Screw-type needle electrode	Operation lamp	ALARM H.V.
------------------------	----------------------------	------------------------------------	-----------------------------------	-------------------	---------------

- ▶ Can change the piping and cable direction according to the application. Does not get in the way of work on the cell production bench.
- ▶ Remove the cap, and it is easy to clean the needle.



Powerful blow of ionized air through the dedicated nozzle.



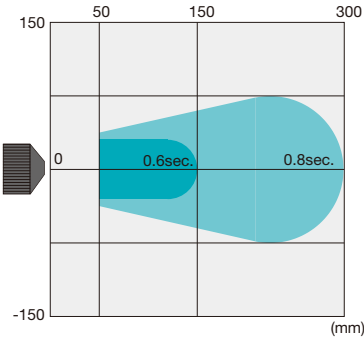
Can fit the cable in the groove on the grip lateral side.

Specifications

Model No.	G-2-E
Ionizing method/ Applied voltage	High-frequency AC corona discharge / 4.5kVAC(p-p)
Input voltage/ Current consumption	24VDC $\pm 5\%$ / 100mA(typ.)
Ion balance	within ± 10 V
Decay time	1.0 sec or less (0.3MPa, at 150mm)
Operating distance	50 ~ 300 mm (Installation: indoor, non-hazardous area)
Dimensions	H157xW148xD44mm
Weight	260g
Air supply house diameter	Tube fitting O/D6mm
Operating fluid	Clean dry air (0.1 ~ 0.6MPa)
Air consumption	153L/min (0.3MPa)
Noise	94dBA (0.3MPa)
Ozone production	0.05ppm or less (50mm)
Operating temp./ humidity	5~40°C/35~65% RH(no dew condensation or freezing)
Accessories	AC adapter AD24-ITCS-E, AC cable(1.8m) , Standard Nozzle (already mounted)

Performance

Air Pressure:0.3MPa



Use by hanging above cell production benches



The air tube and the cable can be placed upward or downward.



Removal of static electricity from plastic trays



Accessories



AC Adapter
AD24-ITCS-E (Length 1.5m)
Code No. 806084
I/P : 100~240VAC 0.4A
O/P : 24VDC 0.75A

Why is VESSEL's bar type our customer's top choice?

Bar Type

C-series

Compact and clean design.
Super-high speed ionizer.

Ion balance within $\pm 30V$
(at 1000mm)

SL-series

Compact and slim body.
For charged products during
their transportation.

HPB-series →P40

Good for highly charged products.
Optimum for installation in a cramped space.

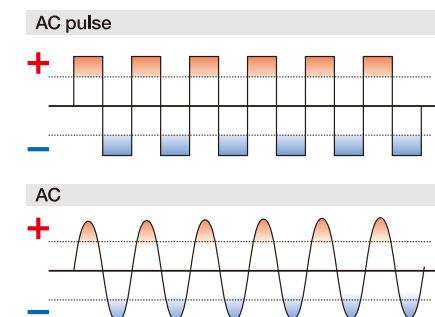
Decay time 2.0 sec. or less

1

High Speed Static Electricity Removal

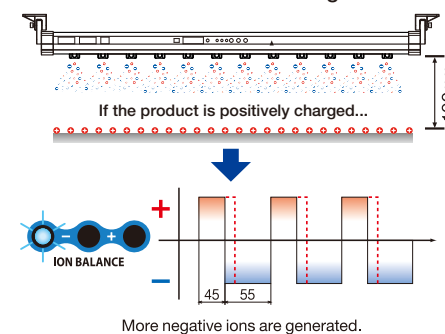
AC pulse method

Generating alternately positive ions and negative ions from each electrode. Since ions are generated at the maximum width of each positive and negative electrode cycle, the ion volume is high and static electricity can be removed quickly.



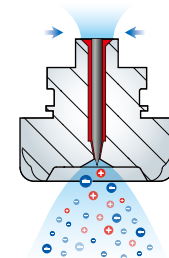
Auto Balance Mode

The C series are equipped with a mode to optimally adjust the ion balance automatically according to the polarity of the charged product (Target distance: 50 to 100 mm)
*Available on the C-90 and longer models.



Air purge function

By purging air toward the tips of needle electrode, particle adhesion to them is prevented and the ionized air is delivered at high speed for eliminating the charges.



2

Usability

Easy maintenance design

One-touch needle replacement. A socket type needle can be easily replaced.



Clean design

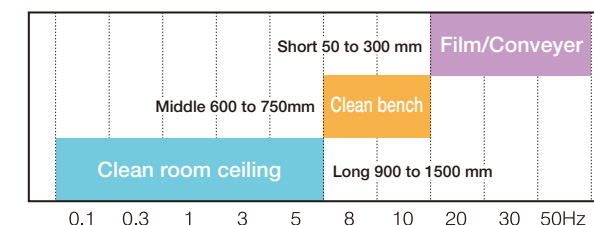
Needle cleaning time notified

The cleaning interval of the needles can be set by a unit of day from 1 to 60 days. When the time elapses, the needle cleaning alarm lamp lights up.
※C-90 and longer models

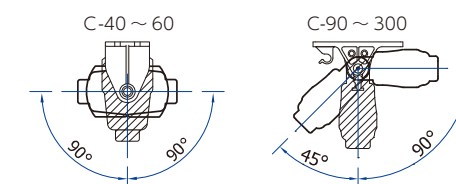


Frequency

Change the frequency according to the distance to the charged product for quick static electricity removal.



Angle adjustment

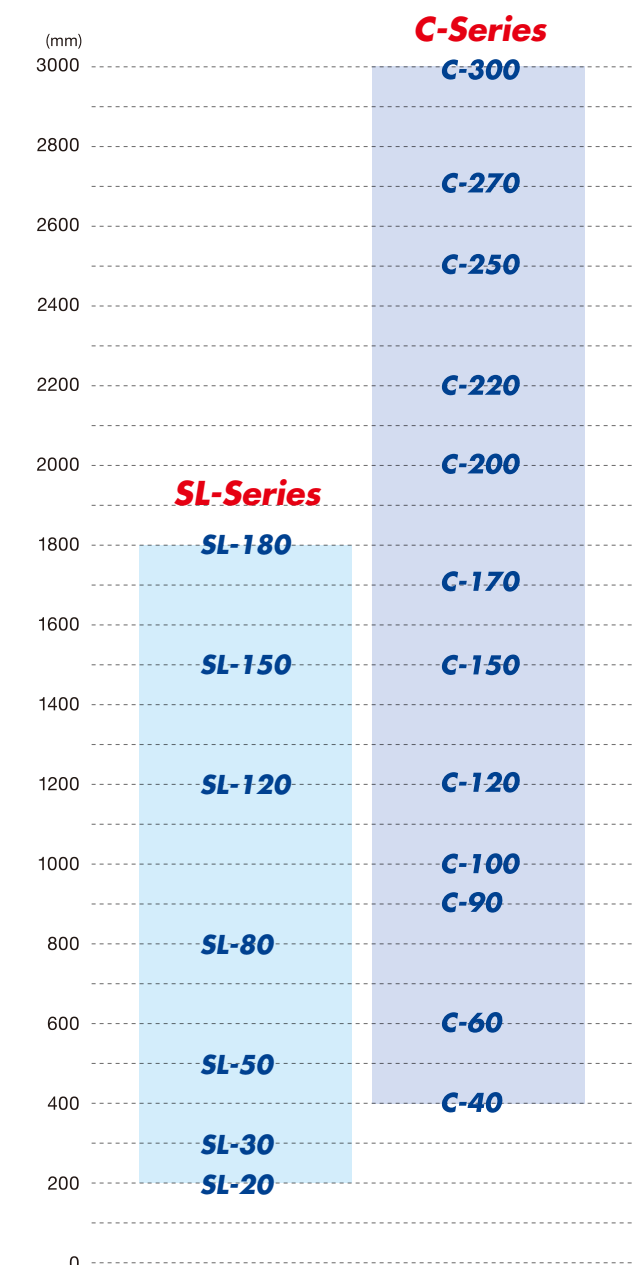


3

Variations

Sizes to match various working environments

12 sizes are available, supporting the wide variety of applications from assembly of manufacturing equipment of small electric parts to large products such as film and liquid crystal glasses.



Ionizing Bar

High power bar
For highly charged or fast moving products.

SL-series



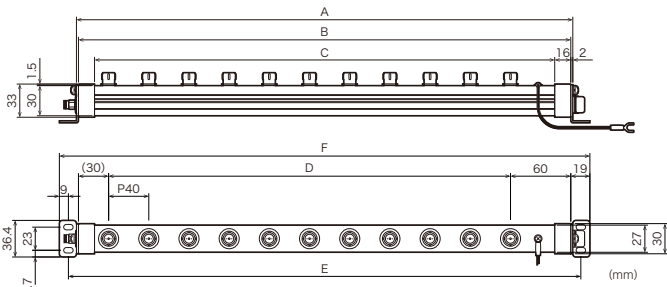
Directive



- ▶ Effective high speed neutralization with air assist system.
- ▶ Bracket enables to adjust the angle of the bar after installation.
- ▶ Needle electrodes can be detached for replacement or maintenance without taking out the bar from the installed place.
- ▶ The high voltage cable with silicone cable is detachable.
- ▶ In combination with the optional high voltage power supply unit and the branch box, upto 3 bars can be simultaneously used (with condition, see the right).

Specifications

Model No.	SL-20/SL-30/SL-50/SL-80/SL-120/SL-150/SL-180
Type	High voltage applied type ionizer (bar type)
Structure	Direct-coupled
Power supply	High Voltage Power Supply Unit GP-1 4kV/SH-G3
Ionizing method	AC corona discharge
Applied voltage/ Frequency	10.5kVAC(p-p)/ 30Hz (when connecting to SH-G3)
Operating temp./ humidity	5~55℃, 25~85%RH (no dew condensation or freezing)
Installation distance	50~2000mm or around (Air supply is indispensable when the bar is installed at 100mm or more away from the charged product)
Decay time	within 1sec. (Air pressure 0.3MPa, at 300mm)
Ion balance	Adjustable on GP-1 4kV/ SH-G3
Installation place	Indoor
Protective circuit	High Voltage Power Supply GP-1 4kV has voltage anomaly detection function and automatic stop circuit. The SH-G3 has a fuse of 250V 1A inside.
End connector	High voltage connector CON-4
Air connection	PT1/8 with one-touch joint
Air hose	SL-80 or shorter: O/D6mm, SL-120 or longer: O/D8mm
Air supply	Clean dry air or nitrogen gas (0.3MPa or less)
Air consumption	135L/min (SL-30, air pressure 0.3MPa)
Material	Body:flame-retardant ABS resin+SUS304, Discharge needle: Tungsten (W.99.99%)
Size	See the table below.
Accessories	Instruction manual, Grounding wire



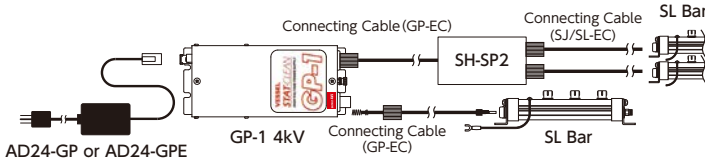
Dimensions / Needle Electrodes

Model No.	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Needle Electrode	Weight (kg)
SL-20	174	170	138	80	190	208	3 pcs.	0.2
SL-30	334	330	298	240	350	368	7 pcs.	0.3
SL-50	494	490	458	400	510	528	11 pcs.	0.7
SL-80	814	810	778	720	830	848	19 pcs.	0.9
SL-120	1,134	1,130	1,098	1,040	1,150	1,168	27 pcs.	1.1
SL-150	1,454	1,450	1,418	1,360	1,470	1,488	35 pcs.	2.0
SL-180	1,774	1,770	1,738	1,680	1,790	1,808	43 pcs.	2.2

SL-20	Code No.621877	SL-80	Code No.621880	SL-180	Code No.621883
SL-30	Code No.621878	SL-120	Code No.621881		
SL-50	Code No.621879	SL-150	Code No.621882		

Using the optional High Voltage Power Supply Unit GP-1,
2 ionizing bars can be connected.
Adding the Branch Box SH-SP2, 3 bars in total can be connected.

*Note:the total length of cables must be less than 10m.
If you require more length, please contact us.



Options

	Connecting cable (2.5m) GP-EC2.5 Code No. 623053	Connecting cable (5m) GP-EC5 Code No. 623054
	Connecting cable (2.5m) SL-EC2.5 Code No. 621884	Connecting cable (5m) SJ-EC5 Code No. 623052
	Needle electrode SJ-00HR Code No. 623055	

Power Supply Unit

Power Supply units supporting 100 to 240 VAC.

SH-G3



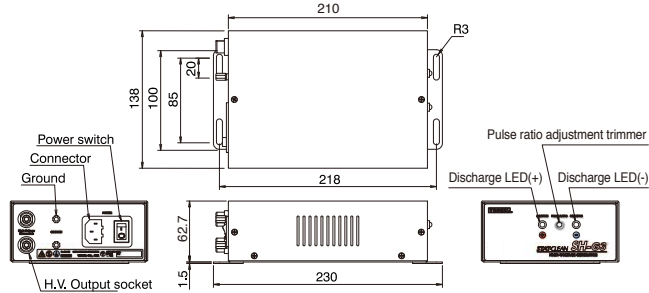
Code No. 621555



- ▶ 2 sockets equipped for connection with ionizing bars.
- ▶ Easy installation and wiring with ionizing bars.
- ▶ Ion balance adjustment function (pulse ratio)
- ▶ Light-weight body 1.35kg

Specifications

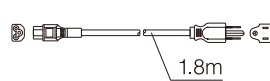
Model No.	SH-G3
Output voltage	5kVAC
Input voltage	100 ~ 240VAC, 50/60Hz
Current consumption	10W
Dimensions	W138 x D210 x H62.7 mm
Weight	1.35 kg



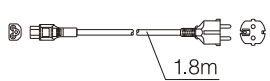
Accessories

AC power cable

For 100VAC



For 240VAC



High Voltage Power Supply Unit

GP-1 4kV

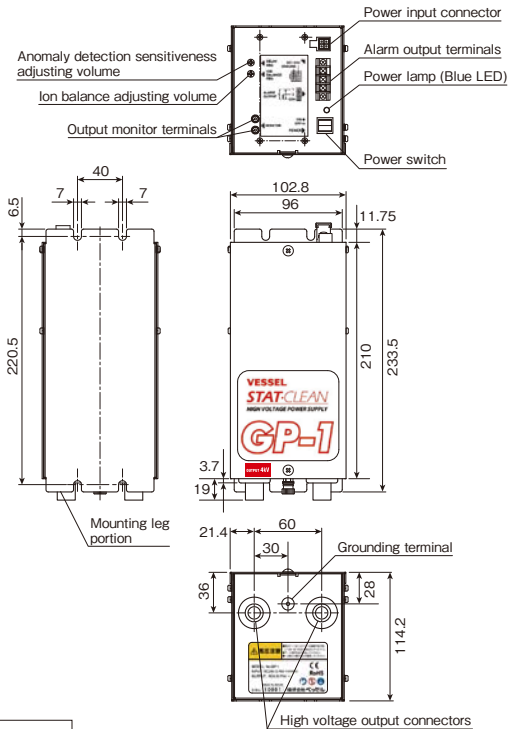
OUTPUT 4kV

Code No. 623044

- ▶ 24VDC input voltage. Safety with low voltage operation.
- ▶ Ion balance can be accurately adjusted with the dedicated volume.
- ▶ The output stops automatically when the short-circuit or overcurrent occurs.
- ▶ Max. 2 pieces of ionizing bar can be connected.

Specifications

Model No.	GP-1 4kV
Installation Place	Indoors
Rated input voltage	24V DC±10%
Rated temporary current	0.75A or less
Output voltage (no-load)	AC output range 4kV/5kV/7kV (3-step switchable/adjustable with built-in switch)
Offset voltage	-150~+550V (adjustable with external volume)
Secondary short circuit current	5 mA or lower
Output monitor	1/1000V±5% of the output voltage is output to the monitor terminals.
Low-voltage detection	Anomaly detection function will activate when the actual output drops to about 85% or less of the set voltage due to high voltage short circuit or abnormal sparks.
Overcurrent detection	Anomaly detection function will activate when the output current is about 4mA or more.
Anomaly detection sensitivity adjustment	The anomaly detection response speed can be adjusted (adjustable with external volume)
Power input connector	Molex 5569-04A1-210
High voltage output connector	Ceramic high voltage output terminal x 2 pieces
Alarm output terminal	C contact relay output
Contact rating	125VAC, 0.4A or 30VDC, 2A (resistance loaded)
Switches and displays	On-off rocker switch. Blue LED power indicator lamp (goes off when anomaly is detected)
Material	Housing SPCC, painted white
Size	W102.8xD233.5xH114.2mm
Weight	Approx. 4.5kg
Operating temp./ humidity	0~40℃/10~85%RH (no dew condensation or freezing)



Option



- AC Adapter
AD24-GP
● Code No. 806049
AD24-GPE
● Code No. 806048

I / P : 100~240VAC 0.4A
O / P : 24VDC 0.75A

Specifications

Rated input	100~240VAC (50/60Hz), 0.4A
Rated output	24VDC, 0.75A
Operating temp. /humidity	0~40℃, 10~85%RH (no dew condensation or freezing)
Cord	DC output cord approx.1.8m
Accessories	AC input cord approx.1.8m

Ion Parts Cleaner



IPC-A4

Ideal A4 size for cell workbenches



IPC-A3

Ideal A3 size for cell workbenches



IPC-200

All-in-one system with static elimination, dust removal, and dust collection!



IPC-400

All-in-one system with static elimination, dust removal, and dust collection!



IPC-600

All-in-one system with static elimination, dust removal, and dust collection!



IPC-V4

Foot-installed type
Static eliminator / Dust collector



IPC-250CR

New concept of neutralization

Why is VESSEL's ion parts cleaner our customer's top choice?

1

Neutralization and dust elimination inside hoods

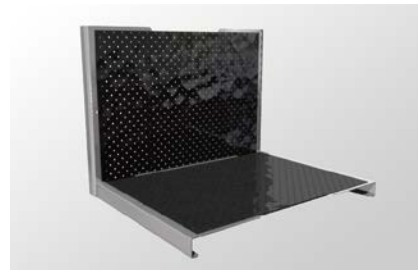
Product with dust that was adhered by static electricity is neutralized in the ionized hood. And the automated high power air blow will remove dust.



2

Collect dust with self-adhesive urethane gel

The adhesive surface of the urethane gel mat enables to catch dust blown away by the ionized air inside the booth. The washable gel sheet can be used repeatedly (IPC-A4/IPC-A3/IPC-V4)



Fan Type

Nozzle Type

Gun Type

Bar Type

Ion Parts Cleaner

EPA Products

Clean Walker

Options

Ion Parts Cleaner

A4 size is ideal for collecting dust with adhesive urethane gel at cell workbench.

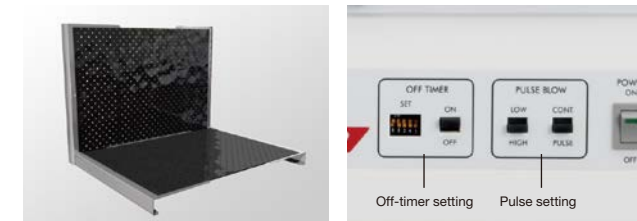
IPC-A4



Code No.621610

Sensor	Air blow (switchable)	Off timer	Directive
Diffused reflection type	Continuous/ Pulse	1 to 30 sec. (5 steps)	CE
Input voltage 24VDC	Air Pressure max 0.6MPa	Ionizer 1pc.	AC adapter 100~240V included
		Airflow adjustment	Gel sheet + fan filter
			Integrated hood/dust collector

- ▶ Since a dust collector is not needed, the current consumption is greatly reduced.
- ▶ Built-in ionizing nozzle emits air for removal of dust and static electricity in either continuous or pulse mode.
- ▶ Urethane gel sheet can be washed for repeated use.



Self Adhesive GEL collects dust.

Specifications

Model No.	IPC-A4
Ionizing method/Applied voltage	High frequency AC corona discharge/ 5.6kVAC(p-p)
Input voltage	24VDC ±5%
Current consumption	700mA or less
Dust collection airflow	3.5 m³/min (Built-in fan)
Static pressure	105Pa (Built-in fan)
Dust collection filter	Self-adhesive polyurethane gel sheets and non-woven fabric filter
Dimensions	H361×W314×D253mm
Weight	6kg
Air supply house diameter	Tube fitting O/D8mm
Air consumption	147L/min(0.3MPa, Continuous mode)
Operating fluid	Clean dry air (0.1 ~ 0.6MPa)
Ozone production	0.05ppm or less(50mm)
Operating temp./ humidity	5~40°C / 35~65% RH (no dew condensation or freezing)
Accessories	Adhesive gel sheet plate (2 pcs.)(Already mounted), Non-woven simplified filter (Already mounted)/ AC adapter AD24-IT19

Accessories



Adapter specification

- ... AD24-IT19E is available on request.

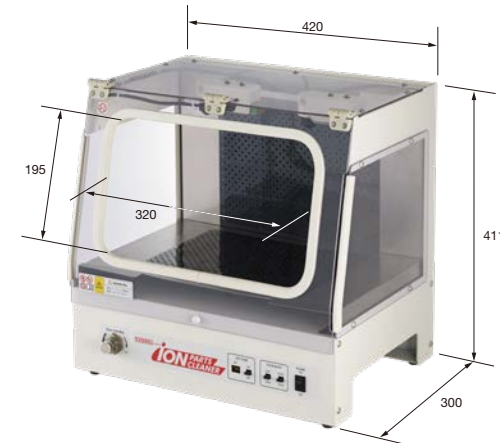
Options and replacement parts

⇒P.42

Ion Parts Cleaner

A3 size is ideal for collecting dust with adhesive urethane gel at cell workbench.

IPC-A3



Code No.621612

Sensor	Air blow (switchable)	Off timer	Directive
Diffused reflection type	Continuous/ Pulse	1 to 30 sec. (5 steps)	CE
Input voltage 24VDC	Air Pressure max 0.5MPa	Ionizer 2 pcs.	AC adapter 100~240V included
		Airflow adjustment	Gel sheet + fan filter
			Integrated hood/dust collector

- ▶ Since a dust collector is not needed, the current consumption is greatly reduced.
- ▶ Built-in ionizing nozzle emits air for removal of dust and static electricity in either continuous or pulse mode.
- ▶ Either paper pack filter or duct can be attached.



Regulator Built-in

Specifications

Model No.	IPC-A3
Ionizing method/Applied voltage	High frequency AC corona discharge/ 5.6kVAC(p-p)
Input voltage	24VDC ±5%
Rated current	1.31A
Dust collection airflow	1.13 m³/min (Built-in fan)
Static pressure	460Pa (Built-in fan)
Dust collection filter	Self-adhesive polyurethane gel sheets and paper pack filter
Dimensions	H411×W420×D300mm
Weight	9.5kg
Air supply house diameter	Tube fitting O/D10mm
Air consumption	265L/min(0.3MPa, Continuous mode)
Operating fluid	Clean dry air (0.1 ~ 0.5MPa)
Ozone production	0.05ppm or less(50mm)
Operating temp./ humidity	5~40°C / 35~65% RH (no dew condensation or freezing)
Accessories	AC adapter AD24-IT19, Adhesive gel sheet plate (Already mounted) x 2 pcs.,Duct flange (for φ75mm), Paper pack filter (6 pcs.)

Accessories



Adapter specification

- ... AD24-IT19E is available on request.

Options and replacement parts

⇒P.42

Ion Parts Cleaner

All-in-one system with static elimination,
dust removal, and dust collection!

IPC-200



Code No.621678

Sensor	Air blow(switchable)	Off timer
Area sensor	Continuous/Pulse blow	1 ro 10 sec.

Input voltage 24VDC	Air pressure max.0.7MPa	Ionizer 1pc.	Air nozzle 2 pcs.	AC adapter 100~240V included	Medium efficiency particulate filter	Integrated hood/dust collector
------------------------	----------------------------	-----------------	----------------------	------------------------------------	--	--------------------------------------

- ▶ Area sensor adopted. Wider opening improves workability.
- ▶ Enriched functions supporting the power saving and work standardization.
- ▶ Quiet and compact DC brushless motor adopted for high dust collection performance.



In addition to the wide opening, the sensor
detecting area is enlarged.



Useful air blow functions

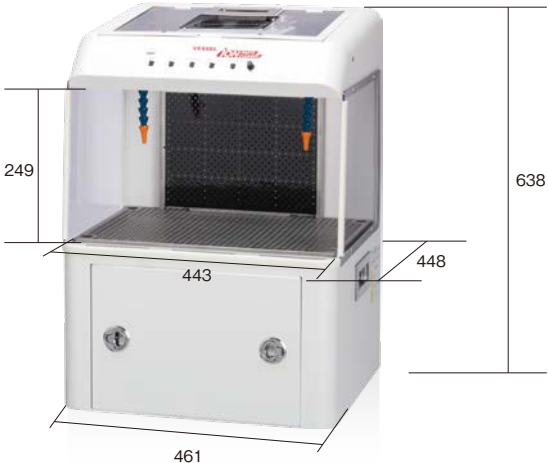
Specifications

Model No.	IPC-200
Ion generation method / Applied voltage	High-frequency AC corona discharge / 10kVAC (p-p)
Input voltage	24VDC±5%
Consumption current	4.0A
Dust collection air volume	3.3 m³/min
Static pressure	0.45kPa
Controlled air speed on a table	1.1 m/sec.
Dust collecting volume	0.2L
Dust collecting filter	Pre-filter, Medium efficiency particulate filter
Width x Depth x Height	H625×W361×D420mm
Weight	24.0kg
Air tube	Tube fitting, O/D 10mm x I/D 6.5mm
Operating fluid	Clean dry air (CDA)
Air consumption	412L/min (0.7MPa/Continuous mode) 334L/min (0.7MPa/Pulse HIGH) 305L/min (0.7MPa/Pulse LOW)
Noise	60dBA (measured distance 1m from the front of the opening)
Ozone generation	0.05ppm or less (50mm)
Operating temperature / humidity	5~40℃ / 35~65%RH (no dew condensation or freezing)
Accessories	Exhaust air cover, AC adapter AD24-IT20, Instruction manual (AC adapter AD24-IT20: 100~240VAC, 50/60Hz)

Ion Parts Cleaner

All-in-one system with static elimination,
dust removal, and dust collection!

IPC-400

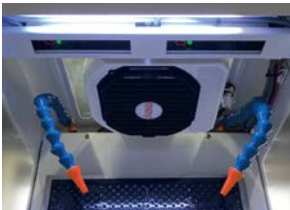


Code No.621679

Sensor	Air blow(switchable)	Off timer
Area sensor	Continuous/Pulse blow	1 ro 10 sec.

Input voltage 24VDC	Air pressure max.0.7MPa	Ionizer 1pc.	Air nozzle 2 pcs.	AC adapter 100~240V included	Medium efficiency particulate filter	Integrated hood/dust collector
------------------------	----------------------------	-----------------	----------------------	------------------------------------	--	--------------------------------------

- ▶ Area sensor adopted. Wider opening improves workability.
- ▶ Enriched functions supporting the power saving and work standardization.
- ▶ Quiet and compact DC brushless motor adopted for high dust collection performance.



Equipped with LED light for easy check of
the working progress.



Pre-filter

Medium efficiency
particulate filter

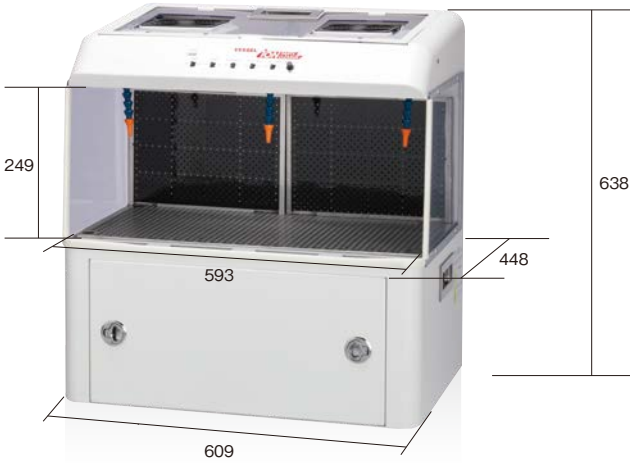
Specifications

Model No.	IPC-400
Ion generation method / Applied voltage	High-frequency AC corona discharge / 10kVAC (p-p)
Input voltage	24VDC±5%
Consumption current	4.0A
Dust collection air volume	2.8 m³/min
Static pressure	0.45kPa
Controlled air speed on a table	0.64 m/sec.
Dust collecting volume	0.28L
Dust collecting filter	Pre-filter, Medium efficiency particulate filter
Width x Depth x Height	H638×W461×D448mm
Weight	28.6kg
Air tube	Tube fitting, O/D 10mm x I/D 6.5mm
Operating fluid	Clean dry air (CDA)
Air consumption	412L/min (0.7MPa/Continuous mode) 334L/min (0.7MPa/Pulse HIGH) 305L/min (0.7MPa/Pulse LOW)
Noise	60dBA (measured distance 1m from the front of the opening)
Ozone generation	0.05ppm or less (50mm)
Operating temperature / humidity	5~40℃ / 35~65%RH (no dew condensation or freezing)
Accessories	Exhaust air cover, AC adapter AD24-IT20, Instruction manual (AC adapter AD24-IT20: 100~240VAC, 50/60Hz)

Ion Parts Cleaner

All-in-one system with static elimination,
dust removal, and dust collection!

IPC-600



Code No.621680

Sensor	Air blow(switchable)	Off timer
Area sensor	Continuous/Pulse blow	1 ro 10 sec.

Input voltage 24VDC	Air pressure max.0.7MPa	Ionizer 2 pcs.	Air nozzle 3 pcs.	AC adapter 100~240V included	Medium efficiency particulate filter	Integrated hood/dust collector
------------------------	----------------------------	-------------------	----------------------	------------------------------------	--	--------------------------------------

- ▶ Area sensor adopted. Wider opening improves workability.
- ▶ Enriched functions supporting the power saving and work standardization.
- ▶ Quiet and compact DC brushless motor adopted for high dust collection performance.



DC brushless motor is adopted in the
dust collection fan, which increases the
dust collecting capacity.



SLEEP mode saves the power
and reduces noises.

Specifications

Model No.	IPC-600
Ion generation method / Applied voltage	High-frequency AC corona discharge / 10kVAC (p-p)
Input voltage	24VDC±5%
Consumption current	4.0A
Dust collection air volume	5.5 m³/min
Static pressure	0.45kPa x2
Controlled air speed on a table	0.71 m/sec.
Dust collecting volume	0.4L
Dust collecting filter	Pre-filter, Medium efficiency particulate filter
Width x Depth x Height	H638×W609×D448mm
Weight	39.1kg
Air tube	Tube fitting, O/D 10mm x I/D 6.5mm
Operating fluid	Clean dry air (CDA)
Air consumption	459L/min (0.7MPa/Continuous mode) 374L/min (0.7MPa/Pulse HIGH) 324L/min (0.7MPa/Pulse LOW)
Noise	63dBA (measured distance 1m from the front of the opening)
Ozone generation	0.05ppm or less (50mm)
Operating temperature / humidity	5~40℃ / 35~65%RH (no dew condensation or freezing)
Accessories	Exhaust air cover, AC adapter AD24-IT30, Instruction manual (AC adapter AD24-IT30: 100~240VAC, 50/60Hz)

Ion Parts Cleaner

Dust Box Type Ion Cleaner
Small footprint design saves the desk space

IPC-V4



Code No. 621611

Sensor	Air blow (switchable)	Off timer	Directive
Diffused reflection type	Continuous/Pulse blow	1 to 30 sec. (5 steps)	CE

Applied voltage 24VDC	Air Pressure max 0.6MPa	Ionizer 1 pc.	AC adapter 100~240V included	Gel sheet + fan filter	Integrated hood/dust collector
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- ▶ Insert the charged item through the opening at the top, and the ion air is automatically blown out.
- ▶ The transparent hood makes the internal side look bright to see well contamination.
- ▶ Adhesive gel sheet increases efficiency in dust collection.
- ▶ Compact design for easy installation/relocation of the machine.

Specifications

Model No.	IPC-V4
Ionizing method/ Applied voltage	High voltage AC corona discharge (No.N-3 ionizer)/5.6kVAC p-p
Input voltage	24VDC±5% (when using the enclosed power adapter 100~240VAC, 50/60Hz)
Power Consumption	18W
Dust collection speed	1.13 m³/min (Built-in fan)
Static pressure	460 Pa (Built-in fan)
Dimensions	W200 x D289 x 297mm (without protrusions)
Weight	3.8 kg
Air joint	Tube fitting O/D8mm
Operating fluid	Clean dry air (0.1~0.3MPa)
Air consumption	161L/min (0.3MPa, Continuous mode)
Noise	88.3 dBA (0.3MPa, at 600mm)
Ozone production	0.05 ppm or less (50mm)
Operating temp./ humidity	5~40°C/ 35~65% RH (no dew condensation or freezing)
Accessories	AC adapter AD24-IT19 or AD24-IT19E, Adhesive gel sheet for internal wall side (w/magnet sheet) IPC-V4GB (already mounted), Adhesive gel sheet plate for bottom side, Paper pack filter (6pcs.) IPC-A3F, 2P-3P conversion adapter, Tilt adjustment spacer (2pcs.), Instruction manual (IPC-V4, N-3)

Accessories



AC Adapter
AD-24-IT19
Code No. 806081
I/P : 100~240VAC 1.2A
O/P : 24VDC 1.9A



Tilt adjustment
spacer (2 pcs.)

Adapter specification

● ... ● AD24-IT19E is available on request.

Options and replacement parts
⇒P.42

Fan Type	Nozzle Type	Gun Type	Bar Type	Ion Parts Cleaner	EPA Products	Clean Walker	Options
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Ion Parts Cleaner

Effective ion cleaning with HEPA filter and built-in ionizer

IPC-250CR



Code No. 623201

Sensor	Air blow	Off delay timer
Not available	Continuous	Not available

Input voltage 24V DC	DC type ionizer	AC adapter 100~240V (Option)	Air discharge port	Air volume regulator built-in	HEPA filter
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- ▶ Built-in HEPA filter emits clean air that removed 99.97% of particles 0.3µm and larger.
- ▶ Compressed air is not needed.
Air circulation system does not exhaust air to the outside of the machine.



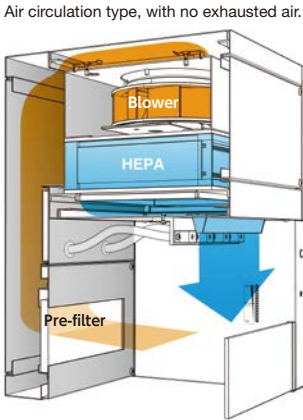
HEPA filter is built-in.
Replaceable on a unit basis.

Specifications

Model No.	IPC-250CR
Ionizing method/Applied voltage	DC corona discharge / +6 kV, -3 ~ -7 kV
Input voltage	24V DC ±5%
Current consumption	4.5 A max. (except inrush)
Air volume	Max.1.5m³/min. (blower output value, provided that the built-in filter is not clogged)
Fan speed	Max.25m/sec. (blower output value, provided that the built-in filter is not clogged)
Dust collection filter	HEPA filter
Dimensions	H515 x W350 x D345 mm
Weight	Approx. 22kg
Noise	74 dBA (Maximum air flow, no clogging of built-in filter or deterioration of blower)
Operating temp./ humidity	5~ 40°C 35 ~ 65% RH (no dew condensation or freezing)
Accessories	Warning/caution label sticker



The generated ions are blown off downward
with the air through the wide air discharge port.



Air circulation type, with no exhausted air.

Option



Adapter specification

● ... ●

AC Adapter
AD24-150-PD4
● EDP No.806146
I/P : 100V to 240 V AC, 50/60 Hz
O/P : 24V DC 5A

Options and replacement parts
⇒P.42

EPA Products

Mat
For a work table requiring anti-static measures.

Wrist Strap
For ESD measures

Grounding Kit
For ESD mats

Vinyl Floor Sheet
Conductive and anti-static EPA flooring.

Surface Resistance Checker
Easy checking of surface resistance on a floor or a mat.

Electrostatic Field Meter
Essential for anti-static measures. Visualize the static charge and discharge state.

Why is VESSEL's EPA Working Mat our customer's top choice?

1

Creating an optimum EPA environment from a working table, a floor, to a human body with one-stop solution.

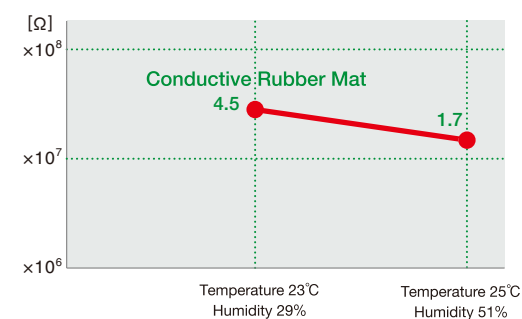
Our IEC61340-5-1 compliant products include the ESD protection items, the EPA working mats for workbenches, storage shelves, or trolleys, the EPA floor material for vinyl or painted floors, and the anti-static wrist straps.



2

Stable conductivity performance

Conductivity rates fluctuate frequently according to changes in humidity in the working environments. VESSEL's conductive rubber mats realize a "conductive performance" that complies with strict criteria.



3

RoHS

Environmental Measures

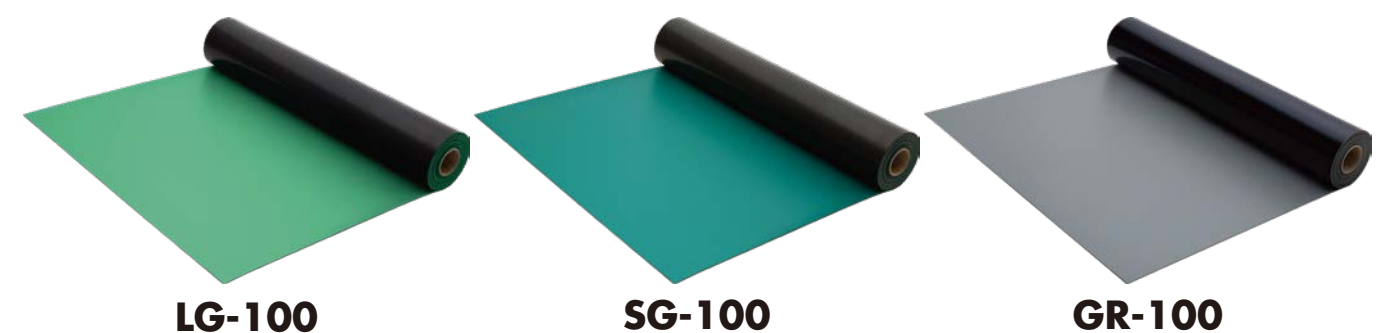
Pb (lead) / Cd (cadmium) / Hg (mercury) / Hexavalent chromium / PBB (polybrominated biphenyl) / PBDE (polybrominated diphenyl ether) / DEHP, BBP, DBP, DIBP (phthalate esters)

The products with this mark in this catalogue are compliant with the RoHS directives (EU) (usage limit of the above 10 substances).

Note: For the updated information on RoHS compliant products, visit our homepage, because some products or sizes are under investigation or are not compliant at the time of publication of this catalogue.

EPA Working Mat · Conductive Rubber Mat

Controlling electroconductivity between 10⁶Ω and 10⁷Ω, unsusceptible to the working environment. Ideal for workbenches requiring anti-static measures.



RoHS

10m ROLL

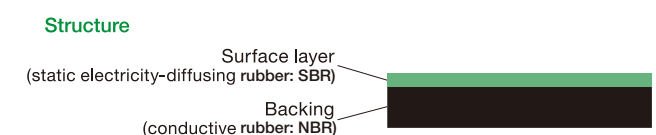
LG-100 Code No. 621464
SG-100 Code No. 621461
GR-100 Code No. 621490

Comes with 5 stickers for conductive mat.



Applications	Conductivity	Material	Directive
Work table	10 ⁶ ≤ R ≤ 10 ⁷ Ω	NBR+SBR	EPA RoHS

- Offers uniform, consistent conductive performance.
- Features a matte surface finish, reducing reflections and preventing eye fatigue.
- Heat resistant to solder drops.



Common Specifications			
Model No.	LG-100	SG-100	GR-100
Color	Light green	Green	Gray
Size	W1.0m×L10m×t2.0m		
Conductivity	10 ⁶ Ω ≤ R _p ≤ 10 ⁷ Ω		
Weight	29kg/roll		
Material	NBR+SBR		



Anti-static Wrist Strap (10-pc. set)

Contractile band with rubber woven securely fits the wrist.

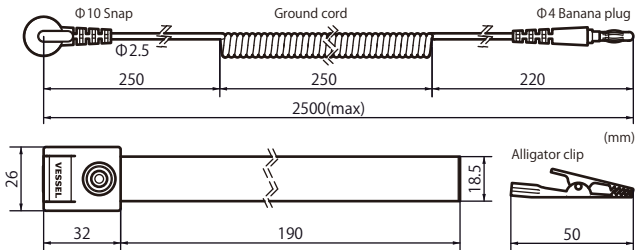
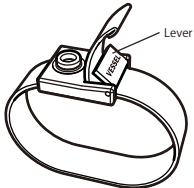
EPS-05



Code No. 621471

Applications	Resistance value	Directive
Manufacturing site or general work place where there are many temporary employees.	1 MΩ	EPA RoHS

- ▶ Anti-static product, complying with JIS C61340-4-6: 2016.
- ▶ The band size is finely adjustable with the buckle.
- ▶ Single item is supplied in an anti-static bag.



[Note] Non compatible with the hook of the existing EPS-04 and EPG-01.

Specifications

Model No.	EPS-05
Size	Band length Approx.190g
Weight	38g (per piece, including alligator clip)
Resistance value	Approx. 1M between the body and the ground cord
Material	Contact: SUS304, Buckle: ABS Band (inner): Conductive yarn Banc (outer): Non-conductive yarn Cord sheath: PU
Contents	Wrist strap, Ground cord, Alligator clip, Instruction manual
Carton size	H140xW115xD140mm(10-pc. set)

Replacement part

Wrist Strap Cord	Weight	24g(incl. alligator clip)
No.EPS-05-C	Resistance value	Approx.1MΩ
Code No. 621472	Cord length	Max.2.5m (0.72m when shrunken)



ESD Mat Grounding Kit

Easy and assured grounding of a conductive rubber mat.

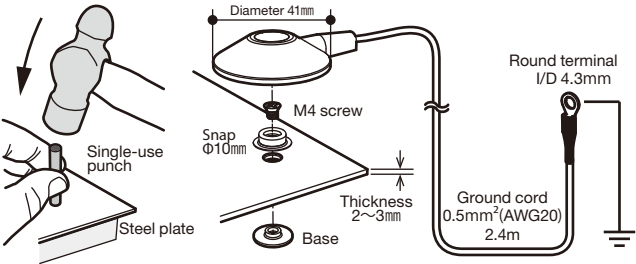
EPS-GK



Code No. 621484

Applications	Resistance value	Directive
Installation of conductive rubber mat	1 MΩ	EPA RoHS

- ▶ Compliant standard IEC61340-5-1
- ▶ Snap, base, and screw are made from rust-resistant stainless steel.
- ▶ Reusable when replacing mats because there is no adhesive part.



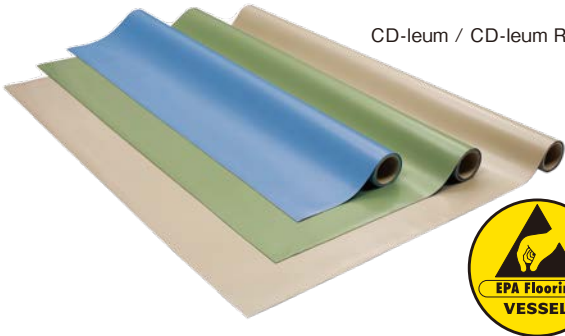
Specifications

Model No.	EPS-GK
Size	Grounding cord length Approx.240mm (w/Round terminal)
Weight	45g
Resistance value	Approx.1M ohm between the body and the grounding cord (round terminal)
Material	Snap / Base / Screw / Single-use punch: SUS, Cord sheath: PU, Snap cover: PVC Round terminal: Brass
Contents	Ground cord with snap, Snap hardware/Screw, Single-use punch,Instruction manual
Individual package	Provided in an anti-static bag (PP+evaporated aluminum + PE)

EPA Flooring

For locations where static electricity is especially harmful, such as semi-conductor plants and clean rooms.

Conductive Vinyl Floor Sheet



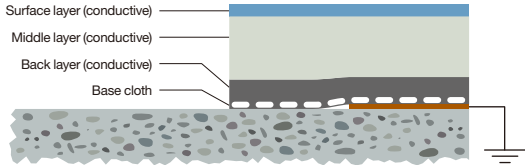
Surface resistance	VOC measurements	Antibacterial	Directive	Directive
10 ⁶ Ω≤Rp≤10 ⁷ Ω	✓	✓	RoHS(CD-leum R)	IEC61340-4-1(CD-leum)

- ▶ Uniform and stable anti-static performance. (Controls generation of static electricity. The damping performance is better than the anti-static floor sheet.)
- ▶ Seamless floor surface, using a dedicated welding rod. Easy cleaning as there is no joint.
- ▶ Strong chemical resistance, against acid, alkali, and disinfection.
- ▶ RoHS regulating 10 substances are not used (CD-leum R series).
- ▶ Compatible with IEC standards (CR-leum)
- ▶ VOC-compliant. 13 substances that the Ministry of Health, Labour and Welfare of Japan regulates are not used.



Applications: Indoor

Structure



Common specifications

Description	Conductive Vinyl Floor Sheet CD-leum		
Model No.	CD-134	CD-138	CD-602
Color	Beige	Green	Blue
Size	W1.82m×L9.0m×t2.0mm		
Surface resistance value	10 ⁶ Ω≤Rp≤10 ⁷ Ω		
Weight	51kg/roll (3.1kg/m ²)		
Material	Vinyl chloride		

Description	Conductive Vinyl Floor Sheet CD-leum R (RoHS compliant)		
Model No.	CDR-134	CDR-138	CDR-602
Color	Beige	Green	Blue
Size	W1.82m×L9.0m×t2.0mm		
Surface resistance value	10 ⁶ Ω≤Rp≤10 ⁷ Ω		
Weight	52kg/roll (3.2kg/m ²)		
Material	Vinyl chloride		

*Options: Ground plate, Welding rod, Adhesive

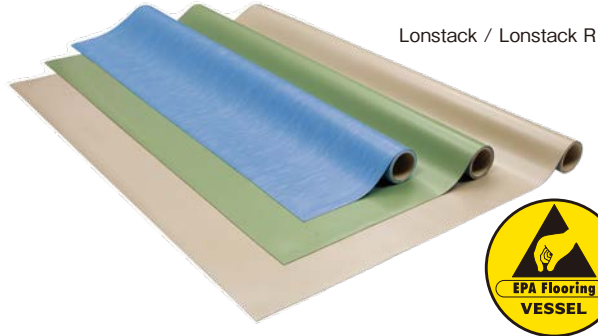
*Please contact us for other colors than the above.

*Resistance value may vary depending on the conditions of the measurement environment such as the temperature and humidity.

EPA Flooring

For locations such as factory for electric components and parts, where dust should be prevented from adhering to them.

Anti-static Vinyl Floor Sheet



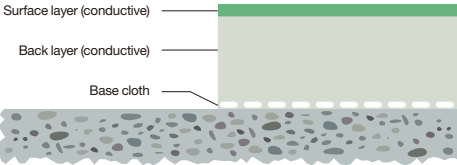
Surface resistance	VOC measurements	Antibacterial	Directive
Rp≤10 ⁸ Ω	✓	✓	RoHS (Lonstack R)

- ▶ Uniform and stable anti-static performance. (Less static electricity is generated, and reduces the static electricity that was charged to the human body.)
- ▶ Seamless floor surface, using a dedicated welding rod. Easy cleaning as there is no joint.
- ▶ Strong chemical resistance, against acid, alkali, and disinfection.
- ▶ RoHS regulating 10 substances are not used (R series).
- ▶ VOC-compliant. 13 substances that the Ministry of Health, Labour and Welfare of Japan regulates are not used.



Applications: Indoor

Structure



Common specifications

Description	Anti-static Vinyl Floor Sheet Lonstack		
Model No.	LS-134	LS-138	LS-5602
Color	Beige	Green	Blue(Marble)
Size	W1.82m×L9.0m×t2.0mm		
Surface resistance value	Rp≤10 ⁸ Ω		
Weight	52kg/roll (3.2kg/m ²)		
Material	Vinyl chloride		

Description	Anti-static Vinyl Floor Sheet Lonstack (RoHS compliant)	
Model No.	LSR-134	LSR-138
Color	Beige	Green
Size	W1.82m×L9.0m×t2.0mm	
Surface resistance value	Rp≤10 ⁸ Ω	
Weight	50kg/roll (3.0kg/m ²)	
Material	Vinyl chloride	

*Options: Ground plate, Adhesive

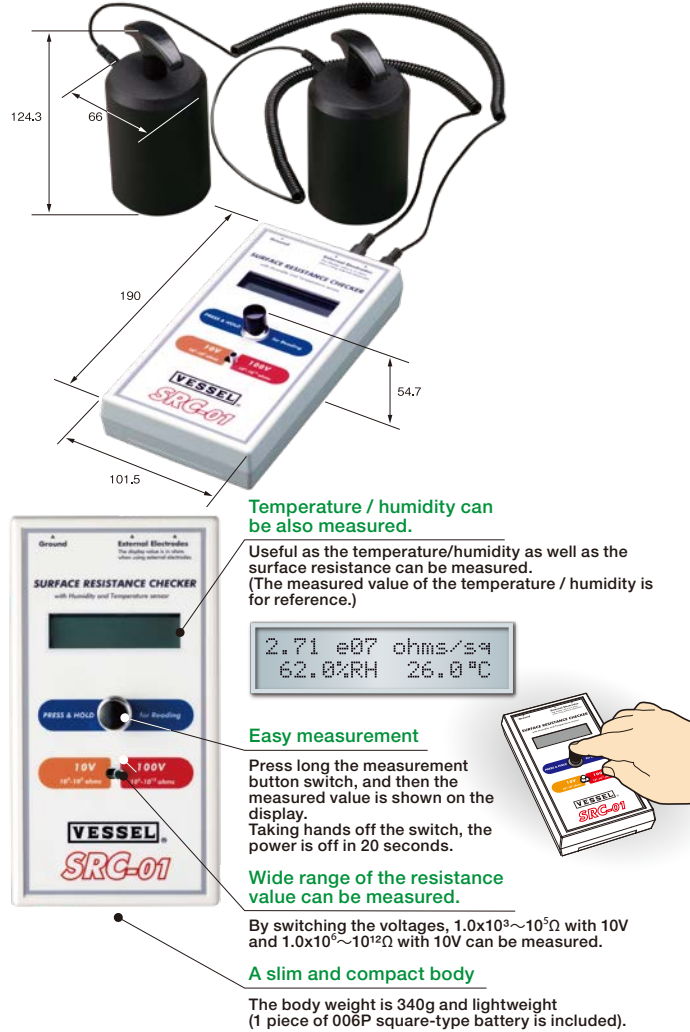
*Please contact us for other colors than the above.

*Resistance value may vary depending on the conditions of the measurement environment such as the temperature and humidity.

Surface Resistance Checker

Easy measurement of surface resistance
on a floor or mat

SRC-01

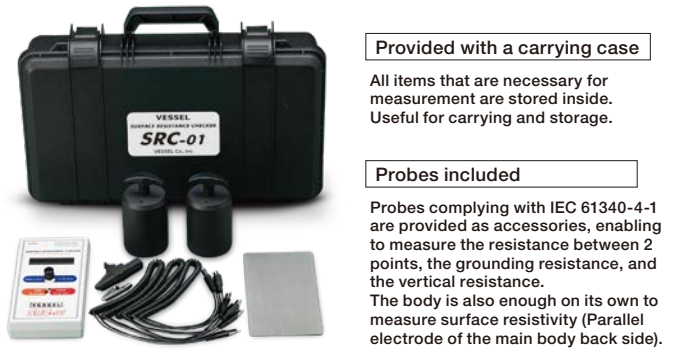


Code No. 621604

Measurement	Measurement	Measurement	Measurement
Resistance between 2 points on a surface	Resistance between a ground and a connecting point by a probe on a surface	Surface resistivity	Volume resistance

Battery 9V x 1pc.	Probes included	With a carrying case	Auto power-off
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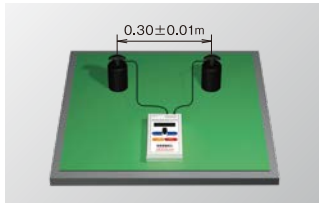
- ▶ Since all items that are necessary for measurement are provided as accessories, 4 types of measurement is easily available.
- ▶ Convenient as temperature and humidity can be measured together with the surface resistance.
(The temperature and humidity values are for reference.)
- ▶ Switch the voltages, and the wide range of resistance value such as 1.0x10³~10⁵Ω with 10V and 1.0x10⁶~10¹²Ω with 10V can be measured.



Specifications

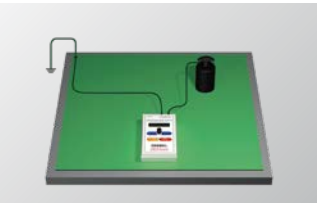
Model No.	SRC-01
Measurement directive	IEC61340-4-1, JIS-C2170
Measurement range	10 ³ ~10 ¹² Ω (Ω/sq)
Applied voltage	10V (R<1.0x10 ⁶ Ω or Ω/sq) 100V (R≥1.0x10 ⁶ Ω or Ω/sq)
Display	LCD3桁 (□□□e□□) ex.: 3.14 e10 → 3.14x10 ¹⁰
Power source	9V battery x 1 (Type: 006P, Alkaline battery recommended)
Battery lifetime	More than 300 times measurement (This varies depending on the resistance value of the measured items, and other factors.)
Dimensions	L190xW101.5xD54.7mm
Weight	Body: Approx.340g (including a battery) Gross Weight: Approx.6.2kg (including the carrying case)
Operating temp./humidity	15℃ ~ 40℃ 60%RH or less
Material	Body case: ABS resin
Accessories	Probe (outer diameter: about Ø66 mm, about 2.3 kg) 2pcs., Curled cord for a body earth (banana plugs at both ends) 1pc., Curled cord for measurement for the point-to-point resistance and resistance to ground (banana plug/mono plug) 2pcs., Crocodile clip 1pc., Large crocodile clip 1pc., Stainless plate (185 mm x 100 mm) 1pc., Stainless plate 1pc., Carrying case 1pc., 9V battery (006P type: manganese dry battery) 1pc.

Since all items that are necessary for measurement are provided as accessories, 4 types of measurement is easily available.



Resistance between 2 points on a surface

Surface resistance between two points on mats, floors, etc. can be measured.



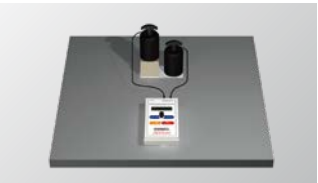
Resistance between a ground and a connecting point by a probe on a surface

Surface resistance between the grounding point and the electrode, on a mat, floor, etc., can be measured.



Surface resistivity

Surface resistivity of mats, floors, etc. can be measured.



Volume resistance

Volume resistance of chairs, tables, etc. can be measured.

* Calibration certificate is available as option.

Electrostatic Field Meter

Visualizing invisible static electricity.
Peak hold supports long-time measurements.

Eye-02

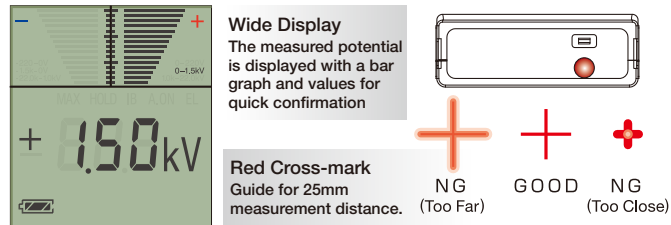


Code No. 621603

Measurement	Measurement	LCD display	Directive
Charge potential	Ion balance	Bar graph+3 digits	CE

One 9V battery	Ion balance measurement plate	Measuring distance 25 mm	Auto power off	Out of measuring range alarm	Peak hold function	Battery level display	Anti-Drop strap
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- ▶ Cross mark LED for easy adjustment of the best measurement distance.
- ▶ Displays the max value (peak value), and the temporal suspending value.
- ▶ Backlight, making the screen easy to read even in the dark.
- ▶ Mountable on a tripod.

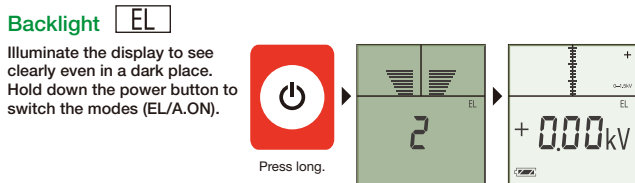
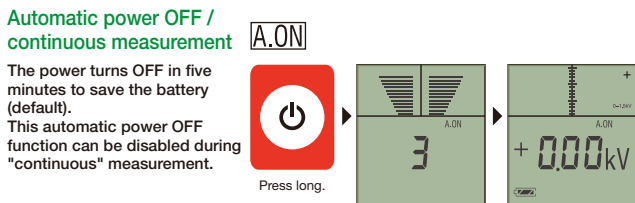
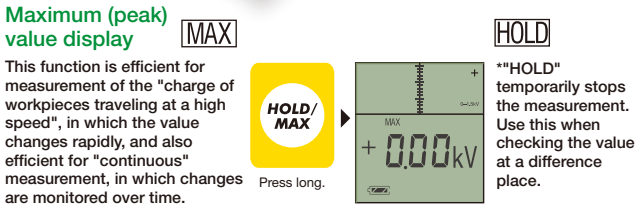
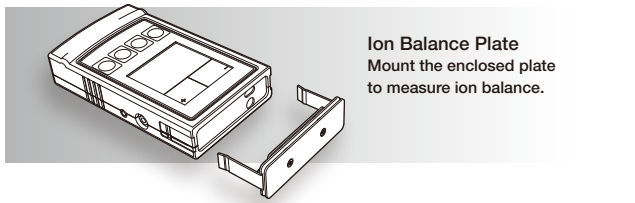


Specifications

Model No.	Eye-02
Charge potential measurement	±0 ~ ±1.50 kV (LO range)/ ±1.0 ~ ±22.0 kV (HI range)
Ion balance measurement	0 ~ ±220 V
Response time	within 1sec.
Accuracy	10% (Indicated value)
Power	9VDC (006P battery x 1 pc.)
Charged potential measurement distance	25mm±0.5mm
Dimensions	L123xW70xD25mm
Weight	170 g / ion balance measurement plate 30g
Operating temp./ humidity	0 ~ 50℃/ 80% RH or less
Accessories	Ion balance measurement plate, Grounding cord, Alligator clip, Soft case

◆Complies with ISO 9000 traceability standards.

Calibration tables and certificates can be issued for this instrument. (Option)



Clean Walker



CW-900B
5mm thick
Capture dust off shoe soles

Why is VESSEL's Clean Walker our customer's top choice?

1

Non-peeling type adhesive mat

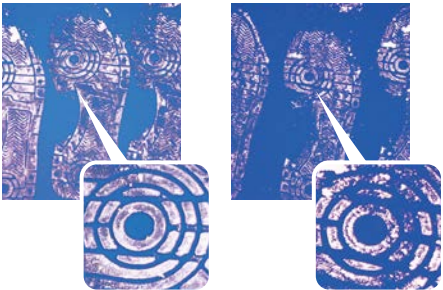
There is no need to disregard cleanliness in order to save cost by limiting the number of sheets to peel.



2

Dust is very well captured.

Self-adhesiveness of polyurethane resin is the key. The thick mat flexibly contacts against shoe treads and carefully catches dust between them.



Clean Walker

Conventional peel-off mats

3

Wash & dry to restore adhesiveness

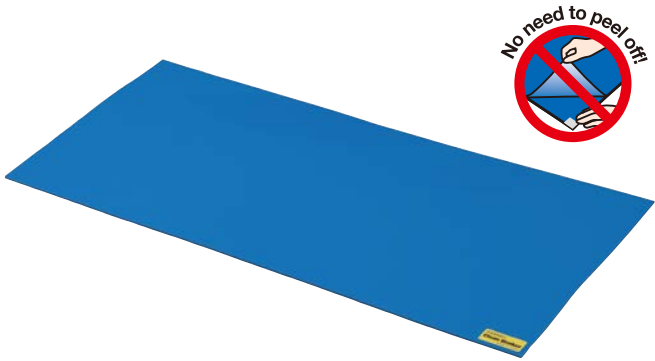
Wet the surface with water, alcohol or diluted household detergent, and the dirt will lift right up. Wash and dry the mat well to restore the original adhesiveness.



Clean Walker

High elasticity.
Outstanding dust collection performance.

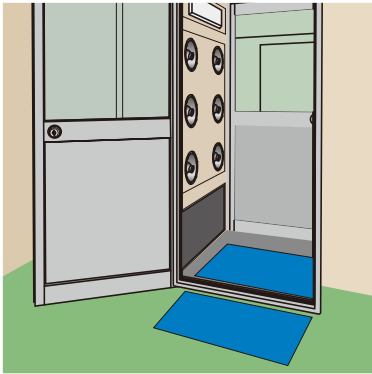
CW-900B



Code No. 621485

Applications	Material	Washable	Directive
For indoor use (Before entering a clean room)	Polyurethane	✓	RoHS

- ▶ The 5mm high elasticity mat.
- ▶ Powerfully catches dust from shoe soles.
- ▶ Collected dust can be easily wiped off with alcohol or a wet cloth.
(Wash with water with neutral detergent diluted, if dust remains.)



Dust removal from the shoe soles before the air shower.



Anti-dust measures in a factory.

Specifications

Model No.	CW-900B
Color	Blue
Size	W900mm×L500mm×t5mm
Conductivity	Insulator
Weight	2.4kg
Material	Polyurethane

High Power Ionizing Nozzle

Good for Highly Charged Products.

Nozzle type ionizer suitable for installation in an automated production line.

HPN-1



Code No. 623043

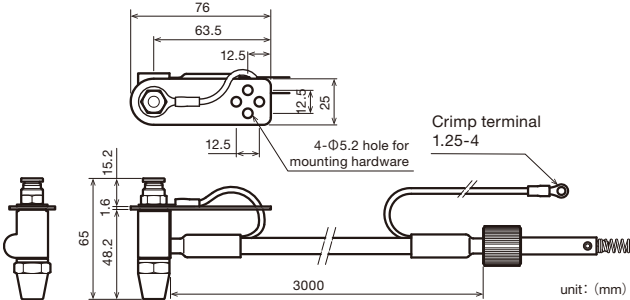
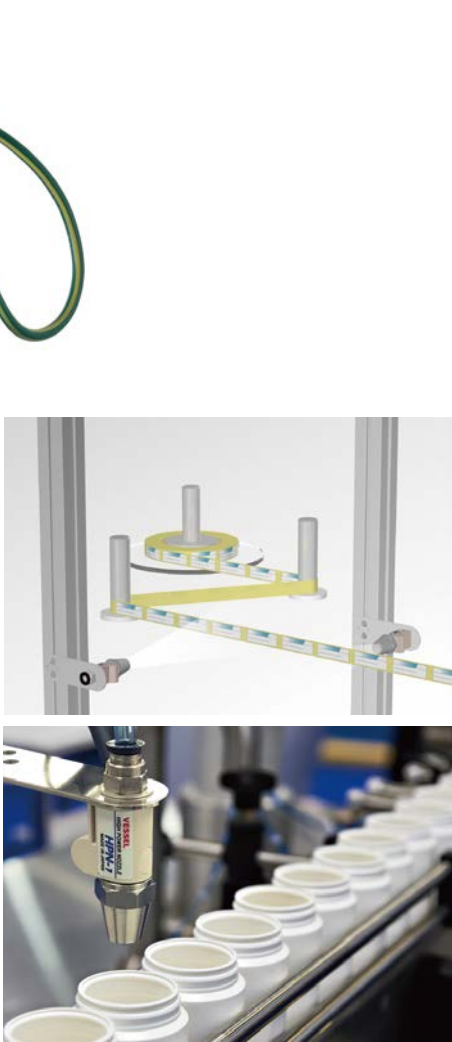
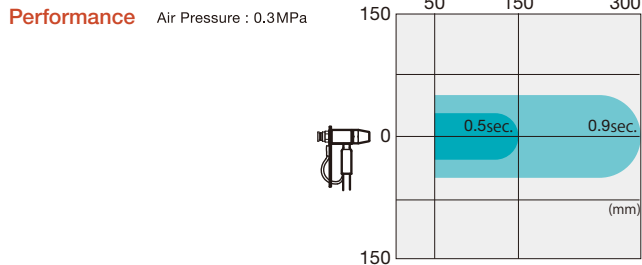
High voltage transformer	Ion balance	Decay time
Coiled, AC (Option)	Adjustable on the GP-1	0.5 sec. or less
Applied voltage 3.5kVAC	Air Pressure max 0.7MPa	GP-1 Option
		AC adapter Option

- ▶ Titanium discharge needle (discharge electrode). Less-wearing titanium provides the long-term stable ionizing performance.
- ▶ The high voltage cable is shielded so that it is less affected by the external electrical noises.
- ▶ High speed ionizing performance with compressed air. Ultra-compact and light-weight model suitable for installation in equipment.

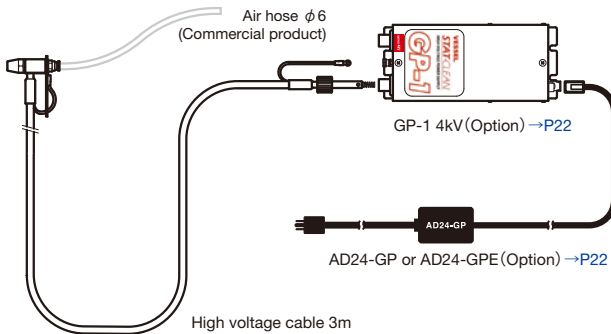
Specifications

Model No.	HPN-1
Applied high voltage	High voltage power supply unit GP-1 4kV
Ionizing method	AC corona discharge (Structure: Direct-coupled *1)
Applied voltage / Frequency	3.5kVAC / 50/60Hz *2
Operating fluid / Input pressure	Clean air (Max.input pressure:0.7MPa *3)
Operating temp./ humidity	0~45℃/10~90%RH (no dew condensation or freezing)
Installation distance	Approx.50~300mm (between the charged product and the nozzle tip of the ionizer)
Decay time	Approx. 0.5 sec. (Air pressure:0.3MPa, Distance:150mm)
Ion balance	Adjustable on GP-1 4kV *4
Installation place	Indoor
Protective circuit	The GP-1 4kV has high voltage anomaly detection function and automatic stop circuit.
High voltage cable	Silicon shielded cable 3m *5 (High voltage connector CON-4)
Air connection	One-touch joint (Applicable tube O/D 6mm)
Weight	Approx.350g, including high pressure cable (3m), standard mounting hardware, and hihg pressure connector.
Noise	Approx. 95dBA (Air pressure:0.3MPa, Distance: 1m)
Air consumption	Approx. 100L/min (Air pressure:0.3MPa)
Accessories	High voltage warning sticker, Instruction manual

*1: Do not touch the electrode when applying current; otherwise it may bring electric shocks. *2: Use the high voltage power supply unit GP-1 4kV. *3: DO NOT SUPPLY AIR WITH MORE THAN THE DESIGNATED PRESSURE, BECAUSE OF SERIOUS RISK OF DAMAGE OR BREAKAGE ON THE BODY AND OTHER PARTS. *4: Charged plate monitor or an equivalent is required for ion balance adjustment. *5: The length of the cable can be customized. But the total length of the multiple high voltage cables with the GP-1 should be 9m or less.



Example of connection



High Power Ionizing Flexible Nozzle

Good for Highly Charged Products.

Pin-point static electricity removal even in a place difficult for installation.

HPF-1



Code No. 623048

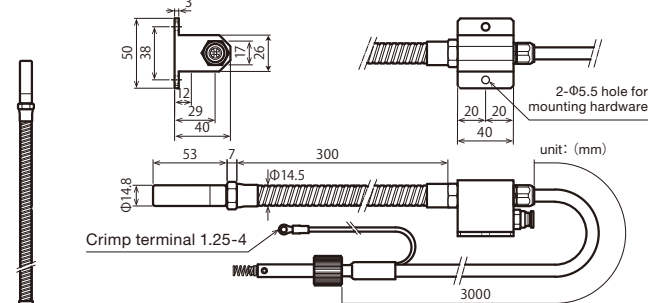
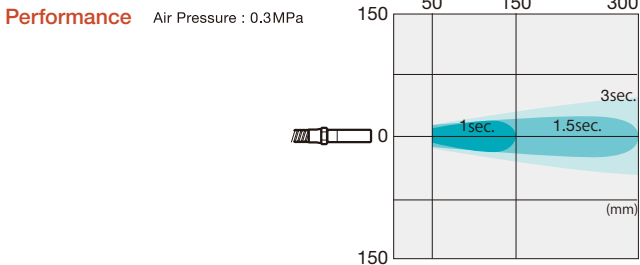
High voltage transformer	Ion balance	Decay time
Coiled, AC (Option)	Adjustable on the GP-1	1sec. or less
Applied voltage 3.5kVAC	Air Pressure max 0.4MPa	GP-1 Option
		AC adapter Option

- ▶ Titanium discharge needle (discharge electrode). Less-wearing titanium provides the long-term stable ionizing performance.
- ▶ The high voltage cable is shielded so that it is less affected by the external electrical noises.
- ▶ Free angle adjustment and pin-point ionizing from a distant place. 300mm flexible tube enables to adjust the ion emission angle freely. It is possible to perform the pin-point neutralization on a charged product. * Fix the tip of the HPF-1 with a hardware or alike, so that it does not slip, when using it by bending approximately 30° or more. (Minimum bending radius: inside dimension radius 60mm)
- ▶ High speed ionizing performance with compressed air. Ultra-compact and light-weight model suitable for installation in equipment.

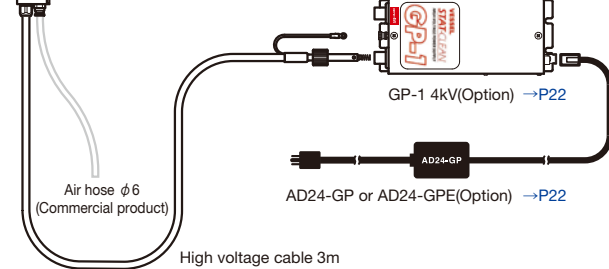
Specifications

Model No.	HPF-1
Applied high voltage	High voltage power supply unit GP-1 4kV
Ionizing method	AC corona discharge (Structure: Direct-coupled *1)
Applied voltage / Frequency	3.5kVAC / 50/60Hz *2
Operating fluid / Input pressure	Clean air (Max.input pressure:0.4MPa *3)
Operating temp./ humidity	0~+45℃/10~80%RH (no dew condensation or freezing)
Installation distance	Approx.50~300mm (between the charged product and the nozzle tip of the ionizer)
Decay time	Approx.1sec. (Air pressure:0.3MPa, Distance:150mm)
Ion balance	Adjustable on GP-1 4kV *4
Installation place	Indoor
Protective circuit	The GP-1 4kV has high voltage anomaly detection function and automatic stop circuit.
High voltage cable	Silicon shielded cable 3m *5 (High voltage connector CON-4)
Air connection	One-touch joint (Applicable tube O/D 6mm)
Weight	Approx.690g, including high pressure cable (3m),and high pressure connector.
Noise	Approx. 86dBA (Air pressure:0.3MPa, Distance: 1m)
Air consumption	Approx. 110L/min (Air pressure:0.3MPa)
Accessories	High voltage warning sticker, Instruction manual

*1: Do not touch the electrode when applying current; otherwise it may bring electric shocks. *2: Use the high voltage power supply unit GP-1 4kV. *3: DO NOT SUPPLY AIR WITH MORE THAN THE DESIGNATED PRESSURE, BECAUSE OF SERIOUS RISK OF DAMAGE OR BREAKAGE ON THE BODY AND OTHER PARTS. *4: Charged plate monitor or an equivalent is required for ion balance adjustment. *5: The length of the cable can be customized. But the total length of the multiple high voltage cables with the GP-1 should be 9m or less.



Example of connection



High Power Ionizing Gun

Good for Highly Charged Products.

For neutralization of charged products or dust removal before painting.

HPG-1



HPG-1 Code No. 623046
(High voltage cable 3m)

HPG-1-4.5M Code No. 623050
(High voltage cable 4.5m)

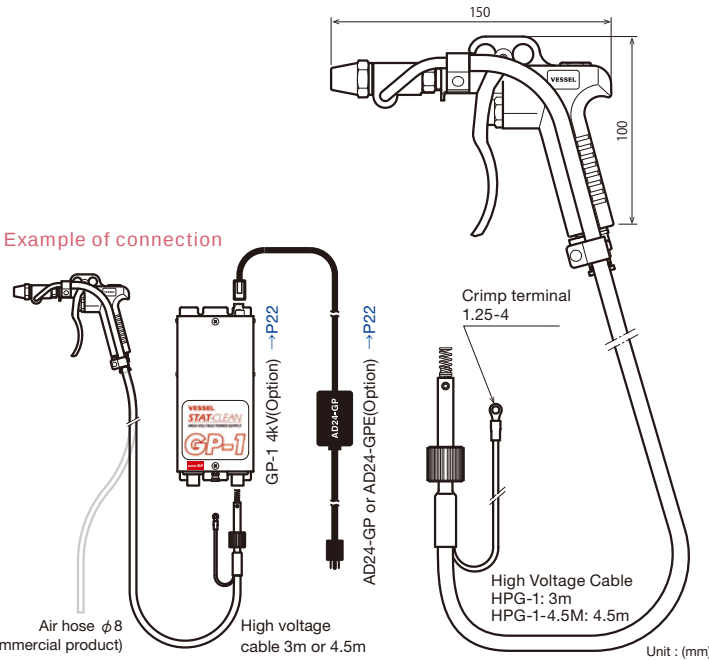
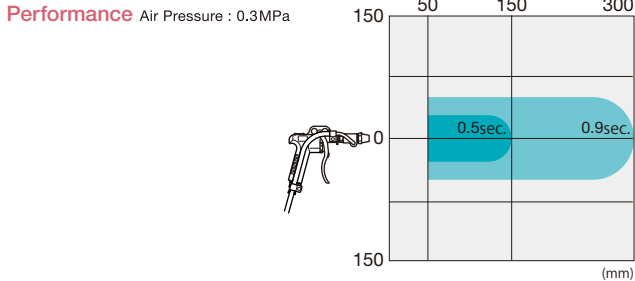
High voltage transformer		Ion balance	Decay time
Coiled, AC (Option)		Adjustable on the GP-1	0.5 sec. or less
Applied voltage 3.5kVAC	Air Pressure max 0.7MPa	GP-1 Option	AC adapter Option

- ▶ Titanium discharge needle (discharge electrode). Less-wearing titanium provides the long-term stable ionizing performance.
- ▶ The high voltage cable is shielded so that it is less affected by the external electrical noises.
- ▶ Robust and easy handling ionizing gun. The body of the ionizing gun is made by robust aluminum die-casting. Easy handling large trigger for superior operability. Compact model for elimination of both static electricity and dust.

Specifications

Model No.	HPG-1
Applied high voltage	High voltage power supply unit GP-1 4kV
Ionizing method	AC corona discharge (Structure: Direct-coupled *1)
Applied voltage / Frequency	3.5kVAC / 50/60Hz *2
Operating fluid / Input pressure	Clean air (Max.input pressure:0.7MPa) *3
Operating temp./ humidity	0~+45°C/10~90%RH (no dew condensation or freezing)
Installation distance	Approx.50~300mm (between the charged product and the nozzle tip of the ionizer)
Decay time	Approx. 0.5 sec. (Air pressure:0.3MPa, Distance:150mm)
Ion balance	Adjustable on GP-1 4kV *4
Installation place	Indoor
Protective circuit	The GP-1 4kV has high voltage anomaly detection function and automatic stop circuit.
High voltage cable	Silicon shielded cable 3m*5 (High voltage connector CON-4)
Air connection	One-touch joint (Applicable tube O/D 8mm)
Weight	Approx. 560g,including high voltage cable (3m) and high voltage connector.
Noise	Approx. 95dBA (Air pressure:0.3MPa, Distance: 1m)
Air consumption	Approx. 110L/min (Air pressure:0.3MPa)
Accessories	High voltage warning sticker, Air consent, Instruction manual

*1: Do not touch the electrode when applying current; otherwise it may bring electric shocks. *2: Use the high voltage power supply unit GP-1 4kV. *3: DO NOT SUPPLY AIR WITH MORE THAN THE DESIGNATED PRESSURE, BECAUSE OF SERIOUS RISK OF DAMAGE OR BREAKAGE ON THE BODY AND OTHER PARTS. *4: Charged plate monitor or an equivalent is required for ion balance adjustment. *5: The length of the cable can be customized. But the total length of the multiple high voltage cables with the GP-1 should be 9m or less.



High Power Ionizing Bar

Good for Highly Charged Products.

Super slim model, designed for installation in a cramped space.



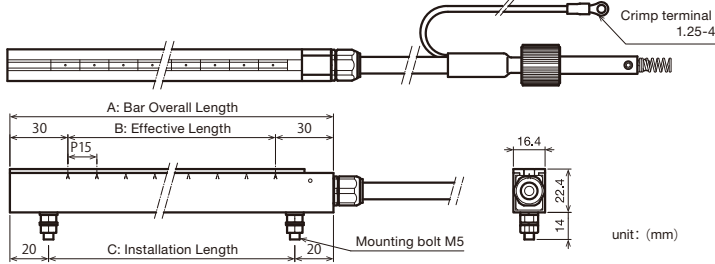
HPB-300 Code No. 623316
HPB-600 Code No. 623336
HPB-810 Code No. 623350
HPB-1005 Code No. 623363
HPB-1200 Code No. 623376
HPB-1500 Code No. 623396
HPB-1800 Code No. 623416

- ▶ Titanium discharge needle (discharge electrode). Less-wearing titanium provides the long-term stable ionizing performance. The needles are allocated every 15mm on the bar, allowing to generate many ions effectively. Optimum for a high speed film transfer application.
- ▶ The high voltage cable is shielded so that it is less affected by the external electrical noises.
- ▶ Super slim ionizing bar: 16.4x22.4mm (sectional dimensions). Suitable for a cramped space.

Specifications

Model No.	HPB-300/600/810/1005/1200/1500/1800
Applied high voltage	High voltage power supply unit GP-1 4kV
Ionizing method	Pulse AC corona discharge (Structure: Direct-coupled*1)
Applied voltage / Frequency	3.5 kVAC /50/60 Hz*2
Operating temp./ humidity	0~+45°C/10~85%RH (no dew condensation or freezing)
Installation distance	Approx.50~100mm (between the charged product and the nozzle tip of the ionizer)
Decay time	Approx. 2 secs. (No compressed air, Distance: 100mm)
Ion balance	Adjustable on GP-1 4kV *3
Installation place	Indoor
Protective circuit	The GP-1 4kV has high voltage anomaly detection function and automatic stop circuit.
High voltage cable	Silicon shielded cable 3m*4 (High voltage connector CON-4)
Weight	See below (the weight of the cable is not included)
Accessories	Instruction manual, High voltage cable (already mounted), Mounting bolt M5 (already mounted)

*1: Do not touch the electrode when applying current; otherwise it may bring electric shocks. *2: Use the high voltage power supply unit GP-1 4kV. *3: Charged plate monitor or an equivalent is required for ion balance adjustment. *4: The length of the cable can be customized. But the total length of the multiple high voltage cables with the GP-1 should be 9m or less.



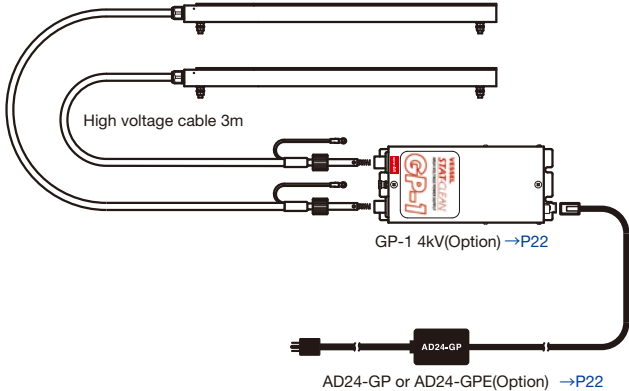
Dimensions/No. of Needle Electrode			C (mm)	No. of needle electrode	Weight (kg)
Model No.	A (mm)	B (mm)			
HPB-300	300	240	260	17	0.16
HPB-600	600	540	560	37	0.32
HPB-810	810	750	770	51	0.44
HPB-1005	1005	945	965	64	0.54
HPB-1200	1200	1140	1160	77	0.65
HPB-1500	1500	1440	1460	97	0.81
HPB-1800	1800	1740	1760	117	0.97



High voltage transformer	Ion balance	Decay time
Coiled, AC (Option)	Adjustable on the GP-1	2 sec. or less
Applied voltage 3.5kVAC	GP-1 Option	AC adapter Option



Example of connection



Options and Replacement parts

Subject to change without prior notice

Needle Electrode Unit / Front Cover



Filter



AC Adapter



For Gun / Nozzle Type



Adapter specification



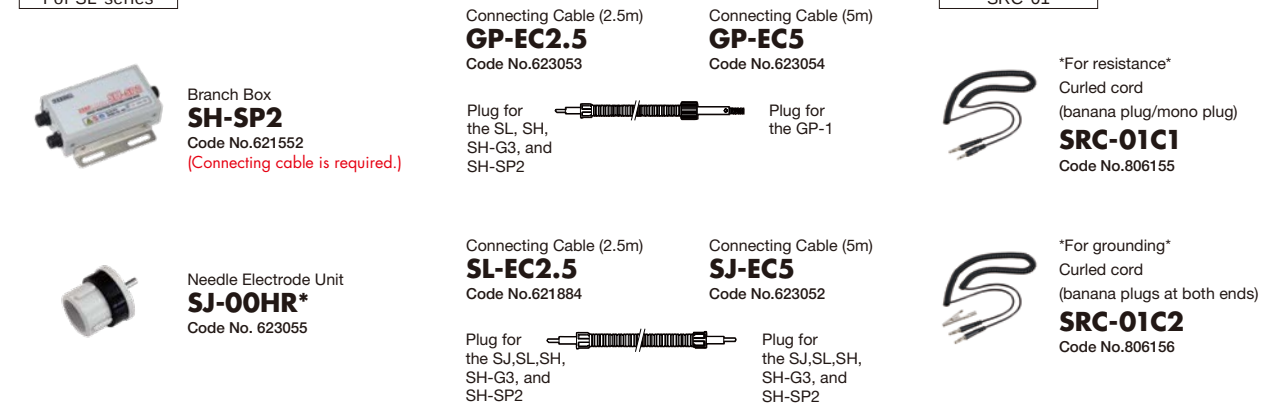
Adapter specification



For C-series



For SL-series



For Ion Parts Cleaner



Others

