Bar Type

C-series

Compact and clean design
Super-high speed ionizer

Ion balance	within ±30V (Distance 1000mm)

SJ-series* NEW

For highly charged or fast moving products

* Note
SJ-** is available while stocks last.
The model code will be changed to SL-** afterward.

HPB-series →P36

Good for Highly Charged Products
Optimum for installation in a cramped space

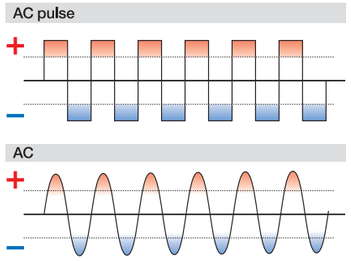
Decay time	2.0 sec. or less

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

1 High Speed Static Electricity Removal

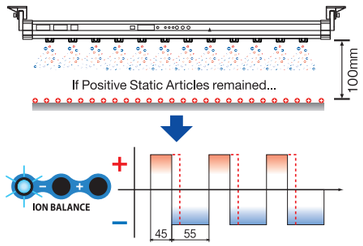
AC pulse method

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

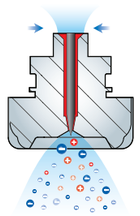
The C series are equipped with a mode to optimally adjust the ion balance automatically according to the polarity of the charged matter. (Target distance: 50 to 100 mm)



More negative ions are generated.

Air purge function

With air purged toward the needle electrod tip. This not only prevents contamination at the tip of the electrode needle, but also carries the generated ions quickly to the charged object and removes static electricity.



2 Usability

Easy maintenance design

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

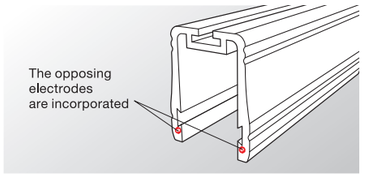
Clean design

Needle cleaning time notified

The cleaning interval can be set between 1 and 60 days in one-day unit. When the time elapses, the needle-cleaning lamp lights up and it is notified on the

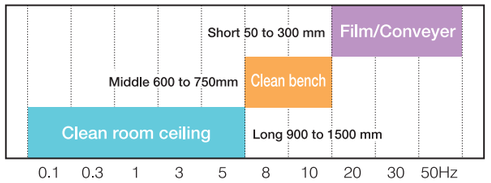
Body contamination prevention

Opposing electrodes are incorporated in the body. The induced voltage prevents particles from sticking to the outer side of the body, and limits the losses in applied voltage to improve the ion generation efficiency.



Frequency

Change the frequency according to the distance to the object to be neutralized, for quick static electricity

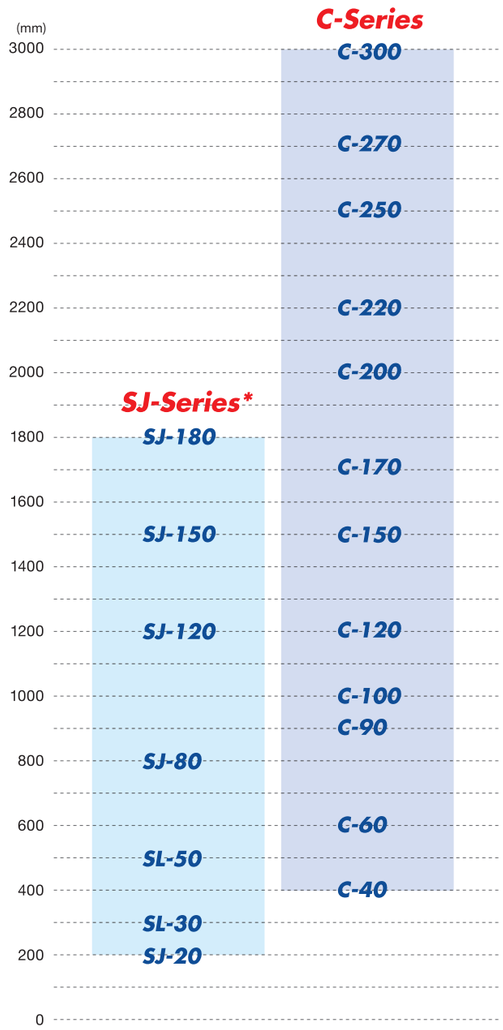


3 Line-up at a glance

Sizes to match various working environments

Ionizing bars are available in a variety of sizes for assembly into small electronic part manufacturing systems to neutralization of large workpieces such as film and liquid crystal glass.

Bar Type Line-up



AC Pulse Ionizing Clean Bar

Clean & Compact.
Newly designed high-precision and high-speed ionizer applying a new technology

C-series

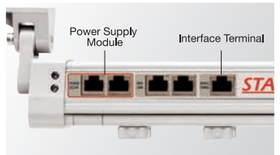
C-40	EDP No.621857	**C-170**	EDP No.621855
C-60	EDP No.621858	**C-200**	EDP No.621856
C-90	EDP No.621851	**C-220**	EDP No.621859
C-100	EDP No.621852	**C-250**	EDP No.621860
C-120	EDP No.621853	**C-270**	EDP No.621861
C-150	EDP No.621854	**C-300**	EDP No.621862

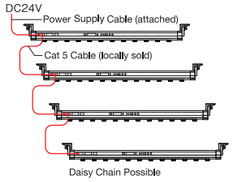
High Voltage Transformer	Ion balance
Pulse AC corona discharge	within ±30 V (measured 1000 mm)

Power supply DC 24V ±5% | Air Pressure max 0.3MPa | LCD Display | Electrode needle unit replacement | Adjustable Ion Balance | Needle Cleaning Timer (1 to 60 days)※ | ALARM H.V. | External output LAN Terminal

※ except **C-40, C-60**

- ▶ Newly designed super-fast ionizing air discharge port.
- ▶ Auto Balance Mode (Target distance: 50 to 100 mm).
- ▶ Terminals grouped on one side. Enabling a daisy-chain connection.





Common Specifications

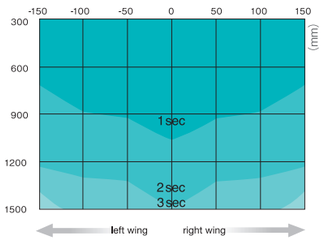
Model No.	C-40 ～ C-300
Ionizing method/Applied voltage	Pulse AC Corona discharge／AC8～12.5kV(p-p)
frequency	0.1 to 50Hz (Select form ten steps)
pulse ratio	Positive ion 40 to 70 %, negative ion 60 to 30%
Power supply and current consumption	DC24V±5%／600mA (max.)
Ion balance	within ±30V (Distance 1000mm)
Decay time	See below
Operating distance	50 to 2000mm
H×W×Dmm	Refer to the table on the right
Weight	Refer to the table on the right
Air supply hose diameter	PT1/8
Operating fluid	Clean dry air or nitrogen (N^2) (0. 3 MPa or less)
Ozone production	0.05ppm or less (measured 50mm)
Operating environment temperature and humidity	0 to 50℃ / 35 to 85% RH (with no dew condensation or freezing)
Accessories	Remote controller (except C-40/60) / Interface cable (C-40/60 only) / Power cable (5m) / End bracket (included with device) / Middle bracket (included with device) (except C-40/60/90)

*Silicon discharge needles also available. For more detail please contact us.

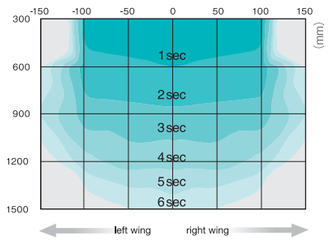
Decay area

Measurement conditions ・Product : C-150 ・Voltage : 10.5kV(P-06 N-06) ・Air pressure : 0.3MPa ・Temperature : 24°C±1°C ・Humidity : 40%±2%RH ・Decay time : ±1000V→±100V ・CPM : 20pF±2pF(150x150mm)

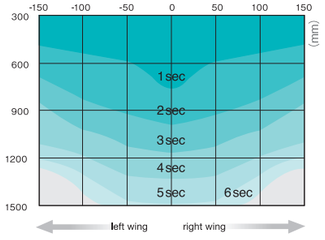
Frequency: 0.1Hz



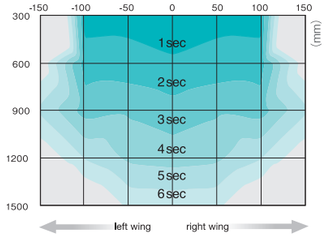
Frequency: 30Hz



Frequency: 1Hz



Frequency: 50Hz



Options

Adapter specification

AC Adapter
AD24-IT
● EDP No. 806051
AD24-ITE
● EDP No. 806135
I / P : AC100V~240V 0.4A
O/P : DC24V 0.75A
Operation : One bar

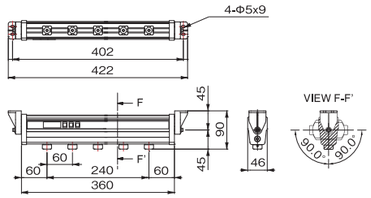
AC Adapter
AD-24-IT19
● EDP No. 806081
AD24-IT19E
● EDP No. 806137
I / P : AC100V~240V 1.2A
O/P : DC24V 1.9A
Operation : 2 or 3 bars
(Please consult us for more detail)

Power Supply Cable (5m)
For AC adapter
CT-5
EDP No.621709

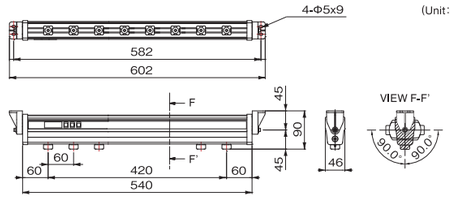
Remote Control
RMC-01
EDP No. 806104

※When using AC adapter, Power Supply Cable (CT-5) is necessary.

C-40

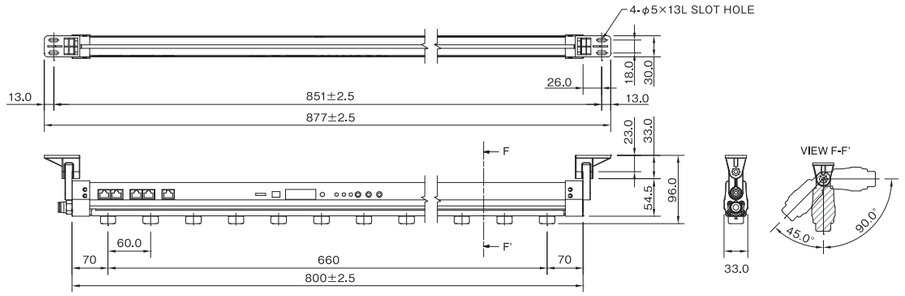


C-60

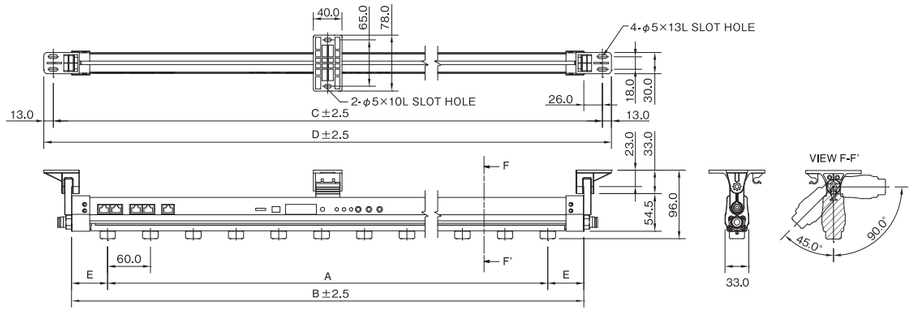


(Unit:mm)

C-90



C-100, 120, 150, 170, 200, 220, 250, 270, 300



Dimension / Needle Electrode / Middle Blacket

Model.No	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	Needle Electrode	Middle Blacket	Weight (kg)
C-40	240	360	402	422	60	5 pcs	—	0.78
C-60	420	540	582	602	60	8 pcs	—	1.08
C-90	660	800	851	877	70	12 pcs	—	0.9
C-100	900	1001	1052	1078	50.5	16 pcs	1 pc	1.0
C-120	1140	1241	1292	1318	50.5	20 pcs	1 pc	1.2
C-150	1380	1481	1532	1558	50.5	24 pcs	1 pc	1.4
C-170	1620	1721	1772	1798	50.5	28 pcs	2 pcs	1.6
C-200	1860	1961	2012	2038	50.5	32 pcs	2 pcs	1.8
C-220	2100	2201	2252	2278	50.5	36 pcs	2 pcs	2.3
C-250	2340	2441	2492	2518	50.5	40 pcs	3 pcs	2.6
C-270	2580	2681	2732	2758	50.5	44 pcs	3 pcs	2.8
C-300	2820	2921	2972	2998	50.5	48 pcs	3 pcs	3.1

Pulse Ratio

The ion balance can be adjusted by changing the pulse ratio.

Address

When using multiple units, an address allocation setting (1 to 16) is available to identify each ionizing bar. (except C-40/60)

Voltage Level

The applied voltage can be changed (common). The one for the positive side and the negative side can be changed respectively (except C-40/60).
The amount of ions varies by different output (10 steps: 8.0～12.5kVP-p).

Voltage level	1	2	3	4	5	6	7	8	9	10
Positive voltage (kV)	4	4.25	4.5	4.75	5	5.25	5.5	5.75	6	6.25
Negative voltage (kV)	4	4.25	4.5	4.75	5	5.25	5.5	5.75	6	6.25
kV p-p	8	8.5	9	9.5	10	10.5	11	11.5	12	12.5

Ion parts cleaner IPC CLEAN

High power bar
For highly charged or fast moving products

SJ-series*

SJ-20 EDP No.621591 **SJ-120** EDP No.621595
SL-30 EDP No.621592 **SJ-150** EDP No.621596
SL-50 EDP No.621593 **SJ-180** EDP No.621597
SJ-80 EDP No.621594

* Note
SJ-** is available while stocks last. The model code will be changed to SL-** afterward.
(Example)
SJ-20 → SL-20
SJ-EC2.5 → SL-EC2.5

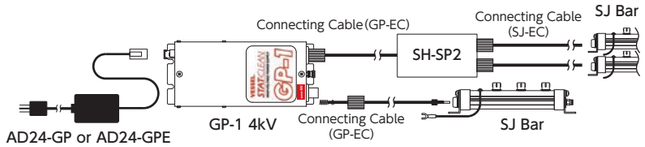
High Voltage Transformer	Ion balance	Decay time
AC corona discharge	within +/- 50V (measured 1000 mm)	1 sec. or less (measured at 300 mm)

Power supply No.GP-1 4kV | Air pressure max. 0.3 MPa

- Compact and slim design
- Detachable and replaceable discharge needles
- Detachable high voltage cable
- Wide variety of sizes
- Brackets enable to change the installation in angle
- Fine ionizing adjustment control with the GP-1

Optional High Voltage Power Unit and Branch Box enable the use of multiple ionizing bars.

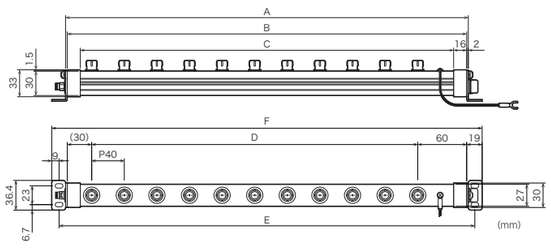
1 x High Voltage Power Supply Unit (No.GP-1) can be directly connected to max.2 ionizing bars. In addition, 3 ionizing bars in total can be connected when Branch Box (No. SH-SP2) is used.

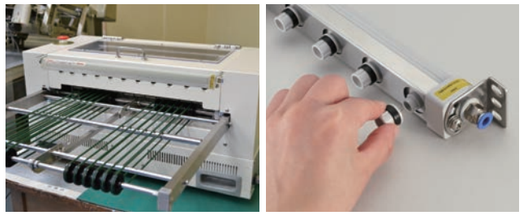


※The maximum cable length is 10m in total. If you require more length please contact us.

Specifications

Model	SJ- 20 ／ SL- 30 ／ SL- 50 ／ SJ- 80 ／ SJ- 120 ／ SJ- 150 ／ SJ- 180*
Ionizing method/ Applied voltage	AC corona discharge / 4 kV
Power Supply	High Voltage Power Supply No.GP-1 4kV（Option）
Ion Balance	Within ±50V (measured at 1,000mm, at air pressure 0.3MPa)
Decay Time	1 second or less (measured at 300mm, at air pressure 0.3MPa)
Operating Distance	50 ～ 2000mm
Ozone production	0.05ppm or less (measured at 50mm from the discharge needle)
Air Connection	PT1/8, with one-touch joint
Air hose	SJ-80 or smaller: Hose O.D.6mm x I.D.4mm SJ-120 or larger: Hose O.D.8mm x I.D.6mm
Operating Fluid	Clean dry air or Nitrogen gas (0.3MPa or less)
Operating Environment	5 ～ 50℃ 35 ～ 85%ＲＨ (without freezing or dew condensation)
Accessories	Ground wire, Instruction manual





Options

Branch Box
SH-SP2
EDP No. 621552

Connecting cable (2.5m)
GP-EC2.5
EDP No. 623053

Connecting cable (5m)
GP-EC5
EDP No. 623054

Connecting cable (2.5m)
SL-EC2.5*
EDP No. 623051

Connecting cable (5m)
SJ-EC5*
EDP No. 623052

Needle electrode
SJ-00HR*
EDP No. 623055

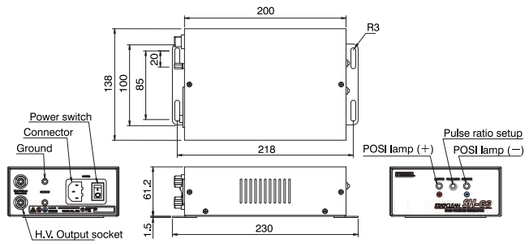
Dimensions / Needle Electrodes

Model No.*	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Needle Electrode	Weight (kg)
SJ-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
SJ-80	814	810	778	720	830	848	19 pcs	0.9
SJ-120	1,134	1,130	1,098	1,040	1,150	1,168	27 pcs	1.1
SJ-150	1,454	1,450	1,418	1,360	1,470	1,488	35 pcs	2.0
SJ-180	1,774	1,770	1,738	1,680	1,790	1,808	43 pcs	2.2

Power supply units

Power Supply units supporting 100 to 240 VAC

SH-G3



EDP No. 621555

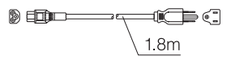
Directive

Specifications

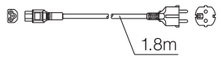
Model No.	SH-G3
Ionizing method/Applied voltage	AC corona discharge / 5kV
Power supply	100V-240V AC ±5%
H x W x D	61 x 138 × 200 mm (without protrusions)
Weight	1.5 kg

AC power cable

For AC100V



For AC200V



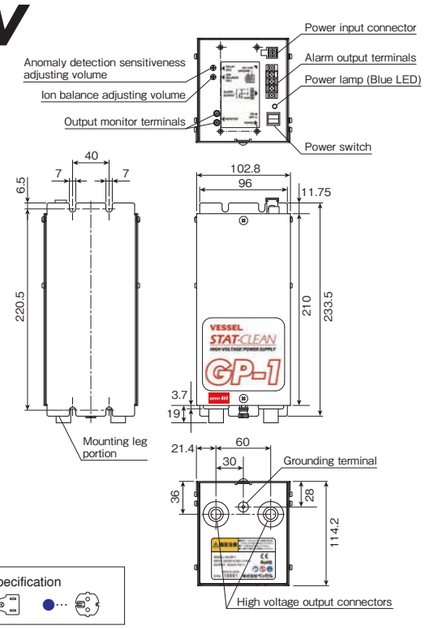
Power supply units

High Voltage Power Supply Unit

GP-1 4kV

OUTPUT 4kV

EDP No. 623044



Specifications

Model	GP-1 4kV
Operating Temp./Humidity	0 ～ 50℃/10 ～ 90%RH(without freezing or dew condensation)
Storage Temp./Humidity	-30 ～ 70℃/10 ～ 95%RH(without freezing or dew condensation)
Installation Place	Indoors
Rated Input Voltage	24V DC±10%
Variable Output Range Without Loud (rms)	AC output 4kV DC output -150 to +550V
Secondary Short Circuit Current	5 mA or lower
Output Monitor	1/1000V±5% of the output voltage is emit to the monitor terminals.
Low-voltage Detection	Anomaly detection function will operate when each 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 operate when the output current is about 4mA or more.
Anomaly Detection Sensitivity Adjustment	The anomaly detection response speed can be adjusted (using external adjustment knob)
Power Supply Input	Molex 5569-04A1-210
High Voltage Output Connector	Ceramic high voltage output terminal×2
Alarm Output Terminal	C contact relay output
Switches And Displays	On-off rocker switches. Blue LED power indicator lamp (goes off when anomaly is detected)
Material	Housing SPCC, painted white
Size	W102.8×D233.5×H114.2mm
Weight	Approx. 4.5kg

Option

Adapter specification

AC Adapter
AD24-GP
● EDP No. 806049
AD24-GPE
● EDP No. 806048
I / P : AC100V~240V 0.4A
O/P : DC24V 0.75A