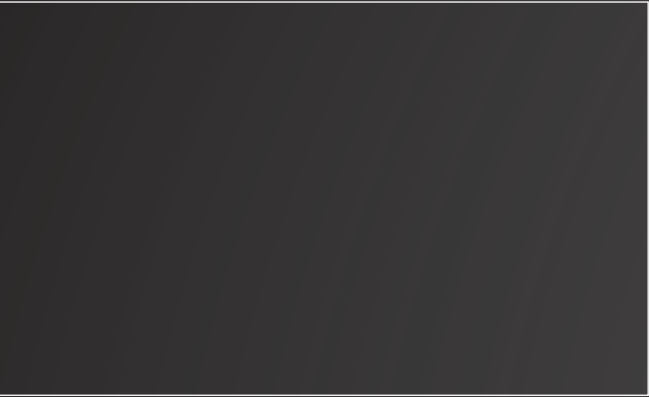


ELECTROSTATIC TOTAL SOLUTION

Inquiry for the product



The New Generation IONIZER

Electrostatic Total Solutions
SUNJE Co.,Ltd.

All about electrostatics, our know-how is yours!

The New Generation
IONIZER



■ Main Office

- KOREA
- Main Office & Factory (Busan)

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TEL : +82-51-720-7500 / FAX : +82-51-720-7501

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■ Overseas Corporation / Regional Distributor

- U S A
- Overseas Corporation SunJe America Co., Ltd.

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TEL : +1-510-332-8613 / FAX : +1-888-764-1429
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- Overseas Corporation SunJe Japan Co., Ltd.

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- CHINA
- Overseas Corporation SunJe (Shanghai) Trading Co., Ltd.

Room 312, Jiurun Business Building 3F, No.298, Yindu Road,
Xuhui District, Shanghai, China 200231
TEL : +86-21-5433-9761 / FAX : +86-21-5433-9762
- TAIWAN
- Overseas Corporation SunJe Technology Co., Ltd

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- AGENT
- Singapore / Malaysia / Thailand / Philippines / Argentina
- PARTNER
- USA / Poland / Czech / Hungary / France / Indonesia / Canada / Italy /
Germany / Vietnam / India / Portugal / Mexico / Hong-kong, etc.

Soft X-Ray Ionizer

X-Ray Source

Ion Bar

Ion Blower

Ion Nozzle

MMS / RMS

Dust Collector

Company Introduction

“The excellent company tries best to satisfy customer needs!”

Sunje Co.,Ltd. designs and manufactures all kinds of electrostatic equipment for customers.

Since May 2000, Sunje always develops and produces electrostatic equipment based on customers needs, therefore, we could help and fix their electrostatic problems in their business field.

With our competitive edge products, superb quality, and expeditive after-service, we guarantee to serve customers in anywhere FPD industries such as AMOLED, LCD, and TSP, semiconductor, painting, printing, pressing, and electric device handling industries.

We never forget our motto which is "We'll do our one's best until our customer satisfy."

Vision

2020 ELECTROSTATIC SPECIAL

Static World TOP!

MISSION

Create highest technology

- Accumulate static control technology.
- Interchange with world-leading static council.
- Implement static consulting with customers.
- Development new static products and construct static education program.
- Establish static special combined laboratory.

TECHNIQUE

Development of variety products

- Develop suitable static removal products to FPD industry.
- Develop suitable static removal products for semiconductor process.
- Expand range of application of new concept of static removal products using light.
- Develop non-dust static removal device.
- Procure competitiveness by variety of static removal and measurement products.

POINTS

Development of future oriented talented worker

- Implement active technique sales in IT industry of domestic and abroad. (China, Japan, Taiwan, Singapore, U.S, etc)
- Tighten technique interchange with globally improvement. (Japan, U.S, Germany, Netherlands, Russia, etc)
- Fulfill world-top in static related business.

FAMILY

A family-friendly community is what Sunje stands for

- Task distribution of workforce and home aims to generate harmonious company culture.
- A family-oriented program is supported to share.
- Self-development & social contribution activity expansion.
- Child-rearing & support education system expansion.

All about electrostatics, our know-how is yours!

Company History

2015.
- 05

America Corporation establishment(SUNJE AMERICA)
- 05

The 10th anniversary of the Sunje's founding
- 11

Small Business Leader's Knowledge Management Grand Award
- 11

Patent Management Gold Award
- 12

Five Million Dollars Export Award
2014.
- 04

IOS14064(Green-House Gases Inventory Certification) Certified
- 11

Electronic ICT Patent Management Award(Busan Mayor)
- 12

Strategic Industry Leading Company in Components Fusion Industry
2013.
- 03

IP Innovation Category Best Award(Busan)
- 11

Obtain certification for Quality/Environment Management System (ISO 9001:2008 / ISO 1400:2004)
- 12

Family-Friendly Business Certification
2012.
- 03

Received 46th Taxpayer Day Citation
- 08

China Corporation establishment(SUNJE CHINA)
- 12

Export Promising Appointed Company
- 12

Leading Company Certified(Small/Medium Business Organization)
2011.
- 01

Selection of job World Best 600 Business
- 01

Busan Leading Company Certified
- 11

Obtain certification for Quality Management System(ISO 9001:2008)
- 12

Women-Hiring Employment Award
2010.
- 05

The 10th anniversary of the Sunje's founding
- 06

Export Promising Appointed Company
- 10

Obtain certification for Environmental Management System (ISO 14001:2009 / ISO 1400:2004)
- 11

Female worker friendly company agreement
2009.
- 12

Certification of Excellent Business Study Organization
2008.
- 01

Japan Corporation establishment(SUNJE JAPAN)
- 06

Export Promising Appointed Company
- 08

Certification of Family Business in Pukyung Univ.
2007.
- 03

Taiwan Corporation establishment(SUNJE TAIWAN)
- 05

Sales License for Radiation Equipment(Taiwan)
- 05

Parts specialized company certified(Ministry of Commerce)
- 07

Successful Example Small & Medium Enterprises in Dongnam
- 08

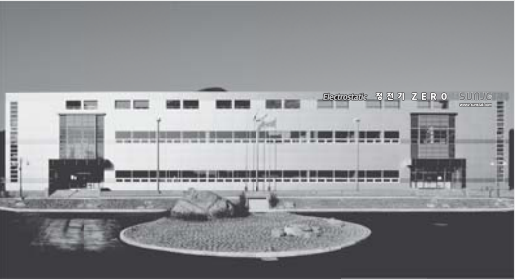
Certificate Reliability for Ionizer High Voltage Module
- 09

Industry Resources Principal Accolade
- 11

Obtain certification for Quality Management System (ISO 9001:2000/KS A9001:2001)
2006.
- 11

New Factory Expansion(Taiwan)
- 12

Machine Parts Subject Matter Industrial Freshness Enterprise Selecting



2005.
- 02

Founded Research Institute
- 02

Presidential Commission on Small & Medium Enterprise Citation
- 10

2005 Venture Korea Award(President)
- 10

Deputy Prime Minister and Minister of Science and Technology Citation
- 11

Quality Certificate for Excellent Machinery, Mechanism & Materials
- 11

Ministry of Commerce Minister Prized
2004.
- 11

Obtain certification for Management/Quality Management System (KS A 9001:2000/ISO 9001:2000)
- 12

The Mayor of Busan Citation

2003.
- 07

Certification of Excellent BI tenant Business(SMBA of Busan/Ulsan)

2002.
- 07

Clean Company Certificate

2000.
- 05

Founded Sunje Co., Ltd.
- 06

Professor/Student Business Establishment Management Contest Award(SMBA)



Why SUNJE?



Total solutions for customers needs



All kinds of ionizers



Reasonable price



Numerous electrostatic experts



Calibration & PM system



Flawless After-Service system

Electrostatic Management System

MAN

Technology Skill-Up

- ESD Education & Seminar
- ESD Problem Consulting
- Ionizer Install Proposal

MATERIAL

Optimization Static of Material

- Stable & Suitable Material Recommendation for ESD Prevention

MACHINE

High Performance Ionizer

- Ionizer Recommendation
- Optimal Ionizer Set-up Calibration

ENVIRONMENT

Maintenance

- Ionizer Position Proposal
- Process Analysis for Static Control
- ESD Concept Design
- Static Control Technology Assist

METHOD

Electrostatic Optimization [Periodical]

- Performance Test
- Tip Cleaning
- Repairing & Replacing
- Electrostatic Voltage Measuring

SUNJE Ionizers Have -

High-Performance

Stable Ion Balance

Reasonable Parts Replacement

Low Particle Rate

Low Operational Cost
Low Maintenance Cost

Dust-free Adhesive Design
Longer Maintenance Cycle



Main Customers



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RMS & RMSU

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Soft X-Ray Ionizer



Bar Type

Pin Type

SXN-05R
SXH-05T

SXH-10S
SXH-10T
SXH-10H
SXH-10F

SXN-15S
SXN-15U

Power Controller

Radiation Shielding method



Bar Type soft X-Ray Ionizer

CE

Patent

NEW

Compensate the disadvantage for ordinary ionizer.(Examples of disadvantages : particle issues, declined performance overtime, required periodic maintenance, higher cost spent on CDA supplement, and etc.) The Bar Type Soft X-Ray Ionizer allows you to apply various applications in different environment through slimmer design and larger and faster ionization. In addition, purchasing by the individual parts such as replacing a tube for maintenance brings prompt replacement on the spot.

[5kV]



Bar type Soft X-Ray Ionizer (SXB-05 Series)

[10kV]



Bar type Soft X-Ray Ionizer (SXB-10 Series)

SXN-05/10BT Series

SXB-05/10 Series + SXC-10BT

SXN-05/10BL Series

SXB-05/10 Series + SXC-10BL



Power Controller (SXC-10BT)



Power Controller (SXC-10BL)



Tube Modular structure

Key Features

- Optimized Bar type Soft X-Ray Ionizer to transporting section
- Possible to ionize on the rear side
- Prompt tube replacing on the spot is possible by parts Patent
- External controller type
- Possible to maintain long-term performance
- Particle Free, Ozone Free, No Air Flow, Perfect Ion Balance
- Applying RMS(Real Monitoring System) to check operation status in real time(Optional) Patent

Specifications

Parameter	Description / Value
Ion Generation Method	Soft X-ray
Source	Soft X-ray Tube
Beam Angle	150°
Input Power	AC 100V ~ 240V, 50/60Hz
Power Consumption (with Bar)	Max. 130W
Operation Circumstance	0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH
Alarm Function	H/V Abnormal, Communication error
Interface	(Run, Alarm, Power, Over Time, Remote, Interlock) Remote On/Off, Interlock On/Off, Output State
Controller Fuse	250V, 3A, 5X20 Glass Type Fuse
Weight	Controller (SXC-10BT/BL) 1.05kg
Warranty	SXB-05 Series 1 year
	SXB-10 Series 1 year
	Controller (SXC-10BT/BL) 1 year

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

Pin Type soft X-Ray Ionizer

CE

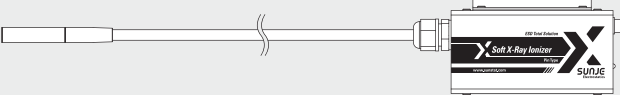
NEW

Actualize minaturization of tube module with a subminiature X-ray tube. It allows to be installed in a narrow area and It can deliver ionized air to rear side of the target directly by installing a compact size tube on the bottom surface through the Pin type. In addition, purchasing by the individual parts such as replacing a tube for maintenance brings prompt replacement on the spot.

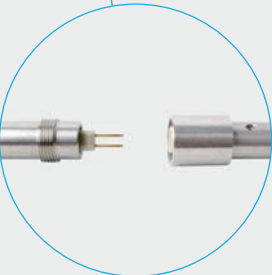
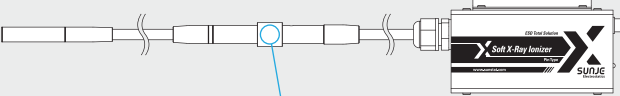
SXH-05/10SP1 [5kV/10kV]



Standard Type



Tube Replacement Type(Optional)

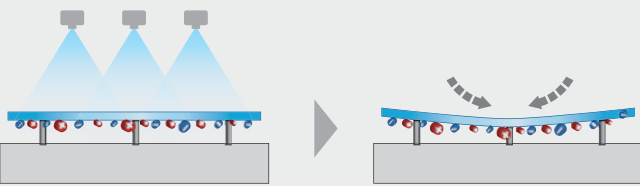


Tube Replacement structure

Key Features

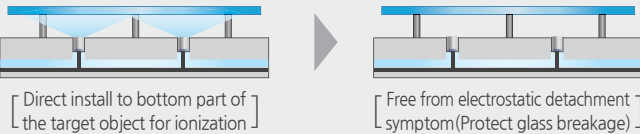
- Actualize miniaturization of tube module with a subminiature X-Ray Tube
- Can be installed in a narrow area and applied for various environment
- It can deliver ionized air to rear side of the target directly by installing on the bottom surface
- Purchasing by the individual parts brings economic savings and easy replacement
- Applying RMS(Real Monitoring System) to check operation status in real time(Optional) Patent

Existing Products



The difficulty of rear side static removal

SXN-05/10SP1



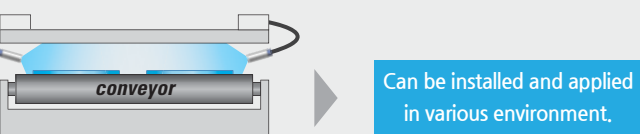
Direct install to bottom part of the target object for ionization

Existing Products



The difficulty of installing in a narrow space

SXN-05/10SP1



Easy to install in a narrow space

Can be installed and applied in various environment.

Specifications

Parameter	Description / Value
Ion Generation Method	Soft X-ray
Source	Soft X-ray Tube
Beam Angle	150°
Input Power	AC 100V ~ 240V, 50/60Hz
Operation Circumstance	0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH
Mounting Method	Bolt Mounting with Bracket
Weight	기본형 : 0.37kg / 튜브교체형(Optional) : 0.46kg
Alarm Function	Head Fail, Head Communication error
Interface	(Run, Alarm, Power, Over Time, Remote, Interlock) Remote On/Off, Interlock On/Off, Output State
Warranty	1 year

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

Soft X-Ray Ionizer [5kV]

Soft X-Ray Ionizer is a next generation model compare to other ionizers by using corona discharge. It doesn't generate particles, electromagnetic waves and ozone and also doesn't need compressed air and any maintenance.

SXN-05R

All-in-one type(Power supply built-in)



Key Features

- Suitable ionizer for the Plastic injection field and automatic takeout Robot filed
- Suitable for small and limited area
- With laser point application, the x-ray radiation angle can be viewed all time
- All-in-one type(Power supply built-in) & Easy installation
- Applying RMS(Real Monitoring System) to check operation status in real time(Optional)

Specifications

Parameter	Description / Value
Ion Generation Method	Soft X-ray
Source	Soft X-ray Tube
Beam Angle	150°
Power Consumption	9.6W
Current Consumption	Max. 400mA(DC 24V)
Mounting Method	Bolt Mounting with Bracket
Weight	0.28kg
Alarm Function	Head Fail
Warranty	1 year

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

SXH-05T



SXN-05U

All-in-one type(Power supply built-in)



Key Features

- Applicable for ESD sensitive production line or semiconductor assembly
- Suitable for small and limited area
- Applying RMS(Real Monitoring System) to check operation status in real time(Optional)

Specifications

Parameter	Description / Value
Ion Generation Method	Soft X-ray
Source	Soft X-ray Tube
Beam Angle	150°
Mounting Method	Bolt Mounting with Bracket
Weight	SXH-05T : 0.29kg / SXN-05U : 0.4kg
Alarm Function	Head Fail
Warranty	1 year

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

Soft X-Ray Ionizer [10kV]

Soft X-Ray Ionizer is a next generation model compare to other ionizers by using corona discharge. It doesn't generate particles, electromagnetic waves and ozone and also doesn't need compressed air and any maintenance. Suitable for the process needed for high ion density, high ionizing capacity in super clean room.

SXH-10S

5kV Manufacture Available(SXH-05S)

Tube Replacement Type



Key Features

- By replacing a modularized tube, easy to split and combine
- Purchasing by the individual parts brings economic savings
- Prompt replacement is possible on the spot
- Applying RMS(Real Monitoring System) to check operation status in real time(Optional)

Specifications

Parameter	Description / Value
Ion Generation Method	Soft X-ray
Source	Soft X-ray Tube
Beam Angle	150°
Input Power	AC 100V ~ 240V, 50/60Hz
Operation Circumstance	0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH
Mounting Method	Bolt Mounting with Bracket
Weight	0.31kg
Alarm Function	Head Fail, Head Communication error
Warranty	1 year

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

SXH-10T



Key Features

- Communication with RS-485, the information about accumulated time usage of the head unit can be managed through PC
- Easy to install due to slim design

Specifications

Parameter	Description / Value
Ion Generation Method	Soft X-ray
Source	Soft X-ray Tube
Beam Angle	150°
Input Power	AC 100V ~ 240V, 50/60Hz
Operation Circumstance	0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH
Mounting Method	Bolt Mounting with Bracket
Weight	0.29kg
Alarm Function	Head Fail, Head Communication error
Warranty	1 year

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

Soft X-Ray Ionizer [10kV]

Soft X-Ray Ionizer is a next generation model compare to other ionizers by using corona discharge. It doesn't generate particles, electromagnetic waves and ozone and also doesn't need compressed air and any maintenance. Suitable for the process needed for high ion density, high ionizing capacity in super clean room.

SXH-10H



Key Features

► Compatibility with competitors' & approved product performance with convenience



► SPG Series (Soft X-ray Ionizer Gender Box)

Enables to connect with competitor's Controller. We have compatibility gender applications for any kinds of equipment and facilities.

Specifications

Parameter	Description / Value
Ion Generation Method	Soft X-ray
Source	Soft X-ray Tube
Beam Angle	150°
Input Power	AC 100V ~ 240V, 50/60Hz
Operation Circumstance	0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH
Mounting Method	Bolt Mounting with Bracket
Weight	0.36kg
Alarm Function	Head Fail
Warranty	1 year

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

SXH-10F



Key Features

► Using flexible arm(Length : 500mm), a head unit can be installed in further range. It can ionize narrow spaces well

► Minimized/optimized a 'Tube' diameter, therefore, easy to install in a limited space

Specifications

Parameter	Description / Value
Ion Generation Method	Soft X-ray
Source	Soft X-ray Tube
Beam Angle	150°
Input Power	AC 100V ~ 240V, 50/60Hz
Operation Circumstance	0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH
Mounting Method	Bolt Mounting with Bracket
Weight	0.75kg
Alarm Function	Head Fail
Warranty	1 year

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

Soft X-Ray Ionizer [15kV]

With strong power generation(15kV), it is effectual to the wide range ionization. In addition, the installation is simple due to the characteristic of all-in-one device structure.

SXN-15S

Power Controller Integrated type / Separated type is selectable

Tube Replacement Type



► Tube Module

► H/V Module & Main Body

► SXC-154L (Power Controller)

SXN-15S Power Controller separate type(1:4 Type / Option)



SXN-15U

Power Controller Integrated type / Separated type is selectable



► SXC-154L (Power Controller)

SXN-15U Power Controller separate type(1:4 Type / Option)

Key Features

► With 15kV application, it is effectual to the wide and long range ionization

► By replacing a modularized tube, easy to split and combine

► Purchasing by the individual parts brings economic savings

► All-in-one type(Power supply built-in) & Easy installation(Power Controller separate type : Option)

► Applying RMS(Real Monitoring System) to check operation status in real time(Option)

Specifications

Parameter	Description / Value
Ion Generation Method	Soft X-ray
Source	Soft X-ray Tube
Beam Angle	150°
Input Power	DC 24V
Power Consumption	13W
Current Consumption	Max. 60mA
Operation Circumstance	0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH
Mounting Method	Bolt Mounting with Bracket
Weight	0.73kg
Alarm Function	Head Fail
Indicator	Alarm State, Over Time State
Warranty	1 year

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

Key Features

► With 15kV application, it is effectual to the wide and long range ionization

► Using flexible arm(Length : 300mm), a head unit can be installed in further range. It can ionize narrow spaces well

► All-in-one type(Power supply built-in) & Easy installation(Power Controller separate type : Option)

► Applying RMS(Real Monitoring System) to check operation status in real time(Option)

Specifications

Parameter	Description / Value
Ion Generation Method	Soft X-ray
Source	Soft X-ray Tube
Beam Angle	150°
Input Power	AC 100V ~ 240V, 50/60Hz(Adaptor Input)
Power Consumption	13W
Current Consumption	Max. 59mA
Operation Circumstance	Power : 0°C ~ +36.5°C / Head : 0°C ~ +52°C
Mounting Method	Bolt Mounting with Bracket
Weight	1.4kg
Alarm Function	Head Fail
Indicator	Alarm State, Over Time State
Warranty	1 year

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

Power Controller

SXC-10S/102S/104S

Dedicated controller for SXH-05/10SP1, SXH-05/10S.



▶ 1:1 type SXC-10S



▶ 1:2 type SXC-102S



▶ 1:4 type SXC-104S

Key Features

- ▶ Dedicated controller for Head Unit SXH-05/10SP1, SXH-05/10S
- ▶ After replacement of the Tube, controller can be resettable(Usage time, Alarm information)
- ▶ With RS-485 communication, accumulated time of head unit operation and its management are possible through PC
- ▶ Diverse external output function - D-Sub Output, Head Unit Life Time Alarm Function **Patent**
- ▶ With 1:1/1:2/1:4 type(Controller:Head) combinations, multiple set-ups are enabled **Patent**
- ▶ Applying RMS(Real Monitoring System) to check operation status in real time(Optional) **Patent**

Specifications

Parameter		Description / Value
Input Power		AC 100V ~ 240V, 50/60Hz
Power Consumption (with Head)	1:1 Type	Max. 12W
	1:2 Type	Max. 20W
	1:4 Type	Max. 38W
Controller Fuse		250V, 3A, 5X20 Glass Type Fuse
Operation Circumstance		0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH
Weight	SXC-10S	0.47kg
	SXC-102S	0.60kg
	SXC-104S	0.88kg
Alarm Function		Head Fail, Head Communication error
Indicator		Power State, Remote State, Interlock State, Run State, Alarm State
Warranty		1 year

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

SXC-10T/102T/104T

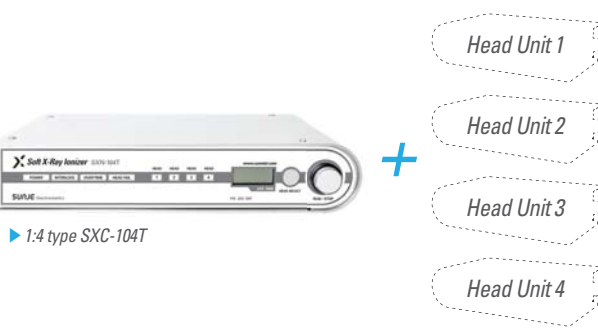
Dedicated controller for SXH-05T, SXH-10T.



▶ 1:1 type SXC-10T



▶ 1:2 type SXC-102T



▶ 1:4 type SXC-104T

Key Features

- ▶ Dedicated controller for Head Unit SXH-05T(1:4 only), SXH-10T
- ▶ With RS-485 communication, accumulated time of head unit operation and its management are possible through PC
- ▶ Diverse external output function - D-Sub Output, Head Unit Life Time Alarm Function **Patent**
- ▶ With 1:1/1:2/1:4 type(Controller:Head) combinations, multiple set-ups are enabled **Patent**
- ▶ Applying RMS(Real Monitoring System) to check operation status in real time(Optional) **Patent**

Specifications

Parameter		Description / Value
Input Power		AC 100V ~ 240V, 50/60Hz
Power Consumption (with Head)	1:1 Type	Max. 23W
	1:2 Type	Max. 40W
	1:4 Type	Max. 50W
Controller Fuse		250V, 3A, 5X20 Glass Type Fuse
Operation Circumstance		0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH
Weight	SXC-10T	0.47kg
	SXC-102T	0.60kg
	SXC-104T	0.88kg
Alarm Function		Head Fail, Head Communication error
Indicator		Power State, Remote State, Interlock State, Run State, Alarm State
Warranty		1 year

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

Power Controller

SXC-10/102/104

Dedicated controller for SXH-10H, SXH-10F.



▶ 1:1 type SXC-10



▶ 1:2 type SXC-102



▶ 1:4 type SXC-104

Key Features

- ▶ Dedicated controller for Head Unit SXH-10H, SXH-10F
- ▶ With 1:1/1:2/1:4 type(Controller:Head) combinations, multiple set-ups are enabled **Patent**
- ▶ Applying RMS(Real Monitoring System) to check operation status in real time(Optional) **Patent**

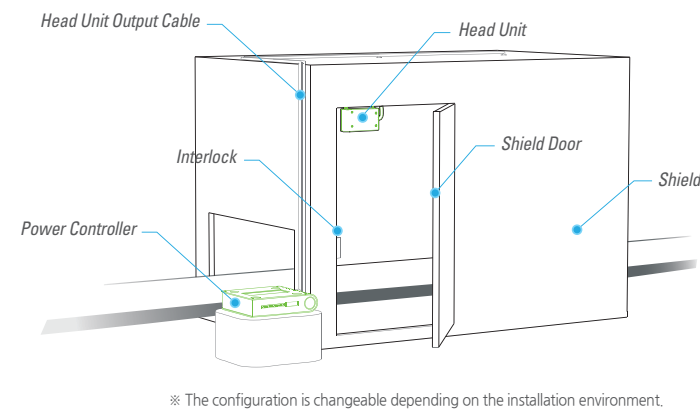
Specifications

Parameter		Description / Value
Input Power		AC 100V ~ 240V, 50/60Hz
Power Consumption (with Head)	1:1 Type	Max. 26W
	1:2 Type	Max. 47W
	1:4 Type	Max. 56W
Controller Fuse		250V, 3A, 5X20 Glass Type Fuse
Operation Circumstance		0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH
Weight	SXC-10	0.80kg
	SXC-102	1.14kg
	SXC-104	1.52kg
Alarm Function		Head Fail, Head Abnormal
Indicator		Power State, Remote State, Interlock State, Run State, Alarm State
Warranty		1 year

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

Radiation Shielding method

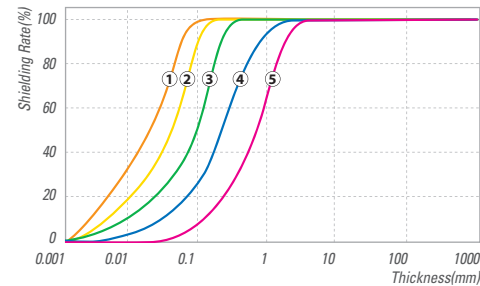
For Soft X-Ray Ionizer



- ▶ Please be careful to avoid direct exposure from the soft X-ray, since it may cause you any skin problems. Therefore, you need to shield the area or soft X-ray in order to protect yourself. Check your Soft X-Ray Ionizer circumstances first and then apply interlocking system for the environment of usage. Please keep in mind that accepted leakage level for radiation dose is 10μSv/hr or under, Keeping your area under the mentioned level all the time. (The leakage level of radiation dose might differ in countires. e.g. South Korea : 10μSv/hr)
- ▶ Please refer to the below chart for possible materials of shielding and its acceptable thickness.

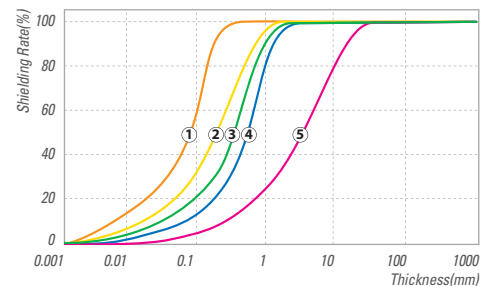
Material Shielding Rate

▶ SXN-05R / 05U, SXH-05SP1 / 05T, SXB-05 Series



Material	Thickness(mm)
① Copper	Over 0.1
② Aluminum	Over 0.25
③ Glass	Over 0.5
④ PVC (Static-free)	Over 3.0
⑤ Acryl (Static-free)	Over 5.0

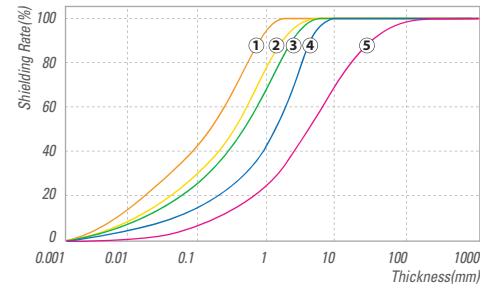
▶ SXH-10SP1 / 10S / 10T / 10H / 10F, SXB-10 Series



Material	Thickness(mm)
① Copper	Over 0.4
② Aluminum	Over 2.0
③ Glass	Over 3.0
④ PVC (Static-free)	Over 5.0
⑤ Acryl (Static-free)	Over 40.0

※ In order to shield perfectly, we suggest you to use Static-free PVC panel with at least 5mm thickness or above.

▶ SXN-15S / 15U



Material	Thickness(mm)
① Copper	Over 3.5
② Aluminum	Over 6.0
③ Glass	Over 7.0
④ PVC (Static-free)	Over 8.0
⑤ Acryl (Static-free)	Over 120.0

※ In order to shield perfectly, we suggest you to use Static-free PVC panel with at least 8mm thickness or above.



Glass Tube

Ceramic Tube



Glass Tube



Key Features

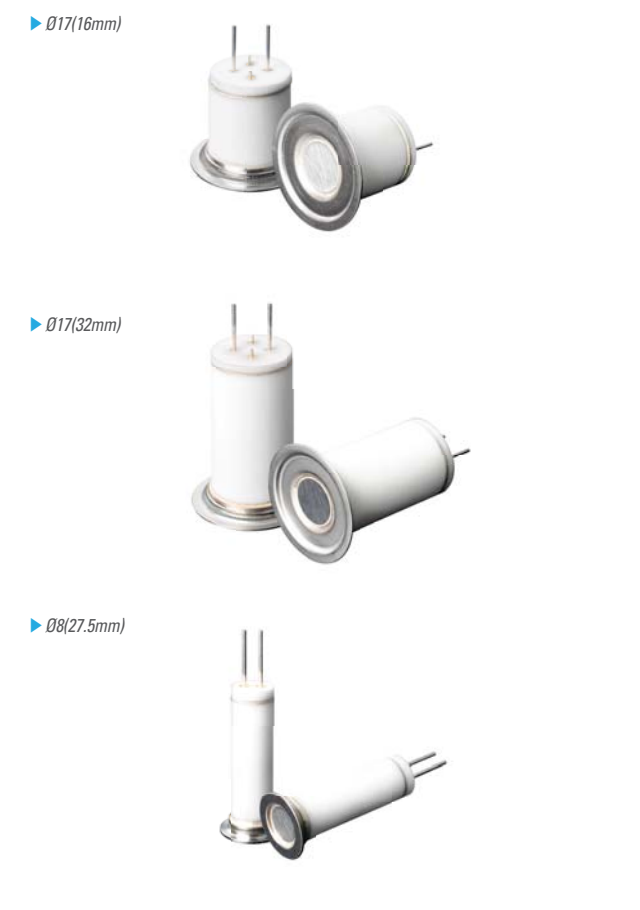
- ▶ Ambipolar thermoelectron vacuum tube with high efficiency
- ▶ If the heated thermoelectrons from cathode is accelerated then heats the target(i.e. Anti Cathode), the radiated X-ray is emitted
- ▶ The tube is designed to endure high durability, minimize target contamination, reduce breakage and minimize filament disconnection problems
- ▶ Designed for soft X-ray analysis, XRF, X-ray detector, and many others (Allowable radiation range: -2 ~ -20kV)
- ▶ Perfect device for any test equipment in Semiconductor or ESD supersensitive production lines.
- ▶ Achieved downsizing via lens transmission structure

Specifications

Parameter	Ø17(16mm)	Ø17(32mm)	Ø17(42mm)
Tube Type	Glass	Glass	Glass
High Voltage	-2 ~ -15kV	-2 ~ -15kV	-2 ~ -20kV
Tube Diameter	Ø17	Ø17	Ø17
Cooling Method	conduction	conduction	conduction
Weight	5.0g	7.5g	8.5g
Target Material	Ag, W, Pd Ta, Rh	Ag, W, Pd Ta, Rh	Ag, W, Pd Ta, Rh
Window Material	Beryllium	Beryllium	Beryllium
Beam Current	0.4mA	0.4mA	0.4mA
Applications	1. XRF 4. Soft X-ray Analysis 2. Image Process 5. X-ray Inspection 3. X-ray Detector 6. X-ray CT		

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

Ceramic Tube



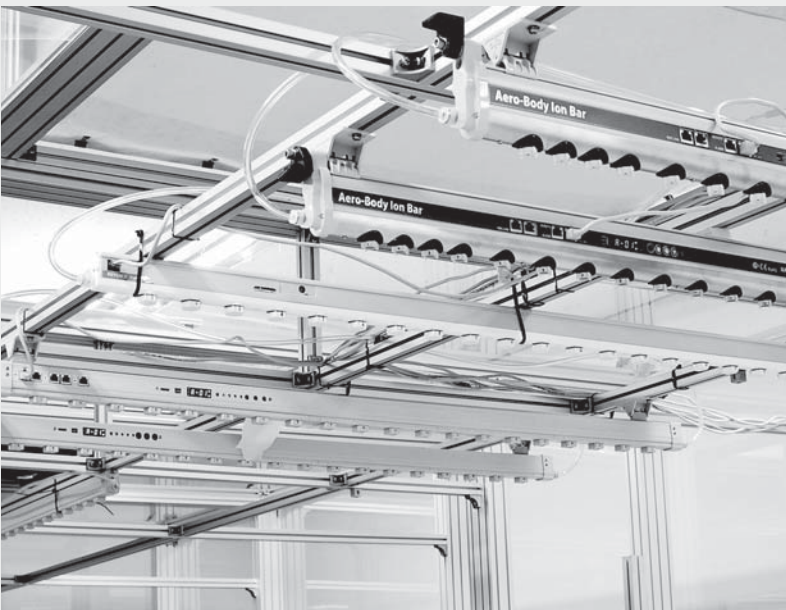
Key Features

- ▶ Able to manufacture based on customer needs (e.g. thermal shock proof, thermostability enhanced, miniaturized, or high voltage durable discharging tube)
- ▶ High-degree vacuum structure for longer life time
- ▶ Possible to use in multifunctional small X-ray camera, medical device, small sterilizer, or etc
- ▶ Designed for soft X-ray analysis, XRF, X-ray detector, and many others (Allowable radiation range: -2 ~ -60kV)
- ▶ Achieved downsizing via lens transmission structure

Specifications

Parameter	Ø17(16mm)	Ø17(32mm)	Ø8(27.5mm)
Tube Type	Ceramic	Ceramic	Ceramic
High Voltage	-2 ~ -60kV	-2 ~ -60kV	-2 ~ -40kV
Tube Diameter	Ø17	Ø17	Ø8
Cooling Method	conduction	conduction	conduction
Weight	10.5g	15.0g	3.5g
Target Material	Ag, W, Pd Ta, Rh	Ag, W, Pd Ta, Rh	Ag, W, Pd Ta, Rh
Window Material	Beryllium	Beryllium	Beryllium
Beam Current	0.4mA	0.4mA	0.4mA
Applications	1. XRF 4. Soft X-ray Analysis 2. Image Process 5. X-ray Inspection 3. X-ray Detector 6. X-ray CT		

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.



SIB-ex Series
SIBM Series

SIB7/7A Series
SIB4/4A Series
SIB1/2 Series

SSB1 Series
SKB Series
SRB Series

Power Controller

Eco Powerful Nozzle Socket



SIB-ex Series NEW

Explosion-proof Ion Bar that achieved explosion-proof certification in both ATEX(Europe) and KGS(Korea). It brings safety free with using flame retardant material, so it is suitable for use in areas of explosion hazard.

Explosion-Proof Type



Key Features

- ▶ The explosion-proof ionizer with ATEX certification for Europe and KGS certification for Korea
- ▶ No risk of explosion with low ignition energy
- ▶ No firing potential with using flame retardant material
- ▶ Aluminum and stainless steel frame structure
- ▶ Various composition, remarkable cost-effectiveness

Specifications

Parameter	Description / Value	Remark
Ion-Generation Method	Corona Discharge AC	Capacity coupled
Applied Voltage	AC 8kV(±7%), 50/60Hz	
Max. Current	5nA (from emitter point earth)	
Operating Distance	50mm ~ 200mm	Non Air Pressure
Operating Temperature	0°C ≤ Tamb ≤ +40°C	
Main Body Material	Aluminum, PVC, PA	
Bracket Material	SUS	
Electrode Material	SUS	
Cable Insulator Material	PE, PVC	
Ion Bar Length	100mm ~ 3,000mm	Step 100mm
Cable Length	Max. 10m	Ion Bar to Controller
Mounting Method	Ceiling & Wall Mount	
Warranty	1 year	
Atmospheric Pressure	80kPa ~ 110kPa	
Certification Standard	EN 60079-0: 2009(KGS)	
	EN 60079-18: 2009(KGS)	
	EN 1127-1: 2007(ATEX)	
Type of Protection	II 2 G Ex mb IIB T6(KGS)	
	II 3 G IIB T(ATEX)	
Certi Number	Appendix.	

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

SIBM Series NEW

This device is a shockless type that does not create any electrical problems even though the ionizer(i.e. Ion Bar) is contacted with human body. Due to strengthened structure and various length applications, this device can be used in diverse applications such as film, textile, injection molding, printing industries.



Key Features

- ▶ Shockless Type → Safety is guaranteed against electric shock
- ▶ Stable power supply is enabled from external power controller
- ▶ Resistant to corrosion by using stainless steel tip
- ▶ Well-built structure & various length applications are available for workplaces

Specifications

Parameter	Description / Value	Remark
Ion-Generation Method	Corona Discharge AC	
Applied Voltage	AC 8kV, 50/60Hz	SBP-08A3
Structure	Capacitive-Coupled	Shockless Type
Operating Distance	10mm ~ 150mm	Non Air Pressure
Operation Circumstance	0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH	
Ozone(O ₃) Concentration	≤0.05ppm	
Frame Material	Aluminum	
Main Body Material	PVC	Painted RAL7032
Electrode Material	Stainless Steel	
Installation location	To be installed at non hazardous place	
Cable Length	Max. 3m	Ion Bar to Controller
Weight	About 1.4kg/m	with H/V Cable
Mounting Method	Ceiling & Wall Mount	
Warranty	1 year	

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

SIB7/7A Series Patent NEW

SIB7/7A Series is the all-in-one type mini size ion bar and it has various specifications and digital control systems. It is a product that presents the high performance of static electricity removal and ion balance(±30V) using a high-voltage corona electric discharge.

All-in-one Type



Key Features

- ▶ All-in-one type mini size ion bar.(eg. controller internally installed)
- ▶ Stabilized ion creation without any external effects - Auto. Ion Volume <SIB7A> Patent
- ▶ Maximized the ion creation via reducing loss of corona discharging
- ▶ Power jumping function within ion bars(Max. 4 ion bar links) Patent
- ▶ Aerodynamic design nozzle socket reduces tip contamination
- ▶ One-touch in/out socket application → Simple to swap new tips & Easy cleaning Patent
- ▶ Fulfilled standardization of the least air consumption
(Newly designed socket minimized the air consumption but maximized the air pressure)

Specifications

Parameter	Description / Value	Remark
Input Power	DC 24V (±5%)	
Power Consumption	Max. 7.8W	
Current Consumption	Max. 325mA	DC 24V
Ion-Generation Method	Corona Discharge Pulse AC	
Air Purge Supply Pressure	0.1MPa ~ 0.5 MPa	CDA(Clean Dry Air), N ₂
Air Purge Connection Port	Pipe Thread 1/8"	
Ion Balance	within ±30V	1,000mm
Operating Distance	50mm ~ 2,000mm	
Operation Circumstance	0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH	
Ozone(O ₃) Concentration	≤0.05ppm	
Main Body Material	Non-Flammable ABS	Level V0
Electrode Material	Standard : Tungsten / Option : Poly Silicon, Titanium	
Electrode Replacement	Cartridge type	
Mounting Method	Bolt Mounting with Bracket	
Adjust Function	Frequency [Hz]	0.1, 0.3, 1, 3, 5, 8, 10, 20, 30, 50
	Duty Ratio [%]	40 ~ 70
	Voltage [Level]	1 ~ 10
Alarm Function	High Voltage Abnormal Alarm	
Interface	Input : Remote / Output : Run State, Alarm State	
Option	SBP-RD (DC Power Supply)	
Warranty	1 year	

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

SIB4/4A Series Patent NEW

SIB4/4A Series has various specifications and digital control systems. It is a product that presents the high performance of static electricity removal and ion balance(±30V) using a high-voltage corona electric discharge. And its optimized ion generation from the unique design let ionize the area more superior.



Key Features

- ▶ Depending on the polarity, automatically distributes/controls ion - Auto. Duty <SIB4> Patent
- ▶ Stabilized ion creation without any external effects - Auto. Ion Volume <SIB4A>
- ▶ With slim body, diverse installation is possible
- ▶ Maximized the ion creation via reducing loss of corona discharging
- ▶ Tip Cleaning Alarm(internal timer installed → possible to set tip cleaning period)
- ▶ Output voltage control(8~12.5kVp-p)
- ▶ Power jumping function within ion bars (Max. 4 ion bar links) Patent
- ▶ Aerodynamic design nozzle socket reduces tip contamination
- ▶ One-touch in/out socket application → Simple to swap new tips & Easy cleaning Patent
- ▶ Dedicated tip cleaning device(Optional)
- ▶ Fulfilled standardization of the least air consumption
(Newly designed socket minimized the air consumption but maximized the air pressure)

Specifications

Parameter	Description / Value		Remark
	SIB4 Series	SIB4A Series	
Input Power	DC 24V (±5%)		
Power Consumption	Max. 14.4W	Max. 12W	
Current Consumption	Max. 500mA		DC 24V
Ion-Generation Method	Corona Discharge Pulse AC		
Air Purge Supply Pressure	0.1MPa ~ 0.5 MPa		CDA(Clean Dry Air), N ₂
Air Purge Connection Port	Pipe Thread 1/8"		
Ion Balance	within ±30V		1,000mm
Operating Distance	50mm ~ 2,000mm		
Operation Circumstance	0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH		
Ozone(O ₃) Concentration	≤0.05ppm		
Main Body Material	Non-Flammable ABS		Level V0
Electrode Material	Standard : Tungsten / Option : Poly Silicon, Titanium		
Electrode Replacement	Cartridge type		
Mounting Method	Bolt Mounting with Bracket		
Adjust Function	Frequency [Hz]	0.1, 0.3, 1, 3, 5, 8, 10, 20, 30, 50	Distance 50 ~ 100mm
	Duty Ratio [%]	40 ~ 70	
	Voltage [Level]	1 ~ 10	
	Auto Duty	Mode Set	
Alarm Function	High Voltage Abnormal Alarm, Tip Cleaning Alarm(Setting)		
Interface	Run State, Remote, RS485, Alarm State		
Option	RMS (Real Monitoring System, SBP-RD (DC Power Supply)		
Warranty	1 year		

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

SIB1/2 Series

Patent

SIB1/2 Series is the external controller type ion bar. Due to small and slim body, it can be installed in a narrow space easily. We provide diverse lengths and its maintenance is simple.



Key Features

- ▶ External Controller Type Ion Bar Patent
- ▶ Max. 4ea connections using external controller(SBP-14J4) Patent
(Note that SBP-07A2, SBP-11/11N : Max. 2ea / SBP-06 : Max. 1ea)
- ▶ Small / Slim body → Easy to install in a narrow space
- ▶ Various length of ion bar for numerous installing environment

Specifications

Parameter		Description / Value		Remark
		SIB1 Series	SIB2 Series	
Ion-Generation Method		Corona Discharge Pulse AC		
Air Purge Supply Pressure	≤0.1MPa	-	SIB2-07, SIB2-10, SIB2-16	CDA(Clean Dry Air), Nz
	≤0.3MPa	SIB1-16A ~ SIB1-48A	SIB2-20 ~ SIB2-50	
	≤0.5MPa	SIB1-64A ~ SIB1-256A	SIB2-60 ~ SIB2-250	
Air Purge Connection Port		Pipe Thread 1/8"		Ø6 Under 1,000mm Ø8 Over 1,000mm
Ion Balance		within ±50V		1,000mm
Operating Distance		50mm ~ 2,000mm		
Operation Circumstance		0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH		
Ozone(O ₃) Concentration		≤0.05ppm		
Main Body Material		Non-Flammable ABS		Level V0
Electrode Material		Standard : Tungsten / Option : Poly Silicon, Titanium		
Electrode Replacement		Cartridge type		
Mounting Method		Bolt Mounting with Bracket		
High Voltage Cable		Insulation Cable 4m (UL3239, 20kV - 1007AWG18)		Standard
Warranty		1 year		

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

SKB Series

Patent

Capacitive coupling type that is shockless and waterproof. You can use with air knife without any problem. With slim structure, it can be installed most of all working space.



Key Features

- ▶ Possible to use in humid area(Waterproof structure)
- ▶ Small / Slim body → Easy to install in a narrow space
- ▶ Superior to electric damages(incl. shocks) due to electrostatic capacity couple type
- ▶ When false voltage alarm, ion bar will stop automatically(Alarm Function) Patent
- ▶ Input voltage level is controllable(When connecting SBP-07A2) Patent

Specifications

Parameter	Description / Value	Remark
Compliant Standards	Technical Recommendations of the Research Institute of Industrial Safety	
Rated Voltage	AC 7.5kV ±7% (Max.), 50/60Hz	
Structure	Capacitive-Coupled	Shockless Type
Operating Distance	10mm ~ 250mm	Non Air
Operating Temperature	0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH	
Ozone(O ₃) Concentration	≤0.05ppm	
Main Body Material	PBT (Polybutylene Terephthalate)	Level V0
Cover Material	Aluminum	
Electrode Material	Stainless Steel	
Cable Insulator Material	PVC (Polyvinyl Chloride)	
Flexible Tube Material	PA (Polyamide)	Level V0
Weight	About 0.6kg/m	without H/V Cable
Mounting Method	Ceiling & Wall Mount	
Warranty	1 year	

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

SSB1 Series

NEW

Possible to use not only in general environment but also high temperature environment(130°C). In addition, it is possible to select Pulsed AC type and DC type by choosing a controller's type. It brings to apply this ionizer to various working environment.



Key Features

- ▶ Possible to use in high temperature environment(130°C)
- ▶ Possible to apply to various working environment
- ▶ Small / Slim body → Easy to install in a narrow space
- ▶ Various length of ion bar for numerous installing environment
- ▶ Dedicated tip cleaning device(Optional)

Specifications

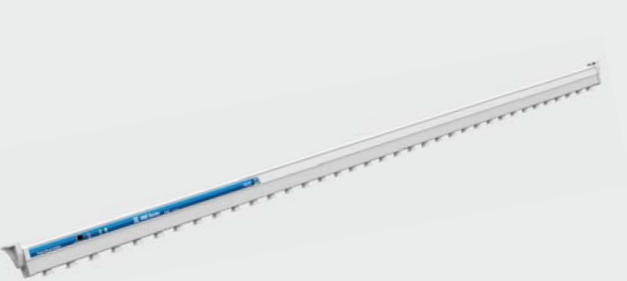
Parameter	Description / Value	Remark
Ion-Generation Method		Corona Discharge
Rated Voltage	Pulsed AC 10kVpp ±7%(Max.)	AC: SBP-14J4/SBP-06
	DC ±9kV ±7%(Max.)	DC: SBC-2PN
Structure	Direct-Coupled	
Ion Balance	Within ±50V at pulsed AC	100mm
Operating Distance	10mm ~ 250mm	Non Air
Operation Circumstance	0°C ~ +130°C(32°F ~ 266°F), 35% ~ 85% RH	
Ozone(O ₃) Concentration	≤0.05ppm	
Main Body Material	Epoxy, MC Nylon	Level HB
Cover Material	Aluminum	
Electrode Material	Tungsten (Pitch : 30mm)	
Cable Insulator Material	Silicon	
Warranty	1 year	

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

SRB Series

Patent

SRB Series is an ionizer that atmospherically ionizes the area for ESD control. Since the particle from the ionized area becomes inactive condition, there are no particle attraction at all. This device allows you to drop the failure rate from the particle absorbtion from the processing material.



Key Features

- ▶ Spatial aspects of ionization to eliminate any static problem
- ▶ Various length of ion bar for numerous installing environment
- ▶ No need of the compressed air(e.g. Non-air system), therefore, saving maintenance costs
- ▶ Applying RMS(Real Monitoring System) to check operation status in real time(Optional) Patent

Specifications

Parameter	Description / Value	Remark
Input Power	AC 100 ~ 240V, 50/60Hz	
Power Consumption	Max. 15W	
Current Consumption	Max. 68mA	AC 220V
Ion-Generation Method	Corona Discharge Pulse AC	Pair Type
Operating Distance	50mm ~ 2,000mm	
Operation Circumstance	0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH	
Ozone(O ₃) Concentration	≤0.05ppm	
Main Body Material	Non-Flammable ABS	Level V0
Electrode Material	Tungsten	
Mounting Method	Bolt Mounting with Bracket	
Function	Remote Control	
Adjust Function	Period [Sec.]	Positive 1 ~10 Sec. / Negative 1 ~ 10 Sec.
	Voltage [kV]	Positive 4 ~ 11kV / Negative 4 ~11kV
Alarm Function	High Voltage Abnormal / Low Performance Alarm	
Interface	Remote, Run/Alarm State	RJ45
Warranty	1 year	

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

SBP-08A3 NEW

Dedicated controller for SIBM Series, SIB-ex Series.
(1:3 type)



Specifications

Parameter	Description / Value	Remark
Input Power	AC 110V or AC 220V, 50/60Hz	
Power Consumption	110V : Max. 24.2VA(220mA) / 220V : Max. 24.2VA(110mA)	
Output Voltage	AC 8kV ±7%(Max.)	
Output Port	3 Ports	
Operation Circumstance	0℃ ~ +50℃(32℉ ~ 122℉), 35% ~ 85% RH	
Main Body Material	EGI	
Weight	8.1kg	
Mounting Method	Desk Top or Wall Mount	
Installation Location	To be installed at a non hazardous place	
Warranty	1 year	

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

SBP-07A2 NEW

Dedicated controller for SIB1/2 Series, SSB1 Series, SKB Series.
(1:2 type)



Specifications

Parameter	Description / Value	Remark
Input Power	AC 100V ~ 240V, 50/60Hz	
Power Consumption	33W	
Output Voltage	AC 4kV ~ 7.5kV(±7%), 55Hz(±5Hz), below 5mA Ion Balance(Offset) : DC -150V ~ +550V	100V Digital step adj. Analog volume adj.
Output Port	2 Ports	
Operation Circumstance	0℃ ~ +50℃(32℉ ~ 122℉), 10% ~ 90% RH	no condensation
Main Body Material	EGI	
Weight	5kg	
Mounting Method	Desk Top or Wall Mount	
Alarm Function	High Voltage Abnormal Alarm	
Interface	Remote, Run/Alarm State	
Warranty	1 year	

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

SBP-14J4 NEW

Dedicated controller for SIB1/2 Series, SSB1 Series.
(1:4 type)



Specifications

Parameter	Description / Value	Remark
Input Power	AC 100V ~ 240V, 50/60Hz	
Power Consumption	18W	
Current Consumption	80mA	AC 220V
Output Voltage	Pulse AC 14 kVp-p(Max.)	
Output Port	4 Ports	
Operation Circumstance	0℃ ~ +50℃(32℉ ~ 122℉), 35% ~ 85% RH	
Main Body Material	EGI	
Weight	2.9kg	
Mounting Method	Bolt Mounting with Bracket	
Adjust Function	Frequency [Hz]	0.1, 0.3, 1, 3, 5, 8, 10, 20, 30, 50 (10Steps)
	Duty Ratio [%]	40 ~ 70
	Voltage [Level]	H : 1 ~ 10
Interface	Remote, Run/Alarm State, RS485	
Warranty	1 year	

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

SBP-11/11N Patent

Dedicated controller for SIB1/2 Series, SSB1 Series.
(1:2 type)



Specifications

Parameter	Description / Value		Remark
	SBP-11	SBP-11N	
Input Power	AC 100V ~ 240V, 50/60Hz		
Power Consumption	22W	23W	
Current Consumption	100mA	104mA	AC 220V
Output Port	2 Ports		
Main Body Material	EGI	Stainless Steel	
Weight	2.46kg	2.48kg	
Mounting Method	Bolt Mounting with Bracket		
Adjust Function	Frequency [Hz]	1, 3, 5, 8, 10, 20, 30	
	Duty Ratio [%]	40 ~ 60	
Alarm Function	High Voltage Abnormal Alarm		UTP(SBP-11N)
Warranty	1 year		

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

SBP-06 Patent

Dedicated controller for SIB1/2 Series, SSB1 Series.
(1:1 type)



Specifications

Parameter	Description / Value	Remark
Input Power	AC 100V ~ 240V, 50/60Hz	
Power Consumption	16W	
Current Consumption	72mA	AC 220V
Output Port	1 Port	
Main Body Material	EGI	
Weight	1.42kg	
Mounting Method	Bolt Mounting with Bracket	
Adjust Function	Duty Ratio [%] : 40 ~ 60	
Warranty	1 year	

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

SBC-2PN

Dedicated controller for SSB1 Series.
(1:2 type)



Specifications

Parameter	Description / Value	Remark
Input Power	AC 100V ~ 240V, 50/60Hz	
Power Consumption	Max. 35W	
Current Consumption	Max. 159mA	AC 220V
Output Voltage	DC ±8kV ~ ±11kV	
Output Port	2 Ports	
Operation Circumstance	0℃ ~ +50℃(32℉ ~ 122℉), 10% ~ 90% RH	
Main Body Material	EGI	
Weight	4.5kg	
Mounting Method	Bolt Mounting with Bracket	
Alarm Function	High Voltage Abnormal Alarm	
Interface	Run/Stop, Alarm CH1/CH2	
Warranty	1 year	

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

SRC-2P

Dedicated controller for SRB Series.
(1:2 type)



Specifications

Parameter	Description / Value	Remark
Input Power	AC 100V ~ 240V, 50/60Hz	
Power Consumption	Max. 15W	AC 220V
Current Consumption	Max. 68mA	
Output Voltage	Adj. Pulse Power	
Output Port	2 Ports	
Operation Circumstance	0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH	
Main Body Material	EGI	
Weight	4.5kg	
Mounting Method	Bolt Mounting with Bracket	
Function	Period [Sec]	Positive 1 ~ 10 Sec. / Negative 1 ~ 10 Sec.
	Voltage [Level]	Positive 4 ~ 11kV / Negative 4 ~ 11kV
Alarm Function	High Voltage Abnormal / Low Performance Alarm	
Interface	Remote, RS-485, Alarm	
Warranty	1 year	

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

Connectable Products

This table shows applicable Ion Bars to the controller by model.

Controller	Ion Bar						
	SIB-ex Series	SIBM Series	SIB7/7A Series	SIB4/4A Series	SIB1/2 Series	SSB1 Series	SKB Series
SBP-08A3	○	○	All-in-one type	All-in-one type			
SBP-07A2					○	○	○
SBP-14J4					○	○	
SBP-11/11N					○	○	
SBP-06					○	○	
SBC-2PN						○	
SRC-2P							○

Eco Powerful Nozzle Socket NEW


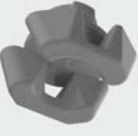

Dedicated nozzle socket for SIB4/4A, SIB7/7A Series. With new Eco Powerful Nozzle Socket, the upgraded performance was achieved from lesser air consumption.(e.g. only uses 30% of air)



Key Features

- ▶ Newly designed Air Injector structure minimized the air consumption but maximized the air pressure
- ▶ Available in 3 different nozzle socket types and numerous applications for suitable working environment.
 - SIE-4E : Energy saving type that uses the least amount of air consumption when ionizing (70% lesser air consumption)
 - SIE-4S : Standard type for general environment
 - SIE-4P : Strengthened type that the user expects powerful ionization with excessive amount of air consumption

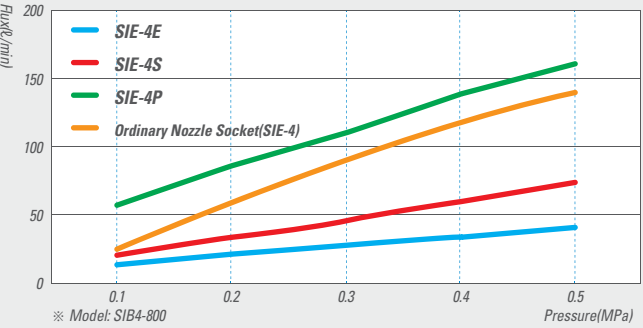
Specifications

Division		Low Flow (SIE-4E)	Middle Flow (SIE-4S)	High Flow (SIE-4P)
Shape of socket				
		Light Gray	Dark Gray	Black
Flow consumption per socket (ℓ/min)	0.1 Mpa	1.6	2.8	6.5
	0.2 Mpa	2.6	4.3	10
	0.3 Mpa	3.6	5.9	13
	0.4 Mpa	4.7	7.6	16
	0.5 Mpa	5.6	8.9	19.5

※ There will be margins of error in the air consumption in accordance with the installation environment and the product size.

Performance

▶ Comparison of air consumption level per each Nozzle Socket

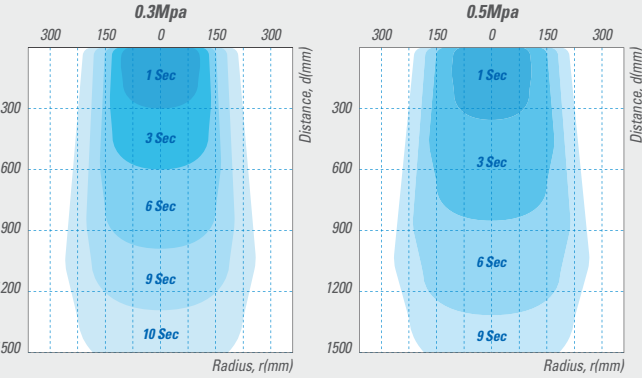


※ Model: SIB4-800

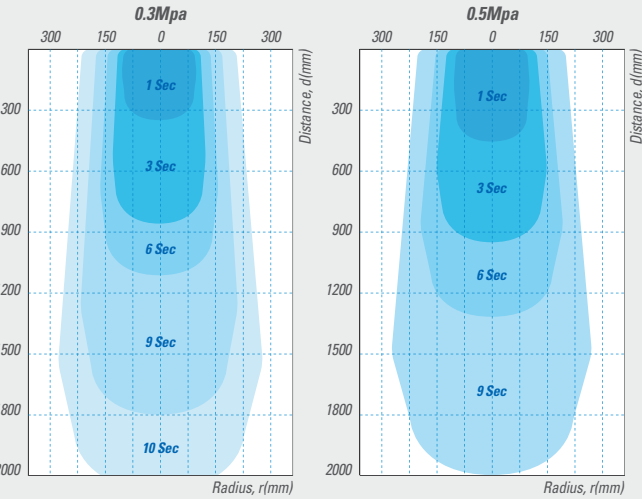
Decay Time Characteristics

- ▶ Test Conditions
 - Model: SIB4-800
 - Decay Time : ±1,000V to ±100V
 - Down Flow : No Down Flow
 - Air Pressure : 0.3MPa / 0.5MPa

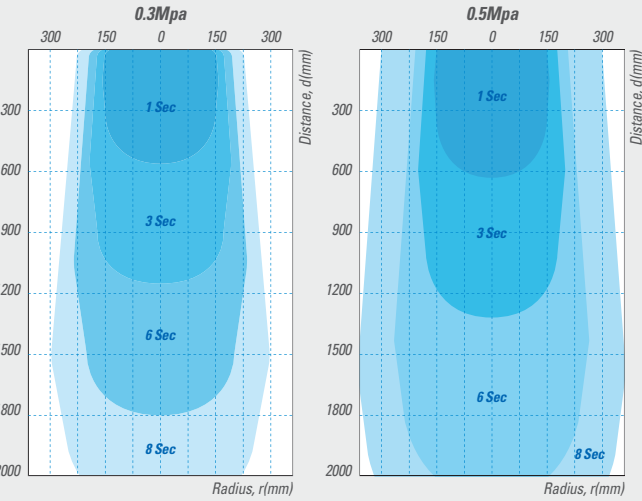
Low Flow (SIE-4E)



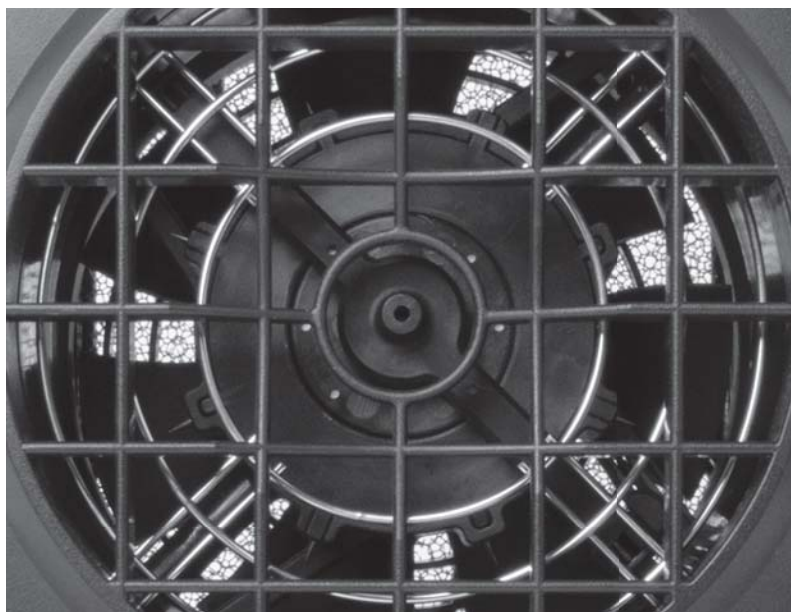
Middle Flow (SIE-4S)



High Flow (SIE-4P)



Ion Blower



SBL-12A/B
SBL-20W
SBL-30W

SOB-S Series

SBL-18/108

SMB-60



www.sunstat.com

SBL-12A/B Patent NEW

With optimized aerodynamic design and fan speed control device, It is effective to ionize short/middle distance. Due to small size and light-weight, the installation access is easier. Easy maintenance by using a supported discharge needle cleaning brush and a detachable rubber cover.



► SBL-12A

► SBL-12B

Key Features

► Medium and small size Ion Blower

- Easy maintenance via automatic tip cleaning function <12A>(12B : manual tip cleaning) Patent
- One-touch rubber cover for assemble/disassemble for maintenance
- Fan speed controls applicable
- Ion balance stays within $\pm 2V$ through automatic ion balance control Patent
- LED illumination if the ion balance is off the optimal range or fan abnormal <12A>
- If RMS(Real Monitoring System) is installed, the system can control up to 128 devices at once(Optional) <12A> Patent

SBL-20W Patent

With optimized aerodynamic design and fan speed control device, It is effective to ionize middle/long distance. Due to slim and light-weight, the installation access is easier. Easy maintenance by using a supported discharge needle cleaning brush and a detachable rubber cover.



Key Features

► Medium and large size Ion Blower

- Ion balance stays within $\pm 2V$ through automatic ion balance control Patent
- Slim size, Light-weight, Low-noise
- Easy maintenance via automatic tip cleaning function Patent
- Fan speed controls applicable(4Steps)
- Interface compatibility with automation(PLC) Patent
- Ion unbalance / Fan abnormal alarming buzzer installed Patent
- Applying RMS(Real Monitoring System) to check operation status in real time(Optional) Patent

Specifications

Parameter	Description / Value		Remark
	SBL-12A	SBL-12B	
Input Power	DC 24V		Adaptor(AC 110~220V, 50/60Hz, DC 24V)
Power Consumption	7.7W	7.3W	Fan Speed Max.
Current Consumption	320mA	300mA	
Ion-Generation Method	Steady-State DC		
Air Flow	4.25m³/min		Fan Speed Max.
Noise Level	62dB		1,000mm, Fan Speed Max.
Ion Balance	within $\pm 2V$		600mm, Maximum Air flow
Operation Circumstance	0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH		
Ozone(O ₃) Concentration	≤0.05ppm		
Main Body Material	EGI		
Electrode Material	Tungsten		
Mounting Method	Desk Top		
Weight	1.42kg		
Function	Tip Cleaning, Auto Tip Cleaning	-	
Alarm Function	Ion Unbalance Alarm, Fan Alarm	-	
Interface	Remote On/Off, Run State, Alarm, Tip Cleaning, RS 485	-	
Option	RMS (Real Monitoring System)	-	
Warranty	1 year		

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

Specifications

Parameter	Description / Value	Remark
Input Power	AC 100 ~ 240V, 50/60Hz	
Power Consumption	37W	Fan Speed Max.
Current Consumption	168mA	AC 220V
Ion-Generation Method	Steady-State DC	
Air Flow	8.5m³/min	Fan Speed Max.
Noise Level	63dB	1,000mm, Fan Speed Max.
Ion Balance	within $\pm 2V$	600mm, Maximum Air flow
Operation Circumstance	0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH	
Ozone(O ₃) Concentration	≤0.05ppm	
Main Body Material	Aluminum	
Electrode Material	Tungsten	
Mounting Method	Desk Top	
Weight	3.4kg	
Function	4 Step Fan Speed, Tip Cleaning, Auto Tip Cleaning	
Alarm Function	Ion Unbalance Alarm, Fan Alarm	
Interface	Remote On/Off, Run State, Alarm, Tip Cleaning, RS 485	
Warranty	1 year	

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

SBL-30W

Patent

With optimized aerodynamic design and fan speed control device, It is effective to ionize long distance. Easy maintenance by using a supported discharge needle cleaning brush.



Key Features

- ▶ Large size Ion Blower
- ▶ Ion balance stays within ±2V through automatic ion balance control Patent
- ▶ Easy maintenance via automatic tip cleaning function Patent
- ▶ Fan speed controls applicable(4Steps)
- ▶ Interface compatibility with automation(PLC) Patent
- ▶ Ion unbalance / Fan abnormal alarming buzzer installed Patent
- ▶ Applying RMS(Real Monitoring System) to check operation status in real time(Optional) Patent

SOB-S Series

Patent

With optimized aerodynamic design and fan speed control device, it is possible to ionize whole closed space through upper installation. Due to slim and light-weight, the installation access is easier. Easy maintenance by using a supported discharge needle cleaning brush and a detachable rubber cover.



Key Features

- ▶ Ionizing whole closed space through upper installation
- ▶ Collections of 2Fan(SOB-2S), 3Fan(SOB-3S), 4Fan(SOB-4S), 5Fan(SOB-5S) for customer needs
- ▶ Ion balance stays within ±2V through automatic ion balance control Patent
- ▶ Slim size, Light-weight, Low-noise
- ▶ Easy maintenance via automatic tip cleaning function Patent
- ▶ Fan speed controls applicable(4Steps)
- ▶ Interface compatibility with Automation(PLC) Patent
- ▶ Ion unbalance / Fan abnormal alarming buzzer installed Patent
- ▶ Applying RMS(Real Monitoring System) to check operation status in real time(Optional) Patent

Specifications

Parameter	Description / Value				Remark
	SBL-18	SBL-108	SBL-30W	SBL-108	
Input Power	AC 100 ~ 240V, 50/60Hz				
Power Consumption	50W				Fan Speed Max.
Current Consumption	227mA				AC 220V
Ion-Generation Method	Steady-State DC				
Air Flow	12.4m³/min				Fan Speed Max.
Noise Level	68dB				1,000mm, Fan Speed Max.
Ion Balance	within ±2V				600mm, Maximum Air flow
Operation Circumstance	0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH				
Ozone(O ₃) Concentration	≤0.05ppm				
Main Body Material	Aluminum				
Electrode Material	Tungsten				
Mounting Method	Desk Top				
Weight	6.2kg				
Function	4 Step Fan Speed, Tip Cleaning, Auto Tip Cleaning				
Alarm Function	Ion Unbalance Alarm, Fan Alarm				
Interface	Remote On/Off, Run State, Alarm, Tip Cleaning, RS 485				
Warranty	1 year				

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

SBL-18/108

Patent

With optimized aerodynamic design and fan speed control device, It is effective to ionize short/middle distance. Due to small size and light-weight, the installation access is easier.



Key Features

- ▶ Small size Ion Blower
- ▶ Ion Balance within ±10V(SBL-108), within ±30V(SBL-18)(300mm)
- ▶ Small and light-weight Ion Blower that can be installed numerous areas
- ▶ Interface compatibility with Automation(PLC, Computer)(SBL-108) Patent
- ▶ Applying RMS(Real Monitoring System) to check operation status in real time (Option : SBL-108) Patent

Specifications

Parameter	Description / Value		Remark
	SBL-18	SBL-108	
Input Power	AC 110 ~ 220V, 50/60Hz	DC 24V	SBL-108 : Adaptor (AC 110~220V, 50/60Hz, DC 24V)
Power Consumption	18W	22W	Fan Speed Max.
Current Consumption	81mA	100mA	
Ion-Generation Method	DC Type	Steady-State DC	
Air Flow	1.9m³/min		Fan Speed Max.
Noise Level	54dB	55dB	1,000mm, Fan Speed Max.
Ion Balance	within ±30V	within ±10V	600mm, Maximum Air flow
Operation Circumstance	0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH		
Ozone(O ₃) Concentration	≤0.05ppm		
Main Body Material	Non-Flammable ABS		
Electrode Material	Tungsten		
Mounting Method	Desk Top		
Weight	0.8kg	0.8kg	
Function	2 Step Fan Speed		
Alarm Function	-	Ion Unbalance Alarm	
Interface	-	Remote On/Off, Run State, Alarm, RS 485, Alarm(Ion Unbalance), Power Input	
Option	-	RMS (Real Monitoring System)	
Warranty	1 year		

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

SMB-60

Ion balance stays within ±20V consistently through high frequency. Easy to use in various environment due to mini size and light-weight, and with a back cover slide, the maintenance and replacement becomes easier.



Key Features

- ▶ Mini size Ion Blower
- ▶ Mini size and light-weight Ion Blower that can be installed numerous area
- ▶ Ion balance within ±20V
- ▶ Tip cleaning cycle is extended by high frequency AC
- ▶ The safety is secured with low voltage(DC24V)

Specifications

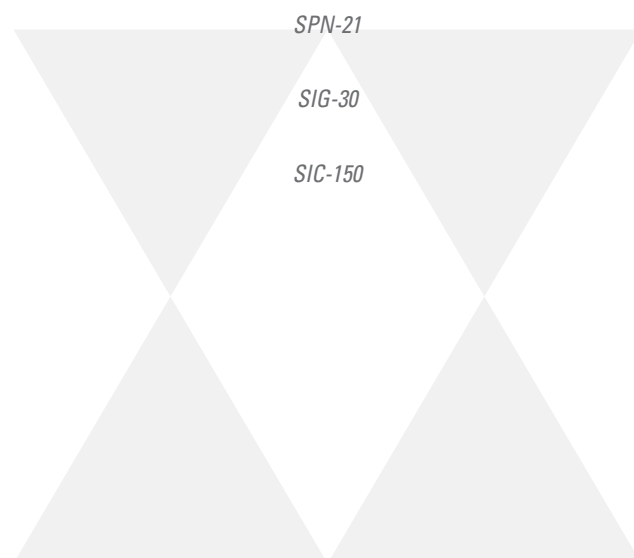
Parameter	Description / Value	Remark
Input Power	DC 24V	Adaptor(AC 110~220V, 50/60Hz, DC 24V)
Power Consumption	18W	Fan Speed Max.
Current Consumption	81mA	AC 220V
Ion-Generation Method	High-Frequency AC	Piezo
Air Flow	1.1m³/min	
Noise Level	51dB	
Ion Balance	within ±20V	200mm, Maximum Air flow
Operation Circumstance	0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH	
Ozone(O ₃) Concentration	≤0.05ppm	
Main Body Material	EGI	
Electrode Material	Tungsten	
Mounting Method	Desk Top	
Weight	1.42kg	
Function	Volume Fan Speed	
Alarm Function	High Voltage Abnormal Alarm	
Interface	Alarm(High Voltage Abnormal)	
Warranty	1 year	

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

Ion Nozzle



SPN-12/12S
Fitting Tubes



www.sunstat.com

SPN-12/12S Patent NEW

Subminiature Ion Nozzle can reduce pollution of discharge needle by adopting high frequency mode(Piezo : 72kHz). Applicable to various working environments with a variety Fitting Tube(Optional) and adjustable bracket, and it brings quick ionization in a narrow space. Also, adjusting an Air Filter(option) can prevent a contamination by air.

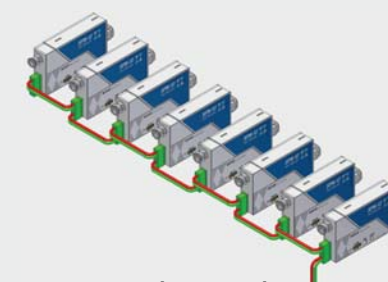
▶ SPN-12



▶ SPN-12S



[Spot Flexible Nozzle(Optional)]



[Daisy Chain]



[Easy to adjust spray angle]

Key Features

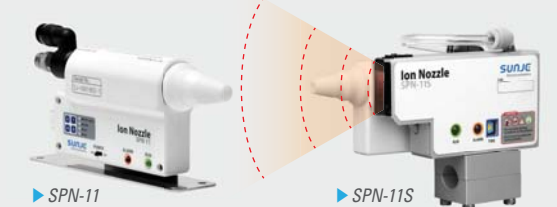
- ▶ Mini size Ion Nozzle Patent
- ▶ Infrared rays sensor Ion Nozzle <12S>
- ▶ Easy to set sensor sensitivity and operation time
- ▶ Ion balance with in $\pm 15V$ (300mm / Air 0.3MPa)
- ▶ Ozone-proof material selected : Teflon Nozzle
- ▶ Tip cleaning cycle is extended by high frequency AC
- ▶ Possible to connect up to 8ea of SPN-12/12S by using Daisy Chain function (6 pole connector)
- ▶ Applying a bracket which can adjust angle
- ▶ Different Fitting tube is available depending on the working circumstance(Optional) Patent

Specifications

Parameter	Description / Value		Remark
	SPN-12	SPN-12S	
Input Power		DC 24V	
Adaptor	Input	AC 100~240V, 50/60Hz, 1.7A	
	Output	DC 24CV, 2.5A, 60W	
Power Consumption	1.2W	3.6W	
Current Consumption	50mA	150mA	AC 220V
Ion-Generation Method	High Frequency AC		Piezo
Air Purge Supply Pressure	0.1MPa ~ 0.6MPa		CDA(Clean Dry Air), N ₂
Air Inlet	Ø6		
Ion Balance	Within $\pm 15V$		300mm
Operation Circumstance	0°C ~ +130°C(32°F ~ 266°F), 35% ~ 85% RH		
Main Body Material	Non-Flammable ABS		
Nozzle Material	Teflon		
Electrode Material	Tungsten		
Mounting Method	Bolt Mounting with Bracket		
Weight	80g	130g	
Sensor	-	Photoelectric Sensor	
Alarm Function	High Voltage Abnormal Alarm		
Interface	Alarm(High Voltage Abnormal)		
Warranty	1 year		

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

SPN-11/11S (Old Model)



▶ SPN-11

▶ SPN-11S

Fitting Tubes 

This is an optional item for SPN-12/12S(New Model) or SPN-11/11S(Old Model) for special area to increase the convenience of operation. We can customize any size upon your request.



Key Features

- ▶ SPN-12/12S, SPN-11/11S Option Items
- ▶ Optimized the performance of Ion Nozzle
- ▶ Easy to use in special environment condition
- ▶ Custom build is available

SPN-21

Subminiature pin type Ion Nozzle that allows to be installed in a narrow area and numerous installing environment. Depending on the install environment, the cable's length can be extended up to 5m.



Key Features

- ▶ Subminiature Pin type Ion Nozzle
- ▶ Suitable for installing in a narrow area
- ▶ Possible to connect up to 4ea of SPN-21 by using external controller(SBP-14J4) (In the case of SBP-06-S21 : max.1ea)
- ▶ Cable length can be customized up to 5m

Specifications

Parameter	Description / Value	Remark
Ion-Generation Method	Corona Discharge AC	
Air Purge Supply Pressure	0.05MPa ~ 0.5MPa	CDA(Clean Dry Air)
Air Tube Diameter	Ø6	
Ion Balance	Within ±15V	50mm
Operation Circumstance	0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH	
Ozone(O ₃) Concentration	≤0.05ppm	
Main Body Material	Aluminum	
Electrode Material	Standard : Tungsten / Option : Poly Silicon, Titanium	
Electrode Replacement	Cartridge type	
Mounting Method	Bolt Mounting with Bracket	
Warranty	1 year	

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.



▶ Power Controller (SBP-14J4)



▶ Power Controller (SBP-06-S21)

SIG-30

AC corona discharge Ion Gun which has stable ion balance and makes lots of ion for eliminating electricity rapidly also blowing adhered dust. In addition, it is effective that the LED light on the device can visualize the particle in the area of pointing.



Key Features

- ▶ Small size Gun type Ion Nozzle
- ▶ Ion balance within ±10V(300mm)
- ▶ Ergonomically designed Ion Gun
- ▶ Identifying the particle/dust through LED light
- ▶ Durable cable that was tested more than 150,000times of three-point-flexure test
- ▶ Easy to disassemble the nozzle, therefore, simple/easy tip cleaning

Specifications

Parameter	Description / Value	Remark
Input Power	DC 24V	±5%
Power Consumption	1.8W	Lighting LED On
Current Consumption	75mA	DC 24V
Ion-Generation Method	High Frequency AC	
Air Purge Supply Pressure	0.1MPa ~ 0.6MPa(0.4MPa Recommendation)	CDA(Clean Dry Air), N ₂
Ion Balance	Within ±10V	0.3MPa, 150mm
Operating Distance	50mm ~	Non-Hazardous Locations
Operation Circumstance	5°C ~ +40°C(41°F ~ 104°F), 35% ~ 65% RH	No dewing
Ozone(O ₃) Concentration	≤0.05ppm	50mm
Main Body Material	ABS	
Electrode Material	Tungsten	
Hook Material	Stainless Steel	
Weight	198g	
Alarm Function	High Voltage Abnormal Alarm	
Accessory	AC Adaptor	
Warranty	1 year	

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

SIC-150 

Ion Chamber SIC-150 is an electrostatic device for electronic devices or specific machines that eliminates dirt or particle very well. Also, we have installed a secondary device that collects the rest of dirt or particles so that It prevents any failure of products of yours.




▶ Infrared ray sensor applied



▶ Air filter installed(0.3µm)

Key Features

- ▶ Chamber type Ion Nozzle
- ▶ Ion balance within ±20V
- ▶ Suitable for small parts and products static ionization
- ▶ Infrared ray sensor applied, therefore, it controls operation
- ▶ Air filter applied(0.3µm)
- ▶ Secondary contamination can be controlled via implemented dust collecting unit 
- ▶ Solved the problems of Small/narrow space's cleanliness & static elimination at the same time

Specifications

Parameter	Description / Value	Remark
Input Power	AC 100 ~ 240V, 50/60Hz	
Power Consumption	20W	
Current Consumption	90mA	AC 220V
Ion-Generation Method	High Frequency AC	Piezo
Air Purge Supply Pressure	0.1MPa ~ 0.5MPa	CDA(Clean Dry Air), N ₂
Air Inlet	Ø6	
Maximum Air Flow	2.499m³/min	
Ion Balance	Within ±20V	
Operation Circumstance	0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH	
Main Body Material	Stainless Steel	
Electrode Material	Tungsten	
Weight	3.3kg	
Sensor	Photoelectric Sensor	
Alarm Function	High Voltage Abnormal Alarm	
Warranty	1 year	

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.



SM-30
SM-10

SICA--2

EVM-302/308

SPE-100

Electrostatic Monitoring System Block-Diagram

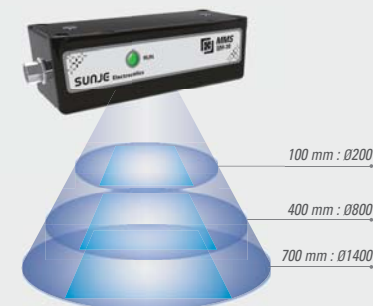
RMS & RMSU



www.sunstat.com

SM-30

This electric voltage detecting sensor is designed to compact structure with touchless type of sensing. The world first measuring sensor that can detect the electric voltage from 100 to 700mm precisely. It can easily detect the voltage level from $\pm 20\text{kV}$ to $\pm 60\text{kV}$.



Performing coverage depending on installing distance

Key Features

- ▶ The most accurate and reliable electric voltage sensor
- ▶ Compact & contactless type sensor
- ▶ The world's first long-distance sensor(Max. 700mm)
- ▶ Measuring Range : $\pm 20\text{kV}$ (Wide Range Mode $\pm 60\text{kV}$)

Specifications

Parameter	Description / Value	Remark
Operation Circumstance	0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH	Non-Condensing
Weight	150g	
Warranty	1 year	

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

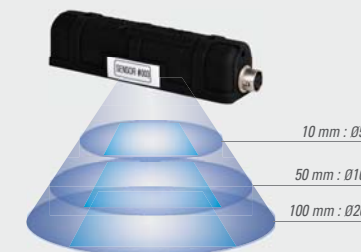
SICA-2

SICA-2 measures this number separately for positive and negative ions without any contact.(+ and - ions are usually present simultaneously) SICA-2 is a Gerdien condenser meter that can measures ions in air up to 200million ions/cm³.



SM-10

This electric voltage detecting sensor is designed to compact structure with touchless type of sensing. The world first measuring sensor that can detect the electric voltage from 10 to 100mm precisely. It can easily detect the voltage level from $\pm 5\text{kV}$ to $\pm 40\text{kV}$.



Performing coverage depending on installing distance

Key Features

- ▶ Compact & contactless type sensor
- ▶ Possible to measure up to 100mm
- ▶ Measuring Range : $\pm 5\text{kV}$ (Wide Range Mode $\pm 40\text{kV}$)

Specifications

Parameter	Description / Value	Remark
Operation Circumstance	0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH	Non-Condensing
Weight	60g	
Warranty	1 year	

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

Key Features

- ▶ Measures positive and negative air ions up to 200million ions/cm³
- ▶ Meter Calibration/Re-zeroing functions are built-in
- ▶ Small and Light weight(6V alkaline battery)
- ▶ Measurement is possible up to 15 straight hours
- ▶ Peak hold mode display shows the highest positive or negative value
- ▶ Up to 9,999 records can may be saved
- ▶ Power savings through the standby function
- ▶ Measuring positive and negative ions by selecting the polarity
- ▶ Connection for Data Logging is possible(Optional)

Specifications

Parameter	Description / Value	Remark
Range / Resolution	2million or 200million Selectable scales / 10(ions per cc)	
Accuracy	+/- 20% with a repeatability 5%	
Noise	20 ions / cc(1 second averaging)	
Meter Size	7.25 X 4.0 X 1.75 inches (197 X 102 X 45mm)	
Weight	20 oz(567g)	
Power	Battery - 4AA alkaline(10 hour life) or AD Adapter	
Warranty	1 year	

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

EVM-302/308

It is a monitoring device for electric voltage sensor that can be possibly installed in OLED, LCD, PDP, Semiconductor, Parts assembly line, Printing, Filmming, and many other industries.



Key Features

- ▶ Easy communication through PC, e.g. save and manage electric voltage data(S/W offers)
- ▶ EVM-302 : max. 2 sensors connection / EVM-308 : max. 8 sensors connection
- ▶ Use either SM-10 or SM-30 sensor
- ▶ Individual or multiple set-ups are available
- ▶ In display panel, user can see the actual data value in real time
- ▶ If there are any exceed voltage are detected, the alarm will be on

Specifications

Parameter	Description / Value		Remark
	EVM-302	EVM-308	
Input Power	AC 100V ~ 240V, 50/60Hz		
Power Consumption	15W	40W	
Current Consumption	68mA	181mA	AC 220V
Measuring Range	SM-10 SM-30	Precision Mode : 0V ~ ±5kV / Wide Range Mode : 0V ~ ±40kV Precision Mode : 0V ~ ±20kV / Wide Range Mode : 0V ~ ±60kV	
Installation Distance for Sensor	SM-10 SM-30	10mm ~ 100mm 100mm ~ 700mm	
Operation Circumstance	0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH		Non-Condensing
Weight	2.48kg	5.5kg	
Output Signal	Alarm Output Alarm Output, RS-232 / RS-485 Communication(for EVM/EMS)		
Accuracy	±5%(F.S)		Option
Sensor	1 ~ 2ea	1 ~ 8ea	
Warranty	1 year		

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

SPE-100

It is a contactless type electric voltage sensor that can measure the target object. Within the range of ±19.999kV, user can measure the target by 0.1V level in detail and it is very precise and highly sensitive unit in measurement.



Key Features

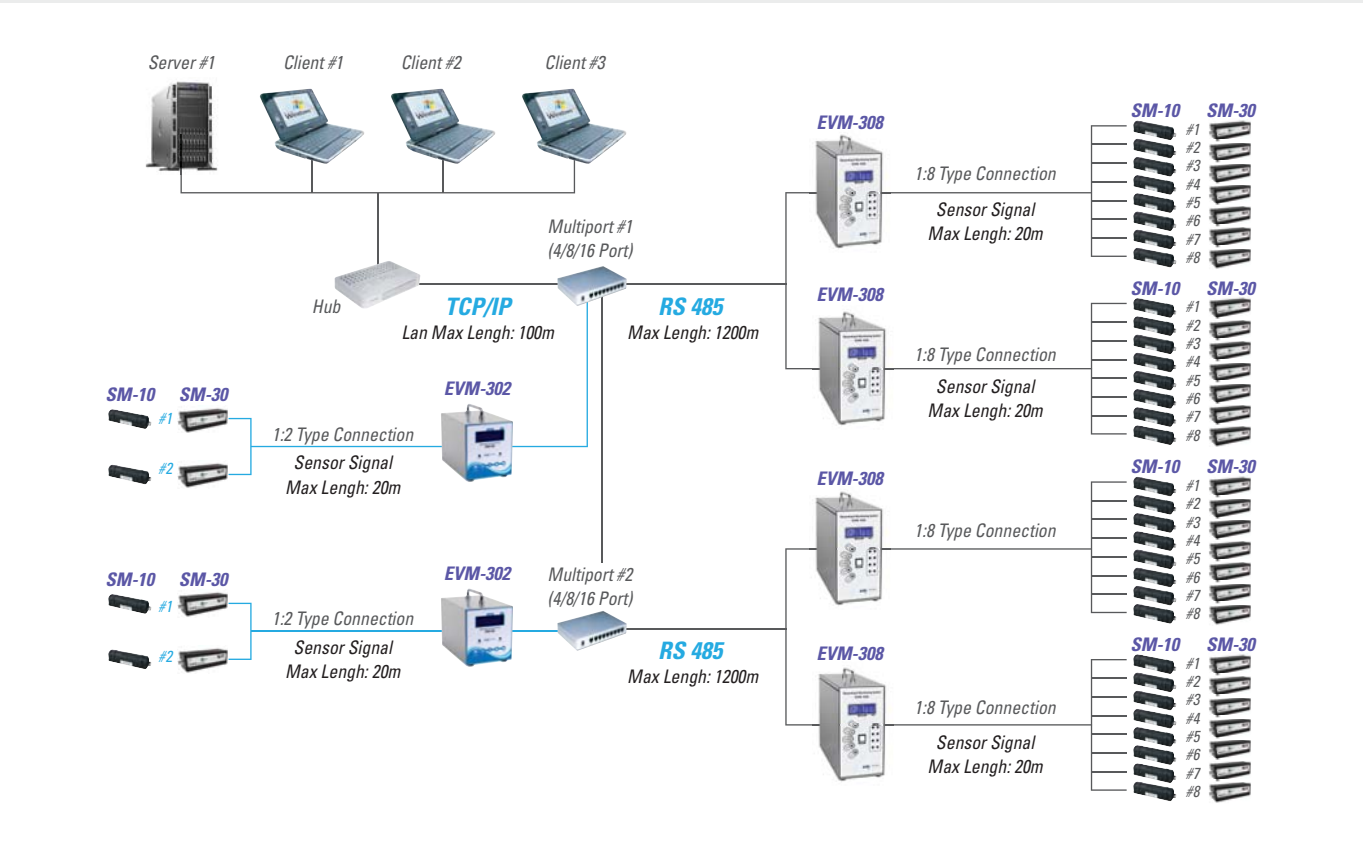
- ▶ Extremely accurate measurement (0.1V Step)
- ▶ Contactless type electric voltage measuring device
- ▶ Measuring Range : 0V ~ ±19.999kV
- ▶ Error range within ±2%
- ▶ Hypersensitive sensing with accurate measurement
- ▶ Rotating-Stabilizer got installed & Accurate measurement over time is possible (Almost none variation changes when measuring in continuous operation)
- ▶ Using 9V alkaline battery

Specifications

Parameter	Description / Value	Remark
Measuring Distance	25.4mm(1Inch)	
Range at 1"	0 to ±19.999[kV]	
Resolution at 1"	0.1V	
Accuracy	±2% of reading	
Capacitance (to ground) of Sensor	60nF	
Sensitivity if used to sense charge	0.1V or 1V, depending on range	
Drift	Less than 0.5V (1 year period)	at 25.4mm(1 Inch)
Sampling Speed	0.5 sec	
Environmental	5°C ~ +40°C(30°F ~ 110°F), 0% ~ 85% RH	
Weight	330g	Without battery
Battery	T9 Volt Alkaline / "Low Battery" indicator	Included
Cable Length	900mm standard AT cable	Special option : 4000mm
Warranty	1 year	

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

Electrostatic Monitoring System Block-Diagram

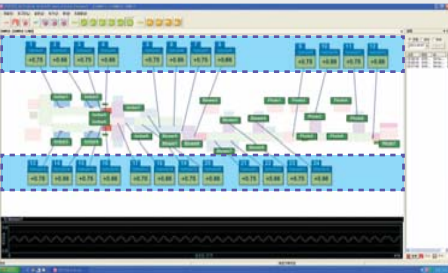


What's the EMS Program?

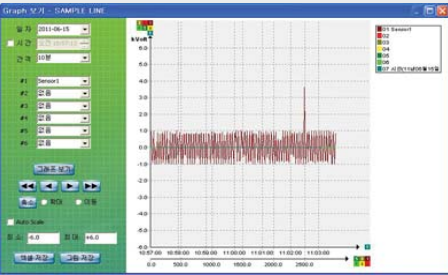
- ▶ EVM Series(e.g. Electrostatic Monitoring Device) can be connected to PC network in order to retrieve/analyze data in real time
- ▶ This system is suitable to be used in the area of FPD(AMOLED, LCD, PDP), semiconductor related, assembly line, printing, filmming, and etc. where any static problems are occurred.
- ▶ User can easily install the device, at the same time, real time monitoring the trend of voltage occurrence or data analysis could be simple to collect and save data

EMS Program Key Features

- ▶ Displaying the measured value in real-time
- ▶ Save data in Excel file
- ▶ Generate graphs via saved data loading
- ▶ Communication speed setup(at least 200ms)
- ▶ 1 server to 3 clients connection
- ▶ Data history management (Automatic file creation or deletion & Standard setup period : 30days)
- ▶ Categorized/visualized by product lines and machinery partitions
- ▶ Display Sensor & contorller position indicator
- ▶ View by sensor alarm history
- ▶ When alarming, the system separately saves the data (3sec. from front and back of alarm occurrence)
- ▶ When alarming, vairous external indicators will be on (e.g. LED, Beep, and Display)
- ▶ Daily report will be created automatically



▶ EMS Program Main View

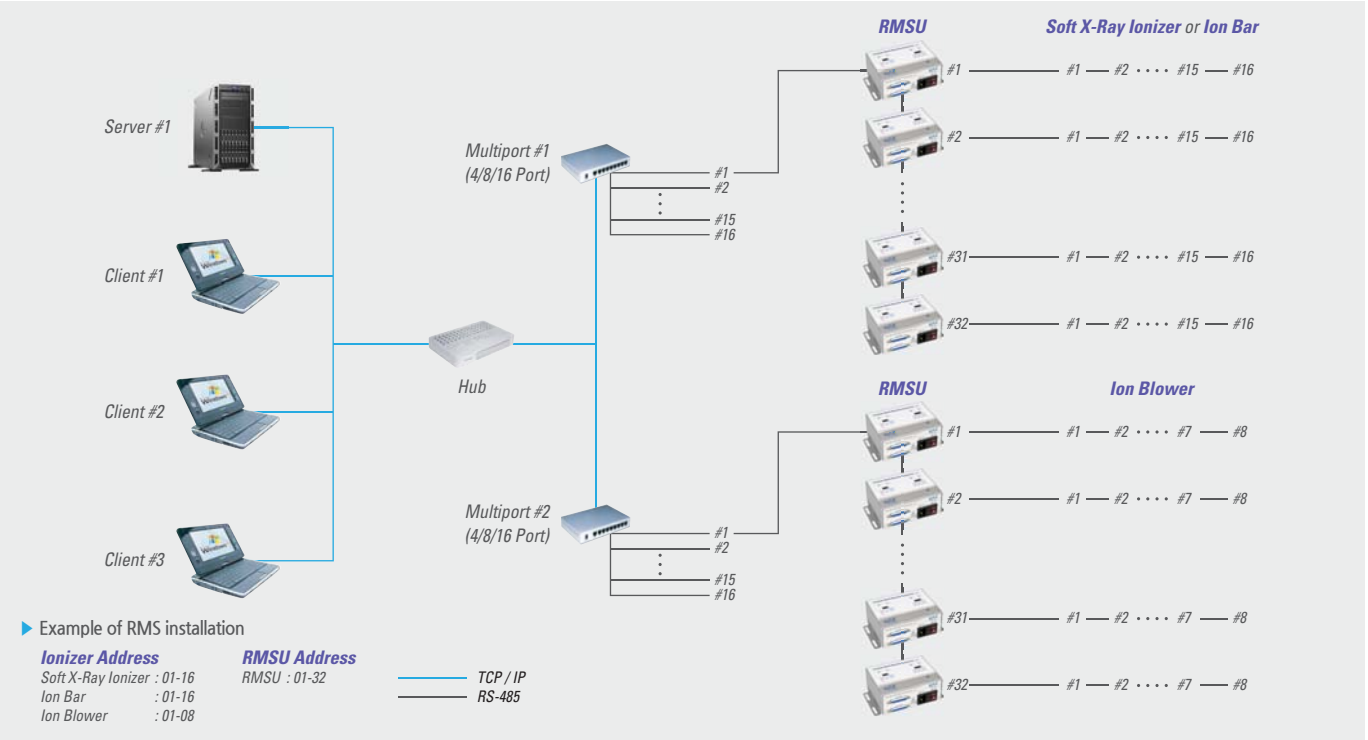


▶ Window of Measured Data

RMS & RMSU

It is a monitoring tool for static ionizer in the working station in real time that acts as a first aid for any failure of the ionizer operations in the field.
(Management solutions for the user who are using a wide range of products lineup and a number of static eliminator)

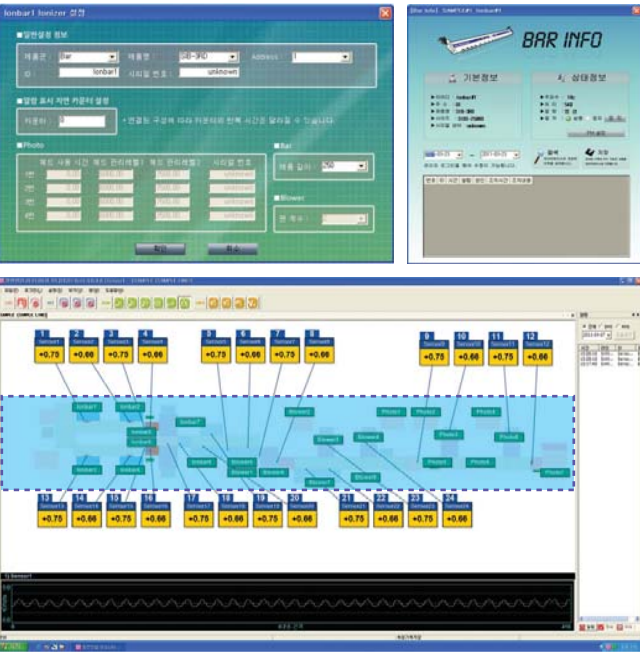
Real Monitoring System Diagram Example



※ Depending on the installing circumstances, the actual installation might vary.

Key Features

- ▶ Identifying communication status between ionizers and PC
- ▶ Monitoring ionizers in real time(checking every 1minute or less)
- ▶ Reporting ionizer operation status(e.g. Alarming)
- ▶ Real time report will be created either the period of time or group of ionizers
- ▶ Input(Detailed) individual input information & reference
- ▶ 1 server to 3 clients connection



▶ RMS Program Main View

RMS Controller (RMSU)

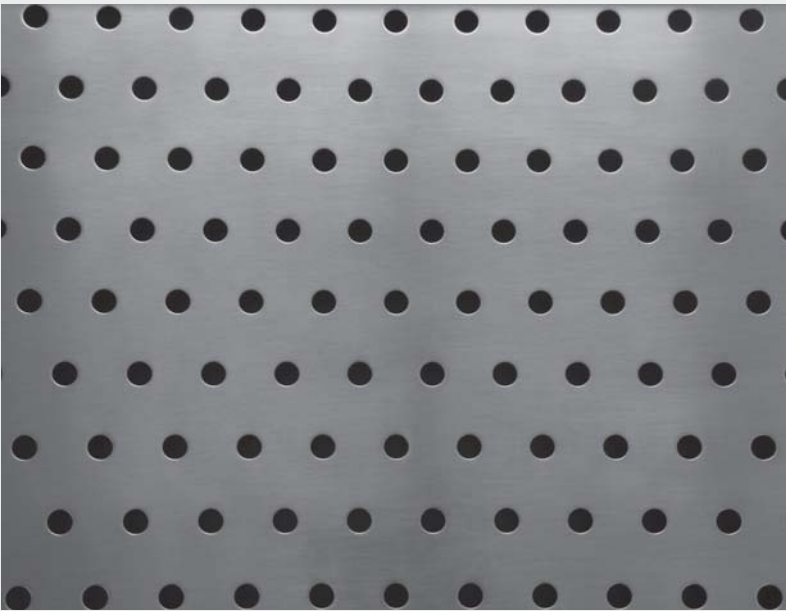
- ▶ RMS(Real Monitoring System) is a network controlling device that works only with ionizers



Specifications

Parameter	Description / Value	Remark
Input Power	AC 100V ~ 240V, 50/60Hz	
Power Consumption	Max. 5.5W	
Current Consumption	Max. 25mA	AC 220V
Communication Mode	RS-485	
Operation Circumstance	0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH	
Main Body Material	EGI	
Mounting Method	Bolt Mounting with Bracket	
Weight	1kg	
Interface	Remote On/Off, Alarm State, Interlock	
Warranty	1 year	

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

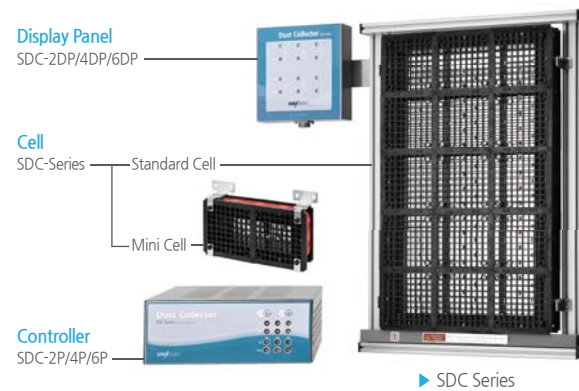


SDC Series




Patent

In display, semiconductor, and IT related business fields, the enforcement of particle management level has increased. Our SDC Series, is called Dust Collector, suits those circumstances to collect any floating particle/dusts around the area. Using electrostatic forces to eliminate/absorb floating particles around the production process, it significantly reduces the failure rate of maintaining the Clean-process of the atmosphere and optimized the product completion that is effective in reducing maintenance costs.



Specifications

Cell

Parameter		Description / Value	Remark
Input Voltage		Collector : DC +5kV / Emitter : DC -5kV	±10% HV Connector
Operation Circumstance		0°C ~ +50°C(32°F ~ 122°F), 35% ~ 85% RH	
Dust Collecting	Mini	30% ~ 50%	Distance : 30 ~ 70mm Dust : 0.3 ~ 2.0μm Without Safety Cover
	Standard	50% ~ 70%	
Main Body Material		Aluminum	
Cover Material		Self-extinguishing PC	
Electrode Material		Stainless Steel	
Mounting Method		Wall	
Weight	Mini	1kg ~ 2.8kg	
	Standard	2.5kg ~ 5.5kg	
Option		Emitter Electrode, Cable Duct	
Maintenance		Electrode Cleaning : 1 month	Ultrasonic Cleaning
		Electrode Replacement Cycle : 1 year	Emitter
Warranty		1 year	

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

Display Panel [SDC-2DP / SDC-4DP / SDC-6DP]

Parameter	Description / Value			Remark
	SDC-2DP	SDC-4DP	SDC-6DP	
Output Port	Run : 2 Ports	Run : 4 Ports	Run : 6 Ports	
	Alarm : 2 Ports	Alarm : 4 Ports	Alarm : 6 Ports	
Operation Circumstance	0°C ~ +50°C(32°F ~ 122°F), 35% ~ 65% RH			Non-Condensing
Cover Material	Stainless Steel			
Mounting Method	Wall			
Weight	1.5kg			
Function	Run / Alarm LED			
Warranty	1 year			

※ The appearance and specification of the product may be changed without prior notice for the improvement of the product.

Key Features

- ▶ **Dust collector for special management area in the clean room**
- ▶ The system is combined with 7mini cell and 17standard cell in order to serve various working areas
- ▶ Various layout composition by using cell connecting bracket
- ▶ With 1controller(SDC-2P/4P/6P), it can be connected with 2, 4, 6 Cells(SDC Series) at once
- ▶ provide cover for user safety(detachable) **Patent**
- ▶ When any direct human or conducting material contacts are detected, it will alarm and the power will be shut down **Patent**
- ▶ Display panel is available(Optional)
- ▶ Dust/particle collector in clean room **Patent**

Cell Layout

Particle Counting Test Report

Model : Mini Cell SDC-1296

[% : The Rate of Dust Collection]

Particle Size [μm]		0.3 ~ 0.5		0.5 ~ 1.0		1.0 ~ 2.0	
Safety Cover		X	O	X	O	X	O
Distance [mm]							
30		34%	28%	44%	37%	51%	46%
50		23%	16%	29%	19%	33%	22%
70		15%	10%	19%	12%	21%	16%
100		10%	10%	14%	13%	18%	15%

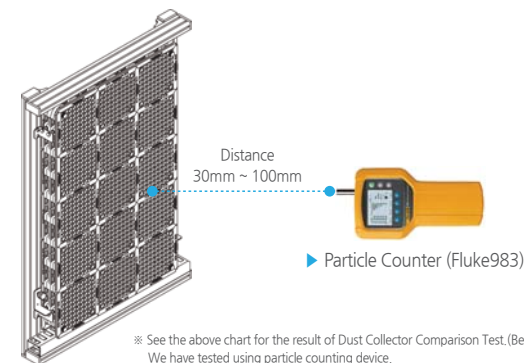
※ X : Cell without Safety Cover / O : Cell with Safety Cover

Model : Standard Cell SDC-4668

[% : The Rate of Dust Collection]

Particle Size [μm]		0.3 ~ 0.5		0.5 ~ 1.0		1.0 ~ 2.0	
Safety Cover							
Distance [mm]		X	O	X	O	X	O
30		56%	48%	62%	52%	66%	59%
50		47%	38%	50%	46%	51%	49%
70		43%	32%	48%	39%	51%	41%
100		32%	22%	26%	24%	24%	21%

※ X : Cell without Safety Cover / O : Cell with Safety Cover



※ See the above chart for the result of Dust Collector Comparison Test.(Before & After)
We have tested using particle counting device.

Electrostatic Total Solution

High-Performance / Minimum Particle Source / Stable Ion Balance / Minimum Air Consumption Rate-Reduce Maintenance Costs
Reasonable Price Parts / Minimum Dust Adhesion-Extension of a Maintenance Period

Memo