## The bright white LED lamp makes dust visible

Use the LED lamp to check dust that has adhered on the workpiece.



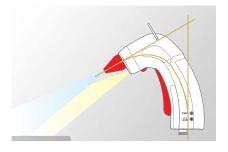
### Piezoelectric transformer enhances safety with no need to expose high-voltage cables

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



## Ergonomically designed grip is easy to hold and adjusted to the optimum angle

The nozzle direction faces the optimum direction when the grip is held, allowing work to be started right away.







### G7R-E

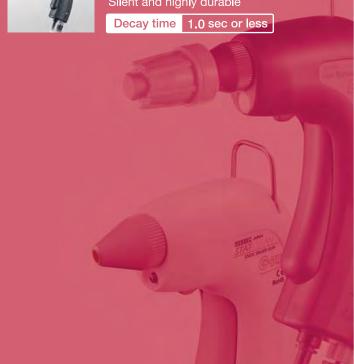
Compact and lightweight High discharge air blow ionizer

Decay time 1.0 sec or less



### BBZ-E

Eliminate dust and static electricity for wide area. Silent and highly durable



**Gun Type** 

#### **Gun-type Ionizer**

Our most popular ionizing air gun is compact, lightweight and user-friendly





EDP No.621621



















- Ideal for neutralization and dust elimination of precision parts at hand, for example, in cell production.
- Our diverse lineup of options supports various applications.
- Our tough 2.5 m robot cable withstands up to 150,000 bends.

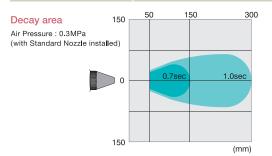




Operating and malfunction alarm LEDs are provided on both sides of the grip

### **Specifications**

Model No.	G7R-E
Ionizing method/Applied voltage	Piezoelectric high-frequency AC corona discharge/AC 2kV
Power supply and current consumption	DC24V±5% / 85mA(typ.)
Ion balance	within ±10 V
Decay time	1.0 sec or less (standard nozzle measured 150mm from device at 0.3 MPa)
Operating range	50 mm to 600 mm
H×W×Dmm	L105×H150×D36mm
Weight	200g
Air supply hose diameter	tube fitting Ф6mm
Operating fluid	Clean dry air (0.1MPa to 0.6MPa)
Airflow	200 ℓ /min(0.3MPa)
Noise level	92 dBA (0.3MPa)
Ozone production	0.05ppm or less(measured 50mm)
Operating environment temperature and humidity	5°C to 40°C/35% to 65% RH(with no dew condensation or freezing)
Accessories	AC adapter AD24ITC-E AC cable(1.8m)/ Standard Nozzle (included with device)



#### Accessories





Brush: 60 mm bristles **G-7B** EDP No. 806059





### Gun-type Ionizer

Silent and high durability model ideal for air blowing in wide areas

BBZ-E



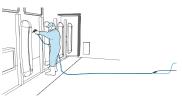
EDP No.621638

High Voltage	Transformer	lon ba	on balance		Decay time		ective
Piezoe high-frequ corona d		within ±10 V		1.0 sec or less		C€	RoHS
ower supply	Air Pressure max 0.6MPa	LED illumination	INCLUDED TRANSFOMER 100-240VAC	Screw-type needle electrode	"ON" lamp	ALARM H.V.	

- Ideal for standing work such as neutralization and dust elimination of large plastic products.
- Silent nozzle reduces work environment noise.
- ▶5m robot cable withstands up to 150,000 bends & screw-in connector withstands vibration



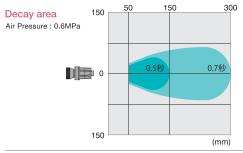
nt, high-discharge air nozzle reduces wind noise Long cable allows work in wide range



The long power cable (5 m) allows work in a widespread area

#### **Specifications**

opcomodiono	
Model No.	BBZ-E
lonizing method/Applied voltage	Piezoelectric high-frequency AC corona discharge/AC 2kV
Power supply and current consumption	DC24V±5% / 85mA (typ.)
Ion balance	within ±10 V (standard nozzle measured 150mm from device at 0.3 MPa)
Decay time	1.0 sec or less (standard nozzle·measured 150mm from device at 0.3 MPa)
Operating range	50 mm to 600 mm
H×W×Dmm	L132×H152×D36mm
Weight	210g
Air supply hose diameter	tube fitting Φ6mm
Operating fluid	Clean dry air (0.1MPa to 0.6MPa)
Airflow	200 ℓ /min (0.3MPa)
Noise level	81 dBA (0.3MPa)
Ozone production	0.05ppm or less (measured 50mm)
Operating environment temperature and humidity	5°C to 40°C/35% to 65% RH (with no dew condensation or freezing)
Accessories	AC adapter AD24-ITB-E AC cable (1,8m)



#### Accessories









## C-series **NEW**

Compact and clean design Super-high speed ionizer

Ion balance

within ±30V (Distance 1000mm)



## **SH-series NEW**

Slim and high-speed ionizer High-voltage power standalone type

Ion balance

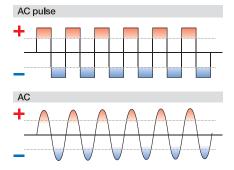
within ±50V (Distance 1000mm)



# Super Fast Static Electricity Removal

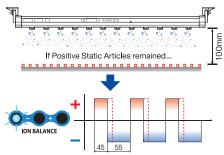
### AC pulse method

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**

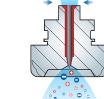
The C series are equipped with a mode to optimally adjust the ion balance automatically according to the polarity of the charged matter. (Target distance: 50 to 100 mm)



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.



n Type Nozzle Type Gun Type Bar Type Cleaner Working Mat Clean Walker Options



### Easy maintenance design

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

\*The electrode needle cannot be removed from the SH- series.



### Clean design

#### Needle cleaning time notified

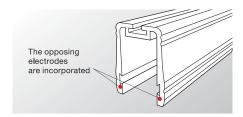
The cleaning interval can be set between one and 60 days, in one-day units. When the time elapses, the needlecleaning lamp lights up and an alarm displays. \*C-series

The ion current is detected. When the ion generation drops, the ION/TIP lamp turns ON and an alarm displays. \*B-series



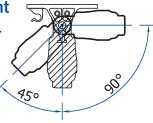
#### Body contamination prevention

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. \*C-series



Angle adjustment

The angle can be adjusted.





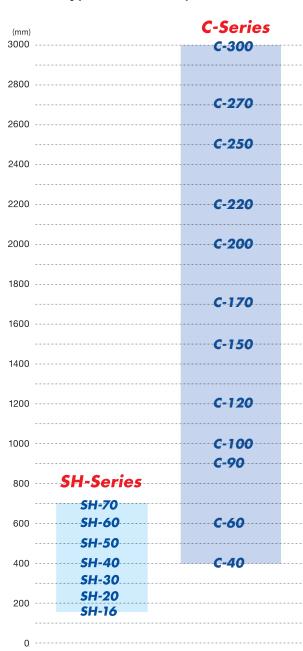
# Line-up at a glance

# Sizes to match various working environments

lonizing 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.



### All bar type series lineup



### Clean & Compact.

Newly designed high-precision and high-speed ionizer applying a new technology



High Voltage	Transformer		lon ba		Dire	ective	
	Pulse AC corona discharge		within ±30 V (measured 1000 mm)				RoHS
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 LANTerminal
					* evcent	C-40 -C/	50

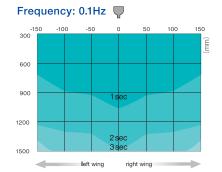
- ▶ Newly designed super-fast ionizing air discharge port
- ► Auto Balance Mode (Target distance: 50 to 100 mm)
- ▶ Terminals grouped on one side. Enabling a daisy-chain connection.

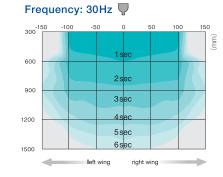


#### **Common Specifications**

Model No.	C-90~C-200
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 range	50 to 2000mm
H×W×Dmm	Refer to the figure on the right
Weight	Refer to the figure on the right
Air supply hose diameter	PT1/8
Operating fluid	Clean dry air or nitrogen (N2) (0. 3 MPa or less)
Ozone production	0.05ppm or less (measured 50mm)
Operating environment temperature and humidity	5°C to 40°C/35% to 85% RH (with no dew condensation or freezing)
Accessories	Remote controller / Power cable (5m) / End brackets (included with device) / Middle bracket (included with device / except C-40,C-60,andC-90)

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





#### Options



# AC Adapter AD24-IT-EX

(Operatable with One Bar type IONIZER only)
I/P: AC100V~240V 0.4A
O/P: DC24V 0.75A
EDP No. 806050



#### AC Adapter

# AD24-ITCF-EX (Operatable with Two Bar type IONIZERS of

(Operatable with Two Bar type IONIZERS only)
I/P: AC100V~240V 1.2A
O/P: DC24V 1.5A
EDP No. 806074



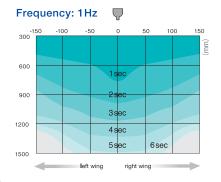
# AC Adapter AD24-IT19-EX

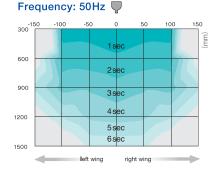
(Operatable with Three Bar type IONIZERS only)
I/P: AC100V~240V 1.2A
O/P: DC24V 1.9A
EDP No. 806080

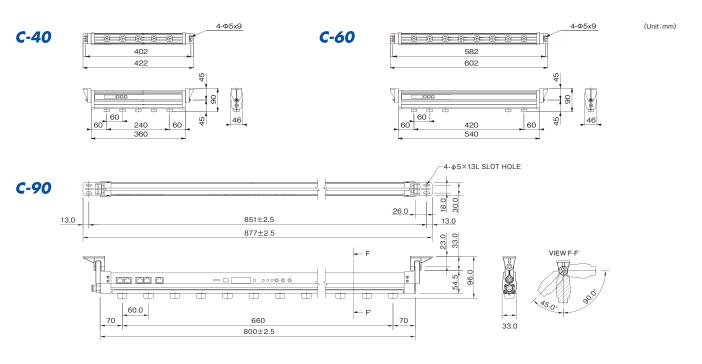


# Remote Control RMC-01 EDP No. 806104

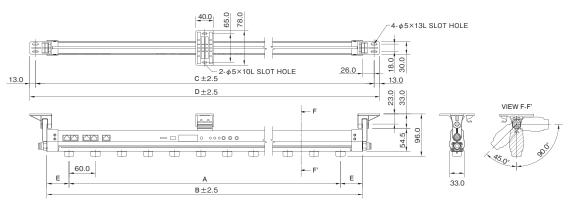
Power Supply Cable (5m) For AC adapter CT-5 EDP No.621709







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



#### Dimension / Electrode needles / Middle Blacket

Model.No	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	Electrode needles	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 (1 to 16) can be set to identify each device.

#### Voltage Level

The applied voltage can be changed individually for the positive and Film negative side. The amount of ions can be changed by different output steps. (Ten steps: 8.0 to 12.5 kVp-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

### Slim & High-speed Neutralization.

Compact bar type ionizer with separate power supply for easy installation.



**SH-16** EDP No. 621541 **SH-20** EDP No. 621542 **SH-30** EDP No. 621543 **SH-40** EDP No. 621544 **SH-50** EDP No. 621546 **SH-60** EDP No. 621546 **SH-70** EDP No. 621547

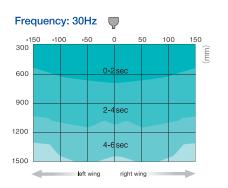
High Voltage	Transformer		lon balance			Dire	ective
Pulse corona c	e AC lischarge	within	within ±50 V (measured 10			CE	RoHS
Power supply DC 24V ±5%	Air Pressure max 0.3MPa	Positive and negative ion	Adjustable Ion Balance				

- ► Air purging functions.
- Safe Design. Flexible silicone sheath cable.
- ▶ Up to three bars can be branched and wired using the branch box (SH-SP2).

#### **Common Specifications**

Model No.	SH-16~SH-70
Ionizing method/Applied voltage	Pulse AC Corona discharge / AC10.5kV (p-p)
frequency	30Hz
pulse ratio	Positive ion 40 to 70 %, negative ion 60 to 30%
Power supply and current consumption	AC100V~AC240V / 10W (SH-G3)
Ion balance	within ±50V (Distance 1000mm)
Decay time	See below
Operating range	50 to 2000mm
H×W×Dmm	Refer to the figure on the right
Weight	Refer to the figure on the right
Air supply hose diameter	tube fitting Ф6mm
Operating fluid	Clean dry air or nitrogen (N2) (0.5 MPa or less)
Ozone production	0.05ppm or less
Operating environment temperature and humidity	5°C to 55°C/25% to 85% RH (with no dew condensation or freezing)
Accessories	High-voltage cable 2.3m (included with device)

#### Decay area Measurement conditions • Product : SH-50 • Air pressure : 0.3MPa



# Options







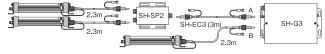
Relay Cable (3m) **SH-EC3** EDP No. 621553

Relay Cable (5m) **SH-EC5** EDP No. 621554

#### Wiring example

Connecting 1 or 3 pulse ionizing bars to the power supply unit

#### Using an SH-SP2 branch box and SH-EC3 relay cable



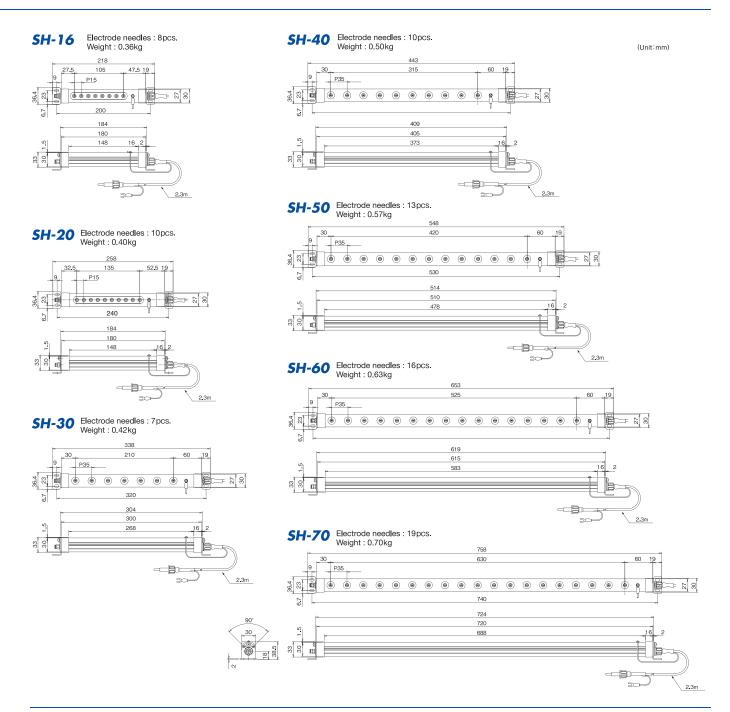
#### Using an SH-SP2 branch box and SH-EC5 relay cable



Power cable:CT-

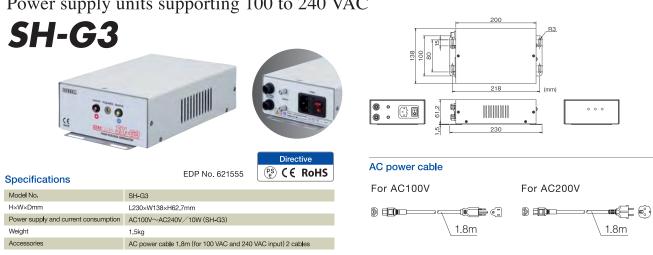


\*Power supply cable (relay cable) length cannot exceed a total of 10 m to the two high-voltage sockets (A, B). \*Up to three SH bars can be connected from a single power supply unit (SH-G3).



#### Power supply units

Power supply units supporting 100 to 240 VAC







IPC-A4
Ideal A4 size
for cell workbenches



IPC-A3 NEW Ideal A3 size for cell workbenches



**IPC20-E**Integrated ionizer and dust collector





# Neutralization and dust elimination inside hoods

Dust adhered with static electricity is neutralized inside the ionized hood and eliminated with automatic powerful air blow.



2

# Forcibly collecting blown dust with dust collector

Maintain a clean environment by using air blow to remove foreign matter from pre-assembly parts, and prevent dust from scattering around the area.



3

# Capture dust with self-adhesive urethane gel

The urethane gel's adhesive surface catches any dust blown away by the ionized air blow. The washable gel sheet can be used repeatedly.



n Type Nozzle Type Gun Type Bar Type Ion Parts Cleaner Working Mat Clean Walker Options

#### Ion Parts Cleaner

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

# IPC-A4





EDP No. 621610



- With no built-in dust collector, its power consumption is substantially reduced.
- Dislodged dust will be collected by the adhesive gel sheets.
- Select continuous or pulse blow of ionizing dust collection air from nozzle-type ionizer





Self Adhesive GEL collects Dust

#### **Specifications**

Model No.	IPC-A4
Ionizing method/Applied voltage	Piezoelectric high-frequency AC corona discharge/AC 10kV
Power supply	DC24V±5%
Current consumption	700mA or less
Dust collection airflow	3.5 m³/min (Built-in fan)
Static pressure	105Pa (Built-in fan)
Dust collection filter	Self-adhesive polyurethane gel sheets and non-woven fabric filter
H×W×Dmm	H361×W314×D253mm
Weight	6kg
Air supply hose diameter	tube fitting 8mm
Operating fluid	Clean dry air (0.1MPa to 0.5MPa)
Airflow	187 ℓ /min (0.3MPa)
Ozone production	0.05ppm or less (measured 50mm)
Operating environment temperature and humidity	5°C to 40°C/35% to 65% RH (with no dew condensation or freezing)
Accessories	AC adapter AD24-T19-EX Pinpoint L-shape corner nozzle×1pc Adhesive gel sheet plate (included with device)×2pcs

#### Replacement parts



#### Ion Parts Cleaner

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

# IPC-A3





EDP No. 621612



- ▶ With no built-in dust collector, its power consumption is substantially reduced.
- ▶ Dislodged dust will be collected by the adhesive gel sheets.
- ▶ A paper pack filter can be attached to the exhaust port on the rear side (standard).





Regulator Built-in

Filter to Duct Relaceable

#### **Specifications**

Model No.	IPC-A3
Ionizing method/Applied voltage	Piezoelectric high-frequency AC corona discharge/AC10kV
Power supply	DC24V±5%
Current consumption	900mA or less
Dust collection airflow	1.13 m³/min (Built-in fan)
Static pressure	460Pa (Built-in fan)
Dust collection filter	Self-adhesive polyurethane gel sheets and paper pack filter
H×W×Dmm	H411×W420×D300mm
Weight	9.5kg
Air supply hose diameter	tube fitting Φ 10mm
Operating fluid	Clean dry air (0.1MPa to 0.7MPa)
Airflow	333 ℓ /min (0.3MPa)
Ozone production	0.05ppm or less (measured 50mm)
Operating environment temperature and humidity	0°C to 40°C/20% to 80% RH (with no dew condensation or freezing)
Accessories	AC adapter AD24-IT19-EX Pinpoint L-shape corner nozzlex1pc Adhesive gel sheet plate (included with device)x2pcs Duct flange (for $\varphi$ 75mm) Paper pack filter (6pc.)

#### Replacement parts



#### Ion Parts Cleaner

Compact, integrated design is ideal for use in a cell production setting or confined space

# IPC20-E

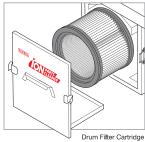


EDP No. 621379



- ▶ Workpiece is detected with sensor, and dust eliminating air is sprayed.
- ▶ Cylindrical cartridge type medium-efficiency filter incorporated.
- Compact fan ionizer is ideal for spaces with no static inside the hood.





#### Specifications

•	
Model No.	IPC20-E
lonizing method/Applied voltage	Piezoelectric high-frequency AC corona discharge/AC 3.5kV
Power supply	AC230V (50/60Hz)
Current consumption	0.42A (50Hz) / 0.4A (60Hz)
Dust collection airflow	1.6 m³/min (50Hz)/2.0 m³/min (60Hz)
Static pressure	0.35kPa (50Hz) / 0.50kPa (60Hz)
Table surface controlled air speed	0.8 m/sec (50Hz) / 1.0 m/sec (60Hz)
Dust collection volume	0.5 L
Dust collector output	50W
Dust collection filter	Medium-efficiency filter (Cylindrical cartridge filter)
H×W×Dmm	H682×W358×D385mm
Weight	21kg
Air supply hose diameter	tube fitting Φ6mm
Operating fluid	Clean dry air (0.4MPa to 0.7MPa)
Airflow	355 ℓ/min (0.7MPa)
Noise level	56dBA (50Hz) / 58dBA (60Hz)
Ozone production	0.05ppm or less (measured 50mm)
Operating environment temperature and humidity	0°C to 40°C/20% to 80% RH (with no dew condensation or freezing)
Accessories	Plastic adjusting screwdriver for sensor, hazardous use prohibited display sheet

#### Ion Parts Cleaner

Separate type features a dust collector and standalone hood to make effective use of limited space

# IPC40-E

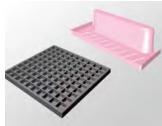


EDP No. 621380

Sensor	Air blow	Off delay timer	Directive
Retroreflective	Continuous	3sec (0.1 to 5 sec)	C€ RoHS
Power supply Air Pressure max 0.7MPa	lonizer Air Nozzle F-6×1pc 2pcs	Thermal protector filter	Separate hood/dust collector

- ▶ Flexible nozzle enables pinpoint dust removal from workplaces.
- ▶ Cylindrical cartridge type medium-efficiency filter incorporated.
- Compact fan ionizer is ideal for spaces with no static inside the hood.





#### Specifications

Model No.	IPC40-E
Ionizing method/Applied voltage	Piezoelectric high-frequency AC corona discharge/AC 3.5kV
Power supply	AC230V (50/60Hz)
Current consumption	1.2A (50Hz) / 1.4A (60Hz)
Dust collection airflow	3.3 m³/min (50Hz) / 4.0 m³/min (60Hz)
Static pressure	0.88kPa (50Hz) / 1.23kPa (60Hz)
Table surface controlled air speed	0.4 m/sec (50Hz) / 0.5 m/sec (60Hz)
Dust collection volume	1.2L
Dust collector output	200 W
Dust collection filter	Medium-efficiency filter (Cylindrical cartridge filter)
H×W×Dmm	Hood:H400×W518×D462mm/dust collector:H416×W481×D354mm
Weight	Hood:12kg/dust collector:30kg
Air supply hose diameter	tube fitting Φ6mm
Operating fluid	Clean dry air (0.4MPa to 0.7MPa)
Airflow	355 ℓ/min (0.7MPa)
Noise level	62dBA (50Hz) / 65dBA (60Hz)
Ozone production	0.05ppm or less (measured 50mm)
Operating environment temperature and humidity	0°C to 40°C/20% to 80% RH (with no dew condensation or freezing)
Accessories	Plastic adjusting screwdriver for sensor, hazardous use prohibited display sheet

#### Ion Parts Cleaner

# Featuring a wide 600 mm hood capable of accommodating large work

# IPC-60



EDP No. 621607



- Flexible nozzle enables pinpoint dust removal from workplaces.
- ▶ Cylindrical cartridge type medium-efficiency filter incorporated.
- Compact fan ionizer is ideal for spaces with no static inside the hood.





#### Specifications

Model No.	IPC-60
Ionizing method/Applied voltage	Piezoelectric high-frequency AC corona discharge/AC 3.5kV
Power supply	AC100V±5% (50/60Hz)
Current consumption	3.0A (50Hz)/3.0A (60Hz)
Dust collection airflow	3.3 m³/min (50Hz) / 4.0 m³/min (60Hz)
Static pressure	0.88kPa (50Hz)/1.23kPa (60Hz)
Table surface controlled air speed	0.4 m/sec (50Hz) / 0.5 m/sec (60Hz)
Dust collection volume	1.2L
Dust collector output	200 W
Dust collection filter	Medium-efficiency filter (Cylindrical cartridge filter)
H×W×Dmm	Hood:H400×W668×D462mm/dust collector:H416×W481×D354mm
Weight	Hood:147kg/dust collector:30kg
Air supply hose diameter	tube fitting Φ6mm
Operating fluid	Clean dry air (0.4MPa to 0.7MPa)
Airflow	355 ℓ/min (0.7MPa)
Noise level	62dBA (50Hz) / 65dBA (60Hz)
Ozone production	0.05ppm or less (measured 50mm)
Operating environment temperature and humidity	0°C to 40°C/20% to 80% RH (with no dew condensation or freezing)
Accessories	Plastic adjusting screwdriver for sensor, hazardous use prohibited display sheet