



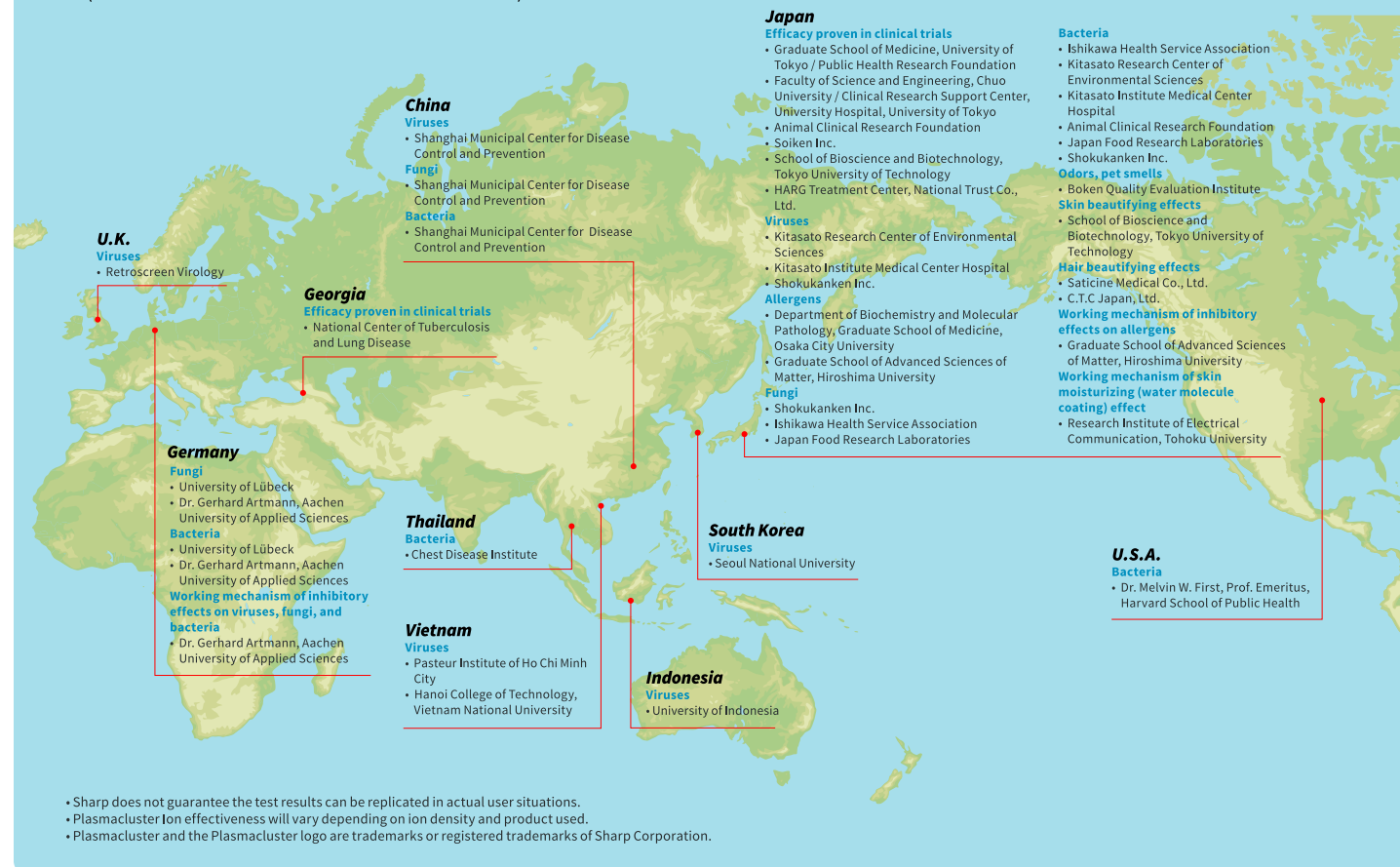
## High-Density Plasmacluster Ions Remove Airborne Mold and Viruses

Plasma discharge generates and emits the same positive and negative ions that occur in nature. Plasmacluster technology is Sharp's original air purifying technology that removes airborne mold and viruses. The benefits have been proven by official test institutions in Japan and around the world.



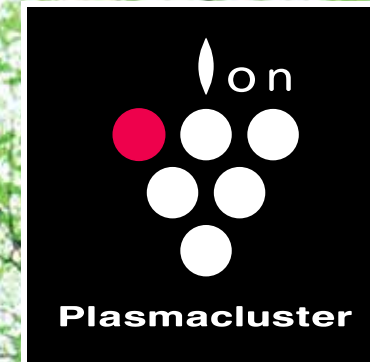
### CERTIFIED WORLDWIDE

PLASMACLUSTER—GAINING TRUST AND NEW CUSTOMERS AROUND THE WORLD  
(TESTED BY 28 INSTITUTES AND ORGANIZATIONS)



# SHARP

Be Original.



## Naturally Fresh and Safe Air



KC-G60

JAPAN  
TECHNOLOGY

"Plasmacluster" and "Device of a cluster of grapes" are registered Trademarks of Sharp Corporation in Japan, the Philippines, and elsewhere.

### Used in a variety of industries

#### You Never Have to Be without It

For home



Toilet



Bathroom



Ventilation system

For vehicle



Car



Bus



Train

For building



Office



Factory



Hospital



Hotel

### Used in over 70 million products in 17 years

In the 17 years since its release, products equipped with Plasmacluster ions have exceeded the 70-million-unit mark. Sharp aims to bring the benefits of Plasmacluster ions to every air space.



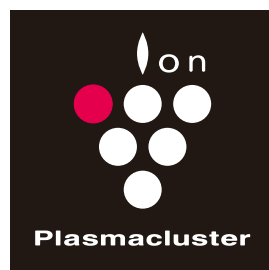
\* Design and specifications are current as of Jan. 2017, but are subject to change without prior notice.

# SHARP

SHARP CORPORATION OSAKA, JAPAN

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# Purify Air with the Same Ions As in Nature

Plasmacluster – Only from SHARP

Plasmacluster ions are positive and negative ions that occur in nature.

Plasmacluster is air-purifying technology. Its effectiveness has been supported by test data, and Plasmacluster is thus increasingly finding applications in various areas of activity, such as in businesses, in addition to household use.

Plasmacluster provides you with natural and safe air. This unique technology from Sharp applies the power of nature.



for HOME use

p1 - p23



for BUSINESS use

p24 - p34

## SHARP's Original Technology

Plasma discharge generates and emits the same positive and negative ions that occur in nature. Plasmacluster technology is Sharp's original air purifying technology that removes airborne mold and viruses.

**Winner of the 2008 Invention Prize**  
National Invention Awards Ceremony held by the Japan Institute of Invention and Innovation (JIII)  
Patented by Sharp (patent number 3680121)



## Assured Safety

GLP\*-compliant test facilities have gathered highly reliable safety data on Sharp's Plasmacluster technology.

\* GLP (good laboratory practice) is a system of management controls for test facilities and test procedures designed to ensure the reliability of chemical safety assessment tests.

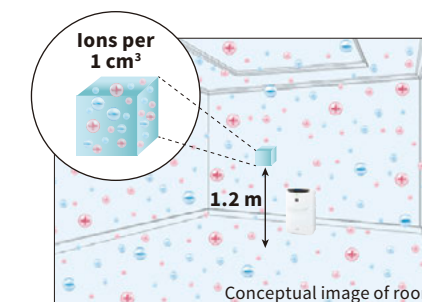
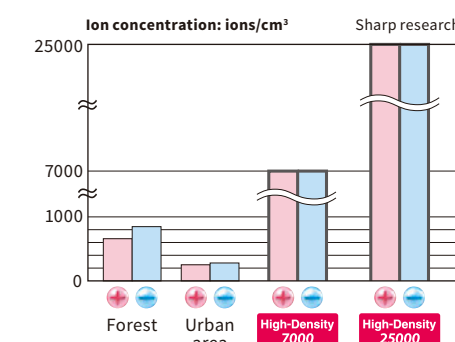
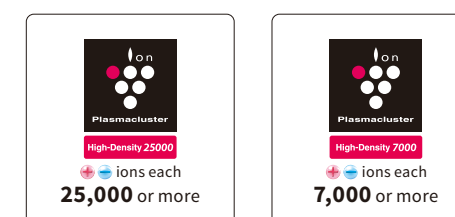
Purpose	Test name (abbreviation)	Ion density setting
Skin irritation (general condition)	Acute skin irritation/corrosion	Approx. 1,000,000 ions/cm <sup>3</sup>
Eye irritation (general condition)	Acute eye irritation/corrosion	Approx. 13,000,000 ions/cm <sup>3</sup>
Gene toxicity (general condition)	Inhalation toxicity (evaluation of genetic effect on pulmonary tissue)	Approx. 7,000,000 ions/cm <sup>3</sup>
Body and organ toxicity (general condition)	Inhalation toxicity	Approx. 7,000,000 ions/cm <sup>3</sup>
Pregnant woman and fetus toxicity (general condition)	Inhalation toxicity	Approx. 7,000,000 ions/cm <sup>3</sup>

Testing institution: LSI Medience Corporation

## The Same Safe Ions As in Nature

The safety of Plasmacluster ions has been verified, and so a high density of ions can be used. With more positive and negative ions in a room than even in a forest, Plasmacluster provides an environment of even greater effectiveness.

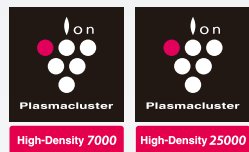
Numbers of  $\oplus$  and  $\ominus$  ions per 1 cm<sup>3</sup> when measured near the center of a room (at a height of 1.2 m from the floor) with the product placed at a wall:







# Plasmacluster Air Purifiers Provide Solutions for Air-quality Concerns



The number in this technology mark indicates the approximate number of ions supplied into 1 cm<sup>3</sup> of air, measured around the center of a room (at a height of 1.2 m above the floor) with the applicable floor area and at the maximum airflow when a Plasmacluster ion generator using a high-density Plasmacluster ion-generating device is placed close to a wall.

## Plasmacluster Ions Clean the Room Air

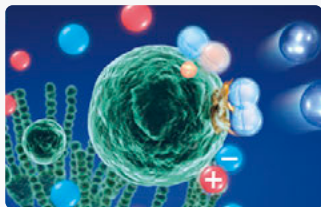
### Removal of Airborne Mold

Result after approx. 49 minutes in a testing space of approx. 25 m<sup>3</sup>.

- Tested by: Japan Food Research Laboratories
- Test result certificate: No. 15061723001-0101
- Test method: Performance evaluation test according to voluntary standard HD-131 of the Japan Electrical Manufacturers' Association in a testing space of approx. 25 m<sup>3</sup>.
- Object tested: One type of airborne mold.
- Test result: 99% reduction in approx. 49 minutes. Tested with an FP-F30 operating at the High airflow setting.

High-Density 25000

High-Density 7000



### Reducing Growth of Adhering Mold

Result after approx. three days (one day as 24 hours) in a testing space of approx. 20 m<sup>3</sup>.

- Tested by: Shokukanken Inc.
- Test method: Emission of Plasmacluster ions with vinyl chloride plate with adhering mold placed in testing space. Comparison of mold growth area with reference to JIS Z 2911.
- Test result: Limitation of growth after 3 days. Tested with a KI-A60 operating at the High airflow setting.

High-Density 25000

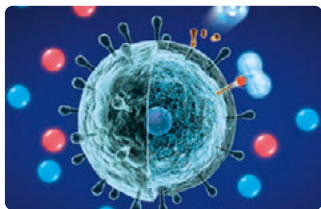
### Suppressing the Activity of Airborne Viruses

Result after approx. 18 minutes in an airtight testing space of approx. 25 m<sup>3</sup>.

- Tested by: Pasteur Institute in Ho Chi Minh City, Vietnam
- Test method: Performance evaluation test according to voluntary standard JEM 1467 of the Japan Electrical Manufacturers' Association in a testing space of approx. 25 m<sup>3</sup>.
- Object tested: One type of airborne virus.
- Test result: 99% reduction in approx. 18 minutes. Tested with an FP-F30 operating at the High airflow setting.

High-Density 25000

High-Density 7000



### Suppressing the Activity of Adhering Viruses

Result after approx. 10 hours in an airtight testing space of approx. 25 m<sup>3</sup>.

- Tested by: Shokukanken Inc.
- Test method: Performance evaluation test according to voluntary standard JEM 1467 of the Japan Electrical Manufacturers' Association in a testing space of approx. 25 m<sup>3</sup>.
- Object tested: One type of adhering virus.
- Test result: 99% reduction in approx. 10 hours. Tested with a KI-A60 operating at the High airflow setting.

High-Density 25000

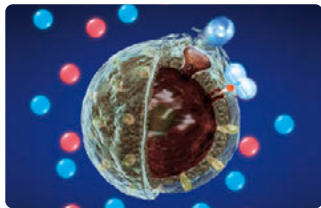
### Suppressing the Activity of Airborne Microbe

Result after approx. 51 minutes in a testing space of approx. 25 m<sup>3</sup>.

- Tested by: Japan Food Research Laboratories
- Test result certificate: No.15061721001-0101
- Test method: Performance evaluation test according to voluntary standard HD-131 of the Japan Electrical Manufacturers' Association in a testing space of approx. 25 m<sup>3</sup>.
- Object tested: One type of airborne microbe.
- Test result: 99% reduction in approx. 51 minutes. Tested with an FP-F30 operating at the High airflow setting.

High-Density 25000

High-Density 7000



### Suppressing the Activity of Airborne Allergens from Dust Mite Feces and Remains

Result after approx. 51 minutes in a testing space of approx. 25 m<sup>3</sup>.

- Tested by: ITEA Inc.
- Test method: Allergens from dust mite feces and remains were suspended in the air in a testing space of approx. 25 m<sup>3</sup> and measured using the ELISA method.
- Test result: 99% reduction in approx. 51 minutes. Tested with an FP-F30 operating at the High airflow setting.

High-Density 25000

High-Density 7000



## Plasmacluster Ions and Air-Purification Technology Remove Haze

### It Was Proved that Sharp's Plasmacluster Ion and Air Purifying Technology Has the Effect on a Haze in Collaboration with University Putra Malaysia

The study found that a harmful substance such as toluene, pentanone is included organic chemicals in HAZE.

#### Plasmacluster Ions Reduce 98% of Toluene and 70% of Pentanone

- Tested by: Sumika Chemical Analysis Service, Ltd.
- Test method: A 20-liter volume was irradiated with ions at a density of 2 million ions per cm<sup>3</sup>. Air treated with Plasmacluster ions was compared to air without Plasmacluster ions, and the removal rates of toluene and pentanone were measured.
- Test result: After 24 hours, 91% of toluene and 44% of pentanone were removed, increasing to 98% and 70% after 48 hours.

#### Air-Purification Technology Removes 99% of Haze Particles as Small as 0.06 μm in Size

- Tested by: Sharp
- Test method: A KC-D60 and KC-D40 were each installed in a separate 25.6 m<sup>3</sup> space and set to Haze Mode.
- Test result: The air purifiers each required approx. 30 minutes to remove 99% of haze particles 0.06 μm or larger in size.



## Reduction of Static Electricity

### Reducing Static Electricity

Result after approx. 2.7 minutes for the KI-A60 and approx. 13 minutes for the FP-F30 in a testing space of approx. 41 m<sup>3</sup>.

- Tested by: Sharp
- Test method: Measurement of time required for a metal sensing plate charged to 5 kV to decrease in charge to 0.5 kV when irradiated with Plasmacluster ions (tested with reference to JIS TR C 0027-1).
- Test result: As described above.

High-Density 25000

High-Density 7000



## Removing Stubborn Odors with Plasmacluster

### Breakdown and Elimination of Clinging Odors

#### Breakdown and Removal of Clinging Cigarette Odor

Result after approx. 55 minutes for the KI-A60 and approx. 90 minutes for the FP-F30 in a testing space of approx. 41 m<sup>3</sup>.

The effectiveness of deodorization depends on factors such as the odor type and intensity, as well as the materials of the objects to be deodorized.

- Tested by: Sharp
- Test method: The effectiveness of deodorizing a cloth swatch impregnated with cigarette odor components and irradiated with Plasmacluster ions was evaluated by using the six-level odor intensity indication method.
- Test result: Deodorized to unnoticeable levels in the times stated above.

High-Density 25000

High-Density 7000



#### Spot Deodorization of Sweat Odor Clinging to Clothing in Approx. Six Hours

- Tested by: Sharp
- Test method: The effectiveness of deodorizing a cloth swatch impregnated with sweat odor components and irradiated with Plasmacluster ions was evaluated by using the six-level odor intensity indication method.
- Test result: Deodorized to unnoticeable level in about six hours. Tested with an FP-F30 operating at the Low airflow setting.

#### Spot Deodorization of Damp-dry Odor on Clothes Drying Indoors in Approx. Three Hours

- Tested by: Sharp
- Test method: The effectiveness of deodorizing a cloth swatch impregnated with damp-dry odor components on clothes drying indoors and intensively irradiated with Plasmacluster ions was evaluated by using the six-level odor intensity indication method.
- Test result: Deodorized to unnoticeable level in approx. three hours. Tested with an FP-F30 operating at the Low airflow setting.

Odors at portions not directly subjected to the airflow cannot be removed.

Note: This effect is provided when KI-series models operate at the Med setting and when FU-series models operate at the High setting. The effectiveness of deodorization depends on factors such as the odor type and strength, as well as the materials of the objects to be deodorized.



## Skin-Beautifying Effects of High-Density Plasmacluster Ions

### Beautifying Skin with a Lustrous Sheen

Result after approx. 20 minutes in a testing space of approx. 41 m<sup>3</sup>.

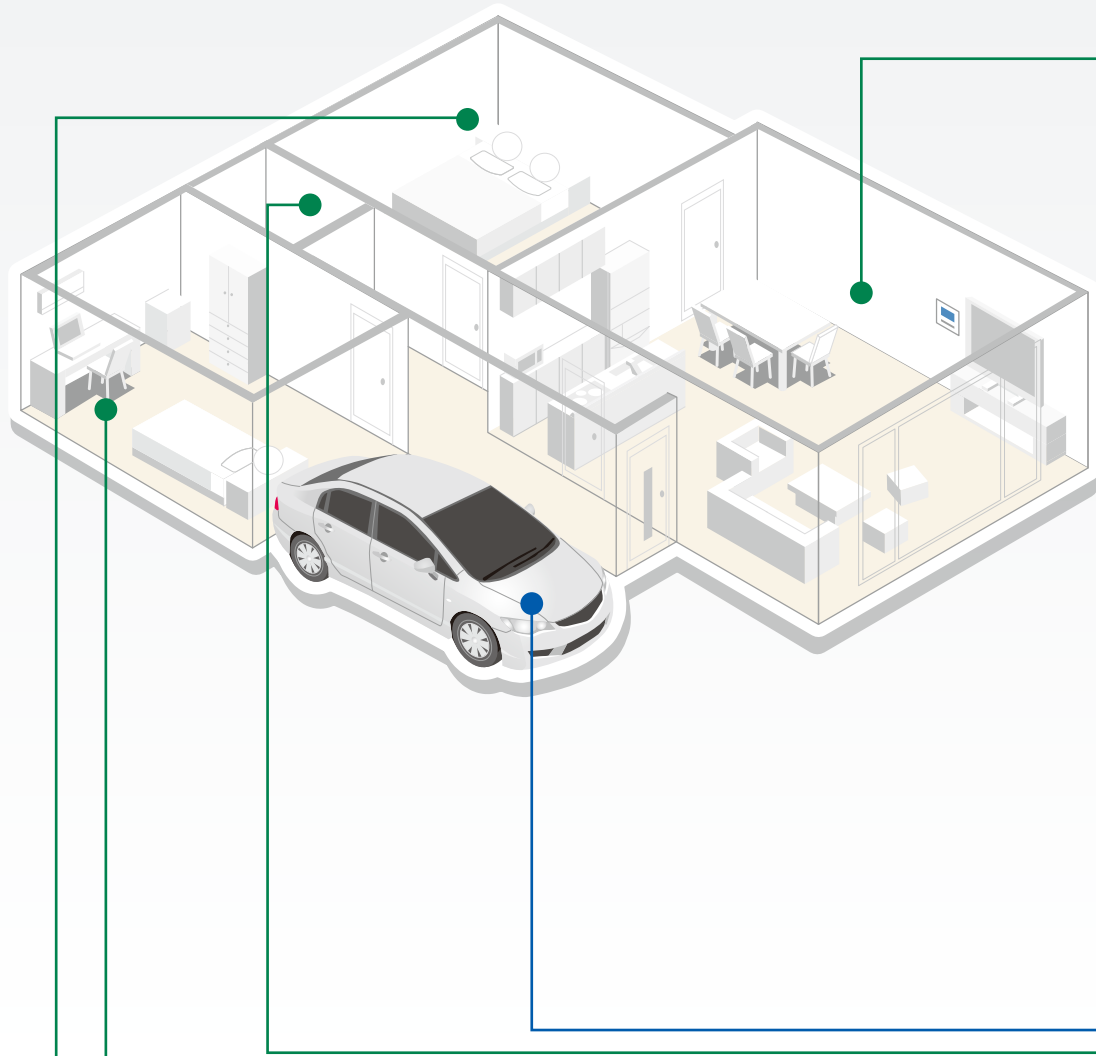
- Tested by: Soiken Inc.
- Subjects tested: 21 women, ages 36 to 63
- Temperature: Approx. 25°C, Humidity: Approx. 45%
- Test method: Measurement of skin moisture levels at the corners of the eyes of subjects at rest.
- Test result: An effect of providing luster to skin after 20 minutes of operation was verified. Tested with a KI-A60 operating with humidifying air purification at the Med setting.

High-Density 25000

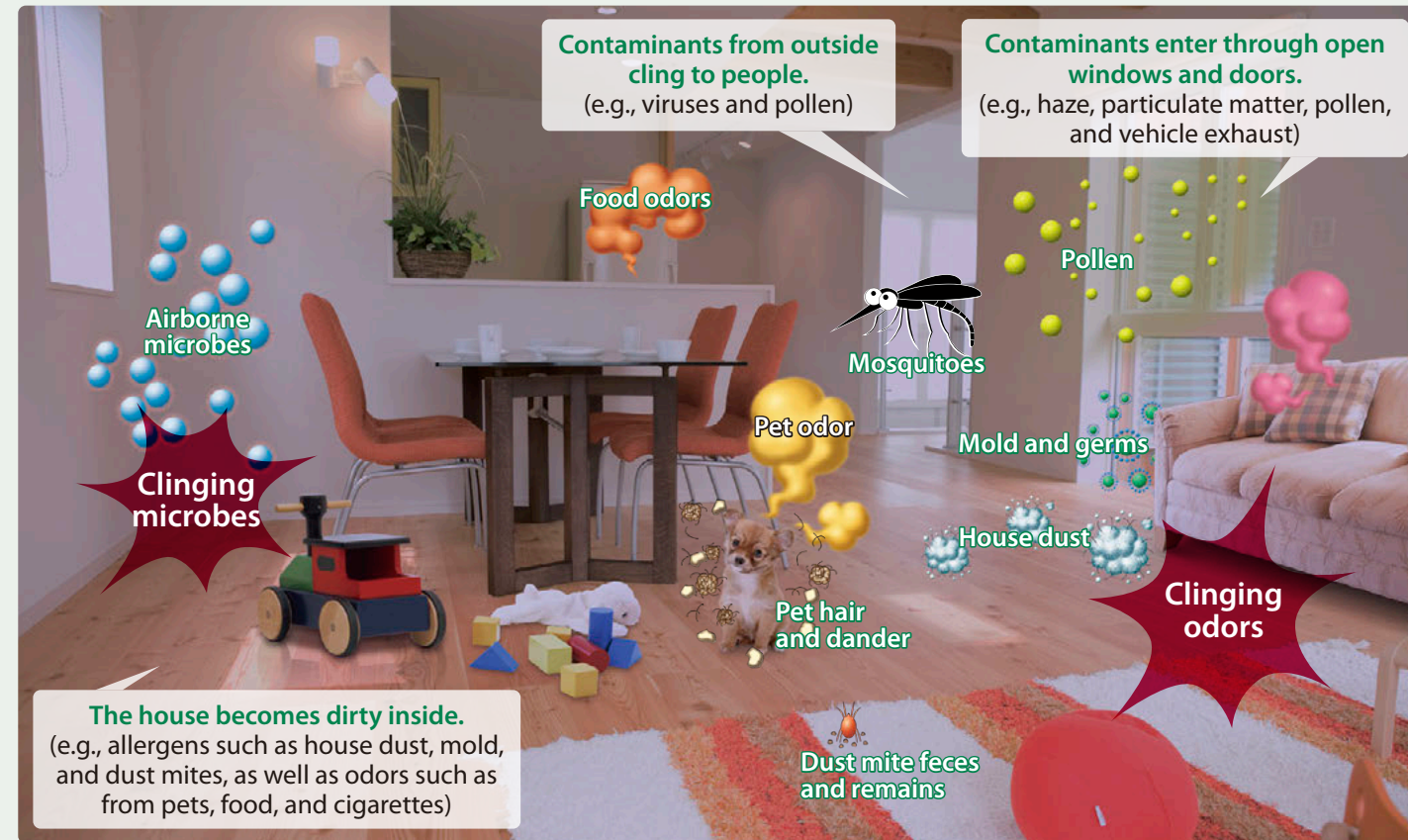




# A Wide Variety of Concerns Are Lurking in the Air of Your Living Environment



## Living Rooms



The whole family, from children to the elderly, gather in the living room. Hidden in the living room air remain a wide variety of invisible contaminants, such as viruses, pollen, and haze invading from the outside, as well as odors and dust mite feces and remains that emerge inside.



## Bedrooms



We spend more than a quarter of each day in bed. Lingering odors of sweat, lurking dust mites, and the irritating allergens of dust mite feces and remains prevent comfortable sleeping.



## Small Rooms (for children or pets)



Because children have a weaker immune system than do adults, it is important to provide a clean air environment. In addition to visible contaminants such as dust and pet hair, impurities such as viruses and dust mites remain hidden.



## Closets



The air in a closet can easily become stagnant, making closets a place in the house where mold easily grows. Also, because a lot of clothes are kept in a small space in a closet, clinging sweat odors linger.



## Use in Cars



Because the air inside a car lingers, odors from eating food or smoking cigarettes easily cling to the inside. The odor of mold that emerges inside the car air conditioner prevents you from comfortable driving.







# Plasmacluster Air Purifier Three-step Dust Collection System

## 1 REMOVE

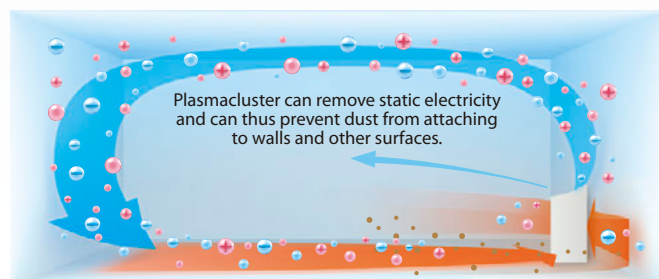
Plasmacluster Ions Can Remove Mold<sup>\*1</sup>, Viruses<sup>\*2</sup>, Allergens<sup>\*3</sup>, Odors<sup>\*4</sup>, and Static Electricity



## 2 COLLECT

Powerful Air Suction and Unique Airflow Quickly and Efficiently Collect Dust and Other Particles

Faster airflow at a 20° angle collects dust at lower levels in the room for more effective cleaning.



## 3 CAPTURE

High-Performance Filters Capture Airborne Dust Particles

Removal of Micron-Size Dust Particles Including 0.3-Micron Viruses and Dust Allergens

Dust-Collecting HEPA-Filter<sup>\*5</sup>

No need for replacement for 10 years<sup>\*6</sup>

High Performance of Capturing Odor Particles Maintained

High-Performance Double Deodorizing Filter

No need for cleaning for 10 years<sup>\*7</sup>  
Easy maintenance by simply wiping.

Capture Microscopic Dust Particles

Anti-microbial<sup>\*8</sup>, Anti-mold<sup>\*9</sup>  
Micron Mesh Pre-filter  
on Rear Panel

No need for replacement  
Easy maintenance by simply wiping the filter  
without detaching it.

KI-A60

### HEPA Filter<sup>\*5</sup>

#### Enlargement of HEPA Filter<sup>\*5</sup>

The larger the surface area of the filter, the more dust and other harmful particles are captured.



The filter measures as long as approx. **8 m** when fully extended.

Simulated image of the KI-A60

### What the HEPA Filter<sup>\*5</sup> Captures

99.97%<sup>\*10</sup> capture and removal of 0.3-micron dust particles



#### Tree pollen

Cedar, cypress, birch, alder, beech, red cedar, oak, pine



#### Grass pollen

Ragweed, wormwood, hop, orchard grass, vernal grass, timothy grass



#### Allergens

Dust mite feces, dust mite remains, dog dander, cat dander, hamster dander, mold



#### Viruses



#### Airborne microbes



#### Airborne mold

Black mold, Stachybotrys, Aspergillus niger, Penicillium



#### Dust

Dust, pet hair, pet dander, cigarette smoke, cooking fumes, mite dust, diesel exhaust particles, Asian dust



#### Odors

Cigarette odor, pet odor, cooking odor, kitchen food waste odor, toilet odor, body odor, mold odor, ammonia odor

<sup>\*1</sup> 99% of airborne mold was removed in a test space of 31 m<sup>3</sup> after 195 min. of use. (tested by Ishikawa Health Services Association)

<sup>\*2</sup> 99% of airborne viruses were removed in a closed test space of 25 m<sup>3</sup> after 18 min. of use. (tested by Pasteur Institute, Ho Chi Minh City)

<sup>\*3</sup> Effectiveness in a test space of 31 m<sup>3</sup> after four weeks of use (one day: 24 hours). (tested by Hiroshima University Graduate School of Advanced Sciences of Matter)

<sup>\*4</sup> Effectiveness in a test space of 41 m<sup>3</sup> after 80 min. of use. The effectiveness depends on the odor type, odor intensity, and material of object measured. (tested by Sharp)

<sup>\*5</sup> The filter captures more than 99.97% of 0.3-micron dust particles.

<sup>\*6</sup> When smoking five cigarettes a day. Depending on the usage conditions, filter replacement may be required.

<sup>\*7</sup> Deodorizing performance depends on the room conditions.

<sup>\*8</sup> Tested by the Boken Quality Evaluation Institute. Test method: JIS Z 2801 standard test. Anti-microbial method: Infusing filter with anti-bacterial agents. Test result: 99% removal. Object tested: Microbes adhering to rear panel filter.

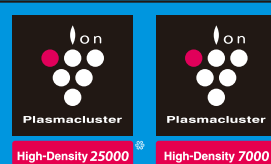
<sup>\*9</sup> Tested by the Boken Quality Evaluation Institute. Test method: Mold resistance test according to the JIS Z 2911 standard. Mold prevention method: Infusing filter with anti-mold agents. Test result: No mold growth.

<sup>\*10</sup> This value applies to filter removal performance, not to removal for the entire room.

#### Dust removing and deodorizing performance of air purifiers

• Not all harmful substances in cigarette smoke, e.g., carbon monoxide, can be removed.  
• Not all commonly occurring odors, e.g., building material odors and pet odors, can be removed.

\* The filter itself may produce an odor and need to be replaced after several months if the air purifier is used to reduce strong odors, such as cigarette smoke or grilled meat.  
Use the air purifier in combination with room ventilation if it is used for strong odors.



## Air Purifiers with Humidifying

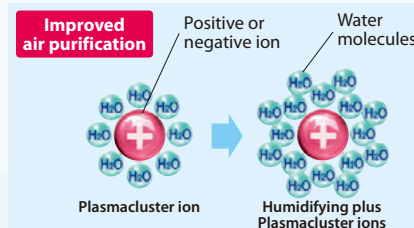
(KI-A60, KC-G60/G50/G40, KC-D60/D50/D40)

### Automatically Rotating Humidifying Structure Creates Clean Humidity Conditions

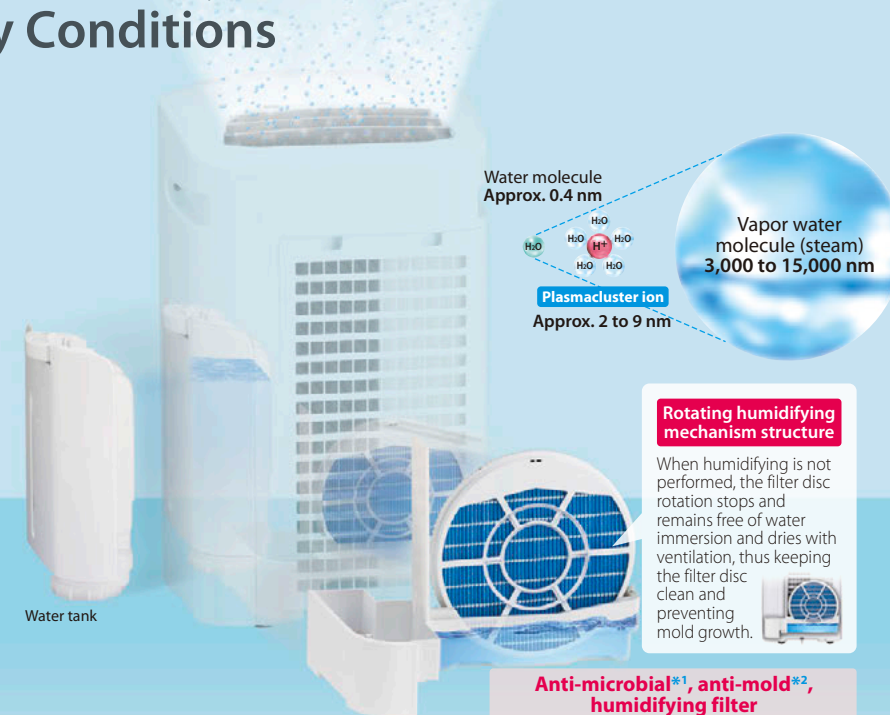
#### Comfortable Humidity Indoors Keeps Your Skin and Throat Moisturized and Healthy

Minute water molecules from moisture delivered by vapor humidifying prevent nose and throat dryness.

#### Humidifying doubles the Plasmacluster ion endurance and air purifying speed.\*



\* Tested by Japan Food Research Laboratories.  
Test method: Plasmacluster ions were discharged into a test chamber with a floor area of about 8 m<sup>2</sup>, airborne mold was measured with an air sampler, and the approximate values for the condition with humidifying and the condition without humidifying were compared.



Water molecule  
Approx. 0.4 nm

Vapor water molecule (steam)  
3,000 to 15,000 nm

Plasmacluster ion  
Approx. 2 to 9 nm

#### Rotating humidifying mechanism structure

When humidifying is not performed, the filter disc rotation stops and remains free of water with immersion and dries with ventilation, thus keeping the filter disc clean and preventing mold growth.

Anti-microbial<sup>\*1</sup>, anti-mold<sup>\*2</sup>,  
humidifying filter

No need of replacement for 10 years<sup>\*3</sup>

<sup>\*3</sup> Time for the humidifying performance to decrease by 50% relative to the rated humidifying performance assuming eight hours of operation per day. The filter service life depends on the room conditions and usage. Periodic cleaning is required.

KI-A60 simulated image

### Simple Operation for Easy Everyday Use

#### Water Tank Enables Easy Cleaning and Convenient Water Supply

Handle for easy carrying in one hand



Self-standing tank prevents tipping over when refilling.



Large-diameter cap enables tank cleaning by hand.



#### Casters

Easily move the unit to the left and right by rolling it on casters.



Easily slide the unit to the left and right.

Casters enable moving the unit simply even with only one hand.

#### Unit Placed Close to a Wall

The unit can be placed as close as 3 cm from a wall. Rear suction performance is not hindered.



As close as 3 cm\* from a wall

\* Place the unit further away if the walls or furniture around the unit become dirty.

#### Approved by the British Allergy Foundation

The British Allergy Foundation has tested KI, KC, and FU-series Sharp Plasmacluster air purifiers and verified that airborne allergens including dust mite feces and remains, as well as pollen, are removed.



<sup>\*1</sup> Tested by the Boken Quality Evaluation Institute  
Test method: JIS Z2801 standard test  
Anti-microbial method: Infusing filter with anti-bacterial agents  
Test result: 99% removal

<sup>\*2</sup> Tested by the Boken Quality Evaluation Institute  
Test method: Mold resistance test according to the JIS Z 2911 standard  
Mold prevention method: Infusing filter with anti-mold agents  
Test result: No mold growth

\* The number in this technology mark indicates the approximate number of ions supplied into 1 cm<sup>3</sup> of air, which is measured around the center of a room (at a height of 1.2 m above the floor) with the applicable floor area at the maximum airflow, when a Plasmacluster ion generator using a high-density Plasmacluster ion-generating device is placed close to a wall.

## KI-A60

### High-Density Plasmacluster Ions Double Air-Purifying Power with Triple Filters, Delivering Comfort to Your Family's Living Room

#### KI-A60

Recommended Room Size: 50 m<sup>2</sup>\*<sup>1</sup>  
(34 m<sup>2</sup> for humidifying\*<sup>2</sup>)



Powerful Air Suction  
**402 m<sup>3</sup>/hour**\*<sup>3</sup>

-W (White)

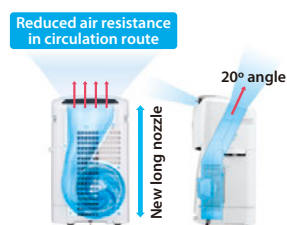


#### Fast Airflow and Circulation from Unique Aerodynamic Structure



#### Quick Collection

New long nozzle for efficient airflow



#### Designed with Smooth Airflow Guide

The airflow guides help to direct collected airborne dust smoothly into the back suction panel.



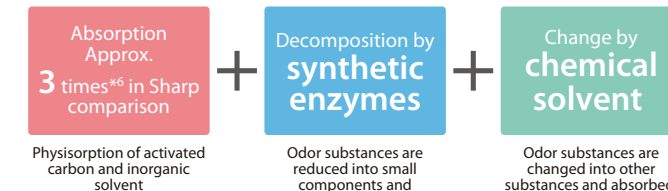
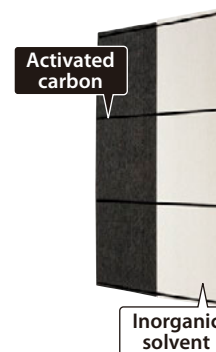
#### Powerful Suction

Dust drawn in from the room is collected through suction by the large surface area of the entire back of the unit.



#### High-Performance Double Deodorizing Filters

With an inorganic solvent added to the conventional deodorizer of activated carbon, the absorption volume increased approx. three times\*<sup>6</sup> in comparison to Sharp data. Also, use of synthetic enzymes and a chemical solvent enables decomposition of odor sources into small components, which are then absorbed. A wide variety of odors are deodorized by using these three substances, resulting in no need for filter replacement for 10 years\*<sup>7</sup>.



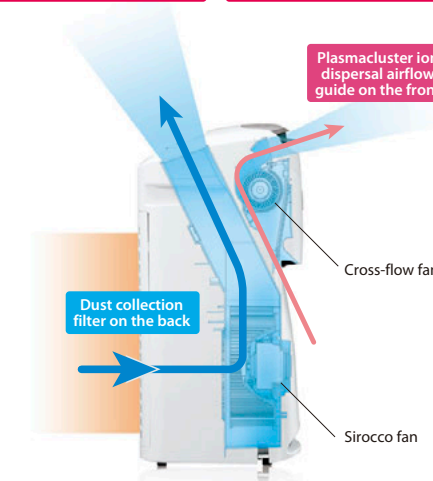
#### High-Density 25000 Plasmacluster and Filter Purification

#### Hybrid-Controlled Air Purification

The hybrid-controlled air purification system has a front ion dispersal airflow guide and a sensor-controlled back suction panel with filter. The front guide continuously disperses high-density Plasmacluster ions into the room, while the dust collection filter with sensor on the back suction panel detects the room air condition, providing excellent air purification.

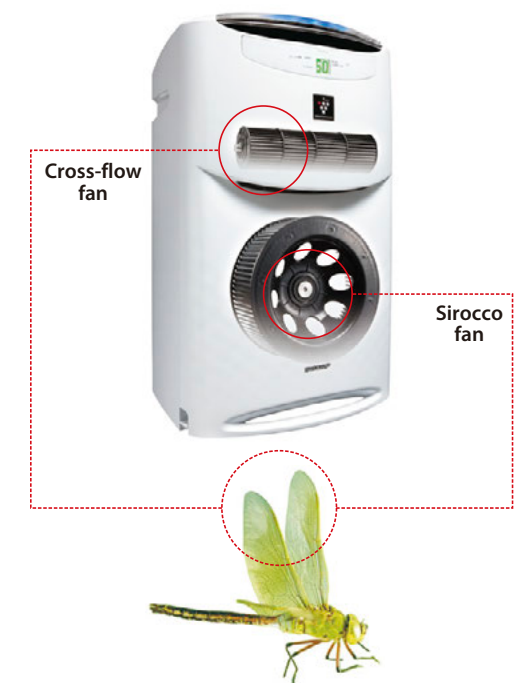
Speed of Suppressing the Activity of Airborne Microbes:  
Approx. **1.5 Times Faster**\*<sup>4</sup>  
Than the Speed of High-Density 7000 Plasmacluster

Speed of Deodorizing Clinging Odors:  
Approx. **1.3 Times Faster**\*<sup>5</sup>  
Than the Speed of High-Density 7000 Plasmacluster

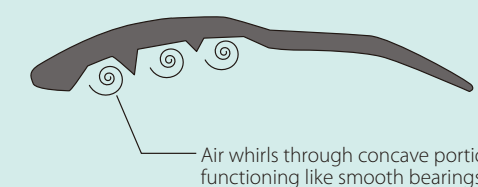


#### Nature Wing Fan for Quiet Operation

Use of fans shaped like dragonfly wings provides smooth airflow delivery as well as low fan noise.



#### Fan section with dragonfly wings



\*<sup>1</sup> Recommended room size is measured based on the JEM1467 standard of the Japan Electrical Manufacturers' Association.  
\*<sup>2</sup> Measurement conditions: 20°C, 30% humidity (JEM1426).  
\*<sup>3</sup> Measured based on the JEMM 1467 standard of the Japan Electrical Manufacturers' Association.  
\*<sup>4</sup> Airborne microbes: The times until microbes in a 1-m<sup>3</sup> airtight box are reduced to 99.9% are compared. The results of these experiments do not ensure the same effects in actual room conditions. Tested by Kitasato Institute Medical Center Hospital, Kitasato Institute.  
Test method: Viruses were suspended in the air inside a 1-m<sup>3</sup> box, and the percentage of airborne viruses removed was measured on the release of Plasmacluster ions.  
Test results: Removal of 99.9% in approx. 20 minutes (Plasmacluster ion density: 25,000 ions/cm<sup>3</sup>). Removal of 99.9% in approx. 30 minutes (Plasmacluster ion density: 7,000 ions/cm<sup>3</sup>). These experiments were performed using one type of virus.  
\*<sup>5</sup> Clinging cigarette smoke odor: Comparison of times until Plasmacluster ions break down and remove cigarette smoke odor components to unnoticeable level.  
Tested by the Boken Quality Evaluation Institute.  
Test method: The effectiveness of deodorizing a cloth swatch impregnated with cigarette smoke odor components was evaluated by using the six-grade odor intensity measurement method.  
Test result: Deodorization to an unnoticeable level in about 60 minutes for Plasmacluster ion density of 20,000 ions/cm<sup>3</sup>. Deodorization to an unnoticeable level in about 80 minutes for Plasmacluster ion density of 10,000 ions/cm<sup>3</sup>.  
\*<sup>6</sup> Comparison with washable deodorizing filter of the KC-A60E/A50E.  
\*<sup>7</sup> When smoking five cigarettes a day. Depending on the usage conditions, filter replacement may be required.



## KC-G60/G50/G40

Optimal Operation with One Button.  
Sensor Monitoring of Room Conditions Automatically Provides Humidifying and Purification.

### KC-G60

Recommended Room Size: 50 m<sup>2</sup>\*<sup>1</sup>  
(XX m<sup>2</sup> for humidifying\*<sup>2</sup>)

HAZE Mode (E/L/M)

ANTI-Dust Mode (Y)

Clean Ion Shower Mode (TA)

SAND Mode (SA)

20° Airflow Angle

Intelligent Auto Operation

HAZE Mode\*

Sleep Mode

Plasmacluster Ion Spot

Dust, Odor, Temperature and Humidity Sensor

Light Sensor

Motion Sensor

Child Lock

Timer (ON/OFF)

Rotating Humidifying Filter

HEPA Filter

Double Deodorizing Filter

Anti Microbial/Mold Fine Meshed Rear Panel

### KC-G50

Recommended Room Size: 38 m<sup>2</sup>\*<sup>1</sup>  
(XX m<sup>2</sup> for humidifying\*<sup>2</sup>)

HAZE Mode (E/L/M)

ANTI-Dust Mode (Y)

Clean Ion Shower Mode (TA)

SAND Mode (SA)

20° Airflow Angle

Intelligent Auto Operation

HAZE Mode\*

Sleep Mode

Plasmacluster Ion Spot

Dust, Odor, Temperature and Humidity Sensor

Light Sensor

Motion Sensor

Child Lock

Timer (ON/OFF)

Rotating Humidifying Filter

HEPA Filter

Double Deodorizing Filter

Anti Microbial/Mold Fine Meshed Rear Panel

### KC-G40

Recommended Room Size: 28 m<sup>2</sup>\*<sup>1</sup>  
(XX m<sup>2</sup> for humidifying\*<sup>2</sup>)

HAZE Mode (E/L/M)

ANTI-Dust Mode (Y)

Clean Ion Shower Mode (TA)

SAND Mode (SA)

20° Airflow Angle

Auto Operation

HAZE Mode\*

Sleep Mode

Plasmacluster Ion Spot

Dust, Temperature and Humidity Sensor

Light Sensor

Child Lock

Timer (ON/OFF)

Rotating Humidifying Filter

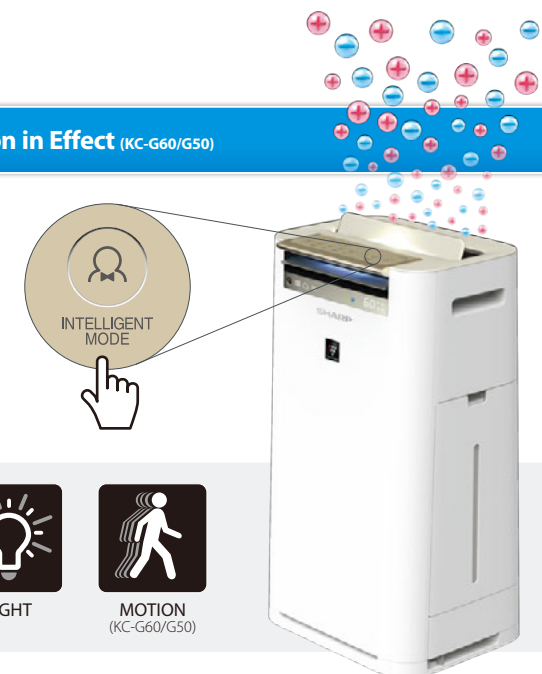
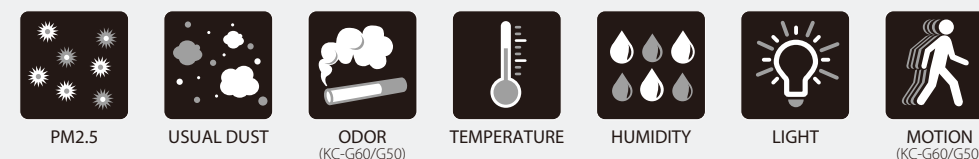
HEPA Filter

Double Deodorizing Filter

Anti Microbial/Mold Fine Meshed Rear Panel

### Intelligent Mode with 7 Types of Detection in Effect (KC-G60/G50)

Once you press the button, everything operates automatically. Humidifying and air purification are controlled according to the impurities, odors, temperature, and humidity of the air in the room. Also, a motion sensor detects whether people are present, working in coordination with a light sensor to automatically switch to energy-saving operation.



### Three Filters Reliably Capture Dust, Gas, and Odors.

**Electrostatic HEPA filter**  
Traps 99.97% of microscopic particles (as small as 0.3 micron) in the air.

Allergens & Microscopic dust  
PM2.5

**Double Deodorizing filter**  
Absorbs cigarette odor, harmful gases in HAZE\*<sup>3</sup> and many other common household odors.

**Harmful Gases**

VOC (volatile organic compounds)
NOx (nitrous oxides)
SOx (sulfur oxides)

Cigarette odor/General odor in house/  
Harmful gases in HAZE\*<sup>3</sup>

**New Pre-filter**  
Captures larger than approx. 240 micron dust particles, washable.

Pet hair/Large dust particle

### Plasmacluster Spot Mode

A high-density concentration of Plasmacluster ions are discharged forward. This is effective in removing odors, bacteria, and viruses clinging in remote areas of the room.



Ion density  
Approx. **10** times  
or higher  
(compared with airflow  
at the Medium setting)

### Effect of Plasmacluster Spot Mode Deodorization and Bacteria Removal

Removal of Clinging Odors					Removal of clinging bacteria
Cigarette odor	Pet odor	Odor of wet clothes drying indoors	Sweat odor	Cooking odor	Clinging bacteria
Approx. 30 minutes	Approx. 6 hours	Approx. 3 hours	Approx. 6 hours	Approx. 2 hours	Approx. 8 hours

\* Effect after the above times at a position approx. 70 cm from the floor and 50 cm from the front discharge outlet.

### Rotating humidifying mechanism structure

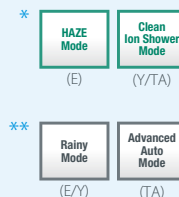


## KC-D60/D50/D40

### Plasmacluster Air Purifiers with Special Features Meeting Local Needs

#### KC-D60

Recommended Room Size: 48 m<sup>2</sup>\*<sup>1</sup>  
(30 m<sup>2</sup> for humidifying\*<sup>2</sup>)



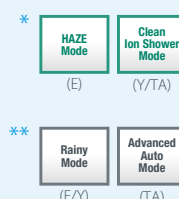
#### KC-D50

Recommended Room Size: 38 m<sup>2</sup>\*<sup>1</sup>  
(27 m<sup>2</sup> for humidifying\*<sup>2</sup>)



#### KC-D40

Recommended Room Size: 26 m<sup>2</sup>\*<sup>1</sup>  
(21 m<sup>2</sup> for humidifying\*<sup>2</sup>)



#### Haze Mode (KC-D60E/40E) and High-Density Plasmacluster Ion Shower Mode (KC-D60Y/40Y and KC-D60TA/50TA/40TA)

The KC-D60E/40E has a new Haze Mode. When it starts in Haze Mode, operation is at maximum airflow for the first 10 minutes, and then switches to a higher airflow for the next 50 minutes. After that, operation repeatedly alternates between normal and high airflow every 20 minutes. With a stronger airflow for the first 60 minutes, a high density of Plasmacluster ions is dispersed into the entire room, which reduces static electricity, making it easy to capture haze particles.

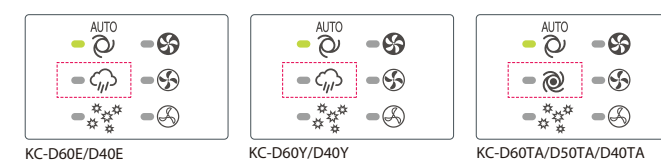
The KC-D60Y/40Y and KC-D60TA/50TA/40TA have an Ion Shower Mode. With just a press of the shower operation button, the air purifier starts high-density Plasmacluster shower with a stronger airflow for 60 minutes, dispersing a high density of Plasmacluster ions into the entire room.



#### Rainy Mode (KC-D60E/40E and KC-D60Y/40Y) OR Advanced Auto Mode (KC-D60TA/50TA/40TA)

In the rainy season, the increased humidity levels allow rapid mold growth. When the humidity is high, the Rainy Mode or the Advanced Auto Mode delivers a stronger airflow than in the Auto Mode. The dispersed Plasmacluster ions remove airborne mold, as well as reducing the growth of clinging mold on surfaces.

For the KC-D60E/40E, the Rainy Mode starts operation when the humidity is above 80%.  
For the KC-D60Y/40Y and the KC-D60TA/50TA/40TA, the Rainy Mode or the Advanced Auto Mode starts operation when the humidity is above 70%.



\*<sup>1</sup> Recommended room size is measured based on the JEM1467 standard of the Japan Electrical Manufacturers' Association.  
\*<sup>2</sup> Measurement conditions: 20°C, 30% humidity (JEM1426).  
\*<sup>3</sup> Measured based on the JEM1467 standard of the Japan Electrical Manufacturers' Association.

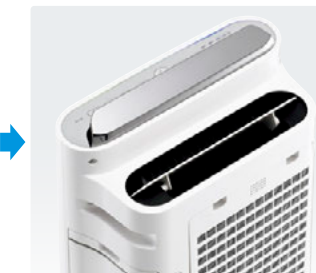
#### Auto Louver for Clean and Efficient Air Circulation

The new KC-D series of air purifiers are equipped with an auto louver. When the purifier turns on, the louver opens automatically, and when the purifier turns off, the louver closes to prevent dust from getting inside.

##### Auto Louver OFF



##### Auto Louver ON



#### Simple Operation for Easy Everyday Use

##### Casters with Stoppers

Easily move the unit to the left and right by rolling it on casters. To secure the unit, lock the casters with stoppers.



##### Stopper unlocked



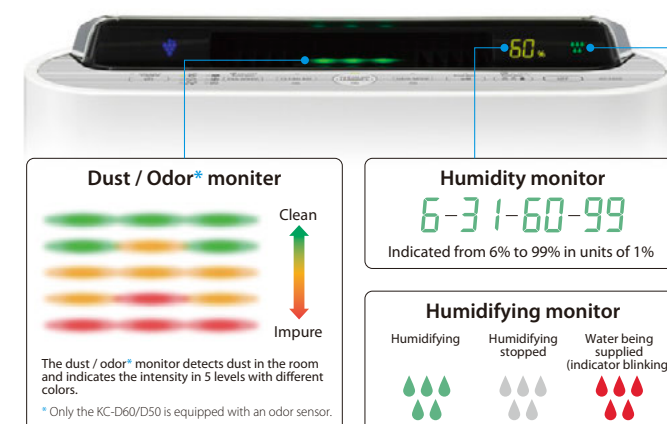
##### Stopper locked



##### On/Off Timer for Convenient Use

The On timer can be set to up to 14 hours in increments of 2 hours, and the Off timer can be set to 1, 2, 4 and 8 hours.

#### Monitors for Dust and Odor\*, Humidity, and Humidifying Indicate the Conditions of the Room Air





## KC-F30

### Entry-level Air Purifier Model with Genuine Humidifying and HEPA Filter

#### KC-F30

Recommended Room Size: 21 m<sup>2</sup>\*<sup>1</sup>  
(16 m<sup>2</sup> for humidifying\*<sup>2</sup>)

-W (White)

**HAZE Mode** (E/L) **ANTI-Dust Mode** (Y) **Clean Ion Shower Mode** (TA)

**20° Airflow Angle** **Auto Operation** **HAZE Mode\*** **Sleep Mode** **Timer (OFF)** **Dust Sensor** **HEPA Filter** **Deodorizing Filter**

- Humidity and temperature display
- Off timer (1, 2, 4, 8 hours)
- Dust indication monitor
- Auto restart

#### Simple Operation

#### Off Timer for Convenient Use

The off timer can be set to 1, 2, 4, and 8 hours.

**Monitor for Dust and Displays for Humidity and Temperature**

**Dust Sign**  
Indicates the degree of air purify according to three color-coded levels.

Green → Clear  
Orange → ↑  
Red → Impure

## FP-G50

Recommended Room Size: 40 m<sup>2</sup>

-W (White)

**20° Airflow Angle** **Auto Operation** **HAZE Mode\*<sup>1</sup>**

**Sleep Mode** **Timer (OFF)** **Dust & Odor Sensor** **HEPA Filter** **Deodorizing Filter**

- Off Timer (2, 4, 8 hours)
- Dust and Odor Indication Monitor
- Auto Restart

\*<sup>1</sup> Haze Mode (FP-G50E/L), Clean Ion Shower Mode (FP-G50TA) or Anti-Dust Mode (FP-G50Y)

#### High-Performance Filters Capture Airborne Dust Particles

**Removal of Micron-Size Dust Particles Including 0.3-Micron Viruses and Dust Allergens**

**Dust-Collecting HEPA Filter**

**No need for replacement for 2 years\***

\* When smoking five cigarettes a day

**Removal of Odors**

**Deodorizing Filter**

**No need for replacement for 2 years\*\***

Easy maintenance by simply wiping.

\*\* Deodorizing performance depends on the room conditions.

**Capture Microscopic Dust Particles**

**Micron-Mesh Pre-filter on Rear Panel**

**No need for replacement**

Easy maintenance by simply wiping the filter without detaching it.

#### Convenient Features for Everyday Comfort

#### Sleep Mode

When Sleep Mode is turned on, the fan automatically switches to low speed\* and fan operation becomes quiet. Also, the Indication Monitor turns off so that your sleep is undisturbed.

\* The fan speed automatically switches depending on the amount of impurities in the air.

#### Floating Humidification System with Humidifying Filter Floating on Water

#### Fill the Humidifying Tray Directly with Tap Water

The humidifying filter operates according to the water level, and so the the humidifying level is kept constant, with humidity controlled through adjustment of the airflow by sensors detecting the temperature and humidity levels in the room.

OR

## FU-A80

Recommended Room Size: 62 m<sup>2</sup>

-W (White) -S (Silver) -N (Gold)

**20° Airflow Angle** **Auto Operation** **Ion Shower Operation**

**Child Lock** **Dust Sensor** **HEPA Filter** **Deodorizing Filter**

- Dust Indication monitor
- Quiet Operation for Nighttime (23 dB)
- Auto Restart (Not Default)

## FP-F40

Recommended Room Size: 30 m<sup>2</sup>

-W (White) -T (Brown)

**20° Airflow Angle** **HAZE Mode\*<sup>2</sup>** **Sleep Mode**

**Timer (OFF)** **Dust Sensor** **HEPA Filter** **Deodorizing Filter**

- Off Timer (2, 4, 8 hours)
- Dust Indication Monitor
- Auto Restart

\*<sup>2</sup> Haze Mode (FP-F40E/L), Clean Ion Shower Mode (FP-F40TA) or Anti-Dust Mode (FP-F40Y)

## FP-F30

Recommended Room Size: 21 m<sup>2</sup>

-H (Gray) -A (Blue) -C (Beige)

**HAZE Mode\*<sup>3</sup>** **Sleep Mode** **HEPA Filter**

- Auto Restart

\*<sup>3</sup> Haze Mode (FP-F30E/L), Clean Ion Shower Mode (FP-F30TA) or Anti-Dust Mode (FP-F30Y)

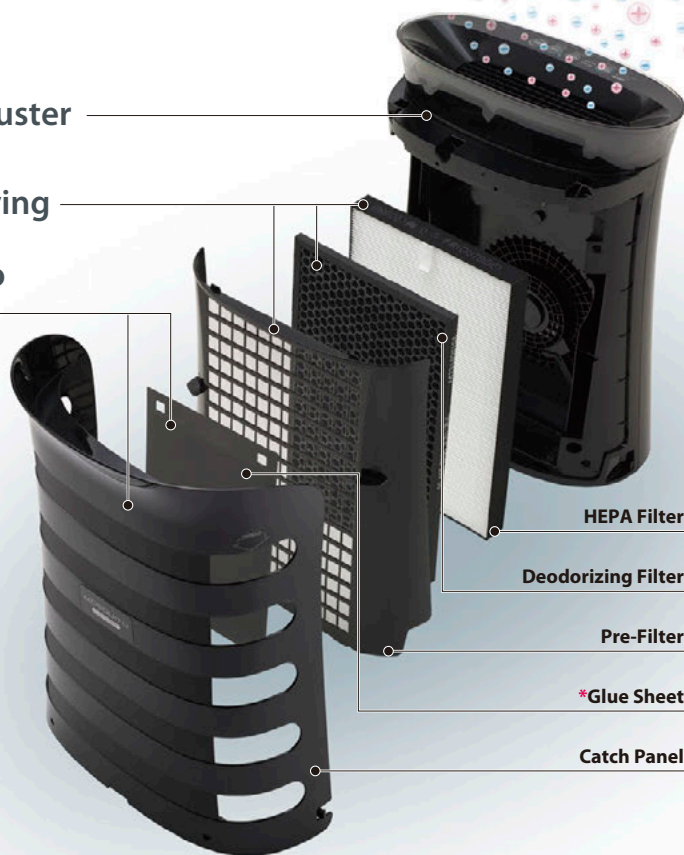


# Air Purifier with Mosquito Catcher



**3 in 1** Removing Threats from Your Daily Life to Provide You with a Comfortable and Safe Environment

- 1** Plasmacluster
- 2** Air Purifying
- 3** Mosquito Catcher



**\*Glue Sheet**  
(FZ-40STS, FZ-ST52M)

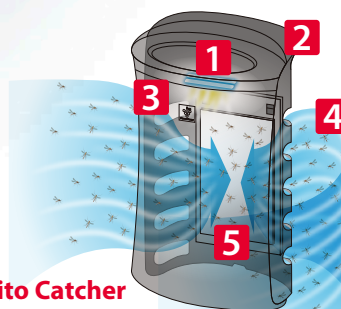
- 1** Insecticide-Free Glue Sheet
- 2** Strong Catching Power  
The strong glue sheet catches mosquitoes.
- 3** Easy Disposal without Dirtying Your Hands



3 Months Usage\*  
Exchangeable  
3-layer Glue Sheet  
(1-layer: for one month\*)

2 Months Usage\*

\* Depending on room conditions.  
These sheets can be used for all air purifiers with mosquito catcher.

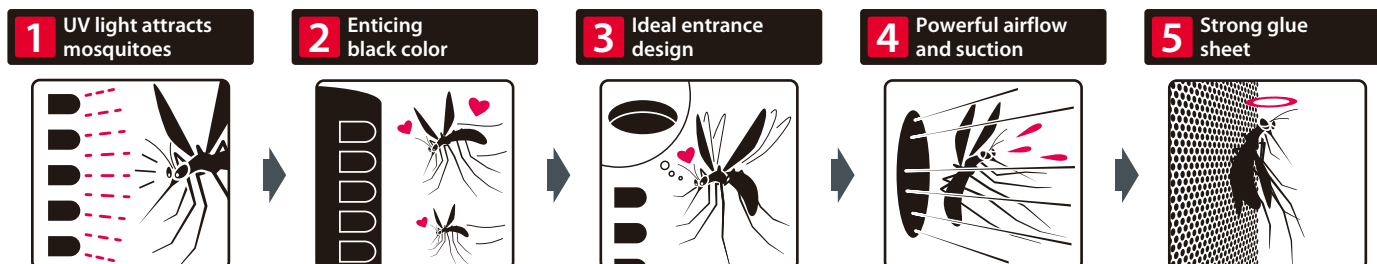


## Mosquito Catcher

**Capture and Protect from Mosquitoes with 100% Harmless 5 Effective Steps\*<sup>2</sup> of Mosquito Catcher**

Reduce up to 91% of Culex, 73% of Aedes, and 72% of Housefly\*<sup>3</sup>

Effective mechanism based on mosquito behaviour



\*<sup>1</sup> Sharp developed the world's first air purifiers with mosquito catcher using UV light, a black panel catching mosquitoes, and a sticky sheet. The first model, the FP-FM40, was released in September 2015.

\*<sup>2</sup> The mechanism of the mosquito catcher is studied in collaboration with the Institute for Medical Research, Malaysia.

\*<sup>3</sup> Result of 24-hour laboratory test in collaboration with the Institute for Medical Research, Malaysia, with Culex quinquefasciatus, Aedes albopictus and aegypti, and Musca domestica. The efficacy of the mosquito catcher function was tested in a laboratory setting; actual conditions may vary. Continuous usage will improve capture efficacy.

## Safe and Sound Mosquito Capture System

By using non-toxic mechanisms which are harmless to people and furniture, the FP-GM50, FP-FM40 and FP-GM30 safely capture mosquitoes even for households with small children.

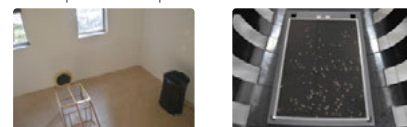
Also, because the mosquitoes are captured on a glue sheet, the floor remains free of mosquitoes, and so cleaning is easier.

100% harmless  
safe and sound  
protection



## Laboratory Test

24 hours test was conducted by releasing mosquitoes and flies. Number of captured mosquitoes and flies was counted.



## FP-GM50

Recommended Room Size: 40 m<sup>2</sup>



\* HAZE Mode (E/L) ANTI-Dust Mode (Y) Clean Ion Shower Mode (B)



● Dust and Odor Indication Monitor ● Auto Restart

## FP-FM40

Recommended Room Size: 30 m<sup>2</sup>



\* HAZE Mode (E/L) ANTI-Dust Mode (Y) Clean Ion Shower Mode (B)



● Dust Indication Monitor ● Auto Restart

## FP-GM30

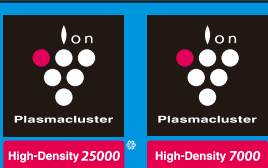
Recommended Room Size: 21 m<sup>2</sup>



\* HAZE Mode (E/L) ANTI-Dust Mode (Y) Clean Ion Shower Mode (B)







# Specifications: Air Purifiers with Humidifying

Models		KI-A60	KC-G60	KC-G50	KC-G40
Color		– W (white)	– W (white)	– W (white)	– W (white), – H (charcoal gray)
Humidifying	Humidifying system	Natural vaporization	Natural vaporization	Natural vaporization	Natural vaporization
	Tank capacity	4.0 L	3.0 L	2.5 L	2.5 L
	Humidifying capacity*2	730 mL/hour	630 mL/hour	450 ml/hour	400 ml/hour
Recommended area	Air purifying*1	50 m²	50 m²	38 m²	28 m²
	Humidifying*2	34 m²	30 m²	21 m²	18 m²
Recommended area for high-density Plasmacluster ions*3		35 m²	35 m²	28 m²	21 m²
Operation modes		Max / Med / Low / Eco / Auto / Pollen	Max / Med / Low / Pollen / Sleep	Max / Med / Low / Pollen / Sleep	Max / Med / Low / Pollen / Sleep
Voltage/frequency (V, Hz)		220-240, 50-60	220-240, 50-60	220-240, 50-60	220-240, 50-60
Power input (W) (Max / Med / Low)	Without humidifying	53 / 32 / 6.6	72 / 38 / 5.0	53 / 26 / 5.0	31 / 12 / 5.0
	With humidifying	53 / 33 / 10	55 / 40 / 6.5	33 / 14 / 6.5	24 / 14 / 6.5
Standby power (W)		0.6	1.2	1.2	1.2
Inverter operation		Yes	Yes	Yes	Yes
Airflow (Max / Med / Low) (m³/hour)	Without humidifying	402 / 294 / 90	408 / 240 / 72	306 / 180 / 60	240 / 120 / 60
	With humidifying	402 / 294 / 132	342 / 240 / 72	240 / 120 / 60	210 / 120 / 60
Noise level (Max / Med / Low) (dB)	Without humidifying	49 / 44 / 20	53 / 48 / 24	52 / 47 / 19	46 / 41 / 19
	With humidifying	49 / 44 / 26	49 / 48 / 24	46 / 40 / 20	43 / 40 / 20
Special program mode		Clean ion shower*4	Intelligent, Haze (E) / Anti-dust (Y) / Clean ion shower (TA) / Sand (SA)	Intelligent, Haze (E) / Anti-dust (Y) / Clean ion shower (TA) / Sand (SA)	Auto, Haze (E) / Anti-dust (Y) / Clean ion shower (TA) / Sand (SA)
Auto restart		Yes*5	Yes*5	Yes*5	Yes*5
Child lock		Yes*6	Yes*6	Yes*6	Yes*6
Timer		Yes (off)	Yes (on / off)	Yes (on / off)	Yes (on / off)
Filter type	Dust collection	HEPA*7	HEPA*7	HEPA*7	HEPA*7
	Deodorization	Double deodorization	Double deodorization	Double deodorization	Double deodorization
	Pre-filter	Yes	fine-meshed	fine-meshed	fine-meshed
	Humidifying	Yes	Yes	Yes	Yes
Filter life	Dust collection	Up to 10 years*8	Up to 10 years*8	Up to 10 years*8	Up to 10 years*8
	Deodorizing filter	Up to 10 years*8	Up to 10 years*8	Up to 10 years*8	Up to 10 years*8
	Humidifying filter	Up to 10 years	Up to 10 years	Up to 10 years	Up to 10 years
Sensor	Odor	Yes	Yes	Yes	No
	Dust	Yes	Yes	Yes	Yes
	Temperature and humidity	Yes	Yes	Yes	Yes
	Light	No	Yes	Yes	Yes
	Motion	No	Yes	Yes	No
Clean sign indicator		Yes (Dust: 5 steps, Odor: 3 steps)	Yes (7 steps)	Yes (7 steps)	Yes (7 steps)
Light control button		Yes (bright / dim / off)	Yes (bright / dim / off)	Yes (bright / dim / off)	Yes (bright / dim / off)
Power cord length (m)		2.0	2.0	2.0	2.0
		Type C (2-pin)	Type C (2-pin)	Type C (2-pin)	Type C (2-pin)
Dimensions (W x H x D) (mm)		410 x 684 x 340	370 x 660 x 293	345 x 631 x 262	345 x 631 x 262
Net weight (kg)		13.0	10.5	9.2	9.2
Replacement filter	HEPA filter	FZ-AX6HFE	FZ-D60HFE	FZ-D40HFE	FZ-D40HFE
	Deodorizing filter	FZ-AX6DFE	FZ-G60DFE	FZ-G40DFE	FZ-G40DFE
	Humidifying filter	FZ-AX6MFE	FZ-G60MFE	FZ-G60MFE	FZ-G60MFE
Replacement unit		IZ-C75SE	—	—	—
Plasmacluster ion purification	Airborne microbes	Airborne mold  Airborne microbes  Airborne viruses  Dust mite feces allergens  Dust mite allergens  Ammonia odor			
	Clinging odors	Cigarette odor  Body odor			
Filter purification	Capture and reduction of growth	Airborne microbes  Viruses  Tree pollen  Dust mite feces  Dust mite allergens			
	Deodorizing	Cigarette odor  Pet odor  Body odor  Mold odor  Ammonia odor  Cooking odor  Kitchen garbage odor  Toilet odor  VOC NOx SOx  HAZE*10			
	Capture	Airborne mold  Plant pollen  Tree pollen  Pet dander  Pet hair  Dust  Cigarette smoke  Mite dust  Diesel exhaust			

\*1 Recommended room size: Measured based on the JEM1467 standard of the Japan Electrical Manufacturers' Association. \*2 Measurement conditions: 20°C, 30% humidity (JEM1426) \*3 Size of a room in which approximately 7,000 ions can be measured per cm³ in the center of the room (at a height of approximately 1.2 meters from the floor) when the product is placed next to a wall and operated at the maximum operation position. \*4 Ion density about 1.5 times higher for 60 minutes in the applicable room size. \*5 The air purifier automatically resumes operation when power returns, even after a sudden power interruption, such as due to a circuit breaker. \*6 By pressing the Child Lock button for more than three seconds, the operation buttons are locked to help prevent inadvertent operation by children or pets. \*7 HEPA is defined by the JEM1467 standard of the Japan Electrical Manufacturers' Association Standard. The filter removes more than 99.97% of 0.3-micron dust particles. \*8 At a smoking rate of five cigarettes per day. \*9 Volatile organic compound (VOC), Nitrous oxides (NOx), Sulfur oxides (SOx). The effectiveness of reducing three volatile organic compounds (formaldehyde, toluene, and ethyl acetate) was tested by Sharp. \*10 Toluene, Ethylbenzene, xylene etc. The deodorizing performance for a single component odors substance in a 1m³ test container may be different than the deodorizing performance in actual use. \* The number in this technology mark indicates the approximate number of ions supplied into 1 cm³ of air, which is measured around the center of a room (at a height of 1.2 m above the floor) with the applicable floor area at the maximum airflow, when a Plasmacluster ion generator using a high-density Plasmacluster ion-generating device is placed close to a wall.

- The filter itself may produce an odor and need to be replaced after several months if the air purifier is used to reduce strong odors, such as cigarette smoke or grilled meat. ● Use the air purifier in combination with room ventilation if it is used for strong odors. ● Not all harmful substances in cigarette smoke (e.g., carbon monoxide) can be removed. ● Not all commonly occurring odors (e.g., pet odors) can be removed.
- Heat from air drawn in is lost when water evaporates from the humidifier filter, so the temperature of the outgoing airflow is lower than the room temperature. ● Use tap water to fill the water tank.

Design and specifications are current as of Jan. 2017, but are subject to change without prior notice. Actual colors may differ slightly from the colors shown in this brochure.

Models		KC-D60	KC-D50TA	KC-D40	KC-F30
Color		– W (white)	– W (white)	– W (white), – B (black)	– W (white)
Humidifying	Humidifying system	Natural vaporization	Natural vaporization	Natural vaporization	Natural vaporization
	Tank capacity	3.0 L	2.5 L	2.5 L	1.8 L
	Humidifying capacity*2	660 mL/hour	600 mL/hour	440 mL/hour	350 mL/hour
Recommended area	Air purifying*1	48 m²	38 m²	26 m²	21 m²
	Humidifying*2	30 m²	27 m²	21 m²	16 m²
Recommended area for high-density Plasmacluster ions*3		35 m²	28 m²	21 m²	17 m²
Operation modes		Max / Med / Low / Auto / Pollen / Rainy mode (E)(Y) / Advanced auto mode (TA)	Max / Med / Low / Auto / Pollen / Advanced auto mode	Max / Med / Low / Auto / Pollen / Rainy mode (E)(Y) / Advanced auto mode (TA)	Max / Med / Auto / Sleep
Voltage/frequency (V, Hz)		220-240, 50-60	220, 50	220-240, 50-60	220-240, 50-60
Power input (W) (Max / Med / Low)	Without humidifying	80 / 24 / 5.5	54 / 17 / 5	25 / 12 / 5	27 / 12 / 4.1
	With humidifying	70 / 26 / 7	49 / 20 / 7	19 / 14 / 7	27 / 12 / 4.1
Standby power (W)		0.9	0.9	0.9	0.9
Inverter operation		Yes	Yes	Yes	Yes
Airflow (Max / Med / Low) (m³/hour)	Without humidifying	396 / 240 / 90	306 / 186 / 60	216 / 144 / 60	180 / 125 / 52
	With humidifying	366 / 240 / 90	288 / 186 / 60	180 / 144 / 60	180 / 125 / 52
Noise level (Max / Med / Low) (dB)	Without humidifying	55 / 45 / 25	55 / 43 / 23	47 / 37 / 23	48 / 38 / 21
	With humidifying	54 / 45 / 25	54 / 43 / 23	43 / 37 / 23	48 / 38 / 21
Special program mode		HAZE (E) / Clean ion shower (Y)(TA)	Clean ion shower	Haze (E) / Clean ion shower (Y)(TA)	Haze (E) / Anti-dust (Y) / Clean ion shower (TA)
Auto restart		Yes*5	Yes*5	Yes*5	Yes*5
Child lock		Yes*6	Yes*6	Yes*6	No
Timer		Yes (on / off)	Yes (on / off)	Yes (on / off)	Yes (off)
Filter type	Dust collection	HEPA*7	HEPA*7	HEPA*7	HEPA*7
	Deodorization	Yes	Yes	Yes	Yes
	Pre-filter	Yes	Yes	Yes	Yes
	Humidifying	Yes	Yes	Yes	Yes
Filter life	Dust collection	Up to 10 years*8	Up to 10 years*8	Up to 10 years*8	Up to 2 years*8
	Deodorizing filter	Up to 10 years*8	Up to 10 years*8	Up to 10 years*8	Up to 2 years*8
	Humidifying filter	Up to 10 years	Up to 10 years	Up to 10 years	Up to 5 years
Sensor	Odor	Yes	Yes	No	No
	Dust	Yes	Yes	Yes	Yes
	Temperature and humidity	Yes	Yes	Yes	Yes
	Light	No	No	No	No
	Motion	No	No	No	No
Clean sign indicator		Yes (5 steps)	Yes (5 steps)	Yes (5 steps)	Yes (3 steps)
Light control button		Yes (bright / dim / off)	Yes (bright / dim / off)	Yes (bright / dim / off)	Yes (bright / off)
Power cord length (m)		2.0	2.0	2.0	2.0
		Type C (2-pin)	TIS	Type C (2-pin)	Type C (2-pin)
Dimensions (W x H x D) (mm)		420 x 637 x 242	399 x 615 x 230	399 x 615 x 230	380 x 570 x 197
Net weight (kg)		8.6	7.9	7.9	7.2
Replacement filter	HEPA filter	FZ-D60HFE	FZ-D40HFE	FZ-D40HFE	FZ-F30HFE
	Deodorizing filter	FZ-D60DFE	FZ-D40DFE	FZ-D40DFE	FZ-F30DFE
	Humidifying filter	FZ-A60MFE	FZ-A60MFE	FZ-A60MFE	FZ-F30MFE
Replacement unit		—	—	—	—
Plasmacluster ion purification	Airborne microbes	Airborne mold  Airborne microbes  Airborne viruses  Dust mite feces allergens  Dust mite allergens  Ammonia odor			
	Clinging odors	Cigarette odor  Body odor			
Filter purification	Capture and reduction of growth	Airborne microbes  Viruses  Tree pollen  Dust mite feces  Dust mite allergens			
	Deodorizing	Cigarette odor  Pet odor  Body odor  Mold odor  Ammonia odor  Cooking odor  Kitchen garbage odor  Toilet odor  VOC*9			
	Capture	Airborne mold  Plant pollen  Tree pollen  Pet dander  Pet hair  Dust  Cigarette smoke  Mite dust  Diesel exhaust			

\*1 Recommended room size: Measured based on the JEM1467 standard of the Japan Electrical Manufacturers' Association. \*2 Measurement conditions: 20°C, 30% humidity (JEM1426) \*3 Size of a room in which approximately 25,000 ions (KI-A60 only) or 7,000 ions (models except the KI-A60) can be measured per cm³ in the center of the room (at a height of approximately 1.2 meters from the floor) when the product is placed next to a wall and operated at the maximum operation position. \*4 Ion density about 1.5 times higher for 60 minutes in the applicable room size. \*5 The air purifier automatically resumes operation when power returns, even after a sudden power interruption, such as due to a circuit breaker. \*6 By pressing the Child Lock button for more than three seconds, the operation buttons are locked to help prevent inadvertent operation by children or pets. \*7 HEPA is defined by the JEM1467 standard of the Japan Electrical Manufacturers' Association Standard. The filter removes more than 99.97% of 0.3-micron dust particles. \*8 At a smoking rate of five cigarettes per day. \*9 Volatile organic compound (VOC). The effectiveness of reducing three volatile organic compounds (formaldehyde, toluene, and ethyl acetate) was tested by Sharp.

\* The number in this technology mark indicates the approximate number of ions supplied into 1 cm³ of air, which is measured around the center of a room (at a height of 1.2 m above the floor) with the applicable floor area at the maximum airflow, when a Plasmacluster ion generator using a high-density Plasmacluster ion-generating device is placed close to a wall.

- The filter itself may produce an odor and need to be replaced after several months if the air purifier is used to reduce strong odors, such as cigarette smoke or grilled meat. ● Use the air purifier in combination with room ventilation if it is used for strong odors. ● Not all harmful substances in cigarette smoke (e.g., carbon monoxide) can be removed. ● Not all commonly occurring odors (e.g., pet odors) can be removed.
- Heat from air drawn in is lost when water evaporates from the humidifier filter, so the temperature of the outgoing airflow is lower than the room temperature. ● Use tap water to fill the water tank.

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# Specifications: Air Purifiers



Models		FU-A80	FP-G50	FP-F40	FP-F30
Color		– W (white), – S (silver), – N (gold)	– W (white)	– W (white), – T (brown)	– H (gray), – A (blue), – C (beige)
Recommended area <sup>*1</sup>	Air purifying	62 m²	40 m²	30 m²	21 m²
Recommended area <sup>*2</sup> for high-density Plasmacluster ions		31 m²	23 m²	23 m²	16 m²
Operation modes		Max / Med / Low / Auto	Max / Med / Sleep / Auto	Max / Med / Sleep / Auto	Max / Med / Sleep
Voltage/frequency (V, Hz)		220-240, 50-60	220-240, 50-60	220-240, 50-60	220-240, 50-60
Power input (Max / Med / Sleep) (W)		75 / 20 / 5	47 / 16 / 4.0-5.5	31 / 12 / 3.7-5.9	51 / 30 / 13
Standby power (W)		0.75	1.0	1.0	1.0
Inverter operation		Yes	Yes	Yes	No
Airflow (Max / Med / Sleep) (m³/hour)		480 / 300 / 120	306 / 186 / 48-90	240 / 150 / 48-90	180 / 120 / 60
Noise level (Max / Med / Sleep) (dB)		53 / 41 / 23	52 / 42 / 23-29	49 / 38 / 21-30	47 / 38 / 26
Special program mode		Clean ion shower <sup>*3</sup>	Haze mode (E)(L) / Anti-dust mode (Y) / Clean ion shower (TA) <sup>*3</sup>	Haze mode (E)(L) / Anti-dust mode (Y) / Clean ion shower (TA) <sup>*3</sup>	Haze mode (E)(L) / Anti-dust mode (Y) / Clean ion shower (TA) <sup>*3</sup>
Auto restart		Yes <sup>*4</sup>	Yes <sup>*4</sup>	Yes <sup>*4</sup>	Yes <sup>*4</sup>
Child lock		Yes <sup>*5</sup>	No	No	No
Timer		No	Yes (off)	Yes (off)	No
Filter type	Dust collection	HEPA <sup>*6</sup>	HEPA <sup>*6</sup>	HEPA <sup>*6</sup>	HEPA <sup>*6</sup>
	Deodorization	Yes (deodorizing pre-filter)	Yes	Yes	No
	Pre-filter		Yes	Yes	Yes
Filter life	Dust collection	Up to 2 years <sup>*7</sup>	Up to 2 years <sup>*7</sup>	Up to 2 years <sup>*7</sup>	Up to 2 years <sup>*7</sup>
	Deodorizing filter	Up to 2 years <sup>*7</sup>	Up to 2 years <sup>*7</sup>	Up to 2 years <sup>*7</sup>	No
Sensor	Odor	No	Yes	No	No
	Dust	Yes	Yes	Yes	No
Clean sign indicator		Yes (3 steps)	Yes (3 steps)	Yes (3 steps)	No
Mosquito trap function		No	No	No	No
Light control button		Yes (bright / off)	Yes (bright / off)	Yes (bright / off)	Yes (bright / off)
Power cord length (m) approx.		2.0	2.0	2.0	2.0
		Type C (2-pin)	Type C (2-pin)	Type C (2-pin)	Type C (2-pin)
Dimensions (W x H x D) (mm)		402 x 620 x 245	383 x 540 x 209	383 x 540 x 209	400 x 463 x 182
Net weight (kg)		8.1	5.1	4.7	4.0
Replacement filter		FZ-A80SFE	FZ-F50HFE / FZ-F50DFE	FZ-F40SFE	FZ-F30HFE
Replacement glue sheet		—	—	—	—

Plasmacluster ion purification	Airborne microbes	Airborne mold  Airborne microbes  Airborne viruses  Dust mite remain allergens  Dust mite feces allergens  Ammonia odor
	Clinging odors	Cigarette odor  Body odor
Filter purification	Capture and reduction of growth	Airborne microbes  Viruses  Tree pollen  Dust mite remains  Dust mite feces
	Deodorizing	Pet odor  Body odor  Mold odor  Ammonia odor
	Capture	Airborne mold  Plant pollen  Tree pollen  Pet dander  Pet hair  Dust  Cigarette smoke  Mite dust  Diesel exhaust

<sup>\*1</sup> Recommended area: Calculated based on the JEM1467 standard of the Japan Electrical Manufacturers' Association.  
<sup>\*2</sup> The area in which approximately 7,000 ions can be measured per cm³ in the center of the room (at a height of approximately 1.2 meters from the floor) when the product is placed next to a wall and run at the maximum setting.  
<sup>\*3</sup> Ion density about 1.5 times higher for 60 minutes in the applicable room size.  
<sup>\*4</sup> The air purifier automatically resumes operation when power returns, even after a sudden power interruption, such as due to a circuit breaker.  
<sup>\*5</sup> By pressing the Child Lock button for more than three seconds, the operation buttons are locked to help prevent inadvertent operation by children or pets.  
<sup>\*6</sup> HEPA is defined by the JEM1467 standard of the Japan Electrical Manufacturers' Association Standard. The filter removes more than 99.97% of 0.3-micron dust particles.  
<sup>\*7</sup> At a smoking rate of five cigarettes per day.

\* The number in this technology mark indicates the approximate number of ions supplied into 1 cm³ of air, which is measured around the center of a room (at a height of 1.2 m above the floor) with the applicable floor area at the maximum airflow, when a Plasmacluster ion generator using a high-density Plasmacluster ion-generating device is placed close to a wall.

- The filter itself may produce an odor and need to be replaced after several months if the air purifier is used to reduce strong odors, such as cigarette smoke or grilled meat.
- Use the air purifier in combination with room ventilation if it is used for strong odors.
- Not all harmful substances in cigarette smoke (e.g., carbon monoxide) can be removed.
- Not all commonly occurring odors (e.g., pet odors) can be removed.

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# Air Purifier with Mosquito Catcher



Models		FP-GM50	FP-FM40	FP-GM30
Color		– B (black)	– B (black)	– B (black)
Recommended area <sup>*1</sup>	Air purifying	40 m²	30 m²	21 m²
Recommended area <sup>*2</sup> for high-density Plasmacluster ions		23 m²	23 m²	16 m²
Operation modes		Max / Med / Sleep / Auto	Max / Med / Sleep / Auto	Max / Med / Sleep
Voltage/frequency (V, Hz)		220-240, 50-60	220-240, 50-60	220-240, 50-60
Power input (Max / Med / Sleep) (W)		51 / 17 / 4-6	33 / 14 / 3.7-6.2	53 / 33 / 19
Standby power (W)		1.0	1.0	1.0
Inverter operation		Yes	Yes	No
Airflow (Max / Med / Sleep) (m³/hour)		306 / 186 / 48-90	240 / 150 / 48-90	180 / 120 / 78
Noise level (Max / Med / Sleep) (dB)		51 / 41 / 20-29	48 / 38 / 20-29	47 / 40 / 33
Special program mode		Haze mode (E)(L) / Anti-dust mode (Y) / Clean ion shower (B) <sup>*3</sup>	Haze mode (E)(L) / Anti-dust mode (Y) / Clean ion shower (B) <sup>*3</sup>	Haze mode (E)(L) / Anti-dust mode (Y) / Clean ion shower (B) <sup>*3</sup>
Auto restart		Yes <sup>*4</sup>	Yes <sup>*4</sup>	Yes <sup>*4</sup>
Child lock		No	No	No
Timer		No	No	No
Filter type	Dust collection	HEPA <sup>*6</sup>	HEPA <sup>*6</sup>	HEPA <sup>*6</sup>
	Deodorization	Yes	Yes	No
	Pre-filter	Yes	Yes	Yes
Filter life	Dust collection	Up to 2 years <sup>*7</sup>	Up to 2 years <sup>*7</sup>	Up to 2 years <sup>*7</sup>
	Deodorizing filter	Up to 2 years <sup>*7</sup>	Up to 2 years <sup>*7</sup>	—
Sensor	Odor	Yes	No	No
	Dust	Yes	Yes	No
Clean sign indicator		Yes (3 steps)	Yes (3 steps)	No
Mosquito trap function		Yes	Yes	Yes
Light control button		Yes (bright / off)	Yes (bright / off)	Yes (bright / off)
Power cord length (m) approx.		2.0	2.0	2.0
		Type C (2-pin)	Type C (2-pin)	Type C (2-pin)
Dimensions (W x H x D) (mm)		394 x 540 x 281	391 x 540 x 281	409 x 466 x 259
Net weight (kg)		6.1	5.8	5.0
Replacement filter	HEPA filter	FZ-F50HFE	FZ-F40SFE	FZ-F30HFE
	Active Carbon Deodorizing Filter	FZ-F50DFE	—	—
Replacement glue sheet		FZ-ST52M	FZ-40STS	FZ-ST52M

Plasmacluster ion purification	Airborne microbes	Airborne mold  Airborne microbes  Airborne viruses  Dust mite remain allergens  Dust mite feces allergens  Ammonia odor
	Clinging odors	Cigarette odor  Body odor
Filter purification	Capture and reduction of growth	Airborne microbes  Viruses  Tree pollen  Dust mite remains  Dust mite feces
	Deodorizing	Pet odor  Body odor  Mold odor  Ammonia odor
	Capture	Airborne mold  Plant pollen  Tree pollen  Pet dander  Pet hair  Dust  Cigarette smoke  Mite dust  Diesel exhaust

<sup>\*1</sup> Recommended area: Calculated based on the JEM1467 standard of the Japan Electrical Manufacturers' Association.  
<sup>\*2</sup> The area in which approximately 7,000 ions can be measured per cm³ in the center of the room (at a height of approximately 1.2 meters from the floor) when the product is placed next to a wall and run at the maximum setting.  
<sup>\*3</sup> Ion density about 1.5 times higher for 60 minutes in the applicable room size.  
<sup>\*4</sup> The air purifier automatically resumes operation when power returns, even after a sudden power interruption, such as due to a circuit breaker.  
<sup>\*5</sup> By pressing the Child Lock button for more than three seconds, the operation buttons are locked to help prevent inadvertent operation by children or pets.  
<sup>\*6</sup> HEPA is defined by the JEM1467 standard of the Japan Electrical Manufacturers' Association Standard. The filter removes more than 99.97% of 0.3-micron dust particles.  
<sup>\*7</sup> At a smoking rate of five cigarettes per day.

\* The number in this technology mark indicates the approximate number of ions supplied into 1 cm³ of air, which is measured around the center of a room (at a height of 1.2 m above the floor) with the applicable floor area at the maximum airflow, when a Plasmacluster ion generator using a high-density Plasmacluster ion-generating device is placed close to a wall.

- The filter itself may produce an odor and need to be replaced after several months if the air purifier is used to reduce strong odors, such as cigarette smoke or grilled meat.
- Use the air purifier in combination with room ventilation if it is used for strong odors.
- Not all harmful substances in cigarette smoke (e.g., carbon monoxide) can be removed.
- Not all commonly occurring odors (e.g., pet odors) can be removed.

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## IG-GC2

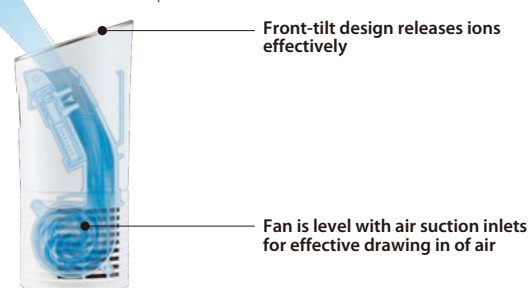
### Keep your personal space comfortable

#### IG-GC2

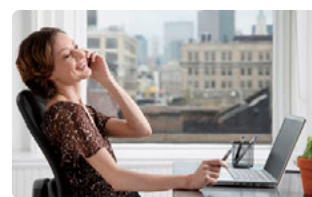


#### Double-speed deodorizing with turbo mode (In comparison with standard airflow)

For deodorization in a short period of time.



#### Quiet operation



No interruption of phone conversations, work and study.

Quiet design  
Standard airflow

**23 dB**

Quiet operation — barely audible even in a hybrid car

Turbo mode  
36 dB

#### Tiny dust and pollen collection



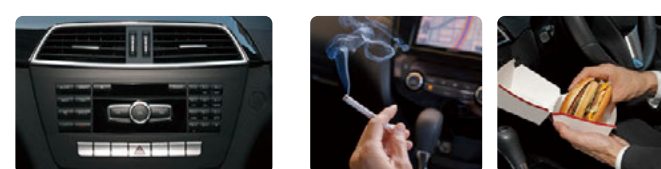
Twin air suction

**PM10 filter collects tiny dust and pollen**  
With a PM10 dust filter on each side, the unit captures approximately 80% of pollen and fine dust particles (10 microns or larger in size).



Model	IG-GC2
Power	Car adapter
Rated input	DC12V
Rated output	DC5V (Max. 2 A for 2 ports)
Operation mode	3 (Turbo/Med/Low)
Power consumption	1.8 W/0.7 W/0.5 W
Ion density (approx.)	75,000/25,000/7,000 ions/cm <sup>3</sup>
Operating noise level	36 dB/23 dB/19 dB
Outer dimensions	Upper: 74 mm / Lower: 65 mm / Height: 162 mm
Weight	Approx. 265g (excluding accessories)
Capacity applicable for high-density Plasmacluster 25000*	Approx. 3.6m <sup>3</sup>

\* It is the index of capacity that approximately 25,000 ions blown out to the air can be measured at the point near the center of the space (0.5m height from floor) when the air volume is "MED" by placing the unit in an appropriate place such as a cup holder beside the driver's seat.



Mold odor from cars air conditioner

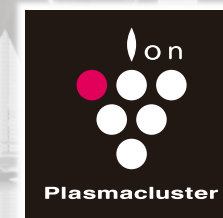
For smoking and food smell

#### Eliminates clinging mold odors in the car

- Tested by Sharp
- Test method: The effectiveness of deodorizing a cloth swatch impregnated with mold odor components through exposure to Plasmacluster ions was evaluated by using the pair test method in an approx. 3.6 m<sup>3</sup> car space.\*
- Deodorization effectiveness may vary depending on the type, strength, attached material and other factors relating to the odor

## Business Solutions with Plasmacluster

Plasmacluster supports your business by solving a wide variety of issues.



Use of Plasmacluster is expanding in a variety of facilities, shops, restaurants, and workplaces in Japan requiring high standards and quality in their environment and sanitation.

### Hospitals



Healthcare Corporation Shinwakai, Shinyachiyo Hospital



Shigeo KAWAZU  
Asset Management  
Department Manager

- Plasmacluster provides a pleasant space for patients and their families by reducing the odors particular to hospitals.
- Because the unit is wall-mounted, it does not interfere with the movement of stretchers or wheel chairs.
- The unit's superior energy savings and ease of operation enable high cost-effectiveness.

### Kindergartens



Shinei Social Welfare Company, Ichibu Chidori Kindergarten



Atsuko ASANO  
Kindergarten principal

- Plasmacluster provides an environment with clean air by reducing laundry room and toilet odors.
- The unit is wall-mounted, and so children touching the unit is not a concern.
- Plasmacluster provides the kindergarten children with a comfortable environment that has clean air and low noise.

### Schools



Nara Gakuen School Corporation



Kenji FURUKAWA  
Principal

- The HEPA filter and Plasmacluster improve the learning environment by cleaning the air.
- Wall mounting enables the unit to be installed in a location out of reach of the students.
- The low-noise design lets the students concentrate disturbance-free even during lessons and tests.

### Restaurants



Shinsaibashi Mitsuya



Youji OGI

- Smoking and non-smoking areas are effectively separated through the reduction of cigarette odors.
- When the restaurant is crowded, the Plasmacluster unit provides powerful air purifying in High mode operation with detection from odor sensors.
- Wall mounting allows the unit to be installed without limiting the installation place, and so the airflow does not directly come into contact with customers.



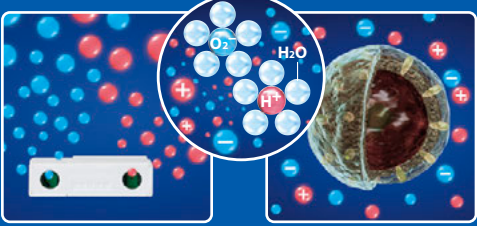
# Sharp's Unique Plasmacluster Technology Supports Your Business

## Plasmacluster Mechanism to Remove Microbes

The ions are long-lasting\* because they are surrounded by water molecules.

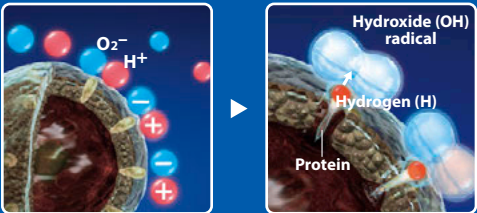
STEP 1

**Ions are released.**  
Plasmacluster ions, the same positive and negative ions found in nature, are generated by plasma discharge and released into the air.  
\* Verified in Sharp test comparisons of ions not surrounded by water molecules.




STEP 2

**The ions act on airborne microbes.**  
The ions form hydroxide (OH) radicals that are highly oxidizing only when they adhere to the surfaces of mold and viruses. They instantly remove the hydrogen from the surface proteins, breaking them down.



STEP 3

**The broken-down components return to the air as water.**  
The hydroxide (OH) radicals combine with hydrogen (H) to form water (H<sub>2</sub>O), which returns to the air.



- Air purifiers and ion generators with Plasmacluster technology can prevent the action of airborne viruses, as well as reducing the effects of suspended allergens generated by dust mite feces and dead mites by breaking them down, but Plasmacluster cannot create a completely sterile environment, or ensure prevention of infection.
  - The actual number of ions and effectiveness of microbe removing\*1 and purifying\*2 depend on the room conditions and the operation methods, including room size or shape, whether air conditioning or ventilation is used, product placement, direction of ion discharge, and operation mode.
- \*1 Airborne viruses are suspended in a 1m<sup>3</sup> box, and the percentages of the viruses removed after 10 minutes are measured. Suspended microbes subjected to Plasmacluster air purification are measured after 38 minutes in a testing room of about 40 m<sup>3</sup>. Test results may differ from results in actual room conditions.
- \*2 The effectiveness depends on the surrounding conditions (e.g., temperature, humidity and airflow), usage time and method.

## Proven Safety of Plasmacluster Ions

### Reliable Safety

GLP\*-compliant test facilities have gathered highly reliable safety data on Sharp's Plasmacluster technology.

\* GLP (good laboratory practice) is a system of management controls for test facilities and test procedures designed to ensure the reliability of chemical safety assessment tests.

Purpose	Test name (abbreviation)	Ion density setting
Skin irritancy (general condition)	Acute skin irritation/corrosion	Approx. 1,000,000 ions/cm <sup>3</sup>
Eye irritancy (general condition)	Acute eye irritation/corrosion	Approx. 13,000,000 ions/cm <sup>3</sup>
Gene toxicity (general condition)	Inhalation toxicity (evaluation of genetic effect on pulmonary tissue)	Approx. 7,000,000 ions/cm <sup>3</sup>
Body and organ toxicity (general condition)	Inhalation toxicity	Approx. 7,000,000 ions/cm <sup>3</sup>
Pregnant woman and fetus toxicity (general condition)	Inhalation toxicity	Approx. 7,000,000 ions/cm <sup>3</sup>

Testing institution: LSI Medience Corporation

### Air Purifying Mechanism

Plasmacluster ions react with the surface proteins on airborne mold and viruses but do not affect the internal cellular substances.

### Same Ions As in Nature

Sharp has verified that Plasmacluster ions in the air are the same as they are in nature.

### Used In Over 60 Million Products

In the 15 years since its release, products equipped with Plasmacluster ion generating devices have exceeded the 60 million-unit mark.

\* Total number of products equipped with a Sharp Plasmacluster device and of Plasmacluster ion generating devices shipped in Japan and abroad from October 2000 to the end of July 2015.



## Three Solutions Achieved with Plasmacluster

1

**Air Purification**

- Removal of airborne mold
- Suppressing the activity of airborne viruses
- Suppressing the increase of dust mite allergens, including dust mite feces and dead mites
- Suppressing the activity of airborne microbes
- Reducing growth of adhering mold
- Suppressing the activity of adhering viruses

Examples:

At factories and food-processing facilities

Improving the sanitary conditions of food

Helping save electricity with the air-conditioning temperature\*

Enabling cost reductions by reducing detergents and disinfectants

Improving air conditions and sanitary conditions

2

**Removing Stubborn Odors**

- Removal of cigarette smoke odor
- Suppressing the activity of airborne odor microbes

Examples:

At offices, workplaces, and public facilities

Improving air conditions

Improving air conditions for eating and drinking

Providing measures against lingering odors and spoiled-food odors with food ingredients

Examples:

Restaurants and supermarkets

Providing measures against lingering odors and spoiled-food odors with food ingredients

3

**Eliminating Static Electricity**

- Preventing dust from clinging to the ceiling and walls
- Removal of dust and pollen clinging to hair and clothing

Examples:

At factories and food-processing facilities

Providing measures to prevent foreign matter from becoming mixed in

Contributing to reduction in rate of returned produces.

Providing measures against airborne microbe and dust

\* With the effect of Plasmacluster, airborne microbes can be suppressed even if the air-conditioning temperature setting goes up by around 2 °C, which contributes to electricity-cost saving.