

SHARP



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SHARP



DORAEMON ©Fujiko-Pro

Stay close to protect
your family with Sharp
Plasmacluster Air Purifier

FP-E50E

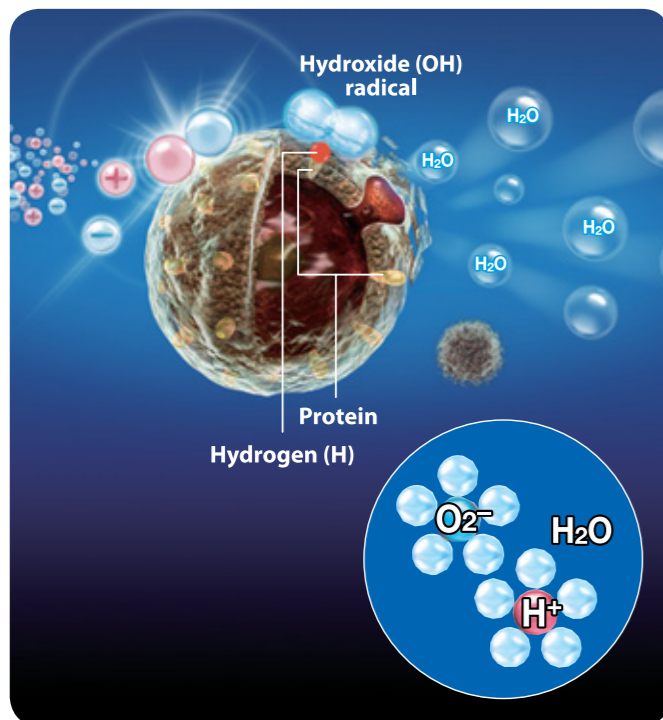


Plasmacluster – Only from SHARP

Plasmacluster Air Purifier / Air Purifier with Humidifying Function



Plasmacluster Technology



The Secret of High Density Ions

Ions are atoms or molecules that have gained or lost an electron. We're surrounded by ions all the time as they exist in the air. What's fascinating is how nature is constantly producing (+ & -) ions to reverse air pollution - a natural air defense mechanism to purify the air and make it invigorating. Since Plasmacluster Ions are identical to naturally occurring ions, it is safe for ions to exist in high density.

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 inactivates suspended airborne moulds and viruses.

Origin of PCI Technology

Plasma is electrically charged gas produced by an electrical discharge through gas. Such phenomenon occurs in Auroras at the North Pole as well. The Plasmacluster Ion generating device releases hydrogen (+) ions and oxygen (-) ions through plasma discharge surrounded by water molecules.

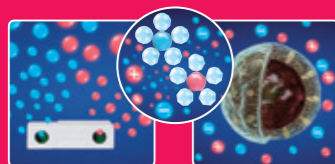


Winner of the Invention Prize at the 2008 National Invention Awards Ceremony held by the Japan Institute of Invention and Innovation (JIII) Patented by Sharp (Patent No. 3680121)

The Effects of Plasmacluster Ions Against Airborne Microbes

1 RELEASE PLASMACLUSTER IONS

Plasmacluster Ions are identical with the ions found in nature. The Ions are surrounded by water molecules and are released into the air.



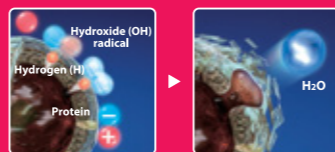
2 ATTACK SUSPENDED AIRBORNE MICROBES

The Ions form highly oxidising hydroxide radicals when they adhere to the surfaces of moulds and viruses. They physically break down and remove the proteins from suspended microbes surface.



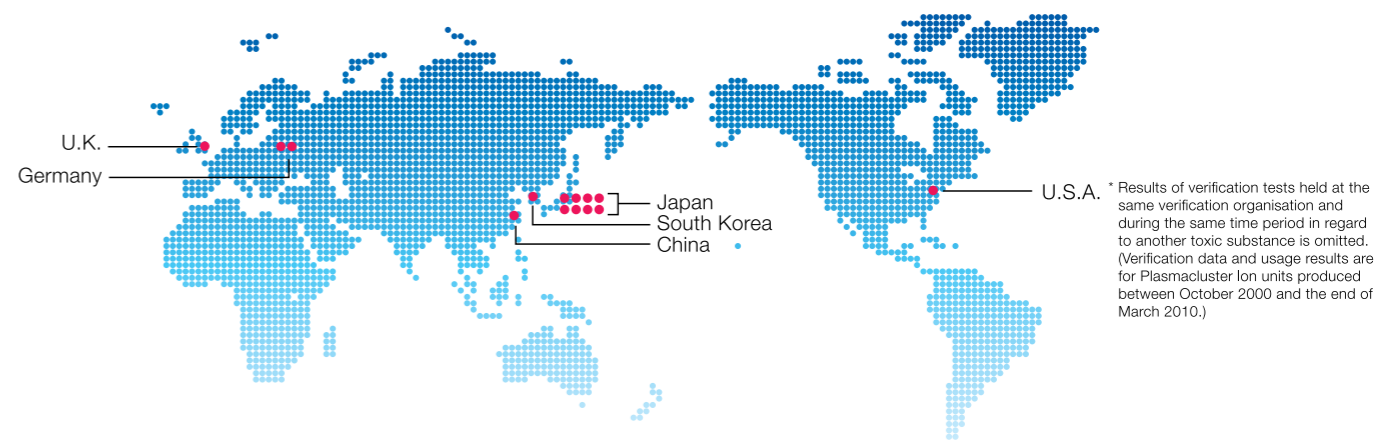
3 RETURN TO AIR AS WATER

The hydroxide (OH) radicals combine with hydrogen (H) to form water (H₂O) and return to the air.



Plasmacluster Ions. Proven & Trusted.

Plasmacluster's effect has been verified by leading science research laboratories both in Japan and abroad.



Allergens (Mite excrement and remains)

Airborne allergens

- Hiroshima University Graduate School of Advanced Sciences of Matter
- Biochemistry and Molecular Pathology, Graduate School of Medicine, Osaka City University

Adhering odours

- Japan Spinners Inspecting Foundation

Moulds

Airborne mould bacteria

- Ishikawa Health Service Association
- Prof. Artmann, Aachen University of Applied Sciences (Germany)

Adhering mould bacteria

- Medical School of Luebeck (Germany)

Skin

- Soiken

Viruses

Airborne viruses

- Kitasato Research Center of Environmental Sciences
- Seoul National University (South Korea)
- Shanghai Municipal Center for Disease Control and Prevention (China)
- Kitasato Institute Medical Center Hospital, Kitasato Institute
- Retroscreen Virology (U.K.)

Adhering viruses

- Retroscreen Virology (U.K.)

Bacteria

Airborne bacteria

- Ishikawa Health Service Association
- Shanghai Municipal Center for Disease Control and Prevention (China)
- Kitasato Research Center of Environmental Sciences
- Kitasato Institute Medical Center Hospital, Kitasato Institute
- Prof. Artmann, Aachen University of Applied Sciences, Germany
- Prof. Emeritus Melvin First, Harvard School of Public Health (U.S.A.)

Adhering bacteria

- Kitasato Institute Medical Center Hospital, Kitasato Institute

Proof of Effectiveness & Safety:

step 1

Identification of Plasmacluster Ion type

It's confirmed that Plasmacluster Ions are the same type of ions that exist in the natural environment.

step 2

Clarification of the acting mechanism

It's confirmed that Plasmacluster Ions react only with the protein on the surface of airborne bacteria and do not influence the internal cytoplasm, etc.

* Prof. Artmann, Aachen University of Applied Sciences, Germany

step 3

Acquisition of safety data

Highly reliable safety data has been acquired from GLP-compliant* (Good Laboratory Practices) testing facilities.

* Testing body: Mitsubishi Chemical Medience Corporation
* GLP (Good Laboratory Practices) refers to a set of management control principles that regulate testing facilities and test procedure manuals, etc., to ensure the reliability of studies conducted to assess the safety of chemicals, etc.

Used in a Variety of Industries

Plasmacluster Ion Technology is recognised and used across a variety of industries. In collaboration with various companies, Sharp has expanded the Plasmacluster Ion technology to the following industries:





Effectiveness of Plasmacluster Ions

Leave No Room for Air Contaminants, Create More Room for Healthy Breathing

1 SUPPRESS ACTIVITY OF AIRBORNE VIRUSES

It's natural to worry about the existence of airborne viruses around us. Plasmacluster Ions break down the proteins on the surface of airborne viruses and suppress their activity. An emitted Plasmacluster Ion density of 7,000 ions/cm³ has been tested and verified to be effective in eliminating airborne viruses by 99.0% in just 10 minutes*¹.

*1: • Testing Body: Retroscreen Virology (U.K.) • Test Method: Viruses were suspended in the air inside a 1m³ box and the percentage of airborne viruses removed was measured.
• Test Results: In approximately 10 minutes, 99.0% of airborne viruses were removed. (Plasmacluster Ion density: 7,000 ions / cm³)
• Tests were conducted on a single species of virus. (This test displays the effect of reduced airborne viruses observed 10 minutes after Plasmacluster Ions have been introduced into a 1m³ airtight container and does not demonstrate the results in actual usage conditions.)

3 SUPPRESS GROWTH OF AIRBORNE & ADHERING MOULDS

Moulds can grow virtually anywhere. Many have experienced the shock of finding mould growing on their food, favourite shoes and even in new wardrobes. In addition to breaking down and removing of airborne moulds*³, a Plasmacluster Ion density of 25,000 ions/cm³ also suppresses the proliferation of adhering moulds*³. It acts effectively in places where mould is a serious concern.

*3: • Testing Body: Ishikawa Health Service Association • Test Results: Removal efficiency of 99.0% in approx. 195 minutes (Plasmacluster Ion density: 3,000 ions / cm³)
• Testing Body: Japan Food Research Laboratories • Test Results: Proliferation of adhering mould suppressed in 5 days (Plasmacluster Ion density: 25,000 ions / cm³)

4 DECOMPOSE AND REMOVE AIRBORNE ALLERGENS

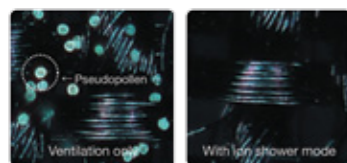
Allergens like airborne dust mite faeces, dead dust mites*⁴, airborne pollens and dusts can accumulate and lurk in our bed and carpets. Plasmacluster Ions are the perfect countermeasure to allergens, especially useful for homes with young children.

*4: • Testing Body: Hiroshima University Graduate School of Advanced Sciences of Matter
• Test Results: Mite allergens suppressed in 4 weeks (Plasmacluster Ion density: 3,000 ions / cm³)

5 REMOVE STATIC ELECTRICITY*⁵

Many of you know what it's like to feel the "crackle" of static electricity when we touch a doorknob or put on a sweater. Plasmacluster removes that static electricity and does so faster through humidification, so that less dusts will settle on surfaces.

*5: • Testing Body: SHARP in-house testing
• Test Results: Initial potential of 4.0kV decreased to 1.0 kV in approx. 13 minutes.



• Test method: Pseudopollen was applied to cloth charged with static electricity, and the cloth was then exposed to Plasmacluster Ions. After patting the cloth several times, a photograph was taken using an electron microscope.

Static electricity removal performance of an air purifier with humidifying function

Ventilation alone does not remove adhering pollen from cloth. Static electricity was removed and pollen was removed by units equipped with an ion shower mode.

2 SUPPRESS ACTIVITY OF AIRBORNE MICROBES*²

Airborne microbes are one of the contributing causes of allergies and asthma. Plasmacluster Ions decompose the protein on the cell membranes of airborne microbes, suppressing its activity in about 38 minutes.

*2: • Verified in a test area of approx. 16.3 m²
• Testing Body: Harvard School of Public Health (U.S.A.) Prof. Emeritus Melvin First
• Test Results: Removal efficiency of 99.0% was reached in approx. 38 minutes (Plasmacluster Ion density: 4,700 ions / cm³)



LIFESTYLE TIPS

Winning The Battle of Moulds

Mould spores are all around us. Once it gains a foothold, it's extremely difficult to get rid of it. What we can do is habitually prevent and alter high humidity environments that moulds love to reside in. Be on a special lookout for mould in changing rooms, lavatories, kitchens and closets where moisture is easily trapped.

Did You Know?

The Danger of Dead Mites

Mites breed and multiply by eating moulds and pieces of human skin. Consuming human waste is not a bad thing in practice. But the real problem is dust mite faeces and dead dust mites that will eventually become airborne allergens.



LIFESTYLE TIPS

Natural Fabric and Humidification: Get Over The Fear Of Static Electricity

The main cause of static electricity is material such as nylon and polyester which do not conduct electricity easily and thus hold that electrical charge. To prevent this, it is suggested that we choose clothing made of natural fabrics such as cotton and linen on which static electricity does not accumulate easily. Moreover, because static electricity is easily generated when the air is dry, it is important to use a humidifier, etc., to maintain the humidity in the room.

6 DECOMPOSE AND REMOVE ADHERING ODOURS*⁶

Smokers and pet owners may be immune to cigarette and pet odours but they can be problematic for those who are sensitive to those smells. Plasmacluster Ions decompose and remove cigarette and pet odours, as well as the smell of room-dried laundry.

*6: • Deodourising effect on adhering cigarette odours • Testing Body: Japan Spinners Inspecting Foundation
• Test Results: Odour intensity level was reduced to 2 in approx. 60 minutes (Plasmacluster Ion density: approx. 20,000 ions / cm³)

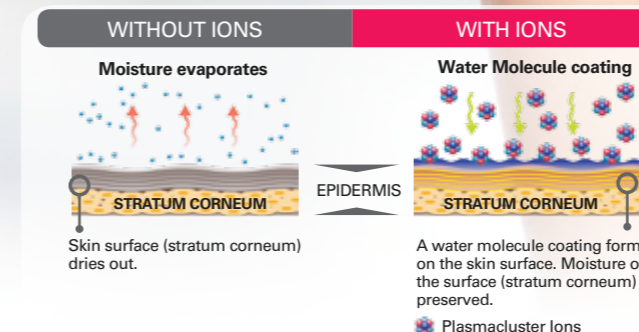
Plasmacluster for Beautiful Skin

High Density Plasmacluster for Skin Enrichment



High-Density 25000

Plasmacluster's Skin Moisturisation Mechanism

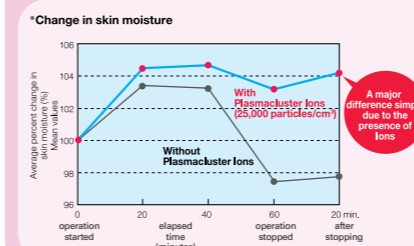


Tested by : The Research Institute of Electrical Communication at Tohoku University

Test results : Confirmed that Plasmacluster Ions allowed the formation of a water molecule coating on the surface of the skin.

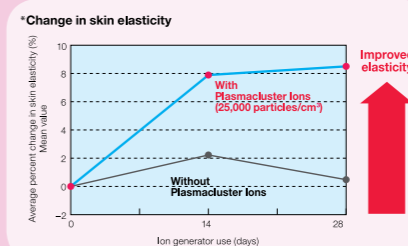
1 MOISTURE Retain skin moisture

Dry skin is a common problem and can lead to other skin issues. Level of skin moisture is significantly improved after being exposed to Plasmacluster Ions.



2 ELASTICITY Enhance skin elasticity

Skin moisture has a positive influence on its elasticity. Tests have also been carried out to confirm this relationship. Be prepared to have nice supple skin with Plasmacluster Ions.



3 TEXTURE Improve skin texture

When skin is moist, its texture improves. All thanks to Sharp's Plasmacluster Ions, you can now be confident with your smooth and healthy skin.



* 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.



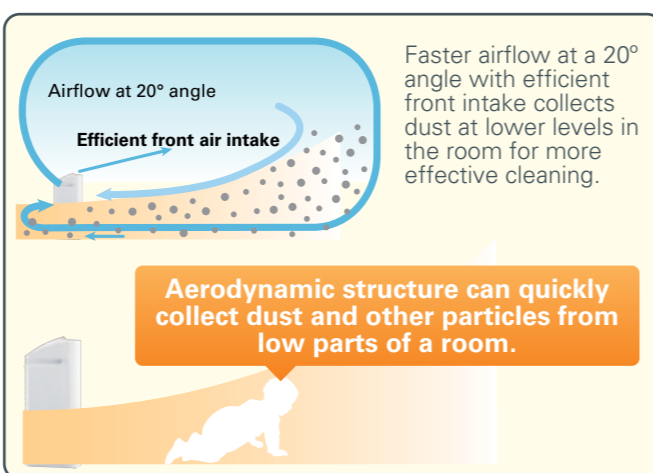
Sharp's unique system of powerful dust collection and capturing system with Plasmacluster Technology, deliver natural clean air quality.



Almost Double*¹ the Dust Removal Speed from Unique Airflow Circulation

*¹ Approximate value as compared to the previous KC-6500E when placed in front of a wall in a 13m² room with uniform airflow of 1.7 m³/min. The compared time is the time for artificial dust to reach 50cm in front of the air purifier after release from the wall on the opposite side of the room. Testing was performed by Sharp and may differ from data from testing of tobacco particle collection performance, performed by the Japan Electrical Manufacturers' Association for the JEM1467 standard.

Removal of Pollen and Airborne Dust



Sharp's unique efficient airflow and circulation system enable quick dust removal



**Powerful Air Suction
396 m³/hour*²**

*² Measured based on the JEM1467 standard of the Japan Electrical Manufacturers' Association.

Fast Airflow and Circulation from Unique Aerodynamic Structure

With a new long nozzle preventing airflow disturbance and improving the outward airflow speed, faster air circulation is enabled throughout the room. Thus, airborne dust and pollen are effectively collected from around the Plasmacluster air purifier with a smooth airflow guide design that promotes powerful suction from the back. This unique airflow system from Sharp almost doubles dust removal speed*¹, removing airborne dust that circulates upward whenever someone moves in the room.

1) Quick Collection

The new long nozzle provides efficient airflow.



2) Smooth Airflow Guide Design

The airflow guide design helps to guide collected airborne dust smoothly into the back suction panel.



3) Powerful Suction

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



*⁵ Approximate value for the KC-A50/A40 compared to the previous KC-860/850/840

*⁶ Allow sufficient space between the walls and the air purifier if the walls or furniture are dirty.

4) Plasmacluster Shower Operation

Aerodynamic Plasmacluster performance sends airflow backwards at a 20-degree angle as well as circulating airflow forwards, for rapid air purification with as much as 1.5 times higher density of Plasmacluster when ions are dispersed into an entire room for 60 minutes.



**60-minute Plasmacluster
Ion Density
Approx. 1.5 times*⁷**

*⁷ Compared to the ion density of 7,000 ions/cm³ when operation is performed at middle airstream and in humidifying air purifying mode or air purifying mode.



Plasmacluster Air Purifier/ with Humidifying Function

Anti-Microbial*¹ HEPA Filter*²
Advanced Technology Producing Healthy Air

Anti-Microbial Filters Collect Airborne Dust and Odour Particles

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

Dust-Collecting Filter

(Anti-microbial*¹, Anti-allergen*³, Anti-virus*⁴ Filter)



**No need of replacement
up to 10 years**

When smoking five cigarettes a day.

Removal of Odours

Washable Deodourising Filter



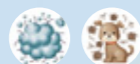
**No need of replacement
up to 10 years**

Regularly washing the filter restores
deodourising performance.

Deodourising performance depends on the room conditions and washing method.

Capture Microscopic Dust Particles As Small As 500 Microns

Micron Mesh Pre-filter on Rear Panel



**No need for
replacement**

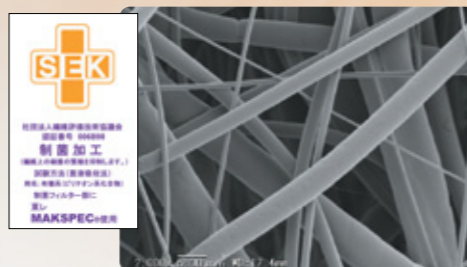
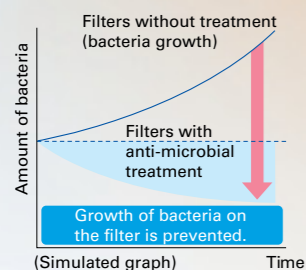
Easy maintenance by simply wiping the filter
without detaching it.



Anti-allergen*³, Anti-virus*⁴, Anti-microbial*¹ HEPA Filter*²

The anti-microbial*¹ HEPA Filter*² provides high performance in
capturing more than 99.97%*⁵ of 0.3-micron dust particles.
This means that merely 3 out of 10,000 dust, virus, and other
particles remain.

Removing allergens and viruses, plus preventing bacteria growth



*¹ Verified by the Japan Synthetic Textile Inspection Institute Foundation. SEK mark certification number
for the KC-A60/A50/A40: 006B98.

*² The filter captures more than 99.97% of 0.3-micron dust particles.

*³ Tested by Hiroshima University Graduate School of Advanced Sciences of Matter.
Test method: Filters were infused with anti-allergen agents and measured using the ELISA
(Enzyme-Linked ImmunoSorbent Assay) method.
Test result: 99.9% removal of allergens of cedar pollen and 99.8% removal of dust mite, faeces and allergens.
Test subjects: Cedar pollen allergens captured using filters.

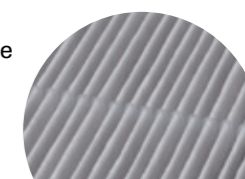
*⁴ Tested by Japan Food Research Laboratories. Test number: 208040482-002
Test method: A virus suspension was dripped on a filter and the infection value was measured
after 24 hours.
Test result: 99.9% of viruses removed.
Test subject: One virus species

*⁵ This value applies to filter removal performance, not to the removal for the entire room

Drawn-in Pollen is Securely Captured.

Anti-microbial*¹ HEPA Filter*²

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



The filter measures as long as 8m
when fully extended

What HEPA Filters*² Capture

99.9% capture and removal of cedar pollen allergens*³



Tree pollen

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



Grass pollen

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

99.8% removal*³ of dust mite faeces allergens



Allergens

Dust mite faeces, dust mite remains,
dog dander, cat dander, hamster
dander, mould

Reduction of viruses*⁴



Viruses



Airborne microbes



Airborne moulds

Black mould, Stachybotrys,
Aspergillus niger, Penicillium



Dust

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



Odours

Airborne cigarette odour, pet odour,
cooking odour, kitchen food waste odour,
toilet odour, body odour, mould odour,
ammonia odour

Dust removing and deodourising performance of air purifiers

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

* The filter itself may produce an odour and need to be replaced after several months if the air purifier is used to reduce strong odours, such as cigarette smoke or grilled meat.

Use the air purifier in combination with room ventilation if it is used for strong odours.



Plasmacluster Air Purifier with Humidifying Function

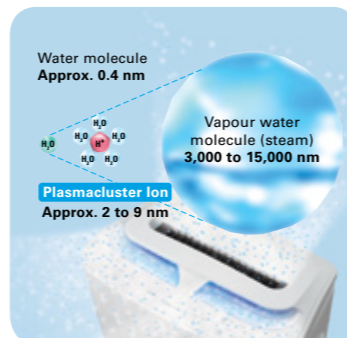
Rotating Humidifying Filter Achieves Optimal Humidity Conditions

The temperature and humidity sensors automatically detect and adjust humidity according to changes in room temperature. The rotating humidifying filter automatically starts humidifying the room when it becomes too dry, and stops when the room is too humid.

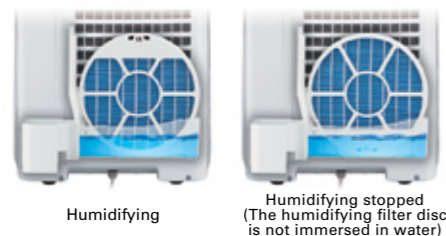


Powerful Humidifying to Maintain 60% Humidity

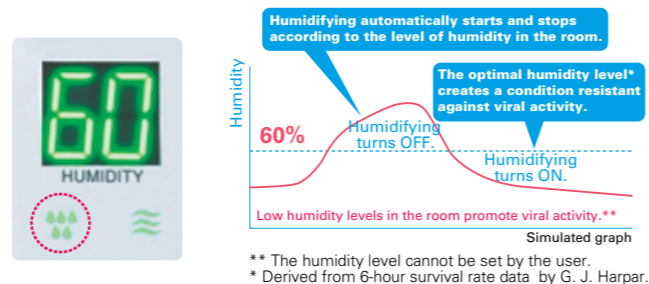
Humidity is a crucial point in keeping a room environment comfortable. Sharp Plasmacluster Air Purifier with Humidifying Function detects the room moisture and automatically start or stop humidifying to maintain the optimal humidity. Quality of air is also monitored to achieve a clean and fresh living environment.



Rotating humidifying mechanism structure



When humidifying is not performed, the humidifying filter stops rotating and does not remain immersed in water. It dries with ventilation, thus keeping the filter clean and free of mould growth.



Reduced Household Expenditures and Quiet Operation

Economical Even with Year-Round Usage. Only 1/5*1 of the annual electricity expense of using an air purifier and humidifier separately.

*1 Approximate value when compared to using the air purifier and humidifier together.

Quiet Operation for Night Time

Air purifying with humidifying provides quiet operation of only 24 dB, which is almost the same sound level as a quiet library. Air purifying alone without humidifying is even quieter.

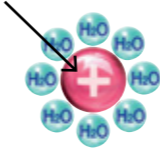


Humidifying Improves the Effectiveness and Endurance of Plasmacluster Ions

Sharp Plasmacluster Air Purifier with Humidifying function is suitable for people who experiences sinus infections, allergies from dust, excessively dry skin or consistent symptoms of cold due to lack of moisture in the air.

The water molecules delivered by vapour humidifying prevent nose and throat dryness. Water molecules accumulate around the positive and negative Plasmacluster ions, increasing their size and doubling their endurance and air purifying speed*.

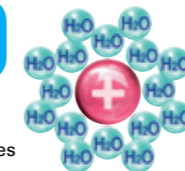
Positive or Negative Ion



Plasmacluster Ions

- Tested by Japan Food Research Laboratories
- Test method: Plasmacluster Ions were emitted into an experimental chamber with a floor area of about 8m². suspended mould was measured with an air sampler, and the approximate values were compared for two conditions: with and without humidifying.

Humidifying Function
Additional Water Molecules

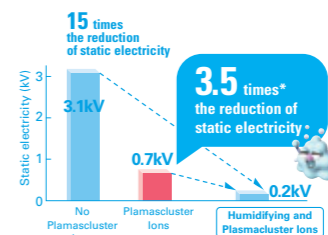


Humidifying and Plasmacluster Ions



Humidifying Prevents Dust and Pollen from Circulating and Clinging to Clothing or Other Fibres

Operation with humidifying and Plasmacluster Ions is 3.5 times* more effective at reducing static electricity, preventing pollen from circulating in the room and clinging to curtains or clothing.



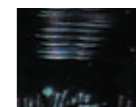
Change in static electricity due to humidifying and Plasmacluster Ions

- Tested by Sharp
- Test method: A plate electrically charged with approximately 3kV is placed in a 1m³ sealed container and the static electricity is measured when humidity and Plasmacluster Ions are released. (Plasmacluster Ion density: 30,000 / cm³)
- * Approximate value when comparing two conditions: operation with and without humidifying.

Clinging pollen is not removed simply by trying to dust it off. A shower of Plasmacluster Ions reduces static electricity, and the pollen is removed from the cloth.



No Plasmacluster Ions



Plasmacluster Ions (Ion Shower Mode)

- Tested by Sharp
- Test method: Simulated pollen was made to cling to a cloth charged with static electricity, and then Plasmacluster Ions were released. The cloth was dusted off several times, and then examined with an electron microscope.

Simple Operation for Easy Everyday Use

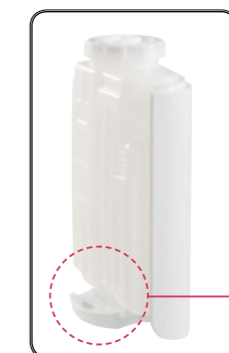
Water Tank Enables Easy Cleaning and Convenient Water Supply



Handle for easy carrying in one hand



Large-diameter cap enables tank cleaning by hand.



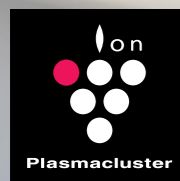
Self-standing tank prevents tipping over when refilling

Convenient height for refilling.

*6 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.

*7 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% removed.

*8 Tested by the Boken Quality Evaluation Institute. Test method: Mould resistance test according to the JIS Z2911 standard. Mould prevention method: Infusing filter with anti-mould agents. Test result: No mould growth



Introducing Sharp's New Air Purifier with Unique Plasmacluster Technology, HEPA Filter, and Haze Mode Powerfully Cleans Room Air and Delivers Healthy and Comfortable Living



Recommended Room Size:
39 m²



Haze Mode Powerfully Collect Haze Particles and Keeps the Room Air Clean

The FP-E50E has a new Haze Mode. When the FP-E50E 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.

Combination of Plasmacluster Technology and Three-Step Dust Collection System

1 REMOVE

Plasmacluster Ions Reduce Static Electricity

There are two types of static electricity charge: positive and negative. Negative ions can reduce only a positive charge.

Fabrics, walls and furniture

Negative charge



Positive charge

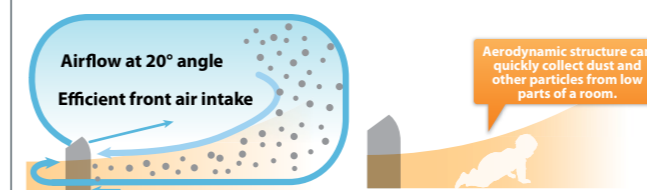


The positive and negative ions of Plasmacluster reduce both positive and negative static electricity.

2 COLLECT

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

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



3 CAPTURE

High-Performance Filters Capture Airborne Dust and Odour Particles

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

Dust-Collecting HEPA Filter

No need for replacement for 5 years*
* When smoking five cigarettes a day

Removal of Odours

Deodorising Filter

No need for replacement for 5 years**
Easy maintenance by simply wiping.
** Deodorising 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.

● Off Timer (2, 4, 8 hours) ● Child Lock

Convenient Features for Everyday Use

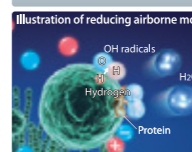
Monitors for Dust and Odour Indicate the Conditions of the Room Air.



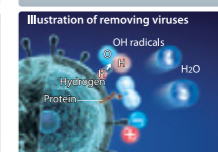
High-Density Plasmacluster Ions Remove Airborne Moulds and Viruses

Plasmacluster is Sharp's unique sanitising technology that purifies the air by emitting highly safe positive and negative ions of the same type found in nature. It sanitises and purifies suspended airborne mould, viruses, and allergens. The benefits have been proven by official test institutions in Japan and around the world.

Removal of Airborne Moulds*1



Suppressing the Activity of Airborne Viruses*2



Removal of Airborne Dust Mite Allergens*3



● Reduction of Static Electricity*4 ● Removal of Clinging Odours*5

* 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 for High-density Plasmacluster 7000 at the maximum or medium airflow mode when an air purifier with humidifying or an air purifier using a high-density Plasmacluster ion-generating device is placed close to a wall.

• These test results are for a Plasmacluster ion generator in a test space of approx. 25 m³ to 41 m³. Equivalent ion densities mean that the effectiveness is the same.
• The effectiveness of Plasmacluster ions depends on the usage conditions (e.g., temperature, humidity, room area, position of the ion-generating device, and use of air conditioner or ventilation) and the usage method (e.g., Plasmacluster ion dispersion direction, operation mode, and operation time).

*1 Effectiveness in a test space of 31 m³ after 195 min. of use.

*2 Effectiveness in a closed test space of 25 m³ after 18 min. of use.

*3 Effectiveness in a test space of 31 m³ after four weeks of use (one day: 24 hours).

*4 Effectiveness in a test space of 41 m³ after 80 min. of use. The effectiveness depends on the odour type, odour intensity, and material of object measured.

*5 Effectiveness in a test space of 41 m³ after 10 min. of use.

Notes: These figures are approximate.

Plasmacluster mark is a trademark of Sharp Corporation.
































"Plasmacluster" and "Devisé of a cluster of grapes" are registered trademarks of Sharp Corporation.



Plasmacluster Air Purifiers with Humidifying Function



Models		KI-A60	KC-D60E	KC-A50E	KC-D40E	KC-930E
Colour		White	White	White, Black	White, Black	White
Humidifying	Humidifying System	Natural Vapourisation	Natural Vapourisation	Natural Vapourisation	Natural Vapourisation	Natural Vapourisation
	Tank Capacity	4.0L	3.0L	3.6L	2.5L	2.1L
	Humidifying Capacity*2	730mL/hr	660mL/hr	600mL/hr	440mL/hr	350mL/hr
Recommended Area	Air Purifying*1	50m²	48m²	38m²	26m²	21m²
	Humidifying*2	34m²	30m²	27m²	21m²	16m²
Recommended Area for High-Density Plasmacluster Ions*3		35m²	35m²	28m²	21m²	17m²
Operation Modes		3 (max/med/low) Eco Auto & Pollen	3 (max/med/low) Auto, Pollen & Rainy Mode	3 (max/med/low) Auto & Pollen	3 (max/med/low) Auto, Pollen & Rainy Mode	3 (max/med/low) Auto
Voltage/Frequency (V, Hz)		220-240, 50/60	240, 50/60	220-240, 50/60	240, 50/60	220-240, 50/60
Power Input (W) (max/med/low)	Without Humidifying	53/32/6.6	80/24/5.5	42/18/4.3	25/12/5	27/13/4.5
	With Humidifying	53/33/10	70/26/7	36/20/7.4	19/14/7	27/13/4.5
Standby Power (W)		Aprox 0.6	0.9	0.9	0.9	0.9
Inverter Operation		Yes	Yes	Yes	Yes	Yes
Airflow (max. / med. / low) (m³/hour)	Without Humidifying	402/294/90	396/240/90	306/216/60	216/144/60	180/126/60
	With Humidifying	402/294/132	366/240/90	288/216/90	180/144/60	180/126/60
Noise Level (max. / med. / low) (m³/hour)	Without Humidifying	49/44/20	55/45/25	49/41/16	47/37/23	48/39/22
	With Humidifying	49/44/26	54/45/25	47/41/23	43/37/23	48/39/22
Special Program Mode		Plasmacluster Ion Shower*4 Auto-Restart*5, Child Lock *6	Haze Mode Auto-Restart*5, Child Lock*6, On/Off Timer	Plasmacluster Ion Shower*4 Auto-Restart*5, Child Lock *6	Haze Mode Auto-Restart*5, Child Lock*6, On/Off Timer	-
Filter Type	Dust Collection	HEPA*7	HEPA*7	Antimicrobial HEPA*7	HEPA*7	All-in-one Dust Collection Deodourising Filter
	Deodourisation	Yes	Yes	Washable Deodourising	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 10 years*8	Up to 2 years*6
	Deodourising Filter	Up to 10 years*8	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 10 years	Up to 1 year
Sensor	Odour	Yes	Yes	Yes	No	Yes
	Dust	Yes	Yes	Yes	Yes	No
	Temperature and Humidity	Yes	Yes	Yes	Yes	No
Clean Sign Indicator	Dust Monitor	Yes (5 Steps)	Yes (5 Steps)	Yes (5 Steps)	Yes (5 steps)	No
	Odour Sign	Yes (3 Steps)	Yes (5 Steps)	Yes (3 Steps)	Yes (5 steps)	Yes (3 steps)
Light Control Button		Yes (bright/dim/off)	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	2.0
Plug Type		Type C (2-pin)	Type C (2-pin)	Type C (2-pin)	Type C (2-pin)	Type C (2-pin)
Dimensions (WxHxD) (mm)		410 x 684 x 340	420 x 637 x 242	399 x 603 x 273	399 x 615 x 230	375 x 535 x 205
Net Weight (kg)		13.0	8.6	9.2	7.9	6.1
Replacement Filter	HEPA Filter	FZ-AX6HFE	FZ-D60HFE	FZ-A50HFE	FZ-D40HFE	-
	Deodourising Filter	FZ-AX6DFE	FZ-D60DFE	FZ-A50DFE	FZ-D40DFE	FZ-Y30SFE
	Humidifying Filter	FZ-AX6MFE	FZ-A60MFE	FZ-A60MFE	FZ-A60MFE	FZ-Y30MFE
Replacement Unit		IZ-C75SE	-	-	-	-

Plasmacluster Ion purification	Airborne microbes	 Airborne mould	 Airborne microbes	 Airborne viruses	 Dust mite remain allergens	 Dust mite faeces allergens	 Ammonia odour			
	Clinging odours	 Cigarette odour	 Body odour							
Filter purification	Capture and reduction of growth	 Airborne microbes	 Viruses	 Tree pollen	 Dust mite remains	 Dust mite faeces				
	Deodourising	 Cigarette odour ^{*10}	 Pet odour	 Body odour	 Mould odour	 Ammonia odour	 Cooking odour ^{*10}	 Kitchen garbage odour ^{*10}	 Toilet odour ^{*10}	 VOC ^{*9,10}
	Capture	 Airborne mould	 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 Japan Electrical Manufacturer's Association Standard, JEM1467. 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. *10 Not applicable to KC-930E

- The filter itself may produce an odour 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 odours.
 - Not all harmful substances in cigarette smoke (e.g., carbon monoxide) can be removed.
 - Not all commonly occurring odours (e.g., pet odours) 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.

Plasmacluster Air Purifiers



Models		FU-A80E	FP-E50E	FU-Z31E	FU-Y30E	FU-A28E
Colour		White	White	White, Black	White	White, Pink & Black
Recommended Area	Air Purifying*1	62m²	39m²	21m²	21m²	19m²
Recommended Area for High-Density Plasmacluster Ions*3		31m²	23m²	13m²	13m²	16m²
Operation Modes		3 (max/med/low) Auto	3 (max/med/low) Auto & Pollen	3 (max/med/low)	3 (max/med/low)	3 (max/med/low)
Voltage/Frequency (V, Hz)		220-240, 50/60	220-240, 50/60	220-240, 50/60	220-240, 50/60	220-240, 50/60
Power input (W) (max/med/low)		75/20/5	46/17/4.6	49/32/23	49/32/23	48/27/12
Standby Power (W)		0.75	0.8	1.0	1.0	1.0
Inverter Operation		Yes	Yes	No	No	No
Airflow (max. / med. / low) (m³/hour)		480/300/120	306/186/72	180/120/60	180/120/60	168/108/48
Noise Level (max. / med. / low) (m³/hour)		53/41/23	51/41/24	44/35/24	44/35/24	47/38/25
Special Program Mode		Shower*3 Auto-Restart*4 Child Lock*5	Haze Mode*3 Auto-Restart*4 Child Lock*5 Off Timer	-	-	-
Filter Type	Dust Collection	HEPA*6	HEPA*6	All-in-one Dust Collection/ Deodourising Filter*7	All-in-one Dust Collection/ Deodourising Filter*7	Dust Collection Filter*7
	Deodourisation	Yes	Yes			
	Pre-Filter	No (Deodourising Pre-Filter)	Yes			
Filter Life	Dust Collection	Up to 2 years*8	Up to 5 years*8	Up to 2 years*8	Up to 2 years*8	Up to 2 years*8
	Deodourising Filter	Up to 2 years*8	Up to 5 years*8	Up to 2 years*8	Up to 2 years*8	-
Sensor	Odour	No	Yes	Yes	No	No
	Dust	Yes	Yes	No	No	No
Clean Sign Indicator		Yes (3 steps)	Yes (3 steps)	Yes (3 steps)	No	No
Light Control Button		Yes	Yes	Yes (on/off)	No	Yes (on/off)
Power Cord Length (m)		2.0	2.0	2.0	2.0	2.0
Plug Type		Type C (2-pin)	Type C (2-pin)	Type C (2-pin)	Type C (2-pin)	Type C (2-pin)
Dimensions (WxHxD) (mm)		402 x 620 x 245	357 x 576 x 201	356 x 510 x 180	356 x 510 x 180	385 x 380 x 128
Net Weight (kg)		8.1	5.5	5.0	5.0	3.4
Replacement Filter		FZ-A80SFE	FZ-E50HFE (HEPA) FZ-E50DFE (Deodourising)	FZ-Y30SFE	FZ-Y30SFE	FZ-Y28FE

Plasmacluster Ion purification	Airborne microbes	 Airborne mould	 Airborne microbes	 Airborne viruses	 Dust mite remain allergens	 Dust mite faeces allergens	 Ammonia odour			
	Clinging odours	 Cigarette odour	 Body odour							
Filter purification	Capture and reduction of growth	 Airborne microbes	 Viruses	 Tree pollen	 Dust mite remains	 Dust mite faeces				
	Deodourising	 Cigarette odour ^{*11}	 Pet odour	 Body odour	 Mould odour	 Ammonia odour	 Cooking odour ^{*11}	 Kitchen garbage odour ^{*11}	 Toilet odour ^{*11}	 VOC ^{*10,11}
	Capture	 Airborne mould	 Plant pollen	 Tree pollen	 Pet dander	 Pet hair	 Dust	 Cigarette smoke	 Mite dust	 Diesel exhaust

*1 Recommended area: Calculated based on the JEM1467 standard of the Japan Electrical Manufacturers' Association. *2 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 operation position. *3 Ion density about 1.5 times higher for 60 minutes in the applicable room size. *4 The air purifier automatically resumes operation when power returns, even after a sudden power interruption, such as due to a circuit breaker. *5 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. *6 HEPA is defined by the Japan Electrical Manufacturer's Association Standard, JEM1467. The filter removes more than 99.97% of 0.3-micron dust particles. *7 E10 class in EN1822 *8 At a smoking rate of five cigarettes per day. *9 At a smoking rate of ten cigarettes per day. *10 (refer to page 13 *9). *11 Only applicable to FP-E50E

* 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 for High-density Plasmacluster 7000 at the maximum or medium airflow mode when an air purifier with humidifying or an air purifier using a high-density Plasmacluster ion-generating device is placed close to a wall.

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