

# Panasonic

ideas for life

Air Conditioners  
2006/2007



## AC Robot

Auto Cleaning



**INVERTER**

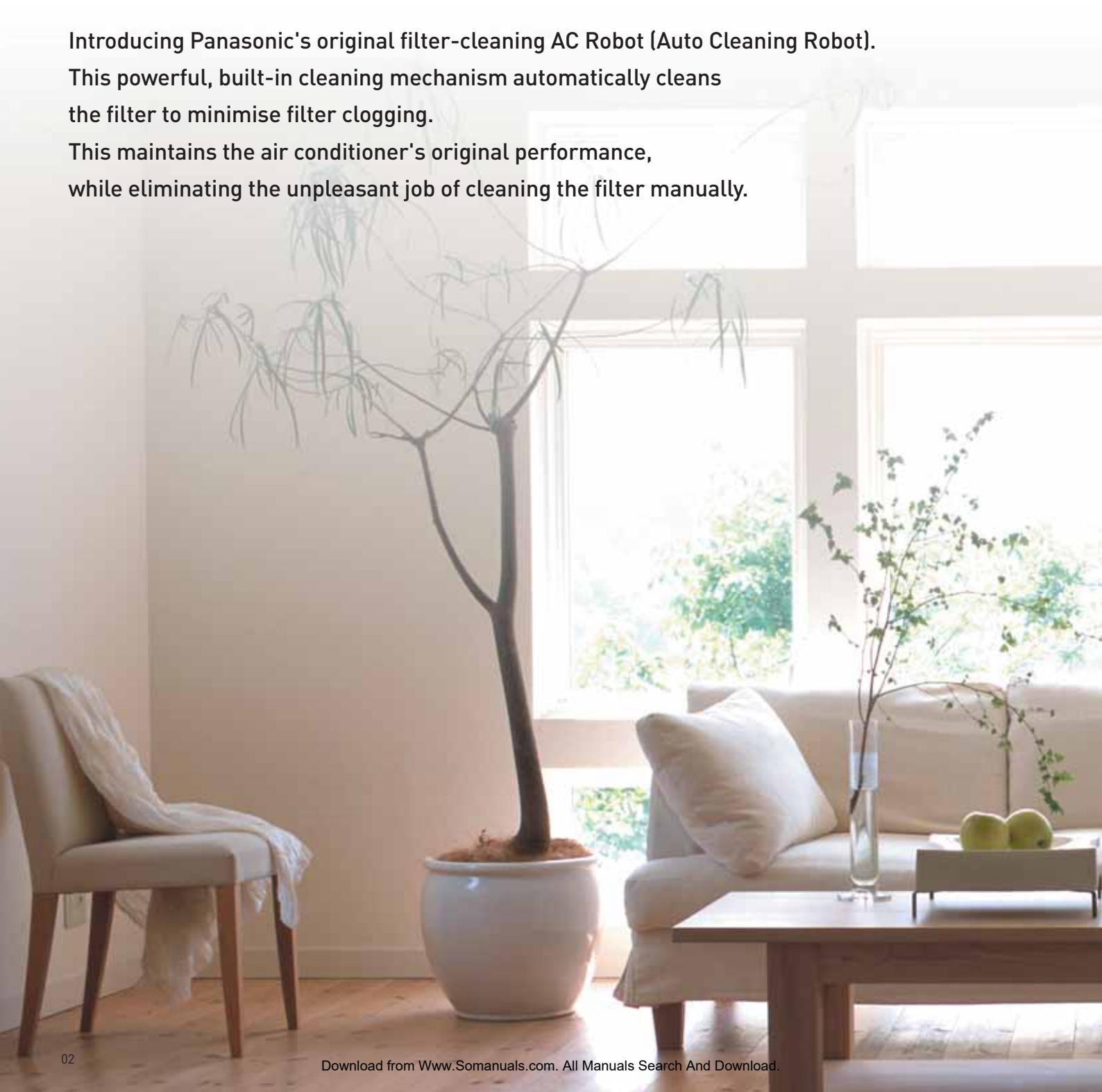
# Meet the Auto Cleaning Robot.

It automatically cleans the filter to keep the performance just like new.

Introducing Panasonic's original filter-cleaning AC Robot (Auto Cleaning Robot).

This powerful, built-in cleaning mechanism automatically cleans the filter to minimise filter clogging.

This maintains the air conditioner's original performance, while eliminating the unpleasant job of cleaning the filter manually.



Only from Panasonic\*!



It automatically vacuums the dust from the filter and exhausts it outdoors each time you use it.

Always  
CLEAN

Always  
POWERFUL

Always  
EFFICIENT












# Model Line-Up



Line-up of inverter models with R410A.






Choose  
the  
Best  
Inverter

— Panasonic —

Single Inverter Split			
Wall-Mounted			
Indoor	Super-Deluxe <b>NEW</b>	Deluxe <b>NEW</b>	Deluxe-Wide <b>NEW</b>
	 p.14	 p.14	 p.14
Capacity (kW)	2.5	<b>CS-XE9EKE</b> (CU-XE9EKE)	<b>CS-E9FKR</b> (CU-E9FKR)
	3.5	<b>CS-XE12EKE</b> (CU-XE12EKE)	<b>CS-E12FKR</b> (CU-E12FKR)
	4.5		<b>CS-E15FKR</b> (CU-E15FKR)
	5.0		<b>CS-E18FKR</b> (CU-E18FKR)
	6.0		<b>CS-E21FKR</b> (CU-E21FKR)
	6.5		<b>CS-E24FKR</b> (CU-E24FKR)
	8.0		<b>CS-E28FKR</b> (CU-E28FKR)
Air Quality Features	 	  <b>DEO</b>	  <b>DEO</b>

Single Split		
Wall-Mounted		
Indoor	Deluxe	Deluxe-Wide
	 p.15	 p.15
Capacity (kW)	2.0	<b>CS-W7DKR</b> (CU-W7DKR)
	2.5	<b>CS-W9DKR</b> (CU-W9DKR)
	3.5	<b>CS-W12EKR</b> (CU-W12EKR) Different Design <b>NEW</b>
	5.0	<b>CS-W18DKR</b> (CU-W18DKR)
	6.5	<b>CS-W24EKR</b> (CU-W24EKR) Different Design <b>NEW</b>
	Air Quality Features	  <b>ION</b> Except CS-W12EKR

 Reverse cycle models

 Auto Cleaning Robot |
  Supersonic Air Purifying System |
  Super alleru-buster filter (Super alleru-buster + Catechin + Bio) |
  Deodorising Filter |
  Ion Freshener







# AC Robot

Auto Cleaning

Cleans its own filter — all by itself!

The air conditioner stays in the same clean condition, with the same high-performance, as when it was first purchased.

## Always CLEAN

It prevents dust from accumulating and keeps the filter like new. It prevents the breeding of mould and bacteria that cause unpleasant odours. Fresh and comfortable!

### ■ Dust on filter after one year



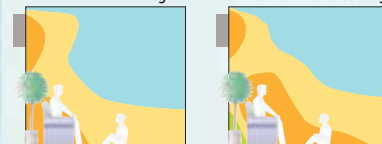
Without filter cleaning      With auto filter cleaning

\*Actual dust accumulation will vary depending on usage and environmental conditions.

## Always POWERFUL

Because it maintains the same performance as when it was new, the level of power remains constant even after long periods of use. You enjoy comfortable air conditioning that reaches every corner of the room.

### Without filter cleaning      With auto filter cleaning



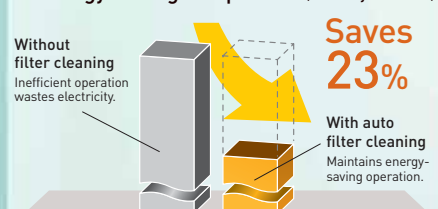
The air stream doesn't reach the corners of the room.      The powerful airflow reaches throughout the room.

**<Test conditions>** •Starting temperature and humidity: 7°C, 6% •Set temperature: 23°C •Fan speed/airflow direction: set to auto mode •After air conditioning stabilizes •Area of simulated-house testing facility: 16.5m<sup>2</sup>

## Always EFFICIENT

It prevents the reduced efficiency that is caused by filter clogging, so its top-class energy-saving performance is maintained longer. It also saves on the electric bill by suppressing the wasteful use of electricity.

### ■ Energy-saving comparison (After 3 years' use)



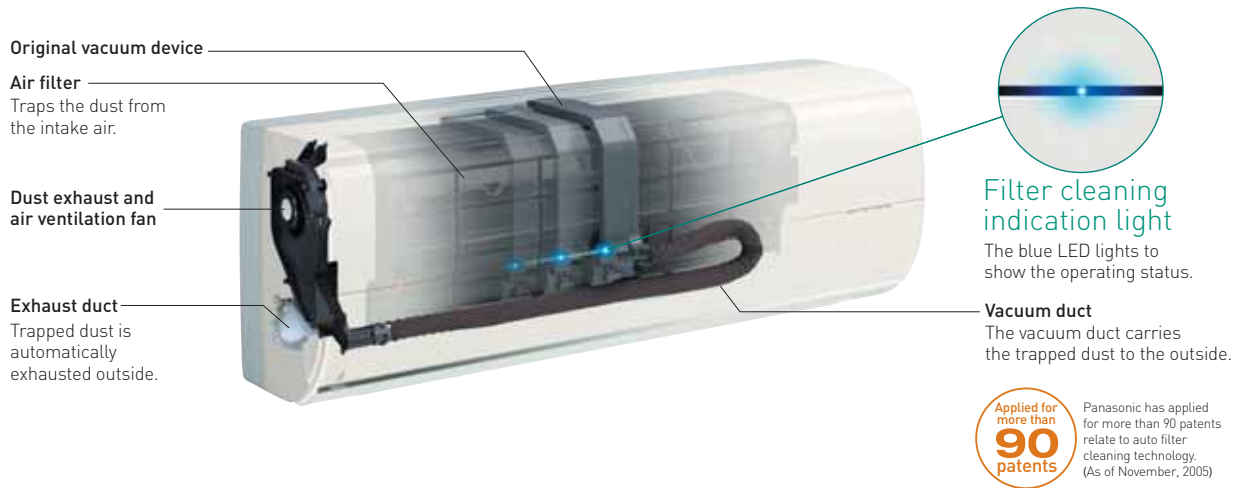
**Saves 23%**

With auto filter cleaning  
Maintains energy-saving operation.

For heating



# Automatically Traps, Vacuums and Exhausts Dust — For Clean Operation without the Cleaning Hassle



Applied for more than **90** patents  
Panasonic has applied for more than 90 patents relate to auto filter cleaning technology. (As of November, 2005)

## Cleaning Mechanism



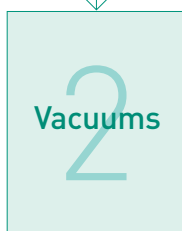
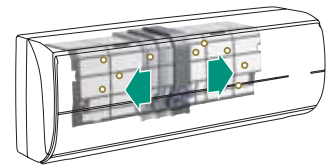
### The vacuum nozzle moves to trap the dust

The nozzle automatically starts cleaning the filter after each use. The cumulative operating time is used to determine how much of the filter needs to be cleaned. The entire filter is cleaned when the operating time reaches 36 hours.



\*The timer can also be set to start cleaning at a certain time.

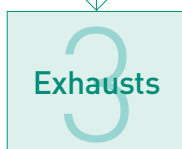
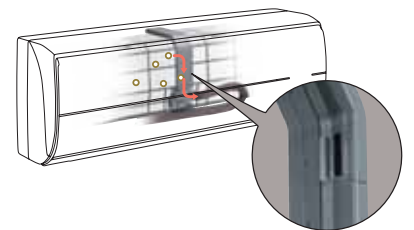
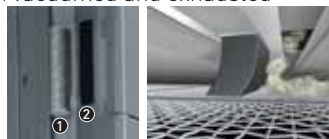
The filter surface is divided into 12 blocks to ensure thorough cleaning.



### The vacuum duct vacuums the dust

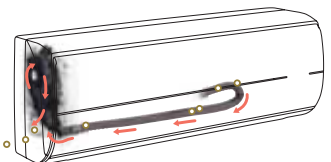
The pad on the nozzle rubs the dust from the filter mesh, and the trapped dust is then vacuumed and exhausted through the vacuum duct.

- ① Pad: The brush rubs dust from the filter. A durable, wear-resistant silicon foam material is used.
- ② Suction port: The rubbed off dust is vacuumed.



### The exhaust duct discards the dust outdoors automatically

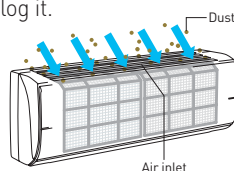
The dust goes through the vacuum duct to be exhausted. This is done automatically, so you don't have to do a thing. And only a small amount of dust is exhausted each time.



## Why does the filter have to be cleaned?

The filter works to trap airborne dust. When the filter is not cleaned regularly, dust can accumulate and clog it.

### Problems Caused by Filter Clogging



Approx. 8 g\* of house dust per year  
\*Panasonic survey

	Dead dust mites
	Pollen
	Mould spores
	Viruses/bacteria

Actual dust accumulation will vary depending on usage and environmental conditions.

# A Clean Filter Greatly Boosts Performance, Giving



## Comparison of Mould Growth

A dirty filter is a natural breeding ground for mould and house mites. Their growth can be greatly reduced by keeping the filter clean.

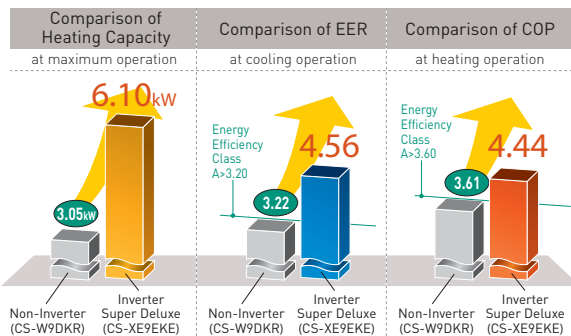
Without filter cleaning      With auto filter cleaning



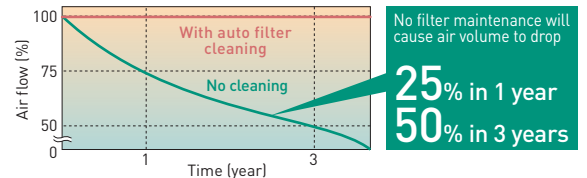
Observation of mould on filters (used for 3 months) after cultivation on agar media for 3 days.  
Testing organization: Japan Food Research Laboratories Test No.: 204090946-001

## Class A energy saving achieved by inverter technology

Panasonic's high-efficiency technologies clear stringent energy-saving standards, and the AC Robot maintains this high level of performance.

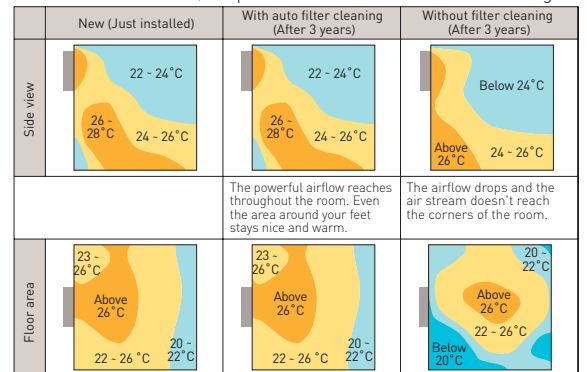


## Airflow Comparison



## Temperature Distribution Comparison

With the AC Robot, heating performance is maintained even after long use. On the other hand, the power is reduced without filter cleaning.



<Test conditions>  
•Starting temperature and humidity: 7°C, 6°C •Set temperature: 23°C •Fan speed/airflow direction: set to auto mode •After air conditioning stabilizes •Area of simulated-house testing facility: 16.5m<sup>2</sup>

## How It Works

A detailed cleaning programme built into the AC Robot ensures that the entire filter surface stays clean with a highly efficient cleaning process.

- The filter surface is divided into 12 blocks, and the vacuum nozzle cleans each block with a round-trip cleaning operation.
- The number of blocks (amount of surface area) to be cleaned is determined according to the air conditioner's cumulative operating time.
- Cleaning of the entire surface is completed after 36 operating hours are accumulated.



In the High fan speed in the normal setting mode

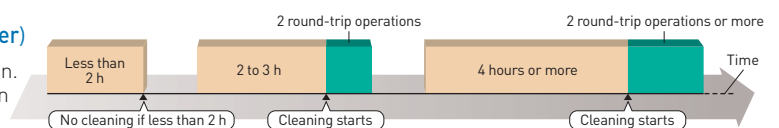
Cumulative operation hours (hour)	No. of cleaning operations
Less than 2	No cleaning
2 - <6	2 round-trip
6 - <9	3 round-trip
9 - <12	4 round-trip
<12	5 round-trip

## Auto Filter Cleaning Operation Patterns

Two operations are available. In addition to the normal setting, the timer setting can also be used.

### In the normal setting mode (non-timer)

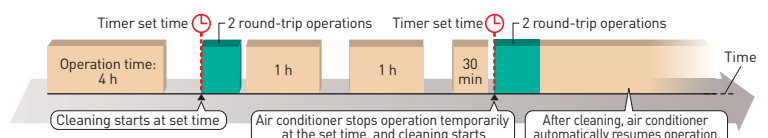
Cleaning automatically starts after each operation. The number of round-trip is determined based on the cumulative operating time.



### In the timer setting mode

Cleaning starts at the set time everyday.

\* If the air conditioner has not been used for more than 30 minutes since it was cleaned, the cleaning operation will not be done at the preset time.





# You Greater Comfort and Saving Energy.

## Air cleaning features

### SUPER alleru-buster filter — Long-life type (10 years)

The SUPER alleru-buster filter combines three effects in one: anti-allergen, anti-virus, and anti-bacteria protection, to keep the room air clean and healthful. Plus, the effect is maintained for 10 years.



#### Anti-allergen protection

### SUPER alleru-buster

Inactivates more than **99%** of all filter-captured allergens!



**Target substances**  
Allergens:  
Pollen, dead dust mites and their waste products, cat dander, mould

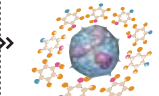


#### How allergens are inactivated

The allergen is caught by the filter.



Phenolic hydroxyl ions cling to the allergen.



The allergen is coated and inactivated.



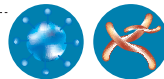
Even if it enters the body, it is no longer treated as an allergen.

#### Anti-bacteria/Anti-mould protection

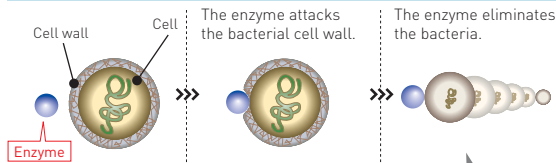
### Bio (Bio-Elimination)

Enzymatic action eliminates more than **99%** of all filter-captured bacteria!

**Target substances**  
Bacteria: Staphylococcus aureus  
Mould: Black mould (aspergillus), green fungus



#### How bacteria are bio-eliminated



The enzymatic action hydrolyzes the cell wall and dissolves the bacteria.

#### Anti-virus protection

### Catechin

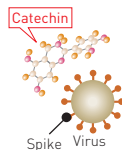
Inactivates more than **99%** of all filter-captured viruses!

**Target substances**  
Viruses: Influenza, Coxsackie virus, etc.

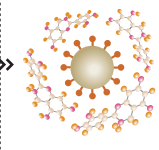


#### How viruses are inactivated

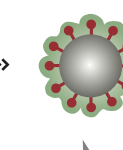
The virus is caught by the filter.



Catechin surrounds the virus.



The virus is inactivated.



The spikes are covered by catechin.

#### What's "Allergen"?

When allergens enter the body, they cause allergy symptoms due to an antigen-antibody reaction that occurs as the body tries to combat them.

## Versatile Features for Super Deluxe Models

<b>Quiet Mode</b>	Simply press a button to reduce the indoor unit operating sound by about 3 dB. This function is especially convenient for operation near a sleeping baby.
<b>Powerful Mode</b>	Pressing the Powerful button cools or heats the room quickly. It provides fast comfort, with full power and a strong airflow. This is perfect for use immediately after coming home, or when unexpected guests arrive.
<b>Ventilation Control</b>	You can ventilate the room by simply pressing the remote control button. Dirty air is carried outside to keep the room fresh and clean.

#### Operation Indicator



The indicators become visible when the grille is opened.



## supersonic

**Powerfully collects allergens  
from the room's air**

A Supersonic Air Purifying System accelerates the air cleaning effect of the SUPER alleru-buster filter. It keeps room air cleaner, to protect the family's health.



## Cleaner air with supersonic waves and SUPER alleru-buster

### air cleaning

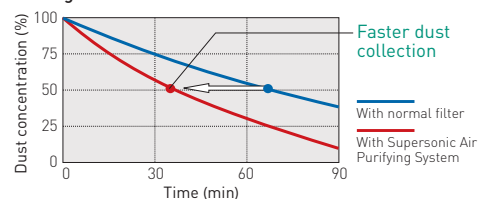
#### Supersonic Air Purifying System with SUPER alleru-buster



**Faster dust collection**  
Supersonic Air Purifying System

The Supersonic Air Purifying System incorporated in the indoor unit generates supersonic waves. The system works in combination with the filter to collect dust and dirt in the air for faster, more efficient air purification.


#### Changes in dust concentration



#### Supersonic Air Purifying System

- SUPER alleru-buster filter
- Supersonic wave generator





**Inactivates harmful elements**  
SUPER alleru-buster filter

The SUPER alleru-buster filter combines three effects in one—anti-allergen, anti-virus, anti-bacteria protection—to keep room air clean and healthy.

Anti-allergen protection	Inactivates more than <b>99%</b> of all filter-captured allergens
Anti-virus protection	Inactivates more than <b>99%</b> of all filter-captured viruses
Anti-bacteria/Anti-mould protection	Enzymatic action eliminates more than <b>99%</b> of all filter-captured bacteria

Here, inactivate means to suppress normal activity. This inactivation of mite allergens has been verified by the University of Edinburgh in the UK.



### air cleaning

#### Deodorising Filter



The photocatalytic filter absorbs odour particles from cigarette smoke and pet and household smells. The deodorisation effect is regenerated when the filter is exposed to sunlight.

### Super quiet

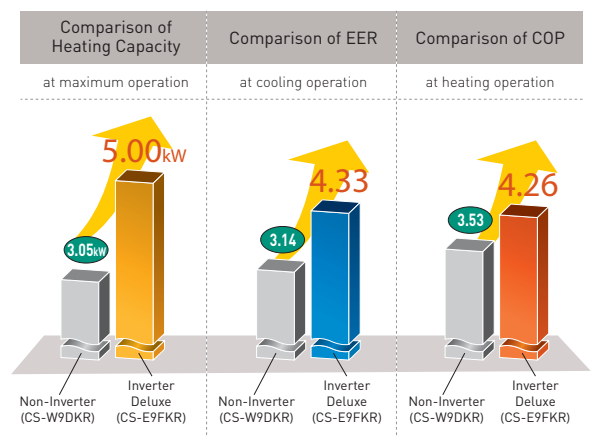
The indoor unit operates at a whisper-quiet 23 dB in quiet mode. We've reduced the noise of the outdoor unit, too. You can run the air conditioner at night and enjoy a deeper, more comfortable sleep, and without bothering your neighbours.



\*1 CS-E9FKR: In Quiet mode during cooling operation with low fan speed  
\*2 CU-E9FKR: In cooling mode

### Powerful heating & top-class energy efficiency

Our Deluxe models offer both capacity and a class-leading energy-saving performance that exceeds requirements of the highest Energy-Efficiency Classification.



# Advanced Inverter Performance – The Difference in Power and Comfort



Panasonic is harnessing its industry-leading technologies to make life more comfortable. With the slogan "Technologies that deliver new levels of comfort," the company is working to develop new, high-performance inverter air conditioners. Models with PFC (power-factor corrector) circuitry reduce electrical loss from the power source, thus increasing maximum power input. This naturally increases the maximum air conditioner output, so you enjoy more comfort.



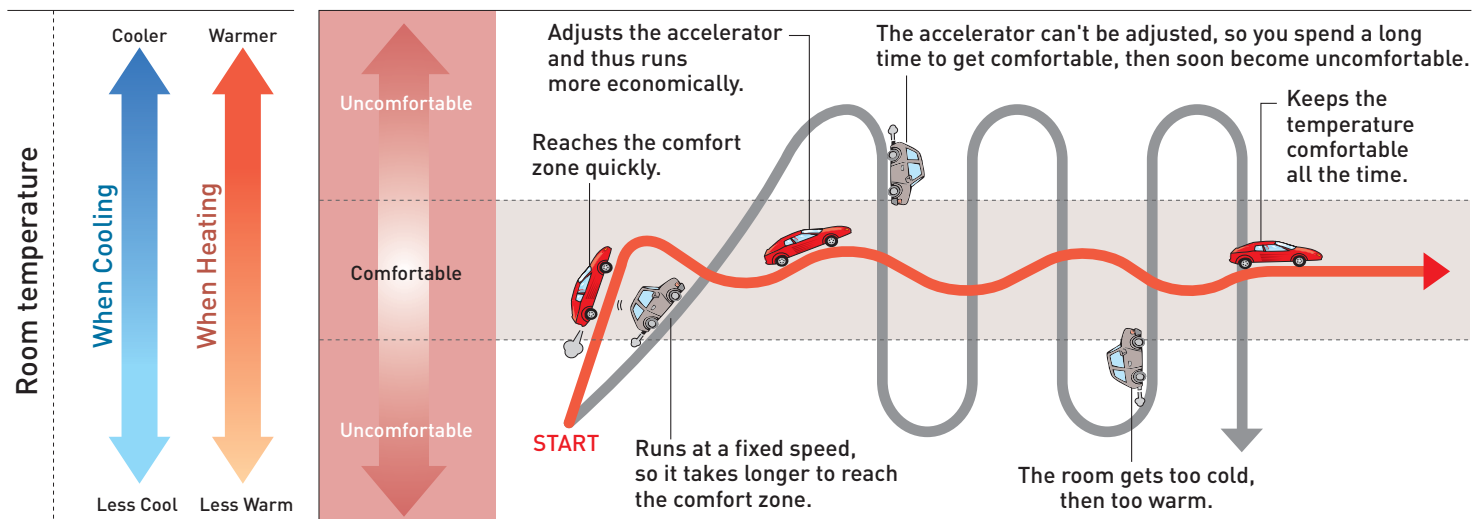
## WHAT'S AN INVERTER?

An inverter is a type of power conversion circuit that electronically regulates the voltage, current, and frequency of a device. In an inverter air conditioner, this circuit controls the revolutions of the compressor — and hence the air conditioner's output. Raising the frequency increases the output, lowering the frequency reduces it. In this way, inverter air conditioners provide much finer temperature control than non-inverter models.



## The advantages of an inverter air conditioner

### ■ Comparing inverter and non-inverter air conditioners to cars...



Non-inverter air conditioner      Inverter air conditioner

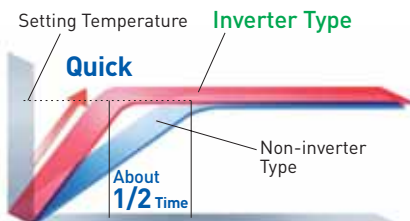




### Quick comfort

As soon as the an inverter air conditioner is switched on, it provides the exact amount of power needed to rapidly cool or heat of the room. This enables it to reach the set temperature in about half the time required by non-inverter models. So you're comfortable soon after you arrive home on a hot summer day, or on a cold winter morning.

#### Quick comfort



\* The graph is a representation of temperature changes during heating.

### Energy-saving

For optimum use of limited energy resources, an inverter air conditioner features an inverter circuit providing extremely efficient operation. Improved heat exchanger and compressor performance, precise microcomputer control and other innovations further assure dramatically boosted efficiency. So even though you get speedy, flexible operation, you use less electricity. What's more, low energy consumption means operation that's more environment-friendly than ever.

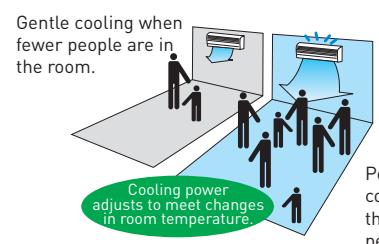
#### Flexible power control & Energy saving

Wide Power, Flexible Control		
Minimum power	Medium power	Maximum power
0.60kW	4.80kW	6.70kW

The graph shows the CS-XE12EKE's wide power output range during heating.

### Flexible power control

You're always comfortable with an inverter air conditioner. After quickly reaching the set temperature, it finely adjusts output power to maintain a constant temperature. So there are no uncomfortable temperature swings, while electricity is used more efficiently. Broad output power capability also assures continued comfort even if the number of people in a room changes. And at maximum output, an inverter air conditioner can deliver warm comfort even in the coldest winters.



## Single Inverter Split Wall-Mounted

### Super-Deluxe

**NEW**



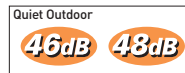
**AC Robot**  
Auto Cleaning



CU-XE9EKE/XE12EKE



Model No	CS-XE9EKE	CS-XE12EKE
Capacity(kW)	2.60(0.60~3.00)/3.60(0.60~6.10)	3.50(0.60~4.00)/4.80(0.60~6.70)
(Btu/h)	8,870(2,050~10,200)/12,300(2,050~20,800)	11,900(2,050~13,600)/16,400(2,050~22,800)
EER/COP(W/W)	4.56/4.44	3.98/3.93



CS-XE9EKE

CU-XE9EKE CU-XE12EKE

### Deluxe

**NEW**

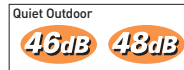
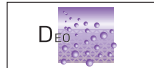
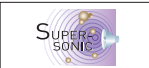


CU-E9FKR/  
E12FKR



CU-E15FKR

Model No	CS-E9FKR	CS-E12FKR	CS-E15FKR
Capacity(kW)	2.60(0.80~3.00)/3.60(0.80~5.00)	3.50(0.80~4.00)/4.90(0.80~6.70)	4.40(0.90~5.00)/5.50(0.90~7.10)
(Btu/h)	8,870(2,730~10,200)/12,300(2,730~17,100)	11,900(2,730~13,600)/16,700(2,730~22,800)	15,000(3,070~17,100)/18,800(3,070~24,200)
EER/COP(W/W)	4.33/4.26	3.63/3.89	3.21/3.50



CS-E9FKR

CU-E9FKR CU-E12FKR  
CU-15FKR

**NEW**



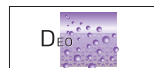
CU-E18FKR/  
E21FKR



CU-E24FKR/  
E28FKR

Model No	CS-E18FKR	CS-E21FKR
Capacity(kW)	5.30(0.90~6.00)/6.60(0.90~8.00)	6.30(0.90~7.10)/7.20(0.90~8.50)
(Btu/h)	18,100(3,070~20,500)/22,500(3,070~27,300)	21,500(3,070~24,200)/24,600(3,070~29,000)
EER/COP(W/W)	3.21/3.69	3.06/3.60

Model No	CS-E24FKR	CS-E28FKR
Capacity(kW)	7.20(0.90~8.10)/8.60(0.90~9.90)	8.10(0.90~8.60)/9.60(0.90~11.00)
(Btu/h)	24,600(3,070~27,600)/29,300(3,070~33,800)	27,600(3,070~29,300)/32,700(3,070~37,500)
EER/COP(W/W)	3.13/3.43	2.98/2.95



CU-E18FKR CU-E21FKR CU-E24FKR CU-E28FKR

Single Split

Wall-Mounted

Deluxe

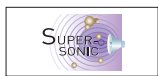


CU-W7DKR/  
W9DKR



CU-W12EKR

Model No	CS-W7DKR	CS-W9DKR	CS-W12EKR <b>NEW</b>
Capacity(kW)	2.30/2.45	2.75/3.05	3.60/3.90
(Btu/h)	7,840/8,350	9,380/10,400	12,300/13,300
EER/COP(W/W)	3.24/3.63	3.14/3.53	3.27/3.58



\*CS-W12EKR  
Different design  
Without Ion Freshener

CS-W7DKR/W9DKR/  
W12EKR

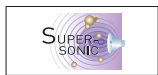
Deluxe-Wide



CU-W18DKR/W24EKR



Model No	CS-W18DKR	CS-W24EKR <b>NEW</b>
Capacity(kW)	5.30/5.75	7.03/7.80
(Btu/h)	18,100/19,600	24,000/26,600
EER/COP(W/W)	2.93/3.19	2.97/3.17



\*CS-W24EKR  
Different design  
Without Ion Freshener

Feature Comparison >> p.18

Specifications >> p.19

23dB In Quiet mode during cooling operation with low fan speed



# Split Type Feature Explanations

## Healthy Air Quality



### AC Robot (Auto Cleaning Robot)

Automatically removes dust from the filter and exhausts it outside the unit to keep the inside clean.



The vacuum nozzle slides over the filter after each use\* to vacuum the dust and exhaust it outside automatically.

\*The size of the area to be cleaned is determined based on cumulative operating hours and fan speed.



### Supersonic Air Purifying System

The Supersonic Air Purifying System incorporated in the indoor unit generates supersonic waves. The system works in combination with the filter to collect dust and dirt in the air for faster, more efficient air purification.



### SUPER alleru-buster filter

The SUPER alleru-buster filter combines three effects in one — anti-allergen, anti-virus, and anti-bacteria protection — to keep room air clean and healthful.

#### Anti-allergen protection

Inactivates more than **99%** of all filter-captured allergens

Here, inactivate means to suppress normal activity. This inactivation of mite allergens has been verified by the University of Edinburgh in the UK.

#### Anti-virus protection

Inactivates more than **99%** of all filter-captured viruses

#### Anti-bacteria/Anti-mould protection

Enzymatic action eliminates more than **99%** of all filter-captured bacteria



### Deodorising Filter

The photocatalytic filter absorbs odour particles from cigarette smoke and pet and household smells. The deodorization effect is regenerated when the filter is exposed to sunlight.



### Ion Freshener

It is known that areas rich in negative ions, like near waterfalls and forests, generally make people feel refreshed. With Panasonic split air conditioner, the same refreshing feeling can be felt just by pushing a single button.



### One-Touch Air Filter



### Odour-Removing Function

With this function, there's no unpleasant odour when the unit starts up. That's because the fan remains off momentarily, while the source of the odour inside the air conditioner is suppressed.

\*The unit must be in cool or dry mode and the fan speed must be set to automatic.



### Removable, Washable Panel

The front panel is easy to keep clean. It removes quickly with a simple one-step operation and can be washed in water. A clean front panel promotes smoother, more efficient performance, which can save energy.

## Comfortable



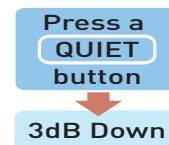
### Inverter Control

An inverter air conditioner provides optimum power control, which is impossible for conventional units. The secret lies in the inverter circuit. By changing the frequency of power supply, this circuit alters the rotation speed of the compressor, which is the heart of the air conditioner. The result is comfortable, economical air conditioning.



### Quiet Mode

Simply press a button to reduce the indoor unit operating sound by about 3 dB. This function is especially convenient for operation near a sleeping baby.



### Powerful Mode

Pressing the Powerful button cools or heats the room quickly. It provides fast comfort, with full power and a strong airflow.

This is perfect for use immediately after coming home, or when unexpected guests arrive.



## Convenient



### 24-Hour ON & OFF Real Setting Timer

The start or stop operation time (hour and minute) can be set at one time. Or both of the times for start and stop operation can be set.



### LCD Wireless Remote Controller



### Soft Dry Operation Mode

Starts with cooling to dehumidify. Then provides continuous breeze at low frequency to keep room dry without

### Personal Airflow Creation

Vertical and horizontal air flow patterns can be combined as desired to gain the greatest possible comfort, with operation possible even from a distance by remote control.

#### • Up & Down Airflow — 5 Patterns + Auto



When you don't want airflow directed right at you.

When you want direct airflow.

When you want to warm yourself thoroughly from the feet up.

#### • Left & Right Airflow — 5 Patterns + Auto



To focus the airflow to one side of the room.

To focus the airflow to the centre.

For uniform airflow throughout the room.

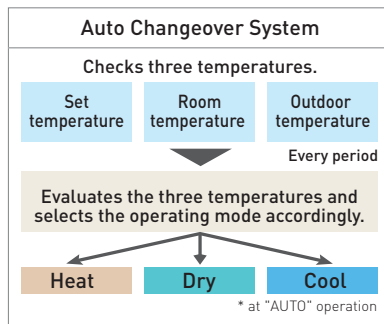
### Airflow Direction Control (Up & Down)

The flap swings up and down automatically, distributing air throughout the room. You can also adjust the airflow angle by remote control.

### Auto Changeover (Inverter)

#### Auto Changeover

Sensors measure the room and outside temperatures periodically. Based on these temperatures and the set temperature, the microcomputer determines the most suitable operating mode as time passes.



### Automatic Operation Mode (Cooling)

When the Automatic Operation button is pressed, the optimum mode (cooling, soft dry) is selected based on data from the Intake Air Sensor. The desired temperature setting can also be set (Low, Normal or High).

### Hot Start Control

On the start of heating cycle and after defrost cycle, the indoor fan will start up once the indoor heat exchanger is warm.

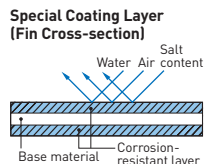
### Circulation Operation Mode

This mode circulates the air in the room, to minimize differences in air temperature.

## Reliable

### Blue Fin Condenser

Condensers can take a beating from exposure to salty air, rain and other corrosive factors. Panasonic has tripled the life of our condensers with an original anti-rust coating.



#### Cyclic Corrosion Test Results

##### Blue Fins



Front View



Side View

##### Non-Blue Fins



Front View



Side View

This was tested by:

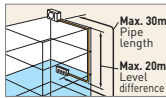
- Matsushita Air Conditioning R&D Centre Sdn. Bhd.
- A third party authorized research institute in Malaysia.

### Random Auto Restart

All models are now safe to operate without a starter. With the exclusive Random Auto Restart feature, the air conditioners automatically restart after power failure. Its 32 different recovery-timing patterns ensure that air conditioners in the same building resume one after another instead of all at the same time. This feature helps prevent power surges after a blackout and walls are nearer too.

### Long Piping

The basic piping can be extended, allowing the outdoor unit to be installed farther away from the indoor unit and providing greater installation flexibility.



\*The graph refers to the CS-V18EKR. \*Extendable length varies by model. \*If the piping is extended past the basic pipe length, there's an extra charge for additional refrigerant.

### Top-Panel Maintenance Access

Maintenance of the outdoor unit used to be quite a tedious chore, especially when the unit was installed on a narrow balcony or attached to the outer wall of a high-rise building. Now, maintenance can be performed by simply removing the top panel, making these tasks much quicker and easier.

### Self-Diagnostic Function

Should a malfunction occur, the unit diagnoses the problem and shows the corresponding alphanumeric code. This allows quicker servicing.

Not all features found on all models.

# Split Type Feature Comparison

 Reverse cycle models		Single Inverter Split			Single Split	
		Wall-Mounted				
		CS-XE9EKE CS-XE12EKE	CS-E9FKR CS-E12FKR CS-E15FKR	CS-E18FKR CS-E21FKR CS-E24FKR CS-E28FKR	CS-W7DKR CS-W9DKR CS-W12EKR	CS-W18DKR CS-W24EKR
Refrigerants Type						
Healthy Air Quality	 Auto Filter Cleaning Function	●				
	 SUPER alleru-buster filter	● (long-life)	●	●	●	●
	 Supersonic Air Purifying System		●	●	●	●
	 Deodorising Filter		●	●	● (Only CS-W12EKR)	● (Only CS-W24EKR)
	 Ion Freshener				● (Except CS-W12EKR)	● (Except CS-W24EKR)
	 One-Touch Air Filter	●	●	●	●	●
	 Odour-Removing Function	●	●	●	●	●
	 Removable, Washable Panel	●	●	●	●	●
Comfortable	 Inverter Control	●	●	●		
	 Quiet Mode	●	●	●	●	●
	 Powerful Mode	●	●	●	●	●
	 Soft Dry Operation Mode	●	●	●	●	●
	 Personal Airflow Creation	●	●	●		●
	 Airflow Direction Control (Up & Down)				●	
	 Auto Changeover (Inverter)	●	●	●		
	 Auto Changeover				●	●
	 Automatic Operation Mode (Cooling)					
	 Hot Start Control	●	●	●	●	●
 Circulation Operation Mode						
Convenient	 24-Hour ON&OFF Real Setting Timer	●	●	●	●	
	 LCD Wireless Remote Controller	●	●	●	●	
Reliable	 Blue Fin Condenser		●	●	●	●
	 Random Auto Restart	●	●	●	●	●
	 Long Piping	15m	15m	20m [E18/E21] 30m [E24/E28]	10m [W7/W9] 15m [W12]	25m
	 Plug Type & Ampere Capacity * The plug must be installed.	Ⓜ 10A	Outdoor Power Supply	Outdoor Power Supply	Ⓜ 10A	Ⓜ 10A [W18] Ⓜ 20A [W24]
	 Top-Panel Maintenance Access	●	●	●	●	●
	 Self-Diagnostic Function	●	●	●		

\* Total room / One room

# Specifications

## Single Inverter Split

Cooling ( ): Outdoor Unit EER: Cooling Efficiency  
Heating COP: Heating Efficiency

Model No. (240V)	Cooling Capacity		Air Flow L/s	Dehumid L/h	External Static Pressure Pa(mmAq)	Running Current A	Power Input kW	EER COP	Star Rating	Sound Pressure Level** dB (A)		Sound Power Level dB (A)	Net Weight kg	Dimensions Height x Width x Depth mm	Maximum Pipe Length** m	Power Supply A
	kW	Btu/h								Inside (Hi/Lo)	Outside (Hi/Lo)					
<b>CS-XE9EKE (CU-XE9EKE)</b>	2.60 (0.60-3.00) 3.60 (0.60-6.10)	8,870 (2,050-10,200) 12,300 (2,050-20,800)	177 195	1.6	—	2.7 3.7	0.57 (0.12-0.70) 0.81 (0.115-1.64)	4.56 4.44	6.0 6.0	39 / 26 40 / 27	46 / — 47 / —	59 60	13 (37)	305 x 870 x 229 (540 x 780 x 289)	15	Indoor 10
<b>CS-XE12EKE (CU-XE12EKE)</b>	3.50 (0.60-4.00) 4.80 (0.60-6.70)	11,900 (2,050-13,600) 16,400 (2,050-22,800)	198 212	2.0	—	4.0 5.4	0.88 (0.12-1.10) 1.22 (0.115-1.84)	3.98 3.93	6.0 6.0	42 / 29 42 / 33	48 / — 50 / —	61 63	13 (37)	305 x 870 x 229 (540 x 780 x 289)	15	Indoor 10
<b>CS-E9FKR (CU-E9FKR)</b>	2.60 (0.80-3.00) 3.60 (0.80-5.00)	8,870 (2,730-10,200) 12,300 (2,730-17,100)	160 175	1.6	—	2.8 3.8	0.60 (0.175-0.78) 0.845 (0.165-1.36)	4.33 4.26	6.0 6.0	39 / 26 40 / 27	46 / — 47 / —	59 60	9 (37)	280 x 799 x 183 (540 x 780 x 289)	15	Outdoor 10
<b>CS-E12FKR (CU-E12FKR)</b>	3.50 (0.80-4.00) 4.90 (0.80-6.70)	11,900 (2,730-13,600) 16,700 (2,730-22,800)	178 187	2.0	—	4.3 5.6	0.965 (0.185-1.20) 1.26 (0.175-1.89)	3.63 3.89	6.0 5.5	42 / 29 42 / 33	48 / — 50 / —	61 63	9 (37)	280 x 799 x 183 (540 x 780 x 289)	15	Outdoor 10
<b>CS-E15FKR (CU-E15FKR)</b>	4.40 (0.90-5.00) 5.50 (0.90-7.10)	15,000 (3,070-17,100) 18,800 (3,070-24,200)	183 197	2.4	—	6.2 7.0	1.37 (0.215-1.60) 1.57 (0.245-2.25)	3.21 3.50	4.5 4.5	43 / 32 43 / 35	46 / — 46 / —	59 59	9 (48)	280 x 799 x 183 (750 x 875 x 345)	15	Outdoor 10
<b>CS-E18FKR (CU-E18FKR)</b>	5.30 (0.90-6.00) 6.60 (0.90-8.00)	18,100 (3,070-20,500) 22,500 (3,070-27,300)	253 278	2.9	—	7.3 7.9	1.65 (0.215-2.05) 1.79 (0.245-2.65)	3.21 3.69	4.5 5.0	44 / 37 44 / 37	47 / — 47 / —	60 60	11 (49)	275 x 998 x 230 (750 x 875 x 345)	20	Outdoor 15
<b>CS-E21FKR (CU-E21FKR)</b>	6.30 (0.90-7.10) 7.20 (0.90-8.50)	21,500 (3,070-24,200) 24,600 (3,070-29,000)	270 288	3.5	—	9.0 8.8	2.06 (0.215-2.40) 2.00 (0.245-2.70)	3.06 3.60	4.0 4.5	45 / 37 45 / 37	48 / — 49 / —	61 62	11 (51)	275 x 998 x 230 (750 x 875 x 345)	20	Outdoor 20
<b>CS-E24FKR (CU-E24FKR)</b>	7.20 (0.90-8.10) 8.60 (0.90-9.90)	24,600 (3,070-27,600) 29,300 (3,070-33,800)	282 305	4.2	—	10.3 11.1	2.30 (0.35-2.70) 2.51 (0.36-3.20)	3.13 3.43	4.0 4.0	47 / 38 47 / 38	52 / — 52 / —	66 66	12 (72)	275 x 998 x 230 (795 x 900 x 320)	30	Outdoor 20
<b>CS-E28FKR (CU-E28FKR)</b>	8.10 (0.90-8.60) 9.60 (0.90-11.00)	27,600 (3,070-29,300) 32,700 (3,070-37,500)	295 312	4.8	—	12.0 14.4	2.72 (0.35-2.95) 3.25 (0.36-3.79)	2.98 2.95	3.5 3.0	49 / 38 48 / 38	53 / — 53 / —	67 67	12 (72)	275 x 998 x 230 (795 x 900 x 320)	30	Outdoor 20

\*1 Sound Pressure Level is measured according to JIS C 9612.

\*2 Additional Gas might be required for some models.

## Single Split

Cooling ( ): Outdoor Unit EER: Cooling Efficiency  
Heating COP: Heating Efficiency

Model No. (240V)	Cooling Capacity		Air Flow L/s	Dehumid L/h	Running Current A	Power Input kW	EER COP	Star Rating	Sound Pressure Level** dB (A)		Sound Power Level dB (A)	Net Weight kg	Dimensions Height x Width x Depth mm	Maximum Pipe Length** m	Power Supply A
	kW	Btu/h							Inside (Hi/Lo)	Outside (Hi/Lo)					
<b>CS-W7DKR (CU-W7DKR)</b>	2.30 2.45	7,840 8,350	132 152	1.5	3.2 3.0	0.72 0.685	3.19 3.58	5.0 6.0	34/26 36/26	47/— 49/—	62 64	9 (26)	280 x 799 x 183 (510 x 650 x 230)	10	Indoor 10
<b>CS-W9DKR (CU-W9DKR)</b>	2.75 3.05	9,380 10,400	143 162	1.6	3.8 3.8	0.875 0.865	3.14 3.53	4.5 5.5	36/26 39/26	49/— 50/—	64 65	9 (29)	280 x 799 x 183 (510 x 650 x 230)	10	Indoor 10
<b>CS-W12EKR (CU-W12EKR)</b>	3.60 3.90	12,300 13,300	178 182	2.1	5.0 4.9	1.1 1.09	3.27 3.58	4.5 4.5	41/29 42/29	50/— 50/—	65 66	8 (35)	280 x 799 x 183 (540 x 780 x 289)	15	Indoor 10
<b>CS-W18DKR (CU-W18DKR)</b>	5.30 5.75	18,100 19,600	255 267	2.9	7.8 7.8	1.81 1.80	2.93 3.19	4.0 3.5	43/38 42/38	50/— 51/—	63 64	11.0 (56.0)	275 x 998 x 230 (750 x 875 x 345)	25	Indoor 10
<b>CS-W24EKR (CU-W24EKR)</b>	7.03 7.80	24,000 26,600	290 303	4.0	11.1 11.7	2.37 2.46	2.97 3.17	3.5 3.0	47/41 46/41	53/— 54/—	66 67	11.0 (63.0)	275 x 998 x 230 (750 x 875 x 345)	25	Indoor 20

\*1 Sound Pressure Level is measured according to JIS C 9612.

\*2 Additional Gas might be required for some models.

### Rating Conditions


	Cooling	Heating
Inside air temperature	27°C DB/19°C WB	20°C DB
Outside air temperature	35°C DB	7°C DB/6°C WB

- Power plugs are not supplied with the unit.
- Electrical work must be installed by a licensed electrician. Be sure to use the correct rating of the power plug and mains circuit for the model to be installed.
- Please read the Installation Instructions carefully before installing the unit, and read the Operating Instructions before using.

## Optional Accessories


### Filters

#### Replacement SUPER alleru-buster filter - Long-life type (10 years)

Applicable Models	
	<b>CZ-SA15P</b>
	Wall-Mounted (Super Deluxe)
	CS-XE9EKE, CS-XE12EKE

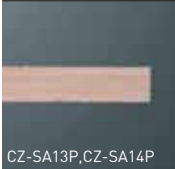
Replacement: every 10 years

#### Replacement SUPER alleru-buster filter & Deodorizing filter

Applicable Models	
	<b>CZ-SAD13P</b>
	Wall-Mounted (Deluxe, Deluxe-Wide)
	CS-E9FKR, CS-E12FKR, CS-E15FKR, CS-E18FKR, CS-E21FKR, CS-E24FKR, CS-E28FKR

Replacement: every 3 years


#### Replacement SUPER alleru-buster filter

Applicable Models		
	<b>CZ-SA13P</b>	<b>CZ-SA14P</b>
	Wall-Mounted (Deluxe, Deluxe-Wide), Cassette (4-way)	Wall-Mounted (Super Deluxe Slim), Floor or Ceiling
	CS-E9DKRW, CS-E12DKRW, CS-E15DKRW, CS-E18DKRW, CS-ME7DKRG, CS-W7DKR, CS-W9DKR, CS-W12EKR, CS-V7DKR, CS-V9EKR, CS-V12DKR, CS-W18DKR, CS-W24EKR, CS-A28DKR, CS-V18DKR, CS-V24EKR, CS-V28EKR, CS-E15DB4EW, CS-E18DB4EW, CS-E21DB4ES	CS-TE9DKE, CS-TE12DKE, CS-E15DTEW, CS-E18DTEW, CS-E21DTE5, CS-ME10DTEG

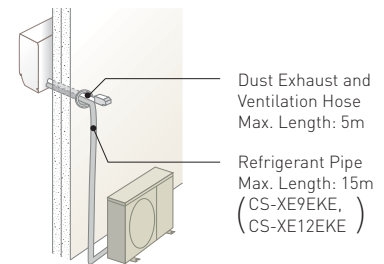
Replacement: every 3 years

### Installation Parts

#### Dust Exhaust and Ventilation Hose (The indoor unit includes a 2-metre hose)

Applicable Models		
	<b>Extension Hose (3m)</b>	<b>Replacement Hose (5m) with Tip Cover</b>
	<b>CZ-HV3P</b>	<b>CZ-HV5P</b>
	Can be added to the included 2-metre hose if necessary.	Use to replace the included 2-metre hose for concealed piping use. <b>Use with the included 2-metre hose or the CZ-HV3P is not permitted. (Maximum hose length is 5 m.)</b>
CS-XE9EKE, CS-XE12EKE		

#### Hose Extension (Maximum Length)



#### Standard Warranty



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# Panasonic

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