

NEW ETHEREA.
NEW TECHNOLOGY '17



New Etherea with Econavi intelligent sensor and new nanoe™ air-purifying system: outstanding efficiency A+++, comfort (Super Quiet technology only 19dB(A)) and healthy air combined with a breakthrough design.

New Etherea 2017. Perfect outside, perfect inside

The new Etherea has an astonishingly slim design.

A breakthrough design that combines perfectly with the most modern environments. We have selected the best materials and processes for a refined design. And now they're available in an elegant metallic or matt silver and matt or gloss white.

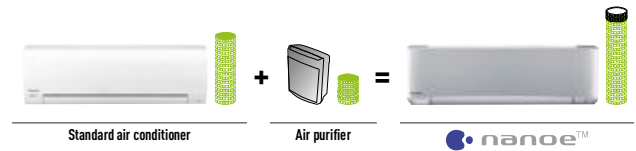


Discover how to achieve energy savings with the new Etherea A+++.

Econavi Sensor technology reduce waste by adjusting the operation of the air conditioner to suit the requirements of the room. With just one touch of a button, you can save energy efficiently with uninterrupted cooling, comfort and convenience.

Get the best for your health with Etherea and nanoe™.

Using nanoe™ with nano-technology, fine particles purify the air in the room. It works effectively on airborne and adhesive micro-organisms such as bacteria, viruses and mould thus ensuring a cleaner living environment.



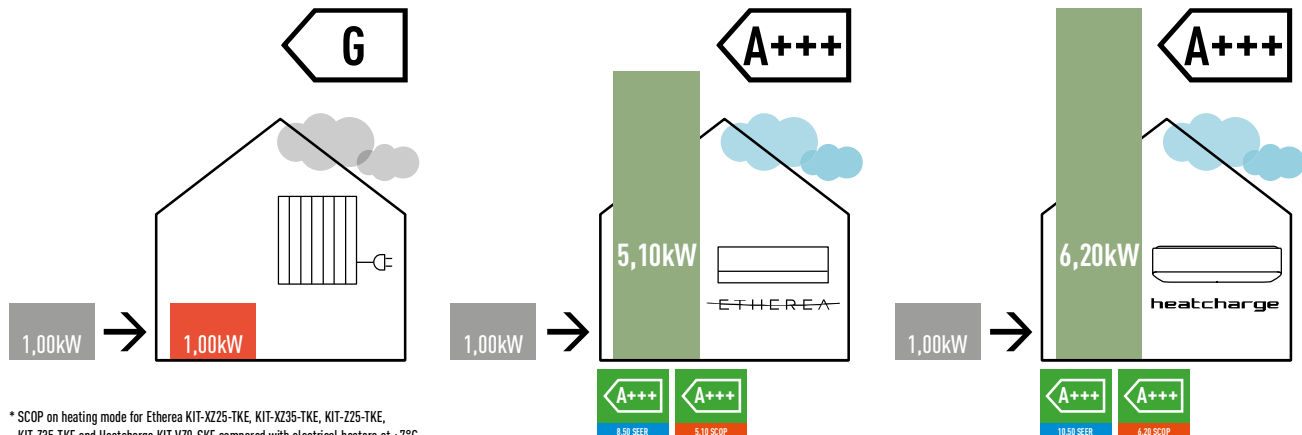
New Etherea and Heatcharge performance: the very best SEER and SCOP available

Etherea and Heatcharge. Economical, environment-friendly operation high SCOP (Seasonal Coefficiency of Performance).

Original Panasonic Inverter technology and a high performance compressor provide top-class operating efficiency. This lets you enjoy lower electricity bills while contributing to environmental protection.



Maximum savings for your home



* SCOP on heating mode for Etherea KIT-XZ25-TKE, KIT-XZ35-TKE, KIT-Z25-TKE, KIT-Z35-TKE and Heatcharge KIT-VZ9-SKE compared with electrical heaters at +7°C.

NEW NANO-SIZED ELECTROSTATIC ATOMIZED WATER PARTICLES, NANOE™, THAT IMPROVE AIR QUALITY



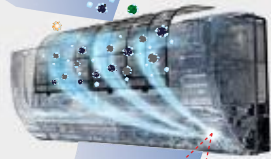
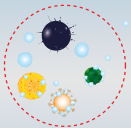
The world is focusing its attention on this breakthrough technology that could be the key to the air purification.

VIRUS
BACTERIA
POLLEN
INHIBITION

Airborne
Inhibit 99,9% bacteria and viruses in the air.



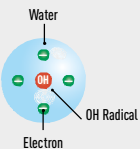
nanoe™ attack micro-organisms.



nanoe™ fine particles released from the generator.



Adhesive
Inhibit 99,9% bacteria, viruses, pollen and mould in fabric elements. Also, deodorize odour inside.



nanoe™ is nano-sized electrostatic atomized water particles with plentiful OH radicals. Its effectiveness of bacteria inhibition depends on the number of OH radical, which is generated at the rate of 480 billion per second.



Proven benefits of electrostatic atomized water particles, nanoe™, through experiments. The benefits range widely from inhibiting viruses and bacteria, inhibiting mould and allergens, moisturizing skin. Experiments by universities and research institutions have proven the effects of nanoe™.

Characteristics of nanoe™ Technology

1. Long Life. 6 times longer lifespan than general negative ion. nanoe™ contains moisture around 1.000 times more than general negative ion. Being contained in water particles, it has a longer lifespan and is able to spread for a long distance.

Comparison of distribution in the room

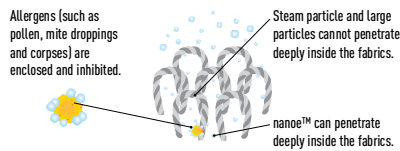


nanoe™
nanoe™ spreads to every corner.

General negative ion
Ions decay before spreading throughout the room.

2. Water-originated. nanoe™ comes from condensed moisture in the air so that water replenishment for nanoe™ generation is not required.

nanoe™ is tiny enough to penetrate into clothes for inhibiting mould and deodorizing



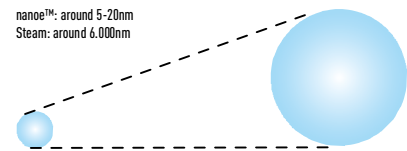
Allergens (such as pollen, mite droppings and corpses) are enclosed and inhibited.

Steam particle and large particles cannot penetrate deeply inside the fabrics.

nanoe™ can penetrate deeply inside the fabrics.

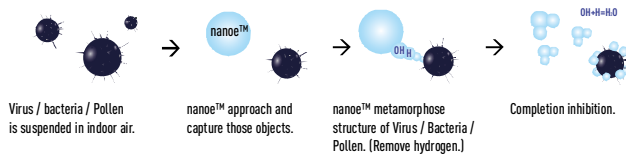
3. Microscopic Scale. Only one-billionth the size of a steam particle nanoe™ is much smaller than steam that can deeply penetrate into cloth fabrics to deodorize.

* 1nm (nanometer) = one billionth of meter.



How does nanoe™ technology help you?

1. Virus / Bacteria / Pollen inhibition. Inhibits virus. Influenza virus 99,9% inhibited.



Virus / bacteria / Pollen is suspended in indoor air.

nanoe™ approach and capture those objects.

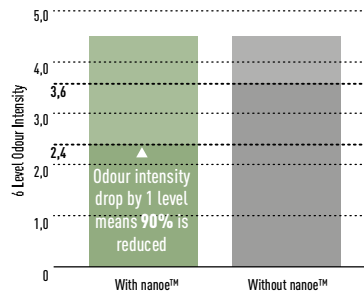
nanoe™ metamorphose structure of Virus / Bacteria / Pollen. [Remove hydrogen.]

Completion inhibition.

The effectiveness of nanoe™

	Tested contents	Result (deactivate)	Testing condition		Tested laboratory / company	Report doc No.
			Size	Time		
Airborne	Virus (Coliphage)	99,7%	10m ²	6h	Kitasato research center for Environmental science	KRCES 24_0300_1
	Bacteria (Staphylococcus aureus)	99,7%	10m ²	4h	Kitasato research center for Environmental science	KRCES 24_0301_1
Adhesive	Virus (Coliphage)	99,8%	10m ²	8h	Japan food research laboratories	13001265005-01
	Virus (Influenza)	99,9%	1m ²	2h	Kitasato research center for Environmental science	KRCES 21_0084_1
	Bacteria (Staphylococcus aureus)	99,1%	10m ²	8h	Japan food research laboratories	13044083003-01
	Tobacco odour	Deodorized in 2h	10m ²	2h	Panasonic analysis center	BAA33-130125-D01
	Cedar pollen	99%	45L	2h	Panasonic analysis center	E02-080303IN-03

2. Deodorization. The smell adhered at curtain and sofa are deodorized. Reduce 90% Odour (tobacco smell) after 120 minutes.



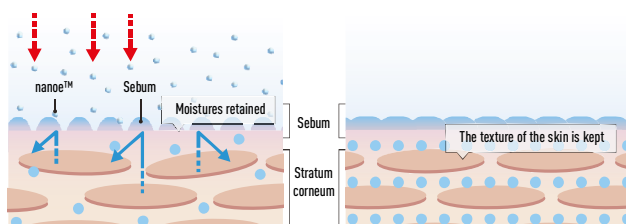
Deodorization Effect for Adhering Odour (Tobacco)

Odour intensity 1,2 level down.

The deodorization effect will vary subject to the surrounding environment (temperature / humidity), operation time, types of smell and clothes.

- Test Laboratory: Panasonic Corporation Analysis Center. - Test Methodology: Verifying with 6-level odour intensity indication in 10m² test room. - Deodorization Method: nanoe™ emit. - Test Subject: Adhering Tobacco Smell. - Test Result: 1,2 level of odour intensity is decreased after 120 minutes. - Report No.: BAA33-130125-D01.

3. Moisturing Skin. Helps retain the moisture of the skin.



With nanoe™
nanoe™ hydrate the sebum on the skin to prevent the loss of moistures.

After 28 days
Skin is hydrated that nanoe™ keeps the texture of the skin.

Test Laboratory: FCG Research Institute Inc. Report no. 19104

Reliable technology chosen by the world.

The cutting edge technology of Panasonic's nanoe™ purifying technology has been chosen by Lexus to equip its vehicles for clean indoor air.



ECONAVI INTELLIGENT SENSORS.
DISCOVER HOW TO ACHIEVE ENERGY SAVINGS

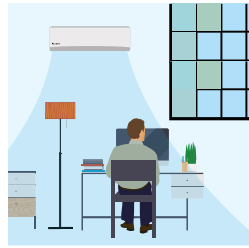




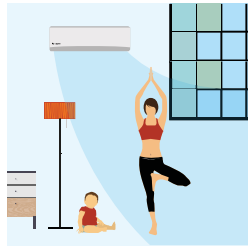
Econavi detects and reduces this waste in all the right ways
Using high-tech sensors and precise control programs, it analyses room conditions and adjusts cooling power accordingly.
Econavi is smart enough to locate and operate in all the right places to give you more comfort and better energy savings.

5 Features saving energy all at once: Econavi with intelligent eco sensors

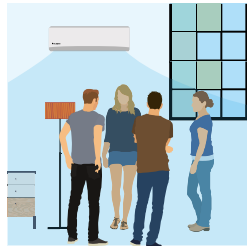
Intelligent Sensors detect potential waste of energy using the Human Activity Sensor and Sunlight Sensor. It is able to monitor human location, movements, absence and sunlight intensity. It then automatically adjusts cooling power to save energy efficiently with uninterrupted heating and cooling comfort and convenience.



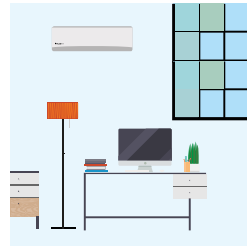
Temperature Wave
Rhythmic temperature-controlled pattern to save energy without sacrificing comfort.



Area Search
Directs airflow to wherever you are in the room. Econavi detects changes in human movements and reduces the waste of cooling the unoccupied area of the room.



Activity Detection
Adapts cooling power to your daily activities. Econavi detects changes in activity levels and reduces the waste of cooling with unnecessary power.



Absence Detection
Reduces cooling power when you are not around. Econavi detects human absence in the room and reduces the waste of cooling an empty room.



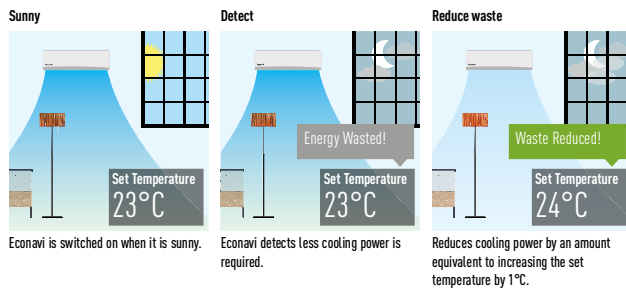
Sunlight Detection
Adjusts cooling power to changes in sunlight intensity.

Econavi sunlight sensor

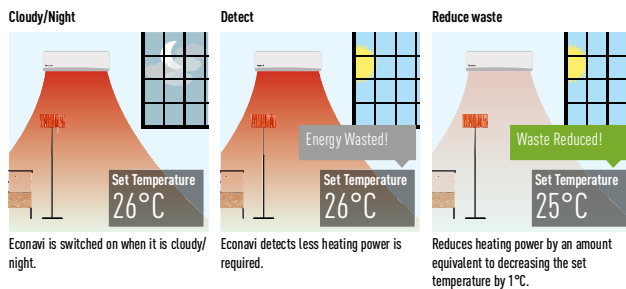
Sunlight Detection (on Cooling and Heating Mode).

Econavi detects changes in sunlight intensity in the room and judges whether it is sunny or cloudy/night. It reduces waste energy by reducing cooling under less sunny conditions on the cooling mode or reducing heating operation under more sunnier conditions on the heating mode.

Sunlight detection (on cooling mode)



Sunlight detection (on heating mode)



Temperature wave

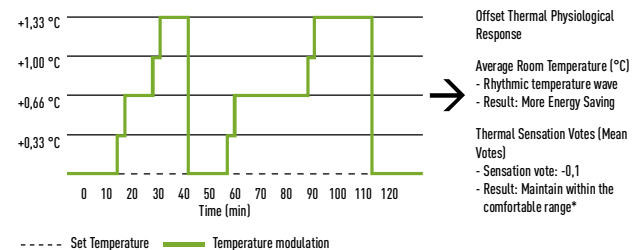
Rhythmic temperature-controlled pattern to save energy without sacrificing comfort.

Econavi with Temperature Wave was developed based on an understanding of Thermal Physiology; the human body adapts physiologically to changes in temperature. Taking advantage of this understanding, Panasonic's R&D Centre has developed the Rhythmic Temperature Control pattern, which offsets the air conditioner's performance against thermal physiological responses.

Hence, when Econavi detects human presence and low activity level, Temperature Wave adapts to this rhythmic temperature control to realise further energy savings without sacrificing comfort.

How does temperature wave works?

When Econavi detects low activity



The result of the experiment showed that thermal sensation was maintained within the comfortable range* even though average set temperature was moderately increased. Hence, when Econavi detects human presence and low activity level, Temperature Wave adapts to this rhythmic temperature control to realise further energy saving without sacrificing comfort.

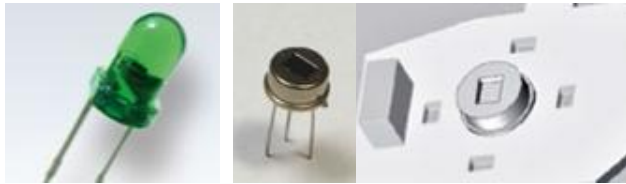
* The thermal condition of which PMV (Predicted Mean Value) is within -0,5 to +0,5 is recommended as comfortable condition (in the condition B) by International Standard EN ISO 7730.



So much saved with so little effort
Up to 38%* energy savings for Inverter cooling model with temperature wave.

Econavi Intelligent Sensors

Econavi Intelligent Sensors are able to monitor sunlight intensity, human movements, activity levels and human absence to detect unconscious waste of energy and automatically adjusts cooling power to save energy efficiently whilst still providing uninterrupted cooling comfort and convenience.

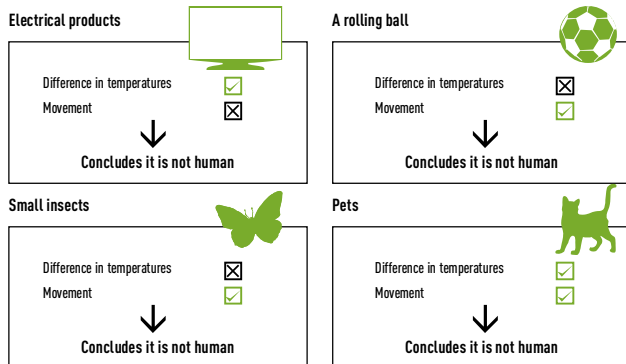


Sunlight Sensor.
Detects changes in Sunlight Intensity

Human Activity Sensor.
Detects human movements, changes in activity levels and human absence.

Differentiating objects.

Econavi's sensor technology uses factors such as speed, frequency and temperature of every object to determine if it is human.



Both changes may be detected, but they are too small to have any effect on the sensor.

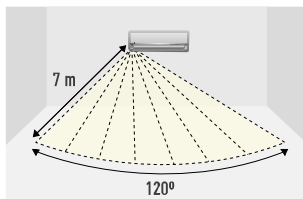
From the difference in temperatures and the nature of the object's movement, Econavi can determine if it's human*.

* The sensor may deem pets as humans, unless it moves within the detection zone at speeds that are not humanly possible.

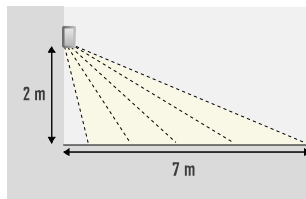
Coverage capabilities.

Human Activity Sensor covers a wider area due to its improved area detection function. The entire room is divided into 7 detection areas.

Horizontal sensing area.



Vertical sensing area.

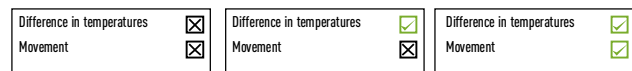


High-precision sensing.

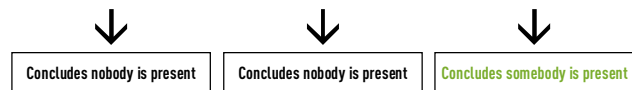
All objects emit infrared rays which, although invisible, can be detected as heat by Econavi's Human Activity Sensor if it is within the detection zone. When an object moves within its detection zone, Econavi compares the object's temperature with the room temperature to determine if it is human, and level of activity based on its movement.



Detecting Human Presence



When there is no movement for over 20 min.



Determining the Level of Human Activity

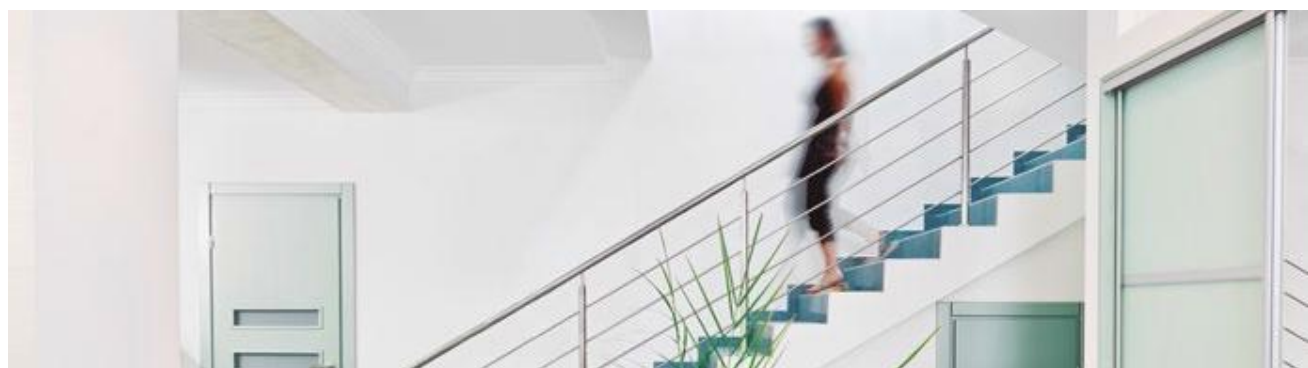
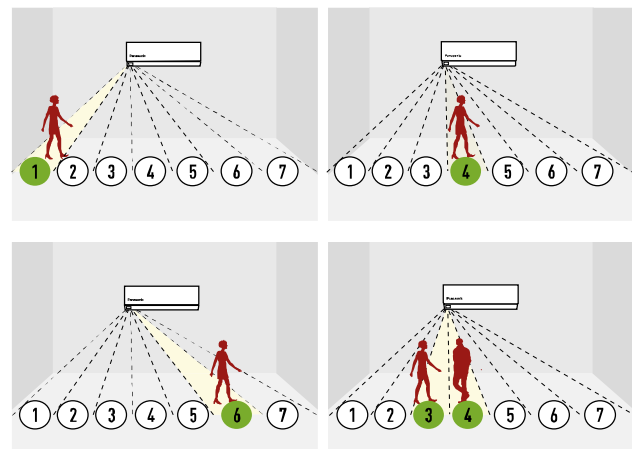


A highly precise conclusion is reached through a complex algorithm



Sensor detection principle.

Human Activity Sensor detects human activity level and directs airflow to occupied or high activity zone.



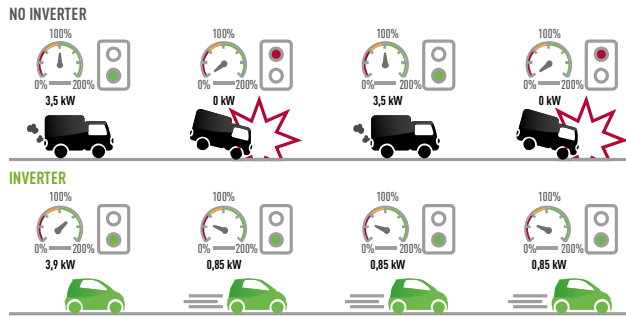
Inverter technology

The secret is flexibility.

Panasonic Inverter air conditioners have the flexibility to vary the rotation speed of the compressor. This allows it to use less energy to maintain the set temperature while also being able to cool the room quicker at start up.

So you can enjoy better savings on your electricity bills while maintaining cooling comfort.

The advantages of inverter heat pumps. Comparing Inverter and non-Inverter heat pumps.



NO INVERTER Slow to start. Takes longer to reach the temperature set point. The temperature oscillates between the two extremes and never stabilises. The temperature falls and then rises quickly, leading to a consumption peak.

INVERTER Rapidly reaches the desired temperature. Adjusts the temperature: more comfort and greater savings. Keeps the temperature comfortable all the time.

Exceptional energy-saving performance. Reduces electricity consumption.

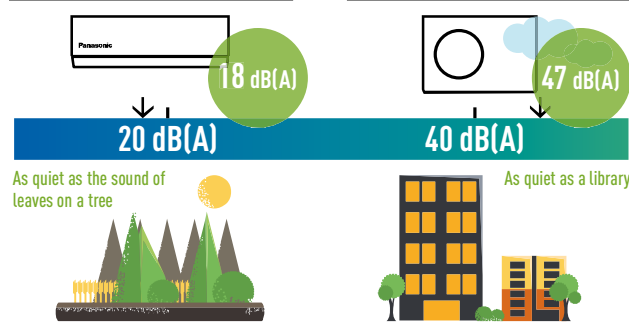
Panasonic Inverter air conditioners are designed to give you exceptional energy savings and performance. At the start up of an air conditioner's operation, a boost in power is required to reach the set temperature. After the set temperature is reached, less power is required to maintain it. The Panasonic Inverter air conditioner varies the rotation speed of the compressor. This provides a highly precise method of maintaining the set temperature.

Silent ambient and relaxing atmosphere 18 dB(A)

We have succeeded in making one of the most silent air conditioners on the market. Panasonic Inverter air conditioner's indoor operating noise has been reduced as the Inverter constantly varies its output power to enable more precise temperature control.

Quiet Mode reduces operation noise to a quiet 18dB(A)* for a comfortable night's sleep.

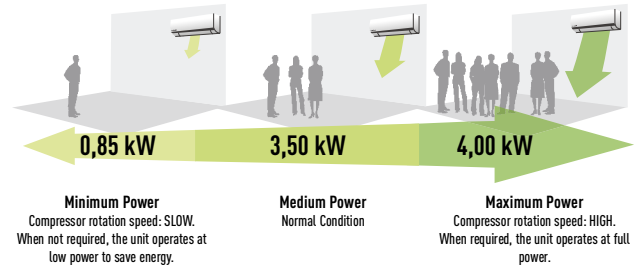
Noise is 5dB(A) quieter than during regular operation.



Heatcharge: In the Quiet Mode during cooling operation with low fan speed.

Constant Comfort.

Precise temperature control with a wide power output range enables an inverter air conditioner to meet different room occupancy levels – thus ensuring constant comfort.

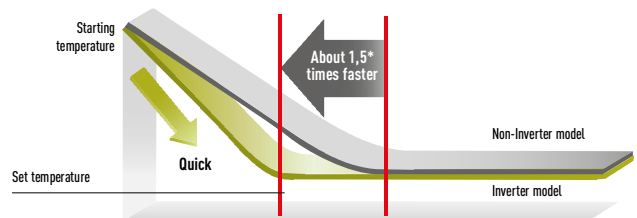


Graph shows the 1,5HP Inverter model's wide power output range during cooling./ Graph shows the 1,5HP Inverter model's wide power output range during cooling.

Quick Comfort.

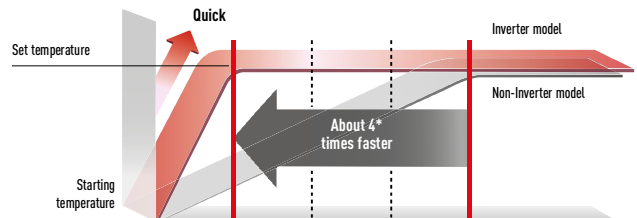
Panasonic Inverter air conditioners can operate with higher power during the start up period to cool the room 1,5 times faster and heat the room 4 times faster than non-Inverter models.

Comparison of Cooling Speed



* 1,5HP Inverter vs. non-Inverter. Outside room temperature: 35°C; setting temperature: 25°C

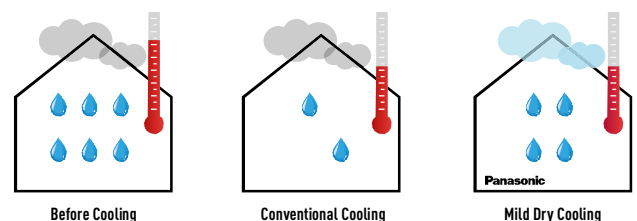
Comparison of Heating Speed



* Comparison of 1.0HP Inverter and Non-Inverter. Outside room temperature: 2°C; Setting temperature: 25°C

Mild Dry Cooling

Mild dry cooling maintains a higher level of relative humidity of up to 10% compared to regular cooling operation. This helps to reduce skin dryness - and a dry throat.



Lowers room temperature while maintaining high humidity.

WALL MOUNTED ETHEREA INVERTER+ SILVER / MATT PEARL WHITE • R32 GAS



ETHEREA

Etherea with enhanced Econavi sensor and new nanoe™ air-purifying system.

Outstanding efficiency, comfort and healthy air combined with state-of-the-art design.

Econavi features an in-built human activity sensor and a new sunlight detection technology to adjust output thereby giving you the best comfort at anytime whilst saving energy. Econavi not only optimizes air flow orientation and volume according to human presence, it also reduces cooling power automatically by no/less sunshine. With Econavi, energy savings of up to 38% are possible, whilst increasing your comfort. Furthermore, the nanoe™ revolutionary air-purifying system utilises nano technology fine particles to remove and deactivate 99% of both airborne and adhesive micro-organisms like bacteria, viruses and mould.

Technical focus

- R32 gas environmental friendly
- Maximum efficiency and comfort with Econavi sensor
- nanoe™ air purifying system, 99% effective on both airborne and adhesive mould, viruses, bacteria and pollen allergen
- Aerowings to control air draft direction
- Mild Dry Cooling: prevent a rapid decrease in room humidity
- Super Quiet! Only 19dB(A), equivalent to night-time in the countryside
- More powerful airflow to quickly reach the desired temperature
- Wired control (Optional)
- Smartphone control (Optional)



Kit Silver			KIT-XZ7-SKE	KIT-XZ9-SKE	KIT-XZ12-SKE	—	KIT-XZ18-SKE	—
Kit Matt Pearl White			KIT-Z7-SKEM	KIT-Z9-SKEM	KIT-Z12-SKEM	KIT-Z15-SKEM	KIT-Z18-SKEM	KIT-Z71-TKE
Cooling capacity	Nominal (Min - Max)	kW	2.05 (0.75 - 2.40)	2.50 (0.85 - 3.00)	3.50 (0.85 - 4.00)	4.20 (0.85 - 5.00)	5.00 (0.98 - 5.60)	7.10 (0.98 - 8.50)
Annual electricity consumption (cooling) ²⁾	Nominal (Min - Max)	kWh/a	4.56 (3.13 - 4.32) A	4.76 (3.54 - 4.20) A	4.17 (3.54 - 3.77) A	3.39 (3.27 - 3.18) A	3.33 (3.50 - 3.26) A	3.27 (2.33 - 2.93) A
SEER	W/W	W/W	7,50 A+++	8,50 A+++	8,50 A+++	6,90 A+++	7,30 A+++	6,50 A+++
Pdesign (cooling)		kW	2.1	2.5	3.5	4.2	5.0	7.1
Input power cooling	Nominal (Min - Max)	kW	0.45 (0.24 - 0.56)	0.53 (0.24 - 0.72)	0.84 (0.24 - 1.06)	1.24 (0.26 - 1.57)	1.50 (0.28 - 1.72)	2.17 (0.42 - 2.90)
Annual electricity consumption (cooling) ²⁾		kWh/a	225	263	420	620	750	382
Heating capacity	Nominal (Min - Max)	kW	2.80 (0.70 - 4.00)	3.40 (0.80 - 5.00)	4.00 (0.80 - 5.80)	5.30 (0.80 - 6.80)	5.80 (0.98 - 7.50)	8.60 (0.98 - 10.200)
Heating capacity at -7°C		kW	2.38	2.95	3.40	4.11	4.66	6.31
COP ¹⁾	Nominal (Min - Max)	W/W	4.52 (3.89 - 4.04) A	4.72 (4.44 - 3.94) A	4.35 (4.44 - 3.82) A	3.68 (4.21 - 3.51) A	3.41 (2.88 - 3.19) B	3.66 (2.45 - 3.46) A
SCOP	W/W	W/W	4,70 A+++	4,90 A+++	4,90 A+++	4,00 A+++	4,40 A+++	4,20 A+++
Pdesign at -10°C		kW	2.1	2.7	3.2	3.6	4.2	5.5
Input power heating	Nominal (Min - Max)	kW	0.62 (0.18 - 0.99)	0.72 (0.18 - 1.27)	0.92 (0.18 - 1.52)	1.44 (0.19 - 1.94)	1.70 (0.34 - 2.35)	2.35 (0.40 - 2.95)
Annual electricity consumption (heating) ²⁾		kWh/a	626	771	914	1.260	1.336	1.833
Indoor Unit Silver			CS-XZ7SKEW	CS-XZ9SKEW	CS-XZ12SKEW	—	CS-XZ18SKEW	—
Indoor Unit White Matt			CS-Z7SKEW-M	CS-Z9SKEW-M	CS-Z12SKEW-M	CS-Z15SKEW-M	CS-Z18SKEW-M	CS-Z71TKEW
Power source	V		230	230	230	230	230	230
Recommended fuse	A		16	16	16	16	16	—
Connection indoor / outdoor	mm ²		4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5	4 x 2.5	—
Air volume	Cooling / Heating	m ³ /min	9.9 / 10.8	10.0 / 11.3	10.7 / 12.0	11.2 / 12.2	11.7 / 12.4	19.8 / 21.5
Moisture removal volume	L/h		1.3	1.5	2.0	2.4	2.8	4.1
Sound pressure ³⁾	Cooling (Hi / Lo / Q-Lo)	dB(A)	37 / 24 / 19	39 / 25 / 19	42 / 28 / 19	43 / 31 / 25	44 / 37 / 34	47 / 38 / 30
	Heating (Hi / Lo / Q-Lo)	dB(A)	38 / 25 / 19	40 / 27 / 19	42 / 33 / 19	43 / 35 / 29	44 / 37 / 34	47 / 38 / 30
Dimensions / Net weight	H x W x D	mm / kg	295 x 919 x 194 / 9	295 x 919 x 194 / 10	295 x 919 x 194 / 10	295 x 919 x 194 / 10	295 x 919 x 194 / 10	299 x 1.120 x 236 / 13
Outdoor			CU-Z7SKE	CU-Z9SKE	CU-Z12SKE	CU-Z15SKE	CU-Z18SKE	CU-Z71TKE
Air volume	Cooling / Heating	m ³ /min	26.9 / 26.9	28.7 / 28.7	34.4 / 35.6	33.3 / 33.7	39.2 / 37.9	44.7 / 45.8
Sound pressure ³⁾	Cooling / Heating (Hi)	dB(A)	45 / 46	46 / 47	48 / 50	49 / 51	47 / 47	52 / 54
Dimensions ⁴⁾ / Net weight	H x W x D	mm / kg	542 x 780 x 289 / 30	542 x 780 x 289 / 33	619 x 824 x 299 / 35	619 x 824 x 299 / 32	695 x 875 x 320 / 46	695 x 875 x 320 / 49
Piping connections	Liquid pipe / Gas pipe	Inch (mm)	1/4 (6.35) / 3/8 (9.52)	1/4 (6.35) / 3/8 (9.52)	1/4 (6.35) / 3/8 (9.52)	1/4 (6.35) / 1/2 (12.70)	1/4 (6.35) / 1/2 (12.70)	1/4 (6.35) / 5/8 (15.88)
Piping length range / Elevation difference (in/out) ⁵⁾	m		3 - 15 / 15	3 - 15 / 15	3 - 15 / 15	3 - 15 / 15	3 - 20 / 15	3 - 30 / 20
Pipe length for additional gas / Additional gas amount	m / g/m		7.5 / 10	7.5 / 10	7.5 / 10	7.5 / 10	7.5 / 15	10 / 25
Refrigerant (R32)	kg / TCO ₂ Eq.		0.76 / —	0.85 / —	0.91 / —	0.87 / —	1.03 / —	1.37 / —
Operating range	Cooling Min - Max	°C	-10 - +43	-10 - +43	-10 - +43	-10 - +43	-10 - +43	-15 - +24
	Heating Min - Max	°C	-15 - +24	-15 - +24	-15 - +24	-15 - +24	-15 - +24	10 - +43

Accessories	
PA-AC-WIFI-1	Full bidirectional Wifi interface for Internet control
PAW-IR-WIFI-1	IR Wifi interface for Internet control

Accessories	
CZ-RD514C	Wired remote controller for wall type
CZ-CAPRA1	H Generation interface to ECOI control integration

1) EER and COP classification is at 230V in accordance with EU directive 2002/31/EC. 2) The annual energy consumption is calculated in accordance with the ErP directive. 3) The sound pressure of the units shows the value measured of a position 1m in front of the main body and 0.8m below the unit. The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification. Q-Lo: Quiet mode. Lo: The lowest fan speed. 4) Add 70mm for piping port. 5) When installing the outdoor unit at a higher position than the indoor unit.



R32

ECONAVI 38%

A+++

A++

INVERTER+

R2 ROTARY COMPRESSOR

99%

19dB(A)

MILD DRY

AEROWINGS

R130A/R32 RENEWAL

INTERCOM-PLINE

INTERNET CONTROL

BMS CONNECTIVITY

5 YEARS WARRANTY

SEER and SCOP: For KIT-XZ9-SKE and KIT-Z9-SKE. SUPER QUIET: For KIT-Z7-SKE, KIT-Z9-SKE, KIT-XZ12-SKE, KIT-Z7-SKE, KIT-Z9-SKE and KIT-Z12-SKE. INTERNET CONTROL: Optional