

NEW
2011

2011

NEW PRODUCTS 2011 // HEATING AND COOLING SYSTEMS

AQUAREA AIR TO WATER HEAT PUMP



DOMESTIC AIR TO AIR HEAT PUMP



VRF FS MULTI



COMMERCIAL AIR TO AIR



VRF INDUSTRIAL



heating and cooling systems

Panasonic

ideas for life



'ECO IDEAS' FOR LIFESTYLES: WE WILL PROMOTE LIFESTYLES WITH VIRTUALLY ZERO CO₂ EMISSIONS THROUGHOUT THE WORLD. SPECIFICALLY:

- 30% of total sales will be achieved through "eco labeled" products. This includes both external labels such as EU eco flower, Blue Angel or Nordic Swan, and our internal 'eco ideas' label, which is given to products which achieve industry-leading environmental performance.¹⁾
- 3,500,000t of contribution in reducing CO₂ emissions with energy solution products (such as Solar Panels, Fuel Cells, Heat Pumps, Energy Recovering Ventilation, LED and Energy Saving Lamps).²⁾
- Educate 100,000 children on eco related topics through the 'kids school - eco learning' programme.

'ECO IDEAS' FOR BUSINESS-STYLES: WE WILL CREATE AND PURSUE BUSINESS-STYLES THAT MAKE THE BEST USE OF RESOURCES AND ENERGY:

- 99% of waste materials generated in European production will be recycled³⁾, meaning less than 1% will be allowed to go to landfill.
- 1,000t of reduction in CO₂ emissions from Panasonic's offices across Europe.⁴⁾
- 7,000t of contribution in reducing CO₂ emissions from production activities.⁵⁾

1) Products awarded the 'eco ideas' label include those whose environmental performance is greater than the industry's No.2 model by 10% or more at the time of release, and those which achieve the highest rank in the market by external environmental labels in accordance to environmental performance.

2) An amount of CO₂ reduction compared to the estimated figure assuming no improvement. Measures were taken after March 31, 2006.

3) Includes all Panasonic Group's European factories with the exception of IPS-Alpha and Sanyo.

4) Based on offices with 100 employees or more; based on FY 2009.

5) An amount of CO₂ reduction compared to the estimated figure assuming no improvement. Measures were taken after March 31, 2006.

PANASONIC HEATING AND COOLING SYSTEMS

With more than 30 years of experience, exporting to more than 120 countries around the world, Panasonic is unquestionably one of the leaders in the air conditioning sector. The company is also a world leader in innovation as it has filed more than 95,025 patents to improve its customers' lives. Moreover, Panasonic is determined to remain at the forefront of its market – thanks to more than 500 researchers working in European laboratories to design increasingly innovative products. In all, the company has produced more than 100 million compressors and its products are manufactured in 294 plants which are located all over the world. You can be assured of the extremely high quality of Panasonic's air conditioners.

This wish to excel has made Panasonic the international leader in heating and air conditioning solutions. The company's industrial capacity and firm commitment to the environment has enabled it to open new avenues of research and to develop innovative technologies which enhance its customers' way of life.

Panasonic offers a range of turnkey heating and air conditioning solutions for homes, medium-sized buildings such as offices and restaurants, and large-scale buildings. These offer maximum effectiveness, comply with the strictest environmental standards and meet the most avant-garde construction requirements of our time.

At Panasonic we know what a great responsibility it is to install heating and cooling systems. Because offering you the best solutions in heating and cooling matters.

EVERYTHING MATTERS



ISO 9000 Series Certification

CERTIFIED TO MS ISO 9002:1994
Panasonic HA Air-Conditioning (M) Sdn. Bhd. (PHAM)
(Formerly known as Matsushita Industrial Corp. Sdn. Bhd.)
Registration No.: AR 0866



Enviroment Management Systems Approval Certificate

CERTIFIED TO MS ISO 14001:1997
Panasonic HA Air-Conditioning (M) Sdn. Bhd. (PHAM)
(Formerly known as Matsushita Industrial Corp. Sdn. Bhd.)
Certification No.: M015802127

heatingandcoolingsystems



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AQUAREA AIR TO WATER HEAT PUMP

Panasonic has created Aquarea T-CAP type, a ground breaking low energy system for heating and domestic hot water production, which operates even at extreme outdoor temperatures. Aquarea guarantees you unbeatable performance and comfort. The outdoor unit can be backed up by solar panels and heats the water used both for domestic purposes and for radiators or radiant floors.

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ETHEREA WITH ECONAVI

More than ever before, Panasonic has developed the Etherea range with Econavi. With its innovative design, high efficiency and incomparable purification system, the range has been designed with your clients in mind. Above all, it is also a range for air conditioning professionals, such as yourself, thanks to its broad range of products which are capable of conditioning rooms of all sizes – always with optimal efficiency and incomparable ease of installation. The Etherea range guarantees that you are offering your clients the very best.

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COMMERCIAL AIR TO AIR

The semi-industrial range is constantly expanding so that you can always offer your clients the best solutions: high performance, silent machines and a complete range of ducts, cassettes and ceiling installations. Our machines are designed for you and are easy to install – enabling you to be increasingly competitive. Furthermore, we help you to improve the energy efficiency of your installations with Panasonic's new, extremely efficient enthalpy regenerator.



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**NEW
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MINI VRF FS MULTI, 4-10 HP

The brand new product in the Mini VRF range is the FS Multi system, which draws on Panasonic's experience in the heating and air-conditioning of large buildings. This is the only VRF range that incorporates Etherea indoor design units, available in white mother-of-pearl or silver grey. It is ideal for industrial or domestic installations.

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VRF INDUSTRIAL AND GHP

The new VRF Eco i series and GHP series are specifically designed for saving energy, easy installation and high efficiency performance, with a wide choice of outdoor and indoor unit models and unique features which are designed for the most demanding offices and big buildings. The hi-COP combined option range is available from 10 to 16 HP (10, 12, 14 & 16HP).

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ENERGY RECOVERY VENTILATION

Energy recovery ventilators offer ventilation which increases comfort and saves energy. They efficiently recover the heat lost in ventilation during the heat recovery process. Energy consumption is dramatically reduced by using a counter-flow heat exchange element. Air conditioning load is reduced by approximately 20%, resulting in significant energy savings.

PANASONIC ECOLOGY & ENERGY VISION

A STEP AHEAD IN ECOLOGY — IN HOMES, BUILDINGS AND TOWNS

Panasonic presents a more comfortable and ecological lifestyle. By linking a wide range of products for saving, creating and storing energy with Energy Management Systems, it is possible to control energy use in a smart way.

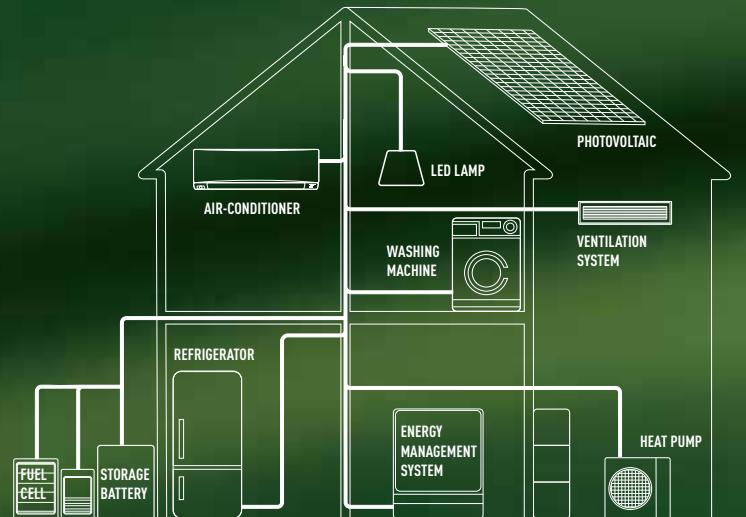
Panasonic aims to contribute towards reducing CO₂ emissions in the entire house and building.

Our steadfast commitment to the environment means that all of our air conditioners meet the most demanding requirements for energy consumption and noise emissions. But it also means that we search for new ideas to improve our environment, both in meticulous control of the processes of manufacturing and distributing our products and in new ways of living our day-to-day lives without endangering the planet's future.



**eco
ideas**

**seabii
ECO**



ENERGY MANAGEMENT

CREATE ENERGY

SAVE ENERGY

STORE ENERGY

AQUAREA

engineered for high performance

AQUAREA'S NEW AIR-TO-WATER HEAT PUMP THE BIGGEST LINE-UP ON THE MARKET TO MEET WITH YOUR DEMAND!

COST-EFFECTIVE AND ENVIRONMENTALLY FRIENDLY, PANASONIC'S NEW AQUAREA AIR-TO-WATER SYSTEM PROVIDES MAXIMUM EFFICIENCY AND CAPACITY EVEN AT -20 °C

Panasonic's new Aquarea system, based on high-efficiency heat pump technology, not only heats your home and hot water, but also cools your home in summer with incredible performances. This creates perfect comfort whatever the weather conditions, even at outdoor temperatures as low as -20°C.

output
water
65°C
HIGH TEMP
HEAT PUMP

100%
capacity
at -15°C
AQUAREA T-CAP

4.74 COP
high
efficiency
AQUAREA
HIGH CONNECTIVITY



energysaving

high
efficiency
heating
INVERTER +

INVERTER+ SYSTEM
The A Inverter+ system provides energy savings of up to 30% compared to non inverter models. You win and nature wins.

environmentally
friendly
refrigerant
R410A

REFRIGERANT R410A
R410A offers optimal performance and involves no environmental cost since it does not harm the ozone layer.

down to
-20°C in
heating mode
**OUTDOOR
TEMPERATURE**

UP TO -20°C IN
HEATING MODE
The air conditioner works in heat pump mode with an outdoor temperature as low as -20°C.

boiler
connection
RETROFIT

RENOVATION
Our Aquarea heat pumps can be connect to an existing or new boiler for optimum comfort even at very low outside temperatures.

solar
panels
connection
SOLAR KIT

SOLAR KIT
For even greater efficiency, our Aquarea heat pumps can be connected to solar panels with an optional kit.

domestic
hot
water
DHW

DHW
With Aquarea you can also heat your domestic hot water at a very low cost with the optional hot water cylinder.

highconnectivity



**NEW
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AQUAREA INCREASE LINE-UP!

- **New** line-up of high temperature Heat Pumps (output water temperature of 65°C)
- **New** line-up of Total capacity Heat Pumps even at -15°C

At the forefront of energy innovation, Aquarea is resolutely positioned as a "green" heating and air-conditioning system.

Aquarea is part of a new generation of heating and air-conditioning systems that use a renewable, free energy source – the air – to heat or cool the home and to produce hot water. The Aquarea heat pump is a much more flexible and cost-effective alternative to a traditional fossil fuel boiler.

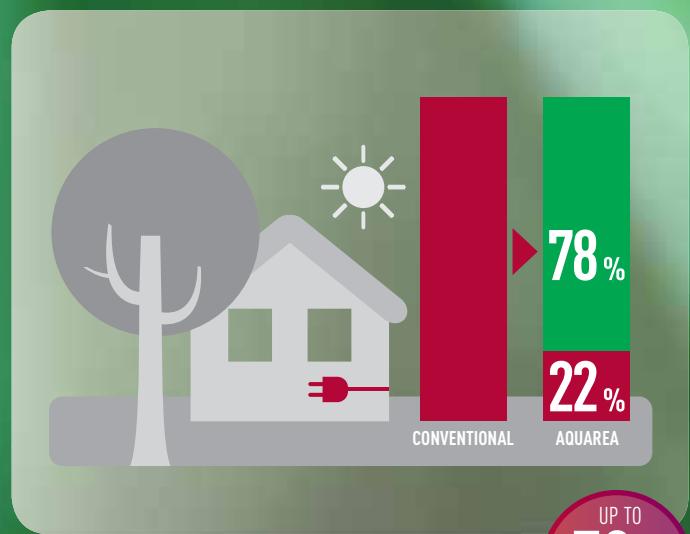
An ideal heating solution for new and old buildings:

- A wide range from 7 to 16 kW, single and three phase, mono-bloc and bi-bloc
- 3 Versions:
 - the Standard Heat Pump
 - the High temperature Heat Pump (output water temperature of 65°C)
 - the Total capacity Heat Pump even at -15°C
- The High-efficiency Heat Pump which operates at outside temperatures as low as -20°C
- Reduces energy costs with its COP of 4.74*
- Reduces energy consumption and CO₂ emissions
- Provides cooling in summer
- Highly flexible:
 - Connects to an existing heating system
 - Connects to solar panels

* COP: energy efficiency in heating mode. COP of 4.74 for the 9kW WH-MDF09C9E8 or WH-UD09CE8 models at an outside temperature of 7 °C, and for water input and output temperatures of 30 °C and 35 °C (according to EN 14511-2)



"GREEN" HIGH-EFFICIENT HEATING WITH PANASONIC'S NEW AIR-TO-WATER HEAT PUMP SYSTEMS



At the forefront of energy innovation, Aquarea is resolutely positioned as a "green" heating and air-conditioning system. Aquarea is part of a new generation of heating and air-conditioning systems that use a renewable, free energy source; air, to heat or cool the home and to produce hot water. The Aquarea heat pump is a much more flexible and cost-effective alternative to a traditional fossil fuel boiler.

We are surrounded by free, inexhaustible energy: supplied by the sun present in all spheres of our environment, in the air, the ground, the groundwater...

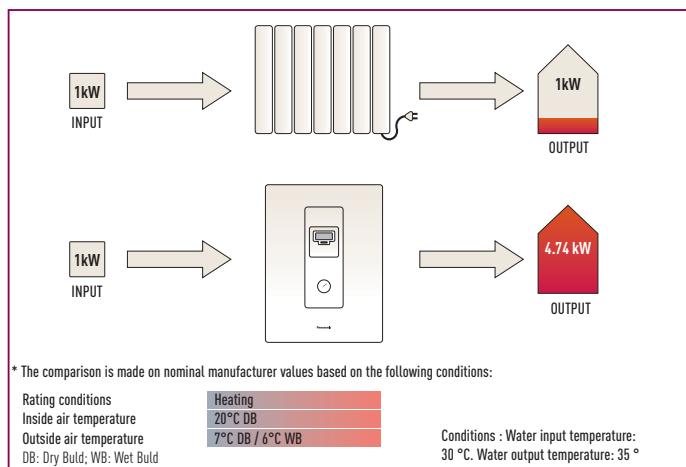
Heat pumps enable us to recover this free, inexhaustible energy and to use it to heat our homes. These systems have the huge advantage, apart from reducing your electricity bill, of saving fossil fuels while at the same time limiting greenhouse gas emissions*.

Thus, Panasonic's Aquarea system is an air/water heat pump system that uses calories from the outdoor air and transmits them via a heat exchanger to the water used to heat your home in winter, in addition, some Aquarea models can even be used to cool your house in summer timer and produce your hot water all year round.

UP TO 78% ENERGY SAVINGS¹⁾

Panasonic's Aquarea heat pump provides savings of up to 78% on heating expenses compared with electrical heaters. For example, the Aquarea system of 9 kW has a COP of 4,74 which means that for every kW of electricity consumed, it returns 4,74 kW of energy, i.e. 3,74 kW more than a conventional electrical heating system which has a maximum COP of 1. This is equivalent to a 78% saving.

Consumption can be further reduced by connecting solar panels to the Aquarea system.



* The comparison is made on nominal manufacturer values based on the following conditions:

Rating conditions	Heating
Inside air temperature	20°C DB
Outside air temperature	7°C DB / 6°C WB
DB: Dry Bulb; WB: Wet Bulb	

Heating
20°C DB

Conditions : Water input temperature: 30 °C. Water output temperature: 35 °

¹⁾ Up to 78% of the heat produced by a heat pump is free, since it comes from the outdoor air.



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PANASONIC HAS DESIGNED A COMPLETELY NEW LINE-UP TO GIVE THE BEST TO OUR CUSTOMERS

Which product for which application?

AQUAREA HIGH CONNECTIVITY

For a house with low temperature radiators or floor heating, our high connectivity Aquarea heat pump is a good solution. This solution can work as a stand-alone unit or can be combined with a gas or oil boiler depending on requirements. This solution has the best ratio for heating capacity and efficiency.

4.74 COP
high efficiency**
**AQUAREA
HIGH CONNECTIVITY**

AQUAREA HT*

For a house with high temperature radiators (for example, cast iron radiators), the Aquarea High Temperature Solution is probably the most adequate as Aquarea HT provides output water temperatures of 65°C even at -15°C. Aquarea HT is able to deliver 65°C with the Heat Pump alone.

**output
water
65°C**
**HIGH TEMP
HEAT PUMP**



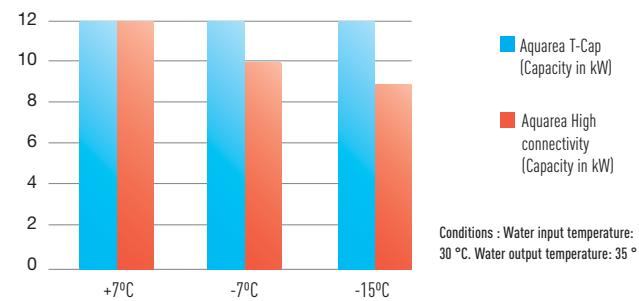
AQUAREA T-CAP*

If the most important aspect is to keep nominal capacities even at temperatures of -7°C or -15°C. This ensures that there is always enough capacity to heat the house without help from an external boiler – even at extremely low temperatures.

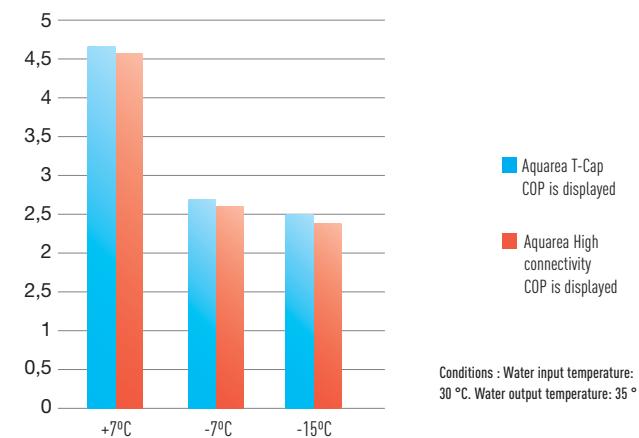


**100%
capacity
at -15°C**
AQUAREA T-CAP

AQUAREA T-CAP MAINTAINS THE NOMINAL CAPACITY TILL -15°C
(EXAMPLE FOR 12kW)



AQUAREA T-CAP AND HIGH CONNECTIVITY HAVE EXTREMELY HIGH EFFICIENCY EVEN AT -15°C



Aquarea T-cap always has high efficiency and high heating capacity even at extremely low temperatures. With Aquarea T-Cap, you can always enjoy high savings.

* Availability: Aquarea T-CAP Single phase: June 2011; Aquarea T-CAP Three phase: September 2011; Aquarea HT: December 2011.

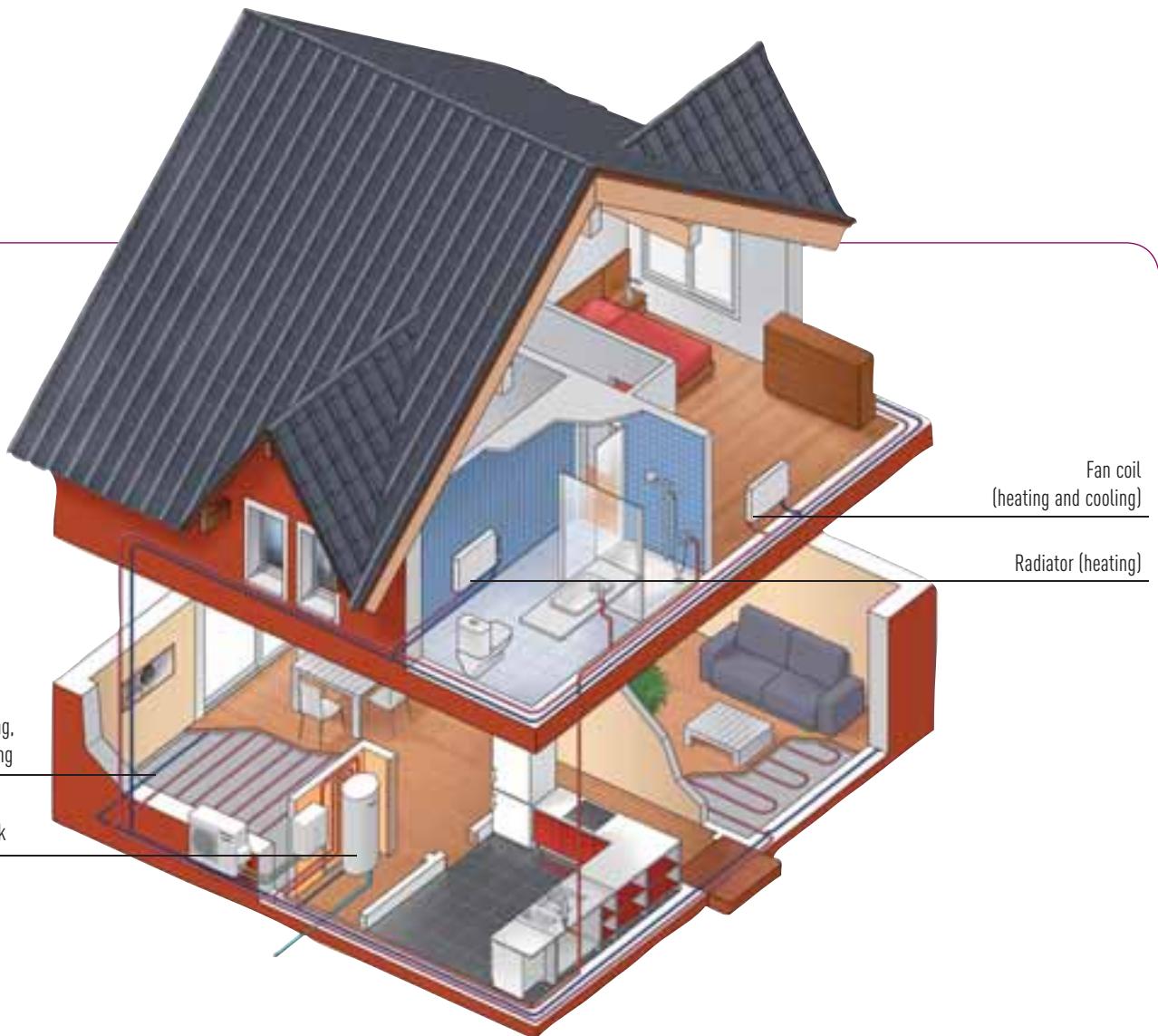
** Tentative spec. Conditions : Water input temperature: 30 °C. Water output temperature: 35 °; outside temperature: +7°C



A COMPACT DESIGN: EASY TO INSTALL AND MAINTAIN

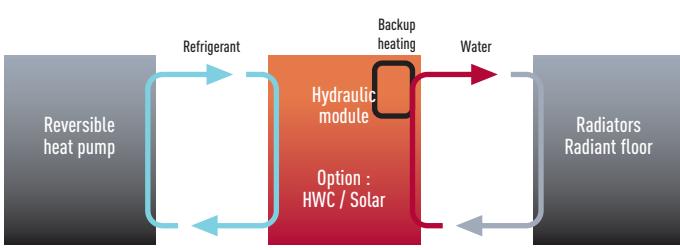
Aquarea is a very easy heating and air conditioning system to install either in new or old buildings.

Panasonic's Aquarea air to water system provides a considerable reduction on installation and maintenance costs. For new buildings, no drilling or excavation work is necessary to capture the heat, unlike geothermal installations, nor any gas connection, chimneys or fuel reservoirs. For retrofits or refurbishing, it is easy to connect to an existing heating system with low-temperature radiators or a radiant floor.



HOW DOES THE AQUAREA SYSTEM WORK ?

An air to water heat pump system uses heat energy present in the outdoor air to heat the house, cool it and also to produce hot water. The Aquarea system therefore uses free energy to heat or cool your home. It only consumes electricity to operate the compressor, the electronics, the pumps and in the event of very low temperatures, the electric elements. The result is very high efficiency and real energy savings.



THERE ARE SEVERAL TYPES OF HEAT PUMP:

- The bi-bloc system

This is formed by an outdoor unit and a hydraulic module, normally located in the utility room or garage. This configuration requires refrigerant pipes between the two units but is easily integrated in the house and can be connected to an existing boiler, for example.

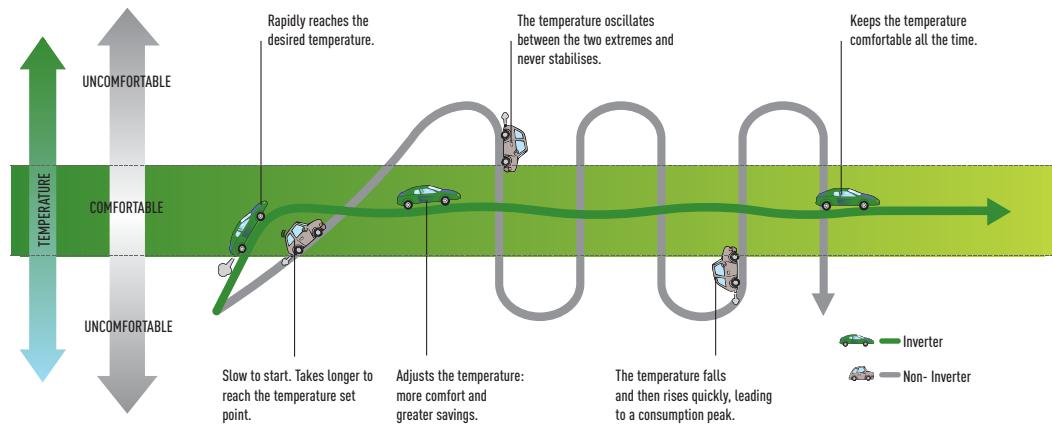
- The mono-bloc system

It only has an outdoor unit. The installation doesn't require a refrigerated connection and is only connected to the heating system. This system is therefore easier to install, but requires more outdoor space.



INVERTER+ COMPRESSOR FOR EVEN GREATER EFFICIENCY

With over 100 million compressors supplied, Panasonic has demonstrated its status as leader and the excellent quality and reliability of its heat pumps.
With a Panasonic Inverter+ compressor, you can save up to 30% energy compared to a traditional system no inverter.





COP
4,74

COMFORT, SAVINGS AND POWER EVEN AT VERY LOW TEMPERATURES

Panasonic's inverter+ system

After quickly reaching the selected temperature, the Inverter+ system will gradually adjust the power in order to maintain a constant temperature. Thus, there will not be any sudden changes in temperature and the capacity of the power also guarantees a constant and pleasant temperature, even when the outside temperature changes.

Maximum efficiency even at extremely low temperatures

The Aquarea range has been specially designed to provide maximum efficiency even at extreme temperatures when compared with electrical heaters or gas boilers.

SDF/SDC/MDF/MDC	7 kW	9 kW	12kW	14 kW	16 kW
Heating Capacity at +7°C (kW)	7	9	12	14	16
COP at +7°C with heating water temperature at 35°C	4,4	4,74	4,67	4,5	4,23
Heating Capacity at +2°C	6,55	9	11,4	12,4	13
COP at +2°C with heating water temperature at 35°C	3,31	3,53	3,4	3,32	3,25
Heating Capacity at -7°C (kW)	5,15	9	10	10,7	11,4
COP at -7°C with heating water temperature at 35°C	2,65	2,81	2,7	2,62	2,55
Heating Capacity at -15°C (kW)	4,6	8,3	8,9	9,5	10,3
COP at -15°C with heating water temperature at 35°C	2,3	2,55	2,43	2,35	2,33

SXF/SXC/MXF/MXC	9 kW	12 kW
Heating Capacity at +7°C (kW)	9	12
COP at +7°C with heating water temperature at 35°C	4,74	4,67
Heating Capacity at +2°C	9	12
COP at +2°C with heating water temperature at 35°C	3,53	3,4
Heating Capacity at -7°C (kW)	9	12
COP at -7°C with heating water temperature at 35°C	2,81	2,7
Heating Capacity at -15°C (kW)	9	12
COP at -15°C with heating water temperature at 35°C	2,54	2,4

Conditions : Water input temperature: 30 °C. Water output temperature: 35 °.

* Tentative specifications

HOW TO CALCULATE THE POWER YOUR HOUSE NEEDS

To calculate the power, you will need a thermal balance report drawn up by a specialist who will analyse the house's insulation, its orientation, the openings, the minimum temperature in your area, etc.

However, here is a quick calculation method to enable you to roughly estimate the power needed. This calculation method is given for guidance only. Panasonic will not accept responsibility under any circumstances in the event of an assessment error.

1- Calculation of the house's total energy loss:

A detached house's total energy loss can be calculated approximately using the following formula: $D = G \times V \times \Delta T$

Where:

D = Total loss in W

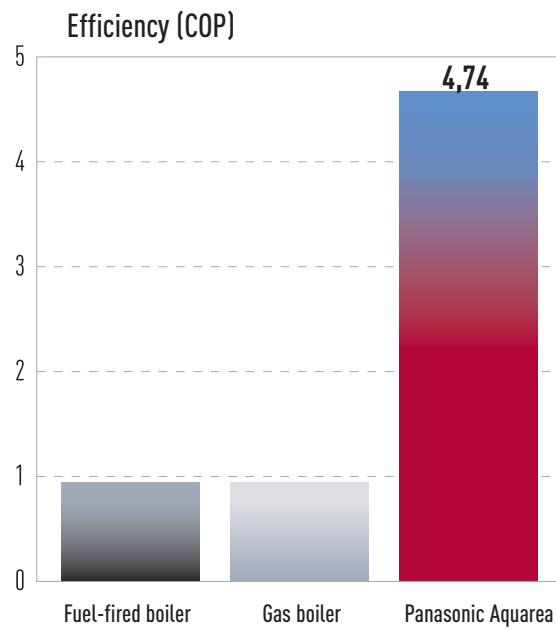
V = Living space in m³

ΔT = Difference between the temperature inside the house and the minimum outdoor temperature where the house is located

G = The building's insulation coefficient in W/m³K °C

HEAT PUMPS: MORE EFFICIENT THAN OTHER HEATING SYSTEMS

Panasonic heat pumps have a maximum COP of 4.74 at + 7°C which makes them much more efficient than fuel-fired boilers, gas boilers and electrical heaters.



Estimation of coefficient G according to the insulation type (G en W/m³K °C)

Old house without insulation $G = 2$

Old house with insulation $G = 1.5$

House built after 1990 $G = 1.1$

House built after 2005 $G = 0.8$

Very good insulation $G = 0.6$

Bioclimatic $G = 0.4$

2- Power requirement (for floor panel Heater):

The model selected must be capable of providing power at least equal to the estimated total energy loss value.

Example: A 130 m² detached house with a ceiling height of 2.5 m, with a minimum outdoor temperature of -7 °C, built in 1995, has total energy loss: $D = 1.1 \times [(130 \text{ m}^2 \times 2.5 \text{ m}) \times (20 \text{ °C} - (-7 \text{ °C})] = 9652 \text{ W}$ (i.e. 9.65 kW)

We must therefore select a Heat Pump capable of producing 9.65 kW at -7°C, which leads us to a 12- kW Aquarea model.



WHAT MAKES THE AIR-TO-WATER HEAT PUMP WORK

- The outdoor unit: this captures the free energy from the outdoor air and brings it into the house by means of the hydraulic module. These free calories are transported to the hydraulic module using an environmentally-friendly refrigerant gas with a high thermal exchange coefficient (R410A).
- Via the hydraulic module, with control panel, the temperature inside the house can be controlled and efficiency maximised. It has a heat exchanger which transmits the calories contained in the refrigerant coming from the outdoor unit to the water used for the house's heating and hot water. The hydraulic module manages priorities in terms of heating and hot water production.

This hydraulic module is situated in the house in the case of the bi-bloc system or in the outdoor unit in the case of the mono-bloc system.

- The hot water cylinder heats the hot water. It is made of stainless steel, which guarantees it a very long life. It is also fitted with a 3 kW element to ensure maximum comfort when outdoor temperatures are very low. The heater, situated at the top of the cylinder, guarantees maximum efficiency and faster heat-up.

A 3-way valve for the hot water cylinder connection is supplied with the hot water cylinder.

- Other necessary or optional features (not provided by Panasonic):
 - Room temperature thermostat, which can be connected to the Aquarea system to ensure optimum room temperature conditions.
 - Solar kit, to connect solar panels for even greater efficiency.
 - 3 kw of electric heater are included into the sanitary tank to ensure:
 - maximum comfort
 - maximum efficiency
 - and more for sterilization cycle

TWO OR THREE EARTH LEAKAGE CUT-OUTS

The Aquarea hydraulic module has differential cut-outs ensuring maximum safety in the event of a short circuit:

- 2 differential cut-outs: 7 and 9 KW
- 3 differential cut-outs: 12 , 14 and 16 KW



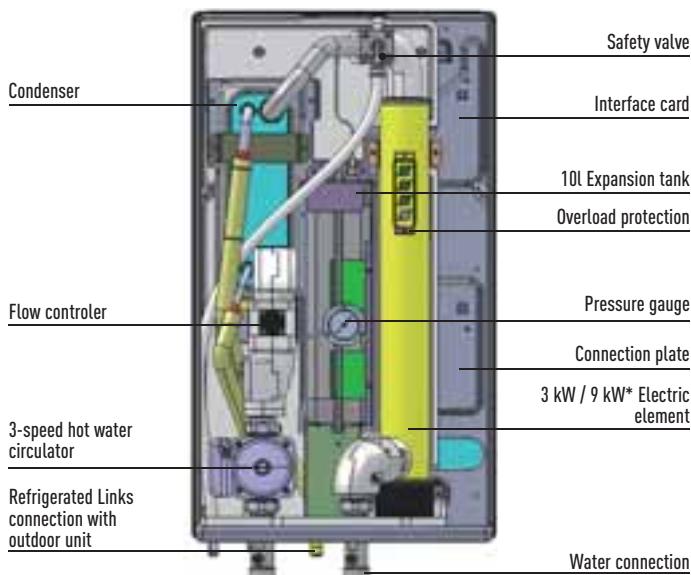


THE CONTROL PANEL

The control panel allows perfect temperature control based on the outdoor temperature, providing maximum efficiency and comfort.

The control panel controls the heating temperature and the hot water cylinder temperature very simply.

THE HYDRAULIC MODULE



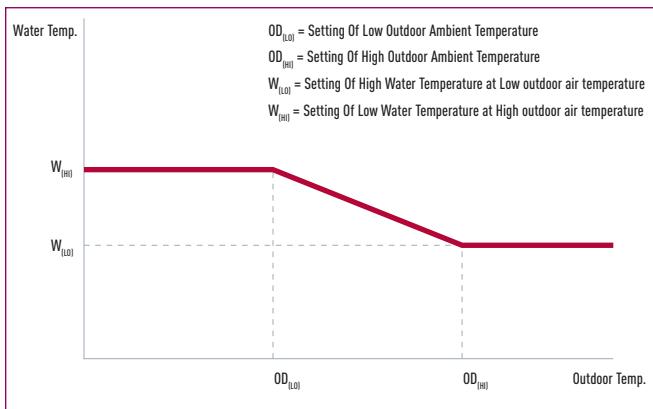
* 3 kW for 7 and 9 kW, 6 kW for 12, 14, 16 kW single-phase
9 kW for 12, 14, 16 kW three-phase

EASY PROGRAMMING OF THE CONTROL PANEL

The primary circuit temperature is controlled based on the outdoor temperature.

The temperature of the primary circuit is determined by your heating specialist depending on your installation. Enter the below parameters in the remote control on starting up the system.

Your heating specialist must also select the type of operation you need: heating priority or hot water cylinder priority.

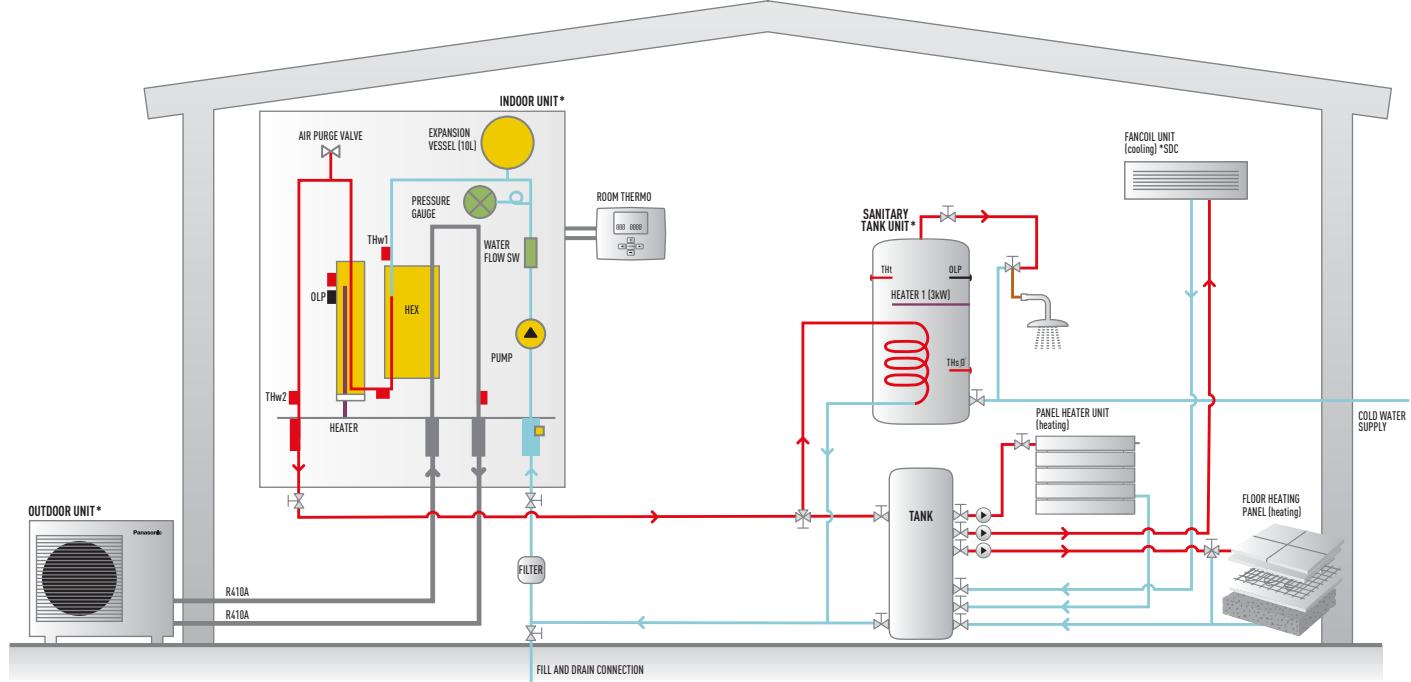


EASY READING OF CONTROL OF WATER PRESSURE

Pressure gauge
The water pressure must be between 0.055 and 0.19 MPa

APPLICATION EXAMPLES

AQUAREA IN A RADIANT FLOOR AND HOT WATER CYLINDER ON NEW HOUSES APPLICATION HEAT PUMP, SDF / SDC / SXF / SXC



* Panasonic supplies the outdoor unit, the indoor unit, the sanitary tank and a 3-way on/off valve (included with the sanitary tank)

Schematic diagram

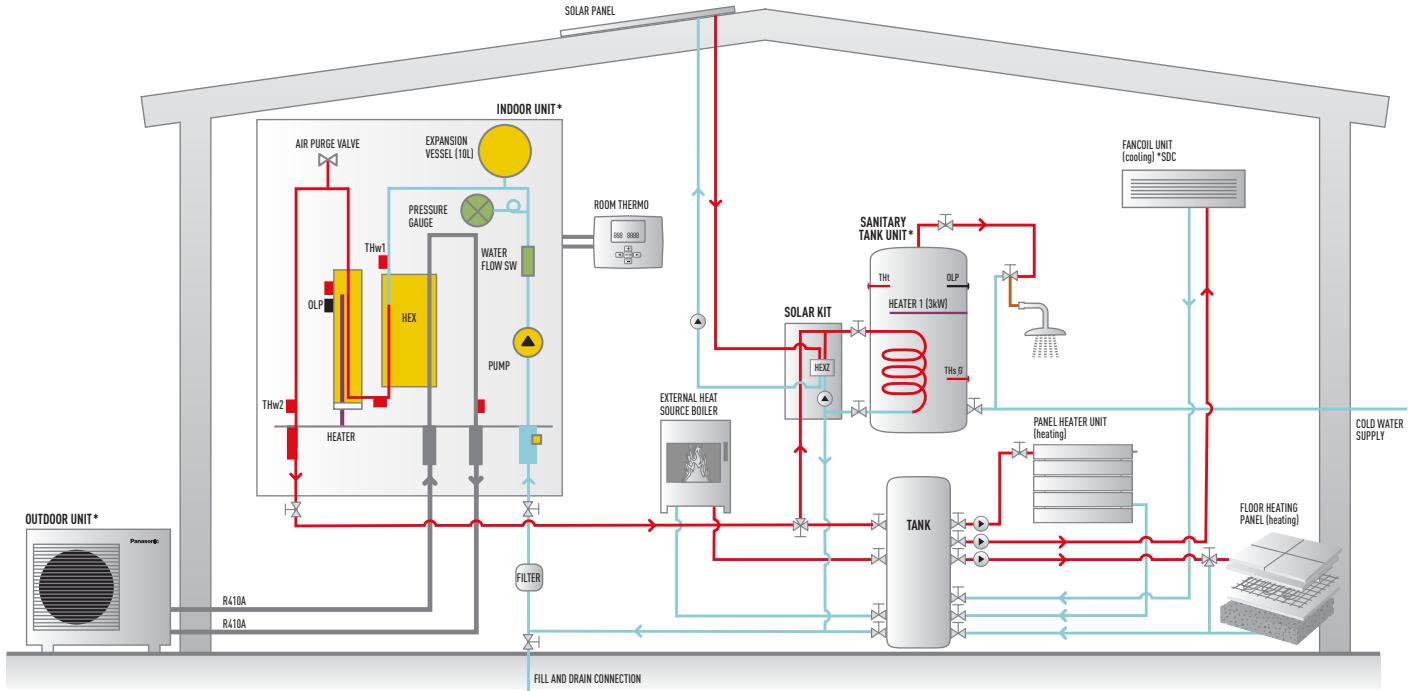
- Hot water production with TD series cylinder
- Heating
- Cooling (only for the SDC / SXC series)
- Connection of thermostat possible

LINE UP			7KW	9KW
Aquarea High connectivity	Bi-Bloc	Single phase	Heating only Heating and cooling	WH-SDF07C3E5 / WH-UD07CE5-A ^[F1] WH-SDC07C3E5 / WH-UD07CE5-A ^[F1]
		Three phase	Heating only Heating and cooling	WH-SDF09C3E8 / WH-UD09CE8 ^[F2] WH-SDC09C3E8 / WH-UD09CE8 ^[F2]
	Mono-Bloc	Single phase	Heating only Heating and cooling	WH-MDF09C3E5 ^[F3] WH-MDC09C3E5 ^[F3]
		Three phase	Heating only Heating and cooling	WH-MDF09C3E8 ^[F3] WH-MDC09C3E8 ^[F3]
		Single phase	Heating only Heating and cooling	WH-SXF09D3E5 / WH-UX09DE5 ^[F2] WH-SXC09D3E5 / WH-UX09DE5 ^[F2]
		Three phase	Heating only Heating and cooling	WH-SXF09D3E8 / WH-UX09DE8 ^[F2] WH-SXC09D3E8 / WH-UX09DE8 ^[F2]
		Single phase	Heating only Heating and cooling	WH-MXF09D3E5 ^[F3] WH-MXC09D3E5 ^[F3]
		Three phase	Heating only Heating and cooling	WH-MXF09D3E8 ^[F3] WH-MXC09D3E8 ^[F3]
Aquarea T-CAP High connectivity	Bi-Bloc	Single phase	Heating only Heating and cooling	WH-SHF09D3E5 / WH-UH09DE5 ^[F1] WH-SHC09D3E5 / WH-UH09DE5 ^[F1]
		Three phase	Heating only Heating and cooling	WH-SHF09D3E8 / WH-UH09DE8 ^[F2] WH-SHC09D3E8 / WH-UH09DE8 ^[F2]
	Mono-Bloc	Single phase	Heating only Heating and cooling	WH-MHF09D3E5* ^[F3] WH-MHC09D3E5* ^[F3]
		Three phase	Heating only Heating and cooling	WH-MHF09D3E8* ^[F3] WH-MHC09D3E8* ^[F3]
		Single phase	Heating only Heating and cooling	WH-SHF09D3E5 / WH-UH09DE5 ^[F1] WH-SHC09D3E5 / WH-UH09DE5 ^[F1]
		Three phase	Heating only Heating and cooling	WH-SHF09D3E8 / WH-UH09DE8 ^[F2] WH-SHC09D3E8 / WH-UH09DE8 ^[F2]
		Single phase	Heating only Heating and cooling	WH-MHF09D3E5* ^[F3] WH-MHC09D3E5* ^[F3]
		Three phase	Heating only Heating and cooling	WH-MHF09D3E8* ^[F3] WH-MHC09D3E8* ^[F3]
Aquarea High temperature, High connectivity	Bi-Bloc	Single phase	Heating only Heating and cooling	WH-SHF09D3E5 / WH-UH09DE5 ^[F1] WH-SHC09D3E5 / WH-UH09DE5 ^[F1]
		Three phase	Heating only Heating and cooling	WH-SHF09D3E8 / WH-UH09DE8 ^[F2] WH-SHC09D3E8 / WH-UH09DE8 ^[F2]
	Mono-Bloc	Single phase	Heating only Heating and cooling	WH-MHF09D3E5* ^[F3] WH-MHC09D3E5* ^[F3]
		Three phase	Heating only Heating and cooling	WH-MHF09D3E8* ^[F3] WH-MHC09D3E8* ^[F3]

* Tentative references, may change without notice



AQUAREA AS BOILER BACKUP AND SOLAR PANELS HEAT PUMP CONNECTED TO EXISTING BOILER, SDF / SDC / SXF / SXC



* Panasonic supplies the outdoor unit, the indoor unit, the sanitary tank and a 3-way on/off valve (included with the sanitary tank)

Schematic diagram

- Hot water production with TD series cylinder
- Heating with boiler backup
- Cooling (SDC / SXC series only)
- Connection of solar panels possible
- Connection of a thermostat possible

12KW	14KW	16KW
WH-SDF12C6E5 / WH-UD12CE5-A [F2]	WH-SDF14C6E5 / WH-UD14CE5-A [F2]	WH-SDF16C6E5 / WH-UD16CE5-A [F2]
WH-SDC12C6E5 / WH-UD12CE5-A [F2]	WH-SDC14C6E5 / WH-UD14CE5-A [F2]	WH-SDC16C6E5 / WH-UD16CE5-A [F2]
WH-SDF12C9E8 / WH-UD12CE8 [F2]	WH-SDF14C9E8 / WH-UD14CE8 [F2]	WH-SDF16C9E8 / WH-UD16CE8 [F2]
WH-SDC12C9E8 / WH-UD12CE8 [F2]	WH-SDC14C9E8 / WH-UD14CE8 [F2]	WH-SDC16C9E8 / WH-UD16CE8 [F2]
WH-MDF12C6E5 [F3]	WH-MDF14C6E5 [F3]	WH-MDF16C6E5 [F3]
WH-MDC12C6E5 [F3]	WH-MDC14C6E5 [F3]	WH-MDC16C6E5 [F3]
WH-MDF12C9E8 [F3]	WH-MDF14C9E8 [F3]	WH-MDF16C9E8 [F3]
WH-MDC12C9E8 [F3]	WH-MDC14C9E8 [F3]	WH-MDC16C9E8 [F3]
WH-SXF12D6E5 / WH-UX12DE5 [F2]		
WH-SXC12D6E5 / WH-UX12DE5 [F2]		
WH-SXF12D9E8 / WH-UX12DE8 [F2]		
WH-SXC12D9E8 / WH-UX12DE8 [F2]		
WH-MXF12D6E5 [F3]		
WH-MXC12D6E5 [F3]		
WH-MXF12D9E8 [F3]		
WH-MXC12D9E8 [F3]		
WH-SHF12D6E5 / WH-UH12DE5 [F2]		
WH-SHC12D6E5 / WH-UH12DE5 [F2]		
WH-SHF12D9E8 / WH-UH12DE8 [F2]		
WH-SHC12D9E8 / WH-UH12DE8 [F2]		
WH-MHF12D6E5* [F3]		
WH-MHC12D6E5* [F3]		
WH-MHF12D9E8* [F3]		
WH-MHC12D9E8* [F3]		



FIGURE 1



FIGURE 2

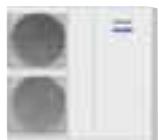


FIGURE 3



AQUAREA SDF // BI-BLOC // HIGH CONNECTIVITY // HEATING ONLY SINGLE-PHASE // THREE-PHASE

The Aquarea SDF range adapts equally well to an existing installation such as a boiler backup or to a new installation with floor heating, low-temperature radiators or even fan-coil heaters. These ranges can also be connected to a solar kit in order to increase efficiency and minimize the impact on the ecosystem. Finally, it is possible to connect a thermostat for even better heating control and management.



BI-BLOC // HIGH-CONNECTIVITY // HEATING ONLY // SDF

Indoor unit	SINGLE-PHASE								THREE-PHASE			
	WH-SDF07C3E5	WH-SDF09C3E5	WH-SDF12C6E5	WH-SDF14C6E5	WH-SDF16C6E5	WH-SDF09C3E8	WH-SDF12C9E8	WH-SDF14C9E8	WH-SDF16C9E8	WH-SDF12C8E	WH-SDF14C8E	WH-SDF16C8E8
Heating Capacity at +7°C	kW	7	9	12	14	16	9	12	14	16	16	16
COP at +7°C with heating water temperature at 35°C		4,4	4,09	4,67	4,5	4,23	4,74	4,67	4,5	4,23		
Heating Capacity at -7°C	kW	5,15	5,9	10	10,7	11,4	9	10	10,7	11,4		
COP at -7°C with heating water temperature at 35 °C		2,65	2,5	2,7	2,62	2,55	2,81	2,7	2,62	2,55		
Heating Capacity at -15°C	kW	4,6	5,9	8,9	9,5	10,3	8,3	8,9	9,5	10,3		
COP at -15°C with heating water temperature at 35°C		2,3	2,2	2,43	2,35	2,33	2,55	2,43	2,35	2,33		
Dimensions (H x W x D)	mm	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353
Weight	kg	43	43	49	49	49	50	51	51	51	51	51
Water pipe connector		R1 1/4	R1 1/4	R1 1/4	R1 1/4	R1 1/4	R1 1/4	R1 1/4	R1 1/4	R1 1/4	R1 1/4	R1 1/4
Pump	No. of Speed	3	3	3	3	3	3	3	3	3	3	3
	Input power(max)	W	100	100	190	190	190	190	190	190	190	190
Heating water flow (T=5 K, 35°C)	l/min	20,1	25,8	34,4	40,1	45,9	25,8	34,4	40,1	45,9		
Capacity of integrated electric heater	kW	3	3	6	6	6	3	9	9	9		
Input Power	kW	1,59	2,2	2,57	3,11	3,78	1,9	2,57	3,11	3,78		
Running and starting Current	A	7,3	10,1	11,7	14,1	17,1	2,9	3,9	4,7	5,7		
Maximum Current	A	21	22,9	24	25	26	7,5	8,8	9,4	9,9		
Outdoor unit	WH-UD07CE5-A	WH-UD09CE5-A	WH-UD12CE5-A	WH-UD14CE5-A	WH-UD16CE5-A	WH-UD09CE8	WH-UD12CE8	WH-UD14CE8	WH-UD16CE8	WH-UD12CE8	WH-UD14CE8	WH-UD16CE8
Sound pressure level	dB(A)	48	49	50	51	53	49	50	51	53		
Sound power level	dB	66	67	67	68	70	66	67	68	70		
Dimensions (H x W x D)	mm	795 x 900 x 320	795 x 900 x 320	1340 x 900 x 320								
Weight	KG	66	66	106	106	106	109	109	109	109	109	109
Pipe Diameter	Liquid	mm (Inch)	6,35 (1/4")	6,35 (1/4")	9,52 (3/8")	9,52 (3/8")	9,52 (3/8")	9,52 (3/8")	9,52 (3/8")	9,52 (3/8")	9,52 (3/8")	9,52 (3/8")
	Gas	mm (Inch)	15,88 (5/8")	15,88 (5/8")	15,88 (5/8")	15,88 (5/8")	15,88 (5/8")	15,88 (5/8")	15,88 (5/8")	15,88 (5/8")	15,88 (5/8")	15,88 (5/8")
Refrigerant (R410A)	kg	1,45	1,45	2,75	2,75	2,75	2,75	2,75	2,75	2,75	2,75	2,95
Pipe Length Range	m	3 - 30	3 - 30	3 - 40	3 - 40	3 - 40	3 - 40	3 - 40	3 - 40	3 - 40	3 - 40	3 - 40
Pipe Length for nominal capacity	m	7	7	7	7	7	7	7	7	7	7	7
Pipe Length for additional gas	m	10	10	30	30	30	30	30	30	30	30	30
Additional Gas Amount (R410A)	g/m	30	30	50	50	50	50	50	50	50	50	50
I/D&O/D Height Difference	m	20	20	30	30	30	30	30	30	30	30	30
Operation Range	Outdoor Ambient	°C	-20 to 35	-20 to 35	-20 to 35	-20 to 35	-20 to 35	-20 to 35	-20 to 35	-20 to 35	-20 to 35	-20 to 35
	Water Outlet (at-2/-7/-15) 2)	°C	25 - 55	25 - 55	25 - 55	25 - 55	25 - 55	25 - 55	25 - 55	25 - 55	25 - 55	25 - 55

OPTIONAL SANITARY TANK

SANITARY TANK		WH-TD20B3E5	WH-TD30B3E5
Water volume	L	198	287
Max. water temperature	°C	75	75
Dimension	Height	mm	1.150
	Diameter		580
Weight	kg	46	60
Electric heater	kW	3	3
Power supply		Single Phase	Single Phase
Material inside tank		Inox	Inox

Performance calculation in agreement with Eurovent.
Sound pressure measured at 1 m from the outdoor unit and at 1.5-m height
Conditions : Water input temperature: 30 °C. Water output temperature: 35 °C



TECHNICAL FOCUS

- RANGE FROM 7 TO 16 KW, SINGLE AND THREE-PHASE
- MAXIMUM HYDRAULIC MODULE OUTPUT TEMPERATURE: 55 °C
- WORKS DOWN TO -20 °C
- MAXIMUM 30 m RISE BETWEEN THE OUTDOOR UNIT AND THE HYDRAULIC MODULE

ENERGY AND ENVIRONMENTAL EFFICIENCY

- 78% more efficient than an electrical convection system
- Maximum COP of 4.74 for only 3 phase
- Environmentally-friendly refrigerant gas R410A

COMFORT

- Optimum control possible with a room temperature thermostat (not supplied)
- Maximum hydraulic module output temperature: 55 °C
- Power optimised based on the return water temperature
- Built-in management of the hot water cylinder and heating

EASY TO USE

- Control on the hydraulic module
- Easy programming on the control panel

EASY INSTALLATION AND MAINTENANCE

- Easy-to-access pressure gauge for easy control of the water pressure
- Easy-to-open hydraulic module and outdoor unit



WH-UD07CE5-A
WH-UD09CE5-A

WH-UD09CE8
WH-UD12CE5-A
WH-UD14CE5-A
WH-UD16CE8
WH-UD16CE5-A



WH-TD20B3E5 WH-TD30B3E5



AQUAREA SDC // BI-BLOC // HIGH CONNECTIVITY // HEATING AND COOLING SINGLE-PHASE // THREE-PHASE

The Aquarea SDC range adapts equally well to an existing installation such as a boiler backup or to a new installation with floor heating, low-temperature radiators or even fan-coil heaters. These ranges can also be connected to a solar kit in order to increase efficiency and minimize the impact on the ecosystem. Finally, it is possible to connect a thermostat for even better heating and cooling control and management.



BI-BLOC // HIGH-CONNECTIVITY // HEATING AND COOLING // SDC

Indoor unit	SINGLE-PHASE								THREE-PHASE			
	WH-SDC07C3E5	WH-SDC09C3E5	WH-SDC12C6E5	WH-SDC14C6E5	WH-SDC16C6E5	WH-SDC09C9E8	WH-SDC12C9E8	WH-SDC14C9E8	WH-SDC16C9E8	WH-SDC12CE8	WH-SDC14CE8	WH-SDC16CE8
Heating Capacity at +7°C	kW	7	9	12	14	16	9	12	14	16	16	16
COP at +7°C with heating water temperature at 35°C		4,4	4,09	4,67	4,5	4,23	4,74	4,67	4,5	4,23		
Heating Capacity at -7°C	kW	5,15	5,9	10	10,7	11,4	9	10	10,7	11,4		
COP at -7°C with heating water temperature at 35°C		2,65	2,5	2,7	2,62	2,55	2,81	2,7	2,62	2,55		
Heating Capacity at -15°C	kW	4,6	5,9	8,9	9,5	10,3	8,3	8,9	9,5	10,3		
COP at -15°C with heating water temperature at 35°C		2,3	2,2	2,43	2,35	2,33	2,55	2,43	2,35	2,33		
Cooling capacity at 35°C		6	7	10	11,5	12,2	7	10	11,5	12,2		
EER at 35°C with cooling water temperature at 7/12°C		2,2	2,1	2,39	2,24	2,19	2,68	2,42	2,25	2,19		
Dimensions (H x W x D)	mm	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353
Weight	kg	45	45	51	51	51	51	52	52	52	52	52
Water pipe connector		R1 1/4	R1 1/4	R1 1/4	R1 1/4	R1 1/4	R1 1/4	R1 1/4	R1 1/4	R1 1/4	R1 1/4	R1 1/4
Pump	No. of Speed	3	3	3	3	3	3	3	3	3	3	3
	Input power(max)	W	75	75	190	190	190	190	190	190	190	190
Heating water flow (T=5 K, 35°C)	l/min	20,1	25,8	34,4	40,1	45,9	25,8	34,4	40,1	45,9		
Capacity of integrated electric heater	kW	3	3	6	6	6	3	9	9	9		
Input Power	kW	1,59 / 2,30	2,2 / 2,9	2,57 / 3,6	3,11 / 4,4	3,78 / 4,8	1,9 / 2,25	2,57 / 3,55	3,11 / 4,4	3,78 / 4,8		
Running and starting Current	A	7,30 / 10,40	10,1 / 13,1	11,7 / 16,1	14,1 / 19,7	17,1 / 21,5	2,9 / 3,4	3,9 / 5,3	4,7 / 6,6	5,7 / 7,2		
Maximum Current	A	21	22,9	24	25	26	7,5	8,8	9,4	9,9		
Outdoor unit	WH-UD07CE5-A	WH-UD09CE5-A	WH-UD12CE5-A	WH-UD14CE5-A	WH-UD16CE5-A	WH-UD09CE8	WH-UD12CE8	WH-UD14CE8	WH-UD16CE8			
Sound pressure level	dB(A)	48	49	50	51	53	49	50	51	53		
Sound power level	dB	66	67	67	68	70	66	67	68	70		
Dimensions (H x W x D)	mm	795 x 900 x 320	795 x 900 x 320	1340 x 900 x 320	1340 x 900 x 320	1340 x 900 x 320	1340 x 900 x 320	1340 x 900 x 320	1340 x 900 x 320	1340 x 900 x 320	1340 x 900 x 320	1340 x 900 x 320
Weight	KG	66	66	106	106	106	109	109	109	109		
Pipe Diameter	Liquid	mm (Inch)	6,35 (1/4")	6,35 (1/4")	9,52 (3/8")	9,52 (3/8")	9,52 (3/8")	9,52 (3/8")	9,52 (3/8")	9,52 (3/8")	9,52 (3/8")	9,52 (3/8")
	Gas	mm (Inch)	15,88 (5/8")	15,88 (5/8")	15,88 (5/8")	15,88 (5/8")	15,88 (5/8")	15,88 (5/8")	15,88 (5/8")	15,88 (5/8")	15,88 (5/8")	15,88 (5/8")
Refrigerant (R410A)	kg	1,45	1,45	2,75	2,75	2,75	2,75	2,75	2,75	2,75	2,75	2,95
Pipe Length Range	m	3 – 30	3 – 30	3 – 40	3 – 40	3 – 40	3 – 40	3 – 40	3 – 40	3 – 40	3 – 40	3 – 40
Pipe Length for nominal capacity	m	7	7	7	7	7	7	7	7	7	7	7
Pipe Length for additional gas	m	10	10	30	30	30	30	30	30	30	30	30
Additional Gas Amount (R410A)	g/m	30	30	50	50	50	50	50	50	50	50	50
I/D&O/D Hight Difference	m	20	20	30	30	30	30	30	30	30	30	30
Operation Range	Outdoor Ambient	°C	-20 to 35									
	Water Outlet (at-2/-7/-15) 2)	°C	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20

OPTIONAL SANITARY TANK

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Max. water temperature	°C	75	75
Dimension	Height	mm	1.150
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Performance calculation in agreement with Eurovent.
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- Easy-to-access pressure gauge for easy control of the water pressure
- Easy-to-open hydraulic module and outdoor unit



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WH-UD09CE5-A



WH-UD09CE8
WH-UD12CE5-A
WH-UD14CE5-A
WH-UD16CE8
WH-UD16CE5-A



WH-TD20B3E5 WH-TD30B3E5



AQUAREA SXF // BI-BLOC // T-CAP // HEATING ONLY SINGLE-PHASE // THREE-PHASE

The Aquarea SXF is the new Aquarea product from Panasonic for central heating. T-CAP stands for Total capacity as this new line-up is able to keep the same nominal capacity even at -15°C without the help of an electrical booster heater. T-CAP is also able to provide extremely high efficiency, whatever the outside temperature or the water temperature.

The new SXF is ideal for houses where keeping the same capacity is important such as new houses or houses without support from an external boiler.

The SXF can be adapted to an existing installation such as a boiler backup or to a new installation with floor heating, low-temperature radiators or even fan-coil heaters. These ranges can also be connected to a solar kit in order to increase efficiency and minimize the impact on the ecosystem. Finally, it is possible to connect a thermostat for even better heating control and management.



BI-BLOC // AQUAREA T-CAP // HEATING ONLY // SXF

		SINGLE-PHASE	THREE-PHASE	
Indoor unit		WH-SXF09D3E5	WH-SXF12D6E5	WH-SXF09D3E8
Outdoor unit		WH-UX09DE5	WH-UX12DE5	WH-UX09DE8
Heating Capacity at +7°C	kW	9	12	9
COP at +7°C with heating water temperature at 35°C		4,74	4,67	4,74
Heating Capacity at -7°C	kW	9	12	9
COP at -7°C with heating water temperature at 35 °C		2,81	2,7	2,81
Heating Capacity at -15°C	kW	9	12	9
COP at -15°C with heating water temperature at 35°C		2,54	2,4	2,54
Dimensions (H x W x D)	mm	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353
Weight	kg	47	49	50
Water pipe connector		R 1 1/4	R 1 1/4	R 1 1/4
Pump	No. of Speed	3	3	3
	Input power(max)	W	190	190
Heating water flow (ΔT=5 K, 35°C)	l/min	25,8	34,4	25,8
Capacity of integrated electric heater	kW	3	3	3
Input Power	kW	1,9	2,57	1,9
Starting Current	A	8,8	11,9	2,9
Maximum Current	A	25	29	10,4
Outdoor unit		WH-UX12DE8	WH-UX12DE8	
Sound pressure level	dB(A)	49	49	49
Sound power level	dB	66	66	66
Dimensions (H x W x D)	mm	1340 x 900 x 320	1340 x 900 x 320	1340 x 900 x 320
Weight	KG	107	107	109
Pipe Diameter	Liquid	mm (Inch)	9,52 (3/8")	9,52 (3/8")
	Gas	mm (Inch)	15,88 (5/8")	15,88 (5/8")
Refrigerant (R410A)	kg	3,10	3,10	3,10
Pipe Length Range	m	3 – 30	3 – 30	3 – 30
Pipe Length for nominal capacity	m	7	7	7
Pipe Length for additional gas	m	15	15	15
Additional Gas Amount (R410A)	g/m	50	50	50
I/D&O/D Height Difference	m	20	20	20
Operation Range	Outdoor Ambient	°C	-20 to 35	-20 to 35
	Water Outlet (at-2/-7/-15) 2)	°C	25 – 55	25 – 55

OPTIONAL SANITARY TANK

SANITARY TANK	WH-TD20B3E5	WH-TD30B3E5
Water volume	L	198
Max. water temperature	°C	75
Dimension	Height	mm
	Diameter	mm
Weight	kg	46
Electric heater	kW	3
Power supply		Single Phase
Material inside tank		Inox

* Tentative specifications

Performance calculation in agreement with Eurovent.
Sound pressure measured at 1 m from the outdoor unit and at 1.5-m height
Conditions : Water input temperature: 30 °C. Water output temperature: 35 °C

**NEW
2011**



TECHNICAL FOCUS

- RANGE FROM 9 TO 12 KW, SINGLE AND THREE-PHASE
- MAXIMUM HYDRAULIC MODULE OUTPUT TEMPERATURE: 55 °C
- WORKS DOWN TO -20 °C
- MAXIMUM 20 m RISE BETWEEN THE OUTDOOR UNIT AND THE HYDRAULIC MODULE
- CONSTANT CAPACITY AT OUTDOOR TEMPERATURES DOWN TO -15 °C (AT A HEATING WATER TEMPERATURE OF 35 °C)

ENERGY AND ENVIRONMENTAL EFFICIENCY

- 78% more efficient than an electrical convection system
- Maximum COP of 4.74 for the 9 kW model
- Environmentally-friendly refrigerant gas R410A

COMFORT

- Optimum control possible with a room temperature thermostat (not supplied)
- Maximum hydraulic module output temperature: 55 °C
- Power optimised based on the return water temperature
- Built-in management of the hot water cylinder and heating

EASY TO USE

- Control on the hydraulic module
- Easy programming on the control panel

EASY INSTALLATION AND MAINTENANCE

- Easy-to-access pressure gauge for easy control of the water pressure
- Easy-to-open hydraulic module and outdoor unit



WH-UX09DE5
WH-UX12DE5
WH-UX09DE8
WH-UX12DE8



WH-TD20B3E5 WH-TD30B3E5



AQUAREA SXC // BI-BLOC // T-CAP // HEATING AND COOLING SINGLE-PHASE // THREE-PHASE

The Aquarea SXC is the new Aquarea product from Panasonic for heating and cooling. T-CAP stands for Total capacity as this new line-up is able to keep the same nominal capacity even at -15°C without the help of an electrical booster heater. T-CAP is also able to provide extremely high efficiency, whatever the outside temperature or the water temperature.

The new SXC is ideal for houses where keeping the same capacity is important such as new houses or houses without support from an external boiler.

The SXC can be adapted to an existing installation such as a boiler backup or to a new installation with floor heating, low-temperature radiators or even fan-coil heaters. These ranges can also be connected to a solar kit in order to increase efficiency and minimize the impact on the ecosystem. Finally, it is possible to connect a thermostat for even better heating or cooling control and management.



BI-BLOC // AQUAREA T-CAP // HEATING AND COOLING // SXC

		SINGLE-PHASE	THREE-PHASE	
Indoor unit		WH-SXC09D3E5	WH-SXC12D6E5	WH-SXC09D3E8
Outdoor unit		WH-UX09DE5	WH-UX12DE5	WH-UX09DE8
Heating Capacity at +7°C	kW	9	12	9
COP at +7°C with heating water temperature at 35°C		4,74	4,67	4,74
Heating Capacity at -7°C	kW	9	12	9
COP at -7°C with heating water temperature at 35°C		2,81	2,7	2,81
Heating Capacity at -15°C	kW	9	12	9
COP at -15°C with heating water temperature at 35°C		2,54	2,4	2,54
Cooling capacity at 35°C		7	10	7
EER at 35°C with cooling water temperature at 7/12°C		3,11	2,78	3,11
Dimensions (H x W x D)	mm	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353
Weight	kg	48	51	51
Water pipe connector		R 1 1/4	R 1 1/4	R 1 1/4
Pump	No. of Speed	3	3	3
	Input power(max)	W	180	180
Heating water flow (T=5 K, 35°C)	l/min	25,8	34,4	25,8
Capacity of integrated electric heater	kW	3	6	3
Input Power	kW	1,9	2,57	1,9
Starting Current	A	10,4	16,7	3,5
Maximum Current	A	25	29	10,4
Sound pressure level	dB(A)	49	50	49
Sound power level	dB	66	67	66
Dimensions (H x W x D)	mm	1340 x 900 x 320	1340 x 900 x 320	1340 x 900 x 320
Weight	KG	107	107	110
Pipe Diameter	Liquid	mm (Inch)	9,52 (3/8")	9,52 (3/8")
	Gas	mm (Inch)	15,88 (5/8")	15,88 (5/8")
Refrigerant (R410A)	kg	3,10	2,75	2,75
Pipe Length Range	m	3 - 30	3 - 30	3 - 30
Pipe Length for nominal capacity	m	7	7	7
Pipe Length for additional gas	m	15	15	15
Additional Gas Amount (R410A)	g/m	50	50	50
I/D&O/D Hight Difference	m	20	20	20
Operation Range	Outdoor Ambient	°C	-20 to 35	-20 to 35
	Water Outlet (at-2/-7/-15) 2	°C	25 - 55	25 - 55

OPTIONAL SANITARY TANK

		WH-TD20B3E5	WH-TD30B3E5
Water volume	L	198	287
Max. water temperature	°C	75	75
Dimension	Height	mm	1.150
	Diameter		580
Weight	kg	46	60
Electric heater	kW	3	3
Power supply		Single Phase	Single Phase
Material inside tank		Inox	Inox

* Tentative specifications

Performance calculation in agreement with Eurovent.
Sound pressure measured at 1 m from the outdoor unit and at 1.5-m height
Conditions : Water input temperature: 30 °C. Water output temperature: 35 °C



**NEW
2011**



TECHNICAL FOCUS

- RANGE FROM 9 TO 12 KW, SINGLE AND THREE-PHASE
- MAXIMUM HYDRAULIC MODULE OUTPUT TEMPERATURE: 55 °C
- WORKS DOWN TO -20 °C
- MAXIMUM 20 m RISE BETWEEN THE OUTDOOR UNIT AND THE HYDRAULIC MODULE
- CONSTANT CAPACITY AT OUTDOOR TEMPERATURES DOWN TO -15 °C (AT A HEATING WATER TEMPERATURE OF 35 °C)

ENERGY AND ENVIRONMENTAL EFFICIENCY

- 78% more efficient than an electrical convection system
- Maximum COP of 4.74 for the 9 kW model
- Environmentally-friendly refrigerant gas R410A

COMFORT

- Optimum control possible with a room temperature thermostat (not supplied)
- Maximum hydraulic module output temperature: 55 °C
- Power optimised based on the return water temperature
- Built-in management of the hot water cylinder and heating

EASY TO USE

- Control on the hydraulic module
- Easy programming on the control panel

EASY INSTALLATION AND MAINTENANCE

- Easy-to-access pressure gauge for easy control of the water pressure
- Easy-to-open hydraulic module and outdoor unit



WH-UX09DE5
WH-UX12DE5
WH-UX09DE8
WH-UX12DE8



WH-TD20B3E5 WH-TD30B3E5



AQUAREA MDF // MONO-BLOC // HIGH CONNECTIVITY // HEATING ONLY SINGLE-PHASE // THREE-PHASE

The Aquarea MDF range adapts equally well to an existing installation such as a boiler backup or to a new installation with floor heating, low-temperature radiators or even fan-coil heaters. These ranges can also be connected to a solar kit in order to increase efficiency and minimize the impact on the ecosystem. Finally, it is possible to connect a thermostat for even better heating control and management.



MONO-BLOC // HIGH-CONNECTIVITY // HEATING ONLY // MDF

Outdoor unit	SINGLE-PHASE				THREE-PHASE				
	WH-MDF09C3E5	WH-MDF12C6E5	WH-MDF14C6E5	WH-MDF16C6E5	WH-MDF09C3E8	WH-MDF12C9E8	WH-MDF14C9E8	WH-MDF16C9E8	
Heating Capacity at +7°C	kW	9	12	14	16	9	12	14	16
COP at +7°C with heating water temperature at 35°C		4,74	4,67	4,5	4,23	4,74	4,67	4,5	4,23
Heating Capacity at -7°C	kW	9	10	10,7	11,4	9	10	10,7	11,4
COP at -7°C with heating water temperature at 35 °C		2,81	2,7	2,62	2,55	2,81	2,7	2,62	2,55
Heating Capacity at -15°C	kW	8,3	8,9	9,5	10,3	8,3	8,9	9,5	10,3
COP at -15°C with heating water temperature at 35°C		2,55	2,43	2,35	2,33	2,55	2,43	2,35	2,33
Sound pressure level	dB(A)	49	50	51	53	49	50	51	53
Sound power level	dB	66	67	68	70	66	67	68	70
Dimensions (H x W x D)	mm	1410 x 1283 x 320							
Weight	kg	153	153	153	153	157	157	157	157
Water pipe connector		R 1 1/4							
Pump	No. of Speed	3	3	3	3	3	3	3	3
	Input power(max)	W	190	190	190	190	190	190	190
Heating water flow (T=5 K, 35°C)	l/min	25,8	34,4	40,1	45,9	25,8	34,4	40,1	45,9
Capacity of integrated electric heater	kW	3	6	6	6	3	9	9	9
Input Power	kW	1,9	2,57	3,11	3,78	1,9	2,57	3,11	3,78
Starting Current	A	8,7	11,6	14,1	17,1	2,9	3,9	4,7	5,7
Maximum Current	A	22,9	24	25	26	7,5	8,8	9,4	9,9
Operation Range	Outdoor Ambient	°C	-20 to 35						
	Water Outlet (at-2/-7/-15) 2)	°C	25 - 55	25 - 55	25 - 55	25 - 55	25 - 55	25 - 55	25 - 55

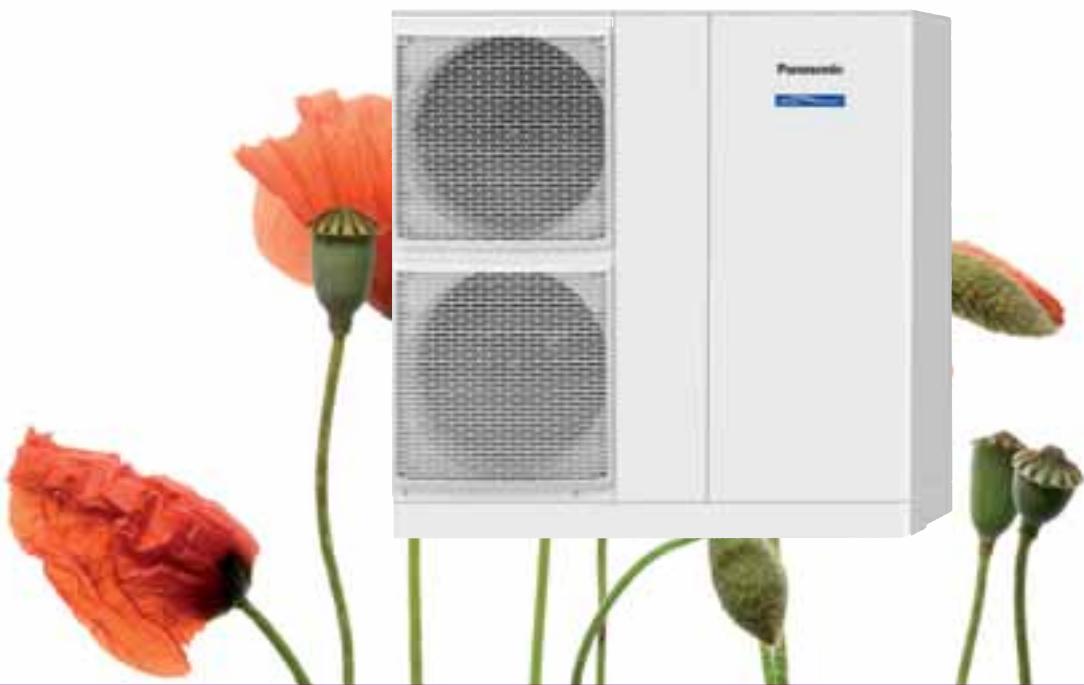
OPTIONAL SANITARY TANK

SANITARY TANK		WH-TD20B3E5	WH-TD30B3E5
Water volume	L	198	287
Max. water temperature	°C	75	75
Dimension	Height	mm	1.150
	Diameter		580
Weight	kg	46	60
Electric heater	kW	3	3
Power supply		Single Phase	Single Phase
Material inside tank		Inox	Inox

Performance calculation in agreement with Eurovent.

Sound pressure measured at 1 m from the outdoor unit and at 1.5-m height

Conditions : Water input temperature: 30 °C. Water output temperature: 35 °



TECHNICAL FOCUS

- RANGE FROM 9 TO 16 KW, SINGLE AND THREE-PHASE
- MAXIMUM HYDRAULIC MODULE OUTPUT TEMPERATURE: 55 °C
- WORKS DOWN TO -20 °C

ENERGY AND ENVIRONMENTAL EFFICIENCY

- 78% more efficient than an electrical convection system
- Maximum COP of 4.74 for the 9 kW model

COMFORT

- Optimum control possible with a room temperature thermostat (not supplied)
- Maximum hydraulic module output temperature: 55 °C
- Power optimised according to the return water temperature
- Autonomous management of the hot water cylinder and heating

EASY TO USE

- Single-unit range, with no refrigerant connections
- Wired control panel for installation in the house
- Easy programming on the control panel

EASY INSTALLATION AND MAINTENANCE

- Outdoor unit easy to open for maintenance





AQUAREA MDC // MONO-BLOC // HIGH CONNECTIVITY // HEATING AND COOLING SINGLE-PHASE // THREE-PHASE

The Aquarea MDC range adapts equally well to an existing installation such as a boiler backup or to a new installation with floor heating, low-temperature radiators or even fan-coil heaters. These ranges can also be connected to a solar kit in order to increase efficiency and minimize the impact on the ecosystem. Finally, it is possible to connect a thermostat for even better heating and cooling control and management.



MONO-BLOC // HIGH-CONNECTIVITY // HEATING AND COOLING // MDC

	SINGLE-PHASE				THREE-PHASE			
Outdoor unit	WH-MDC09C3E5	WH-MDC12C6E5	WH-MDC14C6E5	WH-MDC16C6E5	WH-MDC09C3E8	WH-MDC12C9E8	WH-MDC14C9E8	WH-MDC16C9E8
Heating Capacity at +7°C	kW	9	12	14	16	9	12	14
COP at +7°C with heating water temperature at 35°C		4,74	4,67	4,5	4,23	4,74	4,67	4,5
Heating Capacity at -7°C	kW	9	10	10,7	11,4	9	10	10,7
COP at -7°C with heating water temperature at 35°C		2,81	2,7	2,62	2,55	2,81	2,7	2,62
Heating Capacity at -15°C	kW	8,3	8,9	9,5	10,3	8,3	8,9	9,5
COP at -15°C with heating water temperature at 35°C		2,55	2,43	2,35	2,33	2,55	2,43	2,35
Cooling capacity at 35°C		7	10	11,5	12,2	7	10	11,5
EER at 35°C with cooling water temperature at 7/12°C	kW	2,68	2,39	2,25	2,19	2,68	2,39	2,25
Sound pressure level	dB(A)	49	50	51	53	49	50	51
Sound power level	dB	66	67	68	70	66	67	68
Dimensions (H x W x D)	mm	1410 x 1283 x 320						
Weight	kg	153	153	153	153	157	157	157
Water pipe connector		R 1 1/4						
Pump	No. of Speed	3	3	3	3	3	3	3
	Input power(max)	W	190	190	190	190	190	190
Heating water flow (T=5 K, 35°C)	l/min	25,8	34,4	40,1	45,9	25,8	34,4	40,1
Capacity of integrated electric heater	kW	3	6	6	3	9	9	9
Input Power	kW	1,9 / 2,25	2,57 / 3,6	3,11 / 4,4	3,78 / 4,8	1,9 / 2,25	2,57 / 3,6	3,11 / 4,4
Starting Current	A	8,7 / 10,2	11,6 / 16,1	14,1 / 19,7	17,1 / 21,5	2,9 / 3,4	3,9 / 5,3	4,7 / 6,6
Maximum Current	A	22,9	24	25	26	7,5	8,8	9,4
Operation Range	Outdoor Ambient	°C	-20 to 35					
	Water Outlet (at-2/-7/-15) 2)	°C	22 - 55 / 5 - 20	22 - 55 / 5 - 20	22 - 55 / 5 - 20	22 - 55 / 5 - 20	22 - 55 / 5 - 20	22 - 55 / 5 - 20

OPTIONAL SANITARY TANK

SANITARY TANK	WH-TD20B3E5	WH-TD30B3E5
Water volume	L	198
Max. water temperature	°C	75
Dimension	Height mm	1.150
	Diameter	580
Weight	kg	46
Electric heater	kW	3
Power supply		Single Phase
Material inside tank		Inox

Performance calculation in agreement with Eurovent.

Sound pressure measured at 1 m from the outdoor unit and at 1.5-m height

Conditions : Water input temperature: 30 °C. Water output temperature: 35 °



TECHNICAL FOCUS

- RANGE FROM 9 TO 16 KW, SINGLE AND THREE-PHASE
- MAXIMUM HYDRAULIC MODULE OUTPUT TEMPERATURE: 55 °C
- WORKS DOWN TO -20 °C

ENERGY AND ENVIRONMENTAL EFFICIENCY

- 78% more efficient than an electrical convection system
- Maximum COP of 4.74 for the 9 kW model

COMFORT

- Optimum control possible with a room temperature thermostat (not supplied)
- Maximum hydraulic module output temperature: 55 °C
- Power optimised according to the return water temperature
- Autonomous management of the hot water cylinder and heating

EASY TO USE

- Single-unit range, with no refrigerant connections
- Wired control panel for installation in the house
- Easy programming on the control panel

EASY INSTALLATION AND MAINTENANCE

- Outdoor unit easy to open for maintenance



WH-TD20B3E5

WH-TD30B3E5



AQUAREA MXF // MONO-BLOC // T-CAP // HEATING ONLY SINGLE-PHASE // THREE-PHASE

The Aquarea MXF is the new Aquarea product from Panasonic for central heating. T-CAP stands for Total capacity as this new line-up is able to keep the same nominal capacity even at -15°C without the help of an electrical booster heater. T-CAP is also able to provide extremely high efficiency, whatever the outside temperature or the water temperature.

The new MXF is ideal for houses where keeping the same capacity is important such as new houses or houses without support from an external boiler.

The MXF can be adapted to an existing installation such as a boiler backup or to a new installation with floor heating, low-temperature radiators or even fan-coil heaters. These ranges can also be connected to a solar kit in order to increase efficiency and minimize the impact on the ecosystem. Finally, it is possible to connect a thermostat for even better heating control and management.



MONO-BLOC // AQUAREA T-CAP // HEATING ONLY // MXF

		SINGLE-PHASE	THREE-PHASE	
Outdoor unit		WH-MXF09D3E5	WH-MXF12D6E5	WH-MXF09D3E8
Heating Capacity at +7°C	kW	9	12	9
COP at +7°C with heating water temperature at 35°C		4,74	4,67	4,74
Heating Capacity at -7°C	kW	9	12	9
COP at -7°C with heating water temperature at 35 °C		2,81	2,7	2,81
Heating Capacity at -15°C	kW	9	12	9
COP at -15°C with heating water temperature at 35°C		2,54	2,4	2,54
Sound pressure level	dB(A)	49	50	49
Sound power level	dB	66	67	66
Dimensions (H x W x D)	mm	1410 x 1283 x 320	1410 x 1283 x 320	1410 x 1283 x 320
Weight	kg	155	155	158
Water pipe connector		R 1 ¼	R 1 ¼	R 1 ¼
Pump	No. of Speed	3	3	3
	Input power(max)	W	190	190
Heating water flow (T=5 K, 35°C)	l/min	25,8	34,4	25,8
Capacity of integrated electric heater	kW	3	6	3
Input Power	kW	1,9	2,57	1,9
Starting Current	A	8,8	11,9	2,9
Maximum Current	A	25	29	10,4
Operation Range	Outdoor Ambient	°C	-20 to 35	-20 to 35
	Water Outlet (at -2/-7/-15) 2)	°C	25 - 55	25 - 55

OPTIONAL SANITARY TANK

SANITARY TANK		WH-TD20B3E5	WH-TD30B3E5
Water volume	L	198	287
Max. water temperature	°C	75	75
Dimension	Height	mm	1.150
	Diameter		580
Weight	kg	46	60
Electric heater	kW	3	3
Power supply		Single Phase	Single Phase
Material inside tank		Inox	Inox

Performance calculation in agreement with Eurovent.

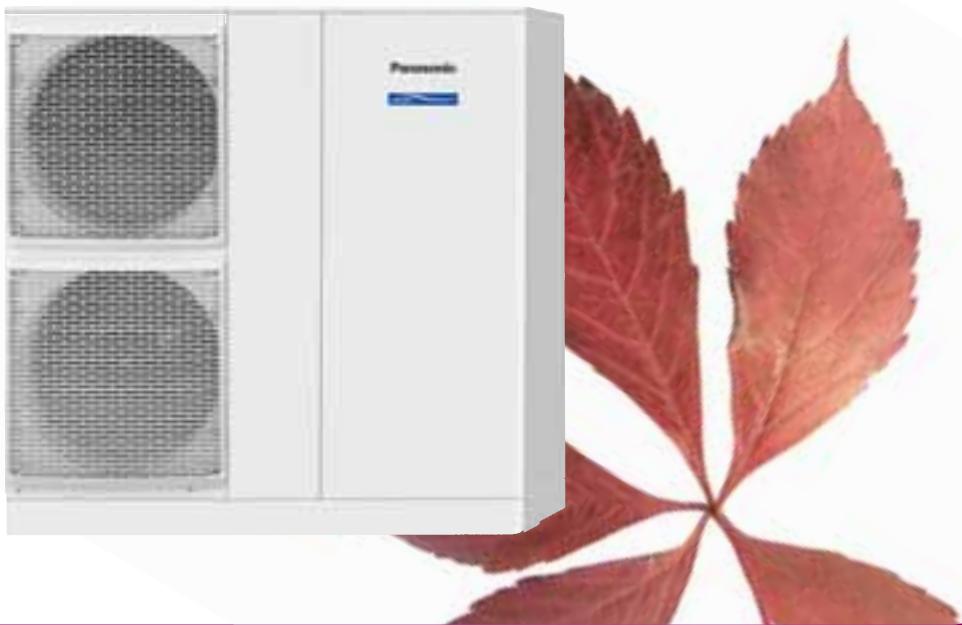
Sound pressure measured at 1 m from the outdoor unit and at 1.5-m height

Conditions : Water input temperature: 30 °C. Water output temperature: 35 °

* Tentative specifications



**NEW
2011**



TECHNICAL FOCUS

- RANGE FROM 9 TO 12 KW, SINGLE AND THREE-PHASE
- MAXIMUM HYDRAULIC MODULE OUTPUT TEMPERATURE: 55 °C
- WORKS DOWN TO -20 °C

ENERGY AND ENVIRONMENTAL EFFICIENCY

- 78% more efficient than an electrical convection system
- Maximum COP of 4.74 for the 9 kW model

COMFORT

- Optimum control possible with a room temperature thermostat (not supplied)
- Maximum hydraulic module output temperature: 55 °C
- Power optimised according to the return water temperature
- Autonomous management of the hot water cylinder and heating

EASY TO USE

- Single-unit range, with no refrigerant connections
- Wired control panel for installation in the house
- Easy programming on the control panel

EASY INSTALLATION AND MAINTENANCE

- Outdoor unit easy to open for maintenance



WH-TD20B3E5

WH-TD30B3E5



AQUAREA MXC // MONO-BLOC // T-CAP // HEATING AND COOLING SINGLE-PHASE // THREE-PHASE

The Aquarea MXC is the new Aquarea product from Panasonic for heating and cooling. T-CAP stands for Total capacity as this new line-up is able to keep the same nominal capacity even at -15°C without the help of an electrical booster heater. T-CAP is also able to provide extremely high efficiency, whatever the outside temperature or the water temperature.

The new MXC is ideal for houses where keeping the same capacity is important such as new houses or houses without support from an external boiler.

The MXC can be adapted to an existing installation such as a boiler backup or to a new installation with floor heating, low-temperature radiators or even fan-coil heaters. These ranges can also be connected to a solar kit in order to increase efficiency and minimize the impact on the ecosystem. Finally, it is possible to connect a thermostat for even better heating or cooling control and management.



MONO-BLOC // AQUAREA T-CAP // HEATING AND COOLING// MXC

	SINGLE-PHASE		THREE-PHASE	
Outdoor unit	WH-MXC09D3E5	WH-MXC12D6E5	WH-MXC09D3E8	WH-MXC12D9E8
Heating Capacity at +7°C	kW	9	12	9
COP at +7°C with heating water temperature at 35°C		4,74	4,67	4,74
Heating Capacity at -7°C	kW	9	12	9
COP at -7°C with heating water temperature at 35°C		2,81	2,7	2,81
Heating Capacity at -15°C	kW	9	12	9
COP at -15°C with heating water temperature at 35°C		2,54	2,4	2,54
Cooling capacity at 35°C		7	10	7
EER at 35°C with cooling water temperature at 7/12°C	kW	3,11	2,78	3,11
Sound pressure level	dB(A)	49	50	49
Sound power level	dB	66	67	66
Dimensions (H x W x D)	mm	1410 x 1283 x 320	1410 x 1283 x 320	1410 x 1283 x 320
Weight	kg	155	155	158
Water pipe connector		R 1 ¼	R 1 ¼	R 1 ¼
Pump	No. of Speed	3	3	3
	Input power(max)	W	190	190
Heating water flow (T=5 K, 35°C)	l/min	25,8	34,4	25,8
Capacity of integrated electric heater	kW	3	6	3
Input Power	kW	1,9	2,57	1,9
Starting Current	A	10,4	16,7	2,9
Maximum Current	A	25	29	10,4
Operation Range	Outdoor Ambient	°C	-20 to 35	-20 to 35
	Water Outlet (at-2/-7/-15) 2)	°C	22 - 55 / 5 - 20	22 - 55 / 5 - 20

OPTIONAL SANITARY TANK

SANITARY TANK	WH-TD20B3E5	WH-TD30B3E5
Water volume	L	198
Max. water temperature	°C	75
Dimension	Height	mm
		1.150
	Diameter	
		580
Weight	kg	46
Electric heater	kW	3
Power supply		Single Phase
Material inside tank		Inox

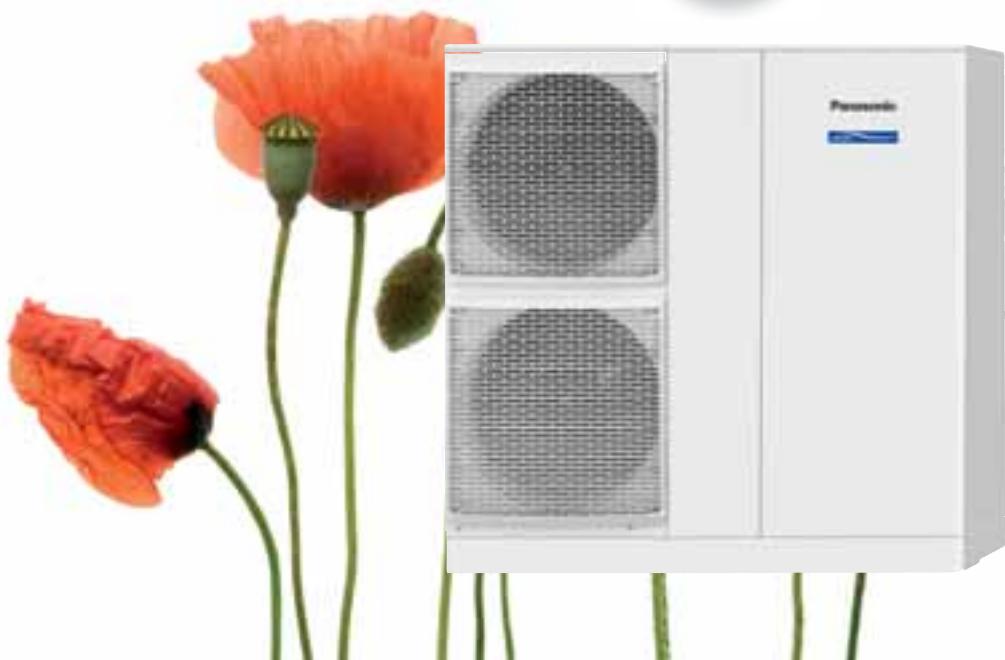
Performance calculation in agreement with Eurovent.

Sound pressure measured at 1 m from the outdoor unit and at 1.5-m height

Conditions : Water input temperature: 30 °C. Water output temperature: 35 °

* Tentative specifications

**NEW
2011**



TECHNICAL FOCUS

- RANGE FROM 9 TO 12 KW, SINGLE AND THREE-PHASE
- MAXIMUM HYDRAULIC MODULE OUTPUT TEMPERATURE: 55 °C
- WORKS DOWN TO -20 °C

ENERGY AND ENVIRONMENTAL EFFICIENCY

- 78% more efficient than an electrical convection system
- Maximum COP of 4.74 for the 9 kW model

COMFORT

- Optimum control possible with a room temperature thermostat (not supplied)
- Maximum hydraulic module output temperature: 55 °C
- Power optimised according to the return water temperature
- Autonomous management of the hot water cylinder and heating

EASY TO USE

- Single-unit range, with no refrigerant connections
- Wired control panel for installation in the house
- Easy programming on the control panel

EASY INSTALLATION AND MAINTENANCE

- Outdoor unit easy to open for maintenance



HEATING CAPACITY TABLE BASED ON OUTLET TEMPERATURE AND OUTSIDE TEMPERATURE

WH-SDF07C3E5 // WH-UD07CE5-A

LWC	30		35		40		45		50		55	
Tamb	Capacity	Input Power										
-15	4.60	1.87	4.60	2.00	4.60	2.19	4.60	2.42	4.55	2.68	4.50	3.00
-7	5.15	1.80	5.15	1.94	5.08	2.14	5.00	2.38	4.90	2.47	4.80	2.67
2	6.70	1.83	6.55	1.98	6.58	2.29	6.60	2.64	6.30	2.90	6.00	3.16
7	7.00	1.43	7.00	1.59	7.00	1.77	7.00	2.12	6.90	2.30	6.80	2.72
25	7.00	0.79	7.00	0.93	6.40	1.03	6.10	1.17	5.90	1.33	5.70	1.49

WH-SDF09C3E5 // WH-UD09CE5-A

LWC	30		35		40		45		50		55	
Tamb	Capacity	Input Power										
-15	6.00	2.55	5.90	2.68	5.50	2.82	5.40	3.00	5.20	3.14	5.00	3.33
-7	6.10	2.16	5.90	2.36	5.85	2.63	5.80	2.90	5.80	3.06	5.80	3.22
2	6.80	1.87	6.70	2.16	6.70	2.38	6.60	2.64	6.30	2.90	6.00	3.16
7	9.00	1.93	9.00	2.20	9.00	2.45	9.00	2.81	8.95	3.23	8.90	3.87
25	9.00	1.07	9.00	1.27	8.40	1.40	8.00	1.59	7.80	1.81	7.50	2.03

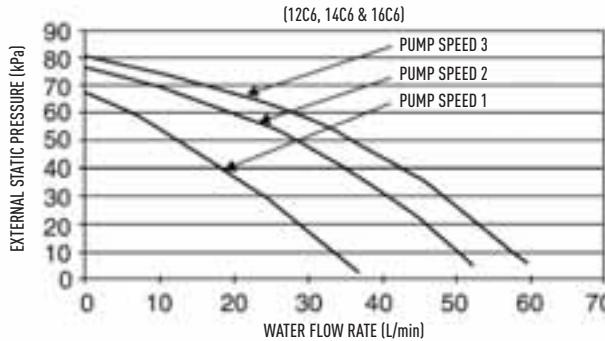
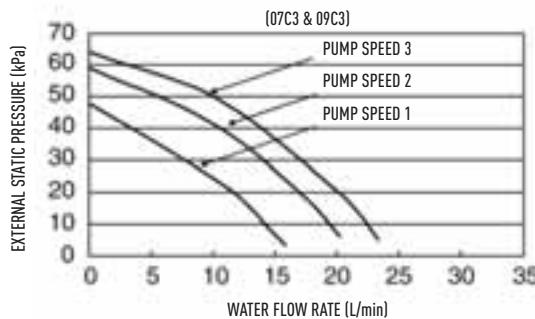
WH-SDF12C6E5 // WH-UD12CE5-A

LWC	30		35		40		45		50		55	
Tamb	Capacity	Input Power										
-15	9.30	3.50	8.90	3.66	8.50	3.83	8.10	3.99	7.50	4.09	7.00	4.20
-7	10.40	3.41	10.00	3.70	9.60	3.99	9.20	4.28	8.70	4.30	8.20	4.31
2	11.80	3.14	11.40	3.35	11.00	3.57	10.60	3.78	9.80	3.98	9.10	4.18
7	12.00	2.14	12.00	2.57	12.00	3.00	12.00	3.43	12.00	3.82	12.00	4.20
25	12.00	1.42	12.00	1.70	11.80	1.98	11.70	2.27	11.50	2.53	11.40	2.78

WH-SDF14C6E5 // WH-UD14CE5-A

LWC	30		35		40		45		50		55	
Tamb	Capacity	Input Power										
-15	9.90	3.91	9.50	4.05	9.00	4.19	8.60	4.33	7.90	4.45	7.30	4.56
-7	11.10	3.73	10.70	4.08	10.20	4.43	9.80	4.78	9.10	4.76	8.50	4.74
2	12.90	3.51	12.40	3.73	11.90	3.95	11.40	4.17	10.40	4.29	9.50	4.40
7	14.00	2.60	14.00	3.11	14.00	3.63	14.00	4.14	13.60	4.61	13.30	5.08
25	14.00	1.75	14.00	2.10	14.00	2.45	14.00	2.80	14.00	3.05	14.00	3.44

HYDRAULIC PUMP PERFORMANCE



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This data is for reference purpose only, and does not guarantee the performance.

HC: Heating Capacity (kW)
IP: Power Input (kW)
LWC: Leaving Water Condenser Temperature (°C)
Tamb: Ambient Temperature (°C)

**WH-SDF09C3E8 // WH-UD09CE8**

LWC	30		35		40		45		50		55	
Tamb	Capacity	Input Power										
-15	8.65	3.10	8.30	3.25	7.95	3.45	7.60	3.65	7.15	3.75	6.70	3.85
-7	9.35	2.95	9.00	3.20	8.85	3.58	8.70	3.96	8.30	3.93	7.90	3.90
2	9.31	2.39	9.00	2.55	9.00	2.82	9.00	3.09	8.90	3.53	8.80	3.98
7	9.00	1.58	9.00	1.90	9.00	2.20	9.00	2.50	9.00	2.80	9.00	3.10
25	9.00	1.09	9.00	1.28	8.73	1.48	8.46	1.68	8.28	1.86	8.10	2.04

WH-SDF12C9E8 // WH-UD12CE8

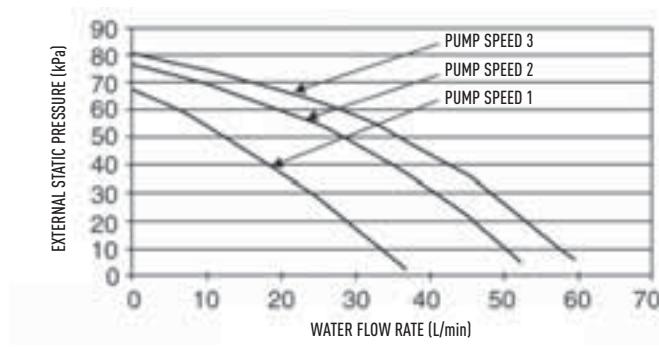
LWC	30		35		40		45		50		55	
Tamb	Capacity	Input Power										
-15	9.30	3.50	8.90	3.66	8.50	3.83	8.10	3.99	7.50	4.09	7.00	4.20
-7	10.40	3.41	10.00	3.70	9.60	3.99	9.20	4.28	8.70	4.30	8.20	4.31
2	11.80	3.14	11.40	3.35	11.00	3.57	10.60	3.78	9.80	3.98	9.10	4.18
7	12.00	2.14	12.00	2.57	12.00	3.00	12.00	3.43	12.00	3.82	12.00	4.20
25	12.00	1.42	12.00	1.70	11.80	1.98	11.70	2.27	11.50	2.53	11.40	2.78

WH-SDF14C9E8 // WH-UD14CE8

LWC	30		35		40		45		50		55	
Tamb	Capacity	Input Power										
-15	9.90	3.91	9.50	4.05	9.00	4.19	8.60	4.33	7.90	4.45	7.30	4.56
-7	11.10	3.73	10.70	4.08	10.20	4.43	9.80	4.78	9.10	4.76	8.50	4.74
2	12.90	3.51	12.40	3.73	11.90	3.95	11.40	4.17	10.40	4.29	9.50	4.40
7	14.00	2.60	14.00	3.11	14.00	3.63	14.00	4.14	13.60	4.61	13.30	5.08
25	14.00	1.75	14.00	2.10	14.00	2.45	14.00	2.80	14.00	3.05	14.00	3.44

WH-SDF16C9E8 // WH-UD16CE8

LWC	30		35		40		45		50		55	
Tamb	Capacity	Input Power										
-15	10.60	4.13	10.30	4.42	10.00	4.71	9.70	5.00	8.80	4.98	7.90	4.95
-7	11.90	4.07	11.40	4.47	10.80	4.87	10.30	5.26	9.60	5.13	9.00	4.99
2	13.50	3.78	13.00	4.00	12.40	4.22	11.90	4.44	10.80	4.50	9.80	4.55
7	16.00	3.25	16.00	3.78	16.00	4.31	16.00	4.84	15.20	5.15	14.50	5.45
25	16.00	2.35	16.00	2.73	16.00	3.11	16.00	3.49	16.00	3.71	15.90	3.93

HYDRAULIC PUMP PERFORMANCE

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IP: Power Input (kW)
LWC: Leaving Water Condenser Temperature (°C)
Tamb: Ambient Temperature (°C)

HEATING CAPACITY TABLE BASED ON OUTLET TEMPERATURE AND OUTSIDE TEMPERATURE

WH-MDF09C3E5

Water Out	30		35		40		45		50		55	
Outdoor Air	Capacity	Input Power										
-15	8650	3100	8300	3250	7950	3450	7600	3650	7150	3750	6700	3850
-7	9350	2950	9000	3200	8850	3500	8700	3800	8300	3850	7900	3900
2	9310	2390	9000	2550	9000	2820	9000	3090	8900	3530	8800	3980
7	9000	1580	9000	1900	9000	2200	9000	2500	9000	2800	9000	3100
25	9000	1090	9000	1280	8730	1480	8460	1680	8280	1860	8100	2040

WH-MDF12C6E5

Water Out	30		35		40		45		50		55	
Outdoor Air	Capacity	Input Power										
-15	9300	3500	8900	3660	8500	3830	8100	3990	7500	4090	7000	4200
-7	10400	3410	10000	3700	9600	3900	9200	4100	8700	4200	8200	4310
2	11800	3140	11400	3340	11000	3570	10600	3780	9800	3980	9100	4180
7	12000	2140	12000	2570	12000	3000	12000	3430	12000	3820	12000	4200
25	12000	1420	12000	1700	11800	1980	11700	2270	11500	2530	11400	2780

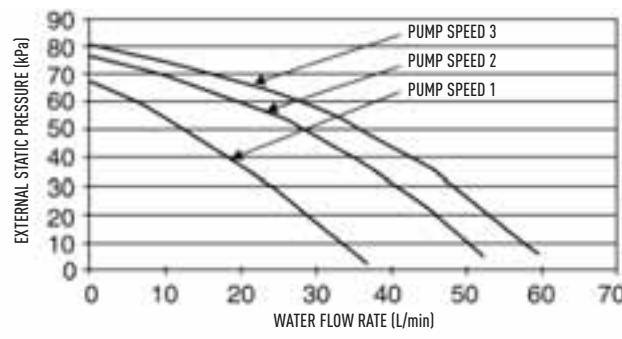
WH-MDF14C6E5

Water Out	30		35		40		45		50		55	
Outdoor Air	Capacity	Input Power										
-15	9900	3910	9500	4050	9000	4190	8600	4330	7900	4450	7300	4560
-7	11100	3730	10700	4000	10200	4200	9800	4400	9100	4570	8500	4740
2	12900	3510	12400	3730	11900	3950	11400	4170	10400	4290	9500	4400
7	14000	2600	14000	3110	14000	3630	14000	4140	13600	4610	13300	5080
25	14000	1750	14000	2100	14000	2450	14000	2800	14000	3050	14000	3440

WH-MDF16C6E5

Water Out	30		35		40		45		50		55	
Outdoor Air	Capacity	Input Power										
-15	10600	4130	10300	4420	10000	4710	9700	5000	8800	4980	7900	4950
-7	11900	4070	11400	4300	10800	4500	10300	4700	9600	4850	9000	4990
2	13500	3780	13000	4000	12400	4220	11900	4440	10800	4500	9800	4550
7	16000	3250	16000	3780	16000	4310	16000	4840	15200	5150	14500	5450
25	16000	2350	16000	2730	16000	3110	16000	3490	16000	3710	15900	3930

HYDRAULIC PUMP PERFORMANCE



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HC: Heating Capacity (kW)
IP: Power Input (kW)
LWC: Leaving Water Condenser Temperature (°C)
Tamb: Ambient Temperature (°C)



WH-MDF09C3E8

Water Out	30		35		40		45		50		55	
Outdoor Air	Capacity	Input Power										
-15	8650	3100	8300	3250	7950	3450	7600	3650	7150	3750	6700	3850
-7	9350	2950	9000	3200	8850	3500	8700	3800	8300	3850	7900	3900
2	9310	2390	9000	2550	9000	2820	9000	3090	8900	3530	8800	3980
7	9000	1580	9000	1900	9000	2200	9000	2500	9000	2800	9000	3100
25	9000	1090	9000	1280	8730	1480	8460	1680	8280	1860	8100	2040

WH-MDF12C9E8

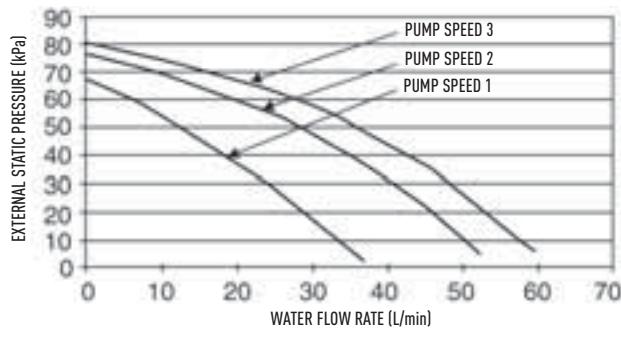
Water Out	30		35		40		45		50		55	
Outdoor Air	Capacity	Input Power										
-15	9300	3500	8900	3660	8500	3830	8100	3990	7500	4090	7000	4200
-7	10400	3410	10000	3700	9600	3900	9200	4100	8700	4200	8200	4310
2	11800	3140	11400	3340	11000	3570	10600	3780	9800	3980	9100	4180
7	12000	2140	12000	2570	12000	3000	12000	3430	12000	3820	12000	4200
25	12000	1420	12000	1700	11800	1980	11700	2270	11500	2530	11400	2780

WH-MDF14C9E8

Water Out	30		35		40		45		50		55	
Outdoor Air	Capacity	Input Power										
-15	9900	3910	9500	4050	9000	4190	8600	4330	7900	4450	7300	4560
-7	11100	3730	10700	4000	10200	4200	9800	4400	9100	4570	8500	4740
2	12900	3510	12400	3730	11900	3950	11400	4170	10400	4290	9500	4400
7	14000	2600	14000	3110	14000	3630	14000	4140	13600	4610	13300	5080
25	14000	1750	14000	2100	14000	2450	14000	2800	14000	3050	14000	3440

WH-MDF16C9E8

Water Out	30		35		40		45		50		55	
Outdoor Air	Capacity	Input Power										
-15	10600	4130	10300	4420	10000	4710	9700	5000	8800	4980	7900	4950
-7	11900	4070	11400	4300	10800	4500	10300	4700	9600	4850	9000	4990
2	13500	3780	13000	4000	12400	4220	11900	4440	10800	4500	9800	4550
7	16000	3250	16000	3780	16000	4310	16000	4840	15200	5150	14500	5450
25	16000	2350	16000	2730	16000	3110	16000	3490	16000	3710	15900	3930



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ACCESSORIES

PANASONIC ACCESSORIES

SOLAR KIT ACCESSORIES

CZ-NS1P	Solar connection PCB (for Bi-split type)
CZ-NS2P	Solar connection PCB (for Mono-bloc type)

SANITARY TANK ACCESSORIES

CZ-TK1	Temperature sensor kit for third party tank
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DEICE ACCESSORIES

CZ-NE1P	Base pan heater kit
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FIELD PROCURED OPTIONAL PARTS

SOLAR KIT

Brand	Model No.	Feature
RESOL	FlowConS_DeltaSol_BS_Plus	Remote Control
Oventrop	Regusol X-25	Remote Control

3 WAY VALVE

Brand	Model No.	Feature
Siemens	CZV322 3 Port	Spring return

2 WAY VALVE

Brand	Model No.	Feature
Honeywell	V4043C1007	Spring return
Siemens	CZV222 2 Port	Spring return

ROOM THERMOSTAT ON / OFF

Brand	Model No.	Feature
Siemens	RAA20	Dial type
Siemens	REV200	Programme

THERMAL VALVE

Brand	Model No.	Feature
Taconova	RA57	NC
Danfoss	AVB-NC	NC



RESOL
FlowConS_DeltaSol_BS_Plus



Oventrop
REGSOL UNO X-15



Siemens
CZV322 3 Port



Siemens
CZV222 2 Port



Siemens
RAA20



Siemens
REV200



Taconova
RA57



Danfoss
AVB-NC



THE OPERATION LED BLINKS AND AN ERROR CODE APPEARS ON THE CONTROL PANEL DISPLAY.



- Turn the unit off and inform the authorised dealer of the error code.
- The timer operation is cancelled when an error code occurs.

ERROR CODES TABLE

Diagnosis display	Abnormality / Protection control	Abnormality Judgement	Primary location to verify
H00	No abnormality detected	—	—
H12	Indoor/Outdoor capacity unmatched	90s after power supply	<ul style="list-style-type: none"> • Indoor/outdoor connection wire • Indoor/outdoor PCB • Specification and combination table in catalogue
H15	Outdoor compressor temperature sensor abnormality	Continue for 5 sec.	• Compressor temperature sensor (defective or disconnected)
H23	Indoor refrigerant liquid temperature sensor abnormality	Continue for 5 sec.	• Refrigerant liquid temperature sensor (defective or disconnected)
H38	Indoor/Outdoor mismatch	—	• Indoor/Outdoor PCB
H42	Compressor low pressure abnormality	—	<ul style="list-style-type: none"> • Outdoor pipe temperature sensor • Clogged expansion valve or strainer • Insufficient refrigerant • Outdoor PCB • Compressor
H62	Water flow switch abnormality	Continue for 1 min.	• Water flow switch
H64	Refrigerant high pressure abnormality	Continue for 5 sec.	• Outdoor high pressure sensor (defective or disconnected)
H70	Back-up heater OLP abnormality	Continue for 60 sec.	• Back-up heater OLP (Disconnection or activated)
H72	Tank sensor abnormal	Continue for 5 sec.	• Tank sensor
H76	Indoor - control panel communication abnormality	—	• Indoor - control panel (defective or disconnected)
H90	Indoor / outdoor abnormal communication	> 1 min after starting operation	<ul style="list-style-type: none"> • Internal / external cable connections • Indoor / Outdoor PCB
H91	Tank heater OLP abnormality	Continue for 60 sec.	• Tank heater OLP (Disconnection or activated)
H95	Indoor/Outdoor wrong connection	—	• Indoor/Outdoor supply voltage
H98	Outdoor high pressure overload protection	—	<ul style="list-style-type: none"> • Outdoor high pressure sensor • Water pump or water leakage • Clogged expansion valve or strainer • Excess refrigerant • Outdoor PCB
H99	Indoor heat exchanger freeze prevention	—	<ul style="list-style-type: none"> • Indoor heat exchanger • Refrigerant shortage
F12	Pressure switch activate	4 times occurrence within 20 minutes	• Pressure switch
F14	Outdoor compressor abnormal revolution	4 times occurrence within 20 minutes	• Outdoor compressor
F15	Outdoor fan motor lock abnormality	2 times occurrence within 30 minutes	<ul style="list-style-type: none"> • Outdoor PCB • Outdoor fan motor
F16	Total running current protection	3 times occurrence within 20 minutes	<ul style="list-style-type: none"> • Excess refrigerant • Outdoor PCB
F20	Outdoor compressor overheating protection	4 times occurrence within 30 minutes	<ul style="list-style-type: none"> • Compressor tank temperature sensor • Clogged expansion valve or strainer • Insufficient refrigerant • Outdoor PCB • Compressor
F22	IPM (power transistor) overheating protection	3 times occurrence within 30 minutes	<ul style="list-style-type: none"> • Improper heat exchange • IPM (Power transistor)
F23	Outdoor Direct Current (DC) peak detection	7 times occurrence continuously	<ul style="list-style-type: none"> • Outdoor PCB • Compressor
F24	Refrigeration cycle abnormality	2 times occurrence within 20 minutes	<ul style="list-style-type: none"> • Insufficient refrigerant • Outdoor PCB • Compressor low compression
F25	Cooling / Heating cycle changeover abnormality	4 times occurrence within 30 minutes	<ul style="list-style-type: none"> • 4-way valve • V-coil
F27	Pressure switch abnormality	Continue for 1 min.	• Pressure switch
F36	Outdoor air temperature sensor abnormality	Continue for 5 sec.	• Outdoor air temperature sensor (defective or disconnected)
F37	Indoor water inlet temperature sensor abnormality	Continue for 5 sec.	• Water inlet temperature sensor (defective or disconnected)
F40	Outdoor discharge pipe temperature sensor abnormality	Continue for 5 sec.	• Outdoor discharge pipe temperature sensor (defective or disconnected)
F41	PFC control	4 times occurrence within 10 minutes	• Voltage at PFC
F42	Outdoor heat exchanger temperature sensor abnormality	Continue for 5 sec.	• Outdoor heat exchanger temperature sensor (defective or disconnected)
F43	Outdoor defrost sensor abnormality	Continue for 5 sec.	• Outdoor defrost sensor (defective or disconnected)
F45	Indoor water outlet temperature sensor abnormality	Continue for 5 sec.	• Water outlet temperature sensor (defective or disconnected)
F46	Outdoor Current Transformer open circuit	—	<ul style="list-style-type: none"> • Insufficient refrigerant • Outdoor PCB • Compressor low
F95	Cooling high pressure overload protection	—	<ul style="list-style-type: none"> • Outdoor high pressure sensor • Water pump or water leakage • Clogged expansion valve or strainer • Excess refrigerant • Outdoor PCB

FORCE HEATER MODE BUTTON

- The backup heater also serves as backup in case of malfunctioning of the outdoor unit.
- Press to stop the force heater operation.
- During Force Heater mode, all other operations are not allowed.



WELCOME TO NEW DOMESTIC RANGE

More than ever before, Panasonic has developed a range of products designed for you and your clients.

The main new feature in the Domestic line is, without doubt, the Etherea range with the new ECONAVI system, which detect the level of human presence in a room and their level of activity and adjusts output accordingly. With its innovative design, high efficiency and incomparable purification system, the range has been designed with your clients in mind. Above all, it is also a range for air conditioning professionals, such as yourself, thanks to its broad range of products which are capable of conditioning rooms of all sizes – always with optimal efficiency and incomparable ease of installation. The Etherea range guarantees that you are offering your clients the very best.

healthyair



The Patrol Sensor is
on guard 24 hours a
day to ensure
optimal air quality.



The E-ion+ system
eliminates 99% of
bacteria, viruses and
mildew from the air.



The Perfect Humidity
Air controls the
humidity level in the
air to prevent over-
dryness.

~~ETHEREA~~

designed to care for you

ECONAVI

dual sensor



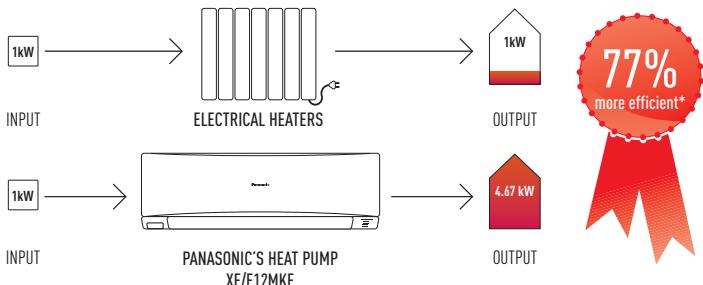
THE NEW ETHEREA RANGE PURE EFFICIENCY WITH ECONAVI

Panasonic's new Etherea units offer maximum efficiency in every sense. They ensure minimum consumption, thanks to the new ECONAVI system, which intuits the level of human presence in a room and their level of activity and adjusts output accordingly. This feature provides up to 40% energy savings on heating mode, and up to 30% energy savings on cooling mode.

Our super silent air conditioners guarantee the purest air to take care of you and your family. They boast sophisticated features, such as the E-ion plus purification system, designed to eliminate harmful micro-organisms, viruses, bacteria and moulds and a system which prevents humidity in the room from dropping too far. Thanks to Mild Dry System.

ECONOMICAL, ENVIRONMENT-FRIENDLY OPERATION HIGH COP (COEFFICIENT 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.



*On heating mode, XE/E12MKE compared with electrical heaters at +7°C

energy saving



The A Inverter system provides energy savings of up to 50%. You win and nature wins.



ECONAVI sensor determine the human activity level adjust the air flow orientation for maximum comfort and maximum savings.



The Autocomfort system detects conditions in the room and switches to energy saving operation when nobody is on the room.



With Super Quiet technology our devices are as quiet as a library.

NEW ECONAVI SYSTEM

ECO INTELLIGENCE BY DESIGN

Going green and saving energy shouldn't compromise on your comfortable lifestyle. That is why the inverter – with its exceptional energy-saving performances – has been introduced to our air conditioners.

At the same time, individuals also get to enjoy the Advanced+Plus e-ion Air Purifying System with the Patrol Sensor for cleaner air. Both advanced features have been designed to improve quality of life. With the same concerns in mind, Panasonic is introducing a new Econavi concept – an intelligent eco function with automatic detection which further reduces energy waste.

This enables individuals to save energy easily and thus improve the environment. Imagine what millions of people around the world can change with Econavi. A more sustainable future is possible.

**NEW
2011**



INTRODUCING ECONAVI – A SYSTEM WHICH SAVES ENERGY BY REDUCING WASTE

The ECONAVI concept applies high precision Human Sensor and Control Program technologies to optimise air conditioner operation according to room conditions. How does it save energy? By using technology to detect areas in which energy is normally wasted and self-adjusting cooling power. Thus, it helps you to save energy efficiently with uninterrupted cooling, comfort and convenience.

**UP TO 30% ENERGY SAVINGS ON COOLING MODE*,
40% ENERGY SAVINGS ON HEATING MODE****

30% savings
ECONAVI

Accumulative energy consumption is saved up to 40% during stable operation for 1 hour.

*Energy saving effect for cooling by ECONAVI dual sensor: 30%

Test condition

Comparison of 1.5HP Inverter model between with ECONAVI dual sensor ON and OFF ECONAVI dual sensor ON Outside temperature: 35°C/24°C Remote setting temperature: 25°C with Fan Speed (High) /Vertical Airflow direction: Auto, Horizontal Airflow direction: ECONAVI Mode Setting temperature goes up 1°C controlled by ECONAVI activity level ECONAVI dual sensor OFF Outside temperature: 35°C/24°C Remote setting temperature: 25°C with Fan Speed (High) / Vertical Airflow direction: Auto, Horizontal Airflow direction: Front Total power consumption amount are measured for 1 hour in stable condition. At Panasonic Amenity Room (size:16.2M2) This is the maximum energy saving value, and the effect differs according to conditions in installation and usage.

**Energy saving effect for heating by ECONAVI dual sensor: 40%

Test condition

Comparison of 1.5HP Inverter model between with ECONAVI dual sensor ON and OFF ECONAVI dual sensor ON Outside temperature: 7°C/6°C Remote setting temperature: 23°C with Fan Speed (High) /Vertical Airflow direction: Auto, Horizontal Airflow direction: ECONAVI Mode Setting temperature goes down 2°C controlled by ECONAVI activity level ECONAVI dual sensor OFF Outside temperature: 7°C/6°C Remote setting temperature: 23°C with Fan Speed (High) / Vertical Airflow direction: Auto, Horizontal Airflow direction: Front Total power consumption amount are measured for 1 hour in stable condition. At Panasonic Amenity Room (size:16.2M2) This is the maximum energy saving value, and the effect differs according to conditions in installation and usage.

One-touch ECONAVI reduces waste in three simple steps:

It examines

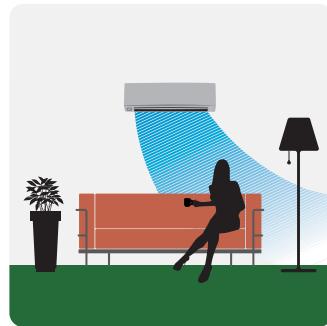
- Levels of activity
- Human presence

It assesses

- Changes in human location
- Changes in human activity
- Changes in human presence

and executes

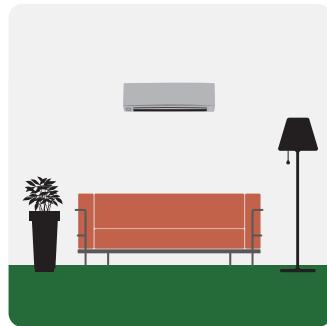
- Adjusts airflow direction
- High activity: automatic adjustment of the set temperature
- Absence: saves energy



• Adjusts airflow direction



• High activity: automatic adjustment of the set temperature

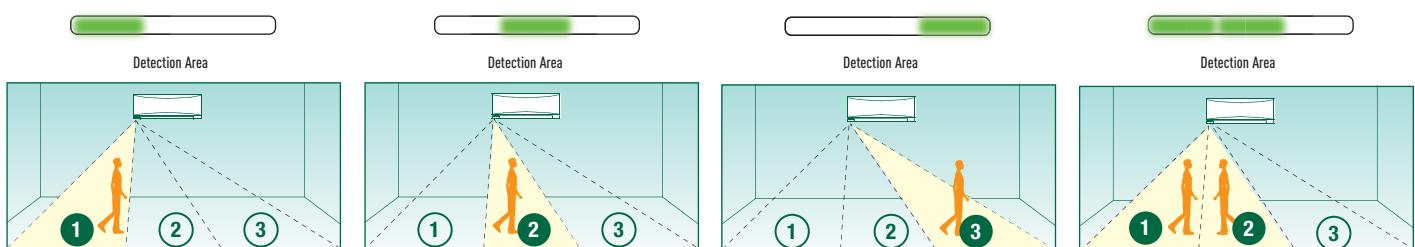


• Absence: save energy

SENSOR DETECTION PRINCIPLE

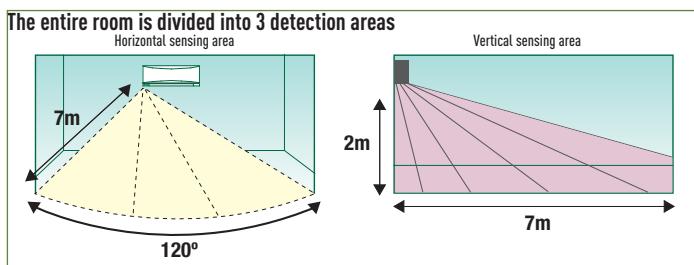
Dual human activity sensor detects human activity level and directs airflow to occupied or high activity zone.

LEDs Operation Indication Status



COVERAGE CAPABILITIES

ECONAVI dual sensor covers a wider area due to its improved area detection function.



DIFFERENTIATING OBJECTS

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

Electrical products



Difference in temperatures	<input checked="" type="checkbox"/>
+ Movement	<input type="checkbox"/>
Concludes it is not human	

A rolling ball



Difference in temperatures	<input type="checkbox"/>
+ Movement	<input checked="" type="checkbox"/>
Concludes it is not human	

Small insects



Difference in temperatures	<input checked="" type="checkbox"/>
+ Movement	<input checked="" type="checkbox"/>
Concludes it is not human	

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

Pets



Difference in temperatures	<input checked="" type="checkbox"/>
+ Movement	<input checked="" type="checkbox"/>
Concludes it is not human	

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.

HIGH-PRECISION SENSING

All objects emit infrared rays which, although invisible, can be detected as heat by ECONAVI's 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.

The entire room is divided into 3 detection areas

DETECTING HUMAN PRESENCE

Difference in temperatures	<input type="checkbox"/>
Movement	<input type="checkbox"/>
↓	
Concludes nobody is present	

Difference in temperatures	<input checked="" type="checkbox"/>
Movement	<input type="checkbox"/>
↓	
When there is no movement for over 20min.	
Concludes nobody is present	

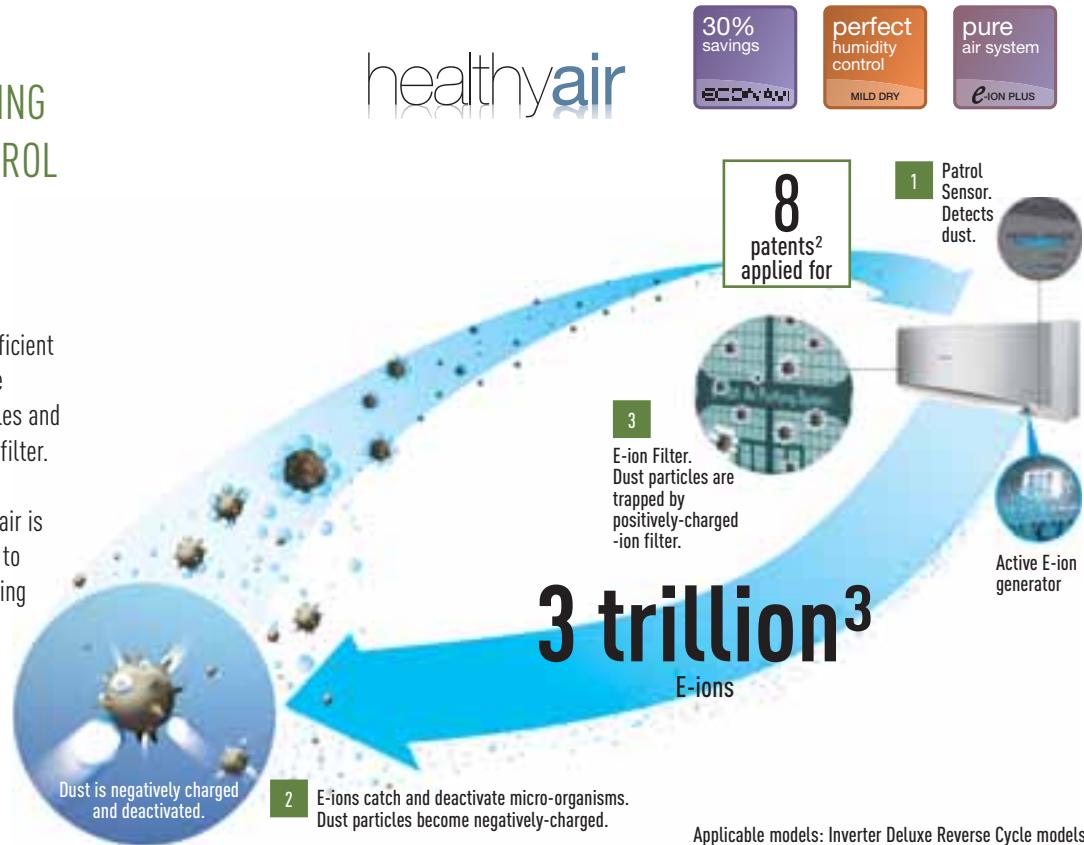
Difference in temperatures	<input checked="" type="checkbox"/>
Movement	<input checked="" type="checkbox"/>
↓	
Concludes somebody is present	

DETERMINING THE LEVEL OF HUMAN ACTIVITY

Scale	Frequency	Speed of Movement
A highly precise conclusion is reached through a complex algorithm		
High	↓	
Concludes Level of Activity High or Normal		

ADVANCED⁺PLUS. E-ION AIR PURIFYING SYSTEM WITH PATROL SENSOR

Panasonic's original, highly acclaimed e-ion Air Purifying System is now 15%¹ more efficient than before. Active e-ions are released to catch dust particles and bring them back to the large filter. Thanks to this revolutionary boomerang-like mechanism, air is purified throughout the room to provide a healthy, relaxing living environment.



Applicable models: Inverter Deluxe Reverse Cycle models

1. Compared to 2007 year's models.
2. Panasonic has applied for 8 patents related to e-ion Air Purifying technology. (As of May, 2010)
3. 3 trillion is the simulated number of active e-ions under the mentioned conditions. Actual measured active e-ions at the centre of the room (13 m²):100k/cc Calculated number of active e-ions in the entire room assuming they are evenly distributed.

This is Panasonic's revolutionary mechanism

Air is monitored both during air conditioner operation and when it's switched off. When dirt is detected, the air purifying function is started to immediately clean the air in the room.



1



2

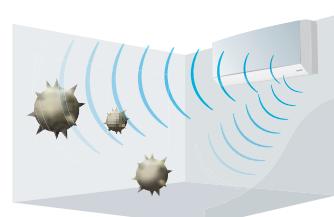


3

DETECTS

Patrol Sensor

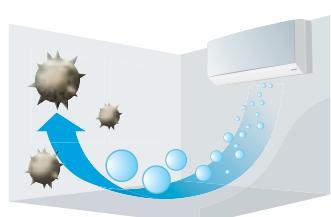
The sensor measures the dirt in the air, and above a certain level the air is judged to be dirty. If dirt concentration exceeds the sensing level, the Air Purifying System is switched on.



CATCHES & INACTIVATES

E-Ion Action

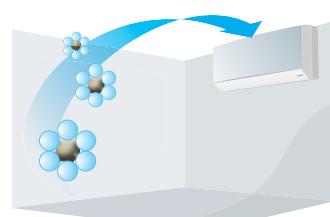
Three trillion e-ions are released to catch floating dust particles. The ions also deactivate bacteria and viruses.



CAPTURES ELECTRICALLY

E-Ion filter

The filter is positively-charged, so negatively-charged dust particles are electrically attracted. This electrical action assures that dust is efficiently captured.

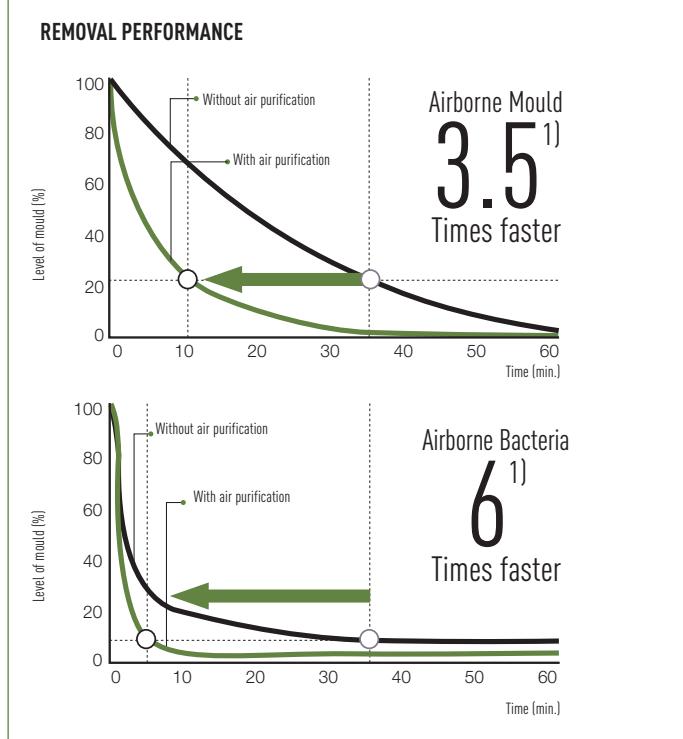
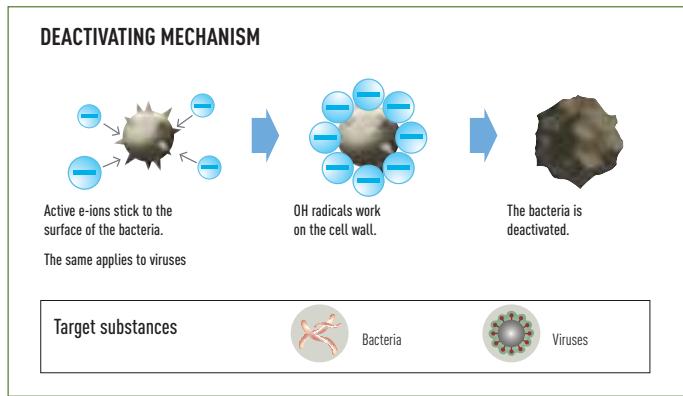


Active E-ion

- Active e-ions can deactivate bacteria and virus activities.
- E-ions Air Purifying System can rapidly reduce airborne mould and bacteria¹⁾

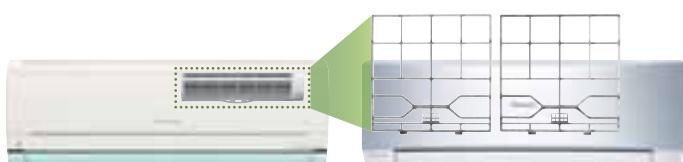
Deactivation was certified by Japan Food Research Laboratories

- Test report number: No. 10057764001-02
Bacteria: *Staphylococcus aureus* subsp. *aureus* (NBRC12732)
 - Test report number: No. 10057770001-02
Bacteria: *Escherichia coli* (NBRC3972)
 - Test report number: No. 204101750-001
Virus: Influenza virus A
 - Test report number: No. 304110078-001
- 1) Test method: The e-ion Air Purifying System was operated in a test room (10m²) and changes in airborne mould and bacteria were measured by means of the Air Sampler Method (MAS100)



E-ion Filter

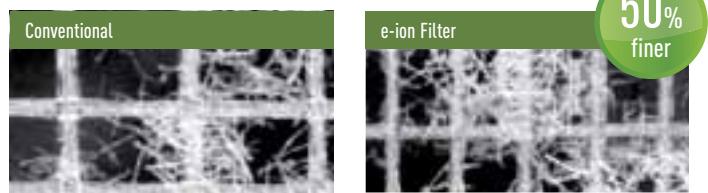
Using the force of attraction between positive and negative charges, the e-ion Filter – which is 7 times bigger and finer than ever – powerfully captures airborne dust particles.



Also captures microscopic dust (100~1,000μm)

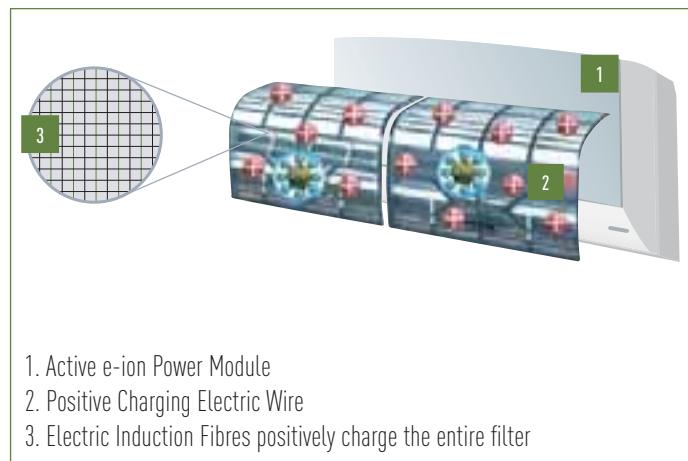
Bigger size, finer mesh

The filter covers the entire grille area.



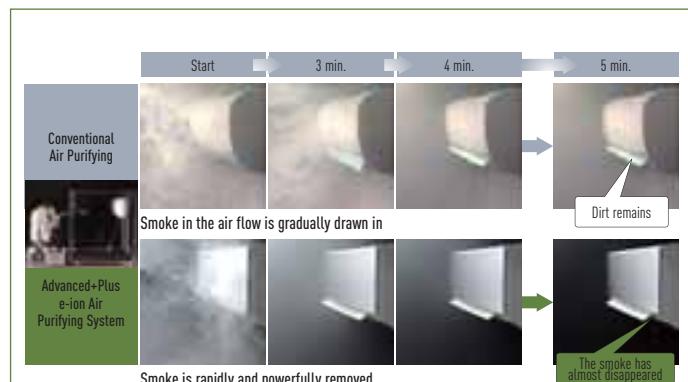
Electric charging

Electric Induction Fibres extend across the entire area of the filter for charging.

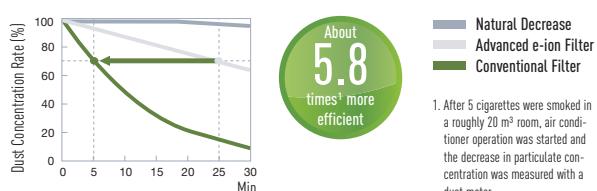


Electric dust collection for more efficient purification

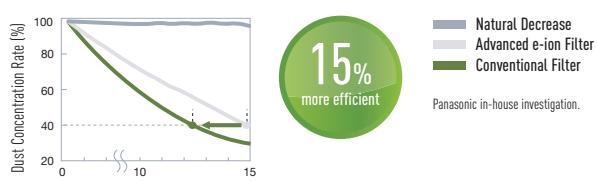
A smoke collection test demonstrates the exceptional purifying performance.



Comparison with Conventional Filter



Comparison with Conventional e-ion Air Purifying System



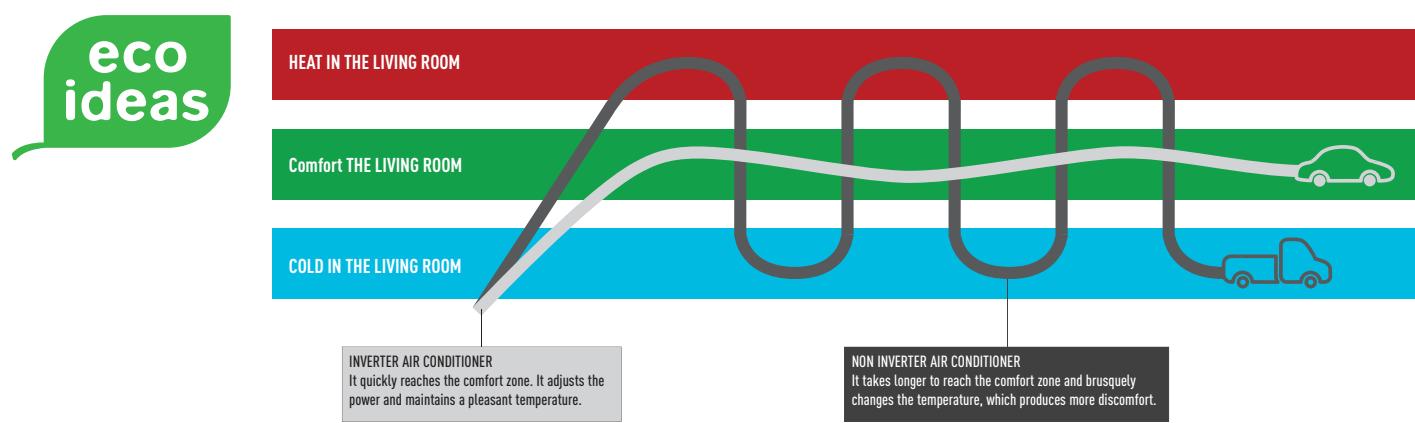


OUTSTANDING ENERGY-SAVING PERFORMANCE

You will always be comfortable with an Inverter air conditioner. After reaching the set temperature quickly, the power will be adjusted smoothly to keep the temperature constant. So, there will be no sharp temperature changes and you will save power. The ample range of output powers also guarantees a pleasant temperature at all times, even when the number of people in the room fluctuates. This way, Inverter air conditioners provide more precise temperature control than non-Inverter models.

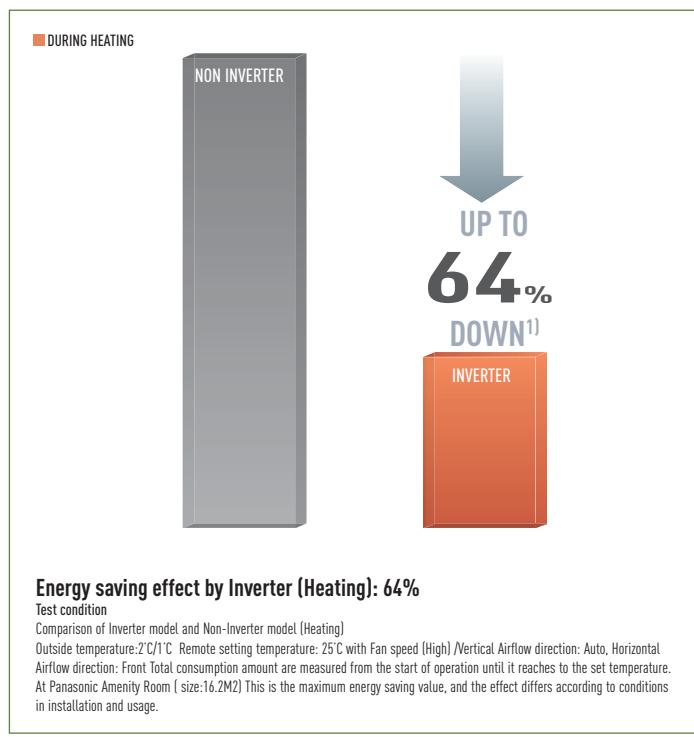
The advantages of inverter air conditioners.

comparing Inverter and non-Inverter air conditioners.



64% Cut in power consumption on heating mode for big savings*

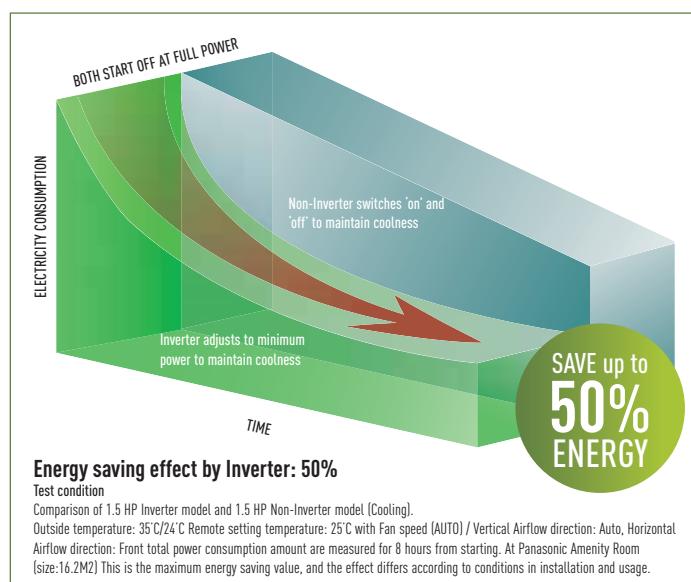
Panasonic Inverter air conditioners provide exceptional energy-saving performance that ranks among the highest in the industry. This dramatically cuts electricity consumption and CO₂ emissions, allowing an environment-friendly operation.



Outstanding performance with up to 50% energy savings on cooling mode

The exceptional energy-saving performance of Panasonic Intelligent Inverter air conditioners ranks among the highest in the industry.

The secret lies in its precision control. After reaching the set temperature, an Intelligent Inverter air conditioner continually adjusts compressor rotation speed to operate with minimum power – giving you up to 50% energy savings during cooling operation. By contrast, a non-Inverter unit operates on an ON-OFF cycle to maintain the temperature – so it uses twice as much electricity.



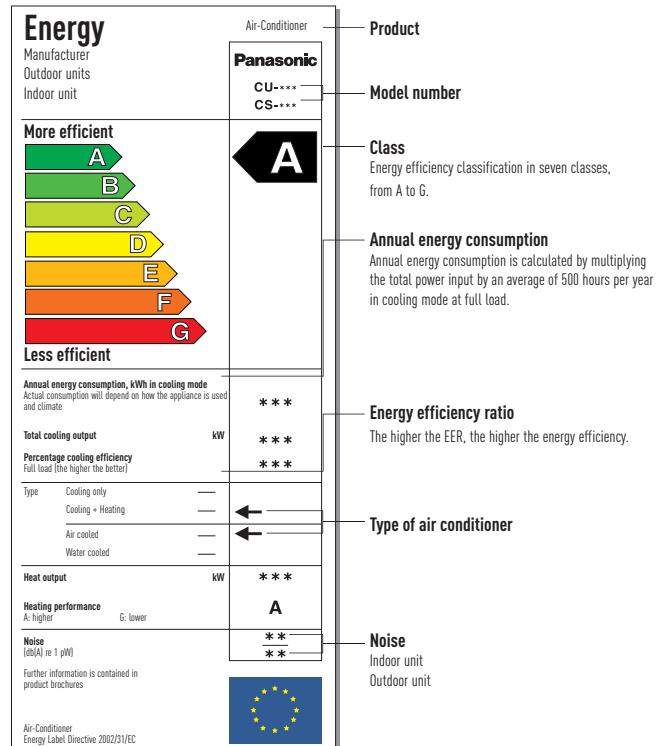
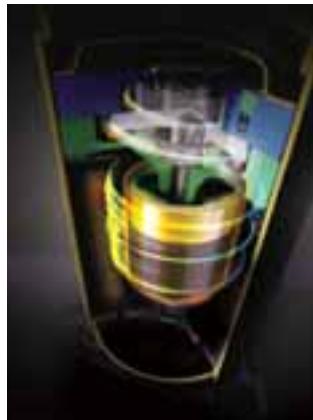
¹⁾Comparison of cumulative electricity consumption during heating to reach the setting temperature (Panasonic in-house comparison)
Test conditions: Indoor and outdoor temperature: 7°C / Setting temperature: 25°C / Fan speed: High.

A class
energy
saving



How can an Inverter save energy?

The Inverter constantly adjusts compressor rotation speed to provide optimum performance at all times. This extremely precise operation enables quick cooling while reducing power consumption compared to conventional non-Inverter units.



A: The most efficient

Our new models have obtained the highest energy performance classification, Class A, which puts them in the highest energy saving class. This means you can use these models every day, without having to worry about the electric bill.

Energy efficiency classifications

A European Community directive requiring energy labelling of domestic appliances came into effect in 2005. Since then, all manufacturers have been required to label each product with an efficiency level represented by a letter from A to G. This means that a class B domestic appliance consumes approximately 10% more than an A, a C 20% more than an A, etc.

As well as the corresponding letter, further information on each domestic appliance appears on the right-hand part of the sticker.

In the tables which appear alongside the product in this catalogue, the energy efficiency is referenced with the corresponding letter in white on a black arrow.

Classifications

There are seven energy efficiency classifications, from A to G. The highest efficiency level is A and the lowest is G.

Unit energy efficiency class in cooling mode

A	3.20 < EER
B	3.20 ≥ EER > 3.00
C	3.00 ≥ EER > 2.80
D	2.80 ≥ EER > 2.60
E	2.60 ≥ EER > 2.40
F	2.40 ≥ EER > 2.20
G	2.20 ≥ EER

Unit energy efficiency class in heating mode

A	3.60 < COP
B	3.60 ≥ COP > 3.40
C	3.40 ≥ COP > 3.20
D	3.20 ≥ COP > 2.80
E	2.80 ≥ COP > 2.60
F	2.60 ≥ COP > 2.40
G	2.40 ≥ COP

These classifications are for split and multi split air conditioning units.

PANASONIC TECHNOLOGY FOR COMFORT

Extremely quiet. We have succeeded in making one of the most silent air conditioners on the market. The indoor unit runs silently with a slow fan speed. When you press the Quiet Mode button on the remote control, the operating sound level reduces even further, down to 20 dB. At 20 dB technology our devices are as quiet as a library! We produce discreet air conditioners which do not disturb you, even when the room is at its quietest.

**20dB
quiet air**



silent
air
20 dB
SUPER QUIET

INVERTER

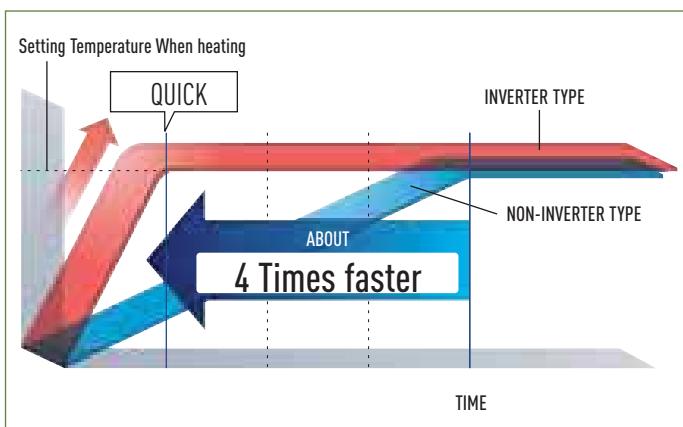
Further INVERTER advantages

- Panasonic's Inverter air conditioners control room temperature much better than models which work at a constant speed.
- An Inverter air conditioner has 64% greater heating capacity than models which work at a constant speed. They provide more than enough power to heat a room in winter¹⁾.
- Inverter models distribute the warm air over a wider area than electric radiators. They do not pollute the room like paraffin heaters do. There is no fire risk as there is with gas heaters. Air conditioners transfer heat to the room air, so they are safe and practical.
- Tests have shown that a Panasonic Inverter air conditioner consumes half the electricity of non-Inverter models²⁾.

1)Comparison of cumulative electricity consumption during heating to reach the setting temperature (Panasonic in-house comparison) Test conditions: Indoor and outdoor temperature: 7°C/ Setting temperature: 25°C/ Fan speed: High.
2)Comparison of cumulative electricity consumption during 8 hours of cooling (Panasonic in-house comparison) Test conditions: Room temperature at start: 35°C/ Setting temperature: 25°C.

Quick comfort

as soon as an Inverter air conditioner is switched on, it provides the exact amount of power needed to rapidly cool or heat the room. This enables it to reach the set temperature in about a quarter of 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.



Powerful Airflow with a Larger Cross Flow Fan

Panasonic's new models feature a large cross flow fan with improved design. The fan's larger diameter dramatically increases airflow. A powerful breeze rapidly cools the room to a comfortable temperature. And because the breeze reaches a wider area, the temperature is evenly distributed throughout the room, providing extra comfort.

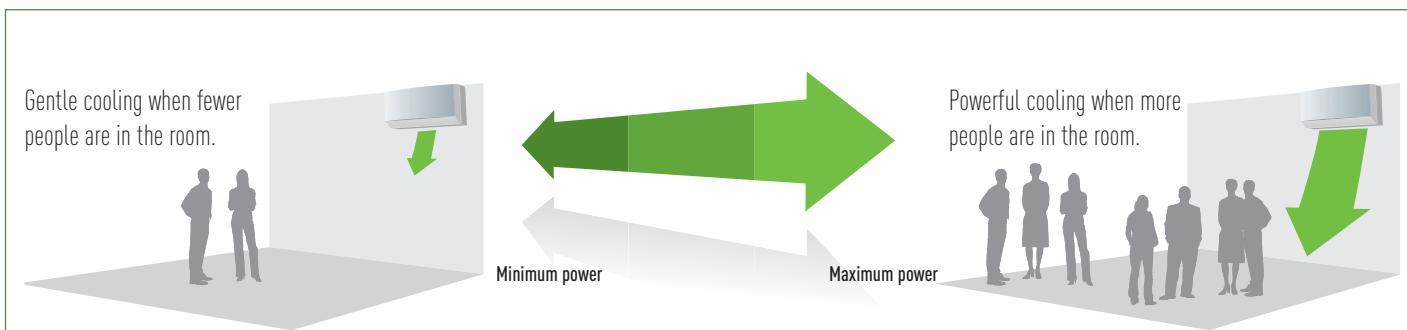


*Compare with HKE.
For MKE series Inverter models except multi type.

More Precise Temperature Control

An Inverter varies output power to enable more precise temperature adjustment. In comparison, a non-Inverter air conditioner controls the temperature by switching on and off. This results in temperature fluctuations, leading to uneven cooling. With an Inverter model, you're assured a uniform room temperature for extra comfort.

Cooling power adjusts to meet changes in room temperature



THE SECRET OF SAVING ENERGY. DIFFERENT RANGES THAT MEET ALL TYPES OF REQUIREMENTS

Panasonic makes the widest power range on the market. In order to meet the requirements of each and every client, this line of models makes it possible to adjust consumption to match the characteristics of every room by choosing the ideal power range. No comfort is sacrificed and power consumption is not exceeded.

**SAVE UP TO
15%**

Panasonic's exclusive 4.5 kW models (E15, XE15, RE15) thus provide the answer to a large number of situations in which more power is required than that offered by the 3.5 kW models, but for which the 5 kW units are too powerful. Furthermore, using a 4.5 kW instead of a 5 kW unit, you will save money due to the greater efficiency of the E15 and you will win on design because the E15 is the same size as the E12, and is 18% smaller than the 5 kW. Using the E15 range, everybody is a winner, and your customer pays for exactly what he needs!

Using our E15, you can save up to 15% compared with an E18 and still obtain a perfect temperature setting in a 30 m² room.*

**SAVE UP TO
14%**

In the same way, Panasonic's exclusive 2.2 kW models (E7, XE7) guarantee maximum comfort at a minimum price and functioning cost – for small surface areas where the minimum standards of all the other 2.8 kW models exceed real air conditioning requirements.

Using an E7, you can save up to 14% compared with an E9 and still obtain a perfect temperature setting in an 11 m² room.*

**SAVE UP TO
15%**

**Savings with correct dimensioning of air conditioning unit:
case study for a 12 m² bedroom or on a living room of
33 m²***

MODEL	ANNUAL CONSUMPTION (kW)	SAVING	USING A E7 AND NOT A E9 ON A 12 M ² ROOM
KIT-XE7-MKE	235	12,3%	Furthermore, with a E7, you are not only saving money but the E7 is quieter than the E9!
KIT-XE9-MKE	268		
MODEL	ANNUAL CONSUMPTION (kW)	SAVING	USING A E15 AND NOT A E18 ON A 33 M ² LIVING ROOM
KIT-E15-MKE	630	14,3%	Furthermore, with a E15, you are not only saving money, but have smaller and discrete indoor units, and incredibly silent (only 25 dB!)
KIT-E18-MKE	735		

**REDUCE
CONSUMPTION
BY UP TO
36%**

**Panasonic's multi split.
Conditions more, consumes less**

If air conditioning requirements exceed the ambit of a single room, Panasonic offers you a very extensive range of possibilities with up to 4 indoor units connected to a single outdoor unit. In this way, not only is the purchase price cheaper, the installation easier, the space for the outdoor units reduced and the elevation difference bigger, but consumption is also reduced enormously. This is because the consumption of one outdoor unit which powers four indoor units is much less than the sum of four outdoor units of individual splits.

You can reduce consumption by up to 36% using the multi-split as opposed to the 1x1!*



**Annual consumption savings with multisplit:
Using a multisplit system, you can save more!**

ANNUAL CONSUMPTION (kW)	"SAVINGS USING MULTISPLIT INSTEAD OF MONOSPLIT"
7+12 in Multi	615
7+12 in 1X1	687
12+12 in Multi	760
12+12 in 1X1	904
7+7+12 in Multi	605
7+7+12 in 1X1	922
7+7+7+12 in Multi	825
7+7+7+12 in 1X1	1,157,5
7+9+9+12 in Multi	825
7+9+9+12 in 1X1	1,233

Furthermore, using a multisplit system, you are saving space on the outdoor unit, making easy installation in small places. The multi system also have long elevation difference and long tubing, which gives flexibility on the installation on the roof.



* Standard conditions: 2.5 m High ceiling; 1 person per 10 m²; 70 w Lighting per 10 m²; 1.5 m² window per 10 m² oriented east or west; good thermal insulation on the walls.

DOMESTIC AIR CONDITIONER RANGE		COOLING POWER Rated kW (Min-Max)	EER	HEATING POWER Rated kW (Min-Max)	COP	NOISE PRESSURE LEVEL ¹⁾ dB* Cooling/Heating	DIMENSIONS MM ¹⁾ (H x W x D)	FOR STANDARD ROOMS BETWEEN m ² ²⁾
ETHEREA INVERTER+ // SILVER	KIT-XE7-MKE	2,05 [0,75-2,40]	4,36 A	2,80 [0,75-4,00]	4,41 A	20 / 20	290 x 870 x 204	 
	KIT-XE9-MKE	2,50 [0,85-3,00]	4,67 A	3,40 [0,85-5,00]	4,63 A	20 / 20	290 x 870 x 204	 
	KIT-XE12-MKE	3,50 [0,85-4,00]	4,07 A	4,00 [0,85-6,00]	4,21 A	20 / 20	290 x 870 x 204	 
	KIT-XE15-MKE	4,20 [0,85-5,00]	3,33 A	5,30 [0,85-6,80]	3,68 A	25 / 29	290 x 870 x 204	 
	KIT-XE18-MKE	5,00 [0,98-6,00]	3,40 A	5,80 [0,98-8,00]	3,77 A	34 / 34	290 x 1.070 x 235	 
	KIT-XE21-MKE	6,30 [0,98-7,10]	2,85 C	7,20 [0,98-8,50]	3,43 B	34 / 34	290 x 1.070 x 235	 
ETHEREA INVERTER+ // WHITE	KIT-E7-MKE	2,05 [0,75-2,40]	4,36 A	2,80 [0,75-4,00]	4,41 A	20 / 20	290 x 870 x 204	 
	KIT-E9-MKE	2,50 [0,85-3,00]	4,67 A	3,40 [0,85-5,00]	4,63 A	20 / 20	290 x 870 x 204	 
	KIT-E12-MKE	3,50 [0,85-4,00]	4,07 A	4,00 [0,85-6,00]	4,21 A	20 / 20	290 x 870 x 204	 
	KIT-E15-MKE	4,20 [0,85-5,00]	3,33 A	5,30 [0,85-6,80]	3,68 A	25 / 29	290 x 870 x 204	 
	KIT-E18-MKE	5,00 [0,98-6,00]	3,40 A	5,80 [0,90-8,00]	3,77 A	34 / 34	290 x 1.070 x 235	 
	KIT-E21-MKE	6,30 [0,98-7,10]	2,85 C	7,20 [0,98-8,50]	3,43 B	34 / 34	290 x 1.070 x 235	 
	KIT-E24-MKE	6,80 [0,98-8,10]	3,21 A	8,60 [0,98-9,90]	3,23 C	35 / 35	290 x 1.070 x 235	 
	KIT-E28-MKE	7,65 [0,98-8,60]	3,01 B	9,60 [0,98-11,00]	2,91 D	35 / 35	290 x 1.070 x 235	 
RE TYPE // STANDARD INVERTER	KIT-RE9-JKE-1	2,50 [0,90-3,00]	3,57 A	3,30 [0,90-4,10]	4,02 A	22 / 25	290 x 848 x 204	 
	KIT-RE12-JKE-1	3,50 [0,90-3,90]	3,47 A	4,25 [0,90-5,10]	3,79 A	22 / 25	290 x 848 x 204	 
	KIT-RE15-JKE-1	4,20 [1,00-4,60]	3,33 A	5,00 [0,90-6,80]	3,61 A	29 / 28	290 x 848 x 204	 
	KIT-RE18-JKE-1	5,00 [0,90-6,00]	3,40 A	5,80 [0,90-8,00]	3,77 A	37 / 37	290 x 1.070 x 235	 
	KIT-RE24-JKE-1	6,80 [0,90-8,10]	3,21 A	8,60 [0,90-9,90]	3,23 C	38 / 38	290 x 1.070 x 235	 
PW TYPE // STANDARD HEAT PUMP	KIT-PW9-GKE	2,65	3,21 A	2,85	3,63 A	31 / 31	250 x 770 x 205	 
	KIT-PW12-GKE	3,40	3,22 A	3,80	3,61 A	32 / 31	280 x 799 x 183	 
	KIT-PW18-GKE	5,10	2,91 C	5,30	3,35 C	38 / 38	275 x 998 x 230	 
	KIT-PW24-JKE	7,03	2,53 E	7,50	2,87 D	41 / 41	275 x 998 x 230	 
V TYPE // STANDARD COOLING ONLY	KIT-V7-DKE	2,40	3,24 A	-	-	24	280 x 799 x 183	 
	KIT-V9-DKE	3,00	3,21 A	-	-	24	280 x 799 x 183	 
	KIT-V12-DKE	3,68	3,23 A	-	-	27	280 x 799 x 183	 
	KIT-V18-DKE	5,30	3,25 A	-	-	35	275 x 998 x 230	 
	KIT-V24-DKE	7,03	2,70 D	-	-	38	275 x 998 x 230	 
	KIT-V28-EKE	7,91	3,22 A	-	-	42	340 x 1.150 x 260	 
FLOOR CONSOLE TYPE // INVERTER+	KIT-E9-GFEW-1	2,50 [0,80-3,00]	4,39 A	3,60 [0,80-5,00]	4,16 A	23 / 23	600 x 700 x 210	 
	KIT-E12-GFEW-1	3,50 [0,80-3,80]	3,63 A	4,80 [0,80-6,10]	3,64 A	24 / 23	600 x 700 x 210	 
	KIT-E18-GFEW-1	5,00 [0,90-5,60]	3,23 A	5,80 [0,90-7,10]	3,63 A	32 / 32	600 x 700 x 210	 
FLOOR OR CEILING // INVERTER	KIT-E15-DTE	4,15 [0,90-4,55]	3,22	5,17 [0,90-6,30]	3,34 C	34 / 30	540 x 1.028 x 200	 
	KIT-E18-DTE	5,00 [0,90-5,40]	3,01 B	6,10 [0,90-7,60]	3,35 C	36 / 32	540 x 1.028 x 200	 
	KIT-E21-DTE	5,80 [0,90-6,60]	3,01 B	6,80 [0,90-8,10]	3,42 B	38 / 34	540 x 1.028 x 200	 
ETHEREA MULTI SPLIT // INVERTER+	KIT-2XE/E77-MBE	4,00 [1,50-5,00]	3,66 A	5,40 [1,10-7,00]	4,62 A	26 / 26	290 x 870 x 204 (x2)	 
	KIT-2XE/E79-MBE	4,50 [1,50-5,20]	3,66 A	5,40 [1,10-7,00]	4,62 A	26 / 26	290 x 870 x 204 (x2)	 
	KIT-2XE/E712-MBE	4,50 [1,50-5,20]	3,60 A	5,40 [1,10-7,00]	4,62 A	26 / 29	290 x 870 x 204 (x2)	 
	KIT-2XE/E99-MBE	4,80 [1,50-5,20]	3,66 A	5,40 [1,10-7,00]	4,62 A	26 / 26	290 x 870 x 204 (x2)	 
	KIT-2XE/E99-MKE	4,80 [1,50-5,20]	3,66 A	5,60 [1,10-7,20]	4,48 A	26 / 26	290 x 870 x 204 (x2)	 
	KIT-2XE/E912-MKE	5,00 [1,50-5,30]	3,36 A	5,60 [1,10-7,20]	4,55 A	26 / 29	290 x 870 x 204 (x2)	 
	KIT-2XE/E1212-MKE	5,20 [1,50-5,40]	3,42 A	5,60 [1,10-7,20]	4,63 A	29 / 29	290 x 870 x 204 (x2)	 
	KIT-3XE/E7712-MBE	5,20 [1,90-7,20]	4,30 A	6,80 [1,40-8,30]	4,63 A	26 / 29 (E12)	290 x 870 x 204 (x3)	 
	KIT-3XE/E7715-MBE	5,20 [1,80-7,30]	4,30 A	6,80 [1,60-8,30]	4,72 A	26 / 29 (E15)	290 x 870 x 204 (x3)	 
	KIT-4XE/E77712-MBE	6,80 [1,90-8,80]	4,12 A	8,60 [3,00-10,60]	4,65 A	26 / 29 (E12)	290 x 870 x 204 (x4)	 
	KIT-4XE/E77715-MBE	6,80 [1,90-8,80]	4,12 A	8,60 [3,00-10,60]	4,65 A	26 / 29 (E15)	290 x 870 x 204 (x4)	 
	KIT-4XE/E77712-MKE	8,00 [2,80-8,90]	3,76 A	9,40 [3,40-10,50]	4,43 A	26 / 29 (E12)	290 x 870 x 204 (x4)	 
	KIT-4XE/E77715-MKE	8,00 [2,80-8,90]	3,76 A	9,40 [3,80-10,50]	4,50 A	26 / 29 (E12)	290 x 870 x 204 (x4)	 

1) Indoor unit.

2) Standard conditions: 2.5 m high ceiling; 1 person per 10 m²; 70 w lighting per 10 m²; 1.5 m² window per 10 m² oriented east or west; good thermal insulation on the walls.

SUITABLE
MIN  MAX 

DOMESTIC AIR CONDITIONER RANGE

INDOOR UNITS	2.2 kW	2.8 kW	3.2 kW
<hr/>			
WALL MOUNTED ETHEREA // INVERTER+ // SILVER			
	KIT-XE7-MKE	KIT-XE9-MKE	KIT-XE12-MKE
WALL MOUNTED ETHEREA // INVERTER+ // WHITE			
	KIT-E7-MKE	KIT-E9-MKE	KIT-E12-MKE
WALL MOUNTED ETHEREA // INVERTER+ // SILVER // WHITE			
	KIT-XE7-MKE-3 / KIT-E7-MKE-3	KIT-XE9-MKE-3 / KIT-E9-MKE-3	KIT-XE12-MKE-3 / KIT-E12-MKE-3
WALL MOUNTED // INVERTER+			
	KIT-RE9-JKE-1	KIT-RE12-JKE-1	
WALL MOUNTED TYPE // INVERTER+ // -15°C			
	KIT-E9-HKEA	KIT-E12-HKEA	
WALL-MOUNTED TYPE // STANDARD HEAT PUMP			
	KIT-PW9-GKE	KIT-PW12-GKE	
WALL-MOUNTED TYPE // STANDARD COOLING ONLY			
	KIT-V7-DKE	KIT-V9-DKE	KIT-V12-DKE
FLOOR CONSOLE TYPE // INVERTER+			
	KIT-E9-GFEW-1	KIT-E12-GFEW-1	
SINGLE SPLIT FLOOR OR CEILING TYPE // INVERTER			
<hr/>			
ETHEREA MULTI SPLIT 2X1 // INVERTER+			
<hr/>			
ETHEREA MULTI SPLIT 3X1 // INVERTER+			
<hr/>			
ETHEREA MULTI SPLIT 4X1 // INVERTER+			

4.5 kW 5.0 kW 6.0 kW 6.5 kW 8.0 kW



KIT-XE15-MKE



KIT-XE18-MKE



KIT-XE21-MKE



KIT-E15-MKE



KIT-E18-MKE



KIT-E21-MKE



KIT-E24-MKE



KIT-E28-MKE



KIT-XE15-MKE-3 / KIT-E15-MKE-3



KIT-RE15-JKE-1



KIT-RE18-JKE-1



KIT-RE24-JKE-1



KIT-E15-HKEA



KIT-E18-HKEA



KIT-E21-HKEA



KIT-PW18-GKE



KIT-PW24-JKE



KIT-V18-DKE



KIT-V24-DKE



KIT-V28-EKE



KIT-E18-GFEW-1



KIT-E15-DTE



KIT-E18-DTE



KIT-E21-DTE

KIT-2XE/E99-MKE/ 2XE/E912-MKE /
2XE/E1212-MKE

KIT-3XE/E7712-MKE / 3XE/E7715-MKE



KIT-4XE/E77712-MKE / 4XE/E77715-MKE

FEATURE EXPLANATIONS

Healthy Air Quality



E-ION+ AIR PURIFYING SYSTEM

E-ions are shot out to catch dust and inactivate airborne bacteria and mould. The positively charged e-ion filter attracts dust to thoroughly clean the room.



NEWLY DESIGNED PATROL SENSOR

The patrol sensor monitors microscopic dirt in the air and air purifying starts as soon as it is detected. It continues operating 24-hr a day even when the air conditioner is switched OFF to maintain room air quality.



MILD DRY COOLING

Fine control helps prevent a rapid decrease in room humidity while maintaining the set temperature. Maintains an RH* up to 10% higher than cooling operation (*RH: Relative Humidity). Ideal when sleeping with the air conditioner on.



SOFT BREEZE MODE

The Soft Breeze mode eliminates excess humidity with a soft breeze and gives you the feeling of well-being without significant temperature changes.



ION BENEFIT

Negative ions, found in the air near waterfalls and forests, generally produce a great sense of well-being. Panasonic brings all the benefits to your home, at the push of a button.



SUPER ALLERU-BUSTER FILTER

The super allergen-buster filter eliminates the allergens it captures. It combines three functions in one (anti-allergen, anti-virus and anti-bacteria) to keep room air clean and healthy.



ONE-TOUCH ANTI-MOULD AIR FILTER

Allows the exchanger to be cleaned, preventing possible odours. While this function is connected, the fan also remains off momentarily to avoid unpleasant odours while the exchanger is being cleaned.



REMOVABLE, WASHABLE PANEL

The front panel is easy to keep clean. It can be removed quickly in one single step and can be washed in water. A clean front panel ensures smoother, more efficient operation, which can save energy.

Comfort



INVERTER PLUS SYSTEM

Inverter plus products improve on the characteristics of standard Inverter air conditioners by over 20%. This means 20% less consumption and 20% off your electric bill. A Inverter plus is also A class on cooling and heating mode.



INVERTER SYSTEM

The Inverter range provides greater efficiency, more comfort. Provides more precise temperature control, without highs and lows, and keeps the ambient temperature constant with lower energy consumption and a significant reduction in noise and vibration levels.



ECONAVI

ECONAVI sensor determine the human activity level and the position in the room and adjust the air flow orientation for maximum comfort and maximum savings. With ECONAVI, you can save up to 30%.



AUTOCOMFORT

The Autocomfort system detects conditions in the room and switches to energy saving operation when nobody is on the room. However, priority is given to comfort, so cooling power is increased when there's a lot of human activity. This function provides both comfort and energy saving.



SUPER QUIET MODE

Thanks to its latest generation compressor and its twin blade fan, our outdoor unit is one of the most silent on the market. The indoor unit emits an almost imperceptible 20 dB.



DOWN TO -15°C IN COOLING ONLY MODE

The air conditioner works in cooling only mode with an outdoor temperature of -15°C.



DOWN TO -15°C IN HEAT PUMP

The air conditioner works in heat pump mode with an outdoor temperature as low as -15°C.



POWERFUL MODE

High power for immediate air conditioning. The rapid and effective powerful mode is ideal for when you come home on the hottest or coldest days. It works at maximum power to reach the desired temperature in 15 minutes.



SOFT DRY OPERATION MODE

The soft dry mode eliminates excess moisture with a soft breeze and provides a sense of well-being without much change in temperature.



WIDE & LONG AIRFLOW VANE

This vane has been designed so that the air goes further. It sends air to every corner of the room to keep the whole room in the comfort zone.



PERSONAL AIRFLOW CREATION

Permits the air direction to be adjusted vertically and horizontally. This feature can be conveniently selected by remote control.



AUTOMATIC VERTICAL AIRFLOW CONTROL

The flap swings up and down automatically, making a vertical sweep which spreads the flow throughout the room. The flow can also be set a fixed angle with the remote control.



MANUAL HORIZONTAL AIRFLOW CONTROL



AUTO MODE (INVERTER)

Change automatically from cooling to heating in function of the temperature of the room.



SIMPLE AUTO CHANGEOVER

When the difference between the measured temperature and the set temperature is 3°C or more, it automatically switches over the current operation mode to heating or cooling mode necessary to keep the temperature at a constantly comfortable level.



HOT START MODE

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

Use



12-HOUR ON&OFF TIMER



REAL TIME CLOCK WITH DUAL ON&OFF TIMER

This feature enables you to preset two different sets of start/stop operation timer (hour and minute) within a 24-hour time frame.



REAL TIME CLOCK WITH SINGLE ON&OFF TIMER

The exact operating time (hour and minute) can be set in advance. From here on, the unit will operate in accordance to these preset hours every day until the system is reset.



LCD WIRELESS REMOTE CONTROLLER

Reliability



AUTOMATIC RESTART

This function permits automatic restarting if safe mode operation has stopped for some unusual reason, such as after a power cut. As soon as the power is back, the unit restarts with the parameters selected before it stopped.



LONG PIPING

This is a figure which indicates the maximum length of pipe between the outdoor unit and the indoor unit(s). The long distances permitted are demonstration of the many installations possible.



TOP-PANEL MAINTENANCE ACCESS

Maintenance of an outdoor unit used to be quite a tedious task. Now, with the possibility of removing the top cover, maintenance is quick and easy.



SELF-DIAGNOSIS FUNCTION

With this function the unit carries out a process self-diagnosis when a particular function does not work correctly. This allows faster servicing.



FEATURE COMPARISON

MODELS	KIT-XE7-MKE KIT-XE9-MKE KIT-XE12-MKE KIT-XE15-MKE KIT-XE18-MKE KIT-XE21-MKE	KIT-E7-MKE KIT-E9-MKE KIT-E12-MKE KIT-E15-MKE KIT-E18-MKE KIT-E21-MKE	KIT-RE9-JKE-1 KIT-RE12-JKE-1 KIT-RE15-JKE-1	KIT-XE/E7-MKE-3 KIT-XE/E9-MKE-3 KIT-XE/E12-MKE-3 KIT-XE/E15-MKE-3	KIT-E9-HKEA KIT-E12-HKEA KIT-E15-HKEA KIT-E18-HKEA KIT-E21-HKEA	KIT-PW9-GKE KIT-PW12-GKE KIT-PW18-GKE KIT-PW24-JKE	KIT-V7-DKE KIT-V12-DKE KIT-V18-DKE KIT-V24-DKE KIT-V28-EKE	KIT-E9-GFEW-1 KIT-E12-GFEW-1 KIT-E18-GFEW-1	KIT-E15-DTE KIT-E18-DTE KIT-E21-DTE	KIT-2XE/E77-MBE KIT-2XE/E79-MBE KIT-2XE/E712-MBE KIT-2XE/E99-MBE	KIT-3XE/E7712-MKE KIT-3XE/E7715-MKE KIT-3XE/E7712-MBE KIT-3XE/E7715-MBE	KIT-XE/E7712-MKE KIT-XE/E7715-MKE KIT-XE/E7712-MBE KIT-XE/E7715-MBE	
pure air system										x	x	x	x
quality air control 24h				x						x	x	x	x
perfect humidity control													
relaxing atmosphere effect													
ion generator													
prevention allergy filter													
One-Touch anti-mould air filter										x	x	x	
Odour-removing function	x	x	x	x	x	x	x	x	x	x	x	x	x
Removable, washable panel	x	x	x	x	x	x	x	x	x	x	x	x	x
A class energy saving													
A class energy saving													
ECONAVI	x	x			x								
AUTOCOMFORT	x	x			x								
Super Quiet mode	x	x			x	x			x	x	x	x	x
Down to -15°C in cooling only						x							
Down to -15°C in heat pump						x	x			x		x	
Powerful mode	x	x			x	x			x	x	x	x	x
Soft dry operation mode	x	x			x	x			x	x	x	x	x
Wide & long airflow vane	x	x			x					x	x	x	x
Personal airflow creation	x	x			x	x			x				
Automatic vertical airflow control	x	x			x				x	x	x	x	x
Manual horizontal airflow control	x	x			x				x	x	x	x	x
AUTO mode (Inverter)	x	x			x	x			x	x	x	x	x
Simple Auto Changeover	x	x			x								
Hot start mode	x	x			x	x			x	x			
12-hour ON&OFF timer					x				x				
Real time clock with dual ON&OFF timer	x	x			x					x	x	x	x
Real time clock with single ON&OFF timer					x				x				
LCD Wireless remote controller	x	x			x	x			x	x	x	x	x
Automatic restart	x	x			x	x			x	x	x	x	x
Long piping	x	x	x	x	x	x	x	x	x	x	x	x	x
Top-Panel maintenance access	x	x	x	x	x	x	x	x	x	x	x	x	x
Self-diagnosis function	x	x	x	x	x	x			x	x	x	x	x



WALL MOUNTED ETHEREA // INVERTER+ // SILVER

NEW ETHEREA WITH ECONAVI SENSOR, MORE EFFICIENT, MORE COMFORT, MORE DESIGN, MORE HEALTHY AIR
ECONAVI sensor determine the human activity level and the position in the room and adjust the air flow orientation for maximum comfort and maximum savings. With ECONAVI, you can save up to 30%.

Furthermore, Etherea is more efficient than ever with 64% less consumption for the non Inverter model on heat pump mode, and can reach 71% total savings when used with ECONAVI. More efficiency for bigger savings!

Etherea has an advanced air purifying system with the new Patrol Sensor to detect and eliminate contaminants. Etherea is also able to prevent rapid decreases in room humidity with the new mild dry cooling system which increases comfort, especially when sleeping with the air conditioning running.



Maintains a Relative Humidity up to 10% higher than cooling operation.
Ideal when sleeping with the air conditioner on.

FOR XE7, XE9 AND XE12

KIT		KIT-XE7-MKE	KIT-XE9-MKE	KIT-XE12-MKE	KIT-XE15-MKE
Indoor		CS-XE7MKEW	CS-XE9MKEW	CS-XE12MKEW	CS-XE15MKEW
Outdoor		CU-E7MKE	CU-E9MKE	CU-E12MKE	CU-E15MKE
Cooling capacity	Nominal (Min - Max)	kW	2,05 (0,75-2,40)	2,50 (0,85-3,00)	3,50 (0,85-4,00)
	Nominal (Min - Max)	kCal/h	1.760 (650-2.060)	2.150 (730-2.580)	3.010 (730-3.440)
EER ¹⁾	Nominal (Min - Max)	Energy Saving	4,36 (3,13-4,14) A	4,67 (3,47-4,11) A	4,07 (3,40-3,54) A
Power input Cooling	Nominal (Min - Max)	kW	0,47 (0,24-0,58)	0,535 (0,245-0,730)	0,860 (0,250-1,130)
Heating capacity	Nominal (Min - Max)	kW	2,80 (0,75-4,00)	3,40 (0,85-5,00)	4,00 (0,85-6,00)
	Nominal (Min - Max)	kCal/h	2.410 (650-3.440)	2.920 (730-4.300)	3.440 (730-5.160)
Heating capacity at -7°C	Nominal	kW	2,35	2,88	3,46
COP ¹⁾	Nominal (Min - Max)	Energy Saving	4,41 (3,26-3,92) A	4,63 (3,54-3,85) A	4,21 (3,47-3,51) A
Power input Heating	Nominal (Min - Max)	kW	0,635 (0,23-1,02)	0,735 (0,24-1,30)	0,950 (0,245-1,71)
Annual Energy Consumption ²⁾		kWh	235	268	430
INDOOR UNIT					
Air Volume	Cooling / Heating	m ³ /h	654 / 684	678 / 702	750 / 768
Moisture removal volume		l/h	1,3	1,5	2,0
Sound pressure Level ³⁾	Cooling (Hi / Lo / S-Lo)	dB(A)	37 / 24 / 20	39 / 25 / 20	42 / 28 / 20
	Heating (Hi / Lo / S-Lo)	dB(A)	38 / 25 / 20	40 / 27 / 20	42 / 33 / 20
Sound power Level	Cooling (Hi)	dB	53	55	58
	Heating (Hi)	dB	54	56	58
Dimensions	H x W x D	mm	290 x 870 x 204	290 x 870 x 204	290 x 870 x 204
Net weight		kg	9	9	9
Air purifier filter			Patrol + E-ion	Patrol + E-ion	Patrol + E-ion
OUTDOOR UNIT					
Power source		V	230	230	230
Connection		mm ²	4 x 1,5	4 x 1,5	4 x 1,5
Current Cooling	Nominal	A	2,2	2,5	4,0
Current Heating	Nominal	A	3,0	3,4	4,4
Max. current		A	4,7	5,8	7,8
Air Volume	Cooling / Heating	m ³ /h	2,034 / 2,034	1,788 / 1,788	1,860 / 1,860
Sound pressure Level ³⁾	Cooling (Hi)	dB(A)	45	46	48
	Heating (Hi)	dB(A)	46	47	50
Sound power Level	Cooling (Hi)	dB	60	61	63
	Heating (Hi)	dB	61	62	65
Dimensions ⁴⁾	H x W x D	mm	540 x 780 x 289	540 x 780 x 289	540 x 780 x 289
Net weight		kg	33	34	34
Piping connections	Liquid pipe	inch (mm)	1/4" (6,35)	1/4" (6,35)	1/4" (6,35)
	Gas pipe	inch (mm)	3/8" (9,52)	3/8" (9,52)	1/2" (12,70)
Refrigerant Loading	R410A	kg	0,830	0,950	0,980
Elevation difference (in/out) ⁵⁾	Max	m	15	15	15
Piping length	Min / Max	m	3-15	3-15	3-15
Piping length without refrigerant increase	Max	m	7,5	7,5	7,5
Additional gas		g/m	20	20	20
Operating range	Cooling Min / Max	°C	+5 / +43	+5 / +43	+5 / +43
	Heating Min / Max	°C	-5 / +24	-5 / +24	-5 / +24



NEW
2011

~~ETHEREA~~



INCLUDED WITH
THE INDOOR UNIT



OPTIONAL
WIRED REMOTE CONTROL
CZ-RD514C

TECHNICAL FOCUS

- **NEW!** MAXIMUM EFFICIENCY AND COMFORT WITH ECONAVI
- EXCLUSIVE SILVER DESIGN
- NEW GENERATION OF E-ION AIR PURIFYING SYSTEM WITH 24-HR PATROL SENSOR
- MILD DRY COOLING: PREVENT A RAPID DECREASE IN ROOM HUMIDITY
- SUPER QUIET! ONLY 20 dB, EQUIVALENT TO NIGHT-TIME IN THE COUNTRY (XE7, XE9 AND XE12)
- MORE POWERFUL AIRFLOW TO QUICKLY REACH THE DESIRED TEMPERATURE



Energy-Efficiency
Classification
Most efficient level: A
(CS-XE9MKEW)
(EER/COP: 4.67/4.63)

GLOBAL REMARKS	Rating conditions	Cooling	Heating
	Inside air temperature	27°C DB / 19°C WB	20°C DB
	Outside air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

DB: Dry Bulb; WB: Wet Bulb

This model is not suitable to use in heating mode below -5°C with continuous operation (24h operation).

Connectivity restriction: JKE units are not compatible with MKE units.

1) EER and COP classification is at 230 V in accordance with EU directive 2002/31/EC.

2) The annual consumption is calculated by multiplying the input power at 230 V by an average of 500 hours per year in cooling mode.

3) The sound pressure level of the units shows the value measured at a position 1 meter in front of the main body and 0.8 m below the unit. The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification.

4) Add 70 mm for piping port.

5) When installing the outdoor unit at a higher position than the indoor unit.

KIT-XE7-MKE // KIT-XE9-MKE // KIT-XE12-MKE // KIT-XE15-MKE

HEALTHY AIR

- E-ion plus air purifying system
- Patrol sensor to detect and eliminate contaminants
- Air conditioner and purifier with simultaneous or independent operation
- Mild Dry Cooling operation mode for increased comfort and prevention of skin moisture loss

ENERGY EFFICIENCY AND ECOLOGY

- Maximum efficiency Inverter system, for bigger savings
- **NEW!**-30% consumption with ECONAVI on heat pump (-20% on cooling mode)
- R410A refrigerant gas

COMFORT

- Super Quiet mode (from 20 dB)
- Powerful mode
- Uniform dispersion of airflow
- Automatic vertical airflow control
- Hot start mode, increased comfort on heat pump mode, no cool airflow when process starts
- Automatic restart after power cut

EASE OF USE

- Real time clock with dual ON&OFF timer
- User friendly infrared remote control
- **NEW!** Optional wired weekly timer with 6 settings per day and 42 settings per week
- **NEW!** Connectivity function (indoor unit equipped with PCB port which can be connected to outside network)

EASY INSTALLATION AND MAINTENANCE

- Removable, washable panel
- 15 m maximum connection distance
- 15 m maximum elevation difference
- Maintenance access through the top panel of the outdoor unit
- Self-diagnosis function



CU-E7MKE CU-E12MKE
CU-E9MKE CU-E15MKE



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KIT			KIT-XE18-MKE	KIT-XE21-MKE
Indoor			CS-XE18MKEW	CS-XE21MKEW
Outdoor			CU-E18MKE	CU-E21MKE
Cooling capacity	Nominal (Min - Max)	kW	5,00 (0,98-6,00)	6,30 (0,98-7,10)
	Nominal (Min - Max)	kCal/h	4.300 (840-5.160)	5.420 (840-6.110)
EER ¹⁾	Nominal (Min - Max)	Energy Saving	3,40 (3,50-2,96) ▲ A	2,85 (3,50-2,80) ▲ C
Power input Cooling	Nominal (Min - Max)	kW	1,47 (0,28-2,03)	2,21 (0,28-2,54)
Heating capacity	Nominal (Min - Max)	kW	5,80 (0,98-8,00)	7,20 (0,98-8,50)
	Nominal (Min - Max)	kCal/h	4.990 (840-6.880)	6.190 (840-7.310)
Heating capacity at -7°C	Nominal	kW	4,98	5,24
COP ¹⁾	Nominal (Min - Max)	Energy Saving	3,77 (2,88-3,08) ▲ A	3,43 (2,88-3,09) ▲ B
Power input Heating	Nominal (Min - Max)	kW	1,54 (0,34-2,60)	2,10 (0,34-2,75)
Annual Energy Consumption ²⁾		kWh	735	1.105
INDOOR UNIT				
Air Volume	Cooling / Heating	m ³ /h	978 / 1.074	1.038 / 1.110
Moisture removal volume		l/h	2,8	3,5
Sound pressure Level ³⁾	Cooling (Hi / Lo / S-Lo)	dB(A)	44 / 37 / 34	45 / 37 / 34
	Heating (Hi / Lo / S-Lo)	dB(A)	44 / 37 / 34	45 / 37 / 34
Sound power Level	Cooling (Hi)	dB	60	61
	Heating (Hi)	dB	60	61
Dimensions	H x W x D	mm	290 x 1.070 x 235	290 x 1.070 x 235
Net weight		kg	12	12
Air purifier filter			Patrol + E-ion	Patrol + E-ion
OUTDOOR UNIT				
Power source		V	230	230
Connection		mm ²	4 x 2,5	4 x 2,5
Current Cooling	Nominal	A	6,6	9,9
Current Heating	Nominal	A	6,9	9,4
Max. current		A	11,4	12,1
Air Volume	Cooling / Heating	m ³ /h	2.352 / 2.274	2.502 / 2.424
Sound pressure Level ³⁾	Cooling (Hi)	dB(A)	47	48
	Heating (Hi)	dB(A)	47	49
Sound power Level	Cooling (Hi)	dB	61	62
	Heating (Hi)	dB	61	63
Dimensions ⁴⁾	H x W x D	mm	695 x 875 x 320	695 x 875 x 320
Net weight		kg	45	46
Piping connections	Liquid pipe	inch (mm)	1/4" (6,35)	1/4" (6,35)
	Gas pipe	inch (mm)	1/2" (12,70)	1/2" (12,70)
Refrigerant Loading	R410A	kg	1,22	1,28
Elevation difference (in/out) ⁵⁾	Max	m	15	15
Piping length	Min / Max	m	3-20	3-20
Piping length without refrigerant increase	Max	m	7,5	7,5
Additional gas		g/m	20	20
Operating range	Cooling Min / Max	°C	+5 / +43	+5 / +43
	Heating Min / Max	°C	-5 / +24	-5 / +24

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INCLUDED WITH
THE INDOOR UNIT



OPTIONAL
WIRED REMOTE CONTROL
CZ-RD514C

TECHNICAL FOCUS

- **NEW!** MAXIMUM EFFICIENCY AND COMFORT WITH ECONAVI
- EXCLUSIVE SILVER DESIGN
- NEW GENERATION OF E-ION AIR PURIFYING SYSTEM WITH 24-HR PATROL SENSOR
- MILD DRY COOLING: PREVENT A RAPID DECREASE IN ROOM HUMIDITY
- MORE POWERFUL AIRFLOW TO QUICKLY REACH THE DESIRED TEMPERATURE



KIT-XE18-MKE // KIT-XE21-MKE

HEALTHY AIR

- E-ion plus air purifying system
- Patrol sensor to detect and eliminate contaminants
- Air conditioner and purifier with simultaneous or independent operation
- Mild Dry Cooling operation mode for increased comfort and prevention of skin moisture loss

ENERGY EFFICIENCY AND ECOLOGY

- Maximum efficiency Inverter system, for bigger savings
- **NEW!** -30% consumption with ECONAVI on heat pump (-20% on cooling mode)
- R410A refrigerant gas

COMFORT

- Super Quiet mode
- Powerful mode
- Uniform dispersion of airflow
- Automatic vertical airflow control
- Hot start mode, increased comfort on heat pump mode, no cool airflow when process starts
- Automatic restart after power cut

EASE OF USE

- Real time clock with dual ON&OFF timer
- User friendly infrared remote control
- **NEW!** Optional wired weekly timer with 6 settings per day and 42 settings per week
- **NEW!** Connectivity function (indoor unit equipped with PCB port which can be connected to outside network)

EASY INSTALLATION AND MAINTENANCE

- Removable, washable panel
- 15 m maximum connection distance (20 m for XE18 and XE21)
- 15 m maximum elevation difference
- Maintenance access through the top panel of the outdoor unit
- Self-diagnosis function



CU-E18MKE
CU-E21MKE

GLOBAL REMARKS	Rating conditions	Cooling	Heating
	Inside air temperature	27°C DB / 19°C WB	20°C DB
	Outside air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

DB: Dry Bulb; WB: Wet Bulb

This model is not suitable to use in heating mode below -5°C with continuous operation (24h operation).

Connectivity restriction: JKE units are not compatible with MKE units.

1) EER and COP classification is at 230 V in accordance with EU directive 2002/31/EC.

2) The annual consumption is calculated by multiplying the input power at 230 V by an average of 500 hours per year in cooling mode.

3) The Sound pressure level of the units shows the value measured at a position 1 meter in front of the main body and 0,8 meters below the unit. The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification.

4) Add 70 mm for piping port.

5) When installing the outdoor unit at a higher position than the indoor unit.



WALL MOUNTED ETHEREA // INVERTER+ // WHITE

NEW ETHEREA WITH ECONAVI SENSOR, MORE EFFICIENT, MORE COMFORT, MORE DESIGN, MORE HEALTHY AIR
ECONAVI sensor determine the human activity level and the position in the room and adjust the air flow orientation for maximum comfort and maximum savings. With ECONAVI, you can save up to 30%.

Furthermore, Etherea is more efficient than ever with 64% less consumption for the non Inverter model on heat pump mode, and can reach 71% total savings when used with ECONAVI. More efficiency for bigger savings!

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KIT	KIT-E7-MKE	KIT-E9-MKE	KIT-E12-MKE	KIT-E15-MKE
Indoor	CS-E7MKEW	CS-E9MKEW	CS-E12MKEW	CS-E15MKEW
Outdoor	CU-E7MKE	CU-E9MKE	CU-E12MKE	CU-E15MKE
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)
	Nominal (Min - Max) kCal/h 1.760 (650-2.060)	2.150 (730-2.580)	3.010 (730-3.440)	3.610 (730-4.300)
EER ¹⁾	Nominal (Min - Max) Energy Saving 4,36 (3,13-4,14) ▲ A	4,67 (3,47-4,11) ▲ A	4,07 (3,40-3,54) ▲ A	3,33 (3,27-3,18) ▲ A
Power input Cooling	Nominal (Min - Max) kW 0,47 (0,240-0,580)	0,535 (0,245-0,730)	0,860 (0,250-1,130)	1,26 (0,260-1,570)
Heating capacity	Nominal (Min - Max) kW 2,80 (0,75-4,00)	3,40 (0,85-5,00)	4,00 (0,85-6,00)	5,30 (0,85-6,80)
	Nominal (Min - Max) kCal/h 2.410 (650-3.440)	2.920 (730-4.300)	3.440 (730-5.160)	4.560 (730-5.850)
Heating capacity at -7°C	Nominal kW 2,35	2,88	3,46	3,94
COP ¹⁾	Nominal (Min - Max) Energy Saving 4,41 (3,26-3,92) ▲ A	4,63 (3,54-3,85) ▲ A	4,21 (3,47-3,51) ▲ A	3,68 (3,33-3,51) ▲ A
Power input Heating	Nominal (Min - Max) kW 0,635 (0,23-1,02)	0,735 (0,24-1,30)	0,950 (0,245-1,71)	1,44 (0,255-1,940)
Annual Energy Consumption ²⁾	kWh 235	268	430	630
INDOOR UNIT				
Air Volume	Cooling / Heating m ³ /h 654 / 684	678 / 702	750 / 768	750 / 804
Moisture removal volume	l/h 1,3	1,5	2,0	2,4
Sound pressure Level ³⁾	Cooling (Hi / Lo / S-Lo) dB(A) 37 / 24 / 20	39 / 25 / 20	42 / 28 / 20	43 / 31 / 25
	Heating (Hi / Lo / S-Lo) dB(A) 38 / 25 / 20	40 / 27 / 20	42 / 33 / 20	43 / 35 / 29
Sound power Level	Cooling (Hi) dB 53	55	58	59
	Heating (Hi) dB 54	56	58	59
Dimensions	H x W x D mm 290 x 870 x 204	290 x 870 x 204	290 x 870 x 204	290 x 870 x 204
Net weight	kg 9	9	9	9
Air purifier filter	Patrol + E-ion			
OUTDOOR UNIT				
Power source	V 230	230	230	230
Connection	mm ² 4 x 1,5	4 x 1,5	4 x 1,5	4 x 1,5
Current Cooling	Nominal A 2,2	2,5	4,0	5,7
Current Heating	Nominal A 3,0	3,4	4,4	6,6
Max. current	A 4,7	5,8	7,8	9,0
Air Volume	Cooling / Heating m ³ /h 2.034 / 2.034	1.788 / 1.788	1.860 / 1.860	1.884 / 1.884
Sound pressure Level ³⁾	Cooling (Hi) dB(A) 45	46	48	49
	Heating (Hi) dB(A) 46	47	50	51
Sound power Level	Cooling (Hi) dB 60	61	63	64
	Heating (Hi) dB 61	62	65	66
Dimensions ⁴⁾	H x W x D mm 540 x 780 x 289	540 x 780 x 289	540 x 780 x 289	540 x 780 x 289
Net weight	kg 33	34	34	34
Piping connections	Liquid pipe inch (mm) 1/4" (6,35)	1/4" (6,35)	1/4" (6,35)	1/4" (6,35)
	Gas pipe inch (mm) 3/8" (9,52)	3/8" (9,52)	3/8" (9,52)	1/2" (12,70)
Refrigerant Loading	R410A kg 0,830	0,950	0,980	1,01
Elevation difference (in / out) ⁵⁾	Max m 15	15	15	15
Piping length	Min / Max m 3-15	3-15	3-15	3-15
Piping length without refrigerant increase	Max m 7,5	7,5	7,5	7,5
Additional gas	g/m 20	20	20	20
Operating range	Cooling Min / Max °C +5 / +43	+5 / +43	+5 / +43	+5 / +43
	Heating Min / Max °C -5 / +24	-5 / +24	-5 / +24	-5 / +24

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TECHNICAL FOCUS

- **NEW!** MAXIMUM EFFICIENCY AND COMFORT WITH ECONAVI
- EXCLUSIVE WHITE DESIGN
- NEW GENERATION OF E-ION AIR PURIFYING SYSTEM WITH 24-HR PATROL SENSOR
- MILD DRY COOLING: PREVENT A RAPID DECREASE IN ROOM HUMIDITY
- SUPER QUIET! ONLY 20 dB, EQUIVALENT TO NIGHT-TIME IN THE COUNTRY (E7, E9 AND E12)
- MORE POWERFUL AIRFLOW TO QUICKLY REACH THE DESIRED TEMPERATURE

KIT-E7-MKE // KIT-E9-MKE // KIT-E12-MKE // KIT-E15-MKE

HEALTHY AIR

- E-ion plus air purifying system
- Patrol sensor to detect and eliminate contaminants
- Air conditioner and purifier with simultaneous or independent operation
- Mild Dry Cooling operation mode for increased comfort and prevention of skin moisture loss

ENERGY EFFICIENCY AND ECOLOGY

- Maximum efficiency Inverter system, for bigger savings
- **NEW!** -30% consumption with ECONAVI on heat pump (-20% on cooling mode)
- R410A refrigerant gas

COMFORT

- Super Quiet mode (from 20dB)
- Powerful mode
- Uniform dispersion of airflow
- Automatic vertical airflow control
- Hot start mode, increased comfort on heat pump mode, no cool airflow when process starts
- Automatic restart after power cut

EASE OF USE

- Real time clock with dual ON&OFF timer
- User friendly infrared remote control
- **NEW!** Optional wired weekly timer with 6 settings per day and 42 settings per week
- **NEW!** Connectivity function (indoor unit equipped with PCB port which can be connected to outside network)

EASY INSTALLATION AND MAINTENANCE

- Removable, washable panel
- 15 m maximum connection distance
- 15 m maximum elevation difference
- Maintenance access through the top panel of the outdoor unit
- Self-diagnosis function

GLOBAL REMARKS	Rating conditions	Cooling	Heating
	Inside air temperature	27°C DB / 19°C WB	20°C DB
	Outside air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

DB: Dry Bulb; WB: Wet Bulb

This model is not suitable to use in heating mode below -5°C with continuous operation (24h operation).

Connectivity restriction: JKE units are not compatible with MKE units.

1) EER and COP classification is at 230 V in accordance with EU directive 2002/31/EC.

2) The annual consumption is calculated by multiplying the input power at 230 V by an average of 500 hours per year in cooling mode.

3) The sound pressure level of the units shows the value measured at a position 1 meter in front of the main body and 0.8 meters below the unit. The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification.

4) Add 70 mm for piping port.

5) When installing the outdoor unit at a higher position than the indoor unit.



CU-E7MKE
CU-E9MKE
CU-E12MKE
CU-E15MKE



WALL MOUNTED ETHEREA // INVERTER+ // WHITE

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Etherea has an advanced air purifying system with the new Patrol Sensor to detect and eliminate contaminants. Etherea is also able to prevent rapid decreases in room humidity with the new mild dry cooling system which increases comfort, especially when sleeping with the air conditioning running.



Maintains a Relative Humidity up to 10% higher than cooling operation. Ideal when sleeping with the air conditioner on.

KIT	KIT-E18-MKE	KIT-E21-MKE	KIT-E24-MKE	KIT-E28-MKE
Indoor	CS-E18MKEW	CS-E21MKEW	CS-E24MKES	CS-E28MKES
Outdoor	CU-E18MKE	CU-E21MKE	CU-E24MKE	CU-E28MKE
Cooling capacity	Nominal (Min - Max) kW 5,00 (0,98-6,00)	6,30 (0,98-7,10) 6,80 (0,98-8,10)	7,65 (0,98-8,60) 8,80 (0,98-9,70)	7,65 (0,98-8,60) 8,80 (0,98-9,70)
EER ¹⁾	Nominal (Min - Max) Energy Saving 3,40 (3,50-2,96) A	2,85 (3,50-2,80) C	3,21 (2,58-3,00) A	3,01 (2,58-2,92) B
Power input Cooling	Nominal (Min - Max) kW 1,47 (0,28-2,03)	2,21 (0,28-2,54) 2,12 (0,38-2,7)	2,12 (0,38-2,7) 2,12 (0,38-2,7)	2,54 (0,38-2,95) 2,54 (0,38-2,95)
Heating capacity	Nominal (Min - Max) kW 5,80 (0,98-8,00)	7,20 (0,98-8,50) 8,60 (0,98-9,90)	8,60 (0,98-9,90) 9,40 (0,98-11,00)	9,60 (0,98-11,00) 9,60 (0,98-11,00)
Heating capacity at -7°C	Nominal kW 4,98	5,24 6,13	6,13 6,77	6,77 6,77
COP ¹⁾	Nominal (Min - Max) Energy Saving 3,77 (2,88-3,08) A	3,43 (2,88-3,09) B	3,23 (2,18-3,09) C	2,91 (2,18-2,93) D
Power input Heating	Nominal (Min - Max) kW 1,54 (0,34-2,60)	2,10 (0,34-2,75) 2,66 (0,45-3,20)	2,66 (0,45-3,20) 3,30 (0,45-3,75)	3,30 (0,45-3,75) 3,30 (0,45-3,75)
Annual Energy Consumption ²⁾	kWh	735	1.105	1.060
INDOOR UNIT				
Air Volume	Cooling / Heating m ³ /h	978 / 1.074	1.038 / 1.110	1.104 / 1.170
Moisture removal volume	l/h	2,8	3,5	3,9
Sound pressure Level ³⁾	Cooling (Hi / Lo / S-Lo) dB(A) 44 / 37 / 34	45 / 37 / 34 47 / 38 / 35	47 / 38 / 35 47 / 38 / 35	49 / 38 / 35 48 / 38 / 35
Sound power Level	Cooling (Hi) dB 60	61 63	63 65	65 64
Dimensions	H x W x D mm	290 x 1.070 x 235	290 x 1.070 x 235	290 x 1.070 x 235
Net weight	kg	12	12	12
Air purifier filter		Patrol + E-ion	Patrol + E-ion	Patrol + E-ion
OUTDOOR UNIT				
Power source	V	230	230	230
Connection	mm ²	4 x 2,5	4 x 2,5	4 x 2,5
Current Cooling	Nominal A	6,6	9,9	9,7
Current Heating	Nominal A	6,9	9,4	12,1
Max. current	A	11,4	12,1	14,6
Air Volume	Cooling / Heating m ³ /h	2.352 / 2.274	2.502 / 2.424	3.012 / 3.012
Sound pressure Level ³⁾	Cooling (Hi) dB(A) 47	48 52	52 52	53 53
Sound power Level	Cooling (Hi) dB 61	62 63	66 66	67 67
Dimensions ⁴⁾	H x W x D mm	695 x 875 x 320	695 x 875 x 320	795 x 875 x 320
Net weight	kg	45	46	65
Piping connections	Liquid pipe inch (mm)	1/4" (6,35)	1/4" (6,35)	1/4" (6,35)
	Gas pipe inch (mm)	1/2" (12,70)	1/2" (12,70)	5/8" (15,88)
Refrigerant Loading	R410A kg	1,122	1,28	1,70
Elevation difference (in/out) ⁵⁾	Max m	15	15	20
Piping length	Min / Max m	3-20	3-20	3-30
Piping length without refrigerant increase	Max m	7,5	7,5	10
Additional gas	g/m	20	20	30
Operating range	Cooling Min / Max °C Heating Min / Max °C	+5 / +43 -5 / +24	+5 / +43 -5 / +24	+16 / +43 -5 / +24



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KIT-E18-MKE // KIT-E21-MKE // KIT-E24-MKE // KIT-E28-MKE

HEALTHY AIR

- E-ion plus air purifying system
- Patrol sensor to detect and eliminate contaminants
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- **NEW!** Optional wired weekly timer with 6 settings per day and 42 settings per week
- **NEW!** Connectivity function (indoor unit equipped with PCB port which can be connected to outside network)

EASY INSTALLATION AND MAINTENANCE

- Removable, washable panel
- 20 m maximum connection distance (30 m for E24 and E28)
- 15 m maximum elevation difference (20 m for E24 and E28)
- Maintenance access through the top panel of the outdoor unit
- Self-diagnosis function



CU-E18MKE
CU-E21MKE



CU-E24MKE
CU-E28MKE

GLOBAL REMARKS	Rating conditions	Cooling	Heating
	Inside air temperature	27°C DB / 19°C WB	20°C DB
	Outside air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

DB: Dry Bulb; WB: Wet Bulb

This model is not suitable to use in heating mode below -5°C with continuous operation (24h operation).

Connectivity restriction: JKE units are not compatible with MKE units.

1) EER and COP classification is at 230 V in accordance with EU directive 2002/31/EC.

2) The annual consumption is calculated by multiplying the input power at 230 V by an average of 500 hours per year in cooling mode.

3) The Sound pressure level of the units shows the value measured of a position 1 meter in front of the main body and 0,8 meters below the unit. The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification.

4) Add 70 mm for piping port.

5) When installing the outdoor unit at a higher position than the indoor unit.



WALL MOUNTED ETHEREA // INVERTER+

NEW ETHEREA WITH ECONAVI, MORE EFFICIENT, MORE COMFORT, MORE DESIGN, MORE HEALTHY AIR

ECONAVI's sensor technology uses factors such as speed, frequency and temperature to determine the human activity level in the room for maximum comfort and maximum savings. With ECONAVI, you can save up to 30%.

Furthermore, Etherea is more efficient than ever with 64% less consumption for the non Inverter model on heat pump mode, and can reach 71% total savings when used with ECONAVI. More efficiency for bigger savings!

Etherea has an advanced air purifying system with the new Patrol Sensor to detect and eliminate contaminants.

Etherea is also able to prevent rapid decreases in Room humidity with the new mild dry cooling system which increases comfort, especially when sleeping with the air conditioning running.

30% savings	improved comfort	quality air control 24 h	pure air system	perfect humidity control	silent air 20 dB	down to -15°C in heating mode
ECONAVI	AUTOCOMFORT	PATROL SENSOR	e-ION PLUS	MILD DRY	SUPER QUIET	OUTDOOR TEMPERATURE
<small>Maintains a Relative Humidity up to 10% higher than cooling operation. Ideal when sleeping with the air conditioner on.</small>						
<small>FOR XE7, E7, XE9, E9, XE12 AND E12</small>						

SILVER KIT		KIT-XE7-MKE-3	KIT-XE9-MKE-3	KIT-XE12-MKE-3	KIT-XE15-MKE-3
Indoor		CS-XE7MKEW	CS-XE9MKEW	CS-XE12MKEW	CS-XE15MKE-3
Outdoor		CU-E7MKE-3	CU-E9MKE-3	CU-E12MKE-3	CU-E15MKE-3
WHITE KIT		KIT-E7-MKE-3	KIT-E9-MKE-3	KIT-E12-MKE-3	KIT-E15-MKE-3
Indoor		CS-E7MKEW	CS-E9MKEW	CS-E12MKEW	CS-E15MKEW-3
Outdoor		CU-E7MKE-3	CU-E9MKE-3	CU-E12MKE-3	CU-E15MKE-3
Cooling capacity	Nominal (Min - Max)	kW	2,05 [0,75-2,40]	2,50 [0,85-3,00]	3,50 [0,85-4,00]
	Nominal (Min - Max)	kCal/h	1.760 (650-2.060)	2.150 (730-2.580)	3.010 (730-3.440)
EER ¹⁾	Nominal (Min - Max)	Energy Saving	4,36 (3,13-4,14) A	4,67 (3,47-4,11) A	3,87 (3,40-3,39) A
Power input Cooling	Nominal (Min - Max)	kW	0,47 (0,24-0,58)	0,535 (0,245-0,730)	0,905 (0,250-1,180)
Heating capacity	Nominal (Min - Max)	kW	2,80 (0,75-4,00)	3,40 (0,85-5,00)	4,40 (0,85-6,70)
	Nominal (Min - Max)	kCal/h	2.410 (650-3.440)	2.920 (730-4.300)	3.780 (730-5.760)
Heating capacity at -7°C	Nominal	kW	2,35	2,88	3,75
COP ¹⁾	Nominal (Min - Max)	Energy Saving	4,41 (3,26-3,92) A	4,63 (3,54-3,85) A	4,04 (3,47-3,47) A
Power input Heating	Nominal (Min - Max)	kW	0,635 (0,23-1,02)	0,735 (0,240-1,30)	1,09 (0,245-1,93)
Annual Energy Consumption ²⁾		kWh	235	268	453
INDOOR UNIT					
Air Volume	Cooling / Heating	m ³ /h	654 / 684	678 / 702	750 / 768
Moisture removal volume		l/h	1,3	1,5	2,0
Sound pressure Level ³⁾	Cooling (Hi / Lo / S-Lo)	dB(A)	37 / 24 / 20	39 / 25 / 20	42 / 28 / 20
	Heating (Hi / Lo / S-Lo)	dB(A)	38 / 25 / 20	40 / 27 / 20	42 / 33 / 20
Sound power Level	Cooling (Hi)	dB	53	55	58
	Heating (Hi)	dB	54	56	58
Dimensions	H x W x D	mm	290 x 870 x 204	290 x 870 x 204	290 x 870 x 204
Net weight		kg	9	9	9
Air purifier filter			Patrol + E-ion	Patrol + E-ion	Patrol + E-ion
OUTDOOR UNIT					
Power source		V	230	230	230
Connection		mm ²	4 x 1,5	4 x 1,5	4 x 1,5
Current (Nominal)	Cooling / Heating	A	2,2 / 3,0	2,5 / 3,4	4,1 / 5,1
Max. current		A	4,7	5,8	8,9
Air Volume	Cooling / Heating	m ³ /h	2.034 / 2.034	1.788 / 1.788	1.860 / 1.860
Sound pressure Level ³⁾	Cooling / Heating (Hi)	dB(A)	45 / 46	46 / 47	48 / 50
Sound power Level	Cooling / Heating (Hi)	dB	60 / 61	61 / 62	63 / 65
Dimensions ⁴⁾	H x W x D	mm	540 x 780 x 289	540 x 780 x 289	540 x 780 x 289
Net weight		kg	33	34	45
Piping connections	Liquid pipe	inch (mm)	1/4" (6,35)	1/4" (6,35)	1/4" (6,35)
	Gas pipe	inch (mm)	3/8" (9,52)	3/8" (9,52)	3/8" (9,52)
Refrigerant Loading	R410A	kg	0,830	0,950	0,970
Elevation difference (in/out) ⁵⁾	Max	m	15	15	15
Piping length	Min / Max	m	3-15	3-15	3-15
Piping length without refrigerant increase	Max	m	7,5	7,5	7,5
Additional gas		g/m	20	20	20
Operating range	Cooling Min / Max	°C	+5 / +43	+5 / +43	+5 / +43
	Heating Min / Max	°C	-15 / +24	-15 / +24	-15 / +24

Specifications subject to change without notice



NEW

2011

~~ETHEREA~~

CS-XE7MKEW // CS-XE9MKEW // CS-XE12MKEW // CS-XE15MKE-3

INCLUDED WITH
THE INDOOR UNIT**TECHNICAL FOCUS**

- NEW!** MAXIMUM EFFICIENCY AND COMFORT WITH ECONAVI
- EXCLUSIVE WHITE DESIGN
- NEW GENERATION OF E-ION AIR PURIFYING SYSTEM WITH 24-HR PATROL SENSOR
- MILD DRY COOLING: PREVENT A RAPID DECREASE IN ROOM HUMIDITY
- SUPER QUIET! ONLY 20 dB, EQUIVALENT TO NIGHT-TIME IN THE COUNTRY (XE7, E7, XE9, E9, XE12 AND E12)
- MORE POWERFUL AIRFLOW TO QUICKLY REACH THE DESIRED TEMPERATURE



CS-E7MKEW // CS-E9MKEW // CS-E12MKEW // CS-E15MKE-3

**KIT-XE7-MKE-3 // KIT-XE9-MKE-3 // KIT-XE12-MKE-3 //
KIT-XE15-MKE-3 // KIT-E7-MKE-3 // KIT-E9-MKE-3 //
KIT-E12-MKE-3 // KIT-E15-MKE-3****HEALTHY AIR**

- E-ion plus air purifying system
- Patrol sensor to detect and eliminate contaminants
- Air conditioner and purifier with simultaneous or independent operation
- Mild Dry Cooling operation mode for increased comfort and prevention of skin moisture loss

ENERGY EFFICIENCY AND ECOLOGY

- Maximum efficiency Inverter system, for bigger savings
- NEW!** -30% consumption with ECONAVI on heat pump (-20% on cooling mode)
- R410A refrigerant gas

COMFORT

- Super Quiet mode (from 20dB)
- Powerful mode
- Uniform dispersion of airflow
- Automatic vertical airflow control
- Hot start mode, increased comfort on heat pump mode, no cool airflow when process starts
- Automatic restart after power cut

EASE OF USE

- Real time clock with dual ON&OFF timer
- User friendly infrared remote control
- NEW!** Optional wired weekly timer with 6 settings per day and 42 settings per week
- NEW!** Connectivity function (indoor unit equipped with PCB port which can be connected to outside network)

EASY INSTALLATION AND MAINTENANCE

- Removable, washable panel
- 15 m maximum connection distance
- 15 m maximum elevation difference
- Maintenance access through the top panel of the outdoor unit
- Self-diagnosis function

GLOBAL REMARKS	Rating conditions	Cooling	Heating
Inside air temperature	27°C DB / 19°C WB	20°C DB	
Outside air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB	

DB: Dry Bulb; WB: Wet Bulb

This model is not suitable to use in heating mode below -5°C with continuous operation (24h operation).

Connectivity restriction: JKE units are not compatible with MKE units.

1) EER and COP classification is at 230 V in accordance with EU directive 2002/31/EC.

2) The annual consumption is calculated by multiplying the input power at 230 V by an average of 500 hours per year in cooling mode.

3) The Sound pressure level of the units shows the value measured at a position 1 meter in front of the main body and 0,8 meters below the unit. The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification.

4) Add 70 mm for piping port.

5) When installing the outdoor unit at a higher position than the indoor unit.

CU-E7MKE-3
CU-E9MKE-3

CU-E15MKE-3



WALL MOUNTED RE TYPE // STANDARD INVERTER

RE:Inverter models are powerful and efficient and are always there when you need them. Furthermore, with the Alleru-buster anti allergic filter, you can always enjoy the best quality air, without viruses, moulds and bacteria.



KIT	KIT-RE9-JKE-1	KIT-RE12-JKE-1	KIT-RE15-JKE-1	KIT-RE18-JKE-1	KIT-RE24-JKE-1
Indoor	CS-RE9JKE-1	CS-RE12JKE-1	CS-RE15JKE-1	CS-RE18JKE-1	CS-RE24JKE-1
Outdoor	CU-RE9JKE-1	CU-RE12JKE-1	CU-RE15JKE-1	CU-RE18JKE-1	CU-RE24JKE-1
Cooling capacity	Nominal (Min - Max) kW Nominal (Min - Max) kCal/h	2,50 (0,90-3,00) 2,150 (770-2.580)	3,50 (0,90-3,90) 3,010 (770-3.350)	4,20 (1,00-4,60) 3,610 (860-3960)	5,00 (0,90-6,00) 4,300 (770-5,160)
EER ¹⁾	Nominal (Min - Max) Energy Saving	3,57 (4,74-3,00) A	3,47 (5,29-3,25) A	3,33 (4,76-2,78) A	3,40 (4,19-2,96) A
Power input Cooling	Nominal (Min - Max) kW	0,70 (0,19-1,00)	1,01 (0,17-1,2)	1,26 (0,21-1,65)	1,47 (0,215-2,03)
Heating capacity	Nominal (Min - Max) kW Nominal (Min - Max) kCal/h	3,30 (0,90-4,10) 2,840 (770-3,520)	4,25 (0,90-5,10) 3,660 (770-4,390)	5,00 (0,90-6,80) 4,300 (770-5848)	5,80 (0,90-8,00) 4,990 (770-6,880)
COP ¹⁾	Nominal (Min - Max) Energy Saving	4,02 (5,29-3,57) A	3,79 (6,00-3,49) A	3,61 (4,28-2,98) A	3,77 (3,67-3,08) A
Power input Heating	Nominal (Min - Max) kW	0,82 (0,17-1,15)	1,12 (0,15-1,46)	1,385 (0,21-2,280)	1,54 (0,245-2,60)
Annual Energy Consumption ²⁾	kWh	350	505	630	735
INDOOR UNIT					
Power source	V	230	230	230	230
Connection	mm ²	4 x 1,5	4 x 1,5	4 x 1,5	4 x 2,5
Current Cooling	Nominal A	3,30	4,7	6,00	6,7
Current Heating	Nominal A	3,70	5,2	6,30	7,0
Max. current	A	5,10	6,80	10,5	11,7
Air Volume	Cooling / Heating m ³ /h	750 / 750	756 / 798	840 / 936	978 / 1.074
Moisture removal volume	l/h	1,4	2,0	2,4	2,8
Sound pressure Level ³⁾	Cooling (Hi / Lo / S-Lo) dB(A) Heating (Hi / Lo / S-Lo) dB(A)	42 / 27 / 22 42 / 27 / 25	42 / 30 / 22 42 / 33 / 25	46 / 31 / 29 46 / 34 / 28	44 / 37 44 / 37
Sound power Level	Cooling (Hi) dB Heating (Hi) dB	58 58	58 58	62 62	60 60
Dimensions	H x W x D mm	290 x 848 x 204	290 x 848 x 204	290 x 848 x 204	290 x 1.070 x 235
Net weight	kg	9	9	9	12
Air purifier filter		Alleru-buster filter	Alleru-buster filter	Alleru-buster filter	Alleru-buster filter
OUTDOOR UNIT					
Air Volume	Cooling / Heating m ³ /h	1.734 / 1.734	1.830 / 1.830	1.872 / 1.794	2.400 / 2.316
Sound pressure Level ³⁾	Cooling (Hi) dB(A) Heating (Hi) dB(A)	47 48	48 50	50 51	47 47
Sound power Level	Cooling (Hi) dB Heating (Hi) dB	63 64	64 66	66 67	61 61
Dimensions ⁴⁾	H x W x D mm	540 x 780 x 289	540 x 780 x 289	540 x 780 x 289	750 x 875 x 345
Net weight	kg	24	28	36	48
Piping connections	Liquid pipe inch (mm) Gas pipe inch (mm)	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)
Refrigerant Loading	R410A kg	0,85	0,970	1,00	1,15
Elevation difference (in/out) ⁵⁾	Max m	5	5	5	15
Piping length	Min / Max m	3-15	3-15	3-15	3-20
Piping length without refrigerant increase	Max m	7,5	7,5	7,5	10
Additional gas	g/m	20	20	20	20
Operating range	Cooling Min / Max °C Heating Min / Max °C	+5 / +43 -5 / +24	+5 / +43 -5 / +24	+5 / +43 -5 / +24	+16 / +43 -5 / +24

Specifications subject to change without notice



CS-RE9JKE-1 // CS-RE12JKE-1 // CS-RE15JKE-1

FOR RE9, RE12
AND RE15.
INCLUDED WITH
THE INDOOR UNITFOR RE18 AND
RE24. INCLUDED
WITH THE
INDOOR UNIT

TECHNICAL FOCUS

- COMPLETE LINE-UP OF STANDARD INVERTER MODELS
- QUIETER INDOOR UNITS
- HIGH ENERGY SAVINGS
- REFRESHING AIRFLOW WITH RELAXING BREEZE EFFECT
- LONG CONNECTION DISTANCE (FROM 15 M UP TO 30 M)



CS-RE18JKE-1 // CS-RE24JKE-1

KIT-RE9-JKE-1 // KIT-RE12-JKE-1 // KIT-RE15-JKE-1 // KIT-RE18-JKE-1 // KIT-RE24-JKE-1

HEALTHY AIR

- New generation Alleru-buster anti allergic filter
- Odour-removing function
- Anti-mould filter

ENERGY, EFFICIENCY AND ECOLOGY

- Inverter system
- R410A refrigerant gas

COMFORT

- Refreshing airflow with relaxing breeze effect (only for RE9, RE12 and RE15)
- Super Quiet mode (only for RE9, RE12 and RE15)
- Powerful mode (only for RE9 and RE12 and RE15)
- Automatic vertical airflow control
- Hot start mode
- Automatic restart
- Simple change over

EASE OF USE

- 12-hr timer (only for RE9, RE12 and RE15)
- 24-hr timer (only for RE18 and RE24)
- User friendly infrared remote control

EASY INSTALLATION AND MAINTENANCE

- 15 m maximum connection distance (20 m for RE18 and 30 m for RE24)
- Removable, washable panel
- Maintenance access through the top panel of the outdoor unit
- Self-diagnosis function

GLOBAL REMARKS	Rating conditions	Cooling	Heating
	Inside air temperature	27°C DB / 19°C WB	20°C DB
	Outside air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

DB: Dry Bulb; WB: Wet Bulb

This model is not suitable to use in heating mode below -5°C with continuous operation (24h operation).

Connectivity restriction: JKE units are not compatible with JKE-1 units.

1) EER and COP classification is at 230 V in accordance with EU directive 2002/31/EC.

2) The annual consumption is calculated by multiplying the input power at 230 V by an average of 500 hours per year in cooling mode.

3) The sound pressure level of the units shows the value measured of a position 1 meter in front of the main body and 0,8 meters below the unit. The sound pressure is measured in accordance with Euromet 6/C/006-97 specification.

4) Add 70 mm for piping port.

5) When installing the outdoor unit at a higher position than the indoor unit.

CU-RE9JKE-1
CU-RE12JKE-1

CU-RE18JKE-1



CU-RE24JKE-1



WALL MOUNTED TYPE // INVERTER+ // -15°C

Complete line-up of air purifying systems with high efficiency even at -15°C! This wall-mounted air conditioning is especially designed for professional applications such as computer rooms where cooling inside the room is necessary even when the outside temperature is low. Furthermore this air conditioner has an automatic changeover system, in order to maintain the inside temperature even when sharp outside temperature changes occur.



KIT	KIT-E9-HKEA	KIT-E12-HKEA	KIT-E15-HKEA	KIT-E18-HKEA	KIT-E21-HKEA
Indoor	CS-E9HKEA	CS-E12HKEA	CS-E15HKEA	CS-E18HKEA	CS-E21HKEA
Outdoor	CU-E9HKEA	CU-E12HKEA	CU-E15HKEA	CU-E18HKEA	CU-E21HKEA
Cooling capacity	Nominal (Min - Max) kW 2,60 (0,60-3,00)	3,50 (0,60-4,00) 3,010 (690-3.440)	4,40 (0,90-5,00) 3,780 (690-4.300)	5,30 (0,90-6,00) 4,560 (770-5,160)	6,30 (0,90-7,10) 5,420 (770-6,110)
EER ¹⁾	Nominal (Min - Max) Energy Saving 4,41 (5,00-4,00) ▲	3,80 (5,00-3,39) ▲	3,21 (4,19-3,13) ▲	3,21 (4,19-2,93) ▲	2,85 (4,19-2,8) ▲
Power input Cooling	Nominal (Min - Max) kW 0,59 (0,12-0,75)	0,92 (0,12-1,18)	1,37 (0,215-1,6)	1,65 (0,215-2,05)	2,21 (0,215-2,54)
Heating capacity	Nominal (Min - Max) kW 3,60 (0,60-5,40)	4,80 (0,60-6,00)	5,50 (0,90-7,10)	6,60 (0,90-8,00)	7,20 (0,90-8,50)
	Nominal (Min - Max) kCal/h 3.100 (520-4.640)	4.130 (520-5.680)	4.730 (770-6.110)	5.680 (770-6.880)	6.190 (770-7.310)
Heating capacity at -7°C	Nominal kW 3,13	3,86	3,98	4,98	5,24
COP ¹⁾	Nominal (Min - Max) Energy Saving 4,26 (5,22-3,97) ▲	3,81 (5,22-3,57) ▲	3,50 (3,67-3,16) ▲	3,69 (3,67-3,02) ▲	3,43 (3,67-3,09) ▲
Power input Heating	Nominal (Min - Max) kW 0,845 (0,115-1,36)	1,26 (0,115-1,85)	1,57 (0,245-2,25)	1,79 (0,245-2,65)	2,10 (0,245-2,75)
Annual Energy Consumption ²⁾	kWh 295	460	685	825	1.105
INDOOR UNIT					
Power source	V	230	230	230	230
Connection	mm ²	4 x 1,5	4 x 1,5	4 x 1,5	4 x 2,5
Current Cooling	Nominal A	2,9	4,3	6,3	7,5
Current Heating	Nominal A	4,0	5,8	7,1	8,1
Max. current	A	6,4	8,4	10,2	11,9
Air Volume	Cooling / Heating m ³ /h	576 / 630	642 / 672	660 / 708	912 / 1.002
Moisture removal volume	l/h	1,6	2,0	2,4	2,9
Sound pressure Level ³⁾	Cooling (Hi / Lo / S-Low) dB(A) 39 / 26 / 23	42 / 29 / 26	43 / 32 / 29	44 / 37 / 34	45 / 37 / 34
	Heating (Hi / Lo / S-Low) dB(A) 40 / 27 / 24	42 / 33 / 30	43 / 35 / 32	44 / 37 / 34	45 / 37 / 34
Sound power Level	Cooling (Hi) dB 50	53	54	57	58
	Heating (Hi) dB 51	53	54	57	58
Dimensions	H x W x D mm	280 x 799 x 183	280 x 799 x 183	280 x 799 x 183	275 x 998 x 230
Net weight	kg	9	9	9	11
Air purifier filter		Alleru-buster filter + Ion			
OUTDOOR UNIT					
Air Volume	Cooling / Heating m ³ /h	1.788 / 1.788	1.860 / 1.860	2.910 / 2.808	2.400 / 2.400
Sound pressure Level ³⁾	Cooling (Hi) dB(A) 46	48	46	47	48
	Heating (Hi) dB(A) 47	50	46	47	49
Sound power Level	Cooling (Hi) dB 59	61	59	60	61
	Heating (Hi) dB 60	63	59	60	62
Dimensions ⁴⁾	H x W x D mm	540 x 780 x 289	540 x 780 x 289	750 x 875 x 345	750 x 875 x 345
Net weight	kg	35	35	48	49
Piping connections	Liquid pipe inch (mm)	1/4" (6,35)	1/4" (6,35)	1/4" (6,35)	1/4" (6,35)
	Gas pipe inch (mm)	3/8" (9,52)	1/2" (12,70)	1/2" (12,70)	1/2" (12,70)
Refrigerant Loading	R410A kg	0,930	0,970	1,060	1,18
Elevation difference (in/out) ⁵⁾	Max m	5	5	5	15
Piping length	Min / Max m	3-15	3-15	3-15	3-20
Piping length without refrigerant increase	Max m	7,5	7,5	7,5	10
Additional gas	g/m	20	20	20	20
Operating range	Cooling Min / Max °C -15 / +43	-15 / +43	-15 / +43	-15 / +43	-15 / +43
	Heating Min / Max °C -10 / +24	-10 / +24	-15 / +24	-15 / +24	-15 / +24



CS-E9HKEA // CS-E12HKEA // CS-E15HKEA

INCLUDED WITH
THE INDOOR UNIT**TECHNICAL FOCUS**

- HIGHLY EFFICIENT HEAT PUMP AND COOLING EVEN AT -15°C
- SUPERSONIC AIR PURIFYING SYSTEM WITH ALLERU-BUSTER ANTI ALLERGIC FILTER
- SUPER QUIET! ONLY 23DB (ONLY FOR E9)
- MORE POWERFUL AIRFLOW TO QUICKLY REACH THE DESIRED TEMPERATURE
- MAXIMUM CONNECTION DISTANCE 15 M (E9, 12, 15), 20M (E18, 21)



CS-E18HKEA // CS-E21HKEA

KIT-E9-HKEA // KIT-E12-HKEA // KIT-E15-HKEA // KIT-E18-HKEA // KIT-E21-HKEA**HEALTHY AIR**

- Refreshing ion generator boosts well-being
- Alleru-buster anti allergic filter
- Soft dry operation mode

ENERGY EFFICIENCY AND ECOLOGY

- Maximum efficiency Inverter system
- R410A refrigerant gas

COMFORT

- Operates in cold/hot mode in temperatures as low as -15°C (E9, 12: -10 °C)
- Automatically changes from cold to hot depending on inside temperature
- Super Quiet mode
- Powerful mode
- Uniform dispersion of airflow
- Automatic vertical and horizontal airflow control
- Hot start mode
- Automatic restart

EASE OF USE

- 24-hr timer
- User friendly infrared remote control

EASY INSTALLATION AND MAINTENANCE

- Removable, washable panel
- Maximum connection distance 15 m (E9, 12, 15), 20m (E18, 21)
- Maintenance access through the top panel of the outdoor unit
- Self-diagnosis function
- Soft dry operation mode

GLOBAL REMARKS	Rating conditions	Cooling	Heating
	Inside air temperature	27°C DB / 19°C WB	20°C DB
	Outside air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

DB: Dry Bulb; WB: Wet Bulb

This model is not suitable to use in heating mode below -5°C with continuous operation (24h operation).

Connectivity restriction: JKE units are not compatible with MKE units.

1) EER and COP classification is at 230 V in accordance with EU directive 2002/31/EC.

2) The annual consumption is calculated by multiplying the input power at 230 V by an average of 500 hours per year in cooling mode.

3) The Sound pressure level of the units shows the value measured at a position 1 meter in front of the main body and 0,8 meters below the unit. The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification.

4) Add 70 mm for piping port.

5) When installing the outdoor unit at a higher position than the indoor unit.

CU-E9HKEA
CU-E12HKEACU-E15HKEA
CU-E18HKEA



WALL-MOUNTED TYPE // STANDARD HEAT PUMP

Powerful heat pump non-Inverter air conditioning. A class efficiency for high savings.

KIT		KIT-PW9-GKE	KIT-PW12-GKE	KIT-PW18-GKE	KIT-PW24-JKE
Indoor		CS-PW9GKE	CS-PW12GKE	CS-PW18GKE	CS-PW24JKE
Outdoor		CU-PW9GKE	CU-PW12GKE	CU-PW18GKE	CU-PW24JKE
Cooling capacity	Nominal	kW kCal/h	2,65 2.280	3,4 2.920	5,10 4.386
EER ¹⁾	Nominal	Energy Saving	3,21 A	3,22 A	2,91 C
Power input Cooling	Nominal	kW	0,825	1,055	1,75
Heating capacity	Nominal	kW kCal/h	2,85 2.450	3,8 3.260	5,30 4.560
COP ¹⁾	Nominal	Energy Saving	3,63 A	3,61 A	3,35 C
Power input Heating	Nominal	kW	0,785	1,05	1,58
Annual Energy Consumption ²⁾		kWh	413	528	875
INDOOR UNIT					
Power source		V	230	230	230
Connection		mm ²	4 x 1,5	4 x 1,5	4 x 1,5
Current Cooling	Nominal	A	3,9	5,0	7,7
Current Heating	Nominal	A	3,7	4,9	6,9
Air Volume	Cooling / Heating	m ³ /h	618 / 618	540 / 552	972 / 984
Moisture removal volume		l/h	1,6	1,9	2,9
Sound pressure level ³⁾	Cooling (Hi / Lo / S-Lo)	dB(A)	39 / 31	39 / 32	45 / 38
	Heating (Hi / Lo / S-Lo)	dB(A)	29 / 38	39 / 31	43 / 38
Sound power level	Cooling (Hi)	dB	50	50	58
	Heating (Hi)	dB	50	50	56
Dimensions	H x W x D	mm	250 x 770 x 205	280 x 799 x 183	275 x 998 x 230
Net weight		kg	7,5	9	11
Air purifier filter	Optional		CZ-SA14P Alleru-buster filter	CZ-SA14P Alleru-buster filter	CZ-SA14P Alleru-buster filter
OUTDOOR UNIT					
Air Volume	Cooling / Heating	m ³ /h	630	672	1.740
Sound pressure level ³⁾	Cooling (Hi)	dB(A)	48	49	55
	Heating (Hi)	dB(A)	49	50	55
Sound power level	Cooling (Hi)	dB	61	62	70
	Heating (Hi)	dB	62	63	70
Dimensions ⁴⁾	H x W x D	mm	530 x 650 x 230	540 x 780 x 289	540 x 780 x 289
Net weight		kg	27	30	44
Piping connections	Liquid pipe	inch (mm)	1/4" (6,35)	1/4" (6,35)	1/4" (6,35)
	Gas pipe	inch (mm)	3/8" (9,52)	3/8" (9,52)	1/2" (12,70)
Refrigerant Loading	R410A	kg	0,80	0,98	1,33
Elevation difference (in/out) ⁵⁾	Max	m	5	5	20
Piping length	Min / Max	m	3 / 10	3 / 15	3 / 25
Piping length without refrigerant increase	Max	m	7,5	7,5	7,5
Additional gas		g/m	20	20	20
Operating range	Cooling Min / Max	°C	21 / 43	21 / 43	16 / 43
	Heating Min / Max	°C	-5 / 24	-5 / 24	-5 / 24

Specifications subject to change without notice



TECHNICAL FOCUS

- QUIET MODE FOR IMPROVED COMFORT
- ODOUR REMOVING FUNCTION
- EASY TO INSTALL
- R410A REFRIGERANT GAS
- MANUAL AND AUTOMATIC AIRFLOW CONTROL



CS-PW18GKE // CS-PW24JKE

KIT-PW9-GKE // KIT-PW12-GKE // KIT-PW18-GKE // KIT-PW24-JKE

HEALTHY AIR

- Soft dry operation mode
- Odour-removing function
- CZ-SA14P Alleru-buster anti allergic filter (optional)

ENERGY EFFICIENCY AND ECOLOGY

- R410A refrigerant gas

COMFORT

- Manual horizontal airflow control
- Automatic vertical airflow control
- Hot start mode
- Automatic restart

EASE OF USE

- 12-hr timer (For PW9 and PW12)
- 24-hr timer (For PW18 and PW24)
- User friendly infrared remote control

EASY INSTALLATION AND MAINTENANCE

- Removable, washable panel
- Maintenance access through the top panel of the outdoor unit



CU-PW9GKE



CU-PW12GKE



CU-PW18GKE



CU-PW24JKE

Rating conditions	Cooling	Heating
Inside air temperature	27°C DB / 19°C WB	20°C DB
Outside air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

DB: Dry Bulb; WB: Wet Bulb

This model is not suitable to use in heating mode below -5°C with continuous operation (24h operation).

1) EER and COP classification is at 230 V in accordance with EU directive 2002/31/EC.

2) The annual consumption is calculated by multiplying the input power at 230 V by an average of 500 hours per year in cooling mode.

3) The Sound pressure level of the units shows the value measured of a position 1 meter in front of the main body and 0,8 meters below the unit. The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification.

4) Add 70 mm for piping port.

5) When installing the outdoor unit at a higher position than the indoor unit.

prevention
allergy
filter

ALLERU-BUSTER

WALL-MOUNTED TYPE // STANDARD COOLING ONLY

Full line-up of cooling wall-mounted non-Inverter types. Super quiet and with high efficiency
(A class from V7 to V18)



KIT		KIT-V7-DKE	KIT-V9-DKE	KIT-V12-DKE	KIT-V18-DKE	KIT-V24-DKE	KIT-V28-EKE
Indoor		CS-V7DKE	CS-V9DKE	CS-V12DKE	CS-V18DKE	CS-V24DKE	CS-V28EKE
Outdoor		CU-V7DKE	CU-V9DKE	CU-V12DKE	CU-V18DKE	CU-V24DKE	CU-V28EKE
Cooling capacity	Nominal	kW kCal/h	2,40 2.064	3,00 2.580	3,68 3.165	5,30 4.558	7,03 6.046
EER ¹⁾	Nominal	Energy Saving	3,24 A	3,21 A	3,23 A	3,25 A	2,70 A
Power input Cooling	Nominal	kW	0,740	0,935	1,140	1,630	2,600
Annual Energy Consumption ²⁾		kWh	370	470	570	815	1.300
INDOOR UNIT							
Power source		V	230	230	230	230	230
Connection		mm ²	4 x 1,5	4 x 1,5	4 x 1,5	4 x 2,5	4 x 2,5
Current Cooling	Nominal	A	3,4	4,2	5,3	7,3	12,3
Air Volume		m ³ /h	468	510	570	888	1.014
Moisture removal volume		l/h	1,5	1,7	2,1	2,9	4,0
Sound pressure level ³⁾	Hi / Lo / S-Lo	dB(A)	33 / 26 / 24	35 / 26 / 24	39 / 29 / 27	42 / 37 / 35	46 / 40 / 38
Sound power level	Hi	dB	46	48	52	54	59
Dimensions	H x W x D	mm	280 x 799 x 183	280 x 799 x 183	280 x 799 x 183	275 x 998 x 230	275 x 998 x 230
Net weight		kg	9	9	9	11	11
Air purifier filter			Alleru-buster filter + Ion	Alleru-buster filter + Ion	Alleru-buster filter + Ion	Alleru-buster filter + Ion	Alleru-buster filter + Ion
OUTDOOR UNIT							
Air Volume		m ³ /h	1.560	1.980	1.848	.520	2.790
Sound pressure level ³⁾	Hi	dB(A)	46	48	49	54	54
Sound power level	Hi	dB	61	63	64	69	69
Dimensions ⁴⁾	H x W x D	mm	510 x 650 x 230	540 x 780 x 289	540 x 780 x 289	750 x 875 x 345	750 x 875 x 345
Net weight		kg	25	31	33	50	59
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) 1/2" (12,70)	1/4" (6,35) 1/2" (12,70)	1/4" (6,35) 5/8" (15,88)
Refrigerant Loading	R410A	kg	0,89	0,93	1,05	1,34	1,47
Elevation difference (in/out) ⁵⁾	Max	m	5	5	5	20	20
Piping length	Min / Max	m	3 / 10	3 / 10	3 / 15	3 / 25	3 / 30
Piping length without refrigerant increase	Max	m	7,5	7,5	7,5	7,5	7,5
Additional gas		g/m	10	10	15	20	30
Operating range	Min / Max	°C	16 / 43	16 / 43	16 / 43	16 / 43	16 / 43

Specifications subject to change without notice



TECHNICAL FOCUS

- SUPER QUIET MODE FOR INCREASED COMFORT
- POWERFUL MODE FOR QUICK TEMPERATURE SETTING
- EASY TO INSTALL
- R410A REFRIGERANT GAS
- MANUAL AND AUTOMATIC AIRFLOW CONTROL



CS-V18DKE // CS-V24DKE



CS-V28EKE

KIT-V7-DKE // KIT-V9-DKE // KIT-V12-DKE // KIT-V18-DKE // KIT-V24-DKE // KIT-V28-EKE

HEALTHY AIR

- CZ-SA14P Supersonic air purifying system with Alleru-buster anti allergic filter

ENERGY EFFICIENCY AND ECOLOGY

- R410A refrigerant gas

COMFORT

- Super Quiet mode
- Powerful mode
- Manual horizontal airflow control
- Automatic vertical airflow control
- Automatic restart

EASE OF USE

- 24-hr timer
- User friendly infrared remote control

EASY INSTALLATION AND MAINTENANCE

- Removable, washable panel
- Maintenance access through the top panel of the outdoor unit

GLOBAL REMARKS	Rating conditions	Cooling	Heating
	Inside air temperature	27°C DB / 19°C WB	20°C DB
	Outside air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

DB: Dry Bulb; WB: Wet Bulb

This model is not suitable to use in heating mode below -5°C with continuous operation (24h operation)

1) EER classification is at 230 V in accordance with EU directive 2002/31/EC.

2) The annual consumption is calculated by multiplying the input power at 230 V by an average of 500 hours per year in cooling mode.

3) The Sound pressure level of the units shows the value measured of a position 1 meter in front of the main body and 0,8 meters below the unit. The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification.

4) Add 70 mm for piping port.

5) When installing the outdoor unit at a higher position than the indoor unit.

CU-V7DKE
CU-V9DKECU-V18DKE
CU-V24DKE

CU-V28EKE



FLOOR CONSOLE TYPE // INVERTER+

Console for discreet integration on walls, and for high performances, specifically in heat mode even when the outside temperature is as low as -15°C.

Double airflow for improved comfort and temperature dispersion: through the top for an efficient cooling mode, through the bottom for quick heating.



KIT		KIT-E9-GFEW-1	KIT-E12-GFEW-1	KIT-E18-GFEW-1
Indoor		CS-E9GFEW	CS-E12GFEW	CS-E18GFEW
Outdoor		CU-E9GFE-1	CU-E12GFE-1	CU-E18GFE-1
Cooling capacity	Nominal (Min - Max)	kW 2,50 (0,80 - 3,00) kCal/h 2.150 (690 - 2.580)	3,50 (0,80 - 3,80) 3.010 (690 - 3.270)	5,00 (0,90 - 5,60) 3.780 (770 - 4.300)
EER ¹⁾	Nominal (Min - Max)	Energy Saving 4,39 (4,57 - 3,85) A	3,63 (4,32 - 3,33) A	3,23 (4,57 - 2,93) A
Power input Cooling	Nominal (Min - Max)	kW 0,57 (0,17 - 0,78)	0,97 (0,18 - 1,14)	1,55 (0,25 - 1,91)
Heating capacity	Nominal (Min - Max)	kW 3,60 (0,80 - 5,00) kCal/h 3.100 (690 - 4.300)	4,80 (0,80 - 6,10) 4.130 (690 - 5.250)	5,80 (0,90 - 7,10) 4.730 (770 - 6.110)
COP ¹⁾	Nominal (Min - Max)	Energy Saving 4,16 (4,85 - 3,68) A	3,64 (4,57 - 3,45) A	3,63 (3,46 - 3,02) A
Power input Heating	Nominal (Min - Max)	kW 0,865 (0,16 - 1,36)	1,320 (0,17 - 1,77)	1,600 (0,26 - 2,35)
Annual Energy Consumption ²⁾		kWh 285	483	775
INDOOR UNIT				
Air Volume	Cooling / Heating	m ³ /h 558 / 576	570 / 600	660 / 780
Moisture removal volume		l/h 1,4	2,0	2,8
Sound pressure level ³⁾	Cooling (Hi / Lo / S-Lo)	dB(A) 38 / 27 / 23	39 / 28 / 24	44 / 36 / 32
	Heating (Hi / Lo / S-Lo)	dB(A) 38 / 27 / 23	39 / 27 / 23	44 / 36 / 32
Sound power level	Cooling (Hi)	dB 54	55	60
	Heating (Hi)	dB 54	55	61
Dimensions	H x W x D	mm 600 x 700 x 210	600 x 700 x 210	600 x 700 x 210
Net weight		kg 14	14	14
OUTDOOR UNIT				
Power source		V 230	230	230
Connection		mm ² 4 x 1,5	4 x 1,5	4 x 1,5
Current Cooling		A 2,7	4,4	7,0
Current Heating		A 4,05	6,00	7,1
Air Volume	Cooling / Heating	m ³ /h 1.788 / 1.788	1.860 / 1.860	2.400 / 2.400
Sound pressure level ³⁾	Cooling (Hi)	dB(A) 46	48	47
	Heating (Hi)	dB(A) 47	50	48
Sound power level	Cooling (Hi)	dB 59	61	60
	Heating (Hi)	dB 60	63	61
Dimensions ⁴⁾	H x W x D	mm 540 x 780 x 289	540 x 780 x 289	750 x 875 x 345
Net weight		kg 34	34	49
Piping connections	Liquid pipe	inch (mm) 1/4" (6,35)	1/4" (6,35)	1/4" (6,35)
	Gas pipe	inch (mm) 3/8" (9,52)	3/8" (9,52)	1/2" (12,70)
Refrigerant Loading	R410A	kg 0,965	0,980	1,060
Elevation difference (in/out) ⁵⁾	Max	m 5	5	15
Piping length	Min / Max	m 3 / 15	3 / 15	3 / 20
Piping length without refrigerant increase	Max	m 7,5	7,5	10
Additional gas		g/m 20	20	20
Operating range	Cooling Min / Max	°C 16 / 43	16 / 43	16 / 43
	Heating Min / Max	°C -15 / 24	-15 / 24	-15 / 24

Specifications subject to change without notice



INCLUDED WITH
THE INDOOR UNIT

TECHNICAL FOCUS

- MORE EFFICIENT THAN EVER FOR LESS CONSUMPTION AND HIGHER SAVINGS
- HEATING MODE DOWN TO -15°C WITH HIGH EFFICIENCY
- DOUBLE AIRFLOW FOR BETTER EFFICIENCY
- POWERFUL MODE FOR QUICK TEMPERATURE SETTING
- R410A REFRIGERANT GAS

KIT-E9-GFEW-1 // KIT-E12-GFEW-1 // KIT-E18-GFEW-1

HEALTHY AIR

- Soft dry operation mode
- Odour-removing function

ENERGY EFFICIENCY AND ECOLOGY

- Maximum efficiency Inverter system
- R410A refrigerant gas

COMFORT

- Super Quiet mode
- Powerful mode
- Automatic vertical airflow control
- Hot start mode
- Automatic restart

EASE OF USE

- 24-hr timer
- User friendly infrared remote control

EASY INSTALLATION AND MAINTENANCE

- Removable, washable panel
- Maximum connection distance 15 m (E9, 12), 20m (E18)
- Maintenance access through the top panel of the outdoor unit
- Self-diagnosis function

GLOBAL REMARKS	Rating conditions	Cooling	Heating
	Inside air temperature	27°C DB / 19°C WB	20°C DB
	Outside air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

DB: Dry Bulb; WB: Wet Bulb

This model is not suitable to use in heating mode below -5°C with continuous operation (24h operation).

Connectivity restriction: JKE units are not compatible with MKE units.

1) EER and COP classification is at 230 V in accordance with EU directive 2002/31/EC.

2) The annual consumption is calculated by multiplying the input power at 230 V by an average of 500 hours per year in cooling mode.

3) The Sound pressure level of the units shows the value measured of a position 1 meter in front of the main body and 1 m height in front of the unit. The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification.

4) Add 70 mm for piping port.

5) When installing the outdoor unit at a higher position than the indoor unit.



CU-E9GFE-1
CU-E12GFE-1



CU-E18GFE-1



SINGLE SPLIT FLOOR OR CEILING TYPE // INVERTER

Versatile Floor or Ceiling air conditioning Inverter type. Ideal for restaurants or offices where powerful and efficient air-conditioning is needed.



OPTIONAL

KIT		KIT-E15-DTE	KIT-E18-DTE	KIT-E21-DTE	
Indoor		CS-E15DTEW	CS-E18DTEW	CS-E21DTES	
Outdoor		CU-E15DBE	CU-E18DBE	CU-E21DBE	
Cooling capacity	Nominal (Min - Max)	kW kCal/h	4,15 (0,90 - 4,55) 3.570 (770 - 3.910)	5,00 (0,90 - 5,40) 4.300 (770 - 4.640)	5,80 (0,90 - 6,60) 4.990 (770 - 5.680)
EER ¹⁾	Nominal (Min - Max)	Energy Saving	3,22 A	3,01 B	3,01 B
Power input Cooling	Nominal (Min - Max)	kW	1,29 (0,255 - 1,550)	1,66 (0,255 - 1,890)	1,93 (0,255 - 2,240)
Heating capacity	Nominal (Min - Max)	kW kCal/h	5,17 (0,90 - 6,30) 4.450 (770 - 5.420)	6,10 (0,90 - 7,60) 5.250 (770 - 6.540)	6,80 (0,90 - 8,10) 5.850 (770 - 6.970)
COP ¹⁾	Nominal (Min - Max)	Energy Saving	3,34 C	3,35 C	3,42 B
Power input Heating	Nominal (Min - Max)	kW	1,550 (0,260 - 2,050)	1,820 (0,260 - 2,380)	1,990 (0,260 - 2,650)
Annual Energy Consumption ²⁾		kWh	645	830	965
INDOOR UNIT					
Air Volume	Cooling / Heating	m ³ /h	720 / 732	750 / 762	
Moisture removal volume		l/h	2,4	2,8	
Sound pressure level ³⁾	Cooling (Hi / Lo / S-Lo)	dB(A)	45 / 37 / 34	46 / 39 / 36	
	Heating (Hi / Lo / S-Lo)	dB(A)	45 / 33 / 30	47 / 35 / 32	
Sound power level	Cooling (Hi)	dB	58	59	
	Heating (Hi)	dB	58	60	
Dimensions	H x W x D	mm	540 x 1.028 x 200	540 x 1.028 x 200	
Net weight		kg	17	18	
Air purifier filter	Optional		CZ-SA14P Alleru-buster filter	CZ-SA14P Alleru-buster filter	
OUTDOOR UNIT					
Power source		V	230	230	
Connection		mm ²	4 x 1,5	4 x 2,5	
Current Cooling	Nominal	A	6,0	7,5	
Current Heating	Nominal	A	7,1	8,2	
Air Volume	Cooling / Heating	m ³ /h	2.910 / 2.910	2.400 / 2.400	
Sound pressure level ³⁾	Cooling (Hi)	dB(A)	46	47	
	Heating (Hi)	dB(A)	47	48	
Sound power level	Cooling (Hi)	dB	59	60	
	Heating (Hi)	dB	60	61	
Dimensions ⁴⁾	H x W x D	mm	750 x 875 x 345	750 x 875 x 345	
Net weight		kg	48	49	
Piping connections	Liquid pipe	inch (mm)	1/4" (6,35)	1/4" (6,35)	
	Gas pipe	inch (mm)	1/2" (12,70)	1/2" (12,70)	
Refrigerant Loading	R410A	kg	1,23	1,06	
Elevation difference (in/out) ⁵⁾	Max	m	15	15	
Piping length	Min / Max	m	3 / 20	3 / 20	
Piping length without refrigerant increase	Max	m	10	10	
Additional gas		g/m	20	20	
Operating range	Cooling Min / Max	°C	16 / 43	16 / 43	
	Heating Min / Max	°C	-5 / 24	-5 / 24	

Specifications subject to change without notice



INCLUDED WITH
THE INDOOR UNIT

TECHNICAL FOCUS

- A WIDTH OF ONLY 20CM FOR EASY INSTALLATION EVERYWHERE
- 2 INSTALLATIONS POSSIBLE: ON THE WALL OR ON THE ROOF
- POWERFUL LINE-UP, UP TO 5.8 kW!
- POWERFUL MODE FOR QUICK TEMPERATURE SETTING
- R410A REFRIGERANT GAS
- 20 M CONNECTION DISTANCE, 15 M HEIGHT DIFFERENCE ON THE WHOLE LINE-UP



KIT-E15-DTE // KIT-E18-DTE // KIT-E21-DTE

HEALTHY AIR

- Soft dry operation mode
- Odour-removing function
- CZ-SA14P Alleru-buster anti allergic filter (optional)
- Anti-mould filter

ENERGY EFFICIENCY AND ECOLOGY

- Inverter system
- R410A refrigerant gas

COMFORT

- Super Quiet mode
- Powerful mode
- Automatic vertical airflow control
- Hot start mode
- Automatic restart

EASE OF USE

- 24-hr timer
- User friendly infrared remote control

EASY INSTALLATION AND MAINTENANCE

- Maximum connection distance 20m
- Maintenance access through the top panel of the outdoor unit
- Self-diagnosis function

GLOBAL REMARKS	Rating conditions	Cooling	Heating
	Inside air temperature	27°C DB / 19°C WB	20°C DB
	Outside air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

DB: Dry Bulb; WB: Wet Bulb

This model is not suitable to use in heating mode below -5°C with continuous operation (24h operation).

Connectivity restriction: JKE units are not compatible with MKE units.

1) EER and COP classification is at 230 V in accordance with EU directive 2002/31/EC.

2) The annual consumption is calculated by multiplying the input power at 230 V by an average of 500 hours per year in cooling mode.

3) The sound pressure level of the units shows the value measured at a position 1 meter in front of the main body floor-mounted: 1 m in front of the unit at 1 m height from the floor; ceiling-mounted: 1 m in front and 80 cm below the unit. The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification.

4) Add 70 mm for piping port.

5) When installing the outdoor unit at a higher position than the indoor unit.



CU-E15DBE CU-E21DBE
CU-E18DBE



ETHEREA MULTI SPLIT 2X1 // INVERTER+

WITH THE MULTI SYSTEM, SAVE MORE THAN WITH THE 1X1!

ECONAVI's sensor technology uses factors such as speed, frequency and temperature to determine the human activity level in the room for maximum comfort and maximum savings. With ECONAVI, you can save up to 30%. Cool and stylish, the distinctive, beautiful rounded form is designed to complement today's modern interiors. Etherea has an advanced air purifying system with the new Patrol Sensor to detect and eliminate contaminants. Using a Multi Split 2X1 Inverter+ system with the outdoor unit CU-2E15LBE instead of 2 individual mono split Inverter+ systems, you reduce consumption and thus save more! Up to 10%! Furthermore, using a Multi Split system, you save space on the outdoor unit, making it easier to install in small spaces. The multi system also has a greater difference in elevation and longer tubing, leading to greater flexibility on roof installations.



SILVER KIT		KIT-2XE77-MBE	KIT-2XE79-MBE	KIT-2XE712-MBE	KIT-2XE99-MBE
Indoor		CS-XE7MKEW	CS-XE7MKEW	CS-XE7MKEW	CS-XE9MKEW
		CS-XE7MKEW	CS-XE9MKEW	CS-XE12MKEW	CS-XE9MKEW
WHITE KIT		KIT-2E77-MBE	KIT-2E79-MBE	KIT-2E712-MBE	KIT-2E99-MBE
Indoor		CS-E7MKEW	CS-E7MKEW	CS-E7MKEW	CS-E9MKEW
		CS-E7MKEW	CS-E9MKEW	CS-E12MKEW	CS-E9MKEW
Outdoor		CU-2E15LBE	CU-2E15LBE	CU-2E15LBE	CU-2E15LBE
Cooling capacity	Nominal (Min - Max)	kW	4,00 (1,50 - 5,00)	4,50 (1,50 - 5,20)	4,50 (1,50 - 5,20)
	Nominal (Min - Max)	kCal/h	3.440 (1.290 - 4.300)	3.870 (1.290 - 4.470)	3.870 (1.290 - 4.470)
EER ¹⁾	Nominal (Min - Max)	Energy Saving	3,66 (6,00 - 3,70) A	3,66 (6,00 - 3,70) A	3,66 (6,00 - 3,42) A
Power input Cooling	Nominal (Min - Max)	kW	1,09 (0,25 - 1,35)	1,23 (0,25 - 1,52)	1,23 (0,25 - 1,53)
Heating capacity	Nominal (Min - Max)	kW	5,40 (1,10 - 7,00)	5,40 (1,10 - 7,00)	5,40 (1,10 - 7,0)
	Nominal (Min - Max)	kCal/h	4.640 (950 - 6.020)	4.640 (950 - 6.020)	4.640 (950 - 6.020)
COP ¹⁾	Nominal (Min - Max)	Energy Saving	4,62 (5,24 - 4,19) A	4,62 (5,24 - 4,19) A	4,62 (4,61 - 4,19) A
Power input Heating	Nominal (Min - Max)	kW	1,17 (0,21 - 1,67)	1,17 (0,21 - 1,67)	1,17 (0,21 - 1,67)
Annual Energy Consumption ²⁾		kWh	545	615	615
INDOOR UNIT					
Air Volume	Cooling	m ³ /h	606	606 (E7) / 606 (E9)	606 (E7) / 654 (E12)
Moisture removal volume		l/h	1,3 / 1,3	1,3 (E7) / 1,5 (E12)	1,1 (E7) / 1,6 (E12)
Sound pressure Level ³⁾	Cooling and Heating (S-Lo)	dB(A)	26	26	26 (E7) / 29 (E12)
Sound power Level	Cooling and Heating (Hi)	dB	56	56	56 (E7) / 60 (E12)
Dimensions	H x W x D	mm	290 x 870 x 204	290 x 870 x 204	290 x 870 x 204
Net weight		kg	9	9	9
Air purifier filter			Patrol + E-ion	Patrol + E-ion	Patrol + E-ion
OUTDOOR UNIT					
Power source		V	230	230	230
Connection		mm ²	4 x 1,5	4 x 1,5	4 x 1,5
Current	Cooling / Heating Nominal	A	5,10 / 5,20	5,75 / 5,20	5,75 / 5,20
Air Volume	Cooling / Heating	m ³ /h	1.998 / 1.710	1.998 / 1.710	1.998 / 1.710
Sound pressure Level ³⁾	Cooling / Heating (Hi)	dB(A)	47 / 49	47 / 49	47 / 49
Sound power Level	Cooling / Heating (Hi)	dB	62 / 64	62 / 64	62 / 64
Dimensions ⁴⁾	H x W x D	mm	540 x 780 (+70) x 289	540 x 780 (+70) x 289	540 x 780 (+70) x 289
Net weight		kg	38	38	38
Piping connections	Liquid pipe	inch (mm)	1/4" (6,35)	1/4" (6,35)	1/4" (6,35)
	Gas pipe	inch (mm)	3/8" (9,52)	3/8" (9,52)	3/8" (9,52)
Refrigerant Loading	R410A	kg	1,45	1,45	1,45
Elevation difference (in/out) ⁵⁾	Max	m	10	10	10
Piping length (total)	Min / Max	m	3 / 30	3 / 30	3 / 30
Piping length (one unit)	Min / Max	m	3 / 20	3 / 20	3 / 20
Piping length without refrigerant increase	Max	m	20	20	20
Additional gas		g/m	20	20	20
Operating range	Cooling Min / Max	°C	16 / 43	16 / 43	16 / 43
	Heating Min / Max	°C	-10 / 24	-10 / 24	-10 / 24

Specifications subject to change without notice



NEW

2011

~~ETHEREA~~

CS-XE7MKEW // CS-XE9MKEW // CS-XE12MKEW

INCLUDED WITH
THE INDOOR UNIT

GLOBAL REMARKS	Rating conditions	Cooling	Heating
	Inside air temperature	27°C DB / 19°C WB	20°C DB
	Outside air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

DB: Dry Bulb; WB: Wet Bulb

This model is not suitable to use in heating mode below -5°C with continuous operation (24h operation).
 Connectivity restriction : CS-E/XE_MKE units are only compatible with CU-2E15LBE, CU-2E18LBE, CU-3E18LBE, CU-4E23LBE and CU-4E27CBPG outdoor units. No other outdoor unit can be connected.

1) EER and COP classification is at 230 V in accordance with EU directive 2002/31/EC.

2) The annual consumption is calculated by multiplying the input power at 230 V by an average of 500 hours per year in cooling mode.

3) The Sound pressure level of the units shows the value measured of a position 1 meter in front of the main body and 0,8 meters below the unit. The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification.

4) Add 70 mm for piping port.

5) When installing the outdoor unit at a higher position than the indoor unit.

KIT-2XE77-MBE // KIT-2XE79-MBE // KIT-2XE712-MBE // KIT-2XE99-MBE // KIT-2E77-MBE // KIT-2E79-MBE // KIT-2E712-MBE // KIT-2E99-MBE

HEALTHY AIR

- E-ion plus air purifying system
- Patrol sensor to detect and eliminate contaminants
- Air conditioner and purifier with simultaneous or independent operation

ENERGY EFFICIENCY AND ECOLOGY

- Maximum efficiency Inverter system, for bigger savings
- **NEW!**-30% consumption with ECONAVI on heat pump (-20% on cooling mode)
- R410A refrigerant gas

COMFORT

- Powerful mode
- Uniform dispersion of airflow
- Automatic vertical airflow control
- Hot start mode, increased comfort on heat pump mode, no cool airflow when process starts
- Automatic restart after power cut

EASE OF USE

- Real time clock with dual ON&OFF timer
- User friendly infrared remote control
- **NEW!** Optional wired weekly timer with 6 settings per day and 42 settings per week
- **NEW!** Connectivity function (indoor unit equipped with PCB port which can be connected to outside network)

EASY INSTALLATION AND MAINTENANCE

- Removable, washable panel
- 30 m maximum connection distance
- 10 m maximum elevation difference
- Maintenance access through the top panel of the outdoor unit
- Self-diagnosis function



CU-2E15LBE



ETHEREA MULTI SPLIT 2X1 // INVERTER+

ETHEREA, A NEW CONCEPT IN AIR CONDITIONERS: AIR PURIFYING SYSTEM, STYLISH DESIGN AND HIGH EFFICIENCY. With the multi system, save more than with the 1x1!

ECONAVI's sensor technology uses factors such as speed, frequency and temperature to determine the human activity level in the room for maximum comfort and maximum savings. With ECONAVI, you can save up to 30%. Cool and stylish, the distinctive, beautiful rounded form is designed to complement today's modern interiors. Etherea has an advanced air purifying system with the new Patrol Sensor to detect and eliminate contaminants.

Using a Multi Split 2x1 Inverter+ system with the outdoor unit CU-2E18LBE instead of 2 individual mono split Inverter+ systems, you reduce consumption and thus save more! Up to 16%! Furthermore, using a Multi Split system, you save space on the outdoor unit, making it easier to install in small spaces.

The multi system also has a greater difference in elevation and longer tubing, leading to greater flexibility on roof installations.



SILVER KIT		KIT-2XE99-MKE	KIT-2XE912-MKE	KIT-2XE1212-MKE
Indoor		CS-XE9MKEW	CS-XE9MKEW	CS-XE12MKEW
		CS-XE9MKEW	CS-XE12MKEW	CS-XE12MKEW
WHITE KIT		KIT-2E99-MKE	KIT-2E912-MKE	KIT-2E1212-MKE
Indoor		CS-E9MKEW	CS-E9MKEW	CS-E12MKEW
		CS-E9MKEW	CS-E12MKEW	CS-E12MKEW
Outdoor		CU-2E18LBE	CU-2E18LBE	CU-2E18LBE
Cooling capacity	Nominal (Min - Max)	kW	4,80 (1,50 - 5,20)	5,00 (1,50 - 5,30)
		kCal/h	4.130 (1,290 - 4.470)	4.300 (1,290 - 4.560)
EER ¹⁾	Nominal (Min - Max)	Energy Saving	3,66 (6,00 - 3,42) A	3,36 (6,00 - 3,44) A
Power input Cooling	Nominal (Min - Max)	kW	1,31 (0,25 - 1,52)	1,49 (0,25 - 1,54)
Heating capacity	Nominal (Min - Max)	kW	5,60 (1,10 - 7,20)	5,60 (1,10 - 7,20)
		kCal/h	4.820 (950 - 6.190)	4.820 (950 - 6.190)
COP ¹⁾	Nominal (Min - Max)	Energy Saving	4,48 (5,24 - 4,14) A	4,55 (5,24 - 4,19) A
Power input Heating	Nominal (Min - Max)	kW	1,25 (0,21 - 1,74)	1,23 (0,21 - 1,72)
Annual Energy Consumption ²⁾		kWh	655	745
INDOOR UNIT				
Air Volume	Cooling	m ³ /h	606	606 (E9) / 654 (E12)
Moisture removal volume		l/h	1,5 / 1,5	1,4 (E9) / 1,6 (E12)
Sound pressure level ³⁾	Cooling and Heating (S-Lo)	dB(A)	26	26 (E9) / 29 (E12)
Sound power level	Cooling and Heating (Hi)	dB	56	56 (E9) / 60 (E12)
Dimensions	H x W x D	mm	290 x 870 x 204	290 x 870 x 204
Net weight		kg	9	9
Air purifier filter			Patrol + E-ion	Patrol + E-ion
OUTDOOR UNIT				
Power source		V	230	230
Connection		mm ²	4 x 1,5	4 x 1,5
Current	Cooling / Heating (Nominal)	A	6,10 / 5,55	6,95 / 5,45
Air Volume	Cooling / Heating	m ³ /h	2.070 / 1.860	2.070 / 1.860
Sound pressure level ³⁾	Cooling / Heating (Hi)	dB(A)	49 / 51	49 / 51
Sound power level	Cooling / Heating (Hi)	dB	64 / 66	64 / 66
Dimensions ⁴⁾	H x W x D	mm	540 x 780 (+70) x 289	540 x 780 (+70) x 289
Net weight		kg	38	38
Piping connections	Liquid pipe	inch (mm)	1/4" (6,35)	1/4" (6,35)
	Gas pipe	inch (mm)	3/8" (9,52)	3/8" (9,52)
Refrigerant Loading	R410A	kg	1,45	1,45
Elevation difference (in/out) ⁵⁾	Max	m	10	10
Piping length	Total	m	30	30
Piping length (one unit)	Min / Max	m	3 / 20	3 / 20
Piping length without refrigerant increase	Max	m	20	20
Additional gas		g/m	20	20
Operating range	Cooling Min / Max	°C	16 / 43	16 / 43
	Heating Min / Max	°C	-10 / 24	-10 / 24

Specifications subject to change without notice

NEW

2011

~~ETHEREA~~

CS-XE7MKEW // CS-XE9MKEW // CS-XE12MKEW

INCLUDED WITH
THE INDOOR UNIT

GLOBAL REMARKS	Rating conditions	Cooling	Heating
	Inside air temperature	27°C DB / 19°C WB	20°C DB
	Outside air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

DB: Dry Bulb; WB: Wet Bulb

This model is not suitable to use in heating mode below -5°C with continuous operation (24h operation).
Connectivity restriction : CS-EXE_MKE units are only compatible with CU-2E15LBE, CU-2E18LBE, CU-3E18LBE, CU-4E23LBE and CU-4E27CBPG outdoor units. No other outdoor unit can be connected.

1) EER and COP classification is at 230 V in accordance with EU directive 2002/31/EC.

2) The annual consumption is calculated by multiplying the input power at 230 V by an average of 500 hours per year in cooling mode.

3) The sound pressure level of the units shows the value measured at a position 1 meter in front of the main body and 0,8 meters below the unit. The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification.

4) Add 70 mm for piping port.

5) When installing the outdoor unit at a higher position than the indoor unit.

KIT-2XE99-MKE // KIT-2XE912-MKE // KIT-2XE1212-MKE KIT-2E99-MKE // KIT-2E912-MKE // KIT-2E1212-MKE

HEALTHY AIR

- NEW! E-ion plus air purifying system
- Patrol sensor to detect and eliminate contaminants
- Air conditioner and purifier with simultaneous or independent operation

ENERGY EFFICIENCY AND ECOLOGY

- Maximum efficiency Inverter system, for bigger savings
- NEW!-30% consumption with ECONAVI on heat pump (-20% on cooling mode)
- R410A refrigerant gas

COMFORT

- Powerful mode
- Uniform dispersion of airflow
- Automatic vertical airflow control
- Hot start mode, increased comfort on heat pump mode, no cool airflow when process starts
- Automatic restart after power cut

EASE OF USE

- Real time clock with dual ON&OFF timer
- User friendly infrared remote control
- NEW! Optional wired weekly timer with 6 settings per day and 42 settings per week
- NEW! Connectivity function (indoor unit equipped with PCB port which can be connected to outside network)

EASY INSTALLATION AND MAINTENANCE

- Removable, washable panel
- 30 m maximum connection distance
- 10 m maximum elevation difference
- Maintenance access through the top panel of the outdoor unit
- Self-diagnosis function



CU-2E18LBE



ETHEREA MULTI SPLIT 3X1 // INVERTER+

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ECONAVI's sensor technology uses factors such as speed, frequency and temperature to determine the human activity level in the room for maximum comfort and maximum savings. With ECONAVI, you can save up to 30%.

Cool and stylish, the distinctive, beautiful rounded form is designed to complement today's modern interiors.

Etherea has an advanced air purifying system with the new Patrol Sensor to detect and eliminate contaminants. Using a Multi Split 3X1 Inverter+ system with the outdoor unit CU-3E18LBE instead of 3 individual mono split Inverter+ systems, you reduce consumption and thus save more! Up to 34%! Furthermore, using a Multi Split system, you save space on the outdoor unit, making it easier to install in small spaces.

The multi system also has a greater difference in elevation and longer tubing, leading to greater flexibility on roof installations.



SILVER KIT		KIT-3XE7712-MBE		KIT-3XE7715-MBE
Indoor		CS-XE7MKEW (x2)	CS-XE7MKEW (x2)	
		CS-XE12MKEW (x1)	CS-XE15MKEW (x1)	
WHITE KIT		KIT-3E7712-MBE		KIT-3E7715-MBE
Indoor		CS-E7MKEW (x2)	CS-E7MKEW (x2)	
		CS-E12MKEW (x1)	CS-E15MKEW (x1)	
Outdoor		CU-3E18LBE		CU-3E18LBE
Cooling capacity	Nominal (Min - Max)	kW	5,20 (1,90-7,20)	5,20 (1,80-7,30)
	Nominal (Min - Max)	kCal/h	4.470 (1.630-6.190)	4.470 (1.550-6.280)
EER ¹⁾	Nominal (Min - Max)	Energy Saving	4,30 (5,28 - 3,30) ▲	4,30 (5,00 - 3,35) ▲
Power input Cooling	Nominal (Min - Max)	kW	1,21 (0,36-2,18)	1,21 (0,36-2,18)
Heating capacity	Nominal (Min - Max)	kW	6,80 (1,40-8,30)	6,80 (1,60-8,30)
	Nominal (Min - Max)	kCal/h	5.850 (1.200-7.140)	5.850 (1.380-7.140)
COP ¹⁾	Nominal (Min - Max)	Energy Saving	4,63 (4,38 - 3,94) ▲	4,72 (5,00 - 3,93) ▲
Power input Heating	Nominal (Min - Max)	kW	1,47 (0,32-2,11)	1,44 (0,32-2,11)
Annual Energy Consumption ²⁾		kWh	745	720
INDOOR UNIT				
Air Volume	Cooling	m ³ /h	606 (E7) / 654 (E12)	606 (E7) / 672 (E15)
Moisture removal volume		l/h	1,3 (E7) / 1,8 (E12)	0,8 (E7) / 1,6 (E15)
Sound pressure Level ³⁾	Cooling (S-Lo)	dB(A)	26 (E7) / 29 (E12)	26 (E7) / 29 (E15)
	Heating (S-Lo)	dB(A)	26 (E7) / 29 (E12)	26 (E7) / 30 (E15)
Sound power Level	Cooling and Heating (Hi)	dB	56 (E7) / 60 (E12)	56 (E7) / 60 (E15)
Dimensions	H x W x D	mm	290 x 870 x 204	290 x 870 x 204
Net weight		kg	9	9
Air purifier filter			Patrol + E-ion	Patrol + E-ion
OUTDOOR UNIT				
Power source		V	230	230
Connection		mm ²	4 x 1,5	4 x 1,5
Current	Cooling / Heating Nominal	A	5,3 / 8,2	5,3 / 7,9
Air Volume	Cooling / Heating	m ³ /h	2.502	2.502
Sound pressure Level ³⁾	Cooling / Heating (Hi)	dB(A)	46 / 47	46 / 47
Sound power Level	Cooling / Heating (Hi)	dB	60 / 61	60 / 61
Dimensions ⁴⁾	H x W x D	mm	795 x 875 (+95) x 320	795 x 875 (+95) x 320
Net weight		kg	71	71
Piping connections	Liquid pipe	inch (mm)	1/4" (6,35)	1/4" (6,35)
	Gas pipe	inch (mm)	3/8" (9,52)	3/8" (9,52)
Refrigerant Loading	R410A	kg	2,64	2,64
Elevation difference (in/out) ⁵⁾	Max	m	15	15
Piping length (total)	Min / Max	m	3 / 50	3 / 50
Piping length (one unit)	Min / Max	m	3 / 25	3 / 25
Piping length without refrigerant increase	Max	m	30	30
Additional gas		g/m	20	20
Operating range	Cooling Min / Max	°C	-10 / 46	-10 / 46
	Heating Min / Max	°C	-15 / 24	-15 / 24

Specifications subject to change without notice



NEW

2011



CS-XE7MKEW // CS-XE9MKEW // CS-XE12MKEW // CS-XE15MKEW

INCLUDED WITH
THE INDOOR UNIT

TECHNICAL FOCUS

- **NEW!** MAXIMUM EFFICIENCY AND COMFORT WITH ECONAVI
- VERY EXCLUSIVE SILVER DESIGN
- NEW GENERATION OF E-ION AIR PURIFYING SYSTEM WITH 24-HR PATROL SENSOR
- MORE POWERFUL AIRFLOW TO QUICKLY REACH THE DESIRED TEMPERATURE



KIT-3XE7712-MBE // KIT-3XE7715-MBE

KIT-3E7712-MBE // KIT-3E7715-MBE

HEALTHY AIR

- E-ion plus air purifying system
- Patrol sensor to detect and eliminate contaminants
- Air conditioner and purifier with simultaneous or independent operation

ENERGY EFFICIENCY AND ECOLOGY

- Maximum efficiency Inverter system, for bigger savings
- **NEW!**-30% consumption with ECONAVI on heat pump (-20% on cooling mode)
- R410A refrigerant gas

COMFORT

- Powerful mode
- Uniform dispersion of airflow
- Automatic vertical airflow control
- Hot start mode, increased comfort on heat pump mode, no cool airflow when process starts
- Automatic restart after power cut

EASE OF USE

- Real time clock with dual ON&OFF timer
- User friendly infrared remote control
- **NEW!** Optional wired weekly timer with 6 settings per day and 42 settings per week
- **NEW!** Connectivity function (indoor unit equipped with PCB port which can be connected to outside network)

EASY INSTALLATION AND MAINTENANCE

- Removable, washable panel
- 50 m maximum connection distance
- 15 m maximum elevation difference
- Maintenance access through the top panel of the outdoor unit
- Self-diagnosis function



CU-3E18LBE

GLOBAL REMARKS	Rating conditions	Cooling	Heating
	Inside air temperature	27°C DB / 19°C WB	20°C DB
	Outside air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

DB: Dry Bulb; WB: Wet Bulb

This model is not suitable to use in heating mode below -5°C with continuous operation (24h operation).
 Connectivity restriction : CS-E/XE_MKE units are only compatible with CU-2E15LBE, CU-2E18LBE, CU-3E18LBE, CU-4E23LBE and CU-4E27CBPG outdoor units. No other outdoor unit can be connected.

1) EER and COP classification is at 230 V in accordance with EU directive 2002/31/EC.

2) The annual consumption is calculated by multiplying the input power at 230 V by an average of 500 hours per year in cooling mode.

3) The Sound pressure level of the units shows the value measured at a position 1 meter in front of the main body and 0,8 meters below the unit. The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification.

4) Add 95 mm for piping port.

5) When installing the outdoor unit at a higher position than the indoor unit.



ETHEREA MULTI SPLIT 4X1 // INVERTER+

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Using a Multi Split 4X1 Inverter+ system with the outdoor unit CU-4E23LBE instead of 4 individual mono split Inverter+ systems, you reduce consumption and thus save more! Up to 36%! Furthermore, using a Multi Split system, you save space on the outdoor unit, making it easier to install in small spaces.

The multi system also has a greater difference in elevation and longer tubing, leading to greater flexibility on roof installations.



SILVER KIT		KIT-4XE77712-MBE	KIT-4XE77715-MBE	KIT-4XE77712-MKE	KIT-4XE77715-MKE
Indoor		CS-XE7MKEW (x3)	CS-XE7MKEW (x3)	CS-XE7MKEW (x3)	CS-XE7MKEW (x3)
		CS-XE12MKEW (x1)	CS-XE15MKEW (x1)	CS-XE12MKEW (x1)	CS-XE15MKEW (x1)
WHITE KIT		KIT-4E77712-MBE	KIT-4E77715-MBE	KIT-4E77712-MKE	KIT-4E77715-MKE
Indoor		CS-E7MKEW (x3)	CS-E7MKEW (x3)	CS-E7MKEW (x3)	CS-E7MKEW (x3)
		CS-E12MKEW (x1)	CS-E15MKEW (x1)	CS-E12MKEW (x1)	CS-E15MKEW (x1)
Outdoor		CU-4E23LBE	CU-4E23LBE	CU-4E27CBPG	CU-4E27CBPG
Cooling capacity	Nominal (Min - Max)	kW kCal/h	6,80 (1,90 - 8,80) 5,850 (1,630 - 7,570)	6,80 (1,90 - 8,80) 5,850 (1,630 - 7,650)	8,00 (2,80 - 8,90) 6,880 (2,410 - 7,650)
EER ¹⁾	Nominal (Min - Max)	Energy Saving	4,12 [5,59 - 3,56] A	4,12 [5,59 - 3,56] A	3,76 [5,71 - 3,09] A
Power input Cooling	Nominal (Min - Max)	kW	1,65 (0,34 - 2,47)	1,65 (0,34 - 2,47)	2,13 (0,49 - 2,88)
Heating capacity	Nominal (Min - Max)	kW kCal/h	8,60 (3,00 - 10,60) 7,400 (2,580 - 9,120)	8,60 (3,00 - 10,60) 7,400 (2,580 - 9,120)	9,40 (3,40 - 10,50) 8,080 (2,920 - 9,030)
COP ¹⁾	Nominal (Min - Max)	Energy Saving	4,65 [5,17 - 4,08] A	4,67 [5,09 - 4,09] A	4,43 [5,76 - 3,30] A
Power input Heating	Nominal (Min - Max)	kW	1,85 (0,58 - 2,60)	1,84 (0,59 - 2,59)	2,12 (0,59 - 3,18)
Annual Energy Consumption ²⁾		kWh	825	825	1,065
INDOOR UNIT					
Air Volume	Cooling	m ³ /h	606 (E7) / 654 (E12)	606 (E7) / 672 (E15)	654 (E7) / 750 (E12)
Moisture removal volume		l/h	0,9 (E7) / 1,5 (E12)	0,9 (E7) / 1,6 (E15)	1,1 (E7) / 1,6 (E12)
Sound pressure level ³⁾	Cooling (S-Lo) Heating (S-Lo)	dB(A)	26 (E7) / 29 (E12)	26 (E7) / 29 (E15)	26 (E7) / 29 (E12)
Sound power level	Cooling and Heating (Hi)	dB	56 (E7) / 60 (E12)	56 (E7) / 60 (E15)	56 (E7) / 60 (E12)
Dimensions	H x W x D	mm	290 x 870 x 204	290 x 870 x 204	290 x 870 x 204
Net weight		kg	9	9	9
Air purifier filter			Patrol + E-ion	Patrol + E-ion	Patrol + E-ion
OUTDOOR UNIT					
Power source		V	230	230	230
Connection		mm ²	4 x 1,5	4 x 1,5	4 x 1,5
Current	Cooling / Heating (Nominal)	A	7,40 / 8,60	7,40 / 8,50	9,40 / 9,30
Air Volume	Cooling / Heating	m ³ /h	2.550	2.550	2.910
Sound pressure level ³⁾	Cooling / Heating (Hi)	dB(A)	48 / 49	48 / 49	48 / 49
Sound power level	Cooling / Heating (Hi)	dB	62 / 63	62 / 63	61 / 62
Dimensions ⁴⁾	H x W x D	mm	795 x 875 (+95) x 320	795 x 875 (+95) x 320	908 x 900 x 320
Net weight		kg	72	72	73
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)
Refrigerant Loading	R410A	kg	2,64	2,64	3,10
Elevation difference (in/out) ⁵⁾	Max	m	15	15	15
Piping length	Total	m	60	60	70
Piping length (one unit)	Min / Max	m	3 / 25	3 / 25	3 / 25
Piping length without refrigerant increase	Max	m	30	30	40
Additional gas		g/m	20	20	20
Operating range	Cooling Min / Max Heating Min / Max	°C	-10 / 46 -15 / 24	-10 / 46 -15 / 24	16 / 43 -20 / 24

Specifications subject to change without notice



NEW

2011

~~ETHEREA~~

CS-XE7MKEW // CS-XE9MKEW // CS-XE12MKEW // CS-XE15MKEW

INCLUDED WITH
THE INDOOR UNIT**TECHNICAL FOCUS**

- NEW!** MAXIMUM EFFICIENCY AND COMFORT WITH ECONAVI
- VERY EXCLUSIVE SILVER DESIGN
- NEW GENERATION OF E-ION AIR PURIFYING SYSTEM WITH 24-HR PATROL SENSOR
- MORE POWERFUL AIRFLOW TO QUICKLY REACH THE DESIRED TEMPERATURE

**KIT-4XE77712-MBE // KIT-4XE77715-MBE //****KIT-4XE77712-MKE // KIT-4XE77715-MKE****KIT-4E77712-MBE // KIT-4E77715-MBE //****KIT-4E77712-MKE // KIT-4E77715-MKE****HEALTHY AIR**

- E-ion plus air purifying system
- Patrol sensor to detect and eliminate contaminants
- Air conditioner and purifier with simultaneous or independent operation

ENERGY EFFICIENCY AND ECOLOGY

- Maximum efficiency Inverter system, for bigger savings
- NEW!**-30% consumption with ECONAVI on heat pump (-20% on cooling mode)
- R410A refrigerant gas

COMFORT

- Powerful mode
- Uniform dispersion of airflow
- Automatic vertical airflow control
- Hot start mode, increased comfort on heat pump mode, no cool airflow when process starts
- Automatic restart after power cut

EASE OF USE

- Real time clock with dual ON&OFF timer
- User friendly infrared remote control
- NEW!** Optional wired weekly timer with 6 settings per day and 42 settings per week
- NEW!** Connectivity function (indoor unit equipped with PCB port which can be connected to outside network)

EASY INSTALLATION AND MAINTENANCE

- Removable, washable panel
- 70 m maximum connection distance (For CU-4E27CBPG)
- 15 m maximum elevation difference
- Maintenance access through the top panel of the outdoor unit
- Self-diagnosis function



CU-4E23LBFE



CU-4E27CBPG

GLOBAL REMARKS	Rating conditions	Cooling	Heating
Inside air temperature		27°C DB / 19°C WB	20°C DB
Outside air temperature		35°C DB / 24°C WB	7°C DB / 6°C WB

DB: Dry Bulb; WB: Wet Bulb

This model is not suitable to use in heating mode below -5°C with continuous operation (24h operation).
 Connectivity restriction : CS-E/XE_MKE units are only compatible with CU-2E15LBE, CU-2E18LBE, CU-3E18LBE, CU-4E23LBE and CU-4E27CBPG outdoor units. No other outdoor unit can be connected.

1) EER and COP classification is at 230 V in accordance with EU directive 2002/31/EC.

2) The annual consumption is calculated by multiplying the input power at 230 V by an average of 500 hours per year in cooling mode.

3) The Sound pressure level of the units shows the value measured of a position 1 meter in front of the main body and 0,8 meters below the unit. The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification.

4) Add 70 mm for piping port.

5) When installing the outdoor unit at a higher position than the indoor unit.



FREE MULTI

UP TO 4 INDOOR UNITS WITH A SINGLE OUTDOOR UNIT

Up to four different rooms with a single outdoor unit. Free Multi is what we need.

With Free Multi you can take care of 2, 3 or 4 rooms with a single outdoor unit.

With the Free Multi range, your clients will be able to save space at the time of installing the outdoor unit, and they will have more energy efficiency than with various 1x1 systems. They will be able to save up to 30% of energy.

Choose the outdoor units according to the necessities of each of your client's rooms, and calculate which outdoor unit best adapts itself to the combinations of indoor combinations.

The combination table will help you to select the best option.

INDOOR UNIT CAPACITIES							
CAPACITY	7 - 2.0 kW	9/10 - 2.5 kW	9/10 - 2.8 kW	12 - 3.2 kW	15 - 4 kW	18 - 5 kW	21 - 6 kW
SPLIT							
ETHEREA SILVER OR WHITE INVERTER+							
	CS-XE7MKEW CS-E7MKEW	CS-XE9MKEW CS-E9MKEW		CS-XE12MKEW CS-E12MKEW	CS-XE15MKEW ¹⁾ CS-E15MKEW ¹⁾	CS-XE18MKEW ¹⁾ CS-E18MKEW ¹⁾	CS-XE21MKEW ¹⁾ CS-E21MKEW ¹⁾
1-WAY CASSETTE INVERTER							
	CS-ME7KB1E		CS-ME10EBE1E	CS-ME12EBE1E	CS-ME14EB1E		
LOW STATIC PRESSURE HIDE AWAY INVERTER+							
		CS-E10KD3EA			CS-E15JD3EA ¹⁾	CS-E18JD3EA ¹⁾	
FLOOR CONSOLE INVERTER+							
			CS-E9GFEW	CS-E12GFEW		CS-E18GFEW ¹⁾	
FLOOR/CEILING CONSOLE INVERTER+							
			CS-ME10DTEG		CS-E15DTEW ¹⁾	CS-E18DTEW ¹⁾	
4 WAY 60X60 CASSETTE INVERTER+							
		CS-E10KB4EA			CS-E15HB4EA ¹⁾	CS-E18HB4EA ¹⁾	CS-E21JB4EA ¹⁾

1) A CZ-MA1P pipe reducer is needed on the E15 and E18, a CZ-MA2P pipe expander is needed on the E21.


POSSIBLE INDOOR UNIT COMBINATIONS

Models	Possible indoor unit combinations	Capacity kW ¹⁾	Refrigerant pipe diameter									Indoor/outdoor unit combinations					
			Indoor unit	Liquid	Gas	Maximum pipe length (1 room)	Maximum pipe length (total)	Max pipe without additional gas refills	Additional gas	Maximum level difference	Capacity	Wall-mounted	Floor console	4-way Cassette	1-way Cassette	Floor / ceiling	Ducts
2 Rooms	CU-2E15LBE 	4,0-5,6	Room A Room B	1/4"	3/8"	20 m	30 m	20 m	20 g/m	10 m	7	X					
				1/4"	3/8"						9/10	X	X	X			X
											12	X	X				
	CU-2E18LBE 	4,0-6,4	Room A Room B	1/4"	3/8"	20 m	30 m	20 m	20 g/m	10 m	7	X					
				1/4"	3/8"						9/10	X	X	X		X	X
											12	X	X				
3 Rooms	CU-3E18LBE 	4,5-9,0	Room A Room B Room C	1/4"	3/8"	25 m	50 m	30 m	20 g/m	15 m	7	X				X	
				1/4"	3/8"						9/10	X	X	X	X	X	X
				1/4"	3/8"						12	X	X				
											14/15	X		X	X	X	X
											18	X	X			X	X
4 Rooms	CU-4E23LBE 	4,5-11,0	Room A Room B Room C Room D	1/4"	3/8"	25 m	60 m	30 m	20 g/m	15 m	7	X				X	
				1/4"	3/8"						9/10	X	X	X	X	X	X
				1/4"	3/8"						12	X	X				
				1/4"	3/8"						14/15	X		X	X	X	X
											18	X	X	X		X	X
											21	X		X			
	CU-4E27CBPG 	4,5-13,6	Room A Room B Room C Room D	1/4"	3/8"	25 m	70 m	40 m	20 g/m	15 m	7	X				X	
				1/4"	3/8"						9/10	X	X	X	X	X	X
				1/4"	3/8"						12	X	X				
				1/4"	3/8"						14/15	X		X	X	X	X
											18	X	X	X	X	X	X

1) The combinations must remain within this range,

2) A minimum of two indoor units must be connected,

3) A minimum of two indoor units must be connected. minimum combination at 2x1: 7+9,

Connectivity restriction : CS-E/XE_MKE units are only compatible with CU-2E15LBE, CU-2E18LBE, CU-3E18LBE, CU-4E23LBE and CU-4E27CBPG outdoor units, No other outdoor unit can be connected,

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2011**

INDOOR UNITS FOR FREE MULTI COMBINATIONS



30% savings

improved comfort

quality air control 24 h

pure air system

perfect humidity control

silent air 20 dB

ECONAVI

AUTOCOMFORT

PATROL SENSOR

E-ION PLUS

MILD DRY

SUPER QUIET

ETHEREA // SILVER OR WHITE // INVERTER+

	2,0 kW	2,5 kW	3,2 kW	4 kW	5 kW	6 kW
Silver Indoor	CS-XE7MKEW	CS-XE9MKEW	CS-XE12MKEW	CS-XE15MKEW ¹⁾	CS-XE18MKEW ¹⁾	CS-XE21MKEW ¹⁾
White Indoor	CS-E7MKEW	CS-E9MKEW	CS-E12MKEW	CS-E15MKEW ¹⁾	CS-E18MKEW ¹⁾	CS-E21MKEW ¹⁾
Cooling capacity Nominal	kW / kCal/h	2,00 / 1.720	2,50 / 2.150	3,20 / 2.750	4,00 / 3.440	5,00 / 4.300
Heating capacity Nominal	kW / kCal/h	3,20 / 2.750	3,60 / 3.010	4,50 / 3.870	5,60 / 4.820	6,80 / 5.850
Connection	mm ²	4 x 1,5				
Sound pressure level ²⁾	Cooling (Hi / Lo / S-Lo) dB(A) Heating (Hi / Lo / S-Lo) dB(A)	40 / 26 / 23 40 / 26 / 23	40 / 26 / 23 40 / 26 / 23	44 / 32 / 26 44 / 32 / 26	44 / 32 / 26 44 / 33 / 32	46 / 33 / 30 46 / 35 / 32
Sound power level	Cooling / Heating (Hi) dB	54 / 56	56 / 56	60 / 60	60 / 60	62 / 62
Dimensions	H x W x D mm	290 x 870 x 204	290 x 870 x 204	290 x 870 x 204	290 x 1.070 x 235	290 x 1.070 x 235
Net weight	kg	9	9	9	12	12
Air purifier filter		Patrol + E-ion				
Piping connections	Liquid pipe inch (mm) 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)	1/2" (12,70)	1/2" (12,70)

**LOW STATIC PRESSURE HIDE AWAY // INVERTER+**

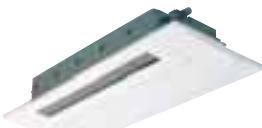
	2,5 kW	4 kW	5 kW
Indoor hide away	CS-E10KD3EA	CS-E15JD3EA ¹⁾	CS-E18JD3EA ¹⁾
Wired remote control	Include on the indoor unit	CZ-RD52CP	CZ-RD52CP
Cooling capacity Nominal	kW / kCal/h	2,50 / 2.150	4,00 / 3.440
Heating capacity Nominal	kW / kCal/h	3,60 / 3.100	5,60 / 4.820
Connection	mm ²	4 x 1,5	4 x 1,5
External static pressure	High / Low Pa (mm)	34 / 64 (3,47 / 6,53)	34 / 69 (3,47 / 7,04)
Air Volume	High / Medium / Low m ³ /h	414 / 402 / 330	474 / 402 / 330
Sound pressure level ²⁾	Cooling (Quiet / Low / High) dB(A) Heating (Quiet / Low / High) dB(A)	24 / 27 / 31 24 / 27 / 35	24 / 27 / 33 24 / 27 / 33
Sound power level	Cooling / Heating (Hi) dB	49 / 51	49 / 51
Dimensions ⁴⁾	H x W x D mm	235 x 750 (+65) x 370	235 x 750 (+65) x 370
Net weight	kg	17	18
Piping connections	Liquid pipe inch (mm) Gas pipe inch (mm)	1/4" (6,35) 3/8" (9,52)	1/4" (6,35) 1/2" (12,70)

prevention
allergy
filter

OPTIONAL ALLERGY-BUSTER

4 WAY 60X60 CASSETTE // INVERTER+

	2,5 kW	4 kW	5 kW	6 kW
Indoor	CS-E10KB4EA	CS-E15HB4EA ¹⁾	CS-E18HB4EA ¹⁾	CS-E21JB4EA ¹⁾
Panel	Sold separately	CZ-BT20E	CZ-BT20E	CZ-BT20E
Wireless control	Include on the indoor unit			
Cooling capacity Nominal	kW / kCal/h	2,50 / 2.150	4,00 / 3.440	5,00 / 4.300
Heating capacity Nominal	kW / kCal/h	3,60 / 3.100	5,60 / 4.820	6,80 / 5.850
Connection	mm ²	4 x 1,5	4 x 1,5	4 x 1,5
Sound pressure level ²⁾	Cooling (Hi / Lo / S-Lo) dB(A) Heating (Hi / Lo / S-Lo) dB(A)	34 / 26 / 23 35 / 28 / 25	34 / 26 / 23 35 / 28 / 25	36 / 28 / 25 37 / 29 / 26
Sound power level	Cooling / Heating (Hi) dB	47 / 58	47 / 48	49 / 50
Dimensions	Indoor (H x W x D) mm	260 x 575 x 575	260 x 575 x 575	260 x 575 x 575
Dimensions	Panel (H x W x D) mm	51 x 700 x 700	51 x 700 x 700	51 x 700 x 700
Net weight	Indoor (Panel) kg	18 (2,5)	18 (2,5)	18 (2,5)
Air purifier filter	Optional	CZ-SA11P	CZ-SA11P	CZ-SA11P
Piping connections	Liquid / Gas pipe inch (mm)	1/4" (6,35) / 3/8" (9,52)	1/4" (6,35) / 1/2" (12,70)	1/4" (6,35) / 1/2" (12,70)

prevention
allergy
filter

OPTIONAL ALLERGY-BUSTER

1-WAY CASSETTE // INVERTER+

	2,0 kW	2,8 kW	3,2 kW	4 kW
Indoor	CS-ME7KB1E	CS-ME10EBE1E	CS-ME12EBE1E	CS-ME14EBE1E
Panel	Sold separately	CZ-BT20P	CZ-BT20P	CZ-BT20P
Cooling capacity Nominal	kW / kCal/h	2,00 / 1.720	2,80 / 2.410	3,20 / 2.750
Heating capacity Nominal	kW / kCal/h	3,20 / 2.750	4,00 / 3.440	4,50 / 3.870
Connection	mm ²	4 x 1,5	4 x 1,5	4 x 1,5
Sound pressure level ²⁾	Cooling (Hi / Lo / S-Lo) dB(A) Heating (Hi / Lo / S-Lo) dB(A)	40 / 32 / 29 42 / 32 / 29	40 / 32 / 29 42 / 32 / 29	41 / 32 / 29 43 / 32 / 29
Sound power level	Cooling / Heating (Hi) dB	53 / 55	53 / 55	54 / 56
Dimensions	Indoor (H x W x D) mm	185 x 770 x 360	185 x 770 x 360	185 x 770 x 360
Dimensions	Panel (H x W x D) mm	55 x 1.070 x 460	55 x 1.070 x 460	55 x 1.070 x 460
Net weight	Indoor kg	9,8	9,8	9,8
Piping connections	Liquid / 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)



silent
air
SUPER QUIET

FLOOR CONSOLE // INVERTER+

Indoor		2,8 kW	3,2 kW	5 kW
Cooling capacity	Nominal	kW / kCal/h	2,80 / 2.410	3,20 / 2.750
Heating capacity	Nominal	kW / kCal/h	4,00 / 3.440	4,50 / 3.870
Connection		mm ²	4 x 1,5	4 x 1,5
Sound pressure level ²⁾	Cooling (Hi / Lo / S-Lo)	dB(A)	38 / 27 / 23	39 / 28 / 24
	Heating (Hi / Lo / S-Lo)	dB(A)	38 / 27 / 23	39 / 27 / 23
Sound power level	Cooling / Heating (Hi)	dB	54 / 54	55 / 55
Dimensions	H x W x D	mm	600 x 700 x 210	600 x 700 x 210
Net weight		kg	14	14
Piping connections	Liquid / Gas pipe	inch (mm)	1/4" (6,35) / 3/8" (9,52)	1/4" (6,35) / 1/2" (12,70)



prevention
allergy
filter
ALLERGY-BUSTER

OPTIONAL

FLOOR/CEILING CONSOLE // INVERTER+

Indoor		2,8 kW	4 kW	5 kW
Cooling capacity	Nominal	kW / kCal/h	CS-ME10DTEG	CS-E15DTEW ¹⁾
Heating capacity	Nominal	kW / kCal/h	2,80 / 2.408	4,15 / 3.570
Connection		mm ²	4 x 1,5	4 x 1,5
Sound pressure level ²⁾	Cooling (Hi / Lo / S-Lo)	dB(A)	39 / 31 / 28	45 / 37 / 34
	Heating (Hi / Lo / S-Lo)	dB(A)	40 / 31 / 28	45 / 33 / 30
Sound power level	Cooling / Heating (Hi)	dB	52 / 53	58 / 58
Dimensions	H x W x D	mm	540 x 1.028 x 200	540 x 1.028 x 200
Net weight		kg	17	17
Air purifier filter	Optional		CZ-SA14P	CZ-SA14P
Piping connections	Liquid / Gas pipe	inch (mm)	1/4" (6,35) / 3/8" (9,52)	1/4" (6,35) / 1/2" (12,70)

OUTDOOR UNITS FOR FREE MULTI COMBINATIONS



A class
energy
saving
 down to
-15°C in
heating mode
outdoor
structure

OUTDOOR UNIT //INVERTER+

Unit		4,0 to 5,6 kW	4,0 to 6,4 kW	4,5 to 9,0 kW	4,5 to 11,0 kW	4,5 to 13,6 kW
Cooling capacity	Nominal (Min - Max)	kW	CU-2E15LBE	CU-2E18LBE	CU-3E18LBE	CU-4E23LBE
	Nominal (Min - Max)	kCal/h	4,50 (1,50-5,20)	5,20 (1,50-5,40)	5,20 (1,80-7,30)	6,80 (1,90-8,80)
EER ³⁾	Nominal	Energy Saving	3,66 	3,42 	4,33 	4,05 
Power input Cooling	Nominal (Min - Max)	kW	1,23 (0,25-1,52)	1,52 (0,25-1,58)	1,21 (0,36-2,18)	1,68 (0,34-2,47)
Heating capacity	Nominal (Min - Max)	kW	5,40 (1,10-7,00)	5,60 (1,10-7,20)	6,80 (1,60-8,30)	8,60 (3,00-10,60)
	Nominal (Min - Max)	kCal/h	4,640 (950-6.020)	4,820 (950-6.190)	5,850 (1,380-7,140)	7,400 (2,580-9,120)
COP ³⁾	Nominal	Energy Saving	4,62 	4,63 	4,86 	4,65 
Power input Heating	Nominal (Min - Max)	kW	1,17 (0,21-1,67)	1,21 (0,21-1,70)	1,44 (0,32-2,11)	1,85 (0,58-2,60)
Current	Cooling / Heating Nominal	A	5,75 / 5,20	7,10 / 5,35	5,30 / 6,50	7,50 / 8,60
Power source		V	230	230	230	230
Sound pressure level ²⁾	Cooling / Heating (Hi)	dB(A)	47 / 49	49 / 51	46 / 47	48 / 49
Sound power level	Cooling / Heating (Hi)	dB	62 / 64	64 / 66	60 / 61	62 / 63
Dimensions ⁴⁾	H x W x D	mm	540 x 780 [+70] x 289	540 x 780 [+70] x 289	795 x 875 [+95] x 320	795 x 875 [+95] x 320
Net weight		kg	38	38	71	72
Piping connections	Liquid pipe	inch (mm)	1/4" (6,35)	1/4" (6,35)	1/4" (6,35)	1/4" (6,35)
	Gas pipe	inch (mm)	3/8" (9,52)	3/8" (9,52)	3/8" (9,52)	3/8" (9,52)
Refrigerant Loading	R410A	kg	1,45	1,45	2,64	2,64
Elevation difference (in/out) ⁵⁾	Max	m	10	10	15	15
Piping length total	Max	m	30	30	50	60
Piping length to one unit	Min / Max	m	3-20	3-20	3-25	3-25
Piping length without refrigerant increase	Max	m	20	20	30	30
Additional gas		g/m	20	20	20	20
Operating range ²⁾	Cooling Min / Max	°C	16 / 43	16 / 43	-10 / 46	-10 / 46
	Heating Min / Max	°C	-10 / 24	-10 / 24	-15 / 24	-15 / 24

GLOBAL REMARKS	Rating conditions	Cooling	Heating
Inside air temperature		27°C DB / 19°C WB	20°C DB
Outside air temperature		35°C DB / 24°C WB	7°C DB / 6°C WB

DB: Dry Bulb; WB: Wet Bulb
Connectivity restriction : CS-E/XE_MKE units are only compatible with CU-2E15LBE, CU-2E18LBE, CU-3E18LBE, CU-4E23LBE and CU-4E27CBPG outdoor units. No other outdoor unit can be connected.

1) A C2-MA1P pipe reducer is needed on the E15 and E18, a C2-MA2P pipe expander is needed on the E21.

2) The Sound pressure level of the units shows the value measured of a position 1 meter in front of the main body.

The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification.

3) EER and COP classification is at 230 V in accordance with EU directive 2002/31/EC.

4) Add 70 or 95 mm for piping port.

5) When installing the outdoor unit at a higher position than the indoor unit.

FREE MULTI COMBINATIONS

FREE MULTI 2X1 // OUTDOOR UNIT CU-2E15LBE															
Indoor unit capacity	Cooling Capacity (kW)			Input Power (W)	EER	A.C.E.	Current	Moisture Removal	Heating Capacity (kW)			Input Power (W)	COP	A.C.E.	Current
	Room A	Room B	Total (Min.,Max.)	Rating	W/W	kWh	230 V (A)	Volume (l/h)	Room A	Room B	Total (Min.,Max.)	Rating	W/W	kWh	230 V (A)
1 Room															
7	2,00		2,00 (1,10-2,90)	520 (220-750)	3,85 A	260	2,45	1,3	3,20		3,20 (0,70-4,80)	850 (170-1410)	3,76 A	425	3,75
9 ¹⁾	2,50		2,50 (1,10-3,50)	670 (220-1000)	3,73 A	335	3,15	1,5	3,60		3,60 (0,70-5,50)	1030 (170-1700)	3,50 B	515	4,55
10 ²⁾	2,80		2,80 (1,10-3,50)	750 (220-1000)	3,73 A	375	3,50	1,6	4,00		4,00 (0,70-5,50)	1150 (170-1700)	3,48 B	575	5,10
12	3,20		3,20 (1,10-4,00)	920 (220-1220)	3,48 A	460	4,30	1,8	4,50		4,50 (0,70-6,20)	1250 (170-1810)	3,60 B	625	5,55
2 Room															
7 + 7	2,00	2,00	4,00 (1,50-5,00)	1090 (250-1350)	3,66 A	545	5,10	1,3 + 1,3	2,70	2,70	5,40 (1,10-7,00)	1170 (210-1670)	4,62 A	585	5,20
7 + 9 ¹⁾	2,00	2,50	4,50 (1,50-5,20)	1230 (250-1520)	3,66 A	615	5,75	1,3 + 1,5	2,40	3,00	5,40 (1,10-7,00)	1170 (210-1670)	4,62 A	585	5,20
7 + 10 ²⁾	1,85	2,65	4,50 (1,50-5,20)	1230 (250-1520)	3,66 A	615	5,75	1,2 + 1,6	2,25	3,15	5,40 (1,10-7,00)	1170 (210-1670)	4,62 A	585	5,20
7 + 12	1,75	2,75	4,50 (1,50-5,20)	1230 (250-1520)	3,66 A	615	5,75	1,1 + 1,6	2,10	3,30	5,40 (1,10-7,00)	1170 (210-1670)	4,62 A	585	5,20
9 ¹⁾ + 9 ¹⁾	2,25	2,25	4,50 (1,50-5,20)	1230 (250-1520)	3,66 A	615	5,75	1,5 + 1,5	2,70	2,70	5,40 (1,10-7,00)	1170 (210-1670)	4,62 A	585	5,20
9 ¹⁾ + 10 ²⁾	2,10	2,40	4,50 (1,50-5,20)	1230 (250-1520)	3,66 A	615	5,75	1,4 + 1,5	2,55	2,85	5,40 (1,10-7,00)	1170 (210-1670)	4,62 A	585	5,20
10 ²⁾ + 10 ²⁾	2,25	2,25	4,50 (1,50-5,20)	1230 (250-1520)	3,66 A	615	5,75	1,5 + 1,5	2,70	2,70	5,40 (1,10-7,00)	1170 (210-1670)	4,62 A	585	5,20

FREE MULTI 2X1 // OUTDOOR UNIT CU-2E18LBE															
Indoor unit capacity	Cooling Capacity (kW)			Input Power (W)	EER	A.C.E.	Current	Moisture Removal	Heating Capacity (kW)			Input Power (W)	COP	A.C.E.	Current
	Room A	Room B	Total (Min.,Max.)	Rating	W/W	kWh	230 V (A)	Volume (l/h)	Room A	Room B	Total (Min.,Max.)	Rating	W/W	kWh	230 V (A)
1 Room															
7	2,00		2,00 (1,10-2,90)	520 (220-750)	3,85 A	260	2,45	1,3	3,20		3,20 (0,70-4,80)	850 (170-1410)	3,76 A	425	3,75
9 ¹⁾	2,50		2,50 (1,10-3,50)	670 (220-1000)	3,73 A	335	3,15	1,5	3,60		3,60 (0,70-5,50)	1030 (170-1700)	3,50 B	515	4,55
10 ²⁾	2,80		2,80 (1,10-3,50)	750 (220-1000)	3,73 A	375	3,50	1,6	4,00		4,00 (0,70-5,50)	1150 (170-1700)	3,48 B	575	5,10
12	3,20		3,20 (1,10-4,00)	920 (220-1220)	3,48 A	460	4,30	1,8	4,50		4,50 (0,70-6,20)	1250 (170-1810)	3,60 B	625	5,55
2 Rooms															
7 + 7	2,00	2,00	4,00 (1,50-5,00)	1090 (250-1350)	3,66 A	545	5,10	1,3 + 1,3	2,70	2,70	5,40 (1,10-7,00)	1170 (210-1670)	4,62 A	585	5,20
7 + 9 ¹⁾	2,00	2,50	4,50 (1,50-5,20)	1230 (250-1520)	3,66 A	615	5,75	1,3 + 1,5	2,40	3,00	5,40 (1,10-7,00)	1170 (210-1670)	4,62 A	585	5,20
7 + 10 ²⁾	1,85	2,65	4,50 (1,50-5,20)	1230 (250-1520)	3,66 A	615	5,75	1,2 + 1,6	2,25	3,15	5,40 (1,10-7,00)	1170 (210-1670)	4,62 A	585	5,20
7 + 12	1,85	2,95	4,50 (1,50-5,30)	1310 (250-1540)	3,66 A	655	6,10	1,2 + 1,7	2,15	3,45	5,60 (1,10-7,20)	1230 (210-1720)	4,55 A	615	5,45
9 ¹⁾ + 9 ¹⁾	2,40	2,40	4,80 (1,50-5,20)	1310 (250-1520)	3,66 A	655	6,10	1,5 + 1,5	2,80	2,80	5,60 (1,10-7,20)	1250 (210-1740)	4,68 A	625	5,55
9 ¹⁾ + 10 ²⁾	2,25	2,55	4,80 (1,50-5,20)	1310 (250-1520)	3,66 A	655	6,10	1,5 + 1,6	2,65	2,95	5,60 (1,10-7,20)	1250 (210-1740)	4,48 A	625	5,55
9 ¹⁾ + 12	2,20	2,80	5,00 (1,50-5,30)	1490 (250-1540)	3,36 A	745	6,95	1,4 + 1,6	2,45	3,15	5,60 (1,10-7,20)	1230 (210-1720)	4,55 A	615	5,45
10 ²⁾ + 10 ²⁾	2,40	2,40	4,80 (1,50-5,20)	1310 (250-1520)	3,66 A	655	6,10	1,5 + 1,5	2,80	2,80	5,60 (1,10-7,20)	1250 (210-1740)	4,68 A	625	5,55
10 ²⁾ + 12	2,35	2,65	5,00 (1,50-5,30)	1490 (250-1540)	3,36 A	745	6,95	1,5 + 1,6	2,60	3,00	5,60 (1,10-7,20)	1230 (210-1720)	4,55 A	615	5,45
12 + 12	2,60	2,60	5,20 (1,50-5,40)	1520 (250-1580)	3,42 A	760	7,10	1,6 + 1,6	2,80	2,80	5,60 (1,10-7,20)	1210 (210-1700)	4,63 A	605	5,35

FREE MULTI 3X1 // OUTDOOR UNIT CU-3E18LBE																	
Indoor unit capacity	Cooling Capacity (kW)			Input Power (W)	EER	A.C.E.	Current	Moisture Removal	Heating Capacity (kW)			Input Power (W)	COP	A.C.E.	Current		
	Room A	Room B	Room C	Total (Min.,Max.)	Rating	W/W	kWh	230 V (A)	Volume (l/h)	Room A	Room B	Room C	Total (Min.,Max.)	Rating	W/W	kWh	230 V (A)
1 Room																	
7	2,00		2,00 (1,80-2,90)	500 (340-810)	4,00 A	250	2,5	1,3	3,20		3,20 (1,20-4,10)	740 (300-1230)	4,32 A	370	3,7		
9 ¹⁾	2,50		2,50 (1,80-2,90)	630 (340-810)	4,00 A	315	3,0	1,5	3,60		3,60 (1,20-4,30)	940 (300-1230)	3,83 A	470	4,5		
10 ²⁾	2,80		2,80 (1,80-2,90)	700 (340-810)	4,00 A	350	3,3	1,6	4,00		4,00 (1,20-4,30)	1050 (300-1230)	3,81 A	525	5,0		
12	3,20		3,20 (1,80-3,80)	800 (340-1360)	4,00 A	400	3,7	1,8	4,50		4,50 (1,20-5,80)	1230 (300-2100)	3,66 A	615	5,8		
15	4,00		4,00 (1,80-4,30)	1240 (340-1980)	3,23 A	620	5,6	2,3	5,60		5,60 (1,20-6,80)	1720 (300-2930)	3,26 C	860	7,7		
18	5,00		5,00 (1,90-5,70)	1550 (340-2130)	3,23 A	775	6,8	2,7	6,80		6,80 (1,20-6,90)	2100 (300-2520)	3,24 C	1050	9,2		
2 Rooms																	
7 + 7	2,00	2,00	4,00 (1,90-6,20)	1010 (350-2100)	3,96 A	505	4,5	1,3 + 1,3	2,90	2,90	5,80 (1,40-7,00)	1450 (310-2550)	4,00 A	725	6,4		
7 + 9 ¹⁾	2,00	2,50	4,50 (1,90-6,20)	1270 (350-2100)	3,55 A	615	5,6	1,3 + 1,5	2,84	3,56	6,40 (1,40-7,00)	1720 (310-2550)	3,72 A	860	7,6		
7 + 10 ²⁾	2,00	2,80	4,80 (1,90-6,20)	1350 (350-2100)	3,55 A	675	6,0	1,3 + 1,6	2,67	3,73	6,40 (1,40-7,00)	1720 (310-2550)	3,72 A	860	7,6		
7 + 12	2,00	3,20	5,20 (1,90-6,30)	1490 (350-2110)	3,49 A	745	6,6	1,3 + 1,8	2,62	4,18	6,80 (1,40-7,30)	1840 (310-2520)	3,70 A	920	8,2		
7 + 15	1,73	3,47	5,20 (1,90-6,40)	1450 (350-2110)	3,59 A	725	6,4	1,1 + 2,0	2,27	4,53	6,80 (1,40-7,30)	1800 (310-2510)	3,78 A	900	7,9		
7 + 18	1,71	3,71	5,20 (1,90-6,80)	1290 (340-2150)	4,03 A	645	5,7	0,9 + 2,2	1,94	4,86	6,80 (1,40-8,00)	1520 (310-2200)	4,47 A	760	6,7		
9 ¹⁾ + 9 ¹⁾	2,50	2,50	5,00 (1,90-6,20)	1540 (350-2100)	3,25 A	770	6,8	1,5 + 1,5	3,40	3,40	6,80 (1,40-7,00)	1930 (310-2550)	3,52 B	965	8,5		
9 ¹⁾ + 10 ²⁾	2,45	2,75	5,20 (1,90-6,20)	1540 (350-2100)	3,38 A	770	6,8	1,5 + 1,6	3,21	3,59	6,80 (1,40-7,00)	1930 (310-2550)	3,52 B	965	8,5		
9 ¹⁾ + 12	2,28	2,92	5,20 (1,90-6,30)	1480 (350-2110)	3,51 A	740	6,5	1,5 + 1,7	2,98	3,82	6,80 (1,40-7,30)	1840 (310-2520)	3,70 A	920	8,1		
9 ¹⁾ + 15	2,00	3,20	5,20 (1,90-6,40)	1440 (350-2110)	3,61 A	720	6,4	1,3 + 1,8	2,62	4,18	6,80 (1,40-7,30)	1800 (310-2510)	3,78 A	900	8,0		
9 ¹⁾ + 18	1,73	3,47	5,20 (1,90-6,80)	1290 (340-2150)	4,03 A	645	5,7	1,1 + 2,0	2,27	4,53	6,80 (1,40-8,00)	1520 (310-2200)	4,47 A	760	6,		



FREE MULTI 4X1 // OUTDOOR UNIT CU-E23LB

Indoor unit capacity	Cooling Capacity (kW)				Input Power (W)	EER	A,C,E	Current	Moisture Removal	Heating Capacity (kW)				Input Power (W)	COP	A,C,E	Current		
	Room A	Room B	Room C	Room D						Room A	Room B	Room C	Room D						
1 Room					2.00 [1.80-2.90]	500 [340-810]	4.00 A	250	2.5	1.3	3.20				3.20 [1.20-4.10]	740 [300-1230]	4.32 A	370	3.7
9 1)	2.50				2.50 [1.80-2.90]	630 [340-810]	4.00 A	315	3.2	1.5	3.60				3.60 [1.20-4.30]	940 [300-1230]	3.83 A	470	4.7
10 2)	2.80				2.80 [1.80-2.90]	700 [340-810]	4.00 A	350	3.5	1.6	4.00				4.00 [1.20-4.30]	1050 [300-1230]	3.81 A	525	5.2
12	3.20				3.20 [1.80-3.80]	800 [340-1360]	4.00 A	400	3.9	1.8	4.50				4.50 [1.20-5.80]	1230 [300-2100]	3.66 A	615	6.0
15	4.00				4.00 [1.80-4.30]	1240 [340-1990]	3.23 A	620	5.8	2.3	5.60				5.60 [1.20-6.80]	1720 [300-2930]	3.26 C	860	8.0
18	5.00				5.00 [1.90-5.70]	1550 [340-2130]	3.23 A	775	7.2	2.7	6.80				6.80 [1.20-6.90]	2100 [300-2520]	3.24 C	1050	9.7
21	6.00				6.00 [1.90-6.20]	2030 [340-2330]	2.96 C	1015	9.2	3.3	8.50				8.50 [1.30-9.00]	2400 [620-2530]	3.54 B	1200	11.1
7 + 7	2.00	2.00			4.00 [1.90-6.40]	1010 [340-2150]	3.94 A	505	4.5	1.3 + 1.3	2.90	2.90			5.80 [2.70-9.80]	1450 [610-2800]	4.00 A	725	6.7
7 + 9 1)	2.00	2.50			4.50 [1.90-6.40]	1270 [340-2150]	3.55 A	635	5.7	1.3 + 1.5	2.71	3.39			6.10 [2.70-9.80]	1640 [610-2800]	3.72 A	820	7.6
7 + 10 2)	2.00	2.80			4.80 [1.90-6.40]	1350 [340-2150]	3.55 A	675	6.1	1.3 + 1.6	2.67	3.73			6.40 [2.70-9.80]	1720 [610-2800]	3.72 A	860	8.0
+ 12	3.20				3.20 [1.80-3.80]	800 [340-1360]	4.00 A	400	3.9	1.8	4.50				7.00 [2.70-9.90]	1840 [590-2800]	3.80 A	920	8.5
15	4.00				4.00 [1.80-4.30]	1240 [340-1990]	3.23 A	620	5.8	2.3	5.60				7.00 [2.70-9.90]	1720 [300-2930]	3.27 A	930	8.6
18	5.00				5.00 [1.90-5.70]	1550 [340-2130]	3.23 A	775	7.2	2.7	6.80				7.00 [2.70-9.90]	1860 [610-2800]	3.27 A	1050	9.7
21	6.00				6.00 [1.90-6.20]	2030 [340-2330]	2.96 C	1015	9.2	3.3	8.50				8.50 [1.30-9.00]	2400 [620-2530]	3.54 B	1200	11.1
7 + 7 + 7	2.00	2.00	2.00		6.00 [1.90-8.00]	1650 [340-2460]	3.63 A	825	7.4	1.3 + 1.3 + 1.3	2.86	2.86			8.58 [3.30-10.40]	2090 [600-2840]	4.11 A	1045	9.7
7 + 7 + 9 1)	2.00	2.00	2.50		6.50 [1.90-8.00]	1830 [340-2460]	3.56 A	915	8.2	1.3 + 1.3 + 1.5	2.65	3.30			8.60 [3.30-10.40]	2090 [600-2840]	4.11 A	1045	9.7
7 + 7 + 10 2)	2.00	2.00	2.80		6.80 [1.90-8.00]	1910 [340-2460]	3.56 A	955	8.6	1.3 + 1.3 + 1.6	2.53	3.54			8.60 [3.30-10.40]	2090 [600-2840]	4.11 A	1045	9.7
7 + 7 + 12	1.89	1.89	3.02		6.80 [1.90-8.00]	1910 [340-2460]	3.56 A	955	8.6	1.2 + 1.2 + 1.7	2.39	3.39			8.60 [3.30-10.40]	2070 [590-2820]	4.15 A	1035	9.6
7 + 7 + 15	1.70	1.70	3.40		6.80 [1.90-8.10]	1860 [340-2460]	3.66 A	930	8.3	1.1 + 1.1 + 1.9	2.15	2.15			8.60 [3.30-10.50]	2060 [590-2810]	4.17 A	1030	9.5
7 + 7 + 18	1.51	1.51	3.78		6.80 [2.00-8.50]	1730 [340-2460]	3.93 A	865	7.8	1.0 + 1.1 + 2.2	1.91	1.91			8.60 [3.30-10.60]	1930 [570-2710]	4.46 A	965	8.9
7 + 7 + 21	1.36	1.36	4.08		6.80 [2.00-8.50]	1730 [340-2460]	3.93 A	865	7.8	0.9 + 0.9 + 2.3	1.72	1.72			8.60 [3.30-10.60]	1930 [570-2710]	4.46 A	965	8.9
7 + 9 1) + 9 1)	1.94	2.43	2.43		6.80 [1.90-8.00]	1910 [340-2460]	3.56 A	955	8.6	1.3 + 1.5 + 1.5	2.46	3.07			8.60 [3.30-10.40]	2090 [600-2840]	4.11 A	1045	9.7
7 + 9 1) + 10 2)	1.86	2.33	2.61		6.80 [1.90-8.00]	1910 [340-2460]	3.56 A	955	8.6	1.2 + 1.5 + 1.6	2.35	2.95			8.60 [3.30-10.40]	2090 [600-2840]	4.11 A	1045	9.7
7 + 9 1) + 12	1.76	2.21	2.83		6.80 [1.90-8.00]	1910 [340-2460]	3.56 A	955	8.6	1.1 + 1.4 + 1.7	2.23	2.79			8.60 [3.30-10.40]	2070 [590-2820]	4.15 A	1035	9.6
7 + 9 1) + 15	1.60	2.00	3.20		6.80 [1.90-8.10]	1860 [340-2460]	3.66 A	930	8.3	1.0 + 1.3 + 1.8	2.02	2.53			8.60 [3.30-10.50]	2060 [590-2810]	4.17 A	1030	9.5
7 + 9 1) + 18	1.43	1.79	3.58		6.80 [2.00-8.50]	1730 [340-2460]	3.93 A	865	7.8	0.9 + 1.2 + 2.1	1.81	2.26			8.60 [3.30-10.60]	1930 [570-2710]	4.46 A	965	8.9
7 + 9 1) + 21	1.29	1.62	3.89		6.80 [2.00-8.50]	1730 [340-2460]	3.93 A	865	7.8	0.8 + 1.1 + 2.3	1.64	2.05			8.60 [3.30-10.60]	1930 [570-2710]	4.46 A	965	8.9
7 + 10 2) + 10 2)	1.78	2.51	2.51		6.80 [1.90-8.00]	1910 [340-2460]	3.56 A	955	8.6	1.1 + 1.5 + 1.5	2.26	3.17			8.60 [3.30-10.40]	2090 [600-2840]	4.11 A	1045	9.7
7 + 10 2) + 12	1.70	2.38	2.72		6.80 [1.90-8.00]	1910 [340-2460]	3.56 A	955	8.6	1.1 + 1.5 + 1.6	2.15	3.01			8.60 [3.30-10.40]	2070 [590-2820]	4.15 A	1035	9.6
7 + 10 2) + 15	1.55	2.16	3.09		6.80 [1.90-8.10]	1860 [340-2460]	3.66 A	930	8.3	1.0 + 1.4 + 1.7	1.95	2.74			8.60 [3.30-10.50]	2060 [590-2810]	4.17 A	1030	9.5
7 + 10 2) + 18	1.39	1.94	3.47		6.80 [2.00-8.50]	1730 [340-2460]	3.93 A	865	7.8	0.9 + 1.3 + 2.0	1.75	2.46			8.60 [3.30-10.60]	1930 [570-2710]	4.46 A	965	8.9
7 + 10 2) + 21	1.26	1.76	3.78		6.80 [2.00-8.50]	1730 [340-2460]	3.93 A	865	7.8	0.8 + 1.1 + 2.2	1.59	2.23			8.60 [3.30-10.60]	1930 [570-2710]	4.46 A	965	8.9
7 + 12 + 12	1.62	2.59	2.59		6.80 [1.90-8.10]	1860 [340-2460]	3.66 A	930	8.3	1.0 + 1.6 + 1.6	2.04	2.38			8.60 [3.30-10.50]	2050 [590-2800]	4.20 A	1025	9.5
7 + 12 + 15	1.47	2.37	2.96		6.80 [1.90-8.20]	1860 [340-2460]	3.66 A	930	8.3	0.9 + 1.5 + 1.7	1.87	2.39			8.60 [3.30-10.50]	2040 [580-2790]	4.22 A	1020	9.4
7 + 12 + 18	1.33	2.13	3.34		6.80 [2.00-8.50]	1730 [340-2460]	3.93 A	865	7.8	0.8 + 1.4 + 1.9	1.68	2.70			8.60 [3.30-10.60]	1910 [570-2780]	4.50 A	955	8.8
7 + 12 + 21	1.36	2.72	2.72		6.80 [1.90-8.20]	1820 [340-2460]	3.74 A	910	8.2	0.9 + 1.6 + 1.6	1.72	3.44			8.60 [3.30-10.50]	2030 [580-2780]	4.24 A	1015	9.4
7 + 15 + 18	1.24	2.47	3.09		6.80 [2.00-8.50]	1730 [340-2460]	3.93 A	865	7.8	0.8 + 1.5 + 1.7	1.56	2.31			8.60 [3.30-10.40]	2090 [600-2840]	4.15 A	1035	9.7
7 + 15 + 9 1) + 9 1)	2.26	2.26	2.26		6.78 [1.90-8.00]	1910 [340-2460]	3.55 A	955	8.6	1.3 + 1.5 + 1.5	2.62	3.36			8.60 [3.30-10.40]	2070 [590-2820]	4.15 A	1035	9.6
7 + 15 + 9 1) + 10 2)	2.07	2.07	2.66		6.80 [1.90-8.00]	1910 [340-2460]	3.55 A	955	8.6	1.2 + 1.2 + 1.7	2.39	3.82			8.60 [3.30-10.50]	2060 [590-2810]	4.17 A	1030	9.5
7 + 15 + 9 1) + 12	1.97	1.97	2.44		6.80 [1.90-8.00]	1910 [340-2460]	3.55 A	955	8.6	1.2 + 1.5 + 1.5	2.21	3.55			8.60 [3.30-10.50]	2040 [580-2790]	4.22 A	1020	9.4
7 + 15 + 9 1) + 15	1.89	1.89	3.02		6.80 [1.90-8.00]	1910 [340-2460]	3.55 A	955	8.6	1.2 + 1.2 + 1.7	2.39	3.15			8.60 [3.30-10.60]	1910 [570-2780]	4.50 A	955	8.8
7 + 15 + 9 1) + 18	1.70	1.70	3.40		6.80 [2.00-8.50]	1730 [340-2460]	3.93 A	865	7.8	1.0 + 1.1 + 1.9	1.95	2.74			8.60 [3.30-10.40]	2090 [600-2840]	4.11 A	1045	9.7
7 + 15 + 9 1) + 21	1.55	1.55	3.70		6.80 [2.00-8.50]	1730 [340-2460]	3.93 A	865	7.8	1.0 + 1.0 + 2.2	1.95	4.70			8.60 [3.30-10.60]	1930 [570-2710]	4.46 A	965	8.9
7 + 15 + 9 1) + 24	2.00	2.05	2.92		6.80 [1.90-8.10]	1860 [340-2460]	3.66 A	930	8.3	1.2 + 1.3 + 1.7	2.31	3.70			8.60 [3.30-10.50]	2060 [590-2810]	4.17 A	1030	9.5
7 + 15 + 10 2) + 18	1.65	1.98	2.84		6.80 [1.90-8.10]	1860 [340-2460]	3.66 A	930	8.3	1.3 + 1.3 + 1.7	2.51	3.58			8.60 [3.30-10.50]	2060 [590-2810]	4.17 A	1030	9.5
7 + 15 + 10 2) + 20	1.80	1.80	3.20		6.80 [2.00-8.50]	1730 [340-2460]	3.93 A	865	7.8	1.2 + 1.2 + 1.8	2.27	2.46			8.60 [3.30-10.50]	2050 [590-2800]	4.16 A	955	8.9
7 + 15 + 10 2) + 22	2.06	2.37	2.37		6.80 [1.90-8.10]	1860 [340-2460]	3.66 A	930	8.3	1.3 + 1.5 + 1.5	2.62	2.99			8.60 [3.30-10.50]	2050 [590-2800]	4.20 A	1025	9.5
7 + 15 + 10 2) + 25	1.90	2.18	2.72		6.80 [1.90														

FREE MULTI 4X1 // OUTDOOR UNIT CU-E4E27CBPG																						
Indoor unit capacity	Cooling Capacity (kW)				Input Power (W)			EER	A,C,E	Current	Moisture Removal	Heating Capacity (kW)				Input Power (W)			COP	A,C,E	Current	
	Room A	Room B	Room C	Room D	Total (Min.-Max.)	Rating	W/W	kWh	230 V (A)	Volume (l/h)	Room A	Room B	Room C	Room D	Total (Min.-Max.)	Rating	W/W	kWh	230 V (A)			
1 Room																						
7	2,00				2,00 (1,90-2,70)	440 (380-620)	4,52 A	220	2,10	1,3	3,20					3,20 (1,70-4,70)	840 (370-1830)	3,81 A	420	3,85		
9 11	2,50				2,50 (2,00-3,40)	550 (380-900)	4,52 A	275	2,60	1,5	3,60					3,60 (1,70-4,80)	1090 (370-1900)	3,31 C	545	4,85		
10 21	2,80				2,80 (2,00-3,40)	620 (380-900)	4,52 A	310	2,95	1,6	4,00					4,00 (1,70-4,80)	1210 (370-1900)	3,31 C	605	5,40		
12	3,20				3,20 (2,00-3,70)	720 (380-1090)	4,44 A	360	3,40	1,8	4,50					4,50 (1,70-5,80)	1310 (370-2290)	3,44 B	655	5,85		
15	4,00				4,00 (2,00-4,40)	1030 (380-1390)	3,88 A	515	4,60	2,3	5,60					5,60 (1,80-7,20)	1900 (370-3560)	2,95 D	950	8,35		
18	5,00				5,00 (2,10-5,20)	1610 (400-1800)	3,11 B	805	7,15	2,7	7,10					7,10 (2,10-7,30)	2840 (430-3560)	2,50 F	1420	12,40		
2 Room																						
7 + 7	2,00	2,00			4,00 (2,10-5,00)	890 (400-1260)	4,49 A	445	3,95	1,3 + 1,3	3,20	3,20				6,40 (1,80-9,40)	1480 (400-3550)	4,32 A	740	6,50		
7 + 9 11	2,00	2,50			4,50 (2,10-6,10)	1110 (400-1880)	4,07 A	555	4,90	1,3 + 1,5	3,15	3,95				7,10 (2,10-9,40)	1700 (420-3510)	4,18 A	850	7,55		
7 + 10 21	2,00	2,80			4,80 (2,10-6,10)	1180 (400-1880)	4,07 A	590	5,20	1,3 + 1,6	2,95	4,15				7,10 (2,10-9,40)	1700 (420-3510)	4,18 A	850	7,55		
7 + 12	2,00	3,20			5,20 (2,20-7,00)	1320 (400-2790)	3,94 A	660	5,80	1,3 + 1,8	2,90	4,60				7,50 (2,20-9,80)	1740 (420-3490)	4,31 A	870	7,65		
7 + 15	2,00	4,00			6,00 (2,20-7,10)	1760 (400-2790)	3,41 A	880	7,75	1,3 + 2,3	2,75	5,55				8,30 (2,40-9,80)	2060 (440-3440)	4,03 A	1030	9,05		
7 + 18	2,00	5,00			7,00 (2,50-7,20)	2450 (460-2800)	2,80 D	1250	11,00	1,3 + 2,7	2,50	6,30				8,80 (3,20-9,90)	2260 (530-3400)	3,89 A	1130	9,90		
9 11 + 9 11	2,50	2,50			5,00 (2,20-6,90)	1380 (400-2780)	3,61 A	690	6,10	1,5 + 1,5	3,55	3,55				7,10 (2,30-9,40)	1860 (440-3480)	3,81 A	930	8,15		
9 11 + 10 21	2,50	2,80			5,30 (2,20-6,90)	1470 (400-2780)	3,61 A	735	6,50	1,5 + 1,6	3,55	3,95				7,50 (2,30-9,40)	1970 (440-3480)	3,81 A	985	8,65		
9 11 + 12	2,50	3,20			5,70 (2,20-7,10)	1620 (400-2790)	3,63 A	810	7,15	1,5 + 1,8	3,55	4,55				8,10 (2,40-9,80)	1980 (440-3460)	4,09 A	990	8,70		
9 11 + 15	2,50	4,00			6,50 (2,20-7,10)	2180 (400-2790)	2,98 C	1090	9,60	1,5 + 2,3	3,30	5,30				8,60 (2,10-9,80)	2175 (530-3390)	3,95 A	1088	9,65		
9 11 + 18	2,35	4,75			7,10 (2,50-7,20)	2610 (460-2800)	2,72 D	1305	11,50	1,5 + 2,6	3,00	6,00				9,00 (3,20-9,90)	2390 (530-3370)	3,77 A	1195	10,50		
10 11 + 10 21	2,80	2,80			5,60 (2,20-6,90)	1550 (460-2780)	3,61 A	775	6,85	1,6 + 1,6	3,85	3,85				7,70 (2,30-9,40)	2020 (440-3480)	3,81 A	1010	8,85		
10 21 + 12	2,80	3,20			6,00 (2,20-7,00)	1700 (400-2790)	3,53 A	850	7,55	1,6 + 1,8	3,80	4,30				8,10 (2,40-9,80)	1980 (440-3460)	4,09 A	990	8,70		
10 21 + 15	2,80	4,00			6,80 (2,20-7,10)	2280 (400-2790)	2,98 C	1140	10,00	1,6 + 2,3	3,55	5,05				8,60 (2,10-9,80)	2175 (530-3390)	3,95 A	1088	9,65		
10 21 + 18	2,55	4,55			7,10 (2,50-7,20)	2610 (460-2800)	2,72 D	1305	11,50	1,6 + 2,5	3,25	5,75				9,00 (3,20-9,90)	2390 (530-3370)	3,77 A	1195	10,50		
12 + 12	3,20	3,20			6,40 (2,20-7,30)	1860 (400-2810)	3,44 A	930	8,15	1,8 + 1,8	4,25	4,25				8,50 (2,50-10,10)	2110 (470-3390)	4,03 A	1055	9,30		
12 + 15	3,10	3,90			7,00 (2,50-7,30)	2410 (460-2810)	2,90 C	1205	10,60	1,7 + 2,3	3,90	4,90				8,80 (3,20-10,10)	2230 (530-3340)	3,95 A	1115	9,85		
12 + 18	2,90	4,50			7,40 (2,60-7,40)	2920 (460-2880)	2,62 D	1410	12,30	1,7 + 2,5	3,60	5,60				9,20 (3,20-10,10)	2390 (530-3300)	3,85 A	1195	10,50		
15 + 15	3,60	3,60			7,20 (2,50-7,30)	2620 (460-2810)	2,75 D	1310	11,50	2,1 + 2,1	4,55	4,55				9,10 (3,20-10,10)	2360 (530-3320)	3,86 A	1180	10,30		
15 + 18	3,25	4,05			7,30 (2,70-7,40)	2670 (480-2820)	2,73 D	1335	11,70	1,8 + 2,3	4,20	5,20				9,40 (3,20-10,20)	2480 (530-3300)	3,79 A	1240	10,90		
18 + 18	3,75	3,75			7,50 (2,80-7,60)	2860 (480-2870)	2,62 D	1430	12,50	2,2 + 2,2	4,70	4,70				9,40 (3,50-10,20)	2470 (590-3290)	3,81 A	1235	10,90		
3 Room																						
7 + 7 + 7	2,00	2,00	2,00		6,00 (2,20-7,80)	1510 (410-2490)	3,98 A	755	6,65	1,3 + 1,3 + 1,3	2,87	2,87	2,87			8,61 (3,10-10,40)	1990 (500-3250)	4,33 A	995	8,80		
7 + 7 + 9 11	2,00	2,00	2,50		6,50 (2,50-8,10)	1760 (460-2850)	3,70 A	880	7,75	1,3 + 1,3 + 1,5	2,70	2,70	3,40			8,80 (3,20-10,40)	2010 (510-3220)	4,38 A	1005	8,85		
7 + 7 + 10 21	2,00	2,00	2,80		6,80 (2,50-8,10)	1840 (460-2850)	3,70 A	920	8,10	1,3 + 1,3 + 1,6	2,60	2,60	3,60			8,80 (3,20-10,40)	2010 (510-3220)	4,38 A	1005	8,85		
7 + 7 + 12	2,05	2,05	3,20		7,30 (2,50-8,20)	1980 (460-2790)	3,69 A	990	8,70	1,3 + 1,3 + 1,8	2,45	2,45	4,00			8,90 (3,20-10,40)	2030 (510-3220)	4,38 A	1015	8,95		
7 + 7 + 15	1,95	1,95	3,90		7,80 (2,60-8,20)	2330 (460-2830)	3,35 A	1165	10,30	1,3 + 1,3 + 2,3	2,30	2,30	4,60			9,20 (3,20-10,50)	2150 (510-3180)	4,28 A	1075	9,50		
7 + 7 + 18	1,80	1,80	4,40		8,00 (2,80-8,30)	2460 (460-2820)	3,25 A	1230	10,80	1,2 + 1,2 + 2,4	2,10	2,10	5,20			9,40 (3,20-10,40)	2120 (510-3180)	4,43 A	1060	9,30		
7 + 9 11 + 9 11	2,10	2,65	2,65		7,40 (2,50-8,10)	2140 (460-2790)	3,46 A	1070	9,40	1,4 + 1,6 + 1,6	2,60	3,20	3,20			9,00 (3,20-10,40)	2090 (510-3190)	4,31 A	1045	9,20		
7 + 9 11 + 10 21	2,00	2,55	2,85		7,40 (2,50-8,10)	2140 (460-2790)	3,46 A	1070	9,40	1,3 + 1,6 + 1,7	2,45	3,10	3,45			9,00 (3,20-10,40)	2090 (510-3190)	4,31 A	1045	9,20		
7 + 9 11 + 12 + 12	1,95	1,95	2,45		7,60 (2,60-8,20)	2240 (460-2840)	3,39 A	1120	9,85	1,2 + 1,6 + 1,7	2,30	3,20	3,70			9,20 (3,20-10,40)	2110 (510-3180)	4,36 A	1055	9,30		
7 + 9 11 + 15 + 15	1,95	1,95	2,45		8,00 (2,70-8,20)	2510 (490-2800)	3,19 B	1255	11,00	1,2 + 1,6 + 2,1	2,15	3,00	4,25			9,40 (3,20-10,40)	2160 (510-3140)	4,35 A	1080	9,50		
7 + 12 + 15 + 18	1,90	2,00	3,35		8,00 (2,80-8,30)	2430 (490-2820)	3,29 A	1215	10,70	0,8 + 1,9 + 1,9	1,60	3,90	3,90			9,40 (4,10-10,50)	2170 (700-3120)	4,33 A	1085	9,55		
9 11 + 9 11 + 12 + 12	2,50	2,50	2,80		7,80 (2,60-8,10)	2450 (460-2820)	3,18 B	1225	10,80	1,6 + 1,6 + 1,6	2,96	2,96	3,32			9,24 (3,20-10,40)	2170 (510-3160)	4,26 A	1085	9,55		
9 11 + 9 11 + 15 + 15	2,45	2,45	3,10		8,00 (2,70-8,20)	2510 (490-2810)	3,19 B	1255	11,00	1,5 + 1,5 + 1,7	2,85	2,85	3,70			9,40 (3,20-10,40)	2170 (510-3150)	4,29 A	1095	9,65		
9 11 + 9 11 + 18 + 18	2,00	2,00	4,00		8,00 (2,80-8,30)	2460 (490-2790)	3,25 A	1230	10,80	1,3 + 1,3 + 2,3	2,35	2,35	4,70			9,40 (3,80-10,40)	2100 (640-3120)	4,48 A	1050	9,20		
9 11 + 10 21 + 10 21	2,40	2,70	2,70		7,80 (2,60-8,10)	2510 (490-2790)	3,18 B	1225	10,80	1,5 + 1,6 + 1,6	2,84	3,20	3,20			9,24 (3,20-10,40)	2170 (510-3160)	4,26 A	1085	9,55		
9 11 + 10 21 + 12 + 12	2,35	2,65	3,00		8,00 (2,70-8,20)	2510 (490-2810)	3,19 B</															



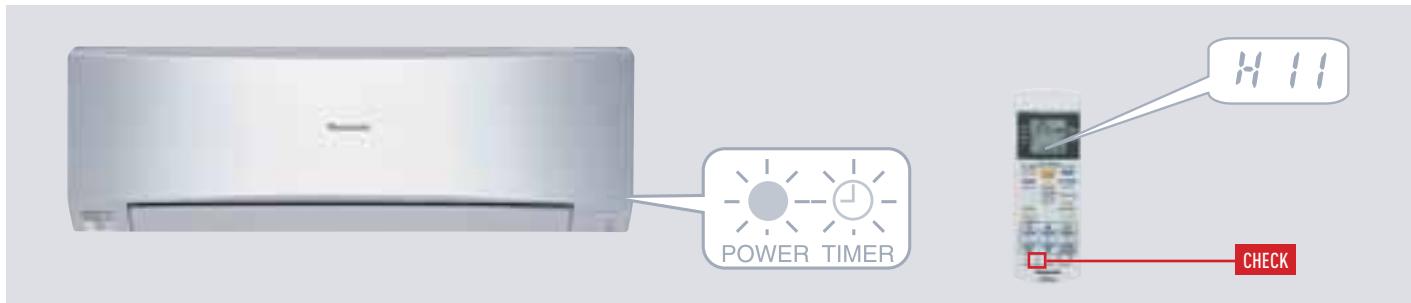
FREE MULTI 4X1 // OUTDOOR UNIT CU-4E27CBPG (CONT.)

Indoor unit capacity	Cooling Capacity (kW)				Input Power (W)	EER	A,C,E, Current 230 V (A)	Moisture Removal Volume (l/h)	Heating Capacity (kW)				Input Power (W)	COP	A,C,E, Current 230 V (A)			
	Room A	Room B	Room C	Room D					Room A	Room B	Room C	Room D						
4 Room																		
7 + 7 + 7 + 7	2,00	2,00	2,00	2,00	8,00 (2,70-8,80)	2150 (490-2840)	3,72 A	1075	9,50	1,3 + 1,3 + 1,3 + 1,3	2,35	2,35	2,35	9,40 (3,20-10,50)	2080 (550-3140)	4,52 A	1040	9,15
7 + 7 + 7 + 9 ¹¹	1,90	1,90	1,90	2,30	8,00 (2,80-8,80)	2140 (490-2880)	3,74 A	1070	9,40	1,2 + 1,2 + 1,2 + 1,5	2,20	2,20	2,80	9,40 (3,20-10,50)	2060 (550-3120)	4,56 A	1030	9,05
7 + 7 + 7 + 10 ²¹	1,80	1,80	1,80	2,60	8,00 (2,80-8,80)	2140 (490-2880)	3,74 A	1070	9,40	1,2 + 1,2 + 1,2 + 1,6	2,15	2,15	2,95	9,40 (3,20-10,50)	2060 (550-3120)	4,56 A	1030	9,05
7 + 7 + 7 + 12	1,75	1,75	1,75	2,75	8,00 (2,80-8,90)	2130 (490-2880)	3,76 A	1065	9,40	1,1 + 1,1 + 1,1 + 1,6	2,05	2,05	3,25	9,40 (3,40-10,50)	2120 (590-3180)	4,43 A	1060	9,30
7 + 7 + 7 + 15	1,60	1,60	1,60	3,20	8,00 (2,80-8,90)	2110 (490-2870)	3,79 A	1055	9,30	1,0 + 1,0 + 1,0 + 1,8	1,90	1,90	3,70	9,40 (3,80-10,50)	2090 (640-3140)	4,50 A	1045	9,20
7 + 7 + 7 + 18	1,45	1,45	1,45	3,65	8,00 (2,80-8,90)	2110 (490-2840)	3,79 A	1055	9,30	0,9 + 0,9 + 0,9 + 2,1	1,70	1,70	4,30	9,40 (4,00-10,50)	2120 (680-3110)	4,43 A	1060	9,30
7 + 7 + 9 ¹¹ + 9 ¹¹	1,80	1,80	2,20	2,20	8,00 (2,80-8,80)	2130 (490-2870)	3,76 A	1065	9,40	1,2 + 1,2 + 1,4 + 1,4	2,10	2,10	2,60	9,40 (3,50-10,50)	2050 (610-3110)	4,59 A	1025	9,05
7 + 7 + 9 ¹¹ + 10 ²¹	1,70	1,70	2,15	2,45	8,00 (2,80-8,80)	2130 (490-2870)	3,76 A	1065	9,40	1,1 + 1,1 + 1,4 + 1,5	2,00	2,00	2,85	9,40 (3,50-10,50)	2050 (610-3110)	4,59 A	1025	9,05
7 + 7 + 9 ¹¹ + 12	1,65	1,65	2,05	2,65	8,00 (2,80-8,90)	2120 (490-2870)	3,77 A	1060	9,30	1,1 + 1,1 + 1,3 + 1,6	1,95	1,95	2,40	9,40 (3,70-10,50)	2100 (620-3160)	4,48 A	1050	9,20
7 + 7 + 9 ¹¹ + 15	1,50	1,50	1,90	3,10	8,00 (2,80-8,90)	2090 (490-2840)	3,83 A	1045	9,20	1,0 + 1,0 + 1,2 + 1,7	1,80	1,80	2,20	9,40 (3,90-10,50)	2070 (660-3110)	4,54 A	1035	9,10
7 + 7 + 9 ¹¹ + 18	1,40	1,40	1,70	3,50	8,00 (2,90-8,90)	2110 (520-2880)	3,79 A	1055	9,30	0,9 + 0,9 + 1,1 + 2,0	1,65	1,65	2,00	9,40 (4,10-10,50)	2090 (700-3100)	4,50 A	1045	9,20
7 + 7 + 10 ²¹ + 10 ²¹	1,65	1,65	2,35	2,35	8,00 (2,80-8,80)	2130 (490-2870)	3,76 A	1065	9,40	1,1 + 1,1 + 1,5 + 1,5	1,95	1,95	2,75	9,40 (3,50-10,50)	2050 (610-3110)	4,59 A	1025	9,05
7 + 7 + 10 ²¹ + 12	1,60	1,60	2,25	2,55	8,00 (2,80-8,90)	2120 (490-2870)	3,77 A	1060	9,30	1,0 + 1,0 + 1,5 + 1,6	1,90	1,90	3,00	9,40 (3,70-10,50)	2070 (620-3160)	4,48 A	1050	9,20
7 + 7 + 10 ²¹ + 15	1,50	1,50	2,05	2,95	8,00 (2,80-8,90)	2090 (490-2840)	3,83 A	1045	9,20	1,0 + 1,0 + 1,3 + 1,7	1,75	1,75	2,40	9,40 (3,90-10,50)	2070 (660-3110)	4,54 A	1035	9,10
7 + 7 + 10 ²¹ + 18	1,35	1,35	1,90	3,40	8,00 (2,90-8,90)	2110 (520-2880)	3,79 A	1055	9,30	0,9 + 0,9 + 1,2 + 1,9	1,60	1,60	2,20	9,40 (4,10-10,50)	2090 (700-3100)	4,50 A	1045	9,20
7 + 7 + 12 + 12	1,55	1,55	2,45	2,45	8,00 (2,80-8,90)	2090 (500-2870)	3,83 A	1045	9,20	1,0 + 1,0 + 1,5 + 1,5	1,80	1,80	2,90	9,40 (3,80-10,50)	2110 (640-3190)	4,45 A	1055	9,30
7 + 7 + 12 + 15	1,45	1,45	2,25	2,85	8,00 (2,80-8,90)	2080 (500-2840)	3,85 A	1040	9,15	0,9 + 0,9 + 1,5 + 1,7	1,70	1,70	2,65	9,40 (4,00-10,50)	2080 (680-3150)	4,52 A	1040	9,15
7 + 7 + 12 + 18	1,30	1,30	2,10	3,30	8,00 (2,90-9,00)	2040 (520-2860)	3,92 A	1020	8,95	0,8 + 0,8 + 1,4 + 1,9	1,55	1,55	2,45	9,40 (4,10-10,50)	2110 (700-3080)	4,45 A	1055	9,30
7 + 7 + 15 + 15	1,35	1,35	2,65	2,65	8,00 (2,90-9,00)	2060 (520-2850)	3,88 A	1030	9,05	0,9 + 0,9 + 1,6 + 1,6	1,55	1,55	3,15	9,40 (4,10-10,50)	2050 (700-3110)	4,59 A	1025	9,05
7 + 7 + 15 + 18	1,25	1,25	2,40	3,10	8,00 (2,90-9,00)	2020 (520-2880)	3,96 A	1010	8,85	0,8 + 0,8 + 1,5 + 1,7	1,45	1,45	2,90	9,40 (4,20-10,50)	2080 (700-3060)	4,52 A	1040	9,15
7 + 9 ¹¹ + 9 ¹¹ + 9 ¹¹	1,70	2,10	2,10	2,10	8,00 (2,80-8,80)	2120 (490-2850)	3,77 A	1060	9,30	1,1 + 1,4 + 1,4 + 1,4	2,05	2,45	2,45	9,40 (3,80-10,50)	2040 (640-3080)	4,61 A	1020	8,95
7 + 9 ¹¹ + 9 ¹¹ + 10 ²¹	1,60	2,05	2,05	2,30	8,00 (2,80-8,80)	2120 (490-2850)	3,77 A	1060	9,30	1,0 + 1,3 + 1,3 + 1,5	1,90	2,40	2,70	9,40 (3,80-10,50)	2040 (640-3080)	4,61 A	1020	8,95
7 + 9 ¹¹ + 9 ¹¹ + 12	1,55	1,95	1,95	2,55	8,00 (2,80-8,90)	2100 (490-2850)	3,81 A	1050	9,20	1,0 + 1,3 + 1,3 + 1,6	1,85	2,30	2,95	9,40 (3,90-10,50)	2080 (660-3130)	4,52 A	1040	9,15
7 + 9 ¹¹ + 9 ¹¹ + 15	1,45	1,80	1,80	2,95	8,00 (2,80-8,90)	2130 (490-2860)	3,76 A	1065	9,40	0,9 + 1,2 + 1,2 + 1,7	1,70	2,15	3,40	9,40 (4,00-10,50)	2050 (680-3080)	4,59 A	1025	9,05
7 + 9 ¹¹ + 9 ¹¹ + 18	1,35	1,65	1,65	3,35	8,00 (2,90-8,90)	2110 (520-2850)	3,79 A	1055	9,30	0,9 + 1,1 + 1,1 + 1,9	1,55	1,95	3,95	9,40 (4,20-10,50)	2080 (700-3080)	4,52 A	1040	9,15
7 + 9 ¹¹ + 10 ²¹ + 10 ²¹	1,60	2,00	2,20	2,20	8,00 (2,80-8,80)	2120 (490-2850)	3,77 A	1060	9,30	1,0 + 1,3 + 1,4 + 1,4	1,85	2,35	2,60	9,40 (3,80-10,50)	2040 (640-3080)	4,61 A	1020	8,95
7 + 9 ¹¹ + 10 ²¹ + 12	1,50	1,90	2,15	2,45	8,00 (2,80-8,90)	2100 (490-2850)	3,81 A	1050	9,20	1,0 + 1,2 + 1,4 + 1,5	1,80	2,25	2,85	9,40 (3,90-10,50)	2080 (660-3130)	4,52 A	1040	9,15
7 + 9 ¹¹ + 10 ²¹ + 15	1,40	1,75	2,00	2,85	8,00 (2,80-8,90)	2130 (490-2860)	3,76 A	1065	9,40	0,9 + 1,1 + 1,3 + 1,7	1,60	2,10	2,35	9,40 (4,00-10,50)	2070 (700-3060)	4,59 A	1025	9,05
7 + 9 ¹¹ + 10 ²¹ + 18	1,30	1,65	1,80	3,25	8,00 (2,90-8,90)	2110 (520-2860)	3,79 A	1055	9,30	0,8 + 1,1 + 1,2 + 1,8	1,55	1,90	2,15	9,40 (4,20-10,50)	2080 (700-3080)	4,52 A	1040	9,15
7 + 9 ¹¹ + 12 + 12	1,45	1,85	2,35	2,35	8,00 (2,80-8,90)	2130 (500-2850)	3,76 A	1065	9,40	0,9 + 1,2 + 1,5 + 1,5	1,70	2,20	2,75	9,40 (4,00-10,50)	2090 (680-3180)	4,52 A	1040	9,15
7 + 9 ¹¹ + 12 + 15	1,35	1,70	2,20	2,75	8,00 (2,90-9,00)	2070 (520-2860)	3,86 A	1035	9,15	0,9 + 1,1 + 1,4 + 1,6	1,60	2,00	2,55	9,40 (4,10-10,50)	2050 (680-3080)	4,59 A	1025	9,05
7 + 9 ¹¹ + 12 + 18	1,25	1,80	1,80	2,25	8,00 (2,90-9,00)	2030 (520-2840)	3,94 A	1015	8,95	0,8 + 1,1 + 1,3 + 1,5	1,70	2,45	2,80	9,40 (4,30-10,50)	2040 (640-3080)	4,61 A	1020	8,95
7 + 9 ¹¹ + 12 + 21	1,20	1,50	2,15	2,65	8,00 (2,90-9,00)	2070 (520-2860)	3,86 A	1035	9,15	0,9 + 1,2 + 1,4 + 1,6	1,55	2,00	2,55	9,40 (4,20-10,50)	2070 (700-3060)	4,56 A	1030	9,05
7 + 9 ¹¹ + 12 + 24	1,15	1,55	2,15	2,15	8,00 (2,90-9,00)	2090 (520-2860)	3,83 A	1045	9,20	1,0 + 1,2 + 1,3 + 1,3	1,75	2,25	2,75	9,40 (4,30-10,50)	2030 (660-3080)	4,63 A	1015	8,95
7 + 9 ¹¹ + 9 ¹¹ + 12	1,25	1,70	1,95	3,10	8,00 (2,90-9,00)	2090 (520-2840)	3,89 A	1045	9,20	1,0 + 1,3 + 1,3 + 1,3	1,75	2,00	2,55	9,40 (4,20-10,50)	2040 (640-3080)	4,61 A	1020	8,95
7 + 9 ¹¹ + 9 ¹¹ + 15	1,15	1,95	1,95	2,15	8,00 (2,90-9,00)	2110 (490-2840)	3,79 A	1055	9,30	1,0 + 1,1 + 1,3 + 1,4	1,75	1,95	2,35	9,40 (4,30-10,50)	2030 (660-3080)	4,63 A	1015	8,95
7 + 9 ¹¹ + 9 ¹¹ + 18	1,05	1,85	1,85	2,45	8,00 (2,80-8,90)	2090 (490-2870)	3,83 A	1045	9,20	0,9 + 1,1 + 1,4 + 1,6	1,60	2,00	2,55	9,40 (4,40-10,50)	2060 (680-3100)	4,56 A	1030	9,05
7 + 9 ¹¹ + 9 ¹¹ + 21	1,05	1,75	1,75	2,75	8,00 (2,90-8,90)	2120 (520-2850)	3,77 A	1060	9,30	1,0 + 1,1 + 1,1 + 1,6	2,05	2,05	3,25	9,40 (4,20-10,50)	2070 (700-3070)	4,54 A	1025	9,05
7 + 9 ¹¹ + 9 ¹¹ + 24	1,05	1,75	1,75	3,05	8,00 (2,90-8,90)	2110 (520-2850)	3,79 A	1055	9,30	1,0 + 1,1 + 1,1 + 1,7	1,80	1,80	2,25	9,40 (4,20-10,50)	2070 (700-3070)	4,54 A	1025	9,05
7 + 9 ¹¹ + 12 + 18	1,05	1,75	1,75	2,50	8,00 (2,90-8,90)	2130 (500-2850)	3,76 A	1065	9,40	1,1 + 2 + 1,4 + 1,4	2,20	2,20	2,55	9,40 (4,20-10,50)	2070 (700-3070)	4,54 A	1025	9,05
7 + 9 ¹¹ + 12 + 21	1,05	1,75	1,75	2,50	8,00 (2,90-8,90)	2130 (500-28												

SELF DIAGNOSIS DESCRIPTION AND CHECK POINT TABLE

In the event of breakdown, proceed as follows to detect the error code.

1. Press "CHECK" button at the remote control continuously for more than five seconds to turn on diagnosis mode. " __ " will be displayed at the remote control LCD.
2. By pressing the TIMER "▲" button once, the next error code (if any) will be displayed; press "▼" button once, previous error code will be displayed.
3. If error code displayed matches the error code saved in unit memory (abnormality detected) Indoor PCB will buzz for 4 seconds to indicate the correct error code.
4. If "CHECK" button is pressed again or without any operation for 30 seconds, the diagnosis mode will turn off.
5. Turn ON the unit and reset the error code by pressing the AC reset.



ERROR CODES TABLE

Warning: Electrical power must be disconnected when terminal protective cover is not in place to protect against electrocution.

Diagnosis Display	Abnormality / Protection Control	Diagnosis Method	Diagnosis Checkpoint
H11	Indoor/Outdoor abnormal communication	This trouble display appears when indoor/outdoor unit communication fails to be established after 30 or more seconds.	Measure the voltages of the indoor/outdoor unit communication cables, and check whether the voltage is being supplied properly to the outdoor unit or whether it is being returned from the outdoor unit to the indoor units.
H12	Indoor unit capacity unmatched	This trouble display appears when wrong in the total connection capacity and wrong connection in each capacity. The trouble is determined within 2 minutes after the power is turned on.	Check the total capacity of the units connected and check that the models are compatible for connection.
H14	Intake air temp. sensor	This trouble display appears when the intake air temperature has exceeded above 46°C continuously for 2 minutes or dropped below -54°C continuously for 5 seconds during operation.	This trouble display appears when a temperature which is impossibly high or low from a normal standpoint has been detected. Check the sensor, and if open-circuiting (OL or ∞) or short-circuit is not found, defective contact of the connector is to blame.
H15	Outdoor compressor temperature sensor abnormality	—	Check the sensor, and if open-circuit (more than 500 k) or (short-circuit) (less than 6.5 k) is not found, defective contact of the connector is to blame.
H16	Outdoor Current Transformer	CU-2E: When a value of under 1.5A has been detected for the total current during operation beyond the set capacity, the compressor operates with its operating frequency controlled to a maximum of 38Hz for 3 minutes, and if it continues to operate at a total current of under 1.5A for another 3 minutes, its operation stops. CU-3E/4E: When the total current has dropped below the set current level continuously for 20 seconds during operation beyond the set capacity, operation is stopped. Three minutes later, operation is started up again, and when the trouble occurs on 4 successive occasions, the trouble display appears (the timer lamp blinks).	1. Check the refrigerant cycle: Gas may be leaking (the amount of refrigerant is extremely low). 2. Check the control PCB: Check for a broken wire (open circuit) in the current transformer. (If an open circuit is found, replace the control PCB) In the case of a scroll compressor (DC motor), H16 is detected only when the regular compressor is operating.
H19	Indoor fan motor mechanism lock	- High-voltage PWM: When a state in which the fan motor speed is not synchronized with the control signal has been detected 7 successive occasions. - Low-voltage PWM: When the fan lock detection signal has been detected on 7 successive occasions or it has been detected continuously for 25 seconds or when a state in which the fan motor speed is not synchronized with the control signal has been detected on 7 successive occasions: The trouble display appears (the timer lamp blinks).	1. Check the nature of the fan lockup trouble. 2. Check for disconnections of the fan motor connectors and for defects in contact, in the fan motor and in the control PCB.
H23	Indoor heat exchanger temp. sensor	This trouble display appears when a temperature of under approximately -40°C or above approximately 80°C has been detected by the heat exchanger temperature sensor continuously for 5 seconds. (This trouble is not detected during de-icing.)	This trouble display appears when a temperature which is impossibly high or low from a normal standpoint has been detected. Check the sensor, and if (open-circuit) (OL or ∞) or short-circuit is not found, defective contact of the connector or a defective control PCB is to blame.
H26	Ionizer Abnormality	—	1. Measure the voltages of the indoor unit communication cables, and check whether the voltage is being supplied properly. 2. Check the ionizer needle and grounding plate is dust free.
H27	Outdoor air temp. sensor	This trouble display appears when a temperature of under approximately -40°C or above approximately 150°C has been detected by the outside air temperature sensor for 2 to 5 seconds. (This trouble is not detected during de-icing.)	This trouble display appears when a temperature which is impossibly high or low from a normal standpoint has been detected. Check the sensor, and if open-circuiting (OL or ∞) or short-circuit is not found, defective contact of the connector or a defective control PCB is to blame.
H28	Outdoor heat exchanger temp. sensor 1	This trouble display appears when a temperature of under approximately -60°C or above approximately 110°C has been detected by the heat exchanger temperature sensor for 2 to 5 seconds. (This trouble is not detected during de-icing.)	This trouble display appears when a temperature which is impossibly high or low from a normal standpoint has been detected. Check the sensor, and if open-circuiting (OL or ∞) or short-circuit is not found, defective contact of the connector or a defective control PCB is to blame.
H30	Outdoor discharge pipe temp. sensor	CU-2E: This trouble display appears when a temperature of under approximately -16°C or above approximately 200°C has been detected by the outlet temperature sensor for 2 to 5 seconds. CU-3E/4E: Disconnected discharge sensor - When the condensation temperature is higher than the discharge temperature + [plus] 6°C, a sensor disconnection is detected, operation stops, and the trouble display appears (the timer lamp blinks).	This trouble display appears when a temperature which is impossibly high or low from a normal standpoint has been detected. Check the sensor, and if open-circuiting (OL or ∞) or short-circuit is not found, defective contact of the connector or a defective control PCB is to blame.
H32	Outdoor heat exchanger temp. sensor 2 (discharge pipe temp.)	This trouble display appears when a temperature of under approximately -60°C or over approximately 110°C has been detected continuously for 2 to 5 seconds by the outlet temperature sensor of the heat exchanger.	This trouble display appears when a temperature which is impossibly high or low from a normal standpoint has been detected. Check the sensor, and if open-circuiting (OL or ∞) or short-circuit is not found, defective contact of the connector or a defective control PCB is to blame.
H33	Indoor / Outdoor wrong connection	Indoor / Outdoor different model junction, 100V charge into 200V outdoor unit.	Check whether the voltage is being supplied properly to the outdoor unit or whether it is being returned from the outdoor unit to the indoor units.
H34	Outdoor heat sink temp. sensor	This trouble display appears when a temperature of under -43°C or above 80°C has been detected by the outdoor unit radiator fin sensor continuously for 2 seconds.	This trouble display appears when a temperature which is impossibly high or low from a normal standpoint has been detected. Check the sensor, and if open-circuiting (OL or ∞) or short-circuit is not found, defective contact of the connector or a defective control PCB is to blame.
H36	Abnormal gas pipe temp. sensor	This trouble display appears when a temperature of under approximately -45°C or above approximately 149°C has been detected by the outdoor unit gas side pipe temperature sensor continuously for 2 to 5 seconds.	This trouble display appears when a temperature which is impossibly high or low from a normal standpoint has been detected. Check the sensor, and if open-circuiting (OL or ∞) or short-circuit is not found, defective contact of the connector or a defective control PCB is to blame.
H37	Outdoor liquid pipe temp. sensor	This trouble display appears when a temperature of under -45°C or above 149°C has been detected by the outdoor unit liquid side pipe temperature sensor continuously for 2 seconds.	This trouble display appears when a temperature which is impossibly high or low from a normal standpoint has been detected. Check the sensor, and if open-circuiting (OL or ∞) or short-circuit is not found, defective contact of the connector or a defective control PCB is to blame.
H38	Indoor / Outdoor mismatch (brand code)	—	—
H39	Abnormal indoor operating unit or standBy units	This display appears in rooms other than one in which indoor freezing trouble has occurred when the pipes have been connected incorrectly, when an outdoor expansion valve is defective or when an expansion valve connector has become disconnected.	—
H41	Abnormal wiring or piping connection	CU-2E only This display appears when this kind of trouble is detected 3 minutes after a forced cooling operation was conducted for our room during the initial operation after the power was turned on. It appears when: - The indoor unit pipe temperature in a room without the capacity supply available at an outside air temperature above 5°C has dropped by more than 20°C to 5°C or lower 3 minutes after the compressor started up. - The outdoor unit gas pipe temperature in a room without the capacity supply available has dropped by more than 5°C to 5°C or lower 3 minutes after the compressor started up.	—
H50	Ventilation failure	This display appears when ventilation motor is lock.	1. Check the voltage drop at pin 1 & 2 of CNVENT to have 14Vdc. 2. Check the ventilation hose condition from ventilation opening until tip cover. 3. Check air fl ow from tip cover by hand.



H51	Vacuum Nozzle Failure	This display appears when the vacuum nozzle stop.	<p>This trouble display appears when suction nozzle stop at centre of the Filter Cleaning device: 1. Check the filter setting position. 2. Check the nozzle drive stepper motor running condition.</p> <p>This trouble display appears when suction nozzle stop at left side of Filter Cleaning device: 1. Check vacuum nozzle position. 2. Check the left limit switch switching function by multimeter.</p> <p>This trouble display appears when suction nozzle stop at left side of Filter Cleaning Device: 1. Check the Right Limit Switch switching function by multimeter.</p>
H52	Limit Switch Failure	This display appears when both Limit Switch (left & right) detected short circuit.	<ol style="list-style-type: none"> 1. Unplug the CNSIDESW connector and check Pin 1-2 and Pin 3-4 condition on PCB. 2. Check wiring condition at limit switch (left & right). 3. Check switching function of limit switch (left & right).
H97	Outdoor fan motor mechanism lock	CU-2E: When trouble, which is defined as a state in which the fan motor speed is not synchronized with the control signal has been detected on 5 successive occasions, has occurred for the third time in a 60-minute period and twice during a 30-minute period, the trouble display appears, and operation stops. CU-3E/4E: When the fan motor speed detected when its maximum output is demanded is below 30 rpm continuously for 15 seconds, the fan motor stops for 3 minutes and then restarted. When this happens on 16 occasions (the trouble display is cleared when the value is normal for 5 minutes), the H97 diagnostic symbol is stored in the memory, and the fan motor stops.	<ol style="list-style-type: none"> 1. Check the nature of the fan lockup trouble. 2. Check for disconnections of the fan motor connectors and for defects in contact, in the fan motor and in the control PCB.
H98	Indoor high pressure protection	The restriction on the compressor frequency is started when the temperature of the indoor unit heat exchanger source is between 50°C and 52°C, the compressor stops at a temperature from 62°C to 65°C, it is restarted 3 minutes later at below 62°C to 65°C, and the restriction on the compressor frequency is released at a temperature between 48°C and 50°C. (No trouble display appears.)	<ol style="list-style-type: none"> 1. Check the indoor unit heat exchanger temperature sensor (check for changes in its characteristics and check its resistance): Symptoms include no hot start when operation is started, a failure of the thermostat to turn on (no outdoor unit operation). And frequent repetition of stopping and startup. 2. Check also for short circuits indoors and clogging of the air filters.
H99	Indoor operating unit freezing	The restriction on the compressor frequency is started when the indoor unit heat exchanger temperature is between 8°C and 12°C. Operation stops if a temperature below 0°C continues for 6 minutes. Three minutes later, operation is started up at a temperature from 3°C to 8°C. The restriction on the compressor frequency is released at a temperature between 13°C and 14°C.	<ol style="list-style-type: none"> 1. A cooling or dry mode operation conducted at a low outside air temperature is mainly to blame: this is not indicative of any malfunctioning. If the outside air temperature rises during automatic operation in the winter months, the dry mode operation is selected. The H99 diagnostic display also appears at such a time. 2. Check the refrigerating cycle: Gas may be leaking (the amount of refrigerant is low) or a pipe may be broken, etc. 3. Check also for short circuits indoors and clogging of the air filters.
F11	4-way valve switching failure	CU-2E: When the indoor unit heat exchanger temperature is under -5°C during a warming operation or above 45°C during a cooling or dry mode operation four minutes after the compressor has started up, the F11 diagnostic symbol is stored in the memory, and operation stops. 3 minutes later, operation is restarted. This trouble display appears when this happens on 4 occasions in a 30 minutes period. CU-3E/4E: When a difference of 0°C to 5°C has been detected between the outdoor unit heat exchanger temperature and liquid side pipe temperature on 5 occasions, the trouble display appears.	<ol style="list-style-type: none"> 1. Check the 4-way valve coil: Check that no power is supplied to the coil during cooling and dry mode operations, and that power is supplied during heating operations. Inspect the coil for broken wires (open circuits). 2. If the coil is troublefree, the switching action of the 4-way valve may be defective.
F17	Indoor standBy units freezing	CU-2E: After the operation of one indoor unit stops continuously for 5 minutes, the hole operation stops when the stopping indoor unit pipe temperature is under -5°C continuously for 1 minute or under 0°C continuously for 5 minutes, and operation restarts after 3 minutes. This trouble display appears if that trouble happens on 3 occasions in a 30 minutes period. CU-3E/4E: When the difference of an intake temperature (room temperature sensor) and the indoor unit heat exchanger temperature (piping sensor) is higher than 10°C or an indoor unit heat exchanger temperature of below -1°C has been detected continuously for 5 minutes, operation stops. Three minutes later, it is started up, and the trouble display appears when this has occurred on 3 consecutive occasions.	<ol style="list-style-type: none"> 1. Check the refrigerating cycle: Expansion valve leakage. 2. Check the indoor unit pipe temperature sensor (check for changes in its characteristics and check its resistance).
F90	PFC circuit protection (CU-2E)	CU-2E: When the rotation of the compressor is not synchronized with the control signal, the F93 diagnostic display is stored in the memory, and operation stops. 3 minutes later, operation is restarted. This trouble display appears when this happens on 4 occasions in a 20 minutes period. CU-3E/4E: When a state in which the rotation of the compressor is not synchronized with the control signal has been detected on 8 successive occasions, operation stops, and the trouble display appears.	<ol style="list-style-type: none"> 1. To check whether the 2-way or 3-way valve has been left open by mistake, operation is performed for one to several minutes after the compressor has started up, F93 is stopped in the memory as the symptom, and operation stops. 2. Check the inverter circuit (for open circuits) in the control PCB: Check the IPM base current (6 locations) within 3 minutes after the power has been turned back on. As the symptom, F93 is stored in the memory 30 seconds after the compressor has started up, and operation stops. The trouble display appears after 4 restarts. 3. Check for broken wires (open circuits) in the compressor winding: Approximately 1 ohm under normal conditions for each phase (same symptom as in 2.).
F91	Refrigeration cycle abnormality	CU-2E: When the rotation speed of the compressor exceeds the setting frequency and the total current is 1.5A or higher to 1.9A or lower continuously for 5 minutes, operation stops if the indoor unit heat exchanger temperature is higher than 20°C during cooling or dry operation or if it is under 25°C during heating. Three minutes later, it is restarted, and if the trouble occurs on 2 consecutive occasions in a 20 minutes period, the trouble display appears. CU-3E/4E: When the compressor frequency is above 55 Hz and the current drops below the prescribed level continuously for 7 minutes, operation stops, and it is restarted 3 minutes later. When the compressor discharge temperature has exceeded the setting and the expansion valve has remained fully open for 80 seconds, operation stops, and it is restarted 3 minutes later. When the stopping described above has occurred on 4 occasions, operation stops, and the trouble display appear.	<ol style="list-style-type: none"> 1. Check the refrigerating cycle: Gas may be leaking (more than onehalf of the volume of the gas has gone). The diagnostic displays resulting from a gas leak generally change in the following sequence depending on the extent of the gas leak: H99 → F97 → F91 → H16. The range of this trouble (F91) is limited. (Compressor protection at the start of the season).
F93	Compressor abnormal revolution	CU-2E: When the rotation of the compressor is not synchronized with the control signal, the F93 diagnostic display is stored in the memory, and operation stops. 3 minutes later, operation is restarted. This trouble display appears when this happens on 4 occasions in a 20 minutes period. CU-3E/4E: When a state in which the rotation of the compressor is not synchronized with the control signal has been detected on 8 successive occasions, operation stops, and the trouble display appears.	<ol style="list-style-type: none"> 1. To check whether the 2-way or 3-way valve has been left open by mistake, operation is performed for one to several minutes after the compressor has started up, F93 is stopped in the memory as the symptom, and operation stops. 2. Check the inverter circuit (for open circuits) in the control PCB: Check the IPM base current (6 locations) within 3 minutes after the power has been turned back on. As the symptom, F93 is stored in the memory 30 seconds after the compressor has started up, and operation stops. The trouble display appears after 4 restarts. 3. Check for broken wires (open circuits) in the compressor winding: Approximately 1 ohm under normal conditions for each phase (same symptom as in 2.).
F95	Outdoor high pressure protection	CU-2E only: When the temperature of the outdoor unit heat exchanger temperature sensor exceeds 63°C, the F95 diagnostic symbol is stored in the memory, and operation stops. 3 minutes later, operation is restarted at a temperature below 56°C. This trouble display appears when this happens on 4 occasions in a 20-minutes period.	<ol style="list-style-type: none"> 1. Check the outdoor unit heat exchanger temperature sensor (check for changes in its characteristics and check its resistance). 2. Check whether something is interfering with the dissipation of the heat outdoors.
F96	Power transistor module or compressor overheating (CU-2E) Compressor high discharge temperature (CU-3E/4E)	CU-2E: Heating is detected inside the IPM which shuts itself off, the F96 diagnostic symbol is stored in the memory, and operation stops. 3 minutes later, operation is restarted. The trouble display appears when this happens on 4 occasions in a 30-minutes period. CU-3E/4E: When this trouble is detected from the electrical parts radiation fin temperature sensor and QLP output during operation, operation stops, and it is restarted 3 minutes later. If the trouble occurs on 4 occasions, operation stops, and the trouble display appears.	<ol style="list-style-type: none"> 1. Something may be interfering with the dissipation of the heat outdoors or the outdoor unit fan may be defective. (The outdoor unit fan is not running.). 2. Defective IPM (outdoor unit control PCB). 3. Gas leaks. 2-way or 3-way valve is not opened.
F97	Compressor high discharge temperature	When the temperature of the compressor temperature sensor exceeds 112 to 120°C, the F97 diagnostic symbol is stored in the memory, and operation stops. Two minutes later, operation is restarted at a temperature below 107 to 110°C. CU-2E: The trouble display appears and operation stops when this happens on 4 occasions in a 20 minutes period. CU-3E/4E: This trouble display appears and operation stops when this happens on 6 occasions (it is cleared when the operation is normal for 20 minutes).	<ol style="list-style-type: none"> 1. Check the refrigerating cycle: Gas may be leaking (the amount of refrigerant is low). The stopping of the outdoor unit from time to time is a symptom of this trouble. 2. When operation stops with this trouble display appearing, check the compressor temperature sensor (check for changes in its characteristics and check its resistance). 3. Something may be interfering with the dissipation of the heat outdoors or the outdoor unit fan may be defective. (The fan will not run because of an open circuit.) (The protection function may be activated by an overload, and the F97 trouble display will remain stored in the memory.).
F98	Total running current protection	CU-2E: When the total current exceeds the setting, the F98 diagnostic display is stored in the memory, and operation stops. 3 minutes later, operation is restarted. The trouble display appears and operation stops when this happens on 3 occasions in a 20-minutes period. CU-3E/4E: When the total current exceeds the setting (17A to 20A), frequency control is started, and if it then exceeds the setting, operation stops, and the trouble display appears.	<ol style="list-style-type: none"> 1. Check the AC voltage at the outdoor unit terminal board during operation: The voltage drop must be within 5% of the voltage when operation has stopped ($\pm 110\%$ of rated voltage even during operation). If the voltage drop exceeds 5% or if the voltage changes suddenly, inspect whether the power supply cord and indoor/outdoor unit connection cables are too long or too small in diameter, etc. 2. Check whether something is interfering with the dissipation of the heat outdoors (during cooling operations): Normally, the capacity is limited by the current so that the outdoor unit don't stop, and the diagnostic display does not appear.
F99	DC peak detection	CU-2E: If the current level exceeds 22.5A after startup, the compressor stops, and it is restarted 3 minutes later. When this occurs on 7 consecutive occasions, operation stops, and the trouble display appears. CU-3E/4E: When "Output current trouble", which occurs when the prescribed current level is exceeded, has occurred on 16 consecutive occasions, operation stops, and the trouble display appears.	<ol style="list-style-type: none"> 1. Check whether the compressor is defective (locked up or shorted winding). Check the outdoor unit control PCB.

OPTIONAL ACCESSORIES

REPLACEMENT ANTI-ALLERGEN FILTER



CS-E9/12/15/18/21HKKEA

CS-PW9/12/18GKE, CS-PW24JKE, CS-V7DKE,
CS-V9DKE, CS-V12DKE, CS-V18DKE, CS-V24DKE,
CS-V28ERE, CS-E15DTEW, CS-E18DTEW, CS-E21DTE

CS-RE9/12/18/24JKE-1

PIPE REDUCER (for Multi)

CZ-MA1P is to be used to reduce the connection size on the indoor unit to 3/8". CS-E15/18MKEW,
CS-E15/18DTEW, CS-E15/18HB4EA, CS-E15/18JD3EA,
CS-E18GF EW, CS-E18GF EW, CS-XE15/18MKEW

PIPE EXPANDER (for Multi)

CZ-MA2P is to be used to increase the connection size on the outdoor unit to 1/2". CS-E21MKEW,
CS-XE21MKEW, CS-E21JB4EA



WELCOME TO THE COMMERCIAL RANGE

Welcome to Commercial range. Welcome to healthier air. A range which confirms its commitment to the environment. All our air conditioners use R410A gas. This environmentally friendly gas is totally harmless for the ozone layer. Our Inverter compressors optimise performance and thus reduce energy costs.

Here are some of your new air conditioner's major features.



INVERTER + SYSTEM. Inverter plus products improve on the characteristics of standard Inverter range by over 20%. This means 20% less consumption and 20% off your electric bill. A Inverter plus is also A class on cooling and heating mode.



INVERTER SYSTEM. The Inverter range provides greater efficiency, more comfort and less noise than classic inverter units. The Inverter system provides more precise temperature control, without highs and lows, and keeps the ambient temperature constant with lower energy consumption and a significant reduction in noise and vibration levels.



SUPER ALLERU-BUSTER FILTER. The super allergen-buster filter eliminates the allergens it captures. It combines three functions in one (anti-allergen, anti-virus and anti-bacterial) to keep room air clean and healthy.



DOWN TO -20°C IN HEAT PUMP. The air conditioner works in heat pump mode with an outdoor temperature as low as -15°C.



DOWN TO -15°C IN HEATING ONLY MODE. The air conditioner works in heating only mode with an outdoor temperature of -15°C.



DOWN TO -15°C IN COOLING ONLY MODE. The air conditioner works in cooling only mode with an outdoor temperature of -15°C.



R410A. Environmentally friendly refrigerant.



**COMMERCIAL RANGES****INVERTER +****INVERTER****HEAT PUMP****LOW STATIC PRESSURE HIDE-AWAY****FS TYPE**

Panasonic has also thought of integrating its technology into current architecture. Hide-away models are the answer. The small-sized indoor units are easily accommodated in false ceilings.

**HIGH STATIC PRESSURE HIDE-AWAY****FS TYPE**

Panasonic has developed hide-away units with high static pressure power, ideal for business centres.

**60X60 CASSETTE TYPE**

Panasonic's 60x60 cassettes are particularly suitable for small or medium-sized offices. Their dimensions fit perfectly into European 60x60 detachable ceiling panels.

**90X90 FS CASSETTE TYPE**

Panasonic has developed air conditioners with revolutionary designs in both format and function. As an added benefit, they offer the option of selecting airflow patterns in two or four different directions, at the click of a button.

**CEILING TYPE**

Especially suited for shopping centres or very large areas, these air conditioners are practically invisible due to their slimness, lightness and absolutely silent operation.

**HIGH PRESSURE HIDE-AWAY US TYPE**

Panasonic has developed hide-away units with high static pressure power, ideal for business centres.



**NEW
2011**



FS TECHNOLOGY

FS INVERTER, IMPROVED ENERGY PERFORMANCE

All Panasonic's FS Inverter series models are equipped with DC Inverters to give operation with improved energy efficiency. Their new quiet, highly efficient design reduces operating costs.

1. Hyper Wave Inverter

The FS series quickly warms the room up to the set temperature and maintains it within the comfort zone while ensuring energy efficiency and savings.

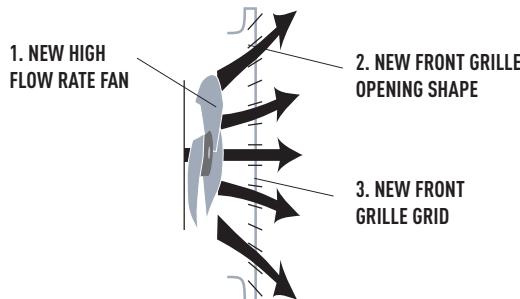
2. High efficiency compressor

A powerful neodymium magnet helps make the motor more compact.

3. New diagonal fan

The following improvements minimise air resistance:

REDUCING AIR RESISTANCE



Space-saving design

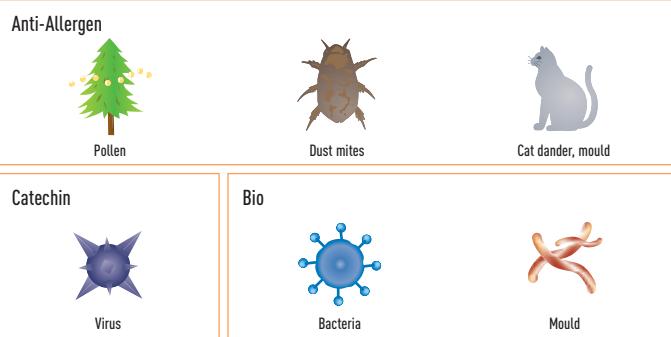
Thanks to its improved fan, the outdoor unit can be installed in smaller spaces where conventional models would not fit. It achieves higher efficiency without sacrificing quietness.



FOR CASSETTE AND CEILING MODELS SUPER ALLERU-BUSTER FILTER

SUPER alleru-buster filter uses three types of functional materials that make it possible to inactivate various harmful airborne elements including allergens, viruses and bacteria. This filter is available as an option.

prevention
allergy
filter
ALLERU-BUSTER



CZ-SA11P (For cassette type) // CZ-SA12P (For ceiling type)

CONTROL UNIT

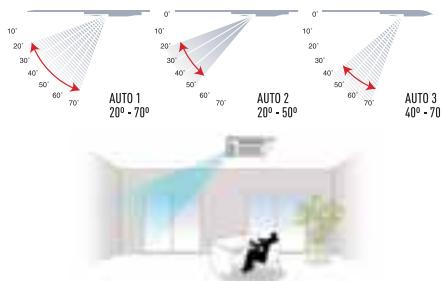
Maximum comfort in every detail

The Panasonic FS series includes a control unit for precise selection of the desired degree of comfort. It offers control of detailed parameters for adjusting air quality and flow.



1. Multi comfort air control

Newly developed control technology offers various airflow angle options. Select from the 3-pattern auto swings to avoid direct exposure to the air (total 50-degree swing width).



2. Weekly timer

Weekly timer setting (each day of a week) is available to control the air conditioner. Max. 6 settings/day and 42 settings/week can be run.

HOW TO SET



3. Odour wash

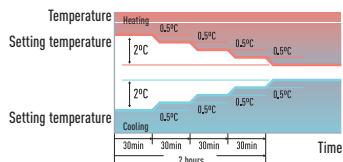
Odour Wash reduces any unpleasant odours produced by the air conditioner's heat exchanger.

4. Economy mode

An approximate 20% energy-saving operation is achieved. The air conditioner analyses ambient conditions and approaches the temperature set by the user in 0.5 degree steps (up to a maximum of 2 degrees), thus saving energy.

5. Ventilation

When an external device such as a fan is connected to the indoor unit, the fan's ON/OFF switch can be controlled by the wired remote control



* Whilst operating in the cooling mode at the remote control set temperature of 25 under the cooling standard temperature conditions.
Can be operated with the wireless remote control.

FS INDOOR UNITS

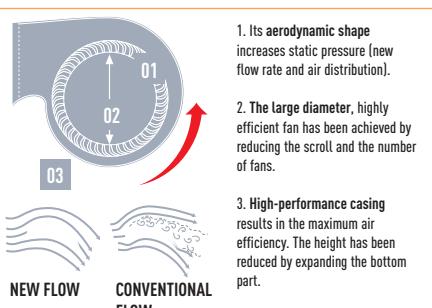
Hide-away range

Environmentally friendly, efficient and easy to install.

- Save 26% of space.
- Easy installation in false ceilings with limited height.
- Dimensions: 120 x 25 x 65 cm (W x H x D).

New sirocco fan

High-performance, large diameter fan. Designed precisely for airflow trajectory. The key to saving space.



SMALLER THAN CONVENTIONAL UNITS



Cassette range

Advanced unit design: First-in-class indoor unit

- Selectable airflow rate and direction.
- Silent operation.
- Customised programming.

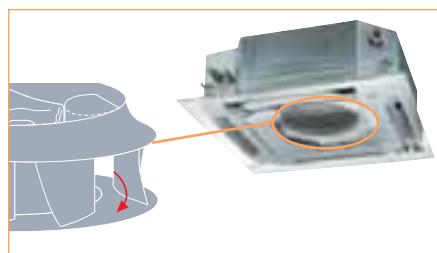
The indoor cassette unit is equipped with a hi-tech turbo fan. Its innovative blade design produces higher air speed and flow rate. The DC fan motor offers complete control. It is almost twice as efficient as a conventional motor and enables comfortable operation and energy savings.

Likewise, the possibility of connecting two indoor units to one outdoor unit means considerable savings across the board.

Improved air inlet and outlet

The new three-dimensional blade shape stabilises airflow.

Optimising layout of the indoor heat exchanger and the fan allows an increase in fan diameter.



Ceiling range

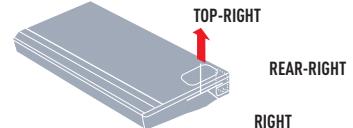
Trouble-free installation

- Easy setup.
- Multi-way connection.
- Broad range of air outlets.

ANTI-MOULD LONG-LIFE AIR FILTER



POSSIBLE CONNECTIONS



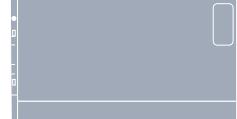
BROAD RANGE OF AIR OUTLETS

SIDE VIEW



Swinging louver (automatic)

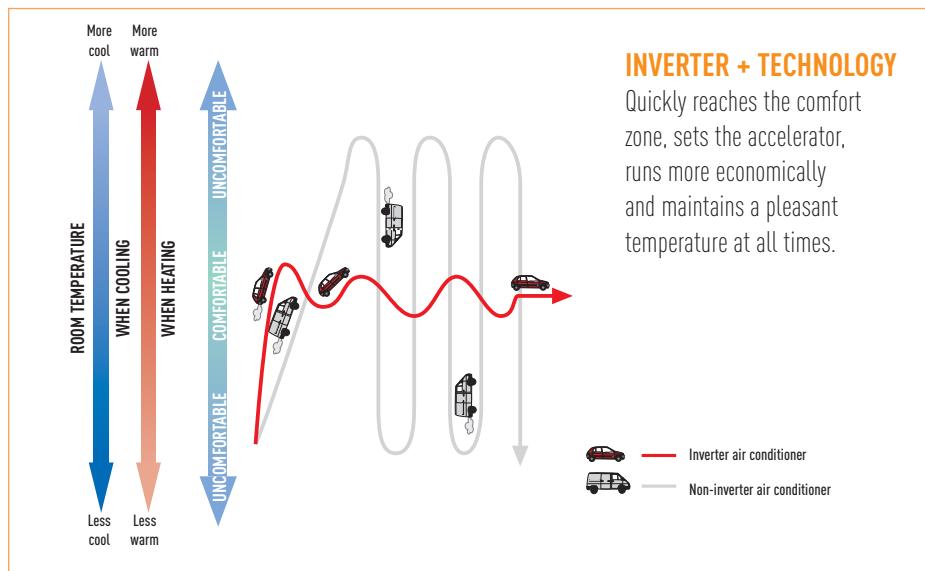
TOP VIEW



Manual louver

INVERTER + OUTDOOR UNITS

- Greater energy savings
- More installation options
- Quieter



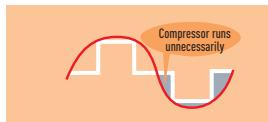
INVERTER + TECHNOLOGY

Quickly reaches the comfort zone, sets the accelerator, runs more economically and maintains a pleasant temperature at all times.

HIGH EFFICIENCY COMPRESSOR

COMPRESSOR OPERATION INVERTER / HEAT PUMP.

Inverter / Heat Pump



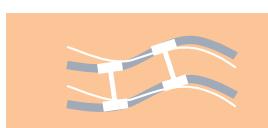
The heat pump waveform deviates from the motor waveform, so power is wasted.

Hyper wave Inverter

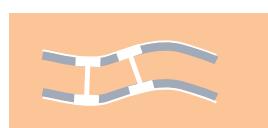


The compressor speed pattern perfectly fits the thermal needs at all times.

Compare this to a car rounding a corner



Power is lost when the car swings off course.



When the car stays on course, there is no power loss.

Energy-saving operation

The new design provides quiet, highly efficient operation and reduces running costs.

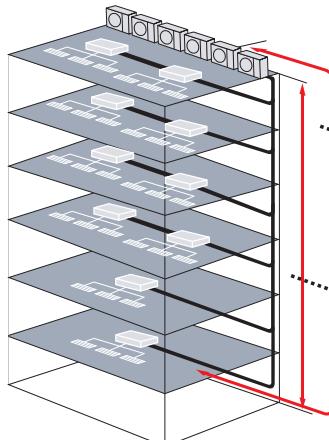
High efficiency compressor

The new electric motor achieves lower distortion of the magnetic field to give greater efficiency.



INVERTER + INSTALLATION FLEXIBILITY

INSTALLATION WITH SIGNIFICANT HEIGHT DIFFERENCES WITHOUT LOSS OF EFFICIENCY.



MAXIMUM PIPE LENGTH OF 30 M WITHOUT ADDITIONAL LOAD AND 50 M WITH ADDITIONAL LOAD.

MAXIMUM HEIGHT DIFFERENCE OF 50 M EQUIVALENT TO 17/18 FLOORS.



New more compact outdoor units save space

Thanks to the new outdoor unit design, installation can be carried out in more limited spaces.

Operating range

The units can be used for cooling even when the outdoor temperature is extremely low. This is ideal for spaces which need cooling even in winter.

Normal cooling conditions	-15°C to 43°C (outside temperature)
Normal heating conditions	-20°C to 24°C (outside temperature)

Installation space

- A Before 50 cm, now only 30 cm
- B Outdoor only 32 cm deep

YL INVERTER OUTDOOR UNITS

- More compact outdoor units
- Increased pipe length
- Installation using existing pipes



NEW OUTDOOR UNITS INVERTER YL

The new commercial YL Inverter range: more compact, easier to install and with improved performance. All these outdoor units are perfectly compatible with indoor units of the low silhouette hide-away, high pressure hide-away, cassette and ceiling types.



FLEXIBLE RETROFITTING TO EXISTING INSTALLATIONS

COMPATIBILITY OF FS INVERTER AND INVERTER + SYSTEMS WITH VARIOUS PIPE DIAMETERS.

Panasonic provides this new tool for retrofitting its equipment to any existing air conditioning installation. By using this simple compatibility table you will be able to check how the equipment works with different pipe diameters. Pipes should be cleaned correctly in all cases, taking special care to fully remove the remains of R22 refrigerating gas from the cooling circuit in systems that use that refrigerant.

	Ø Liquid pipe	1/4" (0.8mm)			3/8" (0.8mm)			1/2" (0.8mm)		
	Ø Gas pipe	3/8" (0.8mm)	1/2" (0.8mm)	5/8" (1.0mm)	1/2" (0.8mm)	5/8" (1.0mm)	3/4" (1.0mm)	5/8" (1.0mm)	3/4" (1.0mm)	
2.5 H.P.	Max. pipe length	No	No	10m	No	50m ¹⁾ - 30m ²⁾	No	25m	No	
	Max. height			10m		30m ¹⁾ - 25m ²⁾		15m		
	Additional load			-		50g/m		80g/m		
3.0 H.P.	Max. pipe length	No	No	10m	No	50m ¹⁾ - 30m ²⁾	No	25m	No	
	Max. height			10m		30m ¹⁾ - 25m ²⁾		15m		
	Additional load			-		50g/m		80g/m		
4-6 H.P.	Max. pipe length	No	No	10m	No	50m ¹⁾ - 30m ²⁾	25m	25m	25m	
	Max. height			10m		30m ¹⁾ - 25m ²⁾	15m	15m	15m	
	Additional load			-		80g/m	80g/m	100g/m	100g/m	

1) Inverter + range (CU-L)

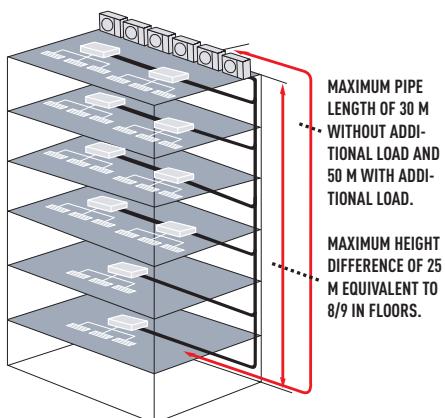
2) Inverter range (CU-YL)

■ Correct ■ Possible ■ Not recommended ■ Installation not possible

Minimum piping length= 7.5m for all systems.

EASY INSTALLATION YL INVERTER

THANKS TO THE IMPROVEMENTS IN THE NEW FS SERIES INVERTER YOU SAVE SPACE AND INSTALLATION TIME.



New more compact units

The new outdoor units are up to 40% smaller (model CU-YL34HBE5) than the previous range.



Operating range

The units can be used for cooling even when the outdoor temperature is extremely low. This is ideal for spaces which need cooling even in winter.

Normal cooling conditions	-15°C to 43°C (outside temperature)
Normal heating conditions	-20°C to 24°C (outside temperature)

Installation space

A Before 50 cm, now only 30 cm

B Outdoor only 32 cm deep

RANGE OF INDOOR UNITS FS

		1.0 H.P.	1.5 H.P.	2.0 H.P.	2.25 H.P.	
4-Way 60x60	INVERTER		CS-E10KB4EA	CS-E15HB4EA	CS-E18HB4EA	CS-E21JB4EA
4-Way 90x90 cassette	INVERTER +					
	INVERTER					
	Heat pump			CS-F14DB4E5	CS-F18DB4E5	
	Cooling only			CS-F14DB4E5	CS-F18DB4E5	
Low static pressure hide-away	INVERTER +					
	INVERTER		CS-E10KD3EA	CS-E15JD3EA	CS-E18JD3EA	
	Heat pump			CS-F14DD3E5	CS-F18DD3E5	
	Cooling only			CS-F14DD3E5	CS-F18DD3E5	
High static pressure hide-away	INVERTER +					
	INVERTER					
	Heat pump					
	Cooling only					
Ceiling	INVERTER +					
	INVERTER					
	Heat pump				CS-F18DTE5	
	Cooling only				CS-F18DTE5	
High pressure hide-away	INVERTER					

RANGE OF OUTDOOR UNITS

	1.0 H.P.	1.5 H.P.	2.0 H.P.	2.25 H.P.	
INVERTER +					
INVERTER					
		CU-E10HBEA ¹	CU-E15HBEA ¹	CU-E18HBEA ¹	CU-E21HBEA ¹
Heat pump					
		CU-B14DBE5 ¹	CU-B18DBE5 ¹		
Cooling only					
		CU-J14DBE5 ¹	CU-J18DBE5 ¹		

2.5 H.P.	3.0 H.P.	4.0 H.P.	5.0 H.P.	6.0 H.P.	8.0 H.P.	10 H.P.
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CS-F24DB4E5	CS-F28DB4E5	CS-F34DB4E5	CS-F43DB4E5	CS-F50DB4E5		
CS-F24DB4E5	CS-F28DB4E5	CS-F34DB4E5	CS-F43DB4E5	CS-F50DB4E5		
CS-F24DB4E5	CS-F28DB4E5	CS-F34DB4E5	CS-F43DB4E5	CS-F50DB4E5		
CS-F24DB4E5	CS-F28DB4E5	CS-F34DB4E5	CS-F43DB4E5	CS-F50DB4E5		
CS-F24DD3E5	CS-F28DD3E5	CS-F34DD3E5	CS-F43DD3E5	CS-F50DD3E5		
CS-F24DD3E5	CS-F28DD3E5	CS-F34DD3E5	CS-F43DD3E5	CS-F50DD3E5		
CS-F24DD3E5	CS-F28DD3E5	CS-F34DD3E5	CS-F43DD3E5	CS-F50DD3E5		
CS-F24DD2E5	CS-F28DD2E5	CS-F34DD2E5	CS-F43DD2E5	CS-F50DD2E5		
CS-F24DD2E5	CS-F28DD2E5	CS-F34DD2E5	CS-F43DD2E5	CS-F50DD2E5		
CS-F24DD2E5	CS-F28DD2E5	CS-F34DD2E5	CS-F43DD2E5	CS-F50DD2E5		
CS-F24DD2E5	CS-F28DD2E5	CS-F34DD2E5	CS-F43DD2E5	CS-F50DD2E5		
CS-F24DTE5	CS-F28DTE5	CS-F34DTE5	CS-F43DTE5	CS-F50DTE5		
CS-F24DTE5	CS-F28DTE5	CS-F34DTE5	CS-F43DTE5	CS-F50DTE5		
CS-F24DTE5	CS-F28DTE5	CS-F34DTE5	CS-F43DTE5	CS-F50DTE5		
CS-F24DTE5	CS-F28DTE5	CS-F34DTE5	CS-F43DTE5	CS-F50DTE5		

S-200PE1E8

S-250PE1E8

2.5 H.P.	3.0 H.P.	4.0 H.P.	5.0 H.P.	6.0 H.P.	8.0 H.P.	10 H.P.
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CU-L24DBE5 ¹	CU-L28DBE5 ¹	CU-L34DBE5 ¹ / L34DBE8 ^{III}	CU-L43DBE5 ¹ / L43DBE8 ^{III}	CU-L50DBE8 ^{III}		

CU-YL24HBE5 ¹	CU-YL28HBE5 ¹	CU-YL34HBE5 ¹	CU-YL43HBE5 ¹		U-200PE1E8 ^{III}	U-250PE1E8 ^{III}

CU-B24DBE5 ¹	CU-B28DBE5 ¹ / B28DBE8 ^{III}	CU-B34DBE5 ¹ / B34DBE8 ^{III}	CU-B43DBE8 ^{III}	CU-B50DBE8 ^{III}		

CU-J24DBE5 ¹ / J24DBE8 ^{III}	CU-J28DBE5 ¹ / J28DBE8 ^{III}	CU-J34DBE5 ¹ / J34DBE8 ^{III}	CU-J43DBE8 ^{III}	CU-J50DBE8 ^{III}		

TECHNICAL ZOOM

- EASY INSTALLATION ON THE DETACHABLE EUROPEAN 60X60 CEILING GRID
- OPERATION DOWN TO -10°C IN COOLING AND HEATING MODES
- PIPING LENGTH UP TO 30M
- MAXIMUM ELEVATION DIFFERENCE UP TO 20M
- ULTRA COMPACT OUTDOOR UNITS FOR EASY INSTALLATION
- 24 HOUR ON/OFF TIMER

4-WAY 60X60 CASSETTE FS // INVERTER TYPE

Small and powerful, ideal for offices and restaurants



KIT	1 H.P.	1.5 H.P.	2 H.P.	2.25 H.P.
Indoor	KIT-E10-HB4EA	KIT-E15-HB4EA	KIT-E18-HB4EA	KIT-E21-JB4EA
Outdoor	CS-E10KB4EA	CS-E15HB4EA	CS-E18HB4EA	CS-E21JB4EA
Panel	CU-E10HBEA	CU-E15HBEA	CU-E18HBEA	CU-E21HBEA
Wireless control	Included with kit	Included with indoor unit	Included with indoor unit	Included with indoor unit
Cooling capacity	Nominal (Min - Max) kW	2.50 (0.60 - 3.20)	4.10 (0.9 - 4.8)	4.8 (0.9 - 5.70)
	Nominal (Min - Max) kCal/h	2,150 (516 - 2,752)	3,530 (770 - 4,130)	4,130 (770 - 4,900)
EER ¹⁾	Nominal (Min - Max)	4.03 (4.14 - 3.68) A	3.15 (3.48 - 3.27) B	3.14 (3.53 - 2.95) B
Power input Cooling	Nominal (Min - Max) kW	0.620 [0.145 - 0.870]	1.300 [0.255 - 1.170]	1.539 [0.255 - 1.930]
Heating capacity	Nominal (Min - Max) kW	3.20 (0.60 - 5.10)	5.10 (0.9 - 6.20)	5.60 (0.90 - 7.10)
	Nominal (Min - Max) kCal/h	2,752 (516 - 4,300)	4,390 (770 - 5,330)	4,820 (770 - 6,110)
COP ¹⁾	Nominal (Min - Max)	3.90 (4.80 - 3.51) A	2.88 (3.46 - 2.84) D	2.95 (3.46 - 2.90) D
Power input Heating	Nominal (Min - Max) kW	0.820 (0.125 - 1.450)	1.770 (0.260 - 2.180)	1.900 (0.260 - 2.450)
Annual Energy Consumption ²⁾	kWh	310	650	765
INDOOR UNIT				
Air Volume	Cooling / Heating m ³ /h	630 / 648	630 / 648	660 / 690
Moisture removal volume	I/h	1.5	2.3	2.6
Sound pressure Level ³⁾	Cooling (Hi / Lo / S-Lo) dB(A)	34 / 26 / 23	34 / 26 / 23	36 / 28 / 25
	Heating (Hi / Lo / S-Lo) dB(A)	35 / 28 / 25	35 / 28 / 25	37 / 29 / 26
Sound power Level	Cooling (Hi) dB	47	47	49
	Heating (Hi) dB	58	48	50
Dimensions	Indoor (H x W x D) mm	260 x 575 x 575	260 x 575 x 575	260 x 575 x 575
	Panel (H x W x D) mm	51 x 700 x 700	51 x 700 x 700	51 x 700 x 700
Net weight	Indoor Kg	18	18	18
	Panel Kg	2.5	2.5	2.5
Dust filter	Yes	Yes	Yes	Yes
Antiallergic filter	Optional	CZ-SA13P	CZ-SA13P	CZ-SA13P
OUTDOOR UNIT				
Power source	V	220 - 240	220 - 240	220 - 240
Connection	mm ²	4 x 1.5 to 2.5	4 x 1.5 to 2.5	4 x 1.5 to 2.5
Current Cooling	Nominal (Min / Max) A	2.9	6.0	7.0
Current Heating	Nominal (Min / Max) A	3.8	8.0	8.5
Air Volume	Cooling / Heating m ³ /h	1,728	2,808	2,400
Sound pressure Level ³⁾	Cooling (Hi) dB(A)	45	45	47
	Heating (Hi) dB(A)	46	47	48
Sound power Level	Cooling (Hi) dB	58	58	60
	Heating (Hi) dB	59	60	61
Dimensions	H x W x D mm	540 x 780+70 ⁴⁾ x 289	750 x 875+70 ⁴⁾ x 345	750 x 875+70 ⁴⁾ x 345
Net weight	Kg	35	48	48
Piping connections	Liquid pipe inch (mm)	1/4" (6.35)	1/4" (6.35)	1/4" (6.35)
	Gas pipe inch (mm)	3/8" (9.52)	1/2" (12.70)	1/2" (12.70)
Refrigerant Loading R410A	Kg	1.15	1.23	1.06
Elevation difference (in/out) ⁵⁾	Max m	15	15	20
Piping length	Min - Max m	3 - 20	3 - 20	3 - 30
Piping length without refrigerant increase	Max m	10	10	10
Additional gas	g/m	20	20	20
Operating range ³⁾	Cooling (Min / Max) °C	-10 / 43	-10 / 43	-10 / 43
	Heating (Min / Max) °C	-10 / 24	-10 / 24	-10 / 24

GLOBAL REMARKS	Rating conditions	Cooling	Heating
	Inside air temperature	27°C DB / 19°C WB	20°C DB
	Outside air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

1)EER and COP, Energy Saving Classification, is at 220 - 240V (380 - 415V) only in accordance with EU directive 2002/31/EC.

2)The annual consumption is calculated by multiplying the input power at 220 - 240V (380 - 415V) by an average of 500-hr per year in cooling mode.

3)The sound pressure Level of the units shows the value measured of a position 1 meter in front of the main body and 1.5 from the ground.

The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification.

4)70mm for piping port.

5)When installing the outdoor unit at a higher position than the indoor unit.

DB: Dry bulb, WB: Wet bulb



INCLUDED WITH THE
INDOOR UNIT



CU-E10HBEA CU-E18HBEA
CU-E15HBEA CU-E21HBEA

KIT-E10-HB4EA // KIT-E15-HB4EA // KIT-E18-HB4EA // KIT-E21-JB4EA

HEALTHY AIR

- CZ-SA13P Alleru-buster antiallergic filter (optional)
- Odour-removing function

ENERGY EFFICIENCY AND ECOLOGY

- Maximum efficiency Inverter system

COMFORT

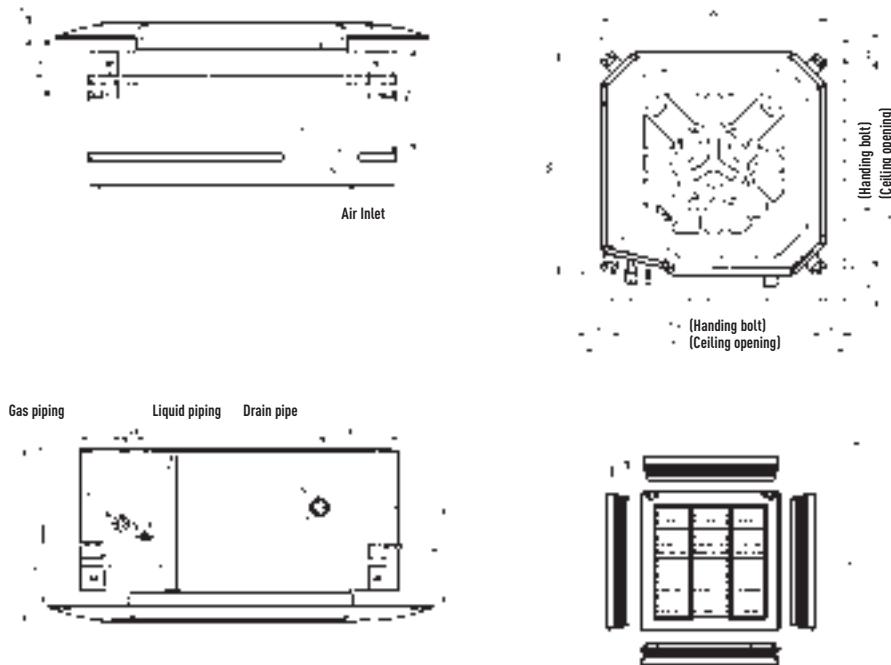
- Super Quiet mode
- Powerful mode
- Automatic vertical airflow control ambient temperature
- Hot start mode
- 24 hour On/Off timer
- Automatic restart after power cut

EASE OF USE

- Ergonomic infrared remote control

EASY INSTALLATION AND MAINTENANCE

- Removable, washable panel of the indoor unit
- Top panel maintenance access for the outdoor unit



TECHNICAL ZOOM

- HIGHER ENERGY CLASS FOR HIGH SAVINGS, EVEN AT -20°C
- ECO MODE FOR 20% ENERGY SAVING
- WEEKLY TIMER, 42 SETTINGS PER WEEK
- 3 OPENING ANGLES FOR THE PRE-PROGRAMMED GRILLES
- 30 M MAXIMUM ELEVATION DIFFERENCE
- EASY CHECK MODE FOR FAILURE DETECTION

4-WAY 90X90 CASSETTE // INVERTER + FS TYPE

A complete line up of compact, efficient , quieter and powerful cassette 90x90, for the most demanding customers, from 2.5 H.P. to 6.0 H.P., Single-phase and three-phase



KIT	2.5 H.P.	3.0 H.P.	4.0 H.P.	4.0 H.P.	5.0 H.P.	5.0 H.P.	6.0 H.P.
Indoor	KIT-F24DB4E5	KIT-F28DB4E5	KIT-F34DB4E5	KIT-F34DB4E8	KIT-F43DB4E5	KIT-F43DB4E8	KIT-F50DB4E8
Outdoor	CS-F24DB4E5	CS-F28DB4E5	CS-F34DB4E5	CS-F34DB4E8	CS-F43DB4E5	CS-F50DB4E5	CS-F50DB4E5
Panel	CU-L24DBE5	CU-L28DBE5	CU-L34DBE5	CU-L34DBE8	CU-L43DBE5	CU-L50DBE8	CU-L50DBE8
Wireless control	Included with kit	CZ-RL513B	CZ-RL513B	CZ-RL513B	CZ-RL513B	CZ-RL513B	CZ-RL513B
Wired remote control	Optional	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C
Cooling capacity	Nominal (Min-Max) kW	6.30 (2.10-7.10)	7.10 (2.20-8.00)	10.00 (4.00-12.00)	10.00 (4.00-12.00)	12.50 (4.00-14.00)	14.00 (4.00-16.00)
	Nominal (Min-Max) kCal/h	5,418 (1,806-6,106)	6,106 (1,892-6,880)	8,600 (3,440-10,320)	8,600 (3,440-10,320)	10,750 (3,440-12,040)	12,040 (3,440-13,760)
EER ¹⁾	Nominal (Min-Max)	3.71 (4.20-3.23) A	3.55 (3.67-3.34) A	3.86 (3.48-3.75) A	3.86 (3.48-3.75) A	3.43 (3.34-3.69) A	3.01 (3.34-3.23) B
Power input Cooling	Nominal (Min-Max) kW	1.70 (0.50-2.20)	2.00 (0.60-2.40)	2.59 (1.15-3.20)	2.59 (1.15-3.20)	3.64 (1.20-3.80)	4.65 (1.20-4.95)
Heating capacity	Nominal (Min-Max) kW	7.10 (2.20-8.00)	8.00 (2.30-8.50)	11.20 (4.00-14.00)	11.20 (4.00-14.00)	14.00 (4.00-16.00)	16.00 (4.00-18.00)
	Nominal (Min-Max) kCal/h	6,106 (1,892-6,880)	6,880 (1,978-7,310)	9,632 (3,440-12,040)	9,632 (3,440-12,040)	12,040 (3,440-13,760)	13,760 (3,440-15,480)
COP ¹⁾	Nominal (Min-Max)	3.86 (4.40-2.58) A	3.79 (3.83-2.65) A	3.86 (3.64-3.41) A	3.86 (3.64-3.41) A	3.61 (3.48-3.27) A	3.41 (3.48-3.05) B
Power input Heating	Nominal (Min-Max) kW	1.84 (0.50-3.10)	2.11 (0.60-3.20)	2.90 (1.10-4.10)	2.90 (1.10-4.10)	3.88 (1.15-4.90)	4.69 (1.15-5.90)
Annual Energy Consumption ²⁾	kWh	850	1000	1295	1295	1820	2325
INDOOR UNIT							
Air Volume	Cooling / Heating m ³ /h	1,080 / 1,080	1,200 / 1,200	1,620 / 1,620	1,620 / 1,620	1,860 / 1,860	1,860 / 1,860
Moisture removal volume	U/h	3.6	4.2	6.0	6.0	7.9	7.9
Sound pressure Level ³⁾	Cooling (Hi / Lo) dB(A)	36 / 32	38 / 33	42 / 37	42 / 37	46 / 41	46 / 41
	Heating (Hi / Lo) dB(A)	36 / 32	38 / 33	42 / 37	42 / 37	46 / 41	47 / 42
Sound power Level	Cooling (Hi) dB	51	53	57	57	61	61
	Heating (Hi) dB	51	53	57	57	61	62
Dimensions	Indoor (H x W x D) mm	246 x 840 x 840	246 x 840 x 840	288 x 840 x 840			
	Panel (H x W x D) mm	45 x 950 x 950					
Net weight	Indoor Kg	26	26	28.5	28.5	28.5	28.5
	Panel Kg	4.5	4.5	4.5	4.5	4.5	4.5
Dust filter		Yes	Yes	Yes	Yes	Yes	Yes
Antiallergic filter	Optional	CZ-SA11P	CZ-SA11P	CZ-SA11P	CZ-SA11P	CZ-SA11P	CZ-SA11P
OUTDOOR UNIT							
Power source	V	220 - 240	220 - 240	220 - 240	380 - 415	220 - 240	380 - 415
Connection	mm ²	4 x 1'5 to 2'5					
Current Cooling	Nominal (Min / Max) A	7.7	9.2	11.7	4.1	16.5	5.8
Current Heating	Nominal (Min / Max) A	8.4	9.6	13.2	4.6	17.6	6.1
Air Volume	Cooling / Heating m ³ /h	2,880 / 2,880	2,880 / 2,880	5,880 / 5,880	5,880 / 5,880	5,880 / 5,880	5,880 / 5,880
Sound pressure Level ³⁾	Cooling (Hi) dB(A)	47	48	52	52	53	54
	Heating (Hi) dB(A)	49	50	54	54	55	56
Sound power Level	Cooling (Hi) dB	63	64	66	66	67	68
	Heating (Hi) dB	65	66	68	68	69	70
Dimensions	H x W x D mm	795 x 900 x 320	795 x 900 x 320	1,340 x 900 x 320	1,340 x 900 x 320	1,340 x 900 x 320	1,340 x 900 x 320
Net weight	Kg	71	71	110	110	105	105
Piping connections	Liquid pipe inch (mm)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)
	Gas pipe inch (mm)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)
Refrigerant Loading	R410A Kg	2.13	2.35	3.3	3.3	3.3	3.5
Elevation difference (in/out) ⁴⁾	Max m	30	30	30	30	30	30
Piping length	Min - Max m	7.5 - 50	7.5 - 50	7.5 - 50	7.5 - 50	7.5 - 50	7.5 - 50
Piping length without refrigerant increase	Max m	30	30	30	30	30	30
Additional gas	g/m	50	50	50	50	50	50
Area control accessory	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire
Operating range ³⁾	Cooling Min / Max °C	-15 / 43	-15 / 43	-15 / 43	-15 / 43	-15 / 43	-15 / 43
	Heating Min / Max °C	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24

1)EER and COP classification is at 220 - 240V in accordance with EU directive 2002/31/EC

2)The annual consumption is calculated by multiplying the input power at 220 - 240V by an average of 500-hr per year in cooling mode

3)The sound pressure level of the units shows the value measured of a position 1 meter in front of the main body and 1.5 from the ground.

The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification

4)When installing the outdoor unit at a higher position than the indoor unit

DB: Dry bulb, WB: Wet bulb



KIT-F24DB4E5 // KIT-F28DB4E5 // KIT-F34DB4E5 // KIT-F34DB4E8 // KIT-F43DB4E5 // KIT-F43DB4E8 // KIT-F50DB4E8

HEALTHY AIR

- CZ-SA11P Alleru-buster antiallergic filter (optional)

ENERGY EFFICIENCY AND ECOLOGY

- Maximum efficiency Inverter system
- R410A environmentally friendly refrigerant gas

COMFORT

- Cooling with low outdoor temperatures (down to -20 °C)
- 3 types of air emission (3 opening angles for the pre-programmed grilles)
- Automatic deflectors
- Automatic start after a power cut
- Automatic fan operation mode

EASE OF USE

- Weekly On/Off timer (6 settings per day and 42 per week)
- Infrared remote control
- Optional wired remote control

EASY INSTALLATION AND MAINTENANCE

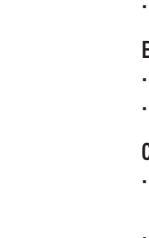
- Installation using existing pipes
- Drain pump (up to 750 mm)
- Self-diagnostic function
- Condensation control
- Removable, washable indoor unit panel



CU-L24DBE5
CU-L28DBE5

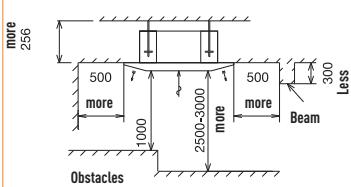


CU-L34DBE5
CU-L34DBE8
CU-L43DBE5

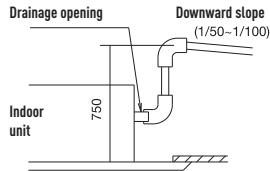


CU-L43DBE8
CU-L50DBE8

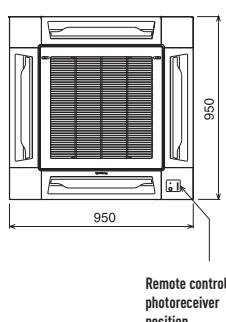
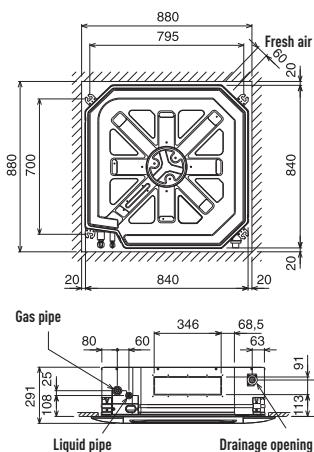
SPACE NEEDED FOR INSTALLATION



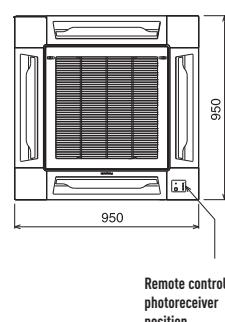
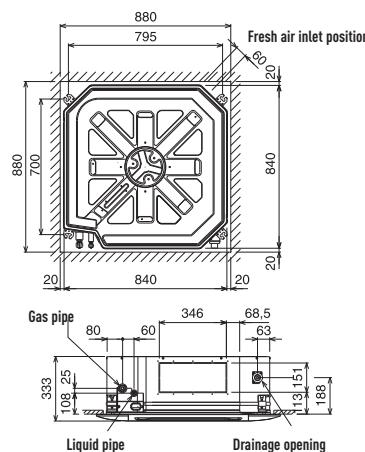
DRAINAGE



INDOOR UNIT DIMENSIONS // CS-F24DB4E5 // CS-F28DB4E5



INDOOR UNIT DIMENSIONS // CS-F34DB4E5 // CS-F43DB4E5 // CS-F50DB4E5



TECHNICAL ZOOM

- ULTRA COMPACT OUTDOOR UNITS (-40% REDUCED SIZE FOR THE CU-YL34HBE5)
- ECO MODE FOR 20% ENERGY SAVING
- WEEKLY TIMER, 42 SETTINGS PER WEEK
- 3 OPENING ANGLES FOR THE PRE-PROGRAMMED GRILLES
- 25 M MAXIMUM ELEVATION DIFFERENCE
- EASY CHECK MODE FOR FAILURE DETECTION

4-WAY 90X90 CASSETTE // INVERTER FS TYPE

Compact line up of inverter cassette, from 2.5 H.P. to 5.0 H.P., Single-phase



KIT	2.5 H.P.	3.0 H.P.	4.0 H.P.	5.0 H.P.
Indoor	KIT-YH24DB4E5	KIT-YH28DB4E5	KIT-YH34DB4E5	KIT-YH43DB4E5
Outdoor	CS-F24DB4E5	CS-F28DB4E5	CS-F34DB4E5	CS-F43DB4E5
Panel	CU-YL24HBE5	CU-YL28HBE5	CU-YL34HBE5	CU-YL43HBE5
Wireless control	Included with kit	CZ-RL513C	CZ-RL513C	CZ-RL513C
Wired remote control	Optional	CZ-RL513B	CZ-RL513B	CZ-RL513B
Cooling capacity	Nominal [Min - Max] kW Nominal [Min - Max] kCal/h	5.60 [2 - 6.30] 4,816 [1,720 - 5,418]	7.10 [2.10 - 7.70] 6,106 [1,806 - 6,622]	10.00 [3.8 - 11.00] 8,600 [3,268 - 9,460]
EER ¹⁾	Nominal [Min - Max]	3.01 [3.64 - 2.86] B	3.01 [3.23 - 2.96] B	3.01 [3.04 - 2.78] B
Power input Cooling	Nominal [Min - Max] kW	1.86 [0.55 - 2.20]	2.36 [0.65 - 2.60]	3.32 [1.25 - 3.95]
Heating capacity	Nominal [Min - Max] kW Nominal [Min - Max] kCal/h	7.00 [2.10 - 7.60] 6,020 [1,806 - 6,536]	8.00 [2.20 - 8.30] 6,880 [1,892 - 7,138]	11.20 [3.80 - 13.00] 9,632 [3,268 - 11,180]
COP ¹⁾	Nominal [Min - Max]	3.41 [4.20 - 2.71] B	3.42 [3.67 - 2.59] B	3.41 [3.45 - 3.17] B
Power input Heating	Nominal [Min - Max] kW	2.05 [0.50 - 2.80]	2.34 [0.60 - 3.20]	3.28 [1.10 - 4.10]
Annual Energy Consumption ²⁾	kWh	930	1180	1660
INDOOR UNIT				
Air Volume	Cooling / Heating m ³ /h	1,080 / 1,080	1,200 / 1,200	1,620 / 1,620
Moisture removal volume	U/h	3.6	4.2	6.0
Sound pressure Level ³⁾	Cooling (Hi / Lo) dB(A) Heating (Hi / Lo) dB(A)	36 / 32 36 / 32	38 / 33 38 / 33	42 / 37 42 / 37
Sound power Level	Cooling (Hi) dB Heating (Hi) dB	51 51	53 53	57 57
Dimensions	Indoor (H x W x D) mm Panel (H x W x D) mm	246 x 840 x 840 950 x 950 x 45	246 x 840 x 840 950 x 950 x 45	288 x 840 x 840 950 x 950 x 45
Net weight	Indoor Kg Panel Kg	26 4.5	26 4.5	28.5 4.5
Dust filter	Yes	Yes	Yes	Yes
Antiallergic filter	Optional	CZ-SA11P	CZ-SA11P	CZ-SA11P
OUTDOOR UNIT				
Power source	V	220 - 240	220 - 240	220 - 240
Connection	mm ²	4 x 1.5 to 2.5	4 x 1.5 to 2.5	4 x 1.5 to 2.5
Current Cooling	Nominal [Min / Max] A	8.30	10.60	15.20
Current Heating	Nominal [Min / Max] A	9.20	10.50	15.00
Air Volume	Cooling / Heating m ³ /h	3,180	3,480	3720
Sound pressure Level ³⁾	Cooling (Hi) dB(A) Heating (Hi) dB(A)	49 51	50 52	54 56
Sound power Level	Cooling (Hi) dB Heating (Hi) dB	67 68	68 69	71 73
Dimensions	H x W x D mm	795 x 875+70 ⁴⁾ x 320	795x 875+70 ⁴⁾ x 320	795 x 900 x 320
Net weight	Kg	1/4" (6.35)	65	66
Piping connections	Liquid pipe inch (mm) Gas pipe inch (mm)	3/8" (9.52) 5/8" (15.88)	3/8" (9.52) 5/8" (15.88)	3/8" (9.52) 5/8" (15.88)
Refrigerant Loading	R410A Kg	1.63	2.05	2.8
Elevation difference (in/out) ⁵⁾	Max m	25	25	30
Piping length	Min - Max m	7.5 - 30	7.5 - 30	7.5 - 50
Piping length without refrigerant increase	Max m	30	30	30
Additional gas g/m	50	50	50	50
Area control accessory	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire
Operating range ³⁾	Cooling Min / Max °C Heating Min / Max °C	-5 / 43 -15 / 24	-5 / 44 -15 / 25	-5 / 45 -15 / 26

GLOBAL REMARKS	Rating conditions	Cooling	Heating
Inside air temperature		20°C DB / 19°C WB	
Outside air temperature		35°C DB / 24°C WB	7°C DB / 6°C WB

DB: Dry bulb, WB: Wet bulb

- 1) EER and COP, Energy Saving Classification, is at 220 - 240V (380 - 415V) only in accordance with EU directive 2002/31/EC.
 2) The annual consumption is calculated by multiplying the input power at 220 - 240V (380 - 415V) by an average of 500-hr per year in cooling mode.
 3) The sound pressure Level of the units shows the value measured of a position 1 meter in front of the main body and 1,5 from the ground.
 The sound pressure level is measured in accordance with Eurovent 6/C006-97 specification.
 4) Add 70mm for piping port.
 5) When installing the outdoor unit at a higher position than the indoor unit.



KIT-YH24DB4E5 // KIT-YH28DB4E5 // KIT-YH34DB4E5 // KIT-YH43DB4E5



CU-YL24HBE5
CU-YL28HBE5

CU-YL34HBE5

CU-YL43HBE5

HEALTHY AIR

- CZ-SA11P Alleru-buster antiallergic filter (optional)

ENERGY EFFICIENCY AND ECOLOGY

- Inverter system
- R410A environmentally friendly refrigerant gas

COMFORT

- Cooling with low outdoor temperatures (down to -15 °C)
- 3 types of air emission (3 opening angles for the pre-programmed grilles)
- Automatic deflectors
- Automatic start after a power cut
- Automatic fan operation mode

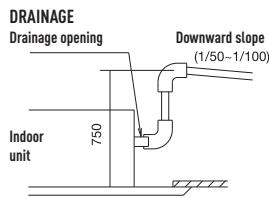
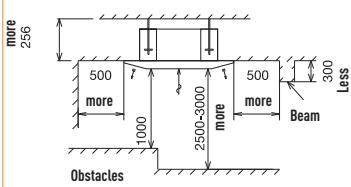
EASE OF USE

- Weekly On/Off timer (6 settings per day and 42 per week)
- Infrared remote control
- Optional wired remote control

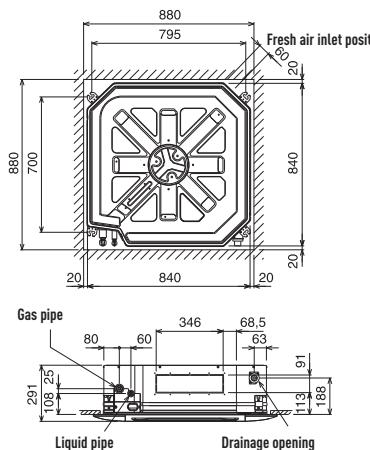
EASY INSTALLATION AND MAINTENANCE

- Installation using existing pipes (only for YL*HBE5 units)
- Drain pump (up to 750 mm)
- Self-diagnostic function
- Condensation control
- Removable, washable indoor unit panel

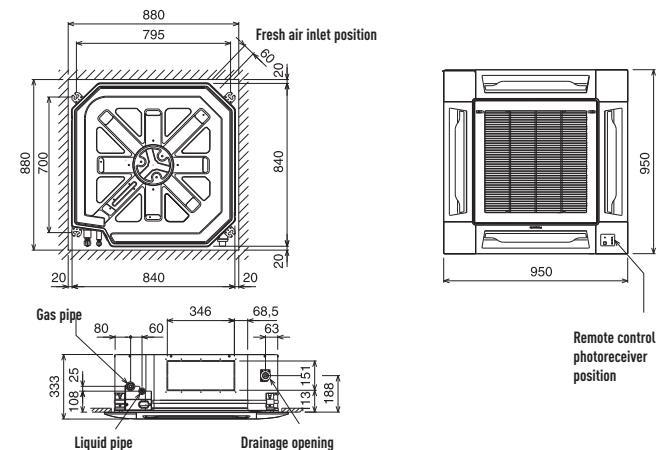
SPACE NEEDED FOR INSTALLATION



INDOOR UNIT DIMENSIONS // CS-F24DB4E5 // CS-F28DB4E5



INDOOR UNIT DIMENSIONS // CS-F34DB4E5 // CS-F43DB4E5



TECHNICAL ZOOM

- ECO MODE FOR 20% ENERGY SAVING
- 3 OPENING ANGLES FOR THE PRE-PROGRAMMED GRILLES
- WEEKLY TIMER, 42 SETTINGS PER WEEK
- 30 M MAXIMUM ELEVATION DIFFERENCE
- EASY CHECK MODE FOR FAILURE DETECTION

4-WAY 90X90 CASSETTE // HEAT PUMP FS TYPE

Full line up of heat pump non-inverter cassette, from 1.5 H.P. to 6.0 H.P., Single-phase and three-phase



KIT	1.5 H.P.	2.0 H.P.	2.5 H.P.	3.0 H.P.	3.0 H.P.	4.0 H.P.	4.0 H.P.	5.0 H.P.	6.0 H.P.
	KIT-F14DB4E5-C	KIT-F18DB4E5-C	KIT-F24DB4E5-C	KIT-F28DB4E5-C	KIT-F34DB4E8-C	KIT-F34DB4E8-C	KIT-F34DB4E8-C	KIT-F43DB4E8-C	KIT-F50DB4E8-C
Indoor	CS-F14DB4E5	CS-F18DB4E5	CS-F24DB4E5	CS-F28DB4E5	CS-F34DB4E5	CS-F34DB4E5	CS-F34DB4E5	CS-F43DB4E5	CS-F50DB4E5
Outdoor	CU-B14DBE5	CU-B18DBE5	CU-B24DBE5	CU-B28DBE8	CU-B34DBE5	CU-B34DBE8	CU-B34DBE8	CU-B43DBE8	CU-B50DBE8
Panel	CZ-BT03P	CZ-BT03P	CZ-BT03P	CZ-BT03P	CZ-BT03P	CZ-BT03P	CZ-BT03P	CZ-BT03P	CZ-BT03P
Wireless control	Included with kit								
Wired remote control	Optional	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C
Cooling capacity	Nominal (Min-Max)	kW	3.80	5.00	6.60	7.3	7.3	10	12.5
	Nominal (Min-Max)	kCal/h	3268	4300	5676	6278	6278	8600	10750
EER ¹⁾	Nominal (Min-Max)		3.09	2.91	2.63	2.61	2.61	2.62	2.72
Power input Cooling	Nominal (Min-Max)	kW	1.23 [1.2-1.6]	1.72 [1.69-1.75]	2.51[2.46-2.57]	2.80 [2.74-2.85]	2.80 [2.74-2.85]	3.81 [3.76-3.86]	3.68 [3.63-3.73]
Heating capacity	Nominal (Min-Max)	kW	4.30	5.60	7.1	8.0	8.0	11.2	14.0
	Nominal (Min-Max)	kCal/h	3698	4816	6106	6880	6880	9632	12040
COP ¹⁾	Nominal (Min-Max)		3.52	3.46	3.01	3.08	3.08	2.90	2.96
Power input Heating	Nominal (Min-Max)	kW	1.22 [1.19-1.25]	1.62 [1.59-1.65]	2.36 [2.31-2.41]	2.60 [2.55-2.65]	2.60 [2.55-2.65]	3.86 [3.81-3.91]	3.78 [3.73-3.83]
Annual Energy Consumption ²⁾	kWh	615	860	1255	1400	1400	1905	1840	2325
INDOOR UNIT									
Air Volume	Cooling / Heating	m ³ /h	900 / 900	960 / 960	1,080 / 1,080	1,200 / 1,200	1,200 / 1,200	1,620 / 1,620	1,620 / 1,620
Moisture removal volume		l/h	2.2	2.8	3.8	4.3	4.3	6.0	7.9
Sound pressure Level ³⁾	Cooling (Hi / Lo)	dB(A)	34 / 31	35 / 32	36 / 32	38 / 33	38 / 33	42 / 37	42 / 37
	Heating (Hi / Lo)	dB(A)	34 / 31	34 / 31	36 / 32	38 / 33	38 / 33	42 / 37	42 / 37
Sound power Level	Cooling (Hi)	dB	49	50	51	53	53	57	61
	Heating (Hi)	dB	49	49	51	53	53	57	62
Dimensions	Indoor (H x W x D)	mm	246x840x840	246x840x840	246x840x840	246x840x840	246x840x840	288x840x840	288x840x840
	Panel (H x W x D)	mm	45x950x950						
Net weight	Indoor	Kg	25	26	26	26	26	28.5	28.5
	Panel	Kg	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Dust filter		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Antiallergic filter	Optional	CZ-SA11P	CZ-SA11P	CZ-SA11P	CZ-SA11P	CZ-SA11P	CZ-SA11P	CZ-SA11P	CZ-SA11P
OUTDOOR UNIT									
Power source	V	220 - 240	220 - 240	220 - 240	220 - 240	380 - 415	220 - 240	380 - 415	380 - 415
Connection	mm ²	4 x 1'5 to 2'	4 x 1'5 to 2'	4 x 1'5 to 2'	4 x 1'5 to 2'	4 x 1'5 to 2'	4 x 1'5 to 2'	4 x 1'5 to 2'	4 x 1'5 to 2'
Current Cooling	Nominal (Min / Max)	A	5.5	7.7	12.4	12.8	4.85	18.1	6.1
Current Heating	Nominal (Min / Max)	A	5.45	7.2	11.2	11.8	4.3	17.7	6.0
Air Volume	Cooling / Heating	m ³ /h	3,240	3,420	3,600	3,780	3,780	5,640	5,640
Sound pressure Level ³⁾	Cooling (Hi)	dB(A)	49	49	50	52	52	55	56
	Heating (Hi)	dB(A)	50	50	51	53	53	56	57
Sound power Level	Cooling (Hi)	dB	65	65	66	67	67	69	70
	Heating (Hi)	dB	66	66	67	68	68	70	71
Dimensions	H x W x D	mm	795x900x320	795x900x320	795x900x320	795x900x320	795x900x320	1,170x900x320	1,170x900x320
Net weight	Kg	55	57	69	69	69	102	100	102
Piping connections	Liquid pipe	inch (mm)	1/4" (6.35)	1/4" (6.35)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)
	Gas pipe	inch (mm)	1/2" (12.70)	1/2" (12.70)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)
Refrigerant Loading	R410A	Kg	1.10	1.35	1.70	2.05	2.05	2.70	2.70
Elevation difference (in/out) ⁴⁾	Max	m	20	20	30	30	30	30	30
Piping length	Min - Max	m	7.5 - 30	7.5 - 30	7.5 - 50	7.5 - 50	7.5 - 50	7.5 - 50	7.5 - 50
Piping length without refrigerant increase	Max	m	20	20	30	30	30	30	30
Additional gas	g/m	50	50	50	50	50	50	50	50
Area control accessory		EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire
Operating range ³⁾	Cooling Min / Max	°C	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43
	Heating Min / Max	°C	-10 / 24	-10 / 24	-10 / 24	-10 / 24	-10 / 24	-10 / 24	-10 / 24

GLOBAL REMARKS Rating conditions

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

1)EER and COP classification is at 220 - 240V in accordance with EU directive 2002/31/EC.

2)The annual consumption is calculated by multiplying the input power at 220 - 240V by an average of 500-hr per year in cooling mode.

3)The sound pressure level of the units shows the value measured at a position 1 meter in front of the main body and 1.5 m from the ground.

The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification.

4)When installing the outdoor unit at a higher position than the indoor unit.



CZ-RL513B



CZ-RD513C

KIT-F14DB4E5-C // KIT-F18DB4E5-C // KIT-F24DB4E5-C // KIT-F28DB4E5-C // KIT-F28DB4E8-C // KIT-F34DB4E5-C // KIT-F34DB4E8-C // KIT-F43DB4E8-C // KIT-F50DB4E8-C

CU-B14DBE5
CU-B18DBE5
CU-B24DBE5CU-B28DBE5
CU-B28DBE8
CU-B34DBE8

HEALTHY AIR

- CZ-SA11P Alleru-buster antiallergic filter (optional)

ENERGY EFFICIENCY AND ECOLOGY

- R410A environmentally friendly refrigerant gas

COMFORT

- 3 types of air emission (3 opening angles for the pre-programmed grilles)
- Automatic deflectors
- Automatic start after a power cut
- Automatic fan operation mode

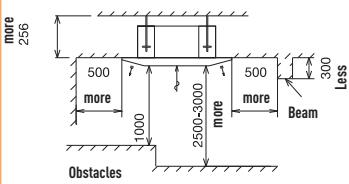
EASE OF USE

- Weekly On/Off timer (6 settings per day and 42 per week)
- Infrared remote control
- Optional wired remote control

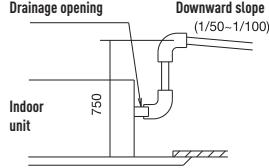
EASY INSTALLATION AND MAINTENANCE

- Self-diagnostic function
- Drain pump (up to 750 mm)
- Condensation control
- Removable, washable indoor unit panel

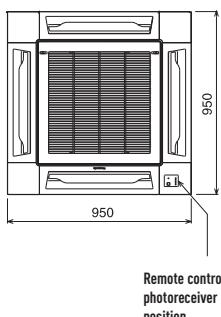
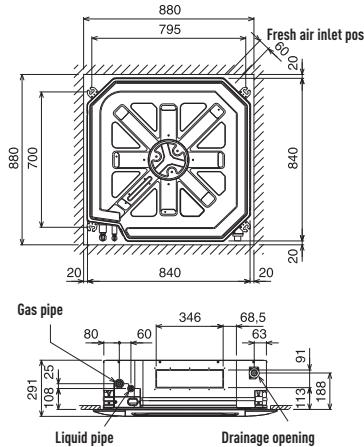
SPACE NEEDED FOR INSTALLATION



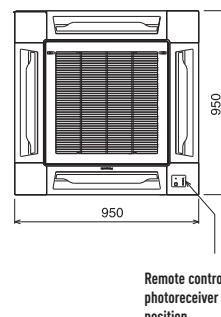
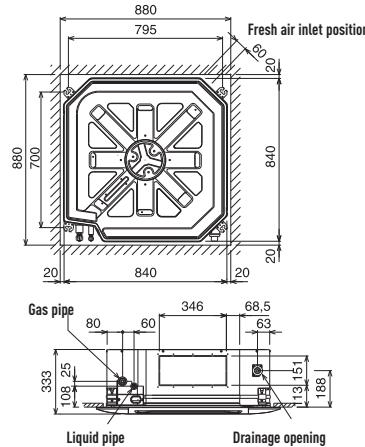
DRAINAGE



INDOOR UNIT DIMENSIONS // CS-F14DB4E5 // CS-F18DB4E5 // CS-F24DB4E5 // CS-F28DB4E5



INDOOR UNIT DIMENSIONS // CS-F34DB4E5 // CS-F43DB4E5 // CS-F50DB4E5

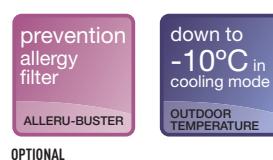


TECHNICAL ZOOM

- ECO MODE FOR 20% ENERGY SAVING
- 3 OPENING ANGLES FOR THE PRE-PROGRAMMED GRILLES
- WEEKLY TIMER, 42 SETTINGS PER WEEK
- 30 M MAXIMUM ELEVATION DIFFERENCE
- EASY CHECK MODE FOR FAILURE DETECTION

4-WAY 90X90 CASSETTE // COOLING ONLY FS TYPE

Full line up of cooling only non-inverter cassette, from 1.5 H.P. to 6.0 H.P., Single-phase and three-phase



	1.5 H.P.	2.0 H.P.	2.5 H.P.	2.5 H.P.	3.0 H.P.	3.0 H.P.	4.0 H.P.	4.0 H.P.	5.0 H.P.	6.0 H.P.
KIT	KIT-F14DB4/E5 F	KIT-F18DB4/E5 F	KIT-F24DB4/E5 F	KIT-F24DB4/E8 F	KIT-F28DB4/E5 F	KIT-F28DB4/E9 F	KIT-F34DB4/E5 F	KIT-F34DB4/E8 F	KIT-F34DB4/E8 F	KIT-F50DB4/E8 F
Indoor	CS-F14DB4E5	CS-F18DB4E5	CS-F24DB4E5	CS-F24DB4E5	CS-F28DB4E5	CS-F28DB4E5	CS-F34DB4E5	CS-F34DB4E5	CS-F34DB4E5	CS-F50DB4E5
Outdoor	CU-J14DBE5	CU-J18DBE5	CU-J24DBE5	CU-J24DBE8	CU-J28DBE5	CU-J28DBE8	CU-J34DBE5	CU-J34DBE8	CU-J34DBE8	CU-J50DBE8
Panel	CZ-BT03P	CZ-BT03P	CZ-BT03P	CZ-BT03P	CZ-BT03P	CZ-BT03P	CZ-BT03P	CZ-BT03P	CZ-BT03P	CZ-BT03P
Wireless control	Included with kit	CZ-RL513B	CZ-RL513B	CZ-RL513B	CZ-RL513B	CZ-RL513B	CZ-RL513B	CZ-RL513B	CZ-RL513B	CZ-RL513B
Wired remote control	Optional	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C
Cooling capacity	Nominal (Min-Max)	kW	3.80	5.00	6.60	6.60	7.3	7.3	10	12.5
	Nominal (Min-Max)	kCal/h	3,268	4,300	5,676	5,676	6,278	6,278	8,600	10,750
EER ¹⁾	Nominal (Min-Max)		3.02 B	2.91 C	2.58 E	2.56 E	2.61 D	2.61 D	2.54 E	2.63 D
Power input Cooling	Nominal (Min-Max)	kW	1.26 [1.2-1.29]	1.72 [1.69-1.75]	2.58 [2.53-2.63]	2.58 [2.53-2.63]	2.80 [2.74-2.85]	2.80 [2.74-2.85]	3.93 [3.88-3.98]	4.79 [4.74-4.84]
Annual Energy Consumption ²⁾		kWh	630	860	1,290	1,290	1,400	1,400	1,965	2,395
INDOOR UNIT										
Air Volume		m ³ /h	900	960	1,080	1,080	1,200	1,200	1,620	1,620
Moisture removal volume		l/h	2.2	2.8	3.8	3.8	4.3	4.3	6.0	7.9
Sound pressure Level ³⁾	Hi / Lo	dB(A)	34 / 31	35 / 32	36 / 32	36 / 32	38 / 33	38 / 33	42 / 37	42 / 37
Sound power Level	Hi	dB	49	50	51	51	53	53	57	61
Dimensions	Indoor (H x W x D)	mm	246x840x840	246x840x840	246x840x840	246x840x840	246x840x840	246x840x840	288x840x840	288x840x840
	Panel (H x W x D)	mm	45x950x950							
Net weight	Indoor	Kg	25	26	26	26	26	26	28.5	28.5
	Panel	Kg	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Dust filter	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Antiallergic filter	Optional		CZ-SA11P							
OUTDOOR UNIT										
Power source		V	220 - 240	220 - 240	220 - 240	380 - 415	220 - 240	380 - 415	220 - 240	380 - 415
Connection		mm ²	4 x 1 ⁵ to 2 ⁵							
Current Cooling	Nominal (Min / Max)	A	5.7	7.7	13.2	4.55	12.9	4.9	18.1	6.2
Air Volume		m ³ /h	3,240	3,420	3,600	3,600	3,780	3,780	5,640	5,640
Sound pressure Level ³⁾	Hi	dB(A)	49	49	50	50	52	52	55	56
Sound power Level	Hi	dB	65	65	66	66	67	67	69	70
Dimensions	H x W x D	mm	795x900x320	795x900x320	795x900x320	795x900x320	795x900x320	795x900x320	1,170x900x320	1,170x900x320
Net weight		Kg	55	57	69	69	69	69	102	102
Piping connections	Liquid pipe	inch (mm)	1/4" (6.35)	1/4" (6.35)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)
	Gas pipe	inch (mm)	1/2" (12.70)	1/2" (12.70)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)
Refrigerant Loading	R410A	Kg	1.1	1.35	1.7	1.7	2.05	2.05	2.7	3.1
Elevation difference (in/out) ⁴⁾	Max	m	20	20	30	30	30	30	30	30
Piping length	Min - Max	m	7.5 - 30	7.5 - 30	7.5 - 50	7.5 - 50	7.5 - 50	7.5 - 50	7.5 - 50	7.5 - 50
Piping length without refrigerant increase		m	20	20	30	30	30	30	30	30
Additional gas		g/m	50	50	50	50	50	50	50	50
Area control accessory			EKRORO wire							
Operating range ³⁾	Min / Max	°C	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43

GLOBAL REMARKS	Rating conditions	Cooling
	Inside air temperature	27°C DB / 19°C WB
	Outside air temperature	35°C DB / 24°C WB

1) EER, Energy Saving Classification, is at 220 - 240V (380 - 415V) only in accordance with EU directive 2002/31/EC.

2) The annual consumption is calculated by multiplying the input power at 220 - 240V (380 - 415V) by an average of 500-hr per year in cooling mode.

3) The sound pressure Level of the units shows the value measured of a position 1 meter in front of the main body and 1,5 m from the ground.

The sound pressure is measured in accordance with Eurovent 6/C006-97 specification.

4) When installing the outdoor unit at a higher position than the indoor unit.



CZ-RL513B



CZ-RD513C

KIT-F14DB4E5-F // KIT-F18DB4E5-F // KIT-F24DB4E5-F // KIT-F24DB4E8-F // KIT-F28DB4E5-F // KIT-F28DB4E8-F // KIT-F34DB4E5-F // KIT-F34DB4E8-F // KIT-F43DB4E8-F // KIT-F50DB4E8-F

CU-J14DBE5
CU-J18DBE5
CU-J24DBE5CU-J34DBE5
CU-J34DBE8
CU-J28DBE5
CU-J28DBE8

HEALTHY AIR

- CZ-SA11P Alleru-buster antiallergic filter (optional)

ENERGY EFFICIENCY AND ECOLOGY

- R410A environmentally friendly refrigerant gas

COMFORT

- 3 types of air emission (3 opening angles for the pre-programmed grilles)
- Automatic deflectors
- Automatic start after a power cut
- Automatic fan operation mode

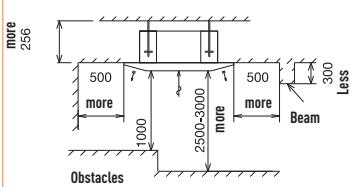
EASE OF USE

- Weekly On/Off timer (6 settings per day and 42 per week)
- Infrared remote control
- Optional wired remote control

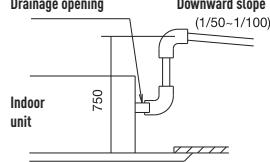
EASY INSTALLATION AND MAINTENANCE

- Self-diagnostic function
- Drain pump (up to 750 mm)
- Condensation control
- Removable, washable indoor unit panel

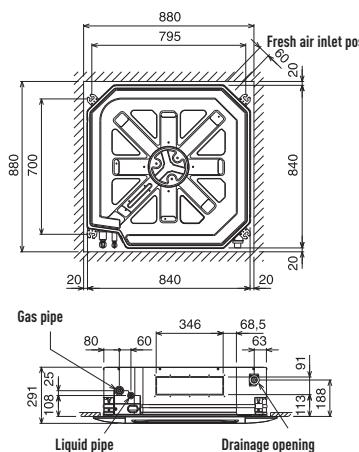
SPACE NEEDED FOR INSTALLATION



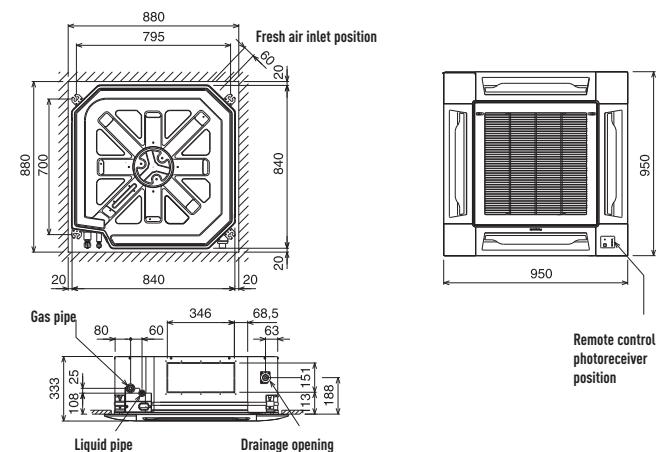
DRAINAGE



INDOOR UNIT DIMENSIONS // CS-F14DB4E5 // CS-F18DB4E5 // CS-F24DB4E5 // CS-F28DB4E5



INDOOR UNIT DIMENSIONS // CS-F34DB4E5 // CS-F43DB4E5 // CS-F50DB4E5



TECHNICAL ZOOM

- HIGHER ENERGY CLASS FOR HIGH SAVINGS, EVEN AT -20°C
- ECO MODE FOR 20% ENERGY SAVING
- EXTREMELY COMPACT INDOOR UNITS WITHOUT LOSING STATIC PRESSURE (ONLY 250MM HIGH)
- WEEKLY TIMER, 42 SETTINGS PER WEEK
- 30 M MAXIMUM ELEVATION DIFFERENCE
- EASY CHECK MODE FOR FAILURE DETECTION

LOW STATIC PRESSURE HIDE AWAY // INVERTER + FS TYPE

A complete line up of compact, efficient, quieter and powerful hide away, for the most demanding customers, from 2.5 H.P. to 6.0 H.P., Single-phase and three-phase



KIT	2.5 H.P.	3.0 H.P.	4.0 H.P.	4.0 H.P.	5.0 H.P.	5.0 H.P.	6.0 H.P.	
	KIT-F24DD3E5	KIT-F28DD3E5	KIT-F34DD3E5	KIT-F43DD3E8	KIT-F43DD3E5	KIT-F43DD3E5	KIT-F50DD3E8	
Indoor	CS-F24DD3E5	CS-F28DD3E5	CS-F34DD3E5	CS-F43DD3E5	CS-F43DD3E5	CS-F43DD3E5	CS-F50DD3E5	
Outdoor	CU-L24DBE5	CU-L28DBE5	CU-L34DBE5	CU-L43DBE8	CU-L43DBE8	CU-L43DBE8	CU-L50DBE8	
Wired remote control	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	
Cooling capacity	Nominal (Min-Max) kW Nominal (Min-Max) kCal/h	6.30 (2.00-6.50) 5,418 (1,720-5,590)	7.10 (2.10-7.50) 6,106 (1,806-6,450)	10.00 (4.00-12.00) 8,600 (3,440-10,320)	10.00 (4.00-12.00) 8,600 (3,440-10,320)	12.50 (4.00-13.50) 10,750 (3,440-11,610)	12.50 (4.00-13.50) 10,750 (3,440-11,610)	
EER ¹⁾	Nominal (Min-Max)	3.21 (3.33-2.71) A	3.21 (3.23-3.06) A	3.61 (3.08-3.48) A	3.61 (3.08-3.48) A	3.01 (2.86-3.07) B	3.01 (2.86-3.07) B	
Power input Cooling	Nominal (Min-Max) kW Nominal (Min-Max) kCal/h	1.96 (0.6-2.4) 2,21 (0.65-2.45)	2.27 (1.3-3.45)	2.77 (1.3-3.45)	2.77 (1.3-3.45)	4.15 (1.4-4.4)	4.15 (1.4-4.4)	
Heating capacity	Nominal (Min-Max) kW Nominal (Min-Max) kCal/h	7.10 (2.10-7.50) 6,106 (1,806-6,450)	8.00 (2.20-8.50) 6,880 (1,892-7,310)	11.20 (4.00-13.50) 9,632 (3,440-11,610)	11.20 (4.00-13.50) 9,632 (3,440-11,610)	14.00 (4.00-15.50) 12,040 (3,440-13,330)	14.00 (4.00-15.50) 12,040 (3,440-13,330)	
COP ¹⁾	Nominal (Min-Max)	3.41 (3.50-2.38) B	3.42 (3.38-2.62) B	3.41 (3.08-3.18) B	3.41 (3.08-3.18) B	3.41 (2.86-3.04) B	3.41 (2.86-3.04) B	
Power input Heating	Nominal (Min-Max) kW Nominal (Min-Max) kCal/h	2.08 (0.6-3.15) 2,34 (0.65-3.25)	2.34 (1.3-4.25)	3.28 (1.3-4.25)	3.28 (1.3-4.25)	4.11 (1.4-5.1)	4.11 (1.4-5.1)	
Annual Energy Consumption ²⁾	kWh	980	1,105	1,385	1,385	2,075	2,075	
INDOOR UNIT								
External static pressure ³⁾	High (High) Medium Low	mmAq mmAq mmAq	5.1 ⁷⁾ (7.0 ⁸⁾ 2.6 1.8	5.1 ⁷⁾ (7.0 ⁸⁾ 2.8 2	5.1 ⁷⁾ (7.0 ⁸⁾ 2.8 2	5.1 ⁷⁾ (7.0 ⁸⁾ 2.8 2	5.1 ⁷⁾ (7.0 ⁸⁾ 2.8 2.5	
Air Volume	High (High) Medium Low	m ³ /h m ³ /h m ³ /h	1,320 ⁷⁾ (1,200 ⁸⁾ 984 810	1,320 ⁷⁾ (1,200 ⁸⁾ 984 810	2,160 ⁷⁾ (2,010 ⁸⁾ 1,620 1,320	2,160 ⁷⁾ (2,010 ⁸⁾ 1,620 1,320	2,400 ⁷⁾ (2,190 ⁸⁾ 1,770 1,420	2,400 ⁷⁾ (2,190 ⁸⁾ 1,770 1,560
Moisture removal volume	I/h		2.3	2.8	3.8	4.3	6.0	
Sound pressure Level ⁴⁾	Cooling (Hi / Lo) Heating (Hi / Lo)	dB(A) dB(A)	43 / 39 43 / 39	47 / 43 43 / 39	45 / 41 45 / 41	45 / 41 44 / 40	45 / 41 44 / 40	
Sound power Level	Cooling (Hi) Heating (Hi)	dB	59	59	60	60	60	
Dimension	Indoor (H x W x D)	mm	250x1,000+100 ^b x650	250x1,000+100 ^b x650	250x1,200+100 ^b x650	250x1,200+100 ^b x650	250x1,200+100 ^b x650	
Net weight	Indoor	Kg	41	41	47	47	47	
Dust filter		Yes	Yes	Yes	Yes	Yes	Yes	
OUTDOOR UNIT								
Power source	V	220 - 240	220 - 240	220 - 240	380 - 415	220 - 240	380 - 415	
Connection	mm ²	4 x 1'5 to 2'5	4 x 1'5 to 2'5	4 x 1'5 to 2'5	4 x 1'5 to 2'5	4 x 1'5 to 2'5	4 x 1'5 to 2'5	
Current Cooling	Nominal (Min / Max)	A	9.0	10.1	12.6	4.4	18.8	
Current Heating	Nominal (Min / Max)	A	9.5	10.6	14.9	5.2	18.7	
Air Volume	Cooling / Heating	m ³ /h	2,880 / 2,880	2,880 / 2,880	5,880 / 5,880	5,880 / 5,880	5,880 / 5,880	
Sound pressure Level ⁴⁾	Cooling (Hi) Heating (Hi)	dB(A) dB(A)	47 49	48 50	52 54	52 54	53 55	
Sound power Level	Cooling (Hi) Heating (Hi)	dB	63	64	66	67	67	
Dimensions	H x W x D	mm	795x900x320	795x900x320	1,340x900x320	1,340x900x320	1,340x900x320	
Net weight		Kg	71	71	110	105	105	
Piping connections	Liquid pipe Gas pipe	inch (mm)	3/8" (9.52) 5/8" (15.88)	3/8" (9.52) 5/8" (15.88)	3/8" (9.52) 5/8" (15.88)	3/8" (9.52) 5/8" (15.88)	3/8" (9.52) 5/8" (15.88)	
Refrigerant Loading	R410A	Kg	2.13	2.35	3.3	3.3	3.3	
Elevation difference (in/out) ⁵⁾	Max	m	30	30	30	30	30	
Piping length	Min - Max	m	7.5-50	7.5-50	7.5-50	7.5-50	7.5-50	
Piping length without refrigerant increase	Max	m	30	30	30	30	30	
Additional gas	g/m	50	50	50	50	50	50	
Area control accessory		EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire	
Operating range ³⁾	Cooling Min / Max	°C	-15 / 43	-15 / 43	-15 / 43	-15 / 43	-15 / 43	
	Heating Min / Max	°C	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24	

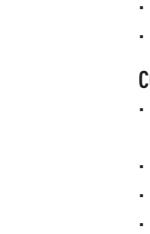
GLOBAL REMARKS	Rating conditions	Cooling	Heating
	Inside air temperature	27°C DB / 19°C WB	20°C DB
	Outside air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

- EER and COP, Energy Saving Classification, is at 220 - 240V (380 - 415V) only in accordance with EU directive 2002/31/EC.
- The annual consumption is calculated by multiplying the input power at 220 - 240V (380 - 415V) by an average of 500-hr per year in cooling mode.
- The specification listed on the table indicates values under the condition of 50Pa (5,1 mmAq) which are applied for factory default setting.
- The sound pressure Level of the units shows the value measured of a position 1 meter in front of the main body and 1,5 from the ground. The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification.
- Add 100mm for indoor unit or 70mm for outdoor unit for piping port.
- When installing the outdoor unit at a higher position than the indoor unit.
- Change connector on fan motor from Hi to Sh1.
- By reducing the air volume on the air duct.

DB: Dry bulb, WB: Wet bulb



CZ-RD513C

CU-L24DBE5
CU-L28DBE5CU-L34DBE5
CU-L34DBE8
CU-L43DBE5CU-L43DBE8
CU-L50DBE8

KIT-F24DD3E5 // KIT-F28DD3E5 // KIT-F34DD3E5 // KIT-F34DD3E8 // KIT-F43DD3E5 // KIT-F43DD3E8 // KIT-F50DD3E8

ENERGY EFFICIENCY AND ECOLOGY

- Maximum efficiency Inverter system
- R410A environmentally friendly refrigerant gas

COMFORT

- Cooling with low outdoor temperatures (down to -20 °C)
- Automatic start after a power cut
- Automatic fan operation mode
- Soft dry operation mode
- Hot start mode
- Selection of temperature sensor at indoor unit or wired remote control

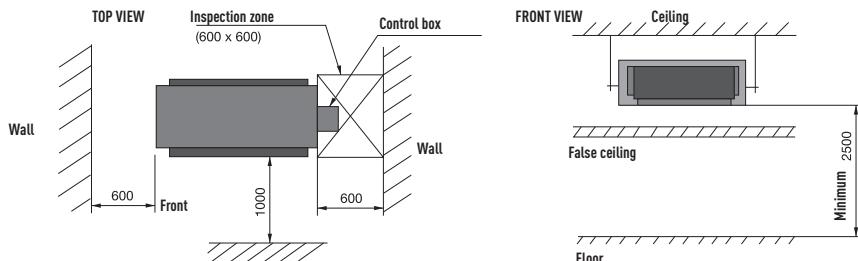
EASE OF USE

- Weekly On/Off timer (6 settings per day and 42 per week)
- Wired remote control

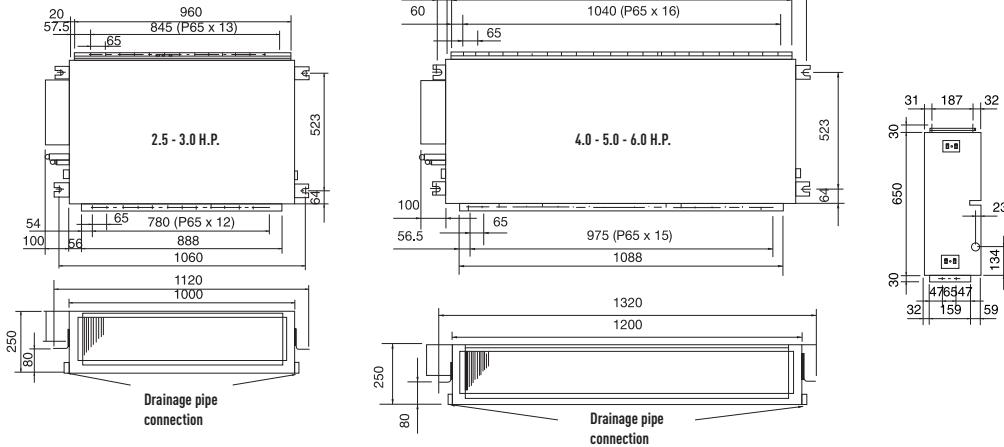
EASY INSTALLATION AND MAINTENANCE

- Installation using existing pipes
- Selectable static pressure up to 7 mmAq
- Self-diagnostic function
- Condensation control
- Ultra compact indoor unit

SPACE NEEDED FOR INSTALLATION



INDOOR UNIT DIMENSIONS



TECHNICAL ZOOM

- ULTRA COMPACT OUTDOOR UNITS (-40% REDUCED SIZE FOR THE CU-YL34HBE5)
- ECO MODE FOR 20% ENERGY SAVING
- EXTREMELY COMPACT INDOOR UNITS WITHOUT LOSING STATIC PRESSURE (ONLY 250MM HIGH)
- COOLING WITH LOW OUTDOOR TEMPERATURES (DOWN TO -20 °C)
- WEEKLY TIMER, 42 SETTINGS PER WEEK
- EASY CHECK MODE FOR FAILURE DETECTION

LOW STATIC PRESSURE
HIDE AWAY // INVERTER FS TYPE

Compact line up of inverter Hide away, from 1.0 H.P. to 5.0 H.P., Single-phase



KIT	1 HP	1.5 HP	2 HP	2.5 HP	3.0 HP	4.0 HP	5.0 HP
KIT-E10-JD3EA	KIT-E15-JD3EA	KIT-E18-JD3EA	KIT-YH24DD3E5	KIT-YH28DD3E5	KIT-YH34DD3E5	KIT-YH43DD3E5	
Indoor	CS-E10KD3EA	CS-E15JD3EA	CS-E18JD3EA	CS-F24DD3E5	CS-F34DD3E5	CS-F43DD3E5	
Outdoor	CU-E10HBEA	CU-E15HBEA	CU-E18HBEA	CU-YL24HBE5	CU-YL28HBE5	CU-YL34HBE5	CU-YL43HBE5
Wired remote control	CZ-RD52CP	CZ-RD52CP	CZ-RD52CP	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C
Cooling capacity	Nominal (Min - Max) kW	2.50 (0.80-3.00)	4.10 (0.90-4.70)	5.10 (0.90-5.70)	5.60 (2 - 6.30)	7.10 (2.10 - 7.50)	10.00 (3.8 - 10.50)
	Nominal (Min - Max) kCal/h	2150 (690-2580)	3530 (770-4040)	4390 (770-4900)	4816 (1720-5418)	6106 (1806-6450)	8600 (3268-9030)
EER ¹⁾	Nominal (Min - Max)	3.68 (3.87-3.53) A	3.31 (3.53-3.13) A	3.15 (3.53-3.10) B	2.81 (3.44-2.86) C	2.81 (3.23-2.88) C	2.61 (2.92-2.54) D
Power input Cooling	Nominal (Min - Max) kW	0.680 (0.155-0.850)	1.240 (0.255-1.500)	1.620 (0.250-1.840)	1.990 (0.550-2.200)	2.530 (0.650-2.600)	3.560 (1.300-4.100)
Heating capacity	Nominal (Min - Max) kW	3.20 (0.60-5.00)	4.80 (0.90-7.10)	6.10 (0.90-7.10)	7.00 (2.10-7.50)	8.00 (2.20-8.30)	11.20 (3.80-12.50)
	Nominal (Min - Max) kCal/h	2752 (516-4300)	4130 (770-4730)	5250 (770-6110)	6020 (1806-6450)	6880 (1892-7138)	9632 (3268-10750)
COP ¹⁾	Nominal (Min - Max)	3.64 (4.44-3.27) A	2.64 (3.46-2.63) E	3.30 (3.46-3.23) C	2.81 (4.20-2.68) D	2.81 (3.67-2.59) D	3.01 (3.17-2.94) C
Power input Heating	Nominal (Min - Max) kW	0.880 (0.135-1.530)	1.820 (0.260-2.090)	1.850 (0.260-2.200)	2.490 (0.500-2.800)	2.850 (0.600-3.200)	3.720 (1.200-4.250)
Annual Energy Consumption ²⁾	Nominal (Min - Max) kWh	340	620	810	995	1,265	1,780
INDOOR UNIT							
External static pressure ³⁾	High (Shigh)	mmAq	3.5 (5.5 ⁷⁾)	3.5 (7.0 ⁷⁾)	3.5 (6.0 ⁷⁾)	5.1 ⁷⁾ (7.0 ⁸⁾)	5.1 ⁷⁾ (7.0 ⁸⁾)
	Medium	mmAq	1.5	1.5	1.5	2.6	2.8
	Low	mmAq	1	1	1.8	1.8	2
Air Volume	High (Shigh)	m ³ /h	414 (660 ⁷⁾)	474 (660 ⁷⁾)	624 (750 ⁷⁾)	1.320 ⁷⁾ (1.200 ⁸⁾)	1.320 ⁷⁾ (1.200 ⁸⁾)
	Medium	m ³ /h	402	402	528	984	1,620
	Low	m ³ /h	330	330	444	810	1,320
Moisture removal volume	U/h	1.50	2.30	2.80	3.20	4.20	6.00
Sound pressure Level ⁴⁾	Cooling (Hi / Lo)	dB(A)	33 / 24	33 / 24	41 / 27	43 / 39	43 / 39
	Heating (Hi / Lo)	dB(A)	35 / 25	35 / 25	41 / 29	43 / 39	44 / 40
Sound power Level	Cooling (Hi)	dB	49	49	57	59	60
	Heating (Hi)	dB	51	51	57	59	60
Dimensions	H x W x D mm	235x750+65 ⁵⁾ x370	235x750+65 ⁵⁾ x370	285x750+65 ⁵⁾ x370	250x1,000+100 ⁵⁾ x650	250x1,000+100 ⁵⁾ x650	250x1,200+100 ⁵⁾ x650
Net weight	Indoor Kg	17	18	18	41	41	47
Dust filter	No	No	No	Yes	Yes	Yes	Yes
OUTDOOR UNIT							
Power source	V	220 - 240	220 - 240	220 - 240	220 - 240	220 - 240	220 - 240
Connection	mm ²	4 x 1.5 to 2.5	4 x 1.5 to 2.5	4 x 1.5 to 2.5			
Current Cooling	Nominal (Min / Max)	A	2.9	5.7	7.3	9.00	11.40
Current Heating	Nominal (Min / Max)	A	3.8	8.2	8.3	11.30	12.20
Air Volume	Cooling / Heating m ³ /h	1,728	2,808	2,400	3,180	3,480	3,720
Sound pressure Level ⁴⁾	Cooling (Hi)	dB(A)	45	46	47	49	50
	Heating (Hi)	dB(A)	46	47	48	51	52
Sound power Level	Cooling (Hi)	dB	58	59	60	67	68
	Heating (Hi)	dB	59	60	61	68	71
Dimensions	H x W x D mm	540x780+70 ⁵⁾ x289	750x875+70 ⁵⁾ x345	750x875+70 ⁵⁾ x345	795x875+70 ⁵⁾ x320	795x875+70 ⁵⁾ x320	795x900x320
Net weight	Kg	35	48	48	65	65	66
Piping connections	Liquid pipe inch (mm)	1/4" (6.35)	1/4" (6.35)	1/4" (6.35)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)
	Gas pipe inch (mm)	3/8" (9.52)	1/2" (12.70)	1/2" (12.70)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)
Refrigerant Loading	R410A Kg	1.15	1.23	1.06	1.63	2.05	2.8
Elevation difference (in/out) ⁵⁾	Max m	15	15	20	25	25	25
Piping length	Min - Max m	3 - 20	3 - 20	3 - 30	7.5 - 30	7.5 - 30	7.5 - 50
Piping length without refrigerant increase	Max m	10	10	10	25	25	25
Additional gas	g/m	20	20	20	50	50	50
Area control accessory				EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire
Operating range ³⁾	Cooling Min / Max °C	-10/43	-10/43	-10/43	-5 / 43	-5 / 44	-5 / 46
	Heating Min / Max °C	-10/24	-10/24	-10/24	-15 / 24	-15 / 25	-15 / 27

GLOBAL REMARKS	Rating conditions	Cooling	Heating
	Inside air temperature	27°C DB / 19°C WB	20°C DB
	Outside air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

DB: Dry bulb, WB: Wet bulb

1) EER and COP, Energy Saving Classification, is at 220 - 240V (380 - 415V) only in accordance with EU directive 2002/31/EC.

2) The annual consumption is calculated by multiplying the input power at 220 - 240V (380 - 415V) by an average of 500-hr per year in cooling mode.

3) The specification listed on the table indicates values under the condition of 50Pa (5,1 mmAq) which are applied for factory default setting.

4) The sound pressure Level of the units shows the value measured of a position 1 meter in front of the main body and 1,5 from the ground

The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification.

5) Add 100mm for indoor unit or 70mm for outdoor unit for piping port.

6) When installing the outdoor unit at a higher position than the indoor unit.

7) Change connector on fan motor from Hi to Sh1.

8) By reducing the air volume on the air duct.



CZ-RD513C /
CZ-RD52CP
WIRED



CU-E10HBEA
CU-E15HBEA



CU-YL24HBE5
CU-YL28HBE5



CU-YL34HBE5



CU-YL43HBE5

KIT-E10-JD3EA // KIT-E15-JD3EA // KIT-E18-JD3EA // KIT-YH24DD3E5 // KIT-YH28DD3E5 // KIT-YH34DD3E5 // KIT-YH43DD3E5

ENERGY EFFICIENCY AND ECOLOGY

- Maximum efficiency Inverter system
- R410A environmentally friendly refrigerant gas

COMFORT

- Cooling with low outdoor temperatures (down to -15 °C)
- Automatic start after a power cut
- Automatic fan operation mode
- Soft dry operation mode
- Hot start mode
- Selection of temperature sensor at indoor unit or wired remote control

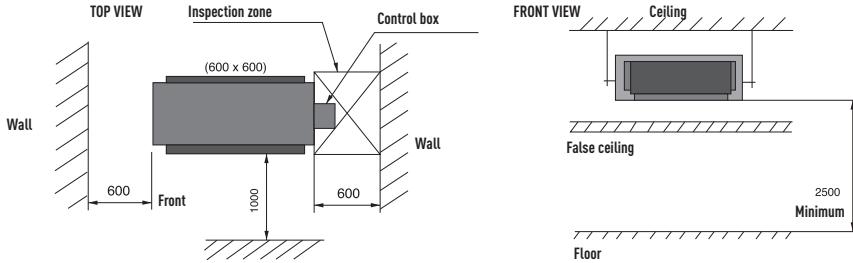
EASE OF USE

- Weekly On/Off timer (6 settings per day and 42 per week)
- Wired remote control

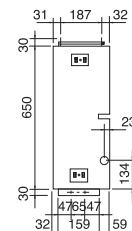
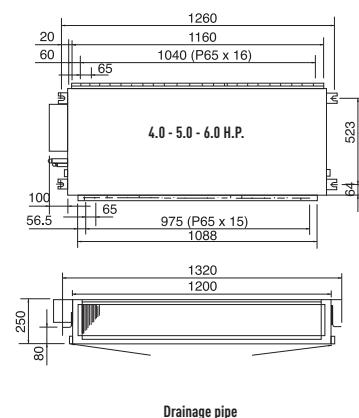
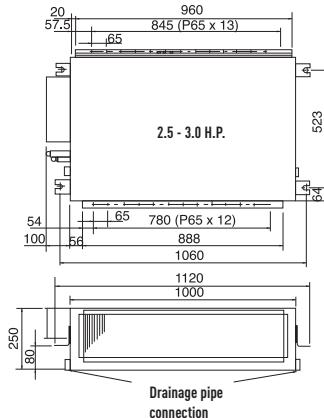
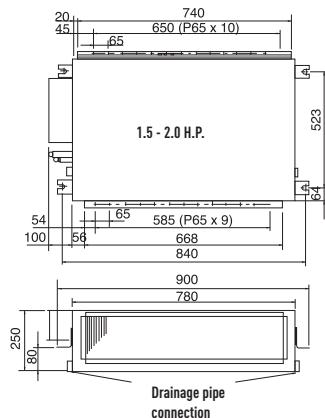
EASY INSTALLATION AND MAINTENANCE

- Installation using existing pipes
- Selectable static pressure up to 7 mmAq
- Self-diagnostic function
- Condensation control
- Ultra compact indoor unit

SPACE NEEDED FOR INSTALLATION



INDOOR UNIT DIMENSIONS

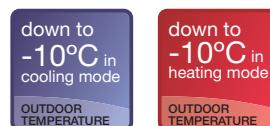


TECHNICAL ZOOM

- EXTREMELY COMPACT INDOOR UNITS WITHOUT LOSING STATIC PRESSURE (ONLY 250MM HIGH)
- ECO MODE FOR 20% ENERGY SAVING
- WEEKLY TIMER, 42 SETTINGS PER WEEK
- EASY CHECK MODE FOR FAILURE DETECTION

LOW STATIC PRESSURE
HIDE AWAY // HEAT PUMP FS TYPE

Full line up of heat pump non-inverter Hide away, from 1.5 H.P. to 6.0 H.P., Single-phase and three-phase



KIT	1.5 H.P.	2.0 H.P.	2.5 H.P.	3.0 H.P.	3.0 H.P.	4.0 H.P.	4.0 H.P.	5.0 H.P.	6.0 H.P.
	KIT-F14DD3E5-C	KIT-F18DD3E5-C	KIT-F24DD3E5-C	KIT-F28DD3E5-C	KIT-F34DD3E8-C	KIT-F34DD3E8-C	KIT-F34DD3E8-C	KIT-F43DD3E8-C	KIT-F50DD3E8-C
Indoor	CS-F14DD3E5	CS-F18DD3E5	CS-F24DD3E5	CS-F28DD3E5	CS-F34DD3E5	CS-F34DD3E5	CS-F34DD3E5	CS-F43DD3E5	CS-F50DD3E5
Outdoor	CU-B14DBE5	CU-B18DBE5	CU-B24DBE5	CU-B28DBE5	CU-B34DBE5	CU-B34DBE8	CU-B34DBE8	CU-B43DBE8	CU-B50DBE8
Wired remote control	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C
Cooling capacity	Nominal (Min-Max) kW	3.80	5.00	6.60	7.30	7.30	10.00	12.50	13.50
	Nominal (Min-Max) kCal/h	3,268	4,300	5,676	6,278	6,278	8,600	10,750	11,610
EER ¹⁾	Nominal (Min-Max)	2.88 C	2.66 D	2.55 E	2.57 E	2.57 E	2.58 E	2.67 E	2.60 E
Power input Cooling	Nominal (Min-Max) kW	1.35 (1.32-1.38)	1.89 (1.86-1.92)	2.59 (2.56-2.64)	2.84 (2.78-2.89)	2.84 (2.78-2.89)	3.88 (3.83-4.05)	3.75 (3.7-3.8)	4.80 (4.75-4.87)
Heating capacity	Nominal (Min-Max) kW	4.30	5.60	7.10	8.00	8.00	11.20	11.20	14.00
	Nominal (Min-Max) kCal/h	3,698	4,816	6,106	6,880	6,880	9,632	9,632	12,040
COP ¹⁾	Nominal (Min-Max)	3.31 C	3.29 C	2.87 D	2.97 D	2.97 D	2.84 D	3.13 D	2.99 D
Power input Heating	Nominal (Min-Max) kW	1.21 (1.18-1.24)	1.70 (1.67-1.73)	2.47 (2.4-2.56)	2.69 (2.61-2.78)	2.69 (2.61-2.78)	3.94 (3.86-4.0)	3.58 (3.54-3.64)	4.68 (4.61-4.78)
Annual Energy Consumption ²⁾	Nominal (Min-Max) kWh	675	945	1,295	1,420	1,420	1,940	1,875	2,400
INDOOR UNIT									
External static pressure ³⁾	High (Shigh) mmAq	5.1 ⁷⁾ (7,0 ⁸⁾)	5.1 ⁷⁾ (7,0 ⁸⁾)	5.1 ⁷⁾ (7,0 ⁸⁾)	5.1 ⁷⁾ (7,0 ⁸⁾)	5.1 ⁷⁾ (7,0 ⁸⁾)	5.1 ⁷⁾ (7,0 ⁸⁾)	5.1 ⁷⁾ (7,0 ⁸⁾)	5.1 ⁷⁾ (7,0 ⁸⁾)
	Medium mmAq	2.5	2.5	2.6	2.6	2.6	2.8	2.8	2.8
	Low mmAq	1.7	1.7	1.8	1.8	1.8	2	2	2.5
Air Volume	High (Shigh) m ³ /h	1,020	1,020	1,320 ⁷⁾ (1,200 ⁸⁾)	1,320 ⁷⁾ (1,200 ⁸⁾)	1,320 ⁷⁾ (1,200 ⁸⁾)	2,160 ⁷⁾ (2,010 ⁸⁾)	2,160 ⁷⁾ (2,010 ⁸⁾)	2,400 ⁷⁾ (2,190 ⁸⁾)
	Medium m ³ /h	798	798	984	984	984	1,620	1,620	1,770
	Low m ³ /h	660	660	810	810	810	1,320	1,320	1,420
Moisture removal volume I/h		2.2	2.8	3.8	4.3	4.3	6.0	6.0	7.9
Sound pressure Level ⁴⁾	Cooling (Hi / Lo) dB(A)	42 / 38	42 / 38	43 / 39	43 / 39	43 / 39	45 / 41	45 / 41	45 / 41
	Heating (Hi / Lo) dB(A)	40 / 36	40 / 36	43 / 39	43 / 39	43 / 39	44 / 40	44 / 40	44 / 40
Sound power Level	Cooling (Hi) dB	58	58	59	59	59	60	60	60
	Heating (Hi) dB	56	56	59	59	59	59	59	60
Dimensions. indoor	H x W x D mm	250x1,000+100 ⁶ x650	250x1,000+100 ⁶ x650	250x1,000+100 ⁶ x650	250x1,000+100 ⁶ x650	250x1,000+100 ⁶ x650	250x1,200+100 ⁶ x650	250x1,200+100 ⁶ x650	250x1,200+100 ⁶ x650
Net weight	Indoor Kg	34	34	41	41	41	47	47	47
Dust filter		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
OUTDOOR UNIT									
Power source	V	220 - 240	220 - 240	220 - 240	220 - 240	380 - 415	220 - 240	380 - 415	380 - 415
Connection	mm ²	4 x 1.5 to 2.5	4 x 1.5 to 2.5	4 x 1.5 to 2.5	4 x 1.5 to 2.5	4 x 1.5 to 2.5	4 x 1.5 to 2.5	4 x 1.5 to 2.5	4 x 1.5 to 2.5
Current Cooling	Nominal (Min / Max) A	6.31	8.53	12.9	13.5	4.9	18.6	6.45	8.1
Current Heating	Nominal (Min / Max) A	5.36	7.63	11.8	12.6	4.7	18.6	6.2	7.9
Air Volume	Cooling / Heating m ³ /h	3,240 / 3,240	3,420 / 3,429	3,600 / 3,600	3,780 / 3,780	3,780 / 3,780	5,640 / 5,640	5,640 / 5,640	5,760 / 5,760
Sound pressure Level ⁴⁾	Cooling (Hi) dB(A)	49	49	50	52	52	55	55	56
	Heating (Hi) dB(A)	50	50	51	53	53	56	56	57
Sound power Level	Cooling (Hi) dB	65	65	66	67	67	69	69	70
	Heating (Hi) dB	66	66	67	68	68	70	70	71
Dimensions	H x W x D mm	795x900x320	795x900x320	795x900x320	795x900x320	795x900x320	1,170x900x320	1,170x900x320	1,170x900x320
Net weight	Kg	55	57	69	69	69	102	100	102
Piping connections	Liquid pipe inch (mm)	1/4" (6,35)	1/4" (6,35)	3/8" (9,52)	3/8" (9,52)	3/8" (9,52)	3/8" (9,52)	3/8" (9,52)	3/8" (9,52)
	Gas pipe inch (mm)	1/2" (12,70)	1/2" (12,70)	5/8" (15,88)	5/8" (15,88)	5/8" (15,88)	5/8" (15,88)	5/8" (15,88)	5/8" (15,88)
Refrigerant Loading	R410A Kg	1.1	1.35	1.7	2.05	2.05	2.7	2.7	3.1
Elevation difference (in/out) ⁵⁾	Max m	20	20	30	30	30	30	30	30
Piping length	Min - Max m	7.5 - 30	7.5 - 30	7.5 - 50	7.5 - 50	7.5 - 50	7.5 - 50	7.5 - 50	7.5 - 50
Piping length without refrigerent increase	Max m	20	20	30	30	30	30	30	30
Additional gas g/m		20	20	50	50	50	50	50	50
Area control accessory	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire
Operating range ³⁾	Cooling Min / Max °C	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43
	Heating Min / Max °C	-10 / 24	-10 / 24	-10 / 24	-10 / 24	-10 / 24	-10 / 24	-10 / 24	-10 / 24

GLOBAL REMARKS Rating conditions
Inside air temperature
Outside air temperature

Cooling
27°C DB / 19°C WB
35°C DB / 24°C WB

Heating
20°C DB
7°C DB / 6°C WB

1) EER and COP, Energy Saving Classification, is at 220 - 240V (380 - 415V) only in accordance with EU directive 2002/31/EC.
2) The annual consumption is calculated by multiplying the input power at 220 - 240V (380 - 415V) by an average of 500-hr per year in cooling mode.
3) The specification listed on the table indicates values under the condition of 50Pa (5,1 mmAq) which are applied for factory default setting.
4) The sound pressure Level of the units shows the value measured of a position 1 meter in front of the main body and 1,5 from the ground
The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification.
5) Add 100mm for indoor unit or 70mm for outdoor unit for piping port.
6) When installing the outdoor unit at a higher position than the indoor unit.
7) Change connector on fan motor from Hi to Sh1.
8) By reducing the air volume on the air duct.



CZ-RD513C

CU-B14DBE5
CU-B18DBE5
CU-B24DBE5CU-B34DBE5
CU-B34DBE8
CU-B50DBE8

KIT-F14DD3E5-C // KIT-F18DD3E5-C // KIT-F24DD3E5-C // KIT-F28DD3E5-C // KIT-F28DD3E8-C // KIT-F34DD3E5-C // KIT-F34DD3E8-C // KIT-F43DD3E8-C // KIT-F50DD3E8-C

ENERGY EFFICIENCY AND ECOLOGY

- R410A environmentally friendly refrigerant gas

COMFORT

- Automatic start after a power cut
- Automatic fan operation mode
- Soft dry operation mode
- Hot start mode
- Selection of temperature sensor at the indoor unit or the wired remote control

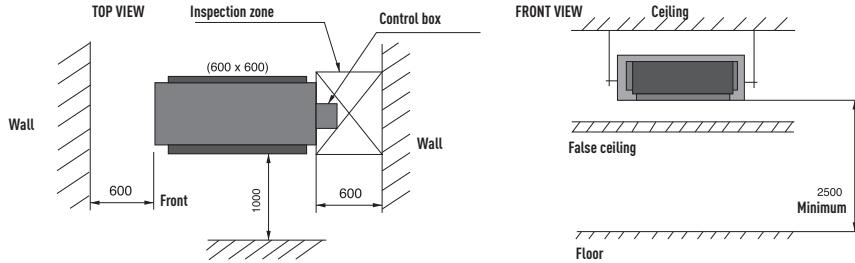
EASE OF USE

- Weekly On/Off timer (6 settings per day and 42 per week)
- Wired remote control

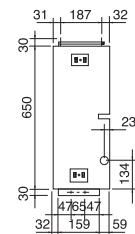
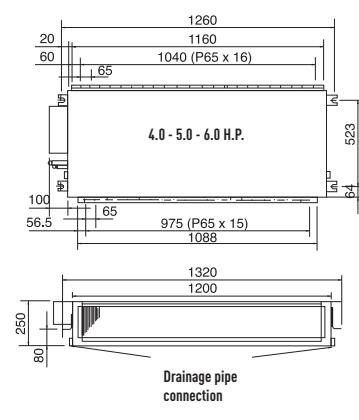
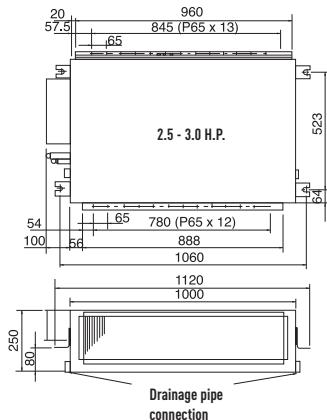
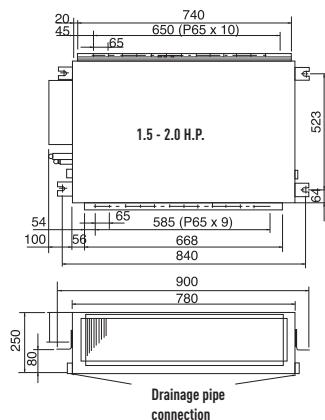
EASY INSTALLATION AND MAINTENANCE

- Selectable static pressure up to 7 mmAq
- Self-diagnostic function
- Condensation control
- Ultra compact indoor unit

SPACE NEEDED FOR INSTALLATION



INDOOR UNIT DIMENSIONS



TECHNICAL ZOOM

- EXTREMELY COMPACT INDOOR UNITS WITHOUT LOSING STATIC PRESSURE (ONLY 250MM HIGH)
- ECO MODE FOR 20% ENERGY SAVING
- WEEKLY TIMER, 42 SETTINGS PER WEEK
- EASY CHECK MODE FOR FAILURE DETECTION

LOW STATIC PRESSURE
HIDE AWAY // COOLING ONLY FS TYPE

Full line up of cooling only non-inverter Hide away, from 1.5 H.P. to 6.0 H.P., Single-phase and three-phase



KIT	KIT-F14DD3EE-F	KIT-F18DD3EE-F	KIT-F24DD3EE-F	KIT-F24DD3EB-F	KIT-F28DD3EE-F	KIT-F28DD3EB-F	KIT-F34DD3EE-F	KIT-F34DD3EB-F	KIT-F40DD3EE-F	KIT-F40DD3EB-F	KIT-F50DD3EE-F	
Indoor	CS-F14DD3EE	CS-F18DD3EE	CS-F24DD3EE	CS-F24DD3EB	CS-F28DD3EE	CS-F28DD3EB	CS-F34DD3EE	CS-F34DD3EB	CS-F40DD3EE	CS-F40DD3EB	CS-F50DD3EE	
Outdoor	CU-J14DBE5	CU-J18DBE5	CU-J24DBE5	CU-J24DBE8	CU-J28DBE5	CU-J28DBE8	CU-J34DBE5	CU-J34DBE8	CU-J43DBE8	CU-J50DBE8		
Wired remote control	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	
Cooling capacity	Nominal (Min - Max) kW	3.80	5.00	6.60	6.60	7.30	7.30	10.00	10.00	12.50	13.50	
	Nominal (Min - Max) kCal/h	3,268	4,300	5,676	5,676	6,278	6,278	8,600	8,600	10,750	11,610	
EER ¹⁾	Nominal (Min - Max)	2.81 C	2.69 D	2.48 E	2.48 E	2.53 E	2.53 E	2.48 E	2.63 D	2.58 E	2.50 E	
Power input Cooling	Nominal (Min - Max) kW	1.35 (1.32-1.38)	1.86 (1.83-1.89)	2.66 (2.62-2.70)	2.66 (2.62-2.70)	2.89 (2.83-2.94)	2.89 (2.83-2.94)	4.04 (3.95-4.12)	3.80 (3.75-3.85)	4.84 (4.80-4.95)	5.41 (5.36-5.51)	
Annual Energy Consumption ²⁾	kWh	675	930	1,330	1,330	1,445	1,445	2,020	1,900	2,420	2,655	
INDOOR UNIT												
External static pressure ³⁾	High (Shigh)	mmAq	5.1 ⁷⁾ (7.0 ⁸⁾)	5.1 ⁷⁾ (7.0 ⁸⁾)	5.1 ⁷⁾ (7.0 ⁸⁾)	5.1 ⁷⁾ (7.0 ⁸⁾)	5.1 ⁷⁾ (7.0 ⁸⁾)	5.1 ⁷⁾ (7.0 ⁸⁾)	5.1 ⁷⁾ (7.0 ⁸⁾)	5.1 ⁷⁾ (7.0 ⁸⁾)	5.1 ⁷⁾ (7.0 ⁸⁾)	
	Medium	mmAq	2.5	2.5	2.6	2.6	2.6	2.6	2.8	2.8	2.8	
	Low	mmAq	1.7	1.7	1.8	1.8	1.8	1.8	2	2	2	
Air Volume	High (Shigh)	m ³ /h	1,020	1,020	1,320 ⁷⁾ (1,200 ⁸⁾)	2,160 ⁷⁾ (2,010 ⁸⁾)	2,160 ⁷⁾ (2,010 ⁸⁾)	2,400 ⁷⁾ (2,190 ⁸⁾)	2,640 ⁷⁾ (2,430 ⁸⁾)			
	Medium	m ³ /h	798	798	984	984	984	984	1,620	1,620	1,770	1,920
	Low	m ³ /h	660	660	810	810	810	810	1,320	1,320	1,420	1,560
Moisture removal volume l/h			2.2	2.8	3.8	3.8	4.3	4.3	6.0	6.0	7.9	8.6
Sound pressure Level ⁴⁾	Hi / Lo	dB(A)	42 / 38	42 / 38	43 / 39	43 / 39	43 / 39	43 / 39	45 / 41	45 / 41	45 / 41	46 / 42
Sound power Level	Hi	dB	58	58	59	59	59	59	60	60	60	61
Dimensions. indoor	H x W x D	mm	250x1,000+100 ⁵ x650	250x1,000+100 ⁵ x650	250x1,000+100 ⁵ x650	250x1,000+100 ⁵ x650	250x1,000+100 ⁵ x650	250x1,000+100 ⁵ x650	250x1,200+100 ⁵ x650	250x1,200+100 ⁵ x650	250x1,200+100 ⁵ x650	250x1,200+100 ⁵ x650
Net weight	Indoor	Kg	34	34	41	41	41	41	47	47	47	47
Dust filter		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
OUTDOOR UNIT												
Power source	V	220 - 240	220 - 240	220 - 240	380 - 415	220 - 240	380 - 415	220 - 240	380 - 415	380 - 415	380 - 415	
Connection	mm ²	4 x 1 ⁵ to 2 ⁵	4 x 1 ⁵ to 2 ⁵	4 x 1 ⁵ to 2 ⁵	4 x 1 ⁵ to 2 ⁵	4 x 1 ⁵ to 2 ⁵	4 x 1 ⁵ to 2 ⁵	4 x 1 ⁵ to 2 ⁵	4 x 1 ⁵ to 2 ⁵	4 x 1 ⁵ to 2 ⁵	4 x 1 ⁵ to 2 ⁵	
Current Cooling	Nominal (Min / Max)	A	6.21	8.53	12.9	4.54	13.5	4.9	18.6	6.45	8.1	8.8
Air Volume	Cooling	m ³ /h	3,240	3,420	3,600	3,600	3,780	3,780	5,640	5,640	5,640	5,760
Sound pressure Level ⁴⁾	Hi	dB(A)	49	49	50	50	52	52	55	55	56	56
Sound power Level	Hi	dB	65	65	66	66	67	67	69	69	70	70
Dimensions	H x W x D	mm	795x900x320	795x900x320	795x900x320	795x900x320	795x900x320	795x900x320	1,170x900x320	1,170x900x320	1,170x900x320	1,170x900x320
Net weight	Kg	55	57	69	69	69	69	102	102	102	102	102
Piping connections	Liquid pipe	inch (mm)	1/4" (6.35)	1/4" (6.35)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)
	Gas pipe	inch (mm)	1/2" (12.70)	1/2" (12.70)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)
Refrigerant Loading	R410A	Kg	1.1	1.35	1.7	1.7	2.05	2.05	2.7	2.7	3.1	3.4
Elevation difference (in/out) ⁵⁾	Max	m	20	20	30	30	30	30	30	30	30	30
Piping length	Min - Max	m	7.5 - 30	7.5 - 30	7.5 - 50	7.5 - 50	7.5 - 50	7.5 - 50	7.5 - 50	7.5 - 50	7.5 - 50	7.5 - 50
Piping length without refrigerant increase	Max	m	20	20	30	30	30	30	30	30	30	30
Additional gas	g/m	20	20	50	50	50	50	50	50	50	50	50
Area control accessory		EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire
Operating range ³⁾	Min / Max	°C	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43

1) EER, Energy Saving Classification, is at 220 - 240V (380 - 415V) only in accordance with EU directive 2002/31/EC.

2) The annual consumption is calculated by multiplying the input power at 220 - 240V (380 - 415V) by an average of 500-hr per year in cooling mode.

3) The specification listed on the table indicates values under the condition of 50Pa (5,1 mmAq) which are applied for factory default setting.

4) The sound pressure Level of the units shows the value measured of a position 1 meter in front of the main body and 1,5 from the ground

The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification.

5) Add 100mm for indoor unit or 70mm for outdoor unit for piping port.

6) When installing the outdoor unit at a higher position than the indoor unit.

7) Change connector on fan motor from Hi to Sh1.

8) By reducing the air volume on the air duct.



CZ-RD513C

CU-J14DBE5
CU-J18DBE5
CU-J24DBE5CU-J34DBE5
CU-J34DBE8
CU-J50DBE8

KIT-F14DD3E5-F // KIT-F18DD3E5-F // KIT-F24DD3E5-F // KIT-F24DD3E8-F // KIT-F28DD3E5-F // KIT-F28DD3E8-F // KIT-F34DD3E5-F // KIT-F34DD3E8-F // KIT-F43DD3E8-F // KIT-F50DD3E8-F

ENERGY EFFICIENCY AND ECOLOGY

- R410A environmentally friendly refrigerant gas

COMFORT

- Automatic start after a power cut
- Automatic fan operation mode
- Soft dry operation mode
- Hot start mode
- Selection of temperature sensor at the indoor unit or the wired remote control

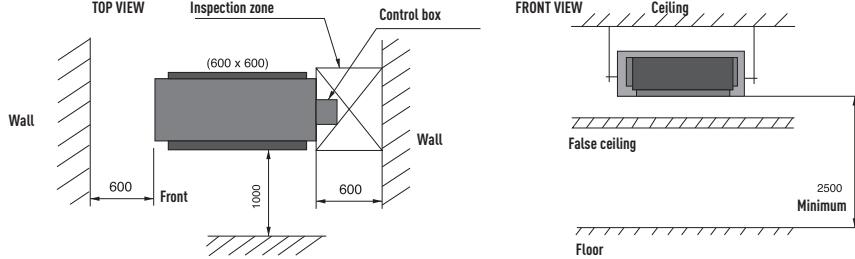
EASE OF USE

- Weekly On/Off timer (6 settings per day and 42 per week)
- Wired remote control

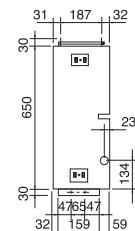
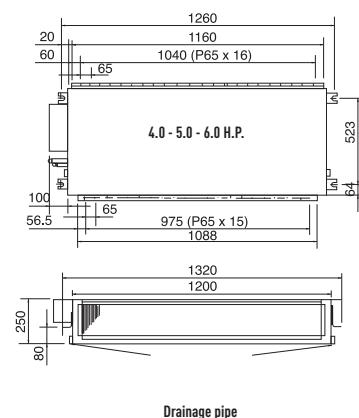
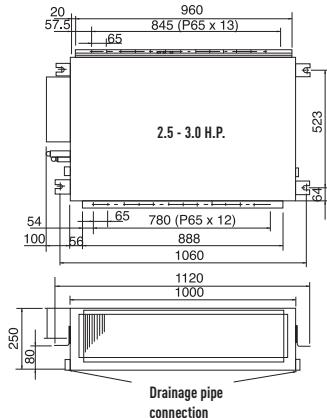
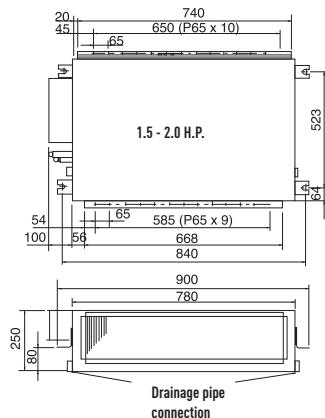
EASY INSTALLATION AND MAINTENANCE

- Selectable static pressure up to 7 mmAq
- Self-diagnostic function
- Condensation control
- Ultra compact indoor unit

SPACE NEEDED FOR INSTALLATION



INDOOR UNIT DIMENSIONS



TECHNICAL ZOOM

- HIGHER ENERGY CLASS FOR HIGH SAVINGS, EVEN AT -20°C
- ECO MODE FOR 20% ENERGY SAVING
- STATIC PRESSURE UP TO 10MMAQ
- WEEKLY TIMER, 42 SETTINGS PER WEEK
- MAX ELEVATION DIFFERENCE 30M
- EASY CHECK MODE FOR FAILURE DETECTION

HIGH STATIC PRESSURE HIDE AWAY // INVERTER + FS TYPE

A complete line up of efficient and powerful high static pressure hide away, for the most demanding customers, from 2.5 H.P. to 6.0 H.P., Single-phase and three-phase



KIT	2.5 H.P.	3.0 H.P.	4.0 H.P.	4.0 H.P.	5.0 H.P.	5.0 H.P.	6.0 H.P.
KIT	KIT-F24DD2E5	KIT-F28DD2E5	KIT-F34DD2E5	KIT-F34DD2E8	KIT-F43DD2E5	KIT-F43DD2E8	KIT-F50DD2E8
Indoor	CS-F24DD2E5	CS-F28DD2E5	CS-F34DD2E5	CS-F34DD2E5	CS-F43DD2E5	CS-F50DD2E5	CS-F50DD2E5
Outdoor	CU-L24DBE5	CU-L28DBE5	CU-L34DBE5	CU-L34DBE8	CU-L43DBE5	CU-L43DBE8	CU-L50DBE8
Wired remote control	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C
Cooling capacity	Nominal (Min-Max) kW	6.30 (2.00-6.50)	7.10 (2.10-7.50)	10.00 (4.00-12.00)	10.00 (4.00-12.00)	12.50 (4.00-13.50)	14.00 (4.00-16.00)
Nominal (Min-Max) kCal/h	5,418 (1,720-5,590)	6,106 (1,806-6,450)	8,600 (3,440-10,320)	8,600 (3,440-10,320)	10,750 (3,440-11,610)	10,750 (3,440-11,610)	12,040 (3,440-13,760)
EER ¹⁾	Nominal (Min-Max)	3.01 (3.33-2.71) B	3.01 (3.23-3.06) B	3.27 (2.96-3.43) A	3.27 (2.96-3.43) A	3.01 (2.86-3.00) B	2.77 (2.76-2.96) D
Power input Cooling	Nominal (Min-Max) kW	2.09 (0.6-2.4)	2.36 (0.65-2.45)	3.06 (1.35-3.5)	3.06 (1.35-3.5)	4.15 (1.4-4.5)	4.15 (1.4-4.5)
Heating capacity	Nominal (Min-Max) kW	7.10 (2.10-7.50)	8.00 (2.20-8.50)	11.20 (4.00-13.50)	11.20 (4.00-13.50)	14.00 (4.00-15.50)	16.00 (4.00-18.00)
Nominal (Min-Max) kCal/h	6,106 (1,806-6,450)	6,880 (1,892-7,310)	9,632 (3,440-11,610)	9,632 (3,440-11,610)	12,040 (3,440-13,330)	12,040 (3,440-13,330)	13,760 (3,440-15,480)
COP ¹⁾	Nominal (Min-Max)	3.41 (3.50-2.38) B	3.42 (3.38-2.62) B	3.41 (2.96-3.14) B	3.41 (2.96-3.14) B	3.21 (2.86-3.04) C	3.30 (2.86-2.95) C
Power input Heating	Nominal (Min-Max) kW	2.08 (0.6-3.15)	2.34 (0.65-3.25)	3.28 (1.35-4.3)	3.28 (1.35-4.3)	4.36 (1.4-5.1)	4.36 (1.4-5.1)
Annual Energy Consumption ²⁾	kWh	1,045	1,180	1,530	1,530	2,075	2,075
INDOOR UNIT							
External static pressure ³⁾	High mmAq	7	7	10	10	10	10
Medium mmAq	5	5	6.6	6.6	6.6	6.6	6.6
Low mmAq	4.1	4.1	5.1	5.1	5.1	5.1	5.6
Air Volume	High m ³ /h	1,320	1,320	2,280	2,280	2,400	2,700
Medium m ³ /h	1,020	1,020	1,920	1,920	1,980	1,980	2,100
Low m ³ /h	870	870	1,620	1,620	1,680	1,680	1,740
Moisture removal volume l/h	3.8	4.3	6.0	6.0	7.9	7.9	9.0
Sound pressure Level ⁴⁾	Cooling (Hi / Lo) dB(A)	45 / 41	45 / 41	49 / 45	49 / 45	49 / 45	49 / 45
Heating (Hi / Lo) dB(A)	43 / 39	43 / 39	47 / 44	47 / 44	47 / 44	47 / 44	47 / 44
Sound power Level	Cooling (Hi) dB	61	61	64	64	64	64
Heating (Hi) dB	59	59	62	62	62	62	62
Dimensions. indoor	H x W x D mm	290x1,000+100 ⁵ x500	290x1,000+100 ⁵ x500	360x1,000+100 ⁵ x650	360x1,000+100 ⁵ x650	360x1,000+100 ⁵ x650	360x1,000+100 ⁵ x650
Net weight	Indoor Kg	35	35	48	48	48	48
Dust filter	No	No	No	No	No	No	No
OUTDOOR UNIT							
Power source	V	220 - 240	220 - 240	220 - 240	380 - 415	380 - 415	380 - 415
Connection	mm ²	4 x 1'5 to 2'5					
Current Cooling	Nominal (Min / Max) A	9.5	10.7	13.8	18.8	6.5	7.7
Current Heating	Nominal (Min / Max) A	9.5	10.6	14.9	5.2	19.7	6.8
Air Volume	Cooling / Heating m ³ /h	2,880 / 2,880	2,880 / 2,880	5,880 / 5,880	5,880 / 5,880	5,880 / 5,880	5,880 / 5,880
Sound pressure Level ⁴⁾	Cooling (Hi) dB(A)	47	48	52	52	53	54
Heating (Hi) dB(A)	49	50	54	54	55	55	56
Sound power Level	Cooling (Hi) dB	63	64	66	66	67	68
Heating (Hi) dB	65	66	68	68	69	69	70
Dimensions	H x W x D mm	795 x 900 x 320	795 x 900 x 320	1,340 x 900 x 320	1,340 x 900 x 320	1,340 x 900 x 320	1,340 x 900 x 320
Net weight	Kg	71	71	110	110	110	105
Piping connections	Liquid pipe inch (mm)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)
	Gas pipe inch (mm)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)
Refrigerant Loading	R410A Kg	2.13	2.35	3.3	3.3	3.3	3.5
Elevation difference (in/out) ⁵⁾	Max m	30	30	30	30	30	30
Piping length	Min - Max m	7.5 - 50	7.5 - 50	7.5 - 50	7.5 - 50	7.5 - 50	7.5 - 50
Piping length without refrigerant increase	Max m	30	30	30	30	30	30
Additional gas	g/m	50	50	50	50	50	50
Area control accessory		EKRORO wire					
Operating range ³⁾	Cooling Min / Max °C	-15 / 43	-15 / 43	-15 / 43	-15 / 43	-15 / 43	-15 / 43
	Heating Min / Max °C	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24

GLOBAL REMARKS Rating conditions
Inside air temperature
Outside air temperature

Cooling	Heating
27°C DB / 19°C WB	20°C DB
35°C DB / 24°C WB	7°C DB / 6°C WB

1) EER and COP, Energy Saving Classification, is at 220 - 240V (380 - 415V) only in accordance with EU directive 2002/31/EC.

2) The annual consumption is calculated by multiplying the input power at 220 - 240V (380 - 415V) by an average of 500-hr per year in cooling mode.

3) The specification listed on the table indicates values under the condition of 50Pa (5.1 mmAq) which are applied for factory default setting.

4) The sound pressure level of the units shows the value measured of a position 1 meter in front of the main body and 1.5 from the ground

The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification.

5) Add 100mm for indoor unit or 70mm for outdoor unit for piping port.

6) When installing the outdoor unit at a higher position than the indoor unit.



CZ-RD513C

**KIT-F24DD2E5 // KIT-F28DD2E5 // KIT-F34DD2E5 // KIT-F34DD2E8 //
KIT-F43DD2E5 // KIT-F43DD2E8 // KIT-F50DD2E8**

ENERGY EFFICIENCY AND ECOLOGY

- Maximum efficiency Inverter system
 - R410A environmentally friendly refrigerant gas

COMFORT

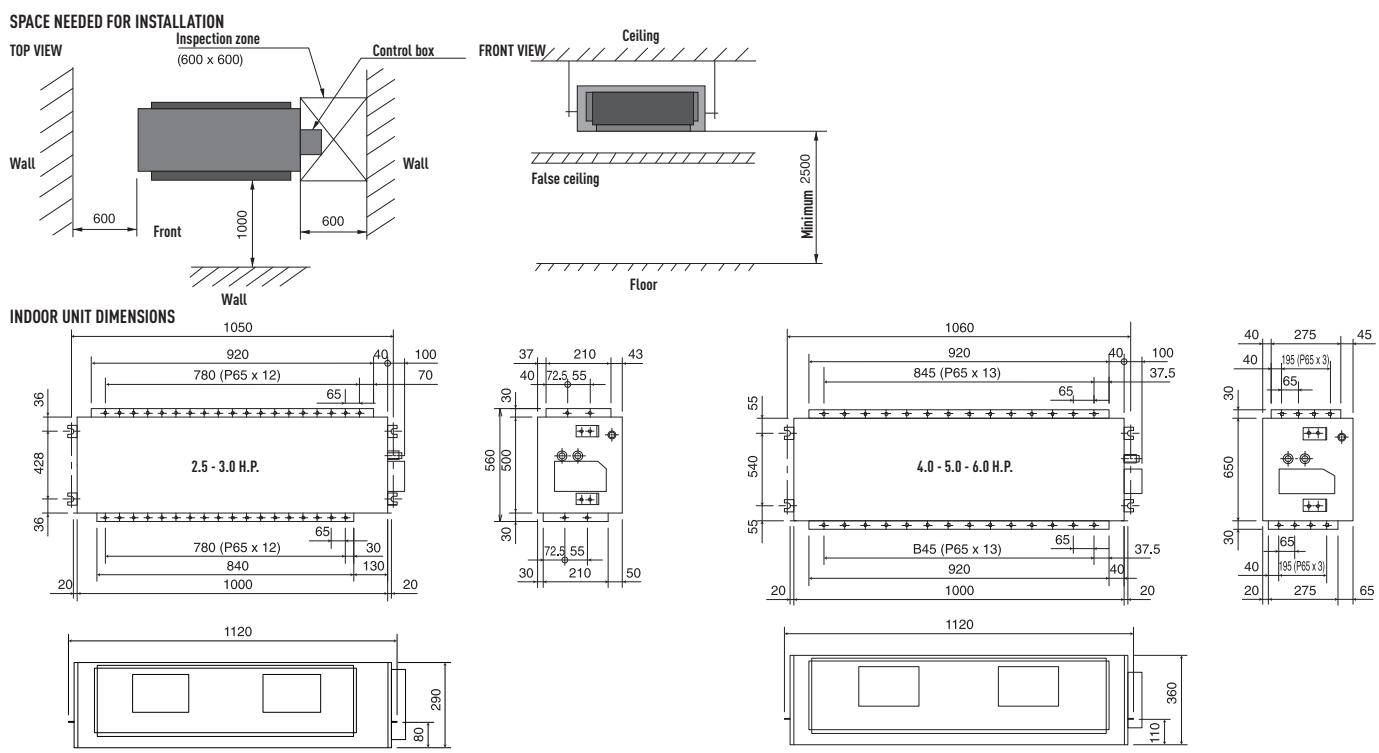
- Cooling with low outdoor temperatures (down to -20 °C)
 - Automatic start after a power cut
 - Automatic fan operation mode
 - Soft dry operation mode
 - Hot start mode
 - Selection of temperature sensor at indoor unit or wired remote control

EASE OF USE

- Weekly On/Off timer
(6 settings per day and 42 per week)
 - Wired remote control

EASY INSTALLATION AND MAINTENANCE

- Installation using existing pipes
 - High static pressure units ideal for shops and offices
 - Selectable static pressure up to 10 mmAq
 - Self-diagnostic function
 - Ultra compact indoor unit



TECHNICAL ZOOM

- ULTRA COMPACT OUTDOOR UNITS (-40% REDUCED SIZE FOR THE CU-YL34HBE5)
- ECO MODE FOR 20% ENERGY SAVING
- COOLING WITH LOW OUTDOOR TEMPERATURES (DOWN TO -20 °C)
- STATIC PRESSURE UP TO 10MMAQ
- WEEKLY TIMER, 42 SETTINGS PER WEEK
- EASY CHECK MODE FOR FAILURE DETECTION

HIGH STATIC PRESSURE
HIDE AWAY // INVERTER FS TYPE

Compact line up of inverter High static Hide away, from 2.5 H.P. to 5.0 H.P., Single-phase



	2.5 H.P.	3.0 H.P.	4.0 H.P.	5.0 H.P.
KIT	KIT-YH24DD2E5	KIT-YH28DD2E5	KIT-YH34DD2E5	KIT-YH43DD2E5
Indoor	CS-F24DD2E5	CS-F28DD2E5	CS-F34DD2E5	CS-F43DD2E5
Outdoor	CU-YL24HBE5	CU-YL28HBE5	CU-YL34HBE5	CU-YL43HBE5
Wired remote control	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C
Cooling capacity	Nominal (Min - Max) kW 5.60 (2 - 6.30) Nominal (Min - Max) kCal/h 4,816 (1,720 - 5,418)	7.10 (2.10 - 7.70) 6,106 (1,806 - 6,622)	10.00 (3.8 - 10.50) 8,600 (3,268 - 9,030)	12.50 (3.80 - 13.00) 10,750 (3,268 - 11,180)
EER ¹⁾	2.81 (3.64 - 2.86) C	2.81 (3.23 - 2.96) C	2.81 (2.92 - 2.56) D	2.81 (2.92 - 2.77) C
Power input Cooling	Nominal (Min - Max) kW 1.99 (0.55 - 2.20)	2.53 (0.65 - 2.60)	3.56 (1.30 - 4.10)	4.45 (1.30 - 4.70)
Heating capacity	Nominal (Min - Max) kW 7.00 (2.10 - 7.60)	8.00 (2.20 - 8.30)	11.20 (3.80 - 12.50)	14.00 (3.80 - 14.50)
Nominal (Min - Max) kCal/h 6,020 (1,806 - 6,450)	6,880 (1,892 - 7,138)	9,632 (3,268 - 10,750)	12,040 (3,268 - 12,470)	
COP ¹⁾	2.81 (4.20 - 2.68) D	2.81 (3.67 - 2.59) D	3.01 (3.17 - 2.94) C	3.01 (3.17 - 2.90) C
Power input Heating	Nominal (Min - Max) kW 2.49 (0.50 - 2.80)	2.85 (0.60 - 3.20)	3.72 (1.20 - 4.25)	4.65 (1.20 - 5.00)
Annual Energy Consumption ²⁾	kWh 995	1,265	1,780	2,225
INDOOR UNIT				
External static pressure ³⁾	High mmAq Medium mmAq Low mmAq	7 5 4.1	7 5 4.1	10 6.6 5.1
Air Volume	High m ³ /h Medium m ³ /h Low m ³ /h	1,320 1,020 870	1,320 1,020 870	2,400 1,980 1,680
Moisture removal volume	l/h	3.20	4.20	6.00
Sound pressure Level ⁴⁾	Cooling (Hi / Lo) dB(A) Heating (Hi / Lo) dB(A)	45 / 41 43 / 39	45 / 41 43 / 39	49 / 45 47 / 44
Sound power Level	Cooling (Hi) dB Heating (Hi) dB	67 68	68 69	71 73
Dimensions, indoor	H x W x D mm	290 x 1,000+100 ⁵⁾ x 500	290 x 1,000+100 ⁵⁾ x 500	390 x 1,000+100 ⁵⁾ x 650
Net weight	Indoor Kg	35	35	48
Dust filter	No	No	No	No
OUTDOOR UNIT				
Power source	V	220 - 240	220 - 240	220 - 240
Connection	mm ²	4 x 1.5 to 2.5	4 x 1.5 to 2.5	4 x 1.5 to 2.5
Current Cooling	Nominal (Min / Max) A	9.00	11.50	16.30
Current Heating	Nominal (Min / Max) A	11.30	12.80	17.00
Air Volume	Cooling / Heating m ³ /h	2,880	2,880	5,880
Sound pressure Level ⁴⁾	Cooling (Hi) dB(A) Heating (Hi) dB(A)	49 51	50 52	53 56
Sound power Level	Cooling (Hi) dB Heating (Hi) dB	67 68	68 69	71 73
Dimensions	H x W x D mm	795 x 875+70 ⁵⁾ x 320	795 x 875+70 ⁵⁾ x 320	795 x 900 x 320
Net weight	Kg	65	65	66
Piping connections	Liquid pipe inch (mm) Gas pipe inch (mm)	3/8" (9.52) 5/8" (15.88)	3/8" (9.52) 5/8" (15.88)	3/8" (9.52) 5/8" (15.88)
Refrigerant Loading	R410A Kg	1.63	2.05	2.8
Elevation difference (in/out) ⁶⁾	Max m	25	25	30
Piping length	Min - Max m	7.5 - 30	7.5 - 30	7.5 - 50
Piping length without refrigerant increase	Max m	30	30	30
Additional gas	g/m	50	50	50
Area control accessory	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire
Operating range ³⁾	Cooling Min / Max °C Heating Min / Max °C	-5 / 43 -15 / 24	-5 / 44 -15 / 25	-5 / 45 -15 / 26

GLOBAL REMARKS	Rating conditions	Cooling	Heating
	Inside air temperature	27°C DB / 19°C WB	20°C DB
	Outside air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

DB: Dry bulb, WB: Wet bulb

1) EER and COP, Energy Saving Classification, is at 220 - 240V (380 - 415V) only in accordance with EU directive 2002/31/EC.

2) The annual consumption is calculated by multiplying the input power at 220 - 240V (380 - 415V) by an average of 500-hr per year in cooling mode.

3) The specification listed on the table indicates values under the condition of 50Pa (5,1 mmAq) which are applied for factory default setting.

4) The sound pressure Level of the units shows the value measured of a position 1 meter in front of the main body and 1.5 from the ground

The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification.

5) Add 100mm for indoor unit or 70mm for outdoor unit for piping port.

6) When installing the outdoor unit at a higher position than the indoor unit.



CZ-RD513C

KIT-YH24DD2E5 // KIT-YH28DD2E5 // KIT-YH34DD2E5 // KIT-YH43DD2E5

ENERGY EFFICIENCY AND ECOLOGY

- Inverter system
 - R410A environmentally friendly refrigerant gas

COMFORT

- Cooling with low outdoor temperatures (down to -15 °C)
 - Automatic start after a power cut
 - Automatic fan operation mode
 - Soft dry operation mode
 - Hot start mode
 - Selection of temperature sensor at indoor unit or wired remote control

EASE OF USE

- Weekly On/Off timer
(6 settings per day and 42 per week)
 - Wired remote control

EASY INSTALLATION AND MAINTENANCE

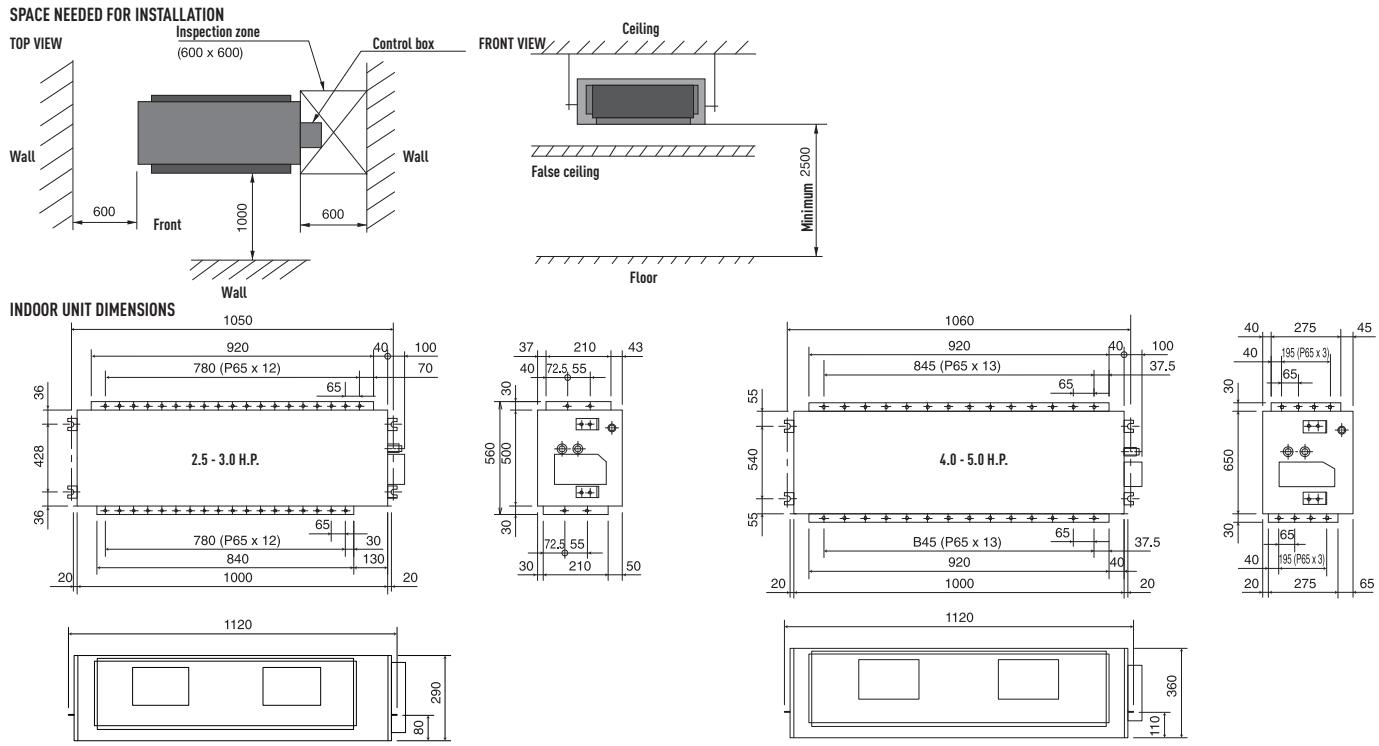
- Installation using existing pipes
 - Selectable static pressure up to 10 mmAq
 - Self-diagnostic function
 - Condensation control
 - Ultra compact indoor unit



CU-YL24HBE5
CU-YL28HBE5

CU-YL34HBE5

CU-YL43HBE5

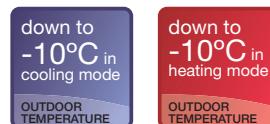


TECHNICAL ZOOM

- + STATIC PRESSURE UP TO 10MMAQ
- + ECO MODE FOR 20% ENERGY SAVING
- + MAX ELEVATION DIFFERENCE 30M
- + EASY CHECK MODE FOR FAILURE DETECTION

HIGH STATIC PRESSURE HIDE AWAY // HEAT PUMP FS TYPE

Full line up of heat pump non-inverter High static pressure Hide away, from 2.5 H.P. to 6.0 H.P., Single-phase and three-phase



	2.5 H.P.	3.0 H.P.	3.0 H.P.	4.0 H.P.	4.0 H.P.	5.0 H.P.	6.0 H.P.
KIT	KIT-F24DD2E5-C	KIT-F28DD2E5-C	KIT-F28DD2E8-C	KIT-F34DD2E5	KIT-F34DD2E8-C	KIT-F43DD2E8-C	KIT-F50DD2E8-C
Indoor	CS-F24DD2E5	CS-F28DD2E5	CS-F28DD2E8	CS-F34DD2E5	CS-F34DD2E8	CS-F50DD2E5	CS-F50DD2E8
Outdoor	CU-B24DBE5	CU-B28DBE5	CU-B28DBE8	CU-B34DBE5	CU-B34DBE8	CU-B43DBE8	CU-B50DBE8
Wired remote control	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C
Cooling capacity	Nominal (Min - Max) kW	6.60	7.30	10.00	10.00	12.50	13.50
	Nominal (Min - Max) kCal/h	5,676	6,278	8,600	8,600	10,750	11,610
EER ¹⁾	Nominal (Min - Max)	2.50	2.55	2.55	2.52	2.61	2.54
Power input Cooling	Nominal (Min - Max) kW	2.64 (2.61-6.7)	2.86 (2.81-2.91)	2.86 (2.81-2.91)	3.97 (3.89-4.08)	3.83 (3.79-3.92)	4.92 (4.85-5.04)
Heating capacity	Nominal (Min - Max) kW	7.10	8.00	11.20	11.20	14.00	15.00
	Nominal (Min - Max) kCal/h	6,106	6,880	9,632	9,632	12,040	12,900
COP ¹⁾	Nominal (Min - Max)	2.81	2.95	2.95	2.81	3.04	3.00
Power input Heating	Nominal (Min - Max) kW	2.53 (2.45-2.62)	2.71 (2.62-2.8)	2.71 (2.62-2.8)	3.98 (3.9-4.05)	3.68 (3.63-3.75)	4.66 (4.56-4.78)
Annual Energy Consumption ²⁾	Nominal (Min - Max) kWh	1,320	1,430	1,430	1,985	1,915	2,460
INDOOR UNIT							
External static pressure ³⁾	High mmAq	7	7	10	10	10	10
	Medium mmAq	5	5	6.6	6.6	6.6	6.6
	Low mmAq	4.1	4.1	5.1	5.1	5.1	5.6
Air Volume	High m ³ /h	1,320	1,320	2,280	2,280	2,400	2,700
	Medium m ³ /h	1,020	1,020	1,920	1,920	1,980	2,100
	Low m ³ /h	870	870	1,620	1,620	1,680	1,740
Moisture removal volume l/h		3.8	4.3	4.3	6.0	7.9	8.6
Sound pressure Level ⁴⁾	Cooling (Hi / Lo) dB(A)	45 / 41	45 / 41	49 / 45	49 / 45	49 / 45	49 / 45
	Heating (Hi / Lo) dB(A)	43 / 39	43 / 39	47 / 44	47 / 44	47 / 44	47 / 44
Sound power Level	Cooling (Hi) dB	61	61	64	64	64	64
	Heating (Hi) dB	59	59	62	62	62	62
Dimensions. indoor	H x W x D mm	290x1,000+100 ⁵⁾ x500	290x1,000+100x500	290x1,000+100x500	360x1,000+100 ⁵⁾ x650	360x1,000+100 ⁵⁾ x650	360x1,000+100 ⁵⁾ x650
Net weight	Indoor Kg	35	35	48	48	48	48
Dust filter	No	No	No	No	No	No	No
OUTDOOR UNIT							
Power source	V	220 - 240	220 - 240	380 - 415	220 - 240	380 - 415	380 - 415
Connection	mm ²	4 x 1 ⁵ to 2 ⁵					
Current Cooling	Nominal (Min / Max) A	13.1	13.7	4.9	18.8	6.5	8.2
Current Heating	Nominal (Min / Max) A	11.9	12.6	4.7	18.7	6.4	8.0
Air Volume	Cooling / Heating m ³ /h	3,600 / 3,600	3,780 / 3,780	3,780 / 3,780	5,640 / 5,640	5,640 / 5,640	5,760 / 5,760
Sound pressure Level ⁴⁾	Cooling (Hi) dB(A)	50	52	55	55	56	56
	Heating (Hi) dB(A)	51	53	56	56	57	57
Sound power Level	Cooling (Hi) dB	66	67	69	69	70	70
	Heating (Hi) dB	67	68	70	70	71	71
Dimensions	H x W x D mm	795 x 900 x 320	795 x 900 x 320	795 x 900 x 320	1,170 x 900 x 320	1,170 x 900 x 320	1,170 x 900 x 320
Net weight	Kg	69	69	102	100	102	102
Piping connections	Liquid pipe inch (mm)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)
	Gas pipe inch (mm)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)
Refrigerant Loading	R410A Kg	1.7	2.05	2.05	2.7	2.7	3.1
Elevation difference (in/out) ⁵⁾	Max m	30	30	30	30	30	30
Piping length	Min - Max m	7.5-50	7.5-50	7.5-50	7.5-50	7.5-50	7.5-50
Piping length without refrigerant increase	Max m	30	30	30	30	30	30
Additional gas	g/m	50	50	50	50	50	50
Area control accessory		EKRORO wire					
Operating range ³⁾	Cooling Min / Max °C	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43
	Heating Min / Max °C	-10 / 24	-10 / 24	-10 / 24	-10 / 24	-10 / 24	-10 / 24

GLOBAL REMARKS Rating conditions
Inside air temperature 20°C DB / 19°C WB
Outside air temperature 35°C DB / 24°C WB

- 1) EER and COP, Energy Saving Classification, is at 220 - 240V (380 - 415V) only in accordance with EU directive 2002/31/EC.
- 2) The annual consumption is calculated by multiplying the input power at 220 - 240V (380 - 415V) by an average of 500-hr per year in cooling mode.
- 3) The specification listed on the table indicates values under the condition of 50Pa (5.1 mmAq) which are applied for factory default setting.
- 4) The sound pressure level of the units shows the value measured of a position 1 meter in front of the main body and 1.5 m from the ground. The sound pressure is measured in accordance with European 6/C/006-97 specification.
- 5) Add 100mm for indoor unit or 70mm for outdoor unit for piping port.
- 6) When installing the outdoor unit at a higher position than the indoor unit.



CZ-RD513C

CU-B24DBE5
CU-B28DBE5CU-B34DBE5
CU-B34DBE8

KIT-F24DD2E5-C // KIT-F28DD2E5-C // KIT-F28DD2E8-C // KIT-F34DD2E5-C // KIT-F34DD2E8-C // KIT-F43DD2E8-C // KIT-F50DD2E8-C

ENERGY EFFICIENCY AND ECOLOGY

- R410A environmentally friendly refrigerant gas

COMFORT

- Automatic start after a power cut
- Automatic fan operation mode
- Soft dry operation mode
- Hot start mode
- Selection of temperature sensor at the indoor unit or the wired remote control

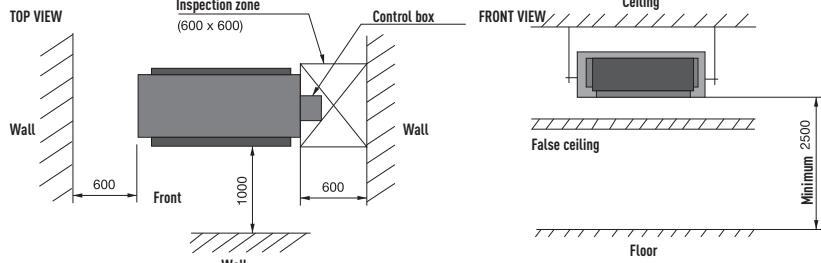
EASE OF USE

- Weekly On/Off timer (6 settings per day and 42 per week)
- Wired remote control

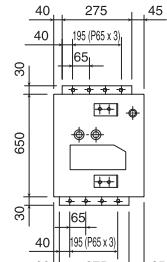
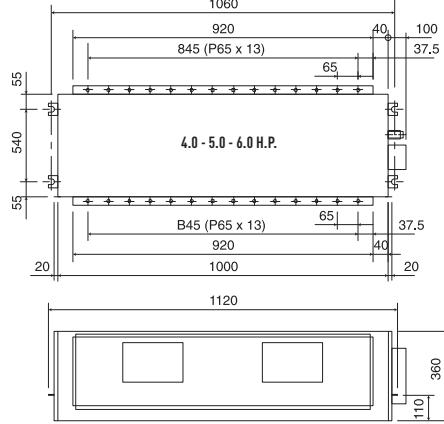
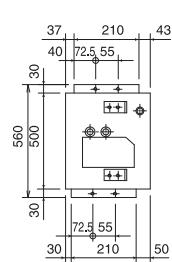
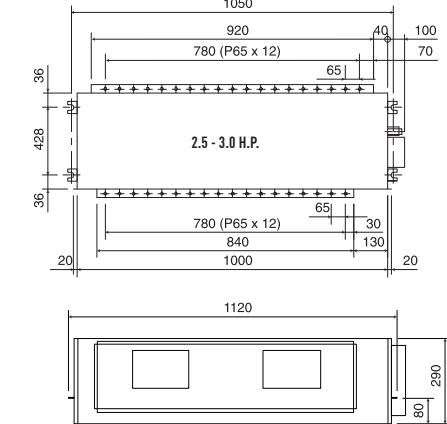
EASY INSTALLATION AND MAINTENANCE

- High static pressure units ideal for shops and offices
- Selectable static pressure up to 10 mmAq
- Self-diagnostic function
- Ultra compact indoor unit

SPACE NEEDED FOR INSTALLATION



INDOOR UNIT DIMENSIONS



TECHNICAL ZOOM

- STATIC PRESSURE UP TO 10MMAQ
- ECO MODE FOR 20% ENERGY SAVING
- MAX ELEVATION DIFFERENCE 30M
- EASY CHECK MODE FOR FAILURE DETECTION

HIGH STATIC PRESSURE
HIDE AWAY // COOLING ONLY FS TYPE

Full line up of cooling only non-inverter High static pressure Hide Away, from 2.5 H.P. to 6.0 H.P., Single-phase and three-phase



	2.5 H.P.	2.5 H.P.	3.0 H.P.	3.0 H.P.	4.0 H.P.	4.0 H.P.	5.0 H.P.	6.0 H.P.
KIT	KIT-F24DD2E5-F	KIT-F24DD2E8-F	KIT-F28DD2E5-F	KIT-F28DD2E8-F	KIT-F34DD2E5-F	KIT-F34DD2E8-F	KIT-F43DD2E0-F	KIT-F50DD2E8-F
Indoor	CS-F24DD2E5	CS-F24DD2E5	CS-F28DD2E5	CS-F28DD2E5	CS-F34DD2E5	CS-F34DD2E5	CS-F43DD2E5	CS-F50DD2E5
Outdoor	CU-J24DBE5	CU-J24DBE8	CU-J28DBE5	CU-J28DBE8	CU-J34DBE5	CU-J34DBE8	CU-J43DBE8	CU-J50DBE8
Wired remote control	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C
Cooling capacity	Nominal (Min - Max) kW	6.60	6.60	7.30	7.30	10.00	10.00	12.50
	Nominal (Min - Max) kCal/h	5,676	5,676	6,278	6,278	8,600	8,600	10,750
EER ¹⁾	Nominal (Min - Max)	2.44	2.44	2.51	2.51	2.44	2.55	2.51
Power input Cooling	Nominal (Min - Max) kW	2.70 (2.66-2.74)	2.70 (2.66-2.74)	2.91 (2.86-2.96)	2.91 (2.86-2.96)	4.10 (4.03-4.15)	3.92 (3.86-3.96)	4.96 (4.90-5.12)
Annual Energy Consumption ²⁾	kWh	1,350	1,350	1,455	1,455	2,050	1,960	2,490
INDOOR UNIT								
External static pressure ³⁾	High mmAq	7	7	7	10	10	10	10
	Medium mmAq	5	5	5	6.6	6.6	6.6	6.6
	Low mmAq	4.1	4.1	4.1	5.1	5.1	5.1	5.6
Air Volume	High m ³ /h	1,320	1,320	1,320	2,280	2,280	2,400	2,700
	Medium m ³ /h	1,020	1,020	1,020	1,920	1,920	1,980	2,100
	Low m ³ /h	870	870	870	1,620	1,620	1,680	1,740
Moisture removal volume l/h	3.8	4.3	4.3	4.3	6.0	6.0	7.9	8.6
Sound pressure Level ⁴⁾	Hi / Lo dB(A)	45 / 41	45 / 41	45 / 41	49 / 45	49 / 45	49 / 45	49 / 45
Sound power Level	Hi dB	61	61	61	64	64	64	64
Dimensions, indoor	H x W x D mm	290x1,000+100 ⁵ x500	290x1,000+100 ⁵ x500	290x1,000+100 ⁵ x500	360x1,000+100 ⁵ x650	360x1,000+100 ⁵ x650	360x1,000+100 ⁵ x650	360x1,000+100 ⁵ x650
Net weight	Indoor Kg	35	35	35	48	48	48	48
Dust filter	No	No	No	No	No	No	No	No
OUTDOOR UNIT								
Power source	V	220 - 240	220 - 240	220 - 240	380 - 415	220 - 240	380 - 415	380 - 415
Connection	mm ²	4 x 1 ⁵ to 2 ⁵						
Current Cooling	Nominal (Min / Max) A	13.1	4.63	13.7	4.9	18.8	6.5	8.2
Air Volume	m ³ /h	3,600	3,600	3,780	5,640	5,640	5,640	5,760
Sound pressure Level ⁴⁾	Hi dB(A)	50	50	52	55	55	56	56
Sound power Level	Hi dB	66	66	67	69	69	70	70
Dimensions	H x W x D mm	795 x 900 x 320	795 x 900 x 320	795 x 900 x 320	1,170 x 900 x 320	1,170 x 900 x 320	1,170 x 900 x 320	1,170 x 900 x 320
Net weight	Kg	69	69	69	102	100	102	102
Piping connections	Liquid pipe inch (mm)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)
	Gas pipe inch (mm)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)
Refrigerant Loading	R410A Kg	1.7	1.7	2.05	2.05	2.7	2.7	3.1
Elevation difference (in/out) ⁶⁾	Max m	30	30	30	30	30	30	30
Piping length	Min - Max m	7.5-50	7.5-50	7.5-50	7.5-50	7.5-50	7.5-50	7.5-50
Piping length without refrigerant increase	Max m	30	30	30	30	30	30	30
Additional gas	g/m	50	50	50	50	50	50	50
Area control accessory		EKRORO wire						
Operating range ³⁾	Min / Max °C	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43

GLOBAL REMARKS	Rating conditions	Cooling
Inside air temperature		27°C DB / 19°C WB
Outside air temperature		35°C DB / 24°C WB

DB: Dry bulb, WB: Wet bulb

1) EER, Energy Saving Classification, is at 220 - 240V (380 - 415V) only in accordance with EU directive 2002/31/EC

2) The annual consumption is calculated by multiplying the input power at 220 - 240V (380 - 415V) by an average of 500-hr per year in cooling mode.

3) The specification listed on the table indicates values under the condition of 50Pa (5,1 mmAq) which are applied for factory default setting.

4) The sound pressure Level of the units shows the value measured of a position 1 meter in front of the main body and 1,5 from the ground

The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification.

5) Add 100mm for indoor unit or 70mm for outdoor unit for piping port.

6) When installing the outdoor unit at a higher position than the indoor unit.



CZ-RD513C

CU-J24DBE5
CU-J24DBE8CU-J34DBE5
CU-J34DBE8

KIT-F24DD2E5-F // KIT-F24DD2E8-F // KIT-F28DD2E5-F // KIT-F28DD2E8-F // KIT-F32DD2E5-F // KIT-F34DD2E8-F // KIT-F43DD2E8-F // KIT-F50DD2E8-F

ENERGY EFFICIENCY AND ECOLOGY

- R410A environmentally friendly refrigerant gas

COMFORT

- Automatic start after a power cut
- Automatic fan operation mode
- Soft dry operation mode
- Hot start mode
- Selection of temperature sensor at the indoor unit or the wired remote control

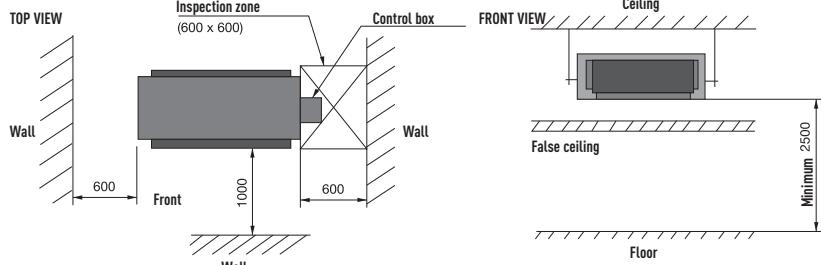
EASE OF USE

- Weekly On/Off timer (6 settings per day and 42 per week)
- Wired remote control

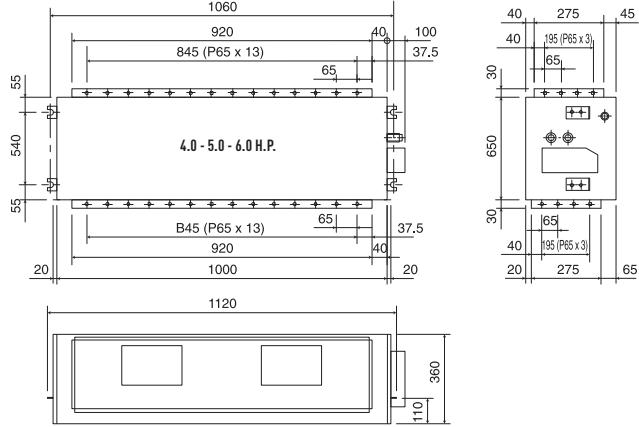
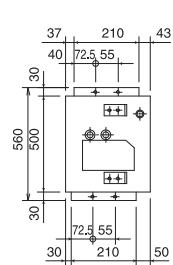
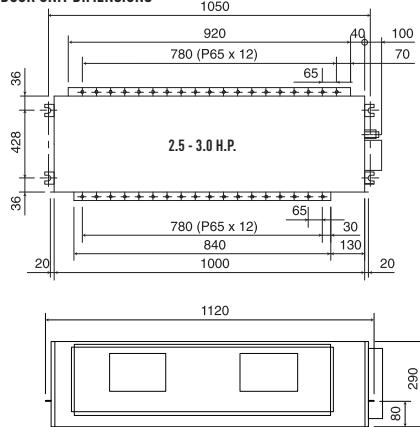
EASY INSTALLATION AND MAINTENANCE

- High static pressure units ideal for shops and offices
- Selectable static pressure up to 10 mmAq
- Self-diagnostic function
- Ultra compact indoor unit

SPACE NEEDED FOR INSTALLATION



INDOOR UNIT DIMENSIONS



TECHNICAL ZOOM

- HIGHER ENERGY CLASS FOR HIGH SAVINGS, EVEN AT -20°C
- ECO MODE FOR 20% ENERGY SAVING
- WEEKLY TIMER, 42 SETTINGS PER WEEK
- ULTRA COMPACT OUTDOOR UNITS WHICH ARE EASY TO INSTALL
- 30 M MAXIMUM ELEVATION DIFFERENCE
- EASY CHECK MODE FOR FAILURE DETECTION

CEILING // INVERTER + FS TYPE

A complete line up of compact, efficient, quiet and powerful Ceiling, for the most demanding customers, from 2.5 H.P. to 6.0 H.P., Single-phase and three-phase



KIT	2.5 H.P.	3.0 H.P.	4.0 H.P.	4.0 H.P.	5.0 H.P.	5.0 H.P.	6.0 H.P.
Indoor	KIT-F24DTE5	KIT-F28DTE5	KIT-F34DTE5	KIT-F34DTE8	KIT-F43DTE5	KIT-F43DTE8	KIT-F50DTE8
Outdoor	CS-F24DTE5	CS-F28DTE5	CS-F34DTE5	CS-F34DTE5	CS-F43DTE5	CS-F50DTE5	CS-F50DTE8
Wireless control	Included with kit	CZ-L24DBE5	CZ-L28DBE5	CU-L34DBE5	CU-L43DBE5	CU-L50DBE8	CU-L50DBE8
Wired remote control	Optional	CZ-RL513T	CZ-RL513T	CZ-RL513T	CZ-RL513T	CZ-RL513T	CZ-RL513T
Cooling capacity	Nominal (Min-Max) kW kCal/h	6.30 (2.00-6.50) 6,418 (1,720-5,590)	7.10 (2.10-7.50) 6,106 (1,806-6,450)	10.00 (4.00-12.00) 8,600 (3,440-10,320)	10.00 (4.00-12.00) 8,600 (3,440-10,320)	12.50 (4.00-13.50) 10,750 (3,440-11,610)	12.50 (4.00-13.50) 10,750 (3,440-11,610)
EER ¹⁾	Nominal (Min-Max)	3.21 (3.64-2.83) A	2.91 (3.23-3.06) C	3.33 (3.20-3.53) A	3.33 (3.20-3.53) A	3.01 (3.08-3.14) C	2.91 (2.96-3.14) C
Power input Cooling	Nominal (Min-Max) kW	1.96 (0.55-2.30)	2.44 (0.65-2.45)	3.00 (1.25-3.40)	3.00 (1.25-3.40)	4.15 (1.3-4.30)	4.15 (1.3-4.30)
Heating capacity	Nominal (Min-Max) kW kCal/h	7.10 (2.10-7.50) 6,106 (1,806-6,450)	8.00 (2.20-8.50) 6,880 (1,892-7,310)	11.20 (4.00-13.50) 9,632 (3,440-11,610)	11.20 (4.00-13.50) 9,632 (3,440-11,610)	14.00 (4.00-15.50) 12,040 (3,440-13,330)	14.00 (4.00-15.50) 12,040 (3,440-13,330)
COP ¹⁾	Nominal (Min-Max)	3.21 (3.82-2.38) C	3.02 (3.38-2.62) D	3.41 (3.20-3.21) B	3.41 (3.20-3.21) B	3.50 (3.20-3.10) B	3.41 (3.08-3.00) B
Power input Heating	Nominal (Min-Max) kW	2.21 (0.55-3.15)	2.65 (0.65-3.25)	3.28 (1.25-4.20)	3.28 (1.25-4.20)	4.00 (1.25-5.00)	4.00 (1.25-5.00)
Annual Energy Consumption ²⁾	kWh	980	1,220	1,500	1,500	2,075	2,075
INDOOR UNIT							
Air Volume	Cooling / Heating m ³ /h	1,020 / 1,020	1,080 / 1,080	1,740 / 1,740	1,740 / 1,740	1,860 / 1,860	1,860 / 1,860
Moisture removal volume	I/h	3.6	4.2	6.0	6.0	7.9	9.0
Sound pressure Level ³⁾	Cooling (Hi / Lo) dB(A)	43 / 39	45 / 41	47 / 43	47 / 43	49 / 45	50 / 46
	Heating (Hi / Lo) dB(A)	43 / 39	45 / 41	47 / 43	47 / 43	49 / 45	50 / 46
Sound power Level	Cooling (Hi) dB	60	62	64	64	66	67
	Heating (Hi) dB	60	62	64	64	66	67
Dimensions	Indoor (H x W x D) mm	210 x 1,245 x 700	210 x 1,245 x 700	250 x 1,600 x 700	250 x 1,600 x 700	250 x 1,600 x 700	250 x 1,600 x 700
Net weight	Indoor Kg	33	33	43	43	47	47
Dust filter	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Antiallergic filter	Optional	CZ-SA12P	CZ-SA12P	CZ-SA12P	CZ-SA12P	CZ-SA12P	CZ-SA12P
OUTDOOR UNIT							
Power source	V	220 - 240	220 - 240	220 - 240	380 - 415	220 - 240	380 - 415
Connection	mm ²	4 x 1'5 to 2'5	4 x 1'5 to 2'5	4 x 1'5 to 2'5	4 x 1'5 to 2'5	4 x 1'5 to 2'5	4 x 1'5 to 2'5
Current Cooling	Nominal (Min / Max) A	8.9	11.1	13.0	4.7	18.8	6.5
Current Heating	Nominal (Min / Max) A	10.0	12.0	14.9	5.2	18.2	6.3
Air Volume	Cooling / Heating m ³ /h	2,880 / 2,880	2,880 / 2,880	5,880 / 5,880	5,880 / 5,880	5,880 / 5,880	5,880 / 5,880
Sound pressure Level ³⁾	Cooling (Hi) dB(A)	47	48	52	52	53	54
	Heating (Hi) dB(A)	49	50	54	54	55	56
Sound power Level	Cooling (Hi) dB	63	64	66	66	67	68
	Heating (Hi) dB	65	66	68	68	69	70
Dimensions	H x W x D mm	795 x 900 x 320	795 x 900 x 320	1,340 x 900 x 320	1,340 x 900 x 320	1,340 x 900 x 320	1,340 x 900 x 320
Net weight	Kg	71	71	110	110	110	105
Piping connections	Liquid pipe Gas pipe	inch (mm) 3/8" (9.52) inch (mm) 5/8" (15.88)	3/8" (9.52) 5/8" (15.88)	3/8" (9.52) 5/8" (15.88)	3/8" (9.52) 5/8" (15.88)	3/8" (9.52) 5/8" (15.88)	3/8" (9.52) 5/8" (15.88)
Refrigerant Loading	R410A	Kg	2.13	2.35	3.3	3.3	3.5
Elevation difference (in/out) ⁴⁾	Max	m	30	30	30	30	30
Piping length	Min - Max	m	7.5 - 50	7.5 - 50	7.5 - 50	7.5 - 50	7.5 - 50
Piping length without refrigerant increase	Max	m	30	30	30	30	30
Additional gas	g/m	50	50	50	50	50	50
Area control accessory		EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire
Operating range ³⁾	Cooling Min / Max °C	-15 / 43	-15 / 43	-15 / 43	-15 / 43	-15 / 43	-15 / 43
	Heating Min / Max °C	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24

GLOBAL REMARKS Rating conditions

Cooling	27°C DB / 19°C WB	Heating
	35°C DB / 24°C WB	7°C DB / 6°C WB

1) EER, Energy Saving Classification, is at 220 - 240V (380 - 415V) only in accordance with EU directive 2002/31/EC.

2) The annual consumption is calculated by multiplying the input power at 220 - 240V (380 - 415V) by an average of 500-hr per year in cooling mode.

3) The sound pressure level of the units shows the value measured of a position 1 meter in front of the main body and 1.5 from the ground.

The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification.

4) When installing the outdoor unit at a higher position than the indoor unit.

DB: Dry bulb, WB: Wet bulb



CZ-RL513T

CZ-RD513C

KIT-F24DTE5 // KIT-F28DTE5 // KIT-F34DTE5 // KIT-F34DTE8 // KIT-F43DTE5 // KIT-F43DTE8 // KIT-F50DTE8

HEALTHY AIR

- Anti-Mould long life air filter
- CZ-SA12P Alleru-buster antiallergic filter (optional)

ENERGY EFFICIENCY AND ECOLOGY

- Maximum efficiency Inverter system
- R410A environmentally friendly refrigerant gas

COMFORT

- Cooling with low outdoor temperatures (down to -20 °C)
- Automatic start after a power cut
- Automatic fan operation mode
- Soft dry operation mode

- Automatic air deflector system
- Hot start mode
- Super wide air outlet (100 degrees horizontally)

EASE OF USE

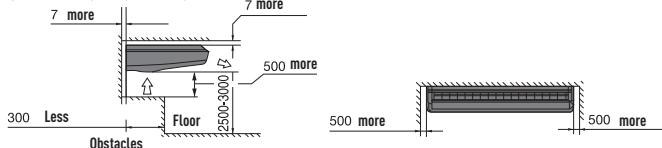
- Weekly On/Off timer (6 settings per day and 42 per week)
- Infrared remote control
- Wired remote control optional

EASY INSTALLATION AND MAINTENANCE

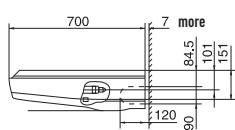
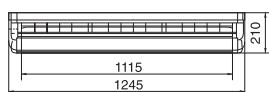
- Installation using existing pipes
- Self-diagnostic function
- Condensation control

CU-L24DBE5
CU-L28DBE5CU-L34DBE5
CU-L34DBE8
CU-L43DBE5
CU-L50DBE8

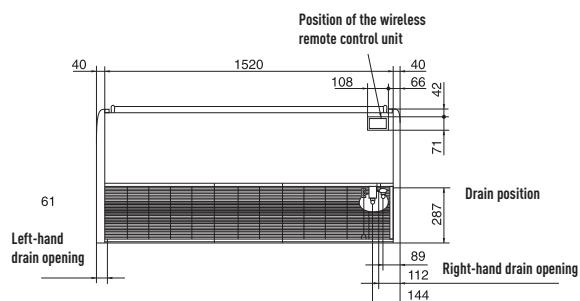
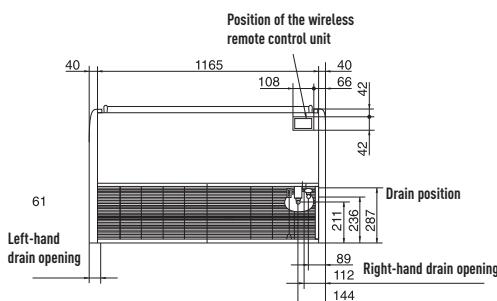
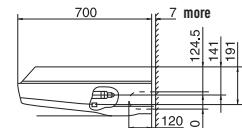
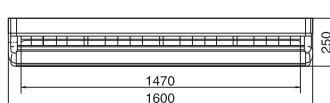
SPACE NEEDED FOR INSTALLATION



INDOOR UNIT DIMENSIONS CS-F24DTE5 // CS-F28DTE5



INDOOR UNIT DIMENSIONS CS-F34DTE5 // CS-F43DTE5 // CS-F50DTE5



TECHNICAL ZOOM

- ULTRA COMPACT OUTDOOR UNITS (-40% REDUCED SIZE FOR THE CU-YL34HBE5)
- ECO MODE FOR 20% ENERGY SAVING
- WEEKLY TIMER, 42 SETTINGS PER WEEK
- 25 M MAXIMUM ELEVATION DIFFERENCE
- COOLING WITH LOW OUTDOOR TEMPERATURES (DOWN TO -20 °C)
- EASY CHECK MODE FOR FAILURE DETECTION

CEILING // INVERTER FS TYPE

Compact line up of inverter Ceiling, from 2.5 H.P. to 5.0 H.P., Single-phase



KIT	2.5 H.P.	3.0 H.P.	4.0 H.P.	5.0 H.P.
Indoor	KIT-YH24DTE5	KIT-YH28DTE5	KIT-YH34DTE5	KIT-YH43DTE5
Outdoor	CS-F24DTE5 CU-YL24HBE5	CS-F28DTE5 CU-YL28HBE5	CS-F34DTE5 CU-YL34HBE5	CS-F43DTE5 CU-YL43HBE5
Wireless control	Included with kit	CZ-RL513T	CZ-RL513T	CZ-RL513T
Wired remote control	Optional	CZ-RL513C	CZ-RL513C	CZ-RL513C
Cooling capacity	Nominal (Min - Max) kW Nominal (Min - Max) kCal/h	5.60 (2 - 6.30) 4,816 (1,720 - 5,418)	7.10 (2.10 - 7.50) 6,104 (1,806 - 6,450)	10.00 (3.8 - 10.50) 8,600 (3,268 - 9,030)
EER ¹⁾	Nominal (Min - Max)	2.81 (3.03 - 2.68) C	2.81 (3.00 - 2.78) C	2.61 (2.92 - 2.56) D
Power input Cooling	Nominal (Min - Max) kW	1.99 (0.66 - 2.35)	2.53 (0.70 - 2.70)	3.83 (1.30 - 4.10)
Heating capacity	Nominal (Min - Max) kW Nominal (Min - Max) kCal/h	7.00 (2.10 - 7.50) 6,020 (1,806 - 6,450)	8.00 (2.20 - 8.30) 6,880 (1,892 - 7,138)	11.20 (3.80 - 12.50) 9,632 (3,268 - 10,750)
COP ¹⁾	Nominal (Min - Max)	2.81 (3.82 - 2.54) D	2.81 (3.38 - 2.55) D	3.21 (3.30 - 2.98) C
Power input Heating	Nominal (Min - Max) kW	2.49 (0.55 - 2.95)	2.895 (0.65 - 3.25)	3.49 (1.15 - 4.20)
Annual Energy Consumption ²⁾	kWh	995	1,265	1,915
INDOOR UNIT				
Air Volume	Cooling / Heating m ³ /h	1,020 / 1,020	1,080 / 1,080	1,740 / 1,740
Moisture removal volume	l/h	3.20	4.20	6.00
Sound pressure Level ³⁾	Cooling (Hi / Lo) dB(A) Heating (Hi / Lo) dB(A)	43 / 39 43 / 39	45 / 41 45 / 41	47 / 43 47 / 43
Sound power Level	Cooling (Hi) dB Heating (Hi) dB	60 60	62 62	64 64
Dimensions	Indoor (H x W x D) mm	210 x 1,245 x 700	210 x 1,245 x 700	210 x 1,600 x 700
Net weight	Indoor Kg	33	33	43
Dust filter	Yes	Yes	Yes	Yes
Antiallergic filter	Optional	CZ-SA12P	CZ-SA12P	CZ-SA12P
OUTDOOR UNIT				
Power source	V	220 - 240	220 - 240	220 - 240
Connection	mm ²	4 x 1.5 to 2.5	4 x 1.5 to 2.5	4 x 1.5 to 2.5
Current Cooling	Nominal (Min / Max) A	8.9	11.3	17.5
Current Heating	Nominal (Min / Max) A	11.2	12.8	16
Air Volume	Cooling / Heating m ³ /h	3,180	3,480	3,720
Sound pressure Level ³⁾	Cooling (Hi) dB(A) Heating (Hi) dB(A)	49 51	50 52	53 56
Sound power Level	Cooling (Hi) dB Heating (Hi) dB	60 60	62 62	64 64
Dimensions	H x W x D mm	795 x 875+70 ⁴⁾ x 320	795 x 875+70 ⁴⁾ x 320	795 x 900 x 320
Net weight	Kg	65	65	66
Piping connections	Liquid pipe inch (mm) Gas pipe inch (mm)	3/8" (9.52) 5/8" (15.88)	3/8" (9.52) 5/8" (15.88)	3/8" (9.52) 5/8" (15.88)
Refrigerant Loading	R410A Kg	1.63	2.05	2.8
Elevation difference (in/out) ⁵⁾	Max m	25	25	30
Piping length	Min - Max m	7.5 - 30	7.5 - 30	7.5 - 50
Piping length without refrigerant increase	Max m	30	30	30
Additional gas	g/m	50	50	50
Area control accessory	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire
Operating range ³⁾	Cooling Min / Max °C Heating Min / Max °C	-5 / 43 -15 / 24	-5 / 44 -15 / 25	-5 / 45 -15 / 26

GLOBAL REMARKS	Rating conditions	Cooling	Heating
	Inside air temperature	27°C DB / 19°C WB	20°C DB
	Outside air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

DB: Dry bulb, WB: Wet bulb

1) EER and COP, Energy Saving Classification, is at 220 - 240V (380 - 415V) only in accordance with EU directive 2002/31/EC.

2) The annual consumption is calculated by multiplying the input power at 220 - 240V (380 - 415V) by an average of 500-hr per year in cooling mode.

3) The sound pressure Level of the units shows the value measured of a position 1 meter in front of the main body and 1.5 from the ground.

The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification.

4) Add 70mm for piping port.

5) When installing the outdoor unit at a higher position than the indoor unit.



CZ-RL513T



CZ-RD513C

CU-YL24HBE5
CU-YL28HBE5

CU-YL34HBE5



CU-YL43HBE5

KIT-YH24DTE5 // KIT-YH28DTE5 // KIT-YH34DTE5 // KIT-YH43DTE5

HEALTHY AIR

- Anti-Mould long life air filter
- CZ-SA12P Alleru-buster antiallergic filter (optional)

ENERGY EFFICIENCY AND ECOLOGY

- Inverter system
- R410A environmentally friendly refrigerant gas

COMFORT

- Cooling with low outdoor temperatures (down to -15 °C)
- Automatic start after a power cut
- Automatic fan operation mode
- Soft dry operation mode
- Automatic air deflector system

- Hot start mode

- Super wide air outlet (100 degrees horizontally)

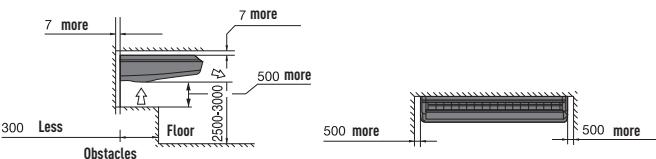
EASE OF USE

- Weekly On/Off timer (6 settings per day and 42 per week)
- Infrared remote control
- Optional wired remote control

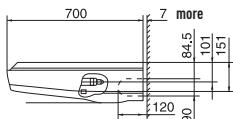
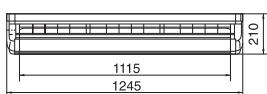
EASY INSTALLATION AND MAINTENANCE

- Installation using existing pipes (only for YL*HBE5 units)
- Self-diagnostic function
- Condensation control

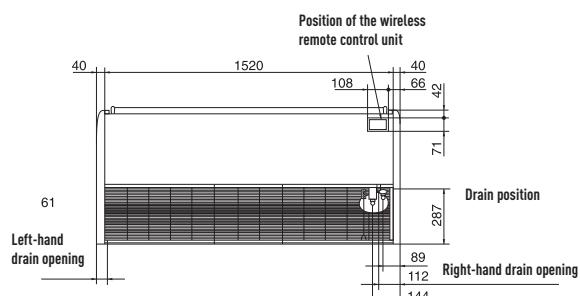
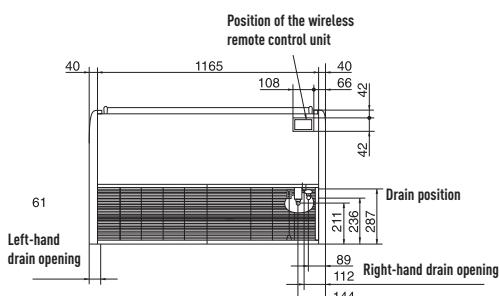
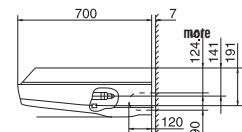
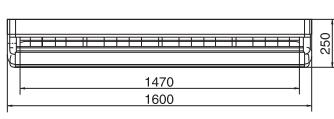
SPACE NEEDED FOR INSTALLATION



INDOOR UNIT DIMENSIONS CS-F24DTE5 // CS-F28DTE5



INDOOR UNIT DIMENSIONS CS-F34DTE5 // CS-F43DTE5

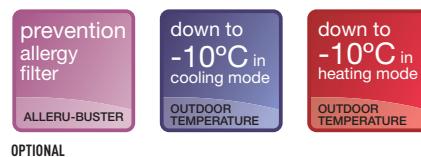


TECHNICAL ZOOM

- ECO MODE FOR 20% ENERGY SAVING
- WEEKLY TIMER, 42 SETTINGS PER WEEK
- 30 M MAXIMUM ELEVATION DIFFERENCE
- EASY CHECK MODE FOR FAILURE DETECTION

CEILING // HEAT PUMP FS TYPE

Full line up of heat pump non-inverter Ceiling, from 2 H.P. to 6.0 H.P., Single-phase and three-phase



KIT	KIT-F18DTE5-C	KIT-F24DTE5-C	KIT-F28DTE5-C	KIT-F28DTE8-C	KIT-F34DTE5-C	KIT-F34DTE8-C	KIT-F43DTE8-C	KIT-F50DTE8-C
Indoor	CS-F18DTE5	CS-F24DTE5	CS-F28DTE5	CS-F28DTE8	CS-F34DTE5	CS-F34DTE8	CS-F43DTE5	CS-F50DTE5
Outdoor	CU-B18DBE5	CU-B24DBE5	CU-B28DBE5	CU-B28DBE8	CU-B34DBE5	CU-B34DBE8	CU-B43DBE8	CU-B50DBE8
Wireless control	Included with kit	CZ-RL513T						
Wired remote control	Optional	CZ-RD513C						
Cooling capacity	Nominal (Min-Max)	kW	5.00	6.60	7.30	7.30	10.00	12.50
	Nominal (Min-Max)	kCal/h	4,300	5,676	6,278	6,278	8,600	10,750
EER ¹⁾	Nominal (Min-Max)		2.76 D	2.57 E	2.56 E	2.56 D	2.65 D	2.63 D
Power input Cooling	Nominal (Min-Max)	kW	1.81 (1.75-1.84)	2.57 (2.51-2.63)	2.85 (2.8-2.9)	2.85 (2.8-2.9)	3.66 (3.85-3.95)	3.77 (3.72-3.82)
Heating capacity	Nominal (Min-Max)	kW	5.60	7.10	7.80	7.80	11.20	14.00
	Nominal (Min-Max)	kCal/h	4,816	6,106	6,708	6,708	9,632	12,040
COP ¹⁾	Nominal (Min-Max)		3.22 C	2.85 D	2.84 D	2.84 D	2.81 E	2.86 E
Power input Heating	Nominal (Min-Max)	kW	1.74 (1.71-1.77)	2.49 (2.44-2.62)	2.75 (2.7-2.8)	2.75 (2.7-2.8)	3.99 (3.94-4.04)	4.69 (4.64-4.74)
Annual Energy Consumption ²⁾		kWh	905	1285	1425	1425	1950	1885
INDOOR UNIT								
Air Volume	Cooling / Heating	m ³ /h	840 / 840	1,020 / 1,020	1,080 / 1,080	1,740 / 1,740	1,740 / 1,740	1,860 / 1,860
Moisture removal volume		l/h	2.8	3.8	4.3	6.0	6.0	7.9
Sound pressure Level ³⁾	Cooling (Hi / Lo)	dB(A)	41 / 37	43 / 39	45 / 41	47 / 43	47 / 43	49 / 45
	Heating (Hi / Lo)	dB(A)	41 / 37	43 / 39	45 / 41	47 / 43	47 / 43	49 / 45
Sound power Level	Cooling (Hi)	dB	58	60	62	62	64	66
	Heating (Hi)	dB	58	60	62	62	64	66
Dimensions	Indoor (H x W x D)	mm	210 x 1,245 x 700	250 x 1,600 x 700	250 x 1,600 x 700			
Net weight	Indoor	Kg	33	33	33	43	43	47
Dust filter		Yes						
Antiallergic filter	Optional		CZ-SA12P	CZ-SA12P	CZ-SA12P	CZ-SA12P	CZ-SA12P	CZ-SA12P
OUTDOOR UNIT								
Power source		V	220 - 240	220 - 240	220 - 240	380 - 415	380 - 415	380 - 415
Connection		mm ²	4 x 1'5 to 2'5					
Current Cooling	Nominal (Min / Max)	A	8.1	12.6	12.9	4.9	18.2	6.1
Current Heating	Nominal (Min / Max)	A	7.75	12.6	13.0	4.7	18.2	6.4
Air Volume	Cooling / Heating	m ³ /h	3,420	3,600	3,780	5,640	5,640	5,760
Sound pressure Level ³⁾	Cooling (Hi)	dB(A)	49	50	52	55	55	56
	Heating (Hi)	dB(A)	50	51	53	56	56	57
Sound power Level	Cooling (Hi)	dB	65	66	67	67	69	70
	Heating (Hi)	dB	66	67	68	68	70	71
Dimensions	H x W x D	mm	795 x 900 x 320	795 x 900 x 320	795 x 900 x 320	1,170 x 900 x 320	1,170 x 900 x 320	1,170 x 900 x 320
Net weight		Kg	57	69	69	102	100	102
Piping connections	Liquid pipe	inch (mm)	1/4" (6.35)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)
	Gas pipe	inch (mm)	1/2" (12.70)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)
Refrigerant Loading	R410A	Kg	1.35	1.7	2.05	2.05	2.7	3.1
Elevation difference (in/out) ⁴⁾	Max	m	20	30	30	30	30	30
Piping length	Min - Max	m	7.5 - 30	7.5 - 50	7.5 - 50	7.5 - 50	7.5 - 50	7.5 - 50
Piping length without refrigerant increase	Max	m	20	30	30	30	30	30
Additional gas		g/m	20	50	50	50	50	50
Area control accessory			EKRORO wire					
Operating range ³⁾	Cooling Min / Max	°C	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43
	Heating Min / Max	°C	-10 / 24	-10 / 24	-10 / 24	-10 / 24	-10 / 24	-10 / 24

GLOBAL REMARKS Rating conditions

Cooling	27°C DB / 19°C WB	Heating
	35°C DB / 24°C WB	7°C DB / 6°C WB

1) EER and COP, Energy Saving Classification, is at 220 - 240V (380 - 415V) in accordance with EU directive 2002/31/EC.

2) The annual consumption is calculated by multiplying the input power at 220 - 240V (380 - 415V) by an average of 500-hr per year in cooling mode.

3) The sound pressure Level of the units shows the value measured of a position 1 meter in front of the main body and 1.5 m from the ground.

The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification.

4) When installing the outdoor unit at a higher position than the indoor unit.

DB: Dry bulb, WB: Wet bulb



CZ-RL513T

CZ-RD513C

CU-B18DBE5
CU-B24DBE5CU-B28DBE5
CU-B34DBE5CU-B34DBE8
CU-B43DBE8

CU-B50DBE8

KIT-F18DTE5-C // KIT-F24DTE5-C // KIT-F28DTE5-C // KIT-F28DTE8-C // KIT-F34DTE5-C // KIT-F34DTE8-C // KIT-F43DTE8-C // KIT-F50DTE8-C

HEALTHY AIR

- Anti-Mould long life air filter
- CZ-SA12P Alleru-buster antiallergic filter (optional)

ENERGY EFFICIENCY AND ECOLOGY

- R410A environmentally friendly refrigerant gas

COMFORT

- Automatic start after a power cut
- Automatic fan operation mode
- Soft dry operation mode
- Automatic air deflector system
- Hot start mode
- Super wide air outlet (100 degrees horizontally)

EASE OF USE

- Weekly On/Off timer (6 settings per day and 42 per week)
- Infrared remote control
- Optional wired remote control

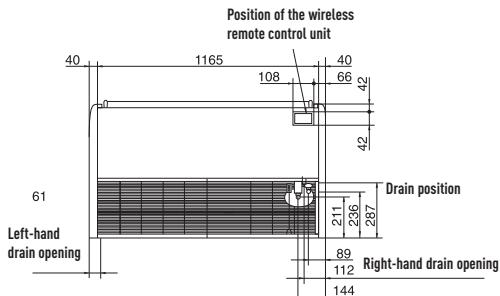
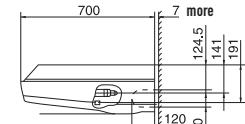
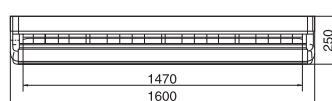
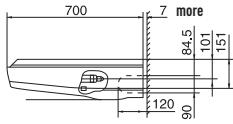
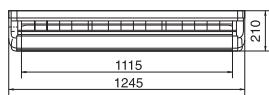
EASY INSTALLATION AND MAINTENANCE

- Self-diagnostic function
- Condensation control

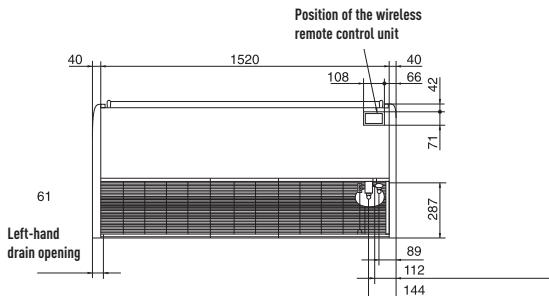
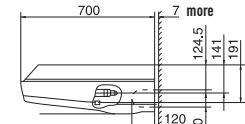
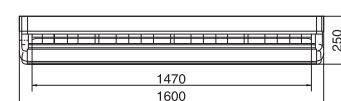
SPACE NEEDED FOR INSTALLATION



INDOOR UNIT DIMENSIONS CS-F18DTE5 // CS-F24DTE5 // CS-F28DTE5



INDOOR UNIT DIMENSIONS CS-F34DTE5 // CS-F43DTE5 // CS-F50DTE5

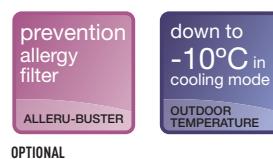


TECHNICAL ZOOM

- ECO MODE FOR 20% ENERGY SAVING
- WEEKLY TIMER, 42 SETTINGS PER WEEK
- 30 M MAXIMUM ELEVATION DIFFERENCE
- EASY CHECK MODE FOR FAILURE DETECTION

CEILING // COOLING ONLY FS TYPE

Full line up of cooling only non-inverter Ceiling, from 2 H.P. to 6.0 H.P., Single-phase and three-phase



KIT	KIT-F18DTE5-F	KIT-F24DTE5-F	KIT-F24DTE8-F	KIT-F28DTE5-F	KIT-F28DTE8-F	KIT-F34DTE5-F	KIT-F34DTE8-F	KIT-F34DTE8-F	KIT-F43DTE8-F	KIT-F50DTE8-F
Indoor	CS-F18DTE5	CS-F24DTE5	CS-F24DTE5	CS-F28DTE5	CS-F28DTE5	CS-F34DTE5	CS-F34DTE5	CS-F34DTE5	CS-F43DTE5	CS-F50DTE5
Outdoor	CU-J18DBE5	CU-J24DBE5	CU-J24DBE8	CU-J28DBE5	CU-J28DBE8	CU-J34DBE5	CU-J34DBE8	CU-J43DBE8	CU-J50DBE8	CU-J60DBE8
Wireless control	Included with kit	CZ-RL513T	CZ-RL513T	CZ-RL513T	CZ-RL513T	CZ-RL513T	CZ-RL513T	CZ-RL513T	CZ-RL513T	CZ-RL513T
Wired remote control	Optional	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C	CZ-RD513C
Cooling capacity	Nominal (Min-Max)	kW	5.00	6.60	6.60	7.30	7.30	10.00	10.00	12.50
	Nominal (Min-Max)	kCal/h	4,300	5,676	5,676	6,278	6,278	8,600	8,600	10,750
EER ¹⁾	Nominal (Min-Max)		2.76 D	2.51 E	2.51 E	2.56 E	2.56 E	2.49 E	2.57 E	2.56 E
Power input Cooling	Nominal (Min-Max)	kW	1.81 (1.75-1.84)	2.63 (2.58-2.68)	2.63 (2.58-2.68)	2.85 (2.8-2.9)	2.85 (2.8-2.9)	4.02 (3.97-4.07)	3.99 (3.84-3.94)	5.28 (5.23-5.33)
Annual Energy Consumption ²⁾		kWh	905	1,315	1,315	1,425	1,425	2,010	1,945	2,445
INDOOR UNIT										
Air Volume		m ³ /h	840	1,020	1,020	1,080	1,080	1,740	1,740	1,860
Moisture removal volume		l/h	2.8	3.8	3.8	4.3	4.3	6.0	6.0	7.9
Sound pressure Level ³⁾	Hi / Lo	dB(A)	41 / 37	43 / 39	43 / 39	45 / 41	45 / 41	47 / 43	47 / 43	49 / 45
Sound power Level	Hi	dB	58	60	60	62	62	64	64	67
Dimensions	Indoor (H x W x D)	mm	210x1,245x700	210x1,245x700	210x1,245x700	210x1,245x700	210x1,245x700	250x1,600x700	250x1,600x700	250x1,600x700
Net weight	Indoor	Kg	33	33	33	33	33	43	43	47
Dust filter	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Antiallergic filter	Optional	CZ-SA12P	CZ-SA12P	CZ-SA12P	CZ-SA12P	CZ-SA12P	CZ-SA12P	CZ-SA12P	CZ-SA12P	CZ-SA12P
OUTDOOR UNIT										
Power source		V	220 - 240	220 - 240	380 - 415	220 - 240	380 - 415	220 - 240	380 - 415	380 - 415
Connection		mm ²	4 x 1'5 to 2'5	4 x 1'5 to 2'5	4 x 1'5 to 2'5	4 x 1'5 to 2'5	4 x 1'5 to 2'5	4 x 1'5 to 2'5	4 x 1'5 to 2'5	4 x 1'5 to 2'5
Current Cooling	Nominal (Min / Max)	A	8.1	13.3	4.6	13	4.95	18.5	6.1	8.2
Air Volume		m ³ /h	3,420	3,600	3,600	3,780	3,780	5,640	5,640	5,760
Sound pressure Level ³⁾	Hi	dB(A)	49	50	50	52	52	55	55	56
Sound power Level	Hi	dB	65	66	66	67	67	69	69	70
Dimensions	H x W x D	mm	795x900x320	795x900x320	795x900x320	795x900x320	795x900x320	1,170x900x320	1,170x900x320	1,170x900x320
Net weight		Kg	57	69	69	69	69	102	100	102
Piping connections	Liquid pipe	inch (mm)	1/4" (6.35)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)	3/8" (9.52)
	Gas pipe	inch (mm)	1/2" (12.70)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)	5/8" (15.88)
Refrigerant Loading	R410A	Kg	1.35	1.7	1.7	2.05	2.05	2.7	2.7	3.1
Elevation difference (in/out) ⁴⁾	Max	m	20	30	30	30	30	30	30	30
Piping length	Min - Max	m	7.5 - 30	7.5 - 50	7.5 - 50	7.5 - 50	7.5 - 50	7.5 - 50	7.5 - 50	7.5 - 50
Piping length without refrigerant increase	Max	m	20	30	30	30	30	30	30	30
Additional gas	g/m	50	50	50	50	50	50	50	50	50
Area control accessory		EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire	EKRORO wire
Operating range ³⁾	Min / Max	°C	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43

GLOBAL REMARKS	Rating conditions	Cooling
Inside air temperature		27°C DB / 19°C WB
Outside air temperature		35°C DB / 24°C WB

DB: Dry bulb, WB: Wet bulb

1)EER, Energy Saving Classification, is at 220 - 240V (380 - 415V) only in accordance with EU directive 2002/31/EC.

2)The annual consumption is calculated by multiplying the input power at 220 - 240V (380 - 415V) by an average of 500-hr per year in cooling mode.

3)The sound pressure Level of the units shows the value measured of a position 1 meter in front of the main body and 1,5 from the ground.

The sound pressure is measured in accordance with Eurovent 6/C006-97 specification.

4)When installing the outdoor unit at a higher position than the indoor unit.



CZ-RL513T



CZ-RD513C

CU-J18DBE5
CU-J24DBE5
CU-J24DBE8CU-J28DBE5
CU-J34DBE5
CU-J34DBE8CU-J43DBE8
CU-J50DBE8

KIT-F18DTE5-F // KIT-F24DTE5-F // KIT-F28DTE8-F // KIT-F28DTE5-F // KIT-F28DTE8-F // KIT-F34DTE5-F // KIT-F34DTE8-F // KIT-F43DTE8-F // KIT-F50DTE8-F

HEALTHY AIR

- Anti-Mould long life air filter
- CZ-SA12P Alleru-buster antiallergic filter (optional)

ENERGY EFFICIENCY AND ECOLOGY

- R410A environmentally friendly refrigerant gas

COMFORT

- Automatic start after a power cut
- Automatic fan operation mode
- Soft dry operation mode
- Automatic air deflector system
- Hot start mode
- Super wide air outlet (100 degrees horizontally)

EASE OF USE

- Weekly On/Off timer (6 settings per day and 42 per week)
- Infrared remote control
- Optional wired remote control

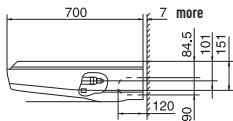
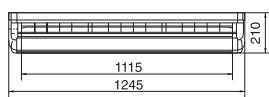
EASY INSTALLATION AND MAINTENANCE

- Self-diagnostic function
- Condensation control

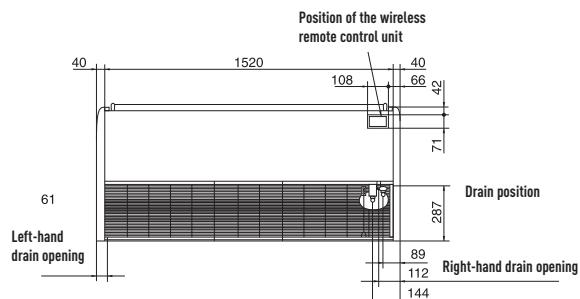
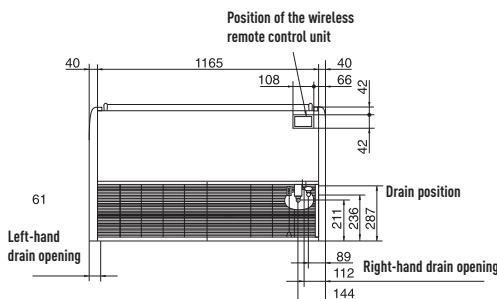
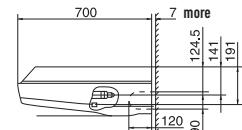
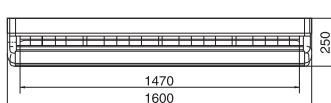
SPACE NEEDED FOR INSTALLATION



INDOOR UNIT DIMENSIONS CS-F18DTE5 // CS-F24DTE5 // CS-F28DTE5



INDOOR UNIT DIMENSIONS CS-F34DTE5 // CS-F43DTE5 // CS-F50DTE5

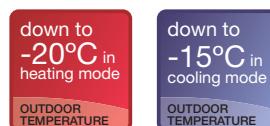


TECHNICAL ZOOM

- HIGH EFFICIENCY INVERTER SYSTEM
- COOLING WITH LOW OUTDOOR TEMPERATURES (DOWN TO -15 °C)
- MAXIMUM PIPE LENGTH 100M (MORE THAN 40% LONGER THAN OTHER SPLIT SYSTEMS)
- MULTIFUNCTIONAL WIRELESS REMOTE CONTROL WITH BUILT-IN TEMPERATURE CONTROL
- FRESH AIR KNOCKOUT FOR IMPROVED AIR QUALITY

HIGH STATIC PRESSURE HIDE AWAY 8-10 H.P. // 3 PHASE INVERTER TYPE

Powerful performance in a compact space Panasonic breaks new ground in offering high-performance and power in a small space. The 8-10 HP from Panasonic is ideally suited for large retail applications and other large areas not needing the higher capacities of VRF systems. The lightweight and compact design enables easier installation in any commercial space. The twin fan system saves valuable footprint compared to traditional 8-10HP systems which have a larger footprint design.



		8.0 H.P.	10.0 H.P.
KIT		KIT-200PE1E8	KIT-250PE1E8
Indoor		S-200PE1E8	S-250PE1E8
Outdoor		U-200PE1E8	U-250PE1E8
Remote control (optional)		CZ-RTC2 / CZ-RWSC2 / CZ-RE2C2	CZ-RTC2 / CZ-RWSC2 / CZ-RE2C2
Cooling capacity	Nominal (Min - Max)	kW	20.2 (6.0 - 22.4)
EER ¹⁾	Nominal	W	2.81
Power input Cooling	Nominal	W	7.12
Running amperes	A	A	11.0
Heating capacity	Nominal (Min - Max)	kW	22.4 (6.0 - 25.0)
COP ¹⁾	Nominal	W	3.45
Power input Heating	Nominal	W	6.50
Running amperes	A	A	10.1
Annual Energy Consumption ²⁾	kWh		3115
INDOOR UNIT			
Power source	V / ph / Hz	220 - 240 / 1 / 50/60	220 - 240 / 1 / 50/60
External static pressure (booster)	Pa	176	216 (235)
Air volume	(H/M/L)	m ³ /h	3360 / 3190 / 2980
Moisture removal volume	Cooling	l/h	11.1
Sound pressure Level ³⁾	(H/M/L)	dB(A)	48 / 47 / 46
Sound power Level		dB(A)	80
Dimensions	H x W x D	mm	467 / 1428 / 1230
Net weight	Indoor	Kg	110
OUTDOOR UNIT			
Power source	V / ph / Hz	380 - 415 / 3+N / 50/60	380 - 415 / 3+N / 50/60
Air Volume	Cooling / Heating	m ³ /h	10,500
Sound pressure Level ³⁾	Cooling (Hi)	dB(A)	57
Sound power Level	Heating (Hi)	dB(A)	57
(Hi)		dB	71
Dimensions	H x W x D	mm	1,526 x 940 x 340
Net weight		Kg	118
REFRIGERANT CIRCUIT			
Tube diameter Narrow/Wide		mm (in)	9.52 (3/8) / 25.4 (1)
Max piping length		m	100
Max elevation difference - O.U. above/below I.U.		m	30
Chargeless piping length		m	30
Amount of additional refrigerant		g/m	40
Piping connections	Liquid pipe	mm (in)	9.52 (3/8)
	Gas pipe	mm (in)	25.4 (1)
Refrigerant Loading		R410A	R410A
Elevation difference (in/out) ⁴⁾	Max	m	30
Piping length	Min - Max	m	5 - 100
Piping length without refrigerant increase	Max	m	30
Additional gas		g/m	40
Operating range	Cooling Min / Max	°C	-15 / 43
	Heating Min / Max	°C	-20 / 15
Specifications subject to change without notice.			

GLOBAL REMARKS	Rating conditions	Cooling	Heating
	Inside air temperature	27°C DB / 19°C WB	20°C DB
	Outside air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

- 1) EER and COP, Energy Saving Classification, is at 220 - 240V (380 - 415V) only in accordance with EU directive 2002/31/EC.
 2) The annual consumption is calculated by multiplying the input power at 220 - 240V (380 - 415V) by an average of 500-hr per year in cooling mode.
 3) The sound pressure Level of the units shows the value measured of a position 1 meter in front of the main body and 1,5 from the ground.
 The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification.
 4) When installing the outdoor unit at a higher position than the indoor unit.

DB: Dry bulb, WB: Wet bulb



U-200PE1E8
U-250PE1E8

KIT-200PE1E8 // KIT-250PE1E8

ENERGY EFFICIENCY AND ECOLOGY

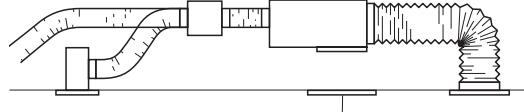
- Maximum efficiency Inverter system
- R410A environmentally friendly refrigerant gas

COMFORT

- Cooling with low outdoor temperatures (down to -15 °C)
- Selection of temperature sensor at indoor unit or wired remote control

SYSTEM EXAMPLE

An inspection port (450 x 450mm or more) is required at the lower side of the indoor unit body. Distributor (field supply)



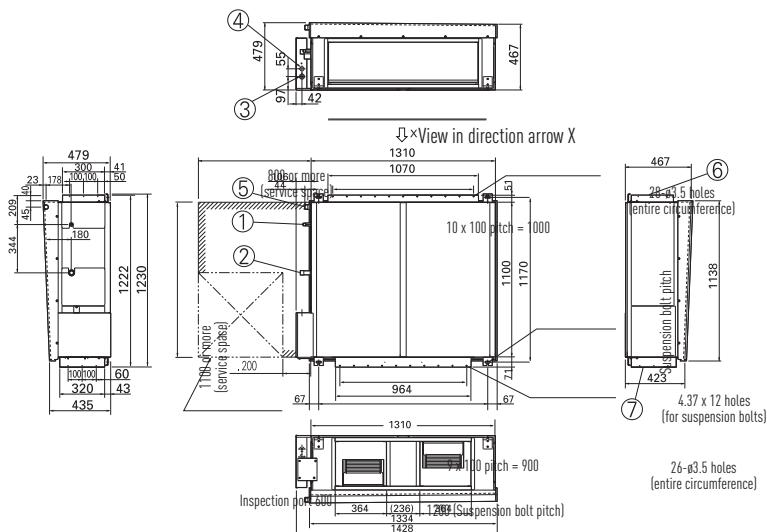
Inspection port (450 x 450mm or more)

EASE OF USE

- Weekly On/Off timer (6 settings per day and 42 per week)
- Selection of wired / Wireless and simplified wired remote controller

EASY INSTALLATION AND MAINTENANCE

- High static pressure units ideal for shops and offices



1	Refrigerant piping (liquid pipes) ø9.52
2	Refrigerant piping (gas pipes) 76 type: ø19.05, 96 type: ø22.22
3	Power supply outlet (ø25 grommet, rubber)
4	Power supply outlet (spare) (ø30 knock-out)
5	Drain port 25A, male thread
6	Duct connection for suction
7	Duct connection for discharge

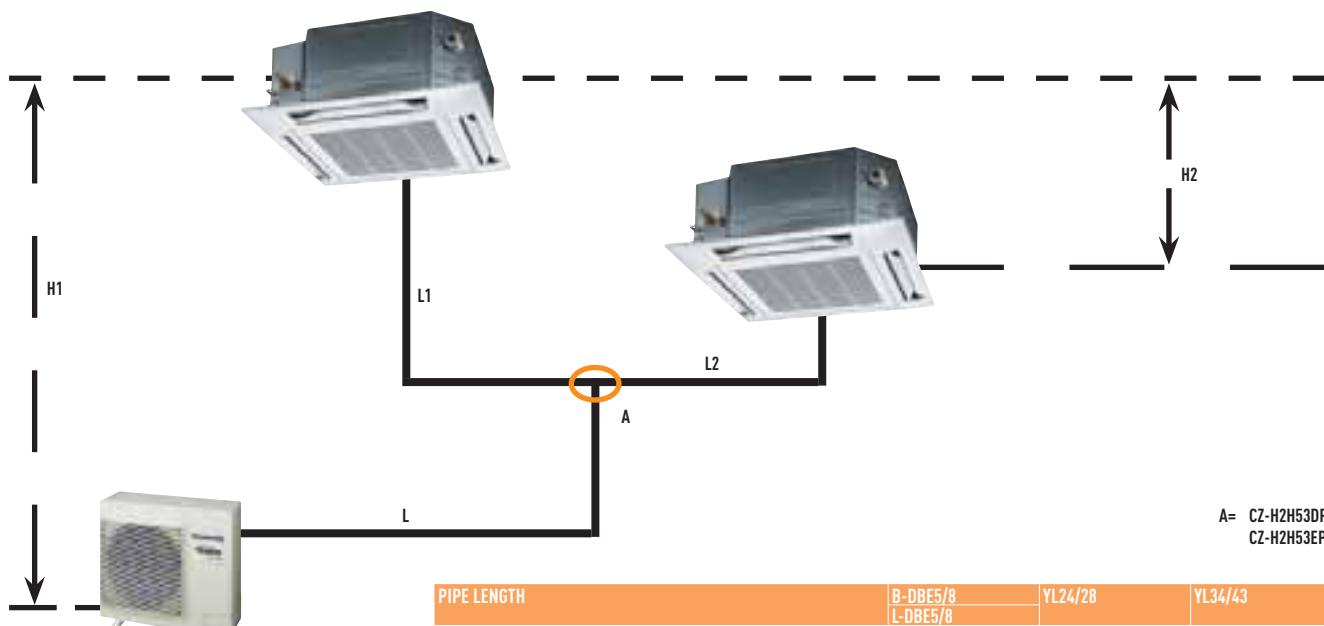
TWIN FLEXI SYSTEM FS // INVERTER + // INVERTER // HEAT PUMP // COOLING ONLY FS

Panasonic's FS units can be installed as Twin systems (two indoor units of the same type with one outdoor unit). The indoor units can be combined in any of the different available ratings (1.5 H.P., 2 H.P., 2.5 H.P. and 3 H.P.).

The total power of indoor units will coincide with the power of the outdoor unit in all cases so that their operation will always be simultaneous*. The outdoor units are available in ratings of 3 H.P., 4 H.P., 5 H.P. and 6 H.P.

* Simultaneous operation of indoor units in all cases.

TABLE OF TWIN COMBINATIONS



* If the outdoor unit is below the indoor units.

TABLE OF COMBINATIONS FOR FS HEAT PUMP // FS INVERTER +

OUTDOOR UNIT	STANDARD TWIN	DIVERTER	OUTDOOR UNIT	STANDARD TWIN	DIVERTER	
3.0 H.P. (CU-28)	3.0 H.P. (CU-28)	1.5 H.P. (CS-14) 1.5 H.P. (CS-14)	CZ-H2H53DP	5.0 H.P. (CU-43)	2.5 H.P. (CS-24) 2.5 H.P. (CS-24)	CZ-H2H53EP
4.0 H.P. (CU-34)	4.0 H.P. (CU-34)	2.0 H.P. (CS-18) 2.0 H.P. (CS-18)	CZ-H2H53DP	6.0 H.P. (CU-50)	3.0 H.P. (CS-28) 3.0 H.P. (CS-28)	CZ-H2H53EP

COMPATIBLE INDOOR UNITSCS-F14DB4E5 / CS-F18DB4E5
CS-F24DB4E5 / CS-F28DB4E5

CS-F18DTE5 / CS-F24DTE5 / CS-F28DTE5

CS-F14DD3E5 / CS-F18DD3E5
CS-F24DD3E5 / CS-F28DD3E5

CS-F24DD2E5 / CS-F28DD2E5

COMPATIBLE OUTDOOR UNITS

CU-J28DBE5/8



CU-B28DBE5/8



CU-L28DBE5

CU-YL28HBE5
CU-YL34HBE5CU-J34DBE5/8
CU-J43DBE8
CU-J50DBE8CU-B34DBE5/8
CU-B43DBE8
CU-B50DBE8CU-L34DBE5/8
CU-L43DBE5/8
CU-L50DBE8

CU-YL43HBE5

COMPATIBLE INDOOR UNITS

SPLIT CASSETTE TYPE	(14) 1,5 H.P.	(18) 2,0 H.P.	(24) 2,5 H.P.	(28) 3,0 H.P.
Panel	CS-F14DB4E5	CS-F18DB4E5	CS-F24DB4E5	CS-F28DB4E5
Power input	Cooling kW - kcal/h 3,8 - 3,268 Heating kW - kcal/h 4,3 - 3,698	Cooling kW - kcal/h 5,0 - 4,300 Heating kW - kcal/h 5,6 - 4,816	Cooling kW - kcal/h 6,6 - 5,676 Heating kW - kcal/h 7,1 - 6,106	Cooling kW - kcal/h 7,3 - 6,278 Heating kW - kcal/h 8,0 - 6,880
Dimensions	Indoor H x W x D (mm) 246 x 840 x 840 Panel H x W x D (mm) 30 x 950 x 950	Indoor H x W x D (mm) 246 x 840 x 840 Panel H x W x D (mm) 30 x 950 x 950	Indoor H x W x D (mm) 246 x 840 x 840 Panel H x W x D (mm) 30 x 950 x 950	Indoor H x W x D (mm) 246 x 840 x 840 Panel H x W x D (mm) 30 x 950 x 950
Sound pressure Level	dB(A) 31	dB(A) 32	dB(A) 32	dB(A) 36
Air Volume	m³/h 900	m³/h 960	m³/h 1,080	m³/h 1,200
SPLIT CEILING TYPE	—	CS-F18DTE5	CS-F24DTE5	CS-F28DTE5
Power input	Cooling kW - kcal/h — Heating kW - kcal/h —	Cooling kW - kcal/h 5,0 - 4,300 Heating kW - kcal/h 5,6 - 4,816	Cooling kW - kcal/h 6,6 - 5,676 Heating kW - kcal/h 7,1 - 6,106	Cooling kW - kcal/h 7,3 - 6,278 Heating kW - kcal/h 7,8 - 6,708
Dimensions	H x W x D mm —	H x W x D mm 210 x 1,245 x 700	H x W x D mm 210 x 1,245 x 700	H x W x D mm 210 x 1,245 x 700
Sound pressure Level	dB(A) —	dB(A) 34	dB(A) 39	dB(A) 41
Air Volume	m³/h —	m³/h 840	m³/h 1,020	m³/h 1,080
LOW STATIC PRESSURE HIDE-AWAY TYPE	CS-F14DD3E5	CS-F18DD3E5	CS-F24DD3E5	CS-F28DD3E5
Power input	Cooling kW - kcal/h 3,8 - 3,268 Heating kW - kcal/h 4,3 - 3,698	Cooling kW - kcal/h 5,0 - 4,300 Heating kW - kcal/h 5,6 - 4,816	Cooling kW - kcal/h 6,6 - 5,676 Heating kW - kcal/h 7,1 - 6,106	Cooling kW - kcal/h 7,3 - 6,278 Heating kW - kcal/h 8,0 - 6,880
Dimensions	H x W x D mm 270 x 780+100 x 650	H x W x D mm 270 x 780+100 x 650	H x W x D mm 270 x 1,000+100 x 650	H x W x D mm 270 x 1,000+100 x 650
Sound pressure Level	dB(A) 35	dB(A) 38	dB(A) 43	dB(A) 43
Air Volume	m³/h 900	m³/h 1,020	m³/h 1,320	m³/h 1,320
HIGH PRESSURE HIDE-AWAY TYPE	—	—	CS-F24DD2E5	CS-F28DD2E5
Power input	Cooling kW - kcal/h — Heating kW - kcal/h —	Cooling kW - kcal/h — Heating kW - kcal/h —	Cooling kW - kcal/h 6,6 - 5,676 Heating kW - kcal/h 7,1 - 6,106	Cooling kW - kcal/h 7,10 - 6,106 Heating kW - kcal/h 8,00 - 6,880
Dimensions	H x W x D mm —	H x W x D mm —	H x W x D mm 290 x 1,000+100 x 500	H x W x D mm 290 x 1,000+100 x 500
Sound pressure Level	dB(A) —	dB(A) —	dB(A) 41	dB(A) 44
Air Volume	m³/h —	m³/h —	m³/h 1,320	m³/h 1,320

OUTDOOR UNITS

INVERTER + FS	CU-L28DBE5 ¹	CU-L34DBE5 ¹	CU-L43DBE5 ¹	CU-L50DBE5 ¹
Power input	kW - kcal/h 7,10 - 6,106	kW - kcal/h 10,00 - 8,600	kW - kcal/h 12,50 - 10,750	kW - kcal/h 14,00 - 12,040
Dimensions	H x W x D mm 795 x 900 x 320	H x W x D mm 1,340 x 900 x 320	H x W x D mm 1,340 x 900 x 320	H x W x D mm 1,340 x 900 x 320
Sound pressure Level	dB(A) 48	dB(A) 52	dB(A) 53	dB(A) 54
Power source	V 220	V 220	V 220	V 380
INVERTER FS	CU-YL28HBE5 ¹	CU-YL34HBE5 ¹	CU-YL43HBE5 ¹	CU-YL50HBE5 ¹
Power input	kW - kcal/h 7,10 - 6,106	kW - kcal/h 10,00 - 8,600	kW - kcal/h 12,50 - 10,750	kW - kcal/h 14,00 - 12,040
Dimensions	H x W x D mm 795 x 875 x 320	H x W x D mm 795 x 900 x 320	H x W x D mm 1,170 x 900 x 320	H x W x D mm 1,170 x 900 x 320
Sound pressure Level	dB(A) 50	dB(A) 54	dB(A) 55	dB(A) 56
Power source	V 220	V 220	V 220	V 380
HEAT PUMP FS	CU-B28DBE5 ¹ / CU-B28DBE8 ^{III}	CU-B34DBE5 ¹ / CU-B34DBE8 ^{III}	CU-B43DBE8 ^{III}	CU-B50DBE8 ^{III}
Power input	kW - kcal/h 7,3 - 6,275	kW - kcal/h 10,45 - 9,000	kW - kcal/h 13,0 - 11,200	kW - kcal/h 14,5 - 12,100
Dimensions	H x W x D mm 795 x 900 x 320	H x W x D mm 1,170 x 900 x 320	H x W x D mm 1,170 x 900 x 320	H x W x D mm 1,170 x 900 x 320
Sound pressure Level	dB(A) 52	dB(A) 55	dB(A) 56	dB(A) 56
Power source	V 220 - 240 ¹ / 380 ^{III}	V 220 - 240 ¹ / 380 ^{III}	V 380 ^{III}	V 380 ^{III}
COOLING ONLY FS	CU-J28DBE5 ¹ / CU-J28DBE8 ^{III}	CU-J34DBE5 ¹ / CU-J34DBE8 ^{III}	CU-J43DBE8 ^{III}	CU-J50DBE8 ^{III}
Power input	kW - kcal/h 7,3 - 6,275	kW - kcal/h 10,45 - 9,000	kW - kcal/h 13,0 - 11,200	kW - kcal/h 14,5 - 12,100
Dimensions	H x W x D mm 795 x 900 x 320	H x W x D mm 1,170 x 900 x 320	H x W x D mm 1,170 x 900 x 320	H x W x D mm 1,170 x 900 x 320
Sound pressure Level	dB(A) 52	dB(A) 55	dB(A) 56	dB(A) 56
Power source	V 220 - 240 ¹ / 380 ^{III}	V 220 - 240 ¹ / 380 ^{III}	V 380 ^{III}	V 380 ^{III}

¹ Single-phase ^{III} Three-phase

CONNECTIVITY

CONTROL SYSTEM

Panasonic's Twin systems can be controlled from a wired remote control or an infrared remote control.

Multi Mix systems also have various control options.

Group control: It is possible to control up to 16 systems at the same time using a single wired or infrared control. The operating settings will be the same for all the connected systems, but the compressors will start in sequence.

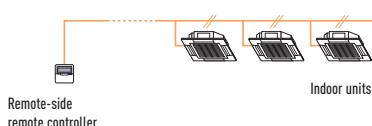
WIRED REMOTE CONTROL
FS HEAT PUMP / FS INVERTER
CZ-RL513C (HIDE-AWAY, CASSETTE AND CEILING)



INFRARED REMOTE CONTROL
FS HEAT PUMP / FS INVERTER
CZ-RL513B (CASSETTE)
CZ-RL513T (CEILING)

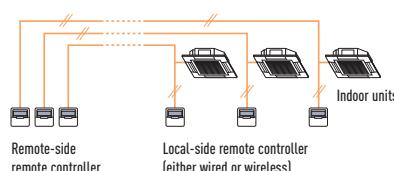


GROUP CONTROL BY A SINGLE REMOTE CONTROLLER



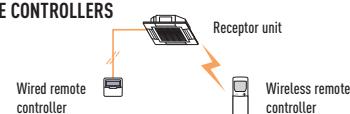
- All indoor units operate in the same mode.

SEPARATE CONTROL BY TWIN REMOTE CONTROLLERS



- Each indoor unit can be operated by either of the two remote controllers.
- Apart from the timer setting time, the displays for the two remote controllers are identical.
- The last button pressed has priority (The main or slave attribute is set with the remote controller).

COMMON CONTROL BY BOTH WIRED AND WIRELESS REMOTE CONTROLLERS



- The last button pressed has priority (using either wired or wireless remote controllers).



CZ-TA31P

ADAPTER FOR EXTERNAL SIGNALS

- A fan outside the indoor unit can be controlled
- External remote controller for switching the indoor unit ON/OFF
- Indoor unit status outputs (operating mode, fault)



CZ-TA40P

ADAPTER FOR URBAN NET

- Connecting board for Urban Net for centralised control of FS range indoor units



CZ-TA50P

ADAPTER FOR ADDRESSING

- Board for manual adjustment of indoor unit addresses for centralised control. Use for setting addresses before connecting the indoor unit to the power and when there is no remote control



CZ-TE20P

POWER SUPPLY

- Power supply for Urban Net (one unit for each Urban Net network)



CZ-20GWAP

CONNECTION INTERFACE FOR URBAN NET AND UM NET

- Indoor units controllable: 64
- Control functions: ON/OFF, Operating mode, Temperature adjustment, Fan speed, Air direction, Fault information, Suction temperature, Filter status information.



CZ-01FULAP

SERIAL INTERFACE UNIT

- Indoor units controllable: 64
- External connection: RS232C



CZ-01ESW11P

PROGRAMMER CONTROLLER

Enables programming of 64 groups.

- Up to 128 indoor units can be controlled
- 8 types of weekly programming
- Stand-by power supply for a maximum of 48 hours
- Maximum wiring length, 1,000 m (total: 2,000 m)



CZ-01ANA11P

UNIFIED ON/OFF CONTROLLER

Permits individual and simultaneous control of 16 groups of indoor units.

- Up to 16 groups can be controlled (128 indoor units)
- Use of 2 remote controls located in different places for operating mode (normal, alarm)
- Centralised control indicator
- Maximum wiring length, 1,000 m (total: 2,000 m)



CZ-02ESM11P

CENTRALISED REMOTE CONTROL

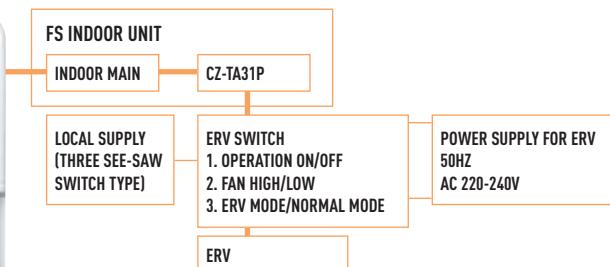
Permits individual control of 64 groups (areas) of indoor units.

- Up to 64 groups can be controlled (128 indoor units, max. of 10 outdoor units)
- 128 groups, maximum, can be controlled (128 indoor units, max. of 10 outdoor units) using 2 centralised remote controllers located in separate locations
- Zone control
- Fault code indicator
- Maximum wiring length, 1,000 m (total: 2,000 m)

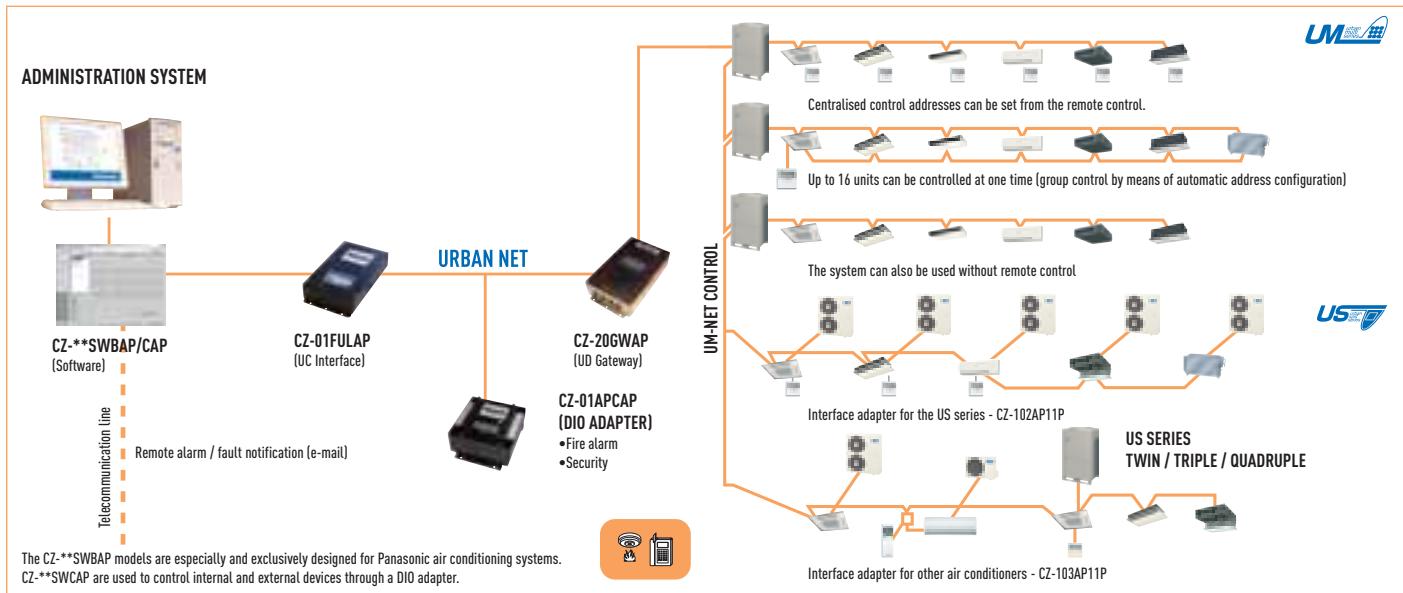
CZ-TA31P OPERATION MODE WITH CZ-RD513C (REMOTE CONTROLLER)

CZ-RD513C	VENTILATION	INTERLINK WITH FS SYSTEM	VENTILATION BUTTON OPERATION AND INTERLINK	REMARKS
mode*	button [on/off]	FS operation from Off to On	FS operation from On to Off	Operation
000	no function	No function	No function	Factory default setting
001	On/Off possible	No function	No function	No interlink with FS side, ERV can select operate On/Off
002	On/Off possible	No function	Forced ventilation Off	In case required ventilation continually even at FS system operation is Off mode, ventilation button must be switch On.
003	On/Off possible	Forced ventilation On	Forced ventilation Off	<ul style="list-style-type: none"> Manual On/Off possible at FS operation keep On Manual On/Off possible at FS operation at Off mode

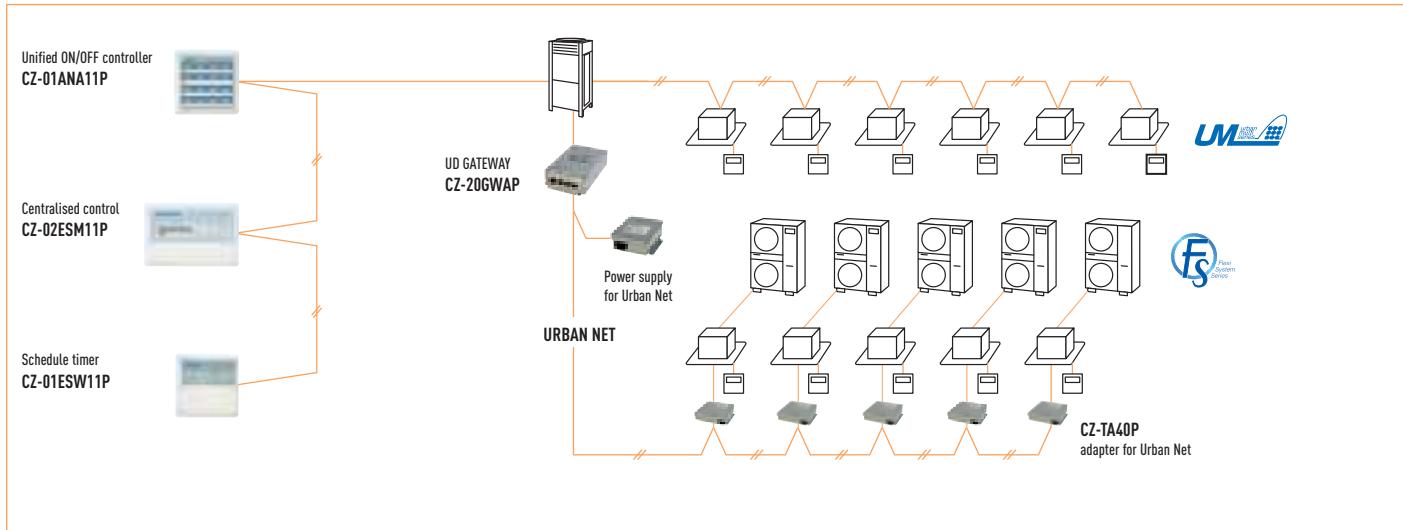
*Be sure to select either 001, 002, or 003. ERV: Energy Recovery Ventilators



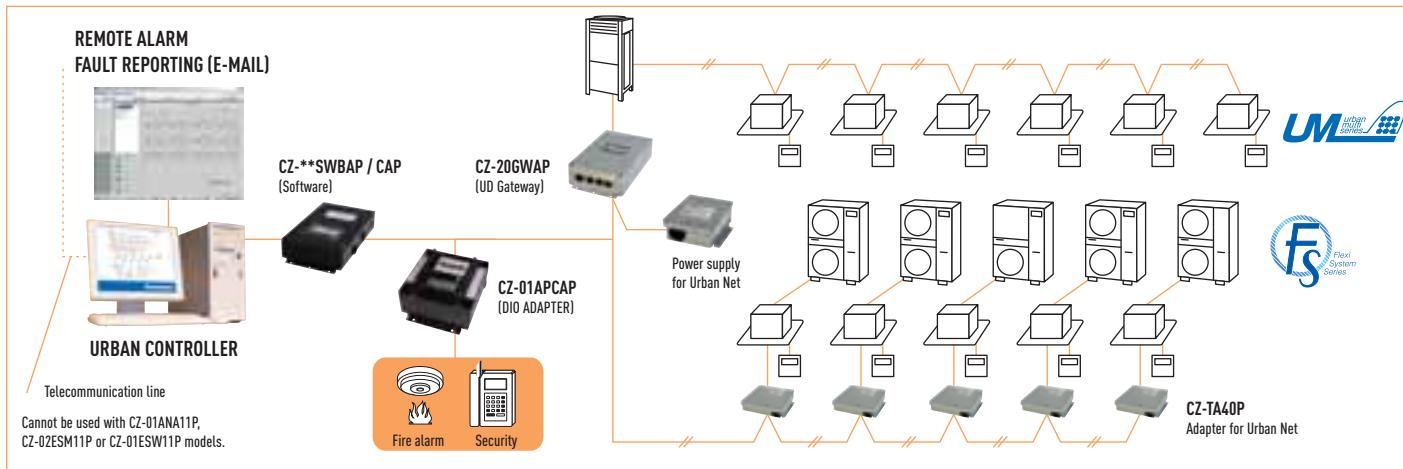
URBAN CONTROLLER TEMPERATURE CONTROL NETWORK COMBINED WITH THE US RANGE



EXAMPLE OF A SYSTEM WITH CENTRALISED CONTROL (UM NET)



URBAN CONTROLLER TEMPERATURE CONTROL NETWORK COMBINED WITH THE FS RANGE



SELF DIAGNOSIS DESCRIPTION AND CHECK POINT TABLE

SELF DIAGNOSIS FUNCTION

Once an abnormality is detected during operation, the unit will immediately stop operation (Self Diagnosis LED at the outdoor unit printed circuit board will light up) and an error code (abnormality) will be saved in memory. The abnormality of the operation can be identified through the below breakdown diagnosis method:

FS WIRED REMOTE CONTROL TYPE

CS-F24/28/34/43/50DB4E5 (CASSETTE TYPE)



CS-F24/28/34/43/50DTE5 (CEILING TYPE)

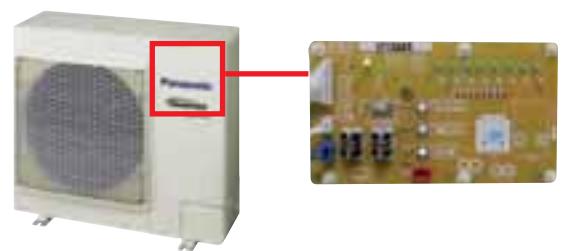


CS-F24/28/34/43/50DD1E5/50DD2E5/50DD3E5
(DUCTED TYPE)

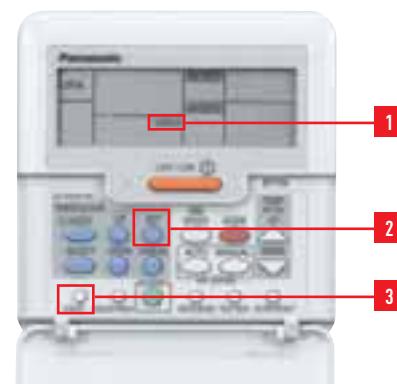


1. When an abnormality occurs, "CHECK" flashes in the remote control display.
2. Press the CHECK button when the display is flashing. The timer display will change and error code (eg. "F20") will be displayed.
3. Press TIMER SET button while the error code is displayed. The error code display will change to detail display.

OUTDOOR UNIT



WIRED REMOTE CONTROL



FS WIRELESS REMOTE CONTROL TYPE

CS-F24/28/34/43/50DB4E5 (CASSETTE TYPE)

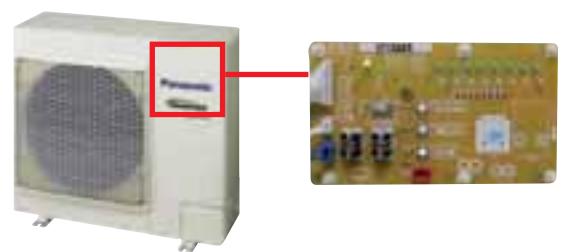


CS-F24/28/34/43/50DTE5 (CEILING TYPE)

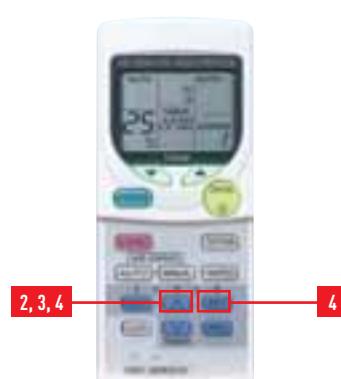


1. When an abnormality occurs, TIMER LED blinks at the indoor receiver indicator.
2. Press the "^\\" button control continuously for more than 5 seconds to turn on self diagnosis mode. " _-:_-
3. Press "^\\" button again, "F 00:00" is displayed.
4. By pressing the "^\\" or "v" button again, the display will change from "F0" to "F9". If beep sound is heard from the indoor unit, press SET button, then the error number will shift to the next digit. Once the error shift to the lowest digit, error code is determined.
5. If no input of "^\\" or "v" button for more than 30 seconds, the self diagnosis mode will be cancelled.

OUTDOOR UNIT



WIRELESS REMOTE CONTROL





ERROR CODES TABLE // INVERTER MODEL

Warning: Electrical power must be disconnected when terminal protective cover is not in place to protect against electrocution.

LED 301 (green) illuminates to indicate that the microprocessor on the printed circuit board is operating in normal condition. If LED 301 is flashing irregularly, check the power supply. Reset the power.

Remote Control	Outdoor unit printed circuit board LED	Check point location	
Code	Detail	302 303 304 305 306 307 308 309	
F15	-01	○ ○ ○ ○ (*) (*)	Drain level float switch
F16	-01	○ (*) (*)	Louver switch
F17	-02	○ ○ ○ (*) (*)	DC fan motor
F20	-01	○ ○ ○ (*) (*)	Indoor temperature sensor
	-02	○ ○ ○ (*) (*)	Remote control thermistor
F21	-01	○ ○ ○ ○ (*) (*)	Pipe temp. sensor (indoor)
F26	-01	○ ○ ○ ○ (*) (*)	Remote control transmission
F27	-01	○ ○ ○ ○ (*) (*)	Indoor / Outdoor unit disconnected
	-05	○ ○ ○ ○ (*) (*)	In. / Out. unit connection problem
F27	-01	○ ○ ○ ○	Indoor / Outdoor unit disconnected
	-05	○ ○ ○ ○	In. / Out. unit connection problem
F30	-01	○ ○ ○ ○	System problem
	-02	○ ○ ○ ○	Open phase, or reversed phase of supply
F31	-01	○ ○ ○ ○	Suction pressure protection
	-02	○ ○ ○ ○	High-pressure cut-off
	-06	○ ○ ○ ○	4-way valve
	-09	○ ○ ○ ○	Leakage of refrigerant
	-10	○ ○ ○ ○	Refrigerant system

Remote Control	Outdoor unit printed circuit board LED	Check point location	
Code	Detail	302 303 304 305 306 307 308 309	
F32	-03	○ ○ ○	Inverter protection (Low DC voltage)
	-04	○ ○ ○ ○	Inverter protection (IPM protection)
	-05	○ ○ ○ ○	Compressor overcurrent protection
	-06	○ ○ ○ ○ ○	Compressor discharge temp. protection
	-08	○ ○ ○ ○ ○	Inverter protection (PFC protection)
	-09	○ ○ ○ ○ ○	Inverter protection (DC current protection)
	-10	○ ○ ○ ○ ○ ○	Number of rotation compressor problem
F35	-02	○ ○ ○ ○	DC Fan motor lock
F40	-01	○ ○ ○ ○ ○	Outlet temperature sensor
	-11	○ ○ ○ ○ ○ ○	Compressor suction temp. sensor
	-21	○ ○ ○ ○ ○ ○	Heat exchanger outlet temp. sensor
	-31	○ ○ ○ ○ ○ ○	DEF temperature sensor
	-51	○ ○ ○ ○ ○ ○	Compressor discharge temp. sensor
F41	-02	○ ○ ○ ○ ○ ○	High pressure switch open circuit
	-11	○ ○ ○ ○ ○ ○ ○	Low pressure sensor
F42	-11	○ ○ ○ ○ ○ ○ ○	Current detector open circuit
F44	-01	○ ○ ○ ○ ○ ○ ○	Inverter protection (IPM temp. sensor problem)

○ : Blinking

● : Illuminated

Blank : OFF

(*) 308 309	● Master
	● Slave

ERROR CODES TABLE // NON INVERTER MODEL

Warning: Electrical power must be disconnected when terminal protective cover is not in place to protect against electrocution.

LED 1 (green) illuminates to indicate that the microprocessor on the printed circuit board is operating in normal condition. If LED is flashing irregularly, check the power supply. Reset the power.

Remote Control	Outdoor unit printed circuit board LED	Check point location	
Code	Detail	2 3 4 5 6 7 8	
F15	-01	○ ○ ○ ○ ○ (*)	Drain level float switch
F16	-01	○ ○ ○ ○ (*)	Louver switch
F17	-02	○ ○ ○ ○ (*)	DC fan motor
F20	-01	○ ○ ○ ○ (*)	Indoor temperature sensor
	-02	○ ○ ○ ○ ○ (*)	Remote control thermistor
F21	-01	○ ○ ○ ○ ○ (*)	Pipe temp. sensor (indoor)
F26	-01	○ ○ ○ ○ ○ (*)	Remote control transmission
F27	-01	○ ○ ○ ○ ○ ○ (*)	Indoor / Outdoor unit disconnected
	-05	○ ○ ○ ○ ○ ○ ○ (*)	Indoor / Outdoor unit connection problem
F27	-01	○ ○ ○ ○ ○ ○ ○	Indoor / Outdoor unit disconnected
	-05	○ ○ ○ ○ ○ ○ ○	Indoor / Outdoor unit connection problem
F30	-01	○ ○ ○ ○ ○ ○ ○	System problem
	-02	○ ○ ○ ○ ○ ○ ○	Open phase, or reversed phase of supply

Remote Control	Outdoor unit printed circuit board LED	Check point location	
Code	Detail	2 3 4 5 6 7 8	
F31	-01	○ ○ ○ ○ ○ ○ ○	Suction pressure protection
	-02	○ ○ ○ ○ ○ ○ ○	High-pressure cut-off
F31	-06	○ ○ ○ ○ ○ ○ ○	4-way valve
	-10	○ ○ ○ ○ ○ ○ ○ ○	Refrigerant system
F32	-05	○ ○ ○ ○ ○ ○ ○	Compressor overcurrent protection
	-06	○ ○ ○ ○ ○ ○ ○ ○	Compressor discharge temp. protection
F40	-21	○ ○ ○ ○ ○ ○ ○	Heat exchanger outlet temperature sensor
	-51	○ ○ ○ ○ ○ ○ ○ ○	Compressor discharge temperature sensor
F41	-02	○ ○ ○ ○ ○ ○ ○ ○	High pressure switch open circuit
	-12	○ ○ ○ ○ ○ ○ ○ ○ ○	Low pressure sensor
F42	-11	○ ○ ○ ○ ○ ○ ○ ○	Current detector open circuit

○ : Blinking

● : Illuminated

Blank : OFF

(*) 8	● Master
	○ Slave

FS MULTI
AIR CONDITIONING SYSTEM

NEW FS MULTI VRF FROM PANASONIC.

NEW EASY TO INSTALL VRF,
SPECIALLY DESIGNED FOR HOMES AND
SMALL COMMERCIAL BUILDINGS: LARGE
LINEUP OF INDOOR UNITS, ETHEREA WALL
MOUNTED DESIGN, 4-5-6-8-10 HP OUTDOOR
UNITS, SINGLE PHASE AND THREE PHASE



ETHEREA
designed to care for you



**NEW
2011**



maximum flexibility

VRF

VRF. The Inverter plus range provides greater efficiency.

A class
energy
saving

INVERTER +

INVERTER PLUS SYSTEM. Inverter+ products improve on the characteristics of standard Inverter range by over 20%. A Inverter plus is also A class on cooling and heating mode.

environmentally
friendly
refrigerant

R410A

R410A. Environmentally friendly refrigerant.

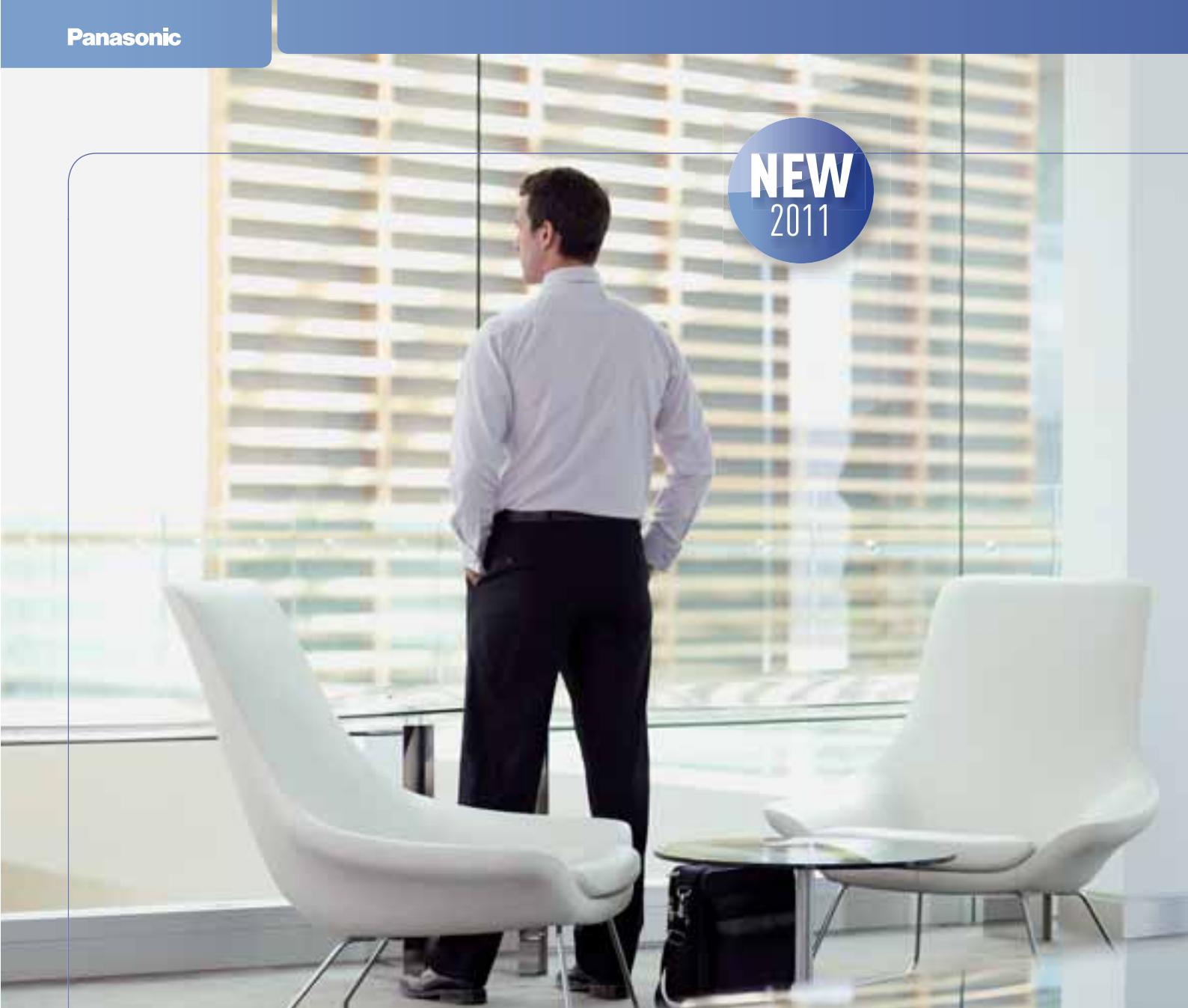
down to
-20°C in
heating mode

OUTDOOR
TEMPERATURE

DOWN TO -20°C IN HEATING MODE
The VRF system works in heating mode at outdoor temperatures down to -20°C (8 and 10 HP) or -15°C (4, 5 and 6 HP)

VRF AIR CONDITIONING

The FS Multi is a variable refrigerant flow (VRF) system that uses a single outdoor unit to independently control multiple indoor units. By communicating with the indoor units, the outdoor unit controls the flow of refrigerant to each one of them to match their cooling or heating loads. This enables independent operation for each of the indoor units, with inverter control providing optimum energy-saving operation. Air conditioning in multiple rooms by a single outdoor unit also means much less construction and a big improvement in the appearance of buildings. A wide range of indoor models are available to satisfy the needs of different kinds of buildings. Taking advantage of its extensive experience with models for both the home and commercial facilities, Panasonic is ready to provide the ideal air conditioning solution.



**NEW
2011**

SYSTEM ADVANTAGES. INSTALLATION AND MAINTENANCE FLEXIBILITY

The FS Multi system solves the air conditioning design and construction problems that arise due to pipes at different heights and the location of the installation site. Exceptional installation flexibility makes installation easy and maintains the attractive appearance of buildings.

EASY MAINTENANCE

When there is a breakdown in an indoor unit, the system continues to work without this indoor unit. The outdoor unit does not stop, and the rest of the indoor units continue to operate.

REFRIGERANT CHARGE-FREE SYSTEM ON THE 4, 5 AND 6 HP

The FS Multi is a refrigerant charge-free system that does not require a charge of additional refrigerant even when using a full pipe length of up to 90m. This dramatically shortens the installation time required for charging with additional refrigerant, weight measurement and pressure judgment. It also eliminates charge amount calculation and there's less chance of a cooling capacity shortage due to an incorrect amount of refrigerant being used or other errors.

PUMP-DOWN MODE (4, 5 AND 6 HP)

The exterior 4, 5 and 6 HP FSM units have a pump-down mode incorporated, making it possible to drain all of the refrigerant from the installation (not just from the external machine). This facilitates changing the installation and maintenance.

WHEN INSTALLATION SPACE IS LIMITED

A single compact FS Multi system outdoor unit enables air conditioning in multiple rooms, solving the problems of narrow or limited installation space.



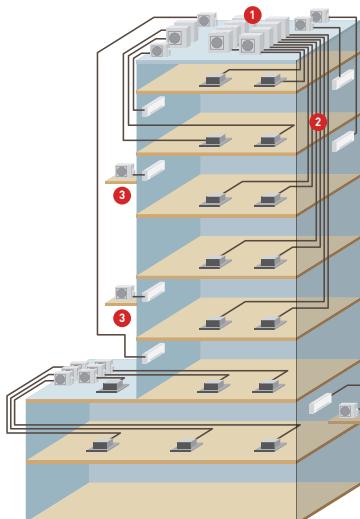


FS MULTI ADVANTAGES

FS Multi's cutting edge VRF technology is perfectly suited to medium-sized or small areas, with single-phase power sources, together with advanced Inverter technology, opening up previously unimagined possibilities in the world of air conditioning. Air conditioning spaces can now take on a new dimension. If you have bought a new property, residence, office or commercial place which is still in the construction phase, or if you are refurbishing, Panasonic offers you the chance to enjoy FS Multi air conditioning.

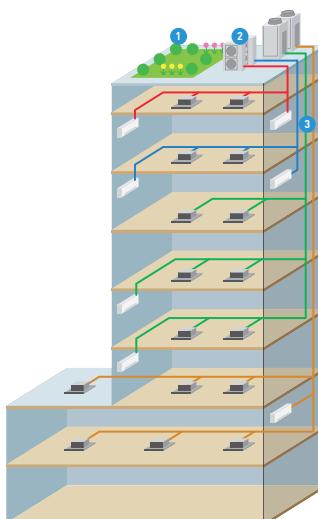
NEW FS MULTI VRF FROM PANASONIC

- Total freedom of choice. Up to 30 different indoor unit models. Allows you to choose the best option depending on architectural needs and decoration criteria.
- Three single-phase outdoor unit ratings: 4, 5 and 6 H.P.
- Two three-phase outdoor unit ratings: 8 and 10 H.P.
- Inverter technology with R410A refrigerant, "greater comfort and economy with lower consumption".
- Greatest space reduction. A single outdoor unit feeds up to 16 indoor units (at 10 H.P.).
- Ease of installation. Thanks to the reduced dimensions of the outdoor unit it can be taken to the roof of the building in the lift.



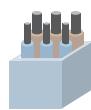
FREQUENT SINGLE SPLIT SYSTEM PROBLEMS

- ① Requires many outdoor units and large installation space. So it spoils the building's appearance, and the building's strength must be assessed.
- ② Requires many pipe shafts.
- ③ Pipes are short so outdoor units have to be installed on wall surfaces. Insufficient pipe length makes installation impossible.



FS MULTI SYSTEM SOLUTION

- ① Minimized number of outdoor units thanks to multi system. Rooftop space can be used more effectively and the unit load on the roof is considerably reduced.
- ② Outdoor units can be installed close to each other, maintaining the building's appearance and enhancing the installation flexibility.
- ③ The number of pipings is reduced, thus minimising the space required in pipe shafts.



OUTDOOR UNITS

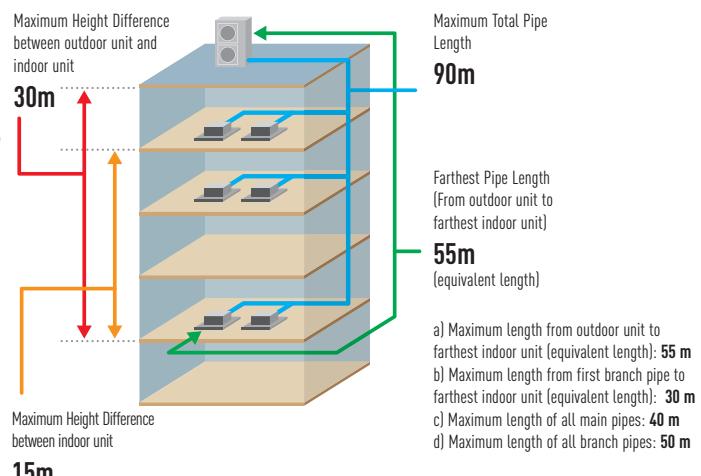
U-4LA1E5 // U-5LA1E5 // U-6LA1E5



PIPES OF UP TO 90 M

The total length of the pipe between a system's indoor and outdoor units can be extended up to 90 metres, with a height difference of up to 30 metres.

These ample limits make it possible to place the outdoor unit on the roof. The maximum height difference between indoor units in the same system may be up to 15 metres, thus covering 4 or 5 floors in the same system.



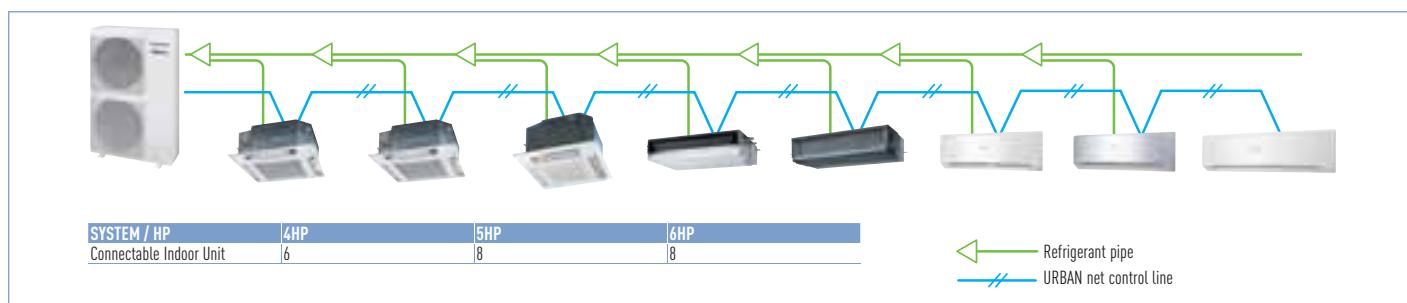
RESIDENCES

Since a layout using long piping is possible, a single outdoor unit can be used even for multi-story residences. And there's a range of indoor unit designs to choose from to complement different interiors.



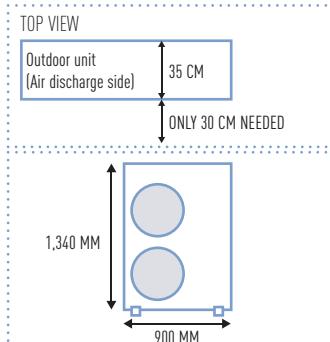
HIGH-STORY APARTMENTS

Enabling air conditioning in multiple rooms with a single outdoor unit, the FS Multi system offers an effective solution to today's demand for aesthetically pleasing condominiums. The indoor units are also available in designs providing an ideal match for modern living environments.



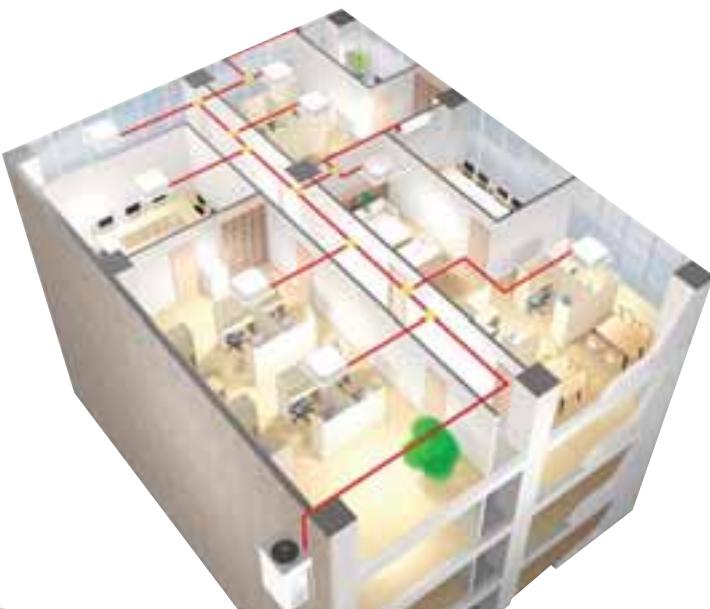
SPACE-SAVING DESIGN

Improvement of the outdoor units fan has reduced the size of the unit to enable installation in a smaller space. Without sacrificing quietness, higher efficiency is also attained. More freedom in installation contributes to the easy piping and facilitates installation. It will lead to a reduction in installation costs.



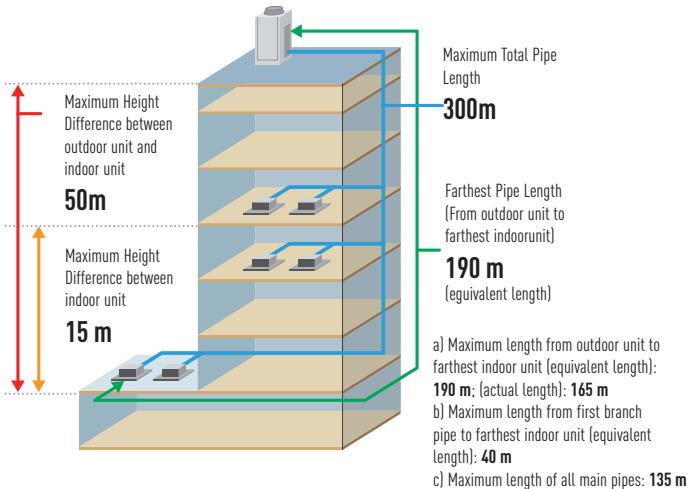
OUTDOOR UNITS

U-8EA1E8 // U-10EA1E8



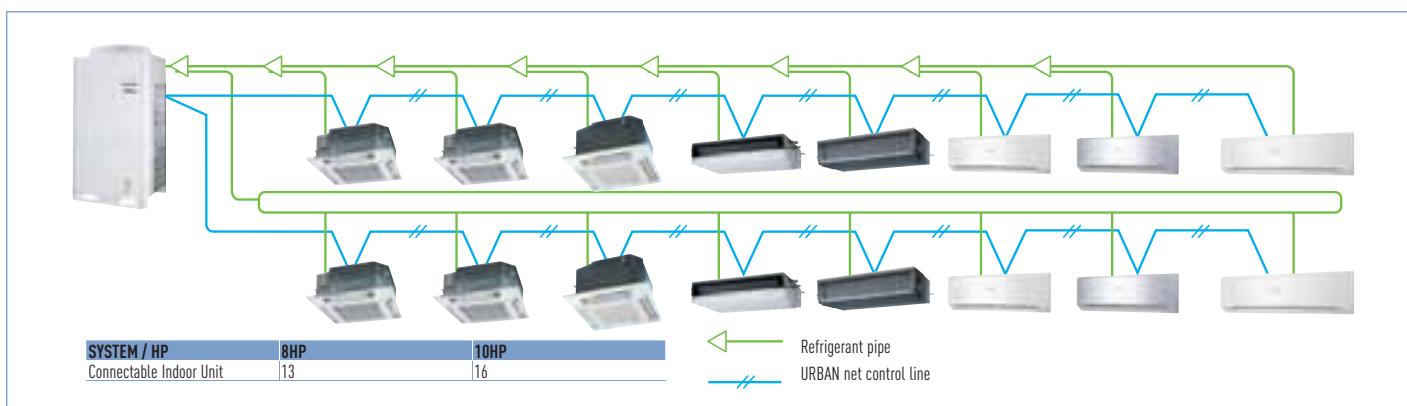
PIPES OF UP TO 300 M

The total length of the pipe between a system's indoor and outdoor units can be extended up to 300 metres, with a height difference of up to 50 metres. These ample limits make it possible to place the outdoor unit on the roof. The maximum height difference between indoor units in the same system may be up to 15 metres, thus covering 4 or 5 floors in the same system.



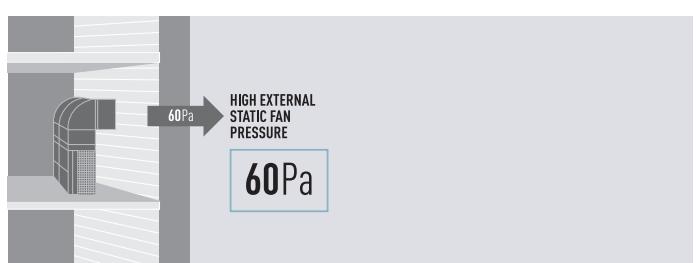
OFFICES, SHOPS AND BOUTIQUES

As well as being ideal for new buildings, the FS Multi system offers space-saving benefits when refurbishing and renovating existing spaces. What's more, independent air conditioning reduces energy wasted in unused offices, and much neater pipe layout is possible than with a single split system. Using the Weekly Timer also enables setting for the optimum energy-saving operation in offices and commercial facilities. And there are options enabling demand control and digital connection compatibility to meet the needs of business applications.



HIGH EXTERNAL STATIC PRESSURE MODE

8 and 10 Hp outdoor unit can be selected high external static pressure mode (up to 60Pa) by outdoor unit local setting mode.





ENERGY SAVING INVERTER

All the models of Panasonic FS Multi series are equipped with DC inverter compressor for the higher EER operation. The new design attains the quiet and high-efficient operation and reduces the running cost.

- 1 Hyper Wave Inverter
- 2 DC Inverter Compressor
- 3 Large Diagonal Air Flow Fan



PANASONIC'S ORIGINAL HIGH-PERFORMANCE COMPRESSOR

It's the compressor at the heart of an air conditioner that determines reliability and efficiency.

The FS Multi features Panasonic's original high-performance compressor to assure outstanding performance and quality.

HIGH-EFFICIENCY COMPRESSOR

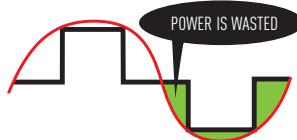
By using a powerful neodymium (rare-metal) magnet for a motor allowed Panasonic to make the motor more compact. The winding rotor motor of less magnetic field distortion attains higher efficiency.



HYPER WAVE INVERTER

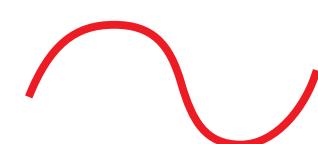
The Panasonic group's experiences and actual results in the developments of inverters are released in the control. This control of the inverter demonstrates the optimum compressor torque. The FS Multi series quickly heats up the room to the set temperature and maintains a comfortable condition, whilst ensuring energy efficiency and savings.

OUR CONVENTIONAL INVERTER



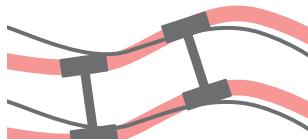
The current waveform deviates from the motor voltage waveform, so power is wasted.

HYPER WAVE INVERTER

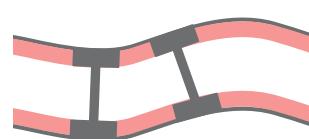


The current waveform closely matches the motor voltage waveform, so power consumption is reduced.

COMPARE THIS TO A CAR ROUNDING A CORNER



Power is wasted when the car swings off course.



When the car stays right on course, there's no power loss.

QUIET OPERATION

A host of silencing technologies achieve super-quiet operation. We've also improved operating efficiency and reduced energy consumption.



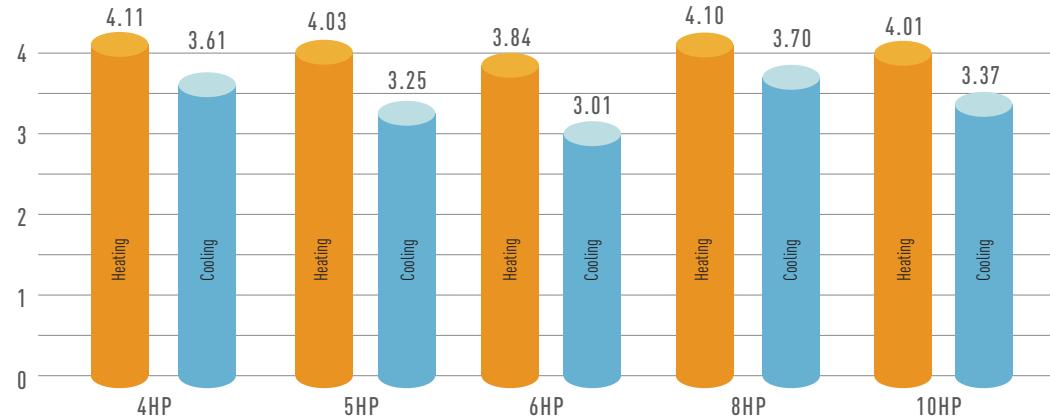
INNOVATIVE AND PERFECT CONTROL OF LOADING FOR THE 4, 5 AND 6 HP

**NEW
2011**

The outdoor unit controls and optimises the loading of refrigerant in the system by asking each indoor unit its requirements. With this very innovative Loading control, the system is highly efficient and the indoor unit responds very quickly to demands.

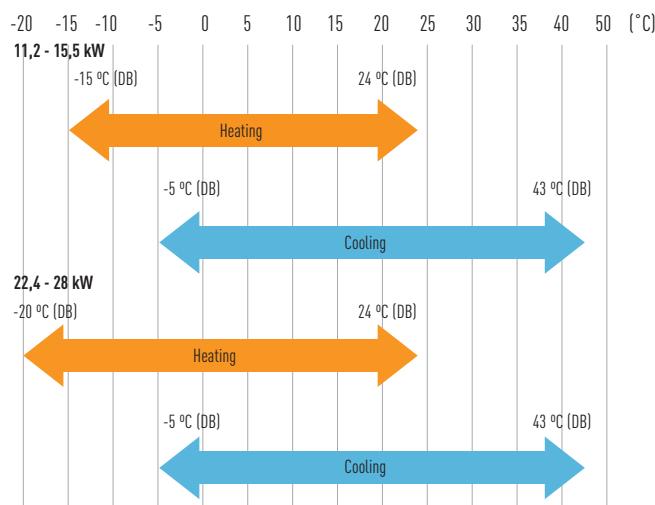
ENERGY SAVING

Quality features translate into energy savings thanks to greater energy efficiency. This efficiency is due to the fact that each room is individually controlled and only the rooms that require air-conditioning are heated or cooled. Moreover, thanks to Inverter technology, the level of air conditioning can be adjusted precisely depending on each room's condition.



BROAD OPERATING RANGE

The heating function will remain stable indoors even when the temperature outside drops to -15 °C, thus meeting users different needs. Moreover, the cooling function operates from -5 °C to 43 °C.



COOLING ONLY MODEL SETTING

- The unit designed for cooling only can be set by the JP wire on the outdoor unit PC board.
- After setting this mode, the FS Multi system cools only.

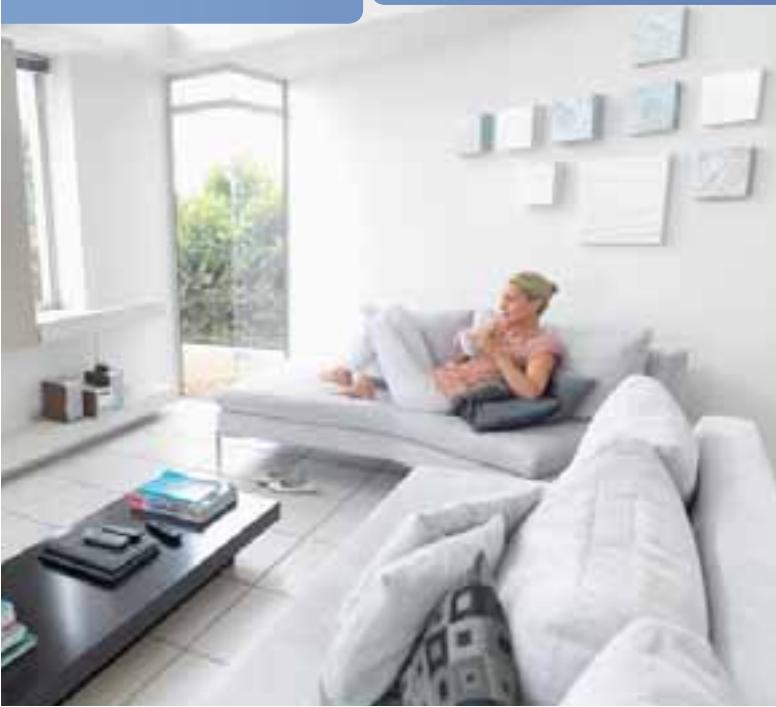
OUTDOOR UNIT SILENT OPERATION MODE

The Silent Operation mode of the outdoor unit can be selected by remote control. There are three mode settings that reduce the noise level by up to 6dB(A). (When the Silent Operation mode is selected, cooling and heating capacity are reduced.)

EXAMPLE AT 4HP MODEL AT COOLING OPERATION

Reference	Capacity index*	Sound pressure dB(A)
Normal mode	100	52
LV1	80	50
LV2	72	48
LV3	62	46

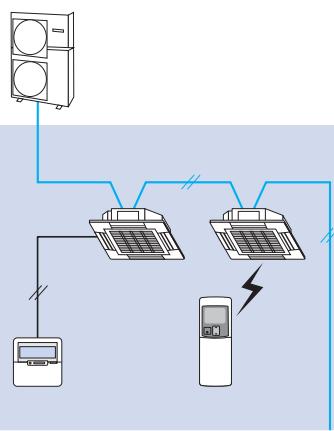
* The indexes are nominal capacity operation reference values



INDIVIDUAL CONTROL SYSTEMS

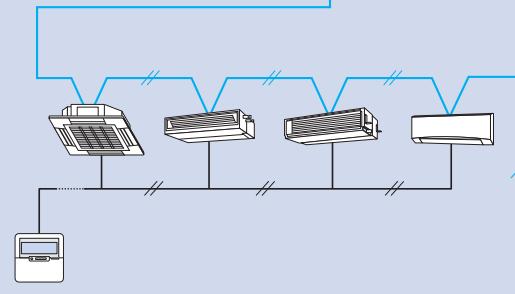
Unlike conventional air conditioning systems, the VRF system is applied separately to each room. So, this system is ideal for areas with fluctuation in traffic. Moreover, you can have precise control over each of the rooms to achieve exact conditions. Individual control makes this system more cost-effective and efficient.

INDIVIDUAL CONTROL BY A SINGLE REMOTE CONTROLLER



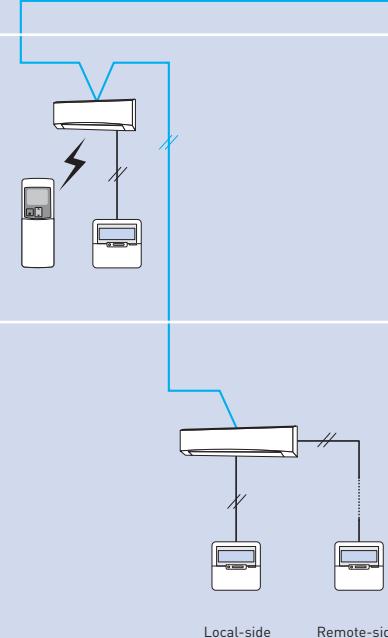
GROUP CONTROL BY A SINGLE REMOTE CONTROLLER (MAXIMUM 16 INDOOR UNITS)

- All indoor units operate in the same mode.



COMMON CONTROL BY BOTH WIRED AND WIRELESS REMOTE CONTROLLERS

- The last operating signal received has priority
(using either wired or wireless remote controllers).



COMMON CONTROL BY TWO WIRED REMOTE CONTROLLERS

- The last operating signal received has priority.
- Apart from the timer setting, the displays of the two remote controllers are identical.

Local-side Remote-side



WIRED REMOTE CONTROLLER

CZ-RT1

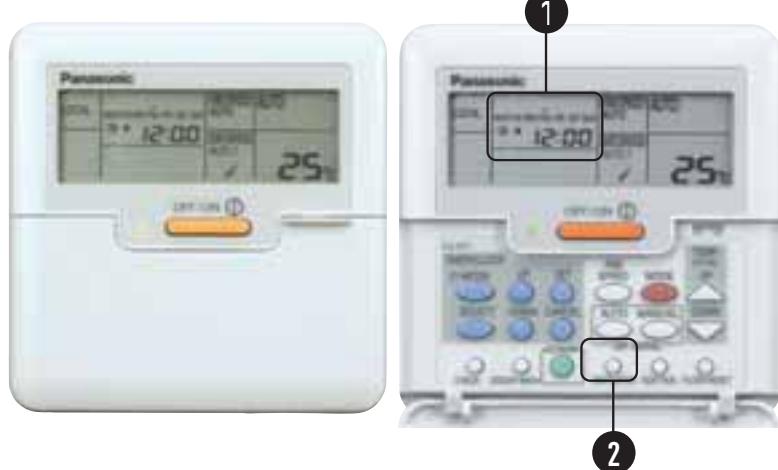
- Remote controller with LCD and self-diagnosis
- Constant monitoring of the system with fault detection
- Weekly timer function
- Maintenance time and cost reduction

OPERATING BUTTONS

- ON/OFF
- Real time daily timer
- Weekly timer : 6 actions per day (total 42 actions per week), including temperature setting.
- Temperature adjustment
- Adjusting air direction
- Selection of operating mode
- Fan speed control
- Restart filter
- Ventilation interlink

MONITOR

- Operating mode
- Centralised control indicator
- Demand control indicator
- Operation priority indicator
- Selected temperature
- Air direction
- Clock
- Day of the week indicator
- Inspection/operating test
- Fan speed
- Filter maintenance
- Defrost/hot start indicator
- Error mode display



1. WEEKLY TIMER

Weekly timer setting (each day of the week) is available to control the air conditioner. Max. 6 settings/day and 42 settings/week can be executed. The setting temperature can also be programmed for optimal comfort.

EXAMPLES OF SETTING WEEKLY TIMER

Shop with regular holidays

Example:
Closed Saturday afternoon and all day Sunday.

Mon-Fri On 9:00, Off 18:00
Sat On 9:00, Off 12:00
Sun Not set

The timer can have different settings for every day of the week.

The number of persons varies depending on time zones.

Example:
Set a lower temperature at lunch time when many people may visit.

Everyday
On 12:00 23°C
On 14:00 28°C

In this case, the temperature can be set at the same time.

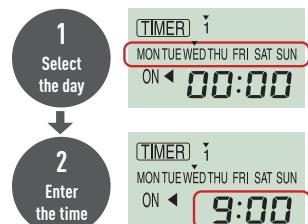
Not to forget to switch OFF

Example:
To prevent forgetting to switch OFF weekdays

Mon-Fri
Off 20:00

The timer can be set for simple shut-off operation.

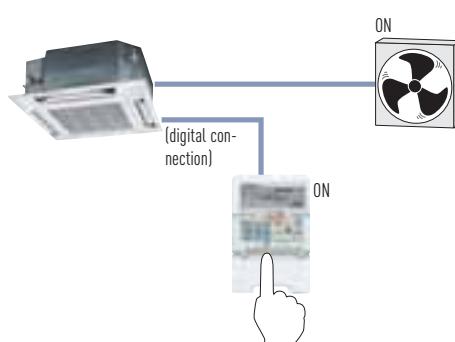
HOW TO SET



*Simple Timer Mode

2. VENTILATION INTERLINK

When the external device such as a ventilator is connected to the indoor unit, switch ON/OFF of the ventilator can be controlled by the wired remote control. Either link-ventilation or independent-ventilation is selectable.



Energy recovery ventilators are also offered by Panasonic.
Optional printed circuit board (Interface Adapter for External Signals: CZ-TA31P*) is needed.

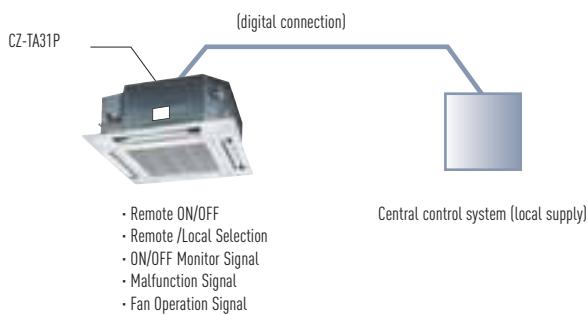
INTERFACE ADAPTER FOR EXTERNAL SIGNALS

CZ-TA31P*

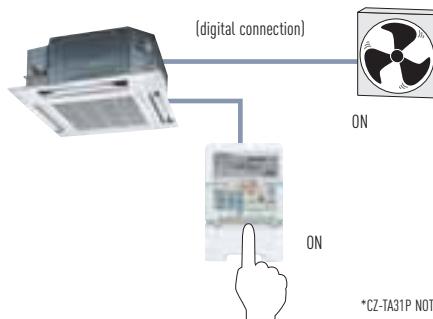
- By connecting to the indoor unit, a separately sold ventilator can be controlled.
- Remote control operation of the indoor unit is enabled (ON/OFF control).
- The operating condition of the indoor unit (malfunctions, operating status) can be externally output.
- Control in linkage with a Energy Recovery Ventilators (ERV) or similar is possible.



CONNECTION WITH EXTERNAL CENTRAL SYSTEM



INTERLINK WITH VENTILATION OR ERV



*CZ-TA31P NOT applicable for wall-mounted indoor unit

WIRELESS REMOTE CONTROLLER

HEAT PUMP MODELS

CZ-RWS1

COOLING ONLY MODELS

CZ-RWC1

- Remote controller with LCD and self-diagnosis
- Error code recognition
- Maintenance time and cost reduction
- Real time daily timer

OPERATING BUTTONS

- ON/OFF
- Activate/deactivate programmer
- Real time daily timer
- Temperature adjustment
- Air direction
- Operating mode
- Fan speed control
- Restart filter
- Inspection of error code

MONITOR

- Operating mode
- Temperature selected
- Air direction
- Time programming
- Error code display
- Fan speed
- Clock



WIRELESS CONTROLLER RECEIVER

FOR CASSETTE TYPE

CZ-RWRU1



FOR DUCT TYPE

CZ-RWRM1



Wireless receivers for wall-mounted and 60x60 Cassette types are equipped as standard.



COOLING/HEATING CONTROLLER FOR THE OUTDOOR UNIT

CZ-RD1

Enables the cooling, heating and ventilating operating mode for each outdoor unit. Allows the operating mode to be changed for several outdoor units at the same time by means of a single remote control.

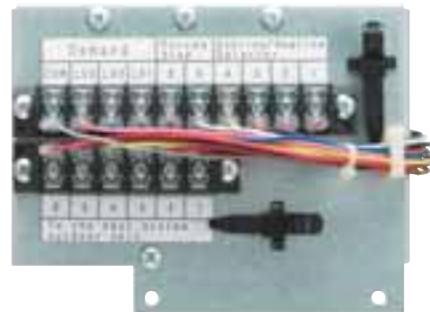


TERMINAL MODULE (EQUIPPED AS STANDARD ON THE OUTDOOR UNIT)

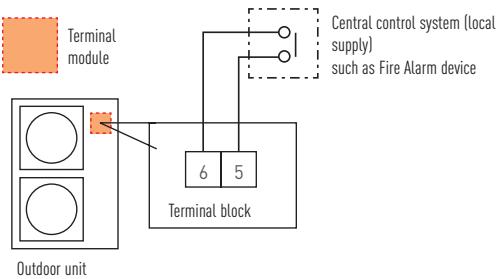
CZ-CAP1 (only for 4-6 HP outdoor units, 8-10HP is standard equipped)

Control terminal to be connected with outside devices or CZ-RD1 controller.

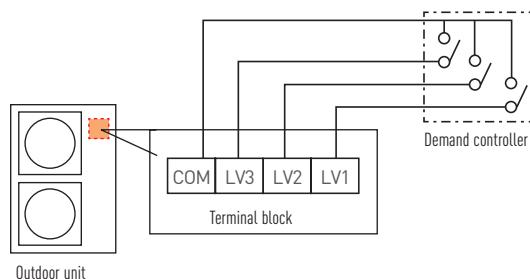
- Used to receive forced stop digital signal from local procured central control system.
- Used to receive demand control signal from local procured central control system.
(Demand control for energy saving with 3-level selection)
- Required to connect with CZ-RD1 cooling/heating controller.
- Group control of several FS Multi systems for forced stop and CZ-RD1 cooling/heating controller.



WHEN CONNECTING FORCED STOP INPUT

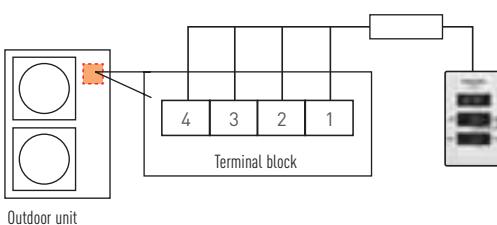


WHEN CONNECTING DEMAND CONTROLLER

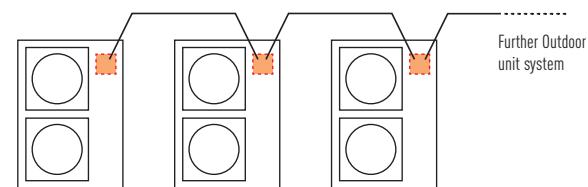


CAPACITY		
Terminal	4/5/6HP	8/10HP
LV1	70%	85%
LV2	30%	70%
LV3	0%	0%

WHEN USING CZ-RD1 (COOLING / HEATING SELECTOR)



GROUP CONNECTION



*Not applicable for demand controller



COMBINATION TABLE

The FS Multi system attains maximum indoor unit connection capacity of up to 130% in the units connection range, depending on the outdoor and indoor models selected. In the case of a 6HP outdoor unit (15.5kW/53,000Btu/h), connection is possible with a maximum indoor unit range of 20.15kW. So for a reasonable investment, the FS Multi system provides an ideal air conditioning solution for locations where full cooling/heating is not always required.

COMBINATION TABLE

Reference	Outdoor unit System cooling capacity	Maximum indoor unit	Standard combination capacity*	Maximum combination capacity	Minimum combination capacity
U-4LA1E5	4.0HP/ 11.2 kW/ 38,200 Btu/h	6	11.2 kW	14.56 kW	5.6 kW
U-5LA1E5	5.0HP/ 14.0 kW/ 47,800 Btu/h	8	14.0 kW	18.20 kW	7.0 kW
U-6LA1E5	6.0HP/ 15.5 kW/ 52,900 Btu/h	8	15.5 kW	20.15 kW	7.75 kW
			100%	130%	50%

*Standard combination capacity is the system's maximum cooling capacity.

COMBINATION EXAMPLE

Correct

	Reference	Quantity	Capacity	Minimum combination capacity	Maximum combination capacity
Outdoor	U-6LA1E5	1	15.5 kW*	7.75 kW	20.15 kW
Indoor	S-22KA1E5	1	2.2 kW	-	-
	S-36KA1E5	2	(3.6×2)7.2 kW	-	-
	S-22NA1E5	1	2.2 kW	-	-
	S-28NA1E5	3	(2.8×3)8.4 kW	-	-
Total indoor capacity		7	20.0 kW(129%)		

Incorrect

	Reference	Quantity	Capacity	Minimum combination capacity	Maximum combination capacity
Outdoor	U-6LA1E5	1	15.5 kW*	7.75 kW	20.15 kW
Indoor	S-22KA1E5	1	2.2 kW	-	-
	S-36KA1E5	2	(3.6×2)7.2 kW	-	-
	S-45KA1E5	1	4.5 kW	-	-
	S-22NA1E5	1	2.2 kW	-	-
S-28NA1E5		3	(2.8×3)8.4 kW		
Total indoor capacity		8	24.5 kW(158%)		

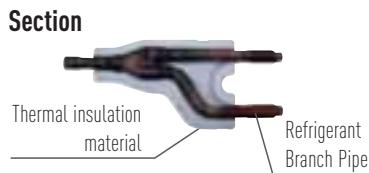
*Standard combination capacity is the system's maximum cooling capacity.

BRANCH PIPES

R410A BRANCH PIPE KITS

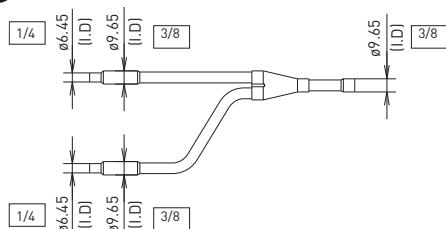
The use of branch piping combined with expansion valves mounted in VRF indoor unit considerably reduces the imbalance of the refrigerant liquid flow between indoor units despite the smaller piping diameter. The joints for these pipes have been designed to reduce installation time, as they are easy to fit. Finally, the branch pipes optimise refrigerant flow.

CZ-P155BK1 / CZ-P280BK1

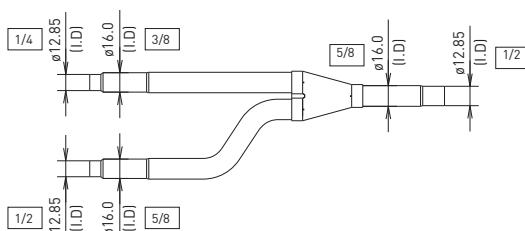


BRANCH PIPE KIT CZ-P155BK1

- 1 Liquid side branch pipe (inner diameter)

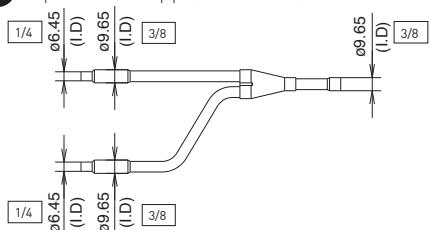


- 2 Gas side branch pipe (inner diameter)

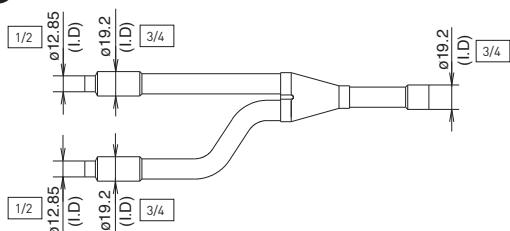


BRANCH PIPE KIT CZ-P280BK1

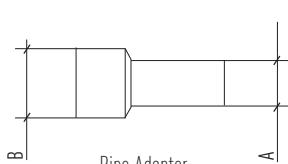
- 1 Liquid side branch pipe (inner diameter)



- 2 Gas side branch pipe (inner diameter)



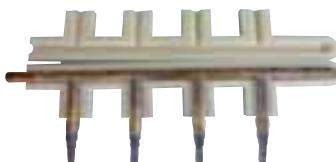
PIPE ADAPTORS ARE SUPPLIED WITH THE PACKAGE.



A	B	Quantity
Ø19.05	Ø15.88	1
Ø12.70	Ø15.88	2
Ø19.05	Ø25.40	1
Ø19.05	22.2	3
Ø9.52	12.7	1

(only for 8-10 HP)

**CZ-P3HPC2: 3-PIPE HEADER
CZ-P4HPC2 / CZ-P4HP2C2 : 4-PIPE HEADER**

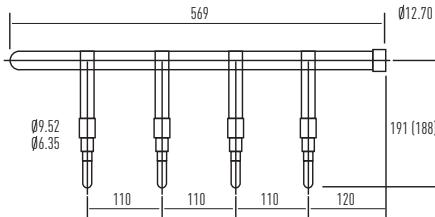


**DETAILS OF PARTS SUPPLIED.
CZ-P3HPC2 / CZ-P4HPC2 / CZ-P4HP2C2**

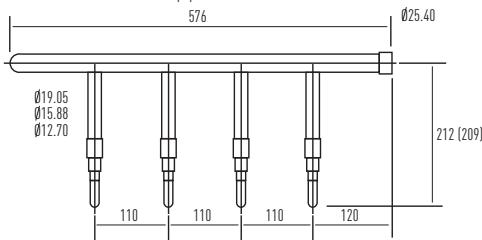
FOR 4 PIPE HEADER

Connectivity capacity	280	355-450	560-710
Max pipe length 90m	CZ-P4HPC2	CZ-P4HP2C2	CZ-P4HP2C2

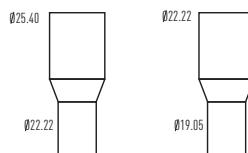
- 1 Liquid side header branch pipe (inner diameter)



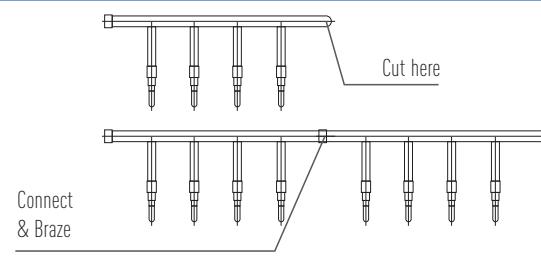
- 2 Gas side header branch pipe (inner diameter)



PIPE ADAPTORS SUPPLIED WITH THE PACKAGE.



UP TO 2 HEADER BRANCH PIPES CAN BE JOINED TOGETHER.



TECHNICAL ZOOM

- REFRIGERANT CHARGE-FREE SYSTEM (NO ADDITIONAL REFRIGERANT IS REQUIRED)
- VERY QUIET OUTDOOR UNITS
- FLEXIBLE INSTALLATION AND EASY SETUP
- EASY TROUBLE CHECK FUNCTION
- SPACE-SAVING DESIGN

4, 5 AND 6 HP, OUTDOOR UNIT

THE 4, 5 AND 6 HP OUTDOOR UNITS MONOPHASE, ARE IDEAL FOR INSTALLATIONS IN RESTAURANTS, OFFICES AND HOMES. All the models of Panasonic FS Multi series are equipped with DC inverter compressor for the higher energy saving operation. The new design attains the quiet and high-efficient operation and reduces the running cost.



HP	4HP	5HP	6HP			
Model number	U-4LA1E5	U-5LA1E5	U-6LA1E5			
Power Source	phase V Hz	1φ 220-230-240 50Hz	1φ 220-230-240 50Hz			
Cooling	Capacity Power Input EER Current ¹ Air Volume Sound Pressure Level Sound Power Level Operating Range	kW [Btu/h] W W/W [Btu/h] A m³/min [ft³/min] dB [A] dB Min. - Max. °C	11.20 [38,200] 3,100 3.61 [12.32] 14.20 92.0 [3,247] 52/- 70/- -5°C - 43°C	14.00 [47,800] 4,310 3.25 [11.09] 19.80 95.0 [3,353] 53/- 71/- -5°C - 43°C	15.50 [52,900] 5,150 3.01 [10.27] 23.50 98.0 [3,459] 55/- 73/- -5°C - 43°C	18.00 [61,400] 4,690 3.84 [13.09] 21.40 98.0 [3,459] 57/- 74/- -5°C - 43°C
Heating	Capacity Power Input COP Current ¹ Air Volume Sound Pressure Level Sound Power Level Operating Range	kW [Btu/h] W W/W [Btu/h] A m³/min [ft³/min] dB [A] dB Min. - Max. °C	12.50 [42,700] 3,040 4.11 [14.04] 13.90 92.0 [3,247] 54/- 71/- -15°C - 24°C	16.00 [54,600] 3,970 4.03 [13.75] 18.10 95.0 [3,353] 55/- 72/- -15°C - 24°C	18.00 [61,400] 4,690 3.84 [13.09] 21.40 98.0 [3,459] 57/- 74/- -15°C - 24°C	
Connectable Indoor Unit	Total Capacity Model/Qty	50-130% of Outdoor Unit Capacity unit	S-22 - S-90 / 2 - 8	S-22 - S-90 / 2 - 8	S-22 - S-90 / 2 - 8	
Moisture Removal Volume	L/h [Pt/h]	6.8 [14.3]	9.0 [18.9]	10.3 [21.6]		
Dimensions	H x W x D	mm inch	1,340 x 900 x 350(+40) ² 52-3/4 x 35-7/16 x 13-25/32(+1-9/16)	1,340 x 900 x 350(+40) ² 52-3/4 x 35-7/16 x 13-25/32(+1-9/16)	1,340 x 900 x 350(+40) ² 52-3/4 x 35-7/16 x 13-25/32(+1-9/16)	
Net Weight		kg [lb]	115 [253]	123 [271]	123 [271]	
Piping Connection	Liquid Side Gas Side	mm [inch] mm [inch]	ø9.52 [3/8] 15.88 [5/8]	ø9.52 [3/8] 15.88 [5/8]	ø9.52 [3/8] 15.88 [5/8]	
Maximum Total Piping Length	Min. - Max.	m [ft]	20 - 90 [65.6 - 295.2]	20 - 90 [65.6 - 295.2]	20 - 90 [65.6 - 295.2]	
Height Difference (Maximum)	Max	m [ft]	30 [98.4]	30 [98.4]	30 [98.4]	
Max Charge less Length	Max	m [ft]	90 [295.2]	90 [295.2]	90 [295.2]	
Refrigerant			R410A / 7kg	R410A / 8kg	R410A / 8kg	

GLOBAL REMARKS Rating conditions
Inside air temperature
Outside air temperature

Cooling	Heating
27°C DB / 19°C WB	20°C DB
35°C DB / 24°C WB	7°C DB / 6°C WB

¹ These values are at 230V only. For 220V and 240V specifications, please refer to the technical data book.

² Add 40mm for discharge grille.

DB: Dry Bulb; WB: Wet Bulb

Power	4HP	5HP	6HP
Reference	U-4LA1E5	U-5LA1E5	U-6LA1E5
Maximum combination of indoor unit	6	8	8
Power rates (kW)	5.6 - 11.2 - 14.6	7.0 - 14.0 - 18.2	7.8 - 15.5 - 20.2
Power supply (V/Hz)	220-240 / 50	220-240 / 50	220-240 / 50



U-4LA1E5 // U-5LA1E5 // U-6LA1E5

Control Flexibility

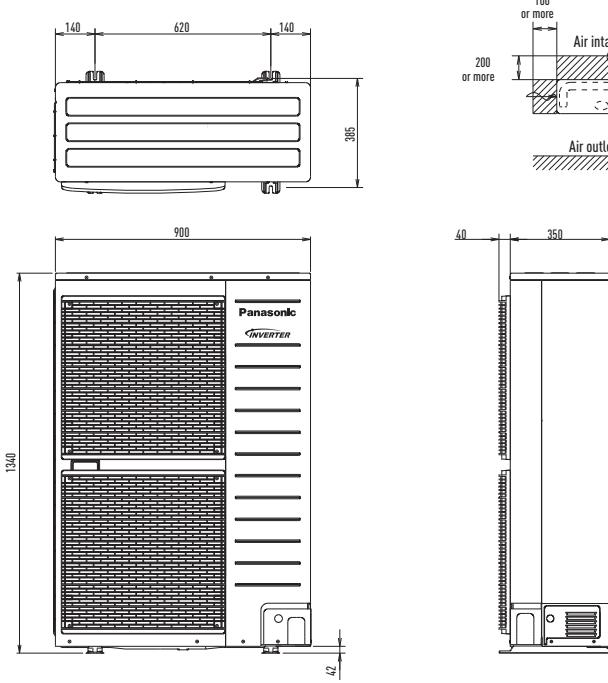
- Cooling Only Model Setting (by jumper line cut)
- Power Save Mode
- Outdoor Unit Silent Operation Mode
- Auto Restart

Field Service & Maintenance

- Pump Down Operation
- Cooling Operation TESTRUN
- Heating Operation TESTRUN
- Automatic Address Resetting
- Self Diagnosis Function (LED display)

Digital Input/Output

- Cooling/Heating Selector
- Demand Control Input (LV1/LV2/LV3)
- Forced STOP Input



TECHNICAL ZOOM

- VERY QUIET OUTDOOR UNITS
- FLEXIBLE INSTALLATION AND EASY SETUP
- EASY TROUBLE CHECK FUNCTION
- SPACE-SAVING DESIGN

8 AND 10 HP, OUTDOOR UNITS

NEW 8 AND 10 HP OUTDOOR UNITS TRIPHASE. EASY TO INSTALL, HIGH PERFORMANCES!

All the models of Panasonic FS Multi series are equipped with DC inverter compressor for the higher energy saving operation. The new design attains the quiet and high-efficient operation and reduces the running cost.



HP MODEL NUMBER	8HP U-8EA1E8	10HP U-10EA1E8		
Power Source	phase V Hz	3φ 380-400-415 50Hz		
Cooling	Capacity Power Input EER Current ¹ Air Volume Sound Pressure Level Sound Power Level Operating Range	kW [Btu/h] W W/W [Btu/h] A m ³ /min [ft ³ /min] dB [A] dB Min. - Max. °C	22.40 [76,500] 6,050 3.70 [12.64] 9.40 150 [5,297] 58/- 78/- -5°C - 43°C	28.00 [95,600] 8,310 3.37 12.80 154 [5,438] 59/- 79/- -5°C - 43°C
Heating	Capacity Power Input COP Current ¹ Air Volume Sound Pressure Level Sound Power Level Operating Range	kW [Btu/h] W W/W [Btu/h] A m ³ /min [ft ³ /min] dB [A] dB Min. - Max. °C	25.00 [85,300] 6,100 4.10 [13.98] 9.40 150 [5,297] 59/- 79/- -20°C - 24°C	31.50 [107,500] 7,860 4.01 12.10 154 [5,438] 60/- 80/- -20°C - 24°C
Connectable Indoor Unit	Total Capacity Model/Qty	50-130% of Outdoor Unit Capacity unit	S-22 ~ S-125 /2 - 13	50-130% of Outdoor Unit Capacity S-22 ~ S-125 /2 - 16
Dimensions	H x W x D	mm inch	1,745×920×760 68-11/16×36-7/32×29-29/32	1,745×920×760 68-11/16×36-7/32×29-29/32
Net Weight		kg [lb]	195 [430]	210 [463]
Piping Connection	Liquid Side Gas Side	mm [inch] mm [inch]	ø9.52 [3/8] 19.05 [4/3]	ø9.52 [3/8] 22.22 [7/8]
Maximum Total Piping Length	Min. - Max. m [ft]		15 - 300 [49.2 - 984.2]	15 - 300 [49.2 - 984.2]
Height Difference (Maximum)	Max m [ft]		50 [164.0]	50 [164.0]
Refrigerant			R410A / 8.5kg	R410A / 11.0kg

GLOBAL REMARKS Rating conditions
Inside air temperature
Outside air temperature

Cooling 27°C DB / 19°C WB	Heating 20°C DB
35°C DB / 24°C WB	7°C DB / 6°C WB

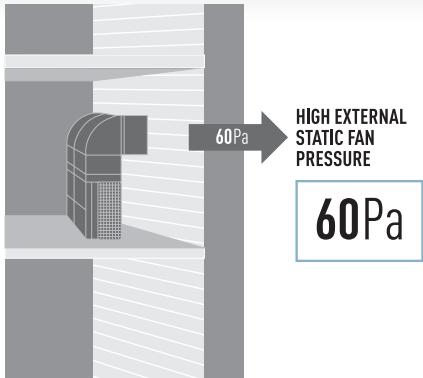
1 These values are at 400V only. For 380V and 415V specifications, please refer to the technical data book.

2 Add 40mm for discharge grille.

DB: Dry Bulb; WB: Wet Bulb

Power	8HP	10HP
Reference	U-8EA1E8	U-10EA1E8
Maximum combination of indoor unit	13	16
Power rates (kW)	11.2 - 22.4 - 29.1	14.0 - 28.0 - 36.4
Power supply (V/Hz)	380 - 415 / 50	380 - 415 / 50

**NEW
2011**



U-8EA1E8 // U-10EA1E8

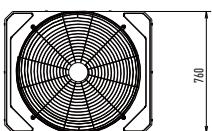
Control Flexibility

- . Cooling/Heating Selector
- . Demand Control Input (LV1/LV2/LV3)
- . Forced STOP Input
- . Cooling Only Model Setting (by jumper line cut)
- . Power Save Mode
- . Outdoor Unit Silent Operation Mode
- . Auto Restart

Field Service & Maintenance

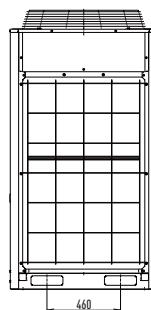
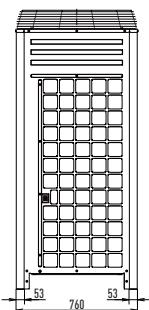
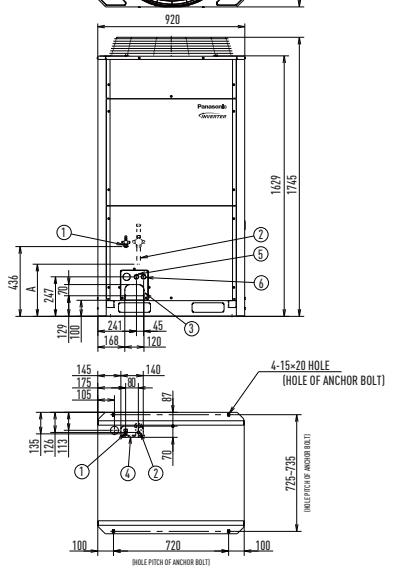
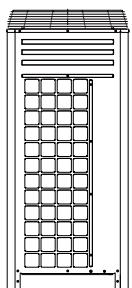
- . Cooling Operation TESTRUN
- . Heating Operation TESTRUN
- . Automatic Adress Resetting
- . Self Diagnosis Function (LED display)

(unit: mm)



10 H.P.	326	9.52 FLARE	22.22 BRAZING
8 H.P.	196*	19.05 BRAZING	
MODEL	A	LIQUID SIDE	GAS SIDE
CONNECTING PIPE			

* DIMENSION WHEN USE THE ACCESSORY PIPE



(①)	CONDUIT HOLE (BUS LINE)
(⑤)	CONDUIT HOLE (POWER CORD)
(④)	PIPE HOLE (BOTTOM)
(③)	PIPE HOLE (FRONT)
(⑦)	3-WAY VALVE (GAS SIDE)
(⑥)	3-WAY VALVE (LIQUID SIDE)
No	APPLICATION

RANGE OF INDOOR UNITS

	REFRIGERANT	0.8HP	1.0HP	1.25HP	1.5HP	1.75HP
Capacity	Cooling	2.2kW/7,500Btu/h	2.8kW/9,600Btu/h	3.2kW/10,900Btu/h	3.6kW/12,300Btu/h	4.5kW/15,400Btu/h
	Heating	2.5kW/8,500Btu/h	3.2kW/10,900Btu/h	3.6kW/12,300Btu/h	4.2kW/14,300Btu/h	5.1kW/17,400Btu/h
WALL-MOUNTED TYPE	White colour R410A					
	Silver colour R410A					
CASSETTE TYPE	R410A					
60X 60 CASSETTE TYPE	R410A					
LOW-SILHOUETTE DUCT TYPE (LOW STATIC PRESSURE TYPE)	R410A					
LOW-SILHOUETTE DUCT TYPE (MID STATIC PRESSURE TYPE)	R410A					

RANGE OF OUTDOOR UNITS

	REFRIGERANT	4.0HP	5.0HP	6.0HP
CAPACITY	Cooling	11.2kW/38,200Btu/h	14.0kW/47,800Btu/h	15.5kW/52,900Btu/h
	Heating	12.5kW/42,700Btu/h	16.0kW/54,600Btu/h	18.0kW/61,400Btu/h
OUTDOOR UNIT	R410A			



2.0HP	2.5HP	3.0HP	3.5HP	4HP	4.5HP
5.6kW/19,100Btu/h	6.3kW/21,500Btu/h	7.1kW/24,200Btu/h	9.0kW/30,700Btu/h	10.0kW	12.5kW
6.4kW/21,800Btu/h	7.1kW/24,200Btu/h	8.0kW/27,300Btu/h	10.0kW/34,100Btu/h	11.2kW	14.0kW



S-56KA1E5



S-63KA1E5



S-71KA1E5



S-63UA1E5



S-71UA1E5



S-90UA1E5



S-100UA1E5



S-125UA1E5



S-56YA1E5



S-63NA1E5



S-56MA1E5



S-63MA1E5



S-71MA1E5



S-90MA1E5



S-100MA1E5



S-125MA1E5



U-8EA1E8



U-10EA1E8

8.0HP	10.0HP
22.4kW/76,000Btu/h	28.0kW/95,000Btu/h
25.0kW	31.5kW

FEATURE COMPARISON

INDOOR UNITS

Model	Indoor Unit	Wall Mounted	60X60 Cassette		
Feature	Remote Controller				
Control Flexibility	24-Hours ON/OFF Real Setting Timer	✗	✗	✗	✗
	Weekly Timer (6-Pattern/Max. 42-Pattern with Temp Setting)	✗		✗	
	Group Control by Single Remote Controller	✗	✗	✗	✗
	Outdoor Unit Silent Operation Mode (3-Level)	✗	✗	✗	✗
	Indoor Unit Thermistor Switching (Indoor Unit or RC)	✗		✗	
	Ventilation Unit Control	✗		✗	
	Digital Input/Output Contact			with CZ-TA31P	with CZ-TA31P
Comfortability	Filter Sign	✗	✗	✗	✗
	Hot Start Control	✗	✗	✗	✗
	Filter	✗	✗	✗	✗
	Super alleru-buster filter (optional)	CZ-SA16P (10 years)	CZ-SA16P (10 years)	CZ-SA13P (3 years)	CZ-SA13P (3 years)
Field Service & Maintenance	Indoor Unit Address Setting	✗	✗	✗	✗
	Outdoor Unit Address Setting	✗	✗	✗	✗
	Indoor Unit Test Run Mode	✗	✗	✗	✗
	Emergency Operation		✗		✗
	Self Diagnosis Function	✗	✗	✗	✗
	Self Diagnosis Records	✗		✗	

OUTDOOR UNITS

Model	Outdoor Unit	4-6 HP	8-10 HP
Control Flexibility	"Cooling Only" Model Setting (Locked)	✗	✗
	Power Save Mode	✗	✗
	Outdoor Unit Silent Operation Mode (3-Level)	✗	✗
	Auto Restart	✗	✗
Field Service & Maintenance	Pump Down Operation	✗	
	Cooling Operation TESTRUN	✗	✗
	Heating Operation TESTRUN	✗	✗
	Automatic Address Resetting	✗	✗
	Self Diagnosis Function	✗ (LED display)	✗ (LED display)
Digital Input/Output	Cooling/Heating Selector (optional)	✗	✗
	Demand Control Input (3 Levels Demand Control Input)	✗	✗
	Forced Stop Input	✗	✗





Cassette	Duct (Low Static Pressure)	Duct (Mid Static Pressure)			
Wired Remote Controller	Infrared Remote Controller	Wired Remote Controller	Infrared Remote Controller	Wired Remote Controller	Infrared Remote Controller
✗	✗	✗	✗	✗	✗
✗		✗		✗	
✗	✗	✗	✗	✗	✗
✗	✗	✗	✗	✗	✗
✗		✗		✗	
✗		✗		✗	
with CZ-TA31P	with CZ-TA31P	with CZ-TA31P	with CZ-TA31P	with CZ-TA31P	with CZ-TA31P
✗	✗	✗	✗	✗	✗
✗	✗	✗	✗	✗	✗
✗	✗	✗	✗		
✗	✗	✗	✗	✗	✗
✗	✗	✗	✗	✗	✗
✗	✗	✗	✗	✗	✗
			✗		✗
✗	✗	✗	✗	✗	✗
✗		✗		✗	

TECHNICAL ZOOM

- FLEXIBLE INSTALLATION
- EFFECTIVE LONG-LIFE FILTER
- SELF DIAGNOSIS FUNCTION WITH 7-SEG CODE DISPLAY

WALL-MOUNTED TYPE // SILVER COLOUR

FS MULTI WALL-MOUNTED TYPE AIR CONDITIONERS HAVE BEEN DESIGNED IN A BEAUTIFUL AND STYLISH WAY. The fresh new horizontal curved form characterizes the air conditioner's new design. The gentle curve at the centre stylishly conceals the complex high-performance mechanisms inside, while thin ends emphasize the air conditioner's slim style. This allows it to blend into the wall in an attractive manner, and to add harmony to virtually any room interior.



	0.8HP	1.0HP	1.5HP	1.75HP		
INDOOR	S-22KA1E5S	S-28KA1E5S	S-36KA1E5S	S-45KA1E5S		
Power Source	phase V Hz	1φ 220-230-240 50 Hz	1φ 220-230-240 50 Hz	1φ 220-230-240 50 Hz		
Cooling	Capacity Power Input Current Air Volume Sound Pressure Level Sound Power Level	kW [Btu/h] W A m³/min [ft³/min] dB [A] dB	2.20 [7,500] 25 0.25 9.5 [335] 38/33 53/48	2.80 [9,600] 27 0.30 9.7 [342] 39/33 54/48	3.60 [12,300] 30 0.35 10.9 [385] 42/34 57/49	4.50 [15,400] 35 0.40 11.3 [399] 43/35 58/50
Heating	Capacity Power Input Current Air Volume Sound Pressure Level Sound Power Level	kW [Btu/h] W A m³/min [ft³/min] dB [A] dB	2.50 [8,500] 25 0.25 10.3 [364] 38/33 53/48	3.20 [10,900] 27 0.30 10.9 [385] 39/33 54/48	4.20 [14,300] 30 0.35 11.6 [409] 42/34 57/49	5.10 [17,400] 35 0.40 12.1 [427] 43/35 58/50
Moisture Removal Volume	L/h [Pt/h]	1.3 [2.7]	1.6 [3.4]	2.1 [4.4]	2.5 [5.3]	
Dimensions	H x W x D	mm inch	290 x 870 x 204 11-7/16 x 34-9/32 x 8-1/16	290 x 870 x 204 11-7/16 x 34-9/32 x 8-1/16	290 x 870 x 204 11-7/16 x 34-9/32 x 8-1/16	
Net Weight	kg [lb]	9 [20]	9 [20]	9 [20]	9 [20]	
Piping Connection	Liquid Side Gas Side	mm [inch] mm [inch]	ø6.35 [1/4] ø12.7 [1/2]	ø6.35 [1/4] ø12.7 [1/2]	ø6.35 [1/4] ø12.7 [1/2]	

GLOBAL REMARKS Rating conditions
Inside air temperature
Outside air temperature

Cooling 27°C DB / 19°C WB 35°C DB / 24°C WB	Heating 20°C DB 7°C DB / 6°C WB
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Before installing in quiet room such as a bedroom, please consult with an authorized distributor.

DB: Dry Bulb; WB: Wet Bulb

FLEXIBLE INSTALLATION

Panasonic wall mounted model, compact and stylish design, is installable in a very limited space, without the feeling of pressure, it can integrate into your stylish room interior.

EFFECTIVE LONG-LIFE FILTER

This long-life filter can trap dust mites, tobacco smoke and other common pollutants effectively. When it catches certain airborne particles, the clean-indicator will remind you to clean. You can remove the filter quickly with a simple one step operation, after cleaning, it can be replaced back.



OPTIONAL ACCESSORIES

SUPER alleru-buster filter - 10 - year filter life

CZ-SA16P
Replacement: every 10 years

SELF DIAGNOSIS FUNCTION WITH 7-SEG CODE DISPLAY

When the air conditioner has trouble the indicator and 7-seg code displays on the panel making it easier for service technicians to diagnose problems.





S-22KA1E5S // S-28KA1E5S // S-36KA1E5S // S-45KA1E5S

Control Flexibility

- 24-Hours ON/OFF Real Setting Timer
- Weekly Timer (Wired Only)
- Group Control by Single Remote Controller
- Outdoor Unit Silent Operation Mode
- Indoor Unit Thermistor Switching (Wired Only)
- Ventilation Unit Control (Wired Only)

Comfortability

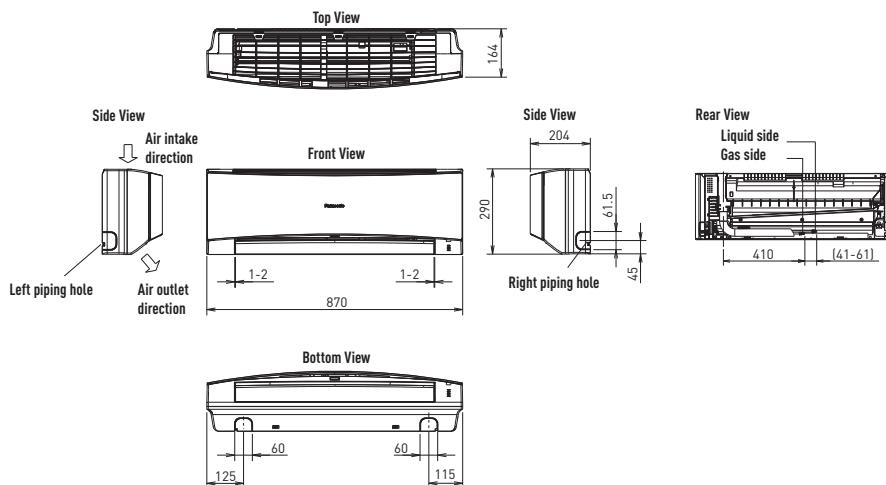
- Filter Sign
- Hot Start Control
- Filter
- Super alleru-buster filter (optional/10-year lifetime)

Field Service & Maintenance

- Indoor Unit Address Setting
- Outdoor Unit Address Setting
- Automatic Address Resetting for Group Control (Wired Only)
- Indoor Unit Test Run Mode
- Emergency Operation (Infrared Only)
- Self Diagnosis Function
- Self Diagnosis Records (Wired Only)

* Wired: Wired Remote Controller / Infrared: Infrared Remote Controller.

0.8HP - 1.75HP MODELS



TECHNICAL ZOOM

- FLEXIBLE INSTALLATION
- EFFECTIVE LONG-LIFE FILTER
- SELF DIAGNOSIS FUNCTION WITH 7-SEG CODE DISPLAY

WALL-MOUNTED TYPE // WHITE COLOUR //
WHITE COLOUR -WIDE TYPE-

FS MULTI WALL-MOUNTED TYPE AIR CONDITIONERS HAVE BEEN DESIGNED IN A BEAUTIFUL AND STYLISH WAY. The fresh new horizontal curved form characterizes the air conditioner's new design. The gentle curve at the centre stylishly conceals the complex high-performance mechanisms inside, while thin ends emphasize the air conditioner's slim style. This allows it to blend into the wall in an attractive manner, and to add harmony to virtually any room interior.



		0.8HP	1.0HP	1.5HP	1.75HP	2.0HP	2.5HP	3.0HP
Indoor		S-22KA1E5	S-28KA1E5	S-36KA1E5	S-45KA1E5	S-56KA1E5	S-63KA1E5	S-71KA1E5
Power Source	phase	1φ	1φ	1φ	1φ	1φ	1φ	1φ
	V	220-230-240	220-230-240	220-230-240	220-230-240	220-230-240	220-230-240	220-230-240
	Hz	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz
Cooling	Capacity	kW [Btu/h]	2.20 [7,500]	2.80 [9,600]	3.60 [12,300]	4.50 [15,400]	5.60 [19,100]	6.30 [21,500]
	Power Input	W	25	27	30	35	45	50
	Current	A	0.25	0.30	0.35	0.40	0.45	0.50
	Air Volume	Hi	m³/min [ft³/min]	9.5 [335]	9.7 [342]	10.9 [385]	11.3 [399]	15.3 [540]
	Sound Pressure Level	Hi/Lo	dB [A]	38/33	39/33	42/34	43/35	44/38
	Sound Power Level	Hi/Lo	dB	53/48	54/48	57/49	58/50	59/53
Heating	Capacity	kW [Btu/h]	2.50 [8,500]	3.20 [10,900]	4.20 [14,300]	5.10 [17,400]	6.40 [21,800]	7.10 [24,200]
	Power Input	W	25	27	30	35	45	50
	Current	A	0.25	0.30	0.35	0.40	0.45	0.50
	Air Volume	Hi	m³/min [ft³/min]	10.3 [364]	10.9 [385]	11.6 [409]	12.1 [427]	16.7 [590]
	Sound Pressure Level	Hi/Lo	dB [A]	38/33	39/33	42/34	43/35	44/38
	Sound Power Level	Hi/Lo	dB	53/48	54/48	57/49	58/50	59/53
Moisture Removal Volume		L/h [Pt/h]	1.3 [2.7]	1.6 [3.4]	2.1 [4.4]	2.5 [5.3]	3.2 [6.7]	3.6 [7.6]
Dimensions	H x W x D	mm	290 x 870 x 204	290 x 870 x 204	290 x 870 x 204	290 x 1,070 x 235	290 x 1,070 x 235	290 x 1,070 x 235
		inch	11-7/16 x 34-9/32 x 8-1/16	11-7/16 x 34-9/32 x 8-1/16	11-7/16 x 34-9/32 x 8-1/16	11-7/16 x 42-5/32 x 9-9/32	11-7/16 x 42-5/32 x 9-9/32	11-7/16 x 42-5/32 x 9-9/32
Net Weight		kg [lb]	9 [20]	9 [20]	9 [20]	11 [24]	12 [26]	12 [26]
Piping Connection	Liquid Side	mm [inch]	ø6.35 [1/4]					
	Gas Side	mm [inch]	ø12.7 [1/2]	ø15.88 [5/8]				

GLOBAL REMARKS Rating conditions
Inside air temperature
Outside air temperature

Cooling
27°C DB / 19°C WB
35°C DB / 24°C WB

Before installing in quiet room such as a bedroom, please consult with an authorized distributor.

DB: Dry Bulb; WB: Wet Bulb

FLEXIBLE INSTALLATION

Panasonic wall mounted model, compact and stylish design, is installable in a very limited space, without the feeling of pressure, it can integrate into your stylish room interior.

EFFECTIVE LONG-LIFE FILTER

This long-life filter can trap dust mites, tobacco smoke and other common pollutants effectively. When it catches certain airborne particles, the clean-indicator will remind you to clean. You can remove the filter quickly with a simple one step operation, after cleaning, it can be replaced back.



OPTIONAL ACCESSORIES

SUPER alleru-buster filter - 10 - year filter life

CZ-SA16P
Replacement: every 10 years

SELF DIAGNOSIS FUNCTION WITH 7-SEG CODE DISPLAY

When the air conditioner has trouble the indicator and 7-seg code displays on the panel making it easier for service technicians to diagnose problems.





WHITE COLOUR -WIDE TYPE-



WHITE COLOUR

S-22KA1E5 // S-28KA1E5 // S-36KA1E5 // S-45KA1E5 // S-56KA1E5 // S-63KA1E5 // S-71KA1E5

Control Flexibility

- 24-Hours ON/OFF Real Setting Timer
- Weekly Timer (Wired Only)
- Group Control by Single Remote Controller
- Outdoor Unit Silent Operation Mode
- Indoor Unit Thermistor Switching (Wired Only)
- Ventilation Unit Control (Wired Only)

Comfortability

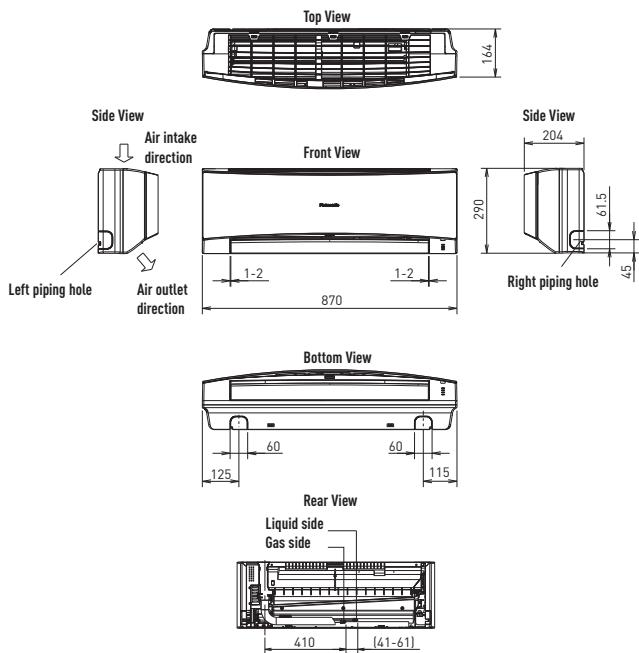
- Filter Sign
- Hot Start Control
- Filter
- Super alleru-buster filter (optional/10-year lifetime)

Field Service & Maintenance

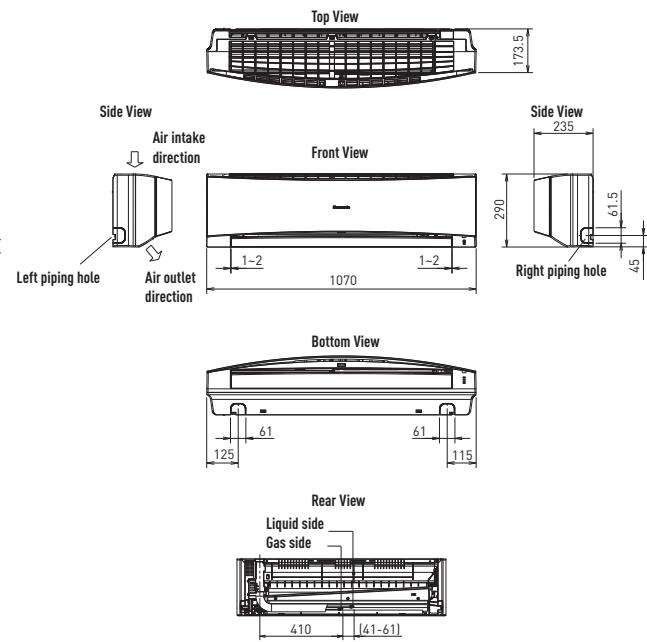
- Indoor Unit Address Setting
- Outdoor Unit Address Setting
- Automatic Address Resetting for Group Control (Wired Only)
- Indoor Unit Test Run Mode
- Emergency Operation (Infrared Only)
- Self Diagnosis Function
- Self Diagnosis Records (Wired Only)

* Wired: Wired Remote Controller / Infrared: Infrared Remote Controller.

0.8HP - 1.75HP MODELS



2HP - 3HP MODELS



TECHNICAL ZOOM

- COMPACT DESIGN ALLOWS SPACE SAVING!
- SELF DIAGNOSIS FUNCTION WITH 7-SEG CODE DISPLAY
- ONLY 260 mm THIN
- 750 mm DRAIN-UP MECHANISM
- ANTI-MOULD LONG-LIFE AIR FILTER

CASSETTE (60X60) TYPE

4-WAY AIRFLOW COMFORT WITH ELEGANT, COMPACT PANEL

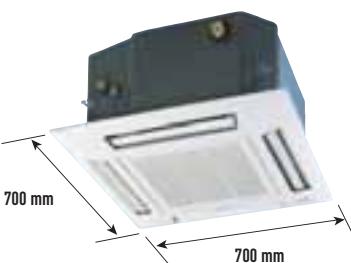


	0.8HP	1.0HP	1.5HP	1.75HP	2.0HP		
INDOOR Panel	S-22YA1E5 CZ-KPY1	S-28YA1E5 CZ-KPY1	S-36YA1E5 CZ-KPY1	S-45YA1E5 CZ-KPY1	S-56YA1E5 CZ-KPY1		
Power Source	phase V Hz	1φ 220-230-240 50Hz	1φ 220-230-240 50Hz	1φ 220-230-240 50Hz	1φ 220-230-240 50Hz		
Cooling	Capacity Power Input Current Air Volume Sound Pressure Level Sound Power Level	kW [Btu/h] W A m³/min [ft³/min] dB [A] dB [A]	2.20 [7,500] 35 0.30 8.3 [293] 36/33 51/48	2.80 [9,600] 35 0.30 8.6 [304] 37/33 52/48	3.60 [12,300] 40 0.35 9.0 [318] 38/34 53/49	4.50 [15,400] 40 0.35 9.3 [328] 39/35 54/50	5.60 [19,100] 45 0.35 9.9 [349] 40/36 55/51
Heating	Capacity Power Input Current Air Volume Sound Pressure Level Sound Power Level	kW [Btu/h] W A m³/min [ft³/min] dB [A] dB [A]	2.50 [8,500] 35 0.30 9.3 [328] 36/33 51/48	3.20 [10,900] 35 0.30 9.6 [339] 37/33 52/48	4.20 [14,300] 40 0.35 9.9 [349] 38/34 53/49	5.10 [17,400] 40 0.35 10.3 [364] 39/35 54/50	6.40 [21,800] 45 0.35 10.6 [374] 40/36 55/51
Moisture Removal Volume	L/h [Pt/h]	1.3 [2.7]	1.6 [3.4]	2.1 [4.4]	2.5 [5.3]	3.2 [6.7]	
Dimensions (H x W x D)	Indoor unit Panel	mm inch	260 x 575 x 575 10-1/4 x 22-21/32 x 22-21/32	260 x 575 x 575 10-1/4 x 22-21/32 x 22-21/32	260 x 575 x 575 10-1/4 x 22-21/32 x 22-21/32	260 x 575 x 575 101/4 x 22-21/32 x 22-21/32	
Net Weight	kg [lb]	18 [40]	18 [40]	18 [40]	18 [40]	18 [40]	
Piping Connection	Liquid Side Gas Side	mm [inch] mm [inch]	ø6.35 [1/4] ø12.7 [1/2]	ø6.35 [1/4] ø12.7 [1/2]	ø6.35 [1/4] ø12.7 [1/2]	ø6.35 [1/4] ø12.7 [1/2]	
GLOBAL REMARKS	Rating conditions Inside air temperature Outside air temperature	Cooling 27°C DB / 19°C WB 35°C DB / 24°C WB	Heating 20°C DB 7°C DB / 6°C WB				

DB: Dry Bulb, WB: Wet Bulb

COMPACT DESIGN ALLOWS SPACE SAVING!

The panel is a compact 70x70cm so it can be installed even in a small room where space is limited. The ceiling space required is 65x65cm.

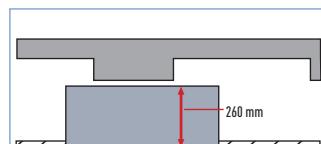


SELF DIAGNOSIS FUNCTION WITH 7-SEG CODE DISPLAY

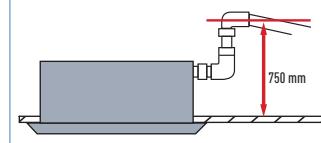
When the air conditioner has trouble the indicator and 7-seg code displays on the panel making it easier for service technicians to diagnose problems.



ONLY 260 MM THIN AND 750 MM DRAIN-UP MECHANISM



With only 260mm high body, fitting easily in ceiling spaces and tight spots.



The internal pump allows the drain line to be elevated up to 750 mm above the base of the unit.

ANTI-MOULD LONG-LIFE AIR FILTER



* For optimum comfort, we recommend cleaning the air filter every 1.5 months.

OPTIONAL ACCESSORIES



SUPER alleru-buster filter
CZ-SA13P
Replacement: every 3 years



S-22YA1E5 // S-28YA1E5 // S-36YA1E5 // S-45YA1E5 // S-56YA1E5

Control Flexibility

- 24-Hours ON/OFF Real Setting Timer
- Weekly Timer (Wired Only)
- Group Control by Single Remote Controller
- Outdoor Unit Silent Operation Mode
- Indoor Unit Thermistor Switching (Wired Only)
- Ventilation Unit Control (Wired Only)
- Digital Input/Output Contact - with CZ-TA31P (Optional)

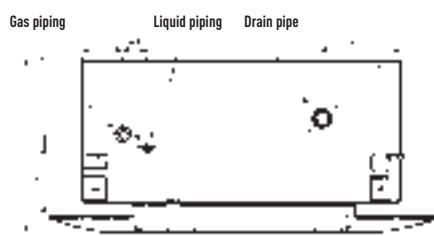
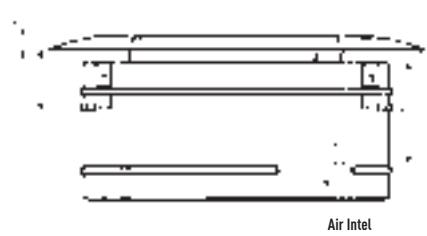
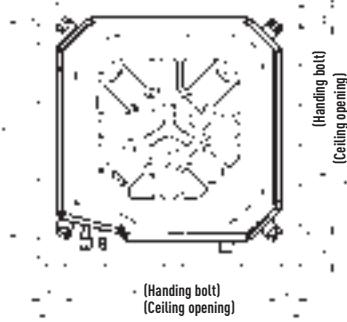
Comfortability

- Filter Sign
- Mildew-Proofing Drain pan
- Hot Start Control
- Filter
- Super alleru-buster filter (optional/3-year lifetime)

Field Service & Maintenance

- Indoor Unit Address Setting
- Outdoor Unit Address Setting
- Automatic Address Resetting for Group Control (Wired Only)
- Indoor Unit Test Run Mode
- Emergency Operation (Infrared Only)
- Self Diagnosis Function
- Self Diagnosis Records (Wired Only)

* Wired: Wired Remote Controller / Infrared: Infrared Remote Controller.



TECHNICAL ZOOM

- SELF DIAGNOSIS FUNCTION WITH 7-SEG CODE DISPLAY
- ONLY 246 mm THIN
- 750 mm DRAIN-UP MECHANISM
- ELEGANT PANEL, 4-DIRECTION BLOW
- THREE AIRFLOW PATTERNS FOR EXTRA COMFORT
- FLEXIBLE PIPING LAYOUT
- ANTI-MOULD LONG-LIFE AIR FILTER
- INNOVATIVE DESIGN CREATES EXTRA QUIET OPERATION

CASSETTE TYPE (90X90)

4-WAY AIRFLOW, POWERFUL, AND COMPACT (ONLY 246CM HIGH)



		2.5HP S-63UA1E5	3.0HP S-71UA1E5	3.5HP S-90UA1E5	4.0HP S-100UA1E5	4.5HP S-125UA1E5
INDOOR	Panel	CZ-BT03P	CZ-BT03P	CZ-BT03P	CZ-BT03P	CZ-BT03P
Power Source	phase	1φ	1φ	1φ	1φ	1φ
	V	220-230-240	220-230-240	220-230-240	220-230-240	220-230-240
	Hz	50Hz	50Hz	50Hz	50Hz	50Hz
Cooling	Capacity	kW [Btu/h]	6.30 [21,500]	7.10 [24,200]	9.00 [30,700]	10.00 [34,100]
	Power Input ¹	W	110	115	115	205
	Current ¹	A	0.50	0.55	0.55	1.05
	Air Volume	Hi	m ³ /min [ft ³ /min]	21 [741]	22 [777]	22 [777]
	Sound Pressure Level ¹	Hi/Lo	dB [A]	41/35	42/36	42/36
	Sound Power Level ¹	Hi/Lo	dB	56/50	57/51	57/51
Heating	Capacity	kW [Btu/h]	7.10 [24,200]	8.00 [27,300]	10.00 [34,100]	11.20 [38,200]
	Power Input ¹	W	110	115	115	205
	Current ¹	A	0.50	0.55	0.55	1.05
	Air Volume	Hi	m ³ /min [ft ³ /min]	21 [741]	22 [777]	22 [777]
	Sound Pressure Level ¹	Hi/Lo	dB [A]	41/35	42/36	42/36
	Sound Power Level ¹	Hi/Lo	dB	56/50	57/51	57/51
Moisture Removal Volume		L/h [Pt/h]	3.6 [7.6]	4.2 [8.8]	5.4 [11.3]	6.0 [12.6]
Dimensions (H x W x D)	Indoor unit	mm	246 x 840 x 840	246 x 840 x 840	246 x 840 x 840	288x840x840
		inch	9-11/16 x 33-1/16 x 33-1/16	9-11/16 x 33-1/16 x 33-1/16	9-11/16 x 33-1/16 x 33-1/16	11-11/32x33-1/16x33-1/16
	Panel	mm	45x950x950	45x950x950	45x950x950	11-11/32x33-1/16x33-1/16
Net Weight		kg [lb]	26 [57]	26 [57]	26 [57]	30 [66]
Piping Connection	Liquid Side	mm [inch]	ø6.35 [1/4]	ø9.52 [3/8]	ø9.52 [3/8]	ø9.52 [3/8]
	Gas Side	mm [inch]	ø12.7 [1/2]	ø15.88 [5/8]	ø15.88 [5/8]	ø15.88 [5/8]

GLOBAL REMARKS Rating conditions
Inside air temperature
Outside air temperature

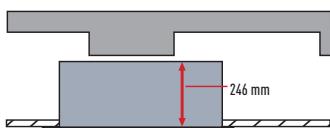
Cooling
27°C DB / 19°C WB
35°C DB / 24°C WB

Heating
20°C DB
7°C DB / 6°C WB

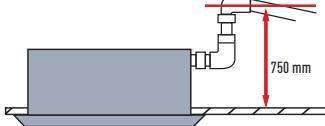
¹ These values are at 230V only. For 220V and 240V specifications, please refer to the technical data book.

DB: Dry Bulb; WB: Wet Bulb

ONLY 246 mm THIN AND 750 mm DRAIN-UP MECHANISM



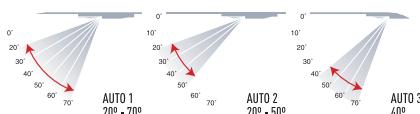
With only 246 mm high body, fitting easily in ceiling spaces and tight spots.



The internal pump allows the drain line to be elevated up to 750 mm above the base of the unit.

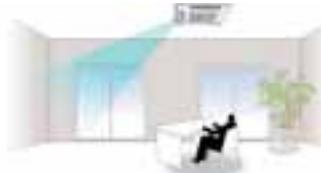
THREE AIRFLOW PATTERNS FOR EXTRA COMFORT

- Multi-Comfort Air Control



ELEGANT PANEL, 4-DIRECTION BLOW

The thin and delicate body can be totally hidden in the ceiling, only leaving its elegant panel outside to decorate your room. The 4-direction blow can deliver airflows evenly throughout the room, eliminating the temperature difference.



FLEXIBLE PIPING LAYOUT

Drainpipe and refrigerant pipe distributed on the different sides of the unit, giving more flexibility of piping layout. Its excellent inside heat-protection material effectively avoids frost and water-leakage, and reduces the damage possibility in the transportation.



SELF DIAGNOSIS FUNCTION WITH 7-SEG CODE DISPLAY

When the air conditioner has trouble the indicator and 7-seg code displays on the panel making it easier for service technicians to diagnose problems.



INNOVATIVE DESIGN CREATES EXTRA QUIET OPERATION



More Denoising Material
Adopting denoising material inside, improving the seal quality to isolate and reduce the operation noises.



S-63UA1E5 // S-71UA1E5 // S-90UA1E5 // S-100UA1E5 // S-125UA1E5

Control Flexibility

- 24-Hours ON/OFF Real Setting Timer
- Weekly Timer (Wired Only)
- Group Control by Single Remote Controller
- Outdoor Unit Silent Operation Mode
- Indoor Unit Thermistor Switching (Wired Only)
- Ventilation Unit Control (Wired Only)
- Digital Input/Output Contact - with CZ-TA31P (Optional)

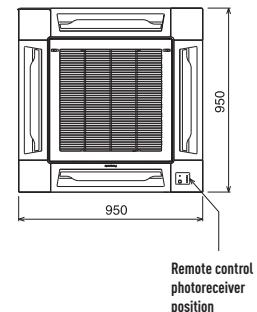
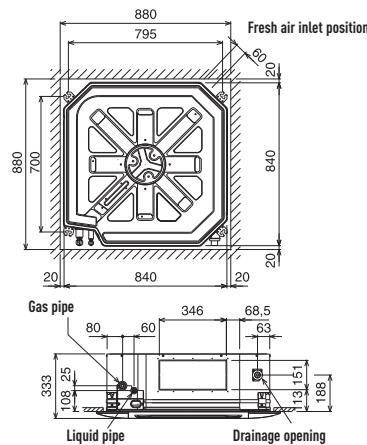
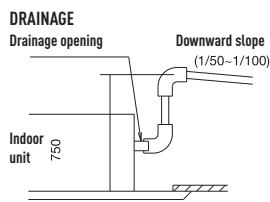
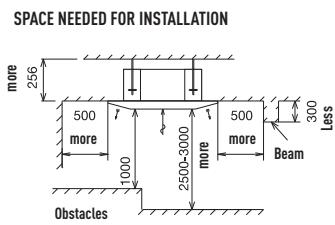
Comfortability

- Filter Sign
- Mildew-Proofing Drain pan
- Hot Start Control
- Filter

Field Service & Maintenance

- Indoor Unit Address Setting
- Outdoor Unit Address Setting
- Automatic Address Resetting for Group Control (Wired Only)
- Indoor Unit Test Run Mode
- Emergency Operation (Infrared Only)
- Self Diagnosis Function
- Self Diagnosis Records (Wired Only)

* Wired: Wired Remote Controller / Infrared: Infrared Remote Controller.



TECHNICAL ZOOM

- ULTRA-THIN, DUCT-TYPE INDOOR UNIT
- ULTRA-THIN 20 cm DESIGN: FITS IN EVEN WHERE CEILING HEIGHT IS LIMITED
- BUILT-IN SELECTABLE STATIC PRESSURE SETTINGS
- THOROUGHLY CONSIDERED CONNECTING FLANGE DESIGN

LOW-SILHOUETTE // DUCT TYPE //
LOW STATIC PRESSURE TYPE

OFFERS MAXIMUM INSTALLATION FLEXIBILITY WITH SLIM, LIGHTWEIGHT DESIGN (WITH ONLY 200MM HIGH!) IDEAL FOR HOTELS AND OFFICES.



		0.8HP	1.0HP	1.25HP	1.5HP	1.75HP	2.0HP
INDOOR		S-22NA1E5	S-28NA1E5	S-32NA1E5	S-36NA1E5	S-45NA1E5	S-56NA1E5
Power Source	phase	1φ	1φ	1φ	1φ	1φ	1φ
	V	220-230-240	220-230-240	220-230-240	220-230-240	220-230-240	220-230-240
	Hz	50Hz	50Hz	50Hz	50Hz	50Hz	50Hz
Cooling	Capacity	kW [Btu/h]	2.20 [7,500]	2.80 [9,600]	3.20 [10,900]	3.60 [12,300]	4.50 [15,400]
	Power Input ¹	W	75	80	85	85	95
	Current ¹	A	0.40	0.45	0.45	0.45	0.50
	Air Volume	Hi m ³ /min [ft ³ /min]	10 [353]	11 [388]	11 [388]	11 [388]	12 [424]
	Sound Pressure Level ¹	Hi/Lo dB [A]	36/30	37/30	38/31	38/31	39/32
	Sound Power Level ¹	Hi/Lo dB	51/45	52/45	53/46	53/46	54/47
Heating	Capacity	kW [Btu/h]	2.50 [8,500]	3.20 [10,900]	3.60 [12,300]	4.20 [14,300]	5.10 [17,400]
	Power Input ¹	W	75	80	85	85	95
	Current ¹	A	0.40	0.45	0.45	0.45	0.50
	Air Volume	Hi m ³ /min [ft ³ /min]	10 [353]	11 [388]	11 [388]	11 [388]	12 [424]
	Sound Pressure Level ¹	Hi/Lo dB [A]	36/30	37/30	38/31	38/31	39/32
	Sound Power Level ¹	Hi/Lo dB	51/45	52/45	53/46	53/46	54/47
Moisture Removal Volume	L/h [Pt/h]	1.3 [2.7]	1.6 [3.4]	1.8 [3.8]	2.1 [4.4]	2.5 [5.3]	3.2 [6.7]
External Static Pressure ²	Pa [mmAq]	0/29 [0/3]	0/29 [0/3]	0/29 [0/3]	0/29 [0/3]	0/29 [0/3]	0/29 [0/3]
Dimensions	H x W x D	mm	200 x 900 x 550				
		inch	7-7/8 x 35-7/16 x 21-21/32				
Net Weight	kg [lb]	21 [46]	21 [46]	22 [48]	22 [48]	22 [48]	22 [48]
Piping Connection	Liquid Side	mm [inch]	ø6.35 [1/4]				
	Gas Side	mm [inch]	12.7 [1/2]	12.7 [1/2]	12.7 [1/2]	12.7 [1/2]	12.7 [1/2]

GLOBAL REMARKS Rating conditions
Inside air temperature
Outside air temperature

Cooling Heating
27°C DB / 19°C WB 20°C DB
35°C DB / 24°C WB 7°C DB / 6°C WB

1 These values are at 230 V only. For 220 V and 240 V specifications, please refer to the technical data book.

2 The external static pressure is set to 0pa at factory default setting.

DB: Dry Bulb; WB: Wet Bulb

ULTRA-THIN, DUCT-TYPE INDOOR UNIT

The slim design of this ultra-thin, duct-type indoor unit is especially suited for rooms with partially or minimally dropped ceilings. Its space-saving design contributes to a brighter and more spacious living environment.

ULTRA-THIN 20 cm DESIGN: FITS IN EVEN WHERE CEILING HEIGHT IS LIMITED

Even where ceiling height is limited, the indoor units effectively fit in and provide a more spacious feel in most suspended ceiling situations. Occupying only 20 cm of vertical space and projecting only 55 cm, the unit can be installed in semi-dropped ceiling situations, thus helping to create spacious and comfortable surroundings.

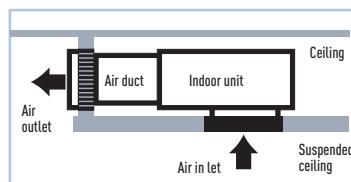


Dropped Ceiling Effect

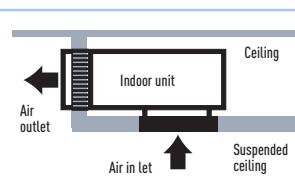
BUILT-IN SELECTABLE STATIC PRESSURE SETTINGS

Our ultra thin duct-type indoor units have two static pressure settings: 0 Pa and 29 Pa. In situations without ducting, the 0 Pa* static pressure setting is applicable. Where ducting is present, set the unit to 29 Pa* static pressure.

*0 Pa is the default setting. 29 Pa must be selected if required.



Installation Diagram for
29 Pa Setting



Installation Diagram for
0 Pa Setting

THOROUGHLY CONSIDERED CONNECTING FLANGE DESIGN

The addition of air duct connecting flanges on the indoor unit enables easy connection to short air ducts. Thus flange design both greatly simplifies installation and makes it easy to effectively seal the air duct.



S-22NA1E5 // S-28NA1E5 // S-32NA1E5 // S-36NA1E5 // S-45NA1E5 // S-56NA1E5

Control Flexibility

- 24-Hours ON/OFF Real Setting Timer
- Weekly Timer (Wired Only)
- Group Control by Single Remote Controller
- Outdoor Unit Silent Operation Mode
- Indoor Unit Thermistor Switching (Wired Only)
- Ventilation Unit Control (Wired Only)
- Digital Input/Output Contact - with CZ-TA31P (Optional)

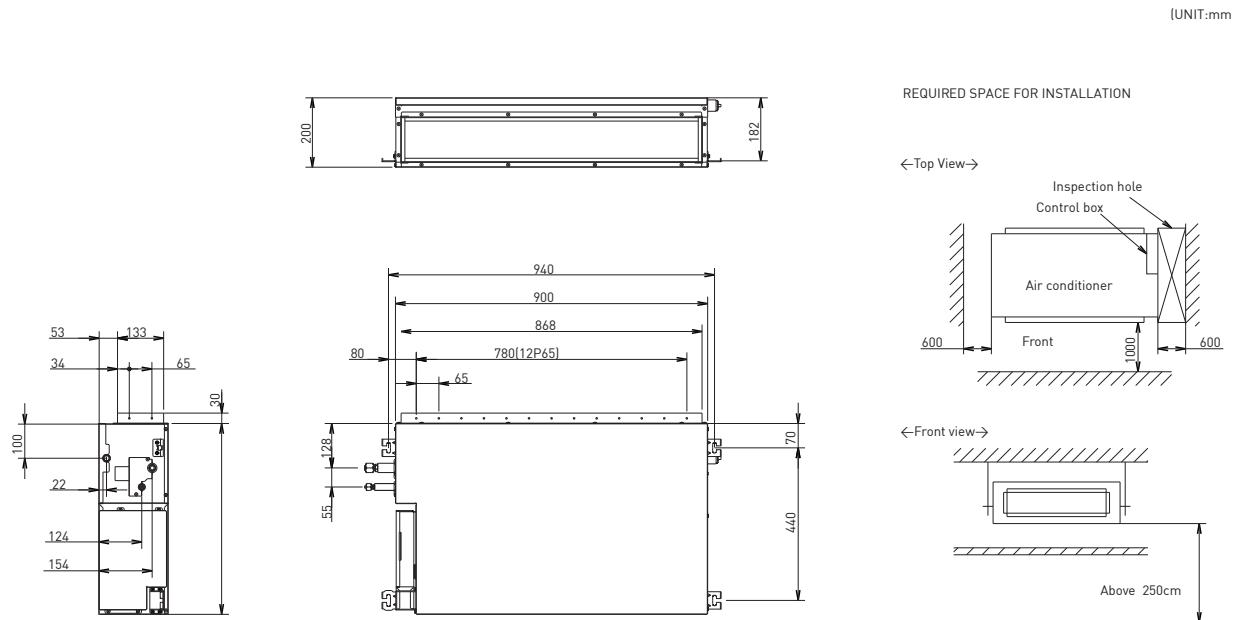
Comfortability

- Filter Sign
- Hot Start Control

Field Service & Maintenance

- Indoor Unit Address Setting
- Outdoor Unit Address Setting
- Automatic Address Resetting for Group Control (Wired Only)
- Indoor Unit Test Run Mode
- Emergency Operation (Infrared Only)
- Self Diagnosis Function
- Self Diagnosis Records (Wired Only)

* Wired: Wired Remote Controller / Infrared: Infrared Remote Controller.



SCALE 1:10

TECHNICAL ZOOM

- COMPACT, LIGHTWEIGHT DESIGN FOR EASY INSTALLATION
- 3-WAY REMOVABLE AIR FILTER
- VERSATILE AIR INLET AND DRAIN INSTALLATION
- STATIC PRESSURE SELECTION

LOW-SILHOUETTE // DUCT TYPE //MID STATIC PRESSURE TYPE

DUCT TYPE WITH A MAXIMUM OF 7MMAQ OF STATIC PRESSURE WITH A HIGH OF 250MM. COMPACT AND POWERFUL!



		1.75 HP	2.0 HP	2.5 HP	3.0 HP	3.5 HP	4.0HP	4.5HP
INDOOR		S-45MA1E5	S-56MA1E5	S-63MA1E5	S-71MA1E5	S-90MA1E5	S-100MA1E5	S-125MA1E5
Power Source	phase	1ø	1ø	1ø	1ø	1ø	1ø	1ø
	V	220-230-240	220-230-240	220-230-240	220-230-240	220-230-240	220-230-240	220-230-240
	Hz	50Hz	50Hz	50Hz	50Hz	50Hz	50Hz	50Hz
Cooling	Capacity	kW [Btu/h]	4.50 [15,400]	5.60 [19,100]	6.30 [21,500]	7.10 [24,200]	9.00 [30,700]	10.00 [34,100]
	Power Input ¹	W	135	135	135	135	175	300
	Current ¹	A	0.60	0.60	0.60	0.60	0.80	1.35
	Air Volume	Hi	m ³ /min [ft ³ /min]	15 [530]	15 [530]	17 [600]	17 [600]	19 [671]
	Sound Pressure Level ¹	Hi/Lo	dB [A]	42/35	42/35	43/36	43/36	34 [1,201]
	Sound Power Level ¹	Hi/Lo	dB	57/50	57/50	58/51	58/51	47/43
Heating	Capacity	kW [Btu/h]	5.10 [17,400]	6.40 [21,800]	7.10 [24,200]	8.00 [27,300]	10.00 [34,100]	11.20 [38,200]
	Power Input ¹	W	135	135	135	135	175	300
	Current ¹	A	0.60	0.60	0.60	0.60	0.80	1.35
	Air Volume	Hi	m ³ /min [ft ³ /min]	15 [530]	15 [530]	17 [600]	17 [600]	19 [671]
	Sound Pressure Level ¹	Hi/Lo	dB [A]	42/35	42/35	43/36	43/36	34 [1,201]
	Sound Power Level ¹	Hi/Lo	dB	57/50	57/50	58/51	58/51	47/43
	Moisture Removal Volume	L/h [Pt/h]	2.5 [5.3]	3.2 [6.7]	3.6 [7.6]	4.2 [8.8]	5.4 [11.3]	6.0 [12.6]
	External Static Pressure ²	Pa [mmAq]	49/69 [5/7]	49/69 [5/7]	49/69 [5/7]	49/69 [5/7]	49/69 [5/7]	49/69 [5/7]
Dimensions	H x W x D	mm	250×780(+100) ³ ×650	250×780(+100) ³ ×650	250×1,000(+100) ³ ×650	250×1,000(+100) ³ ×650	250×1,000(+100) ³ ×650	250×1,200(+100) ³ ×650
		inch	9-27/32×30-23/32(3+ 15/16)×25-19/32	9-27/32×30-23/32(3+ 15/16)×25-19/32	9-27/32×39-3/8(3+ 15/16)×25-19/32	9-27/32×39-3/8(3+ 15/16)×25-19/32	9-27/32×47-1/4(3+ 15/16)×25-19/32	9-27/32×47-1/4(3+15/16) ×25-19/32
Net Weight		kg[lb]	28 [62]	28 [62]	32 [71]	32 [71]	32 [71]	41 [90]
Piping Connection	Liquid Side	mm [inch]	ø6.35 [1/4]	ø6.35 [1/4]	ø6.35 [1/4]	ø9.52 [3/8]	ø9.52 [3/8]	ø9.52 [3/8]
	Gas Side	mm [inch]	12.7 [1/2]	12.7 [1/2]	12.7 [1/2]	15.88 [5/8]	15.88 [5/8]	15.88 [5/8]

GLOBAL REMARKS Rating conditions
Inside air temperature
Outside air temperature

Cooling
27°C DB / 19°C WB
35°C DB / 24°C WB

Heating
20°C DB
7°C DB / 6°C WB

1 These values are at 230 V only. For 220 V and 240 V specifications, please refer to the technical data book.

2 The external static pressure is set to 49 Pa at factory default setting.

3 Add 100 mm for piping port.

DB: Dry Bulb; WB: Wet Bulb

COMPACT, LIGHTWEIGHT DESIGN FOR EASY INSTALLATION

Thin and only 250 mm high, with a slim width. This compact unit fits easily in limited spaces. The lightweight and small size also make it easier to transport and install.



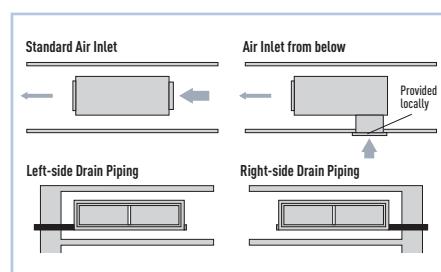
* Add 100 mm for power supply equipment.

VERSATILE AIR INLET AND DRAIN INSTALLATION

The mounting locations for the air inlet and drain outlet can be changed as desired for easy, flexible system layout and installation.

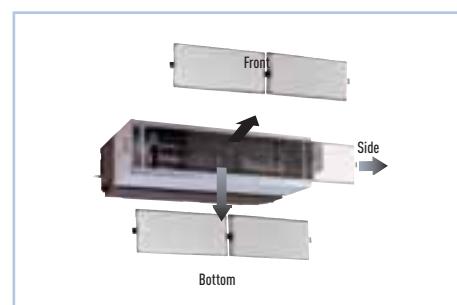
STATIC PRESSURE SELECTION

The static pressure is selectable from 5 or 7 mmAq according to the condition of the duct. For short ducts, the lower pressure of 5 mmAq provides efficient operation.



3-WAY REMOVABLE AIR FILTER

The air filter can be slide in-out in three directions even after duct installation for easier maintenance.





S-45MA1E5 // S-56MA1E5 // S-63MA1E5 // S-71MA1E5 // S-90MA1E5 S-100MA1E5 // S-125MA1E5

Control Flexibility

- 24-Hours ON/OFF Real Setting Timer
- Weekly Timer (Wired Only)
- Group Control by Single Remote Controller
- Outdoor Unit Silent Operation Mode
- Indoor Unit Thermistor Switching (Wired Only)
- Ventilation Unit Control (Wired Only)
- Digital Input/Output Contact - with CZ-TA31P (Optional)

Comfortability

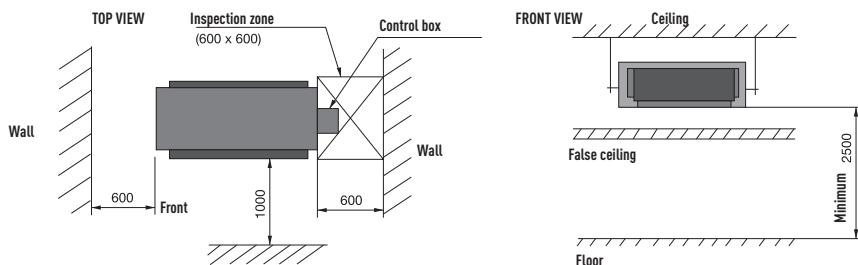
- Filter Sign
- Hot Start Control
- Filter

Field Service & Maintenance

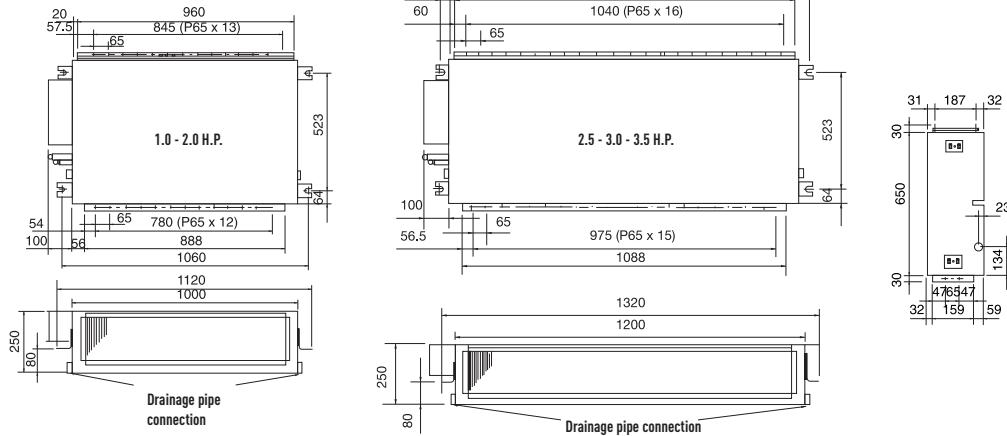
- Indoor Unit Address Setting
- Outdoor Unit Address Setting
- Automatic Address Resetting for Group Control (Wired Only)
- Indoor Unit Test Run Mode
- Emergency Operation (Infrared Only)
- Self Diagnosis Function
- Self Diagnosis Records (Wired Only)

* Wired: Wired Remote Controller / Infrared: Infrared Remote Controller.

SPACE NEEDED FOR INSTALLATION



INDOOR UNIT DIMENSIONS



NEW
2011

THE NEW PANASONIC INDUSTRIAL ECOi VRF SYSTEM (FROM 8 HP TO 60 HP). PROFESSIONAL SOLUTIONS FOR ALL TYPES OF PROJECTS

ECOi SERIES

The new Panasonic VRF ECOi series is specifically designed for energy saving, easy installation and high efficiency performance, with a wide choice of outdoor and indoor unit models and unique features which are designed for the most demanding offices and big buildings.

The range of outdoor unit modules consists of 7 models from 8 HP to 20 HP. The module sizes from 10 HP to 16 HP can be configured for HI-COP.

Standard mode offers the highest capacity while still delivering excellent efficiency, while HI-COP mode delivers exceptional efficiency and low running costs with a slight reduction in capacity.

Up to 64 indoor units can be connected up to a capacity of 200% indexed indoor unit loads, enabling the system to be used effectively on highly diversified building loads: this large connectability feature makes it an easy-to-design solution for schools, hotels, hospitals and other large buildings. Up to 1.000 m in pipe length enables the New VRF ECOi series to be used in very large buildings, with maximum design flexibility.

The ECOi system is also easy to control. It has more than 8 types of control from standard wired remote controls to touch screen panels or web access interface.





BENEFITS

Ease of installation

R410A has a higher operating pressure with a lower pressure loss than previous refrigerants. This enables smaller pipe sizes to be used and allows reduced refrigerant charges.

Simple to design

Panasonic recognise that designing, selecting and preparing a professional VRF quotation can be a time consuming and costly process, especially as it is often also a speculative exercise. So we have designed proprietary software which is quick and easy to use and produces a full schematic layout of pipework and controls, as well as a full materials list and performance data.

Easy to control

A wide variety of control options are available to ensure that the ECOi system provides the user with the degree of control that they desire, from simple room controllers through to state of the art BMS controls.

Simple to commission

Simple set-up procedure including automatic addressing of connected indoor units. Configuration settings can be made from an outdoor unit or via a remote controller.

Accurate capacity control

To ensure that the compressor capacity is matched to building load as accurately and efficiently as possible, Panasonic has designed its range of 2 and 3 tubes ECOi systems to operate with DC inverter and high-efficiency fixed speed compressors. The system selects the most efficient compressor to operate by dynamically monitoring the building load and choosing the best compressor combination to run.

Easy to position

The compact design of the ECOi outdoor units means that sizes 8 HP to 12 HP fit into a standard lift and are easy to handle and position when on site. The small footprint and modular appearance of the units ensure a cohesive appearance to an installation.

Off-coil temperature control

Panasonic ducted units offer the unique advantage of being able to offer off-coil temperature coil as standard. This allows designers to select units using an off coil temperature between 7°C and 22°C. This allows room environments to be cooled without subjecting its occupants to cold drafts or uncomfortable conditions. This is achieved without any extra controls or wiring to each unit.

Wide selection and connectability

With 11 indoor model styles available, ECOi systems are the ideal choice for multiple small capacity indoor unit installations, with the ability to connect up to 40 indoor units to systems of 24HP or greater for 3 tubes MF1 ECOi series.

Easy to maintain

Each system allows the use of prognostic and diagnostic controls routines, from refrigerant charge control through to complex fault code diagnostics, all designed to reduce the speed of maintenance calls and unit down time.

Lower running and life cycle costs

Panasonic ECOi VRF systems are amongst the most efficient VRF systems on the market. The system is also designed to make sure that we reduce the running cost of each system by using our unique road map control routine to ensure that the most efficient combination of compressors are running at any one time. Improved defrost sequencing also reduces running cost by defrosting each outdoor coil in turn when conditions allow.



2 TUBES ECOi ME1 SERIES

NEXT GENERATION VRF NEWLY-REDESIGNED!

At start up stage a unit can have Hi COP function selected - this lowers the capacity and increases the COP. You have the choice.

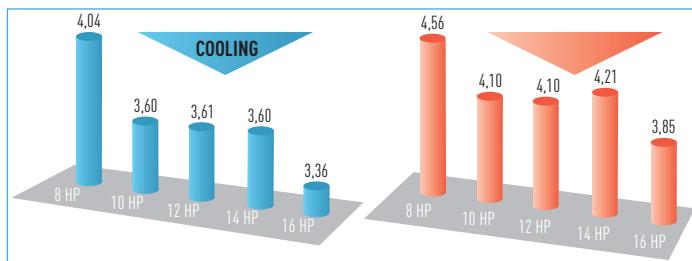
- Top class COP=4.56 (In case of 8 HP heating).
- Wide range of system up to 60 HP.
- Heating operation at outdoor temperatures down to -25°C .
- Extended pipe runs of up to 180 m.



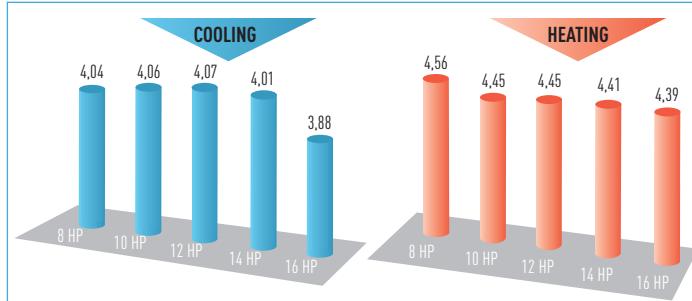
SYSTEM (HP)	8	10	12	14	16	18	20	22	24	26	28	30	32	36	38	40	42	44	46	48	50	52	54	56	58	60
CONNECTABLE INDOOR UNITS	20	25	30	35	40	45	50	55	60																	

Energy savings

Standard COP outdoor units line-up



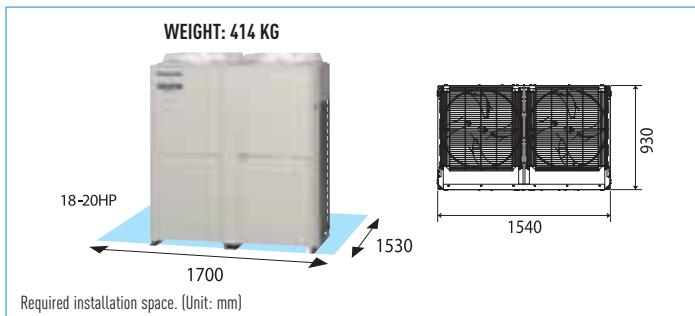
High COP outdoor units line-up



Compact design

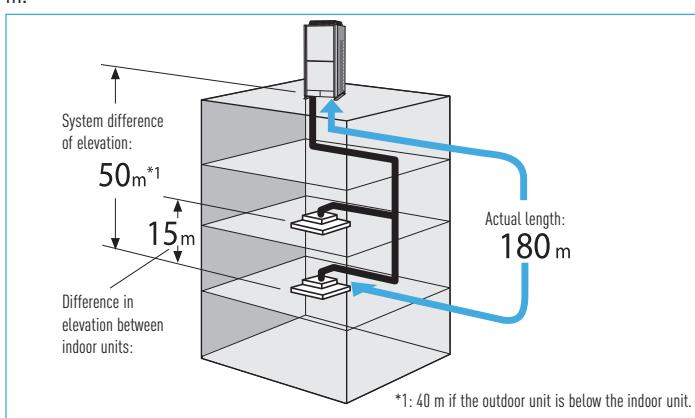
New ME1 series has reduced the installation space required by 1 chassis for sizes up to 20 HP.

8-12 HP are able to put inside a lift for easy handling at site.



Increased piping lengths and design flexibility

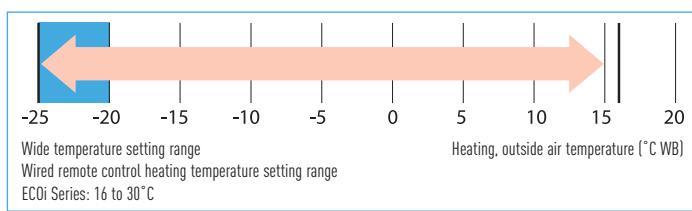
Superior design flexibility for piping works. Adaptable to various building types & sizes. Actual piping length 150 m to 180 m. Max. piping length 300 to 1000 m.



Extended operating range

Heating operation range: The heating operation range has been extended to -25°C by use of a compressor with a high-pressure vessel.

Cooling operation range: -10°C DB to $+43^{\circ}\text{C}$ DB.



**NEW
2011**

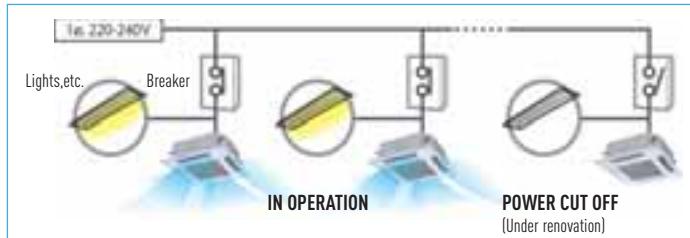


Connectable Indoor/Outdoor unit capacity ratio up to 200%

* Note: In case more than 100% indoor units are operated with high-load, the units may not perform the demanded capacity.

Non-stop operation during maintenance

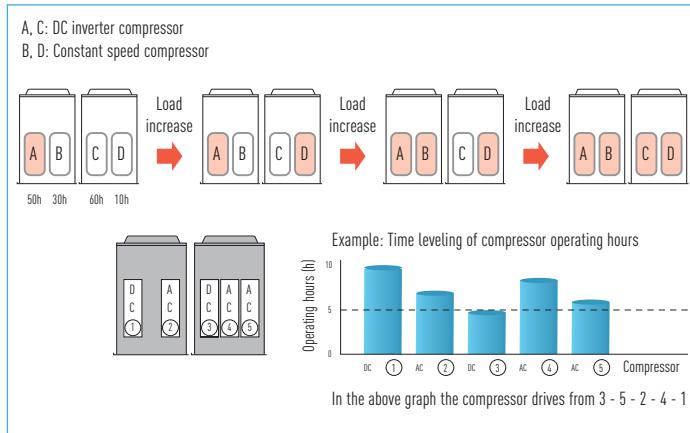
Even when an indoor unit needs maintenance, the other indoor units can be kept operating by setting. (Not applicable for all situations).



Automatic backup operation in compressors and units for the case of malfunctions.

Extended compressor life by uniform compressor operation times

The total operation time of the compressors is monitored by a microcomputer so that the operation times of all compressors in the same refrigerant system are balanced. Compressors with shorter operation times are utilised first.

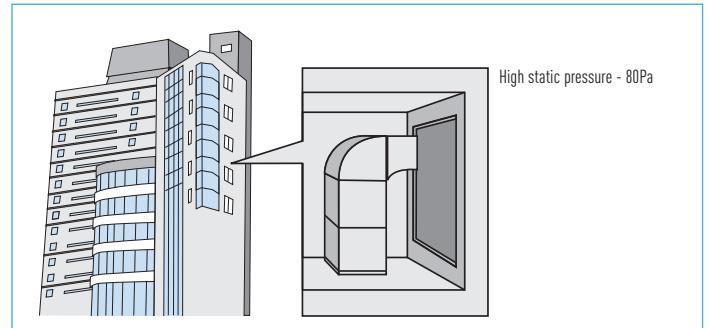


High external static pressure

Special setting at site allows all models to provide up to 80 Pa due to newly designed fan, fan motor and casing.

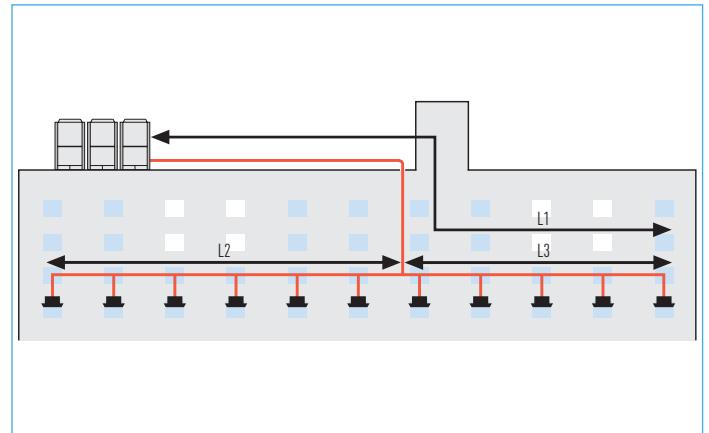
The flexible design requires an air discharge duct to avoid a reduction in performance due to shortcut of air circulation.

The new feature allows the outdoor unit to be installed inside plant rooms on any floor of the building.



Easy to design solutions for schools, hotels, hospitals and other large buildings

Difference between Max. and Min. length after first branch can be a maximum of 50 m; larger pipe runs can be up to 180 m.



2 TUBES ME1 ECOi SERIES RANGE

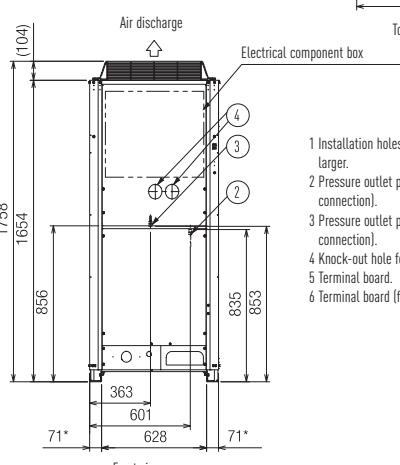
HP			8	10	12	14	16	18	20	22	24	26	28			
MODEL NAME			U-8ME1E8	U-10ME1E8	U-12ME1E8	U-14ME1E8	U-16ME1E8	U-18ME1E8	U-20ME1E8	U-14ME1E8	U-14ME1E8	U-14ME1E8	U-16ME1E8			
Power supply			380/400/415 3phase/50,60Hz									380/400/415 3phase/50Hz				
Capacity	Cooling		kW	22.4	28.0	33.5	40.0	45.0	50.0	56.0	61.5	68.0	73.0	78.5		
			BTU/h	76,500	95,600	114,300	136,500	153,600	170,600	191,100	209,900	232,100	249,100	267,900		
	Heating		kW	25.0	31.5	37.5	45.0	50.0	56.0	63.0	69.0	76.5	81.5	87.5		
			BTU/h	85,300	107,500	128,000	153,600	170,600	191,100	215,000	235,500	261,100	278,200	298,600		
EER / COP	Cooling		W/W	4.04	3.60	3.61	3.60	3.36	3.50	3.33	3.75	3.60	3.60	3.47		
	Heating		W/W	4.56	4.10	4.10	4.21	3.85	3.86	3.82	4.34	4.09	4.12	3.96		
Dimensions	H x W x D		mm	1,758 x 770 x 930	1,758 x 770 x 930	1,758 x 770 x 930	1,758 x 1,000 x 930	1,758 x 1,000 x 930	1,758 x 1,540 x 930	1,758 x 1,540 x 930	1,758 x 1,830 x 930	1,758 x 1,830 x 930	1,758 x 1,830 x 930	1,758 x 1,830 x 930		
Net weight			kg	230	281	281	307	307	423	423	537	588	588	588		
Electrical ratings	Cooling		A	8.9/8.5/8.2	12.9/12.2/11.8	15.4/14.6/14.1	18.0/17.1/16.5	21.8/20.7/19.9	24.0/22.8/22.0	28.2/26.8/25.8	26.6/25.2/24.3	30.9/29.4/28.3	33.3/31.6/30.5	37.0/35.2/33.9		
			kW	5.54	7.78	9.29	11.1	13.4	14.3	16.8	16.4	18.9	20.3	22.6		
	Heating		A	8.8/8.4/8.1	12.7/12.1/11.6	15.1/14.4/13.9	17.4/16.5/15.9	21.1/20.1/19.3	24.3/23.1/22.3	27.7/26.3/25.4	25.8/24.5/23.6	30.6/29.1/28.0	32.5/30.8/29.7	36.2/34.4/33.1		
			kW	5.48	7.68	9.15	10.7	13.0	14.5	16.5	15.9	18.7	19.8	22.1		
Starting current			A	1/1	74/77/80	78/81/85	74/77/80	78/81/85	91/93/96	98/101/103	83/86/88	92/94/96	96/98/101	100/102/105		
Air flow rate			m³/h	8,820	9,180	11,400	12,720	12,720	14,640	16,980	21,540	21,900	24,120	24,120		
Refrigerant amount at shipment			kg	9.9	9.9	9.9	9.9	9.9	9.9	9.9	19.8	19.8	19.8	19.8		
External static pressure			Pa	80	80	80	80	80	80	80	80	80	80	80		
Piping connections	Gas pipe		mm	19.05	22.22	25.40	25.40	28.58	28.58	28.58	28.58	28.58	31.75	31.75		
	Liquid pipe		mm	9.52	9.52	12.70	12.70	12.70	15.88	15.88	15.88	15.88	19.05	19.05		
	Balance pipe		mm	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35		
Ambient temperature operating range			Cooling: -10 °C DB ~ +43 °C DB, Heating: -25 °C WB ~ +20 °C WB													
Sound pressure level	Normal mode		dB(A)	56.5	59.0	61.0	62.0	62.0	60.0	63.0	63.0	63.5	64.5	64.5		
	Silent mode		dB(A)	53.5	56.0	58.0	59.0	59.0	57.0	60.0	60.0	60.5	61.5	61.5		
Sound power level	Normal mode		dB	71.0	73.5	75.5	76.5	76.5	74.5	77.5	77.5	78.0	79.0	79.0		

GLOBAL REMARKS	Rated conditions:	Cooling	Heating
	Indoor air temperature	27°C CB / 19°C WB	20°C DB
	Outdoor air temperature	35°C CB	7°C DB / 6°C WB

These specifications subject to change without notice.

8-12 HP

A 894 (installation hole pitch).
The tubing is routed out frpm the front
B 730 (installation hole pitch).
The tubing is routed out frpm the front
C 730 (installation hole pitch).



- 1 Installation holes (8-15x21 elongated holes) anchor bolts M12 or larger.
 - 2 Pressure outlet port (for high pressure: Ø7.94 Scrader-type connection).
 - 3 Pressure outlet port (for low pressure: Ø7.94 Scrader-type connection).
 - 4 Knock-out hole for connecting pressure gauge (optional).
 - 5 Terminal board.
 - 6 Terminal board (for inter-outdoor-unit control wiring).

* Installation fixing bracket, installation side.



8-12 HP

14-16 HP

18-20 HP

30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60	
U-16ME1E8	U-16ME1E8	U-18ME1E8	U-20ME1E8	U-20ME1E8	U-16ME1E8	U-16ME1E8	U-16ME1E8	U-16ME1E8	U-16ME1E8	U-18ME1E8	U-20ME1E8	U-20ME1E8	U-20ME1E8	U-20ME1E8	U-20ME1E8	
U-14ME1E8	U-16ME1E8	U-16ME1E8	U-16ME1E8	U-18ME1E8	U-20ME1E8	U-14ME1E8	U-16ME1E8	U-16ME1E8	U-16ME1E8	U-16ME1E8	U-16ME1E8	U-18ME1E8	U-20ME1E8	U-20ME1E8	U-20ME1E8	U-20ME1E8

380/400/415 3phase/50Hz

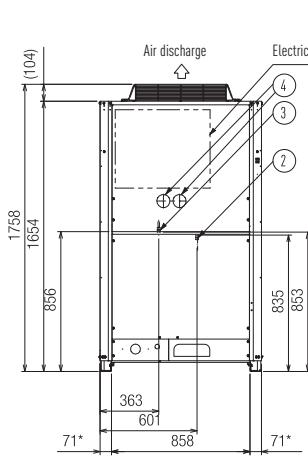
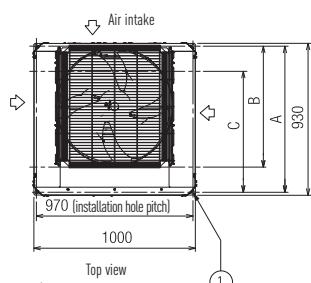
85.0	90.0	96.0	101.0	107.0	113.0	118.0	124.0	130.0	135.0	140.0	145.0	151.0	156.0	162.0	168.0
290,100	307,200	327,600	344,700	365,200	385,700	402,700	423,200	443,700	460,800	477,800	494,900	515,400	532,400	552,900	573,400
95.0	100.0	108.0	113.0	119.0	127.0	132.0	138.0	145.0	150.0	155.0	160.0	169.0	175.0	182.0	189.0
324,200	341,300	368,600	385,700	406,100	433,400	450,500	471,000	494,900	511,900	529,000	546,100	576,800	597,300	621,200	645,100
3.47	3.35	3.43	3.34	3.44	3.36	3.51	3.43	3.43	3.35	3.41	3.35	3.39	3.44	3.38	3.33
4.03	3.86	3.86	3.83	3.84	3.85	4.04	3.92	3.96	3.86	3.86	3.84	3.85	3.83	3.81	
1,758 x 2,060 x 930	1,758 x 2,060 x 930	1,758 x 2,600 x 930	1,758 x 3,140 x 930	1,758 x 2,890 x 930	1,758 x 3,120 x 930	1,758 x 3,660 x 930	1,758 x 4,200 x 930	1,758 x 4,740 x 930							
614	614	730	730	846	846	895	895	921	921	1,037	1,037	1,153	1,269	1,269	1,269
39.8/37.8/36.5	43.7/41.5/40.0	46.3/44.0/42.4	50.0/47.5/45.8	52.2/49.6/47.8	56.4/53.6/51.7	54.9/52.1/50.3	59.1/56.2/54.2	61.6/58.5/56.4	65.5/62.2/60.0	67.6/64.2/61.9	71.3/67.7/65.3	74.0/70.3/67.7	76.2/72.4/69.8	80.4/76.4/73.6	84.6/80.4/77.5
24.5	26.9	28.0	30.2	31.1	33.6	33.6	36.2	37.9	40.3	41.1	43.3	44.5	45.4	47.9	50.4
38.3/36.4/35.1	42.1/40.0/38.5	46.3/44.0/42.4	48.8/46.4/44.7	52.0/49.4/47.7	55.4/52.6/50.7	53.4/50.8/48.9	57.5/54.6/52.7	59.5/56.5/54.5	63.2/60.1/57.9	66.1/62.8/60.5	68.6/65.2/62.9	73.0/69.3/66.8	76.2/72.4/69.8	79.7/75.8/73.0	83.3/79.1/76.2
23.6	25.9	28.0	29.5	31.0	33.0	32.7	35.2	36.6	38.9	40.2	41.7	43.9	45.4	47.5	49.6
96/98/101	100/102/105	113/114/116	120/122/123	121/123/124	125/127/128	118/119/121	122/122/125	118/119/121	122/122/125	135/134/136	142/142/143	143/144/144	145/146/146	148/149/149	152/153/153
25,440	25,440	27,360	29,700	31,620	33,960	36,840	36,840	38,160	38,160	40,080	42,420	44,340	46,260	48,600	50,940
19.8	19.8	19.8	19.8	19.8	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.7	29.7
80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
31.75	31.75	38.10	38.10	38.10	38.10	38.10	38.10	38.10	38.10	38.10	38.10	38.10	38.10	38.10	
19.05	19.05	19.05	19.05	19.05	19.05	19.05	19.05	19.05	19.05	19.05	19.05	19.05	19.05	19.05	
6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	6.35	

Cooling: -10°C DB ~ +43 °C DB, Heating: -25 °C WB ~ +20 °C WB

65.0	65.0	64.0	65.5	65.0	66.0	66.5	66.5	67.0	67.0	66.0	67.0	66.5	66.0	67.0	68.0
62.0	62.0	61.0	62.5	62.0	63.0	63.5	63.5	64.0	64.0	63.0	64.0	63.5	63.0	64.0	65.0
79.5	79.5	78.5	80.0	79.5	80.5	81.0	81.0	81.5	81.5	80.5	81.5	81.0	80.5	81.5	82.5

14-16 HP

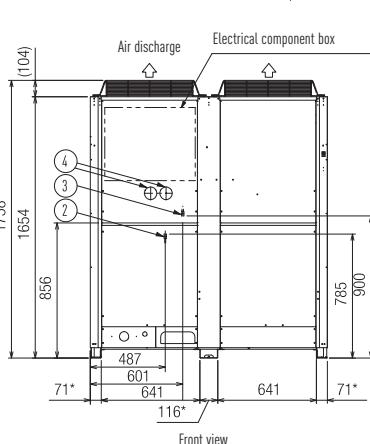
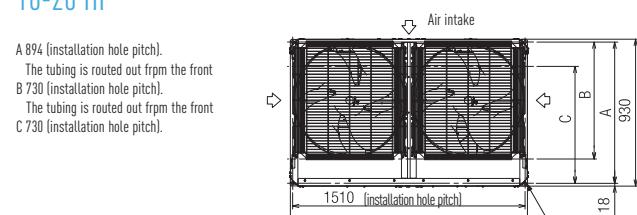
A 894 (installation hole pitch).
The tubing is routed out from the front
B 730 (installation hole pitch).
The tubing is routed out from the front
C 730 (installation hole pitch).



* Installation fixing bracket, installation side.

18-20 HP

A 894 (installation hole pitch).
The tubing is routed out from the front
B 730 (installation hole pitch).
The tubing is routed out from the front
C 730 (installation hole pitch).



* Installation fixing bracket, installation side.

- 1 Installation holes (8-15x21 elongated holes) anchor bolts M12 or larger.
- 2 Pressure outlet port (for high pressure: Ø7.94 Schrader-type connection).
- 3 Pressure outlet port (for low pressure: Ø7.94 Schrader-type connection).
- 4 Knock-out hole for connecting pressure gauge (optional).
- 5 Terminal board.
- 6 Terminal board (for inter-outdoor-unit control wiring).

2 TUBES ME1 ECOi SERIES RANGE. WITH ANTI-CORROSION TREATMENT, FOR EXTREME APPLICATIONS

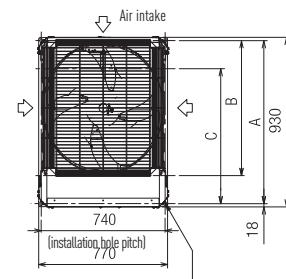
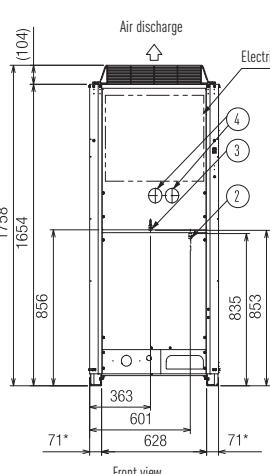
HP		8	10	12	14	16	18	20	22	24	26	28		
MODEL NAME		U-8ME1E8E	U-10ME1E8E	U-12ME1E8E	U-14ME1E8E	U-16ME1E8E	U-18ME1E8E	U-20ME1E8E	U-14ME1E8E	U-14ME1E8E	U-14ME1E8E	U-16ME1E8E		
Power supply		380/400/415 3phase/50, 60Hz	380/400/415 3phase/50Hz											
Capacity	Cooling	kW	22,4	28,0	33,5	40,0	45,0	50,0	56,0	61,5	68,0	73,0	78,5	
		BTU/h	76.500	95.600	114.300	136.500	153.600	170.600	191.100	209.900	232.100	249.100	267.900	
	Heating	kW	25,0	31,5	37,5	45,0	50,0	56,0	63,0	69,0	76,5	81,5	87,5	
		BTU/h	85.300	107.500	128.000	153.600	170.600	191.100	215.000	235.500	261.100	278.200	298.600	
COP	Cooling	W/W	4,04	3,60	3,61	3,60	3,36	3,50	3,33	3,75	3,60	3,60	3,47	
		Heating	W/W	4,56	4,10	4,10	4,21	3,85	3,86	3,82	4,34	4,09	4,12	3,96
Dimensions	H x W x D	mm	1.758 x 770 x 930	1.758 x 770 x 930	1.758 x 770 x 930	1.758 x 1.000 x 930	1.758 x 1.000 x 930	1.758 x 1.540 x 930	1.758 x 1.540 x 930	1.758 x 1.830 x 930				
Net weight		kg	230	281	281	307	307	423	423	537	588	588	588	
Electrical ratings	Cooling	Running amperes	A	8,9/8,5/8,2	12,9/12,2/11,8	15,4/14,6/14,1	18,1/17,1/16,5	21,8/20,7/19,9	24,0/22,8/22,0	28,2/26,8/25,8	26,6/25,2/24,3	30,9/29,4/28,3	33,3/31,6/30,5	37,0/35,2/33,9
		Power input	kW	5,54	7,78	9,29	11,1	13,4	14,3	16,8	16,4	18,9	20,3	22,6
	Heating	Running amperes	A	8,8/8,4/8,1	12,7/12,1/11,6	15,1/14,4/13,9	17,4/16,5/15,9	21,1/20,0/19,3	24,3/23,1/22,3	27,7/26,3/25,4	25,8/24,5/23,6	30,6/29,1/28	32,5/30,8/29,7	36,2/34,4/33,1
		Power input	kW	5,48	7,68	9,15	10,7	13,0	14,5	16,5	15,9	18,7	19,8	22,1
Starting amperes		A	1/1/1	74/77/80	78/81/85	74/77/80	78/81/85	91/93/96	98/101/103	83/86/88	92/94/96	96/98/101	100/102/105	
Air circulation		m³/min	147	153	190	212	212	244	283	358	365	402	402	
Refrigerant amount at shipment		kg	80	80	80	80	80	80	80	80	80	80	80	
External static pressure		Pa	9,9	9,9	9,9	9,9	9,9	9,9	9,9	9,9	9,9	9,9	9,9	
Piping connections	Gas pipe	mm	19,05	22,22	25,40	25,40	28,58	28,58	28,58	28,58	28,58	31,75	31,75	
	Liquid pipe	mm	9,52	9,52	12,70	12,70	12,70	15,88	15,88	15,88	15,88	19,05	19,05	
	Balance pipe	mm	6,35	6,35	6,35	6,35	6,35	6,35	6,35	6,35	6,35	6,35	6,35	
Ambient temperature operating range			Cooling: -10°CDB~+43°CDB. Heating: -25°CWB~+20°CWB											
Pressure sound	Normal mode	dBA	56,5	59,0	61,0	62,0	62,0	60,0	63,0	63,0	63,5	64,5	64,5	
	Silent mode	dBA	53,5	56,0	58,0	59,0	59,0	57,0	60,0	60,0	60,5	61,5	61,5	
Power sound	Normal mode	dBA	71,0	73,5	75,5	76,5	76,5	74,5	77,5	77,5	78,0	79,0	79,0	

GLOBAL REMARKS Rated conditions:
 Cooling Heating
 Indoor air temperature 22°C CB / 19°C WB 20°C DB
 Outdoor air temperature 35°C CB 7°C DB / 6°C WB

These specifications subject to change without notice.

8-12 HP

A 894 (installation hole pitch),
 The tubing is routed out from the front
 B 730 (installation hole pitch).
 The tubing is routed out from the front
 C 730 (installation hole pitch).



- 1 Installation holes (8-15x21 elongated holes) anchor bolts M12 or larger.
- 2 Pressure outlet port (for high pressure: Ø7.94 Scradar-type connection).
- 3 Pressure outlet port (for low pressure: Ø7.94 Scradar-type connection).
- 4 Knock-out hole for connecting pressure gauge (optional).
- 5 Terminal board.
- 6 Terminal board (for inter-outdoor-unit control wiring).

* Installation fixing bracket, installation side.



environmentally friendly refrigerant
R410A

down to -25°C in heating mode
OUTDOOR TEMPERATURE



8-12 HP



14-16 HP



18-20 HP

30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60
U-16ME1E8E	U-16ME1E8E	U-18ME1E8E	U-20ME1E8E	U-20ME1E8E	U-16ME1E8E	U-16ME1E8E	U-16ME1E8E	U-16ME1E8E	U-18ME1E8E	U-20ME1E8E	U-20ME1E8E	U-20ME1E8E	U-20ME1E8E	U-20ME1E8E	U-20ME1E8E
U-14ME1E8E	U-16ME1E8E	U-16ME1E8E	U-16ME1E8E	U-18ME1E8E	U-20ME1E8E	U-14ME1E8E	U-16ME1E8E	U-16ME1E8E	U-14ME1E8E	U-16ME1E8E	U-16ME1E8E	U-16ME1E8E	U-18ME1E8E	U-20ME1E8E	U-20ME1E8E

380/400/415 3phase/50Hz

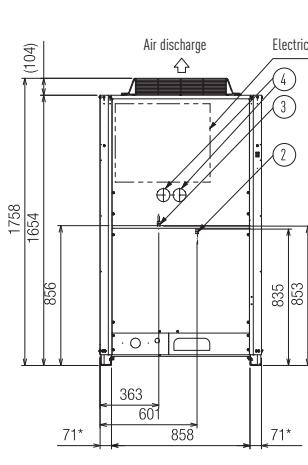
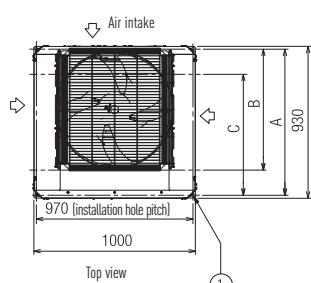
85,0	90,0	96,0	101,0	107,0	113,0	118,0	124,0	130,0	135,0	140,0	145,0	151,0	156,0	162,0	168,0
290.100	307.200	327.600	344.700	365.200	385.700	402.700	423.200	443.700	460.800	477.800	494.900	515.400	532.400	552.900	573.400
95,0	100,0	108,0	113,0	119,0	127,0	132,0	138,0	145,0	150,0	155,0	160,0	175,0	169,0	182,0	189,0
324.200	341.300	368.600	385.700	406.100	433.400	450.500	471.000	494.900	511.900	529.000	546.100	576.800	597.300	645.100	621.200
3,47	3,35	3,43	3,34	3,44	3,36	3,51	3,43	3,43	3,35	3,41	3,35	3,39	3,44	3,38	3,33
4,03	4,56	3,86	3,83	3,84	3,85	4,04	3,92	3,96	3,86	3,86	3,84	3,85	3,83	3,81	
1.758 x 2.060 x 930	1.758 x 2.060 x 930	1.758 x 2.600 x 930	1.758 x 3.140 x 930	1.758 x 2.890 x 930	1.758 x 3.120 x 930	1.758 x 3.660 x 930	1.758 x 4.200 x 930	1.758 x 4.740 x 930							
614	614	730	730	846	846	895	895	921	921	1.037	1.037	1.153	1.269	1.269	1.269
39,8/37,8/36,5	43,7/41,5/40	46,3/44,0/42,4	50,0/47,5/45,8	52,2/49,6/47,8	56,4/53,6/51,7	54,9/52,1/50,3	59,1/56,2/54,2	61,6/58,5/56,4	65,3/62,0/60	67,6/64,2/61,9	71,3/67,7/65,3	74,0/70,3/67,7	76,2/72,4/69,8	80,4/76,4/73,6	84,6/80,4/77,5
24,5	26,9	28,0	30,2	31,1	33,6	33,6	36,2	37,9	40,3	41,1	43,3	45,4	44,5	47,9	50,4
38,3/36,4/35,1	42,1/40/38,5	46,5/44,0/42,4	48,8/46,4/44,7	52,0/49,4/47,7	55,4/52,6/50,7	53,4/50,8/48,9	57,5/54,6/52,7	59,5/56,5/54,5	63,2/60,1/57,9	66,1/62,8/60,5	68,6/65,2/62,9	73,0/69,3/66,8	76,2/72,4/69,8	79,7/75,8/73	83,3/79,1/76,2
23,6	25,9	28,0	29,5	31,0	33,0	32,7	35,2	36,6	38,9	40,2	41,7	43,9	45,4	47,5	49,6
96/98/101	100/102/105	113/114/116	120/122/123	121/123/124	125/127/128	118/119/121	122/122/125	118/119/121	122/122/125	135/134/136	142/142/143	143/144/144	145/146/146	148/149/149	152/153/153
424	424	456	495	528	567	614	614	636	636	668	707	739	771	810	849
80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
9,9	9,9	9,9	9,9	9,9	9,9	9,9	9,9	9,9	9,9	9,9	9,9	9,9	9,9	9,9	9,9
31,75	31,75	31,75	38,10	38,10	38,10	38,10	38,10	38,10	38,10	38,10	38,10	38,10	38,10	38,10	38,10
19,05	19,05	19,05	19,05	19,05	19,05	19,05	19,05	19,05	19,05	19,05	19,05	19,05	19,05	19,05	19,05
6,35	6,35	6,35	6,35	6,35	6,35	6,35	6,35	6,35	6,35	6,35	6,35	6,35	6,35	6,35	6,35

Cooling: -10°CDB~+43°CDB. Heating: -25°CWB~+20°CWB

65,0	65,0	64,0	65,5	65,0	66,0	66,5	66,5	67,0	67,0	66,5	66,0	67,0	66,0	67,0	68,0
62,0	62,0	61,0	62,5	62,0	63,0	63,5	63,5	64,0	64,0	63,0	64,0	63,5	63,0	64,0	65,0
79,5	79,5	78,5	80,0	79,5	80,5	81,0	81,0	81,5	81,5	80,5	81,0	80,5	81,5	81,5	82,5

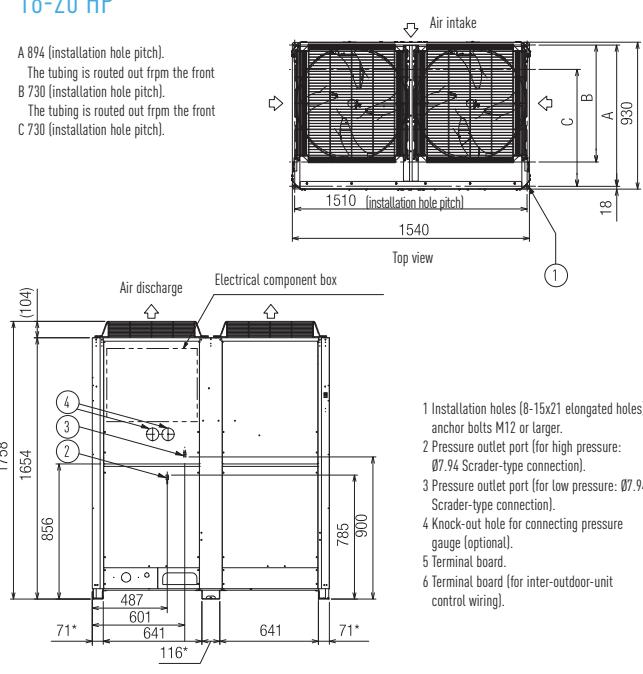
14-16 HP

A 894 (installation hole pitch).
The tubing is routed out from the front
B 730 (installation hole pitch).
The tubing is routed out from the front
C 730 (installation hole pitch).



18-20 HP

A 894 (installation hole pitch).
The tubing is routed out from the front
B 730 (installation hole pitch).
The tubing is routed out from the front
C 730 (installation hole pitch).



- 1 Installation holes (8-15x21 elongated holes) anchor bolts M12 or larger.
- 2 Pressure outlet port (for high pressure: Ø7.94 Schrader-type connection).
- 3 Pressure outlet port (for low pressure: Ø7.94 Schrader-type connection).
- 4 Knock-out hole for connecting pressure gauge (optional).
- 5 Terminal board.
- 6 Terminal board (for inter-outdoor-unit control wiring).

* Installation fixing bracket, installation side.

2 TUBES ME1 ECOi SERIES RANGE. High COP

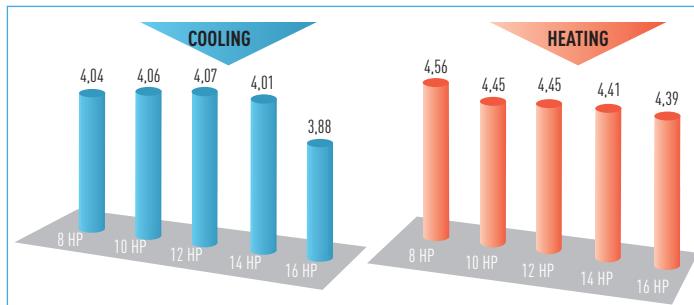
HP		8	10	12	14	16	18	20	22	24
MODEL NAME		U-8ME1E8*	U-14ME1E8	U-16ME1E8	U-16ME1E8	U-20ME1E8	U-14ME1E8 U-8ME1E8	U-16ME1E8 U-8ME1E8	U-16ME1E8 U-8ME1E8	U-16ME1E8 U-16ME1E8
Power supply		380/400/415 3phase/50,60Hz						380/400/415 3phase/50Hz		
Capacity	Cooling	kW	22,4	28,0	33,5	40,0	45,0	50,0	56,0	61,5
		BTU/h	76.500	95.600	114.300	136.500	153.600	170.600	191.100	209.900
Capacity	Heating	kW	25,0	31,5	37,5	45,0	50,0	56,0	63,0	69,0
		BTU/h	85.300	107.500	128.000	153.600	170.600	191.100	215.000	235.500
COP	Cooling	W/W	4,04	4,06	4,07	4,01	3,88	4,07	4,06	3,97
		Heating	W/W	4,56	4,45	4,45	4,41	4,39	4,52	4,50
Dimensions	H x W x D	mm	1.758 x 770 x 930	1.758 x 1.000 x 930	1.758 x 1.000 x 930	1.758 x 1.540 x 930	1.758 x 1.540 x 930	1.758 x 1.830 x 930	1.758 x 1.830 x 930	1.758 x 2.370 x 930
Net weight		kg	230	307	307	423	423	537	537	614
Electrical ratings	Cooling	Running amperes	A	8,9/8,5/8,2	11,2/10,7/10,3	13,4/12,7/12,2	16,3/15,4/14,9	18,9/17,9/17,3	19,9/18,9/18,2	22,4/21,2/20,5
		Power input	kW	5,54	6,90	8,23	9,98	11,6	12,3	13,8
	Heating	Running amperes	A	8,8/8,4/8,1	11,5/10,9/10,5	13,7/13/12,5	16,6/15,8/15,2	18,6/17,6/17,0	20,1/19,1/18,4	22,7/21,5/20,8
		Power input	kW	5,48	7,08	8,43	10,2	11,4	12,4	14,0
Starting amperes		A	1/1/1	74/77/80	78/81/85	89/92/95	95/98/101	83/86/88	87/90/93	98/101/103
Air circulation		m³/min	147	212	212	244	283	359	359	391
External static pressure		kg	80	80	80	80	80	80	80	80
Refrigerant amount at shipment		Pa	9,9	9,9	9,9	9,9	9,9	19,8	19,8	19,8
Piping connections	Gas pipe	mm	19,05	22,22	25,40	25,40	28,58	28,58	28,58	28,58
	Liquid pipe	mm	9,52	9,52	12,70	12,70	12,70	15,88	15,88	15,88
	Balance pipe	mm	6,35	6,35	6,35	6,35	6,35	6,35	6,35	6,35
Ambient temperature operating range							Cooling: -10°CDB~+43°CDB. Heating: -25°CWB~+20°CWB			
Pressure sound	Normal mode	dBA	56,5	62,0	62,0	60,0	63,0	63,0	63,0	61,5
	Silent mode	dBA	53,5	59,0	59,0	57,0	60,0	60,0	60,0	58,5
Power sound	Normal mode	dBA	71,0	76,5	76,5	74,5	77,5	77,5	77,5	76,0

GLOBAL REMARKS Rated conditions:
 Indoor air temperature Cooling Heating
 22°C CB / 19°C WB 20°C DB
 Outdoor air temperature 35°C CB 7°C DB / 6°C WB

These specifications subject to change without notice.

Energy savings

Improved COP & EER by new design for heat exchangers, FAN, Fan motor and compressor.



To set at "High-COP model" on PCB of outdoor unit, please check the technical data book of the outdoor unit

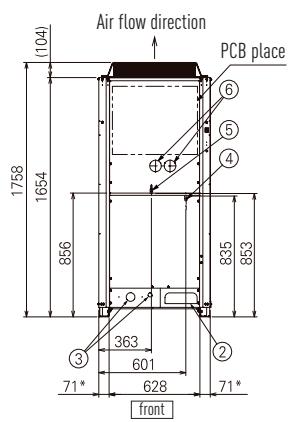
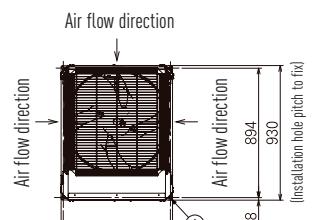
8 HP

- 1 Installation anchoring hole (4-15x21 elongated hole)
Anchor bolt: M12 more
- 2 Refrigerant piping port (front / knockout hole)
- 3 Electric wiring port (front / Ø60,0/Ø8 mm knockout hole
conduit connection)
- 4 Mounting hole for manifold gauge (high-pressure outlet
port / Ø79,4 dia connector)
- 5 Mounting hole for manifold gauge (low-pressure outlet
port / Ø79,4 dia connector)
- 6 Knockout hole to fix manifold gauge (field supply)

Distribution joint kit

For indoor units

- CZ-P224BK2BM (Capacity after distribution: 22,4 kW or lower)
 - CZ-P680BK2BM (Capacity after distribution: Over 22,4 kW to 68,0 kW)
 - CZ-P1350BK2BM (Capacity after distribution: Over 68,0 kW to 135,0 kW)
- For outdoor units
- CZ-P680PH2BM (Capacity after distribution: 68,0 kW or lower)
 - CZ-P1350PH2BM (Capacity after distribution: Over 68,0 kW to 135,0 kW)



*Installation surface

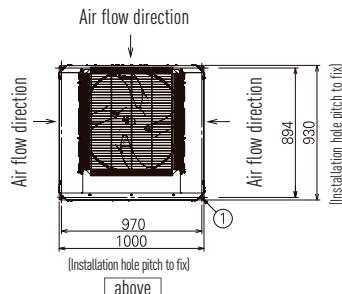


26	28	30	32	34	36	38	40	42	44	46	48
U-16ME1E8 U-16ME1E8	U-20ME1E8 U-16ME1E8	U-20ME1E8 U-16ME1E8	U-20ME1E8 U-20ME1E8	U-16ME1E8 U-16ME1E8 U-8ME1E8	U-16ME1E8 U-16ME1E8 U-16ME1E8	U-16ME1E8 U-16ME1E8 U-16ME1E8	U-20ME1E8 U-16ME1E8 U-16ME1E8	U-20ME1E8 U-16ME1E8 U-16ME1E8	U-20ME1E8 U-16ME1E8 U-16ME1E8	U-20ME1E8 U-16ME1E8 U-16ME1E8	U-20ME1E8 U-20ME1E8 U-20ME1E8
380/400/415 3phase/50Hz											
73,0	78,5	85,0	90,0	96,0	101,0	107,0	113,0	118,0	124,0	130,0	135,0
249,100	267,900	290,100	307,200	327,600	344,700	365,200	385,700	402,700	423,200	443,700	460,800
81,5	87,5	95,0	100,0	108,0	113,0	119,0	127,0	132,0	138,0	145,0	150,0
278,200	298,600	324,200	341,300	368,600	385,700	406,100	433,400	450,500	471,000	494,900	511,900
4,01	3,96	3,94	3,88	4,09	4,07	4,08	4,04	3,96	3,97	3,92	3,88
4,38	4,42	4,40	4,41	4,54	4,45	4,44	4,47	4,40	4,42	4,41	4,40
1.780 x 2.600 x 930	1.780 x 2.600 x 930	1.758 x 3.140 x 930	1.758 x 3.140 x 930	1.758 x 3.430 x 930	1.758 x 3.120 x 930	1.758 x 3.660 x 930	1.758 x 3.660 x 930	1.758 x 4.200 x 930	1.758 x 4.740 x 930	1.758 x 4.740 x 930	1.758 x 4.740 x 930
730	730	846	846	960	921	1,037	1,037	1,153	1,269	1,269	1,269
29,6/28,1/27,1	32,2/30,6/29,5	35,2/33,4/32,2	37,8/35,9/34,6	38,1/36,2/34,9	40,3/38,3/36,9	42,6/40,5/39	45,5/43,3/41,7	48,5/46,1/44,4	50,8/48,3/46,5	54,1/51,4/49,5	56,7/53,8/51,9
18,2	19,8	21,6	23,2	23,5	24,8	26,2	28,0	29,8	31,2	33,2	34,8
30,3/28,7/27,7	32,2/30,6/29,5	35,2/33,4/32,2	37,35,1/33,8	38,6/36,7/35,4	41,3/39,2/37,8	43,6/41,4/39,9	46,2/43,9/42,3	48,8/46,4/44,7	50,8/48,3/46,5	53,6/50,9/49,1	55,5/52,8/50,8
18,6	19,8	21,6	22,7	23,8	25,4	26,8	28,4	30,0	31,2	32,9	34,1
103/105/108	109/111/114	112/114/116	114/116/118	112/113/116	105/107/110	116/118/120	122/124/126	125/127/129	128/130/131	130/131/133	133/134/136
456	495	527	566	603	636	668	707	739	771	810	849
80	80	80	80	80	80	80	80	80	80	80	80
19,8	19,8	19,8	19,8	29,7	29,7	29,7	29,7	29,7	29,7	29,7	29,7
31,75	31,75	31,75	31,75	31,75	38,10	38,10	38,10	38,10	38,10	38,10	38,10
19,05	19,05	19,05	19,05	19,05	19,05	19,05	19,05	19,05	19,05	19,05	19,05
6,35	6,35	6,35	6,35	6,35	6,35	6,35	6,35	6,35	6,35	6,35	6,35
Cooling: -10°CDB~+43°CDB. Heating: -25°CWB~+20°CWB											
64,0	65,5	65,0	66,0	64,5	66,5	66,0	67,0	66,5	66,0	67,0	67,5
61,0	62,5	62,0	63,0	61,5	63,5	63,0	64,0	63,5	63,0	64,0	64,5
78,5	80,0	79,5	80,5	79,0	81,0	80,5	81,5	81,0	80,5	81,5	82,0

* Same as standard COP

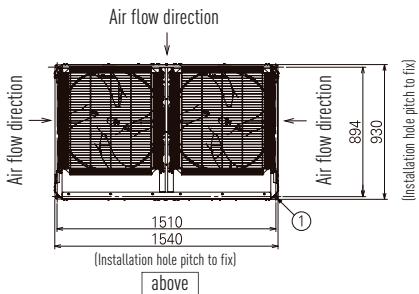
10-12 HP

- 1 Installation anchoring hole (4-15x21 elongated hole)
Anchor bolt: M12 more
- 2 Refrigerant piping port (front / knockout hole)
- 3 Electric wiring port (front / Ø60,028 knockout hole
conduit connection)
- 4 Mounting hole for manifold gauge (high-pressure outlet
port / Ø7,94 dia connector)
- 5 Mounting hole for manifold gauge (low-pressure outlet
port / Ø7,94 dia connector)
- 6 Knockout hole to fix manifold gauge (field supply)



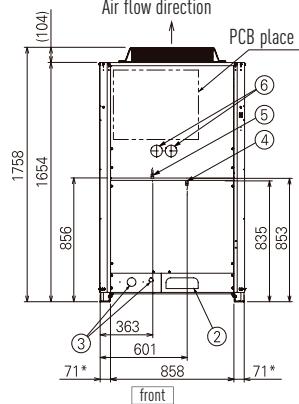
14-16 HP

- 1 Installation anchoring hole (4-15x21 elongated hole) Anchor bolt: M12 more
- 2 Refrigerant piping port (front / knockout hole)
- 3 Electric wiring port (front / Ø60,028 knockout hole
conduit connection)
- 4 Mounting hole for manifold gauge (high-pressure outlet port / Ø7,94 dia connector)
- 5 Mounting hole for manifold gauge (low-pressure outlet port / Ø7,94 dia connector)
- 6 Knockout hole to fix manifold gauge (field supply)

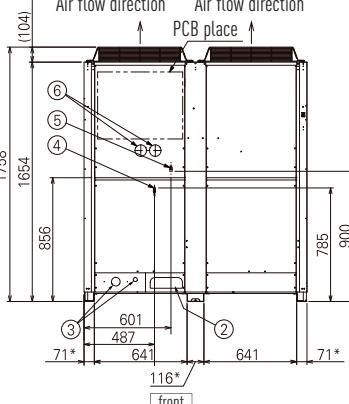


Distribution joint kit

- For indoor units
- CZ-P224BK2BM (Capacity after distribution: 22,4 kW or lower)
 - CZ-P680BK2BM (Capacity after distribution: Over 22,4 kW to 68,0 kW)
 - CZ-P1350BK2BM (Capacity after distribution: Over 68,0 kW to 135,0 kW)
- For outdoor units
- CZ-P680PH2BM (Capacity after distribution: 68,0 kW or lower)
 - CZ-P1350PH2BM (Capacity after distribution: Over 68,0 kW to 135,0 kW)



- Distribution joint kit
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*Installation surface

*Installation surface



3 TUBES ECOi MF1 SERIES

WITH SIMULTANEOUS HEATING AND COOLING OPERATION HEAT RECOVERY TYPE

ECOi 3 Tubes is one of the most advanced VRF systems available. Not only offering high-efficiency and performance for simultaneous heating and cooling, its sophisticated design makes installation and maintenance much easier.

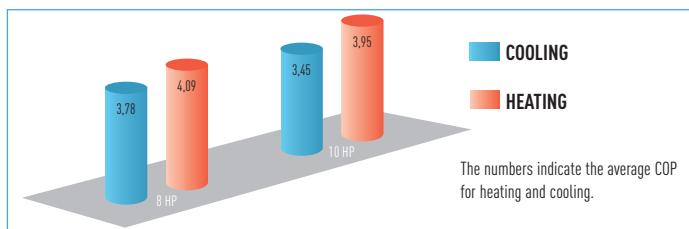
- Conforms to COP 3.94 as the top class in the industry (Average cooling and heating value for 8 HP outdoor unit).
- Simultaneous cooling or heating operation for up to 40 indoor units.
- Small installation space, top class in the industry.
- Rotation operation function and back-up operation function provided.



SYSTEM (HP)	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48
CONNECTABLE INDOOR UNITS	13	16	19	23	26	29	33	36									40				

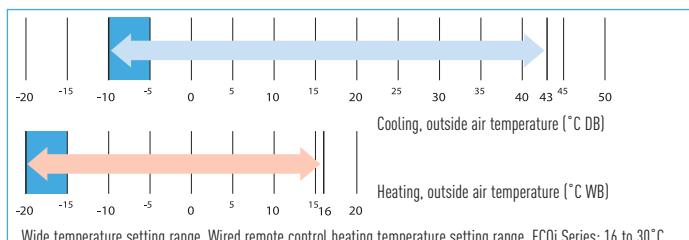
Excellent energy saving

High level operation efficiency has been improved by using the highly efficient new refrigerant R410A and a DC inverter compressor as well as a new DC fan motor. With efficient air speed distribution improved by changing the design of the heat exchanger from 3-direction suction to 4-direction suction, and by using a low-loss wire guard for the fan guard.



Extended operating range

Cooling operation range: The cooling operation range has been extended to -10°C by changing the outdoor fan to an inverter type.



Long piping design

Actual piping length 150 m. Total piping length 300 m.

Non-stop operation during maintenance

Even when an indoor unit needs maintenance, the other indoor units can be kept operating by setting. (Not applicable for all situations).

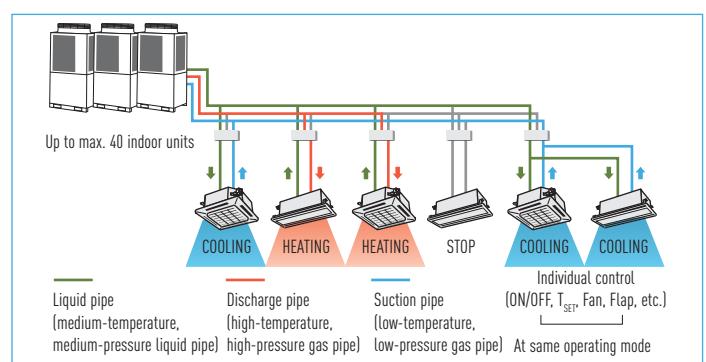
Fully-automatic simultaneous Cooling/Heating operation and heat recovery

3 tubes ECOi VRF enables simultaneous heating and cooling operation by each solenoid valve kit.



Solenoid valve controller CZ-CAPE2 / CZ-CAPEK2

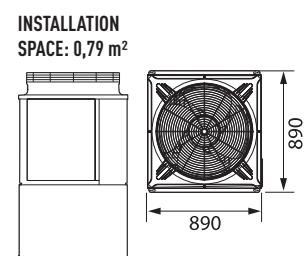
The solenoid valve is needed to connect an indoor unit to an HR box. It can also provide outputs of defrost, heating, cooling and thermostat ON signals.



Smallest installation space in the industry! Further reduction of the operating sound

The five DC inverter types from 8 HP to 16 HP have been unified to the same external dimensions by using a two-room construction with the compressor and other structural parts at the lower room of the outdoor unit and the heat exchanger at the upper room of the outdoor unit. In this way, the smallest installation space in the industry and low operating sound have been realized.

(In case of 16 HP)



An emergency backup function is provided

**NEW
2011**



RANGES THAT APPLY TO REFRIGERANT PIPING LENGTHS AND TO DIFFERENCES IN INSTALLATION HEIGHTS

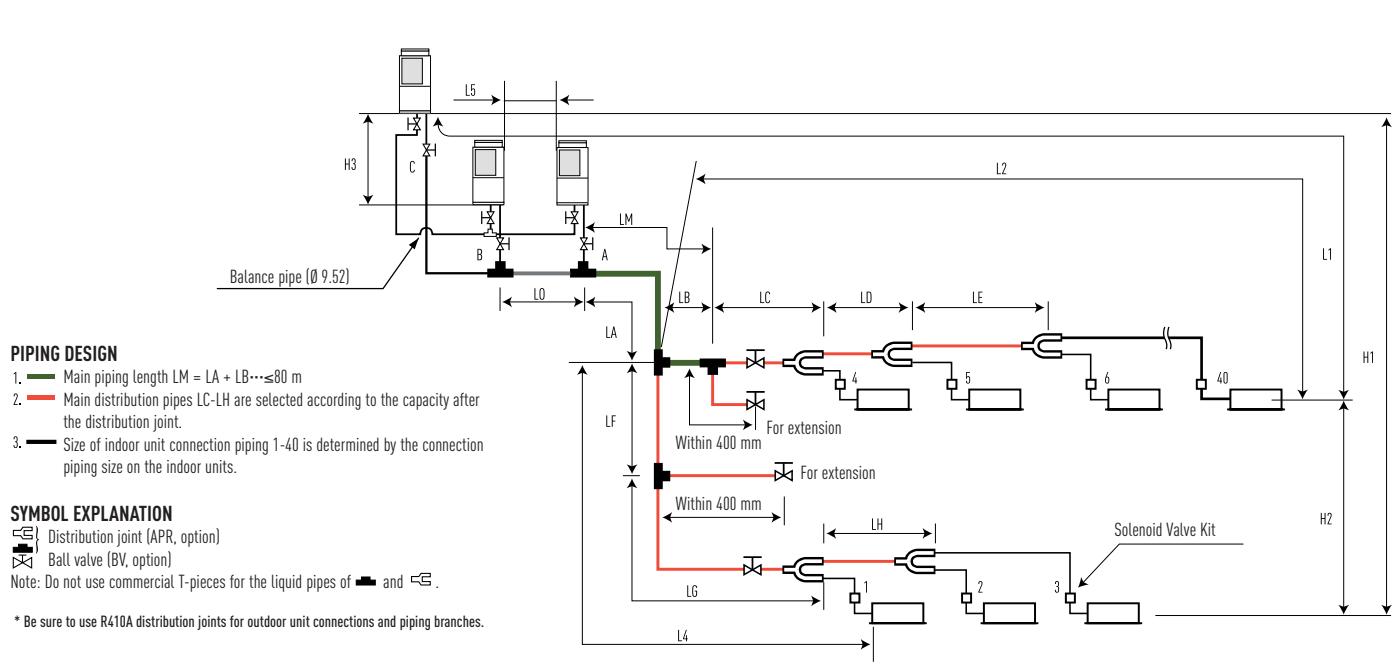
Items	Marks	Contents	Length (m)
Allowable piping length	L1	Max. piping length	Actual piping length ≤ 150 Equivalent piping length ≤ 175
	ΔL (L2-L4)	Difference between the max. length and the min. length from the No. 1 distribution	≤ 40
	LM	Max. length of main piping (at max. diameter)	≤ 80
	1, 2~40	Max. length of each distribution	≤ 30
	L1+1+2+~40+A+B+LF+LG+LH	Total max. piping length including length of each distribution (only liquid tubing)	≤ 300
	L5	Distance between outdoor units	≤ 10
Allowable elevation difference	H1	When outdoor unit is installed higher than indoor unit	≤ 50
		When outdoor unit is installed lower than indoor unit	≤ 40
	H2	Max. difference between indoor units	≤ 15
	H3	Max. difference between outdoor units	≤ 4

Note 1: The outdoor connection main piping (L0 part) depends on the total capacity of the outdoor units connected to the end.

Note 2: When the main piping length (L1) (equivalent length) exceeds 90 m, increase the size of both the gas and liquid main piping (LM) by 1 step.

Specifications subject to change without notice.

Piping design



3 TUBES ECOi MF1 SERIES

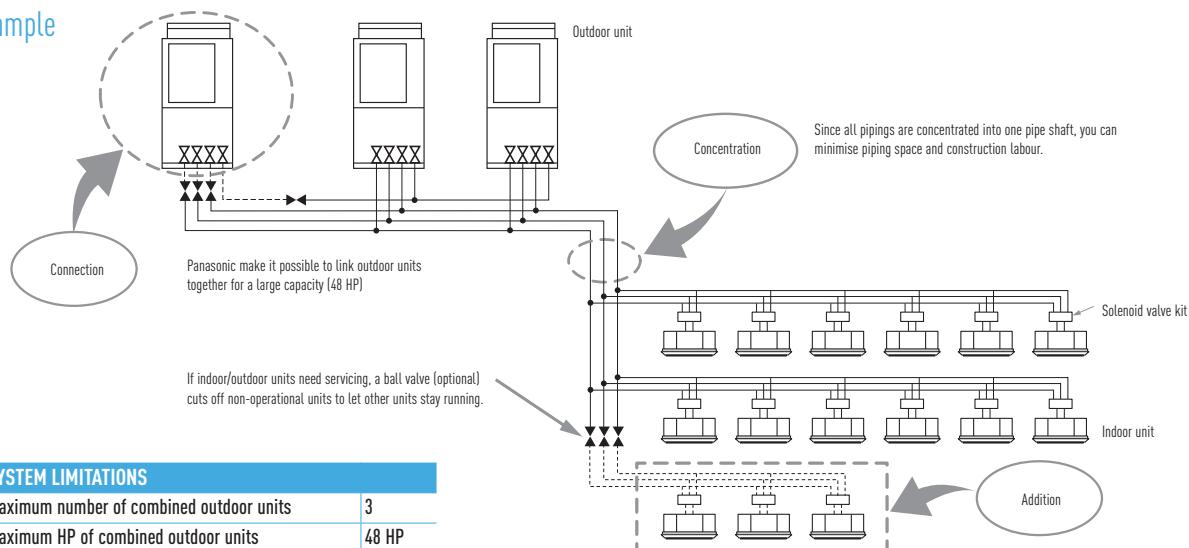
HP		8	10	12	14	16	18	20	22	24		
MODEL NAME		U-8MF1E8	U-10MF1E8	U-12MF1E8	U-14MF1E8	U-16MF1E8	U-8MF1E8 U-10MF1E8	U-10MF1E8 U-10MF1E8	U-10MF1E8 U-12MF1E8	U-10MF1E8 U-14MF1E8		
Power supply		380/400/415V-3phase/50Hz										
Capacity	Cooling	kW	22,4	28,0	33,5	40,0	45,0	50,4	56,0	61,5	68,0	
		BTU/h	76.400	95.500	114.300	136.500	153.600	172.000	191.100	219.900	232.000	
COP	Heating	kW	25,0	31,5	37,5	45,0	50,0	56,5	63,0	69,0	76,5	
		BTU/h	85.300	107.500	128.000	153.600	170.600	192.800	215.000	235.500	261.100	
COP	Cooling	W/W	3,78	3,45	3,41	3,45	3,38	3,57	3,46	3,44	3,45	
	Heating	W/W	4,09	3,95	3,81	3,91	3,79	4,01	3,96	3,88	3,92	
Dimensions	H x W x D	mm	1.887x890x890(+60)	1.887x890x890(+60)	1.887x890x890(+60)	1.887x890x890(+60)	1.887x890x890(+60)	1.887x1.880x890(+60)	1.887x1.880x890(+60)	1.887x1.880x890(+60)	1.887x1.880x890(+60)	
Net weight		kg	290	290	290	350	350	580	580	580	630	
Electrical ratings	Cooling	Running amperes A	10,0/9,5/9,2	13,7/13,0/12,6	16,6/15,7/15,2	20,0/19,0/18,3	23,0/21,8/21,0	23,8/22,6/21,8	27,3/26,0/25,0	30,2/28,7/27,7	33,6/31,9/30,8	
		Power input kW	5,93	8,12	9,82	11,6	13,3	14,1	16,2	17,9	19,7	
Piping connections	Heating	Running amperes A	10,3/9,8/9,4	13,5/12,8/12,3	16,6/15,8/15,2	19,9/18,9/18,2	22,8/21,6/20,9	23,8/22,6/21,8	26,8/25,5/24,6	30,0/28,5/27,5	33,3/31,6/30,5	
		Power input kW	6,11	7,97	9,84	11,5	13,2	14,1	15,9	17,8	19,5	
Air circulation		m³/min	150	160	150	200	220	150+160	160+160	160+180	160+200	
Refrigerant amount at shipment		kg	11,8	11,8	11,8	11,8	11,8	23,6	23,6	23,6	23,6	
Piping connections	Suction pipe	mm	Ø19,05	Ø22,22	Ø25,40	Ø25,40	Ø28,58	Ø28,58	Ø28,58	Ø28,58	Ø28,58	
	Discharge pipe	mm	Ø15,88	Ø19,05	Ø19,05	Ø22,22	Ø22,22	Ø22,22	Ø22,22	Ø25,40	Ø25,40	
	Liquid pipe	mm	Ø9,52	Ø9,52	Ø12,70	Ø12,70	Ø12,70	Ø15,88	Ø15,88	Ø15,88	Ø15,88	
	Balance pipe	mm	Ø9,52	Ø9,52	Ø9,52	Ø9,52	Ø9,52	Ø9,52	Ø9,52	Ø9,52	Ø9,52	
Ambient temperature operating range			Cooling/Dry: -10°C~+43°C (DB). Heating: -20°C~+15°C (WB) Simultaneous operation: -10°C~+43°C (DB)									
Operating sound	Normal mode	dBA	54,5	55	56	60	61	58	58	58,5	58	
	Silent mode	dBA	51,5	52	53	57	58	55	55	55,5	55	

GLOBAL REMARKS Rated conditions: Cooling Heating
 Indoor air temperature 27°C CB / 19°C WB 20°C DB
 Outdoor air temperature 35°C CB 7°C DB / 6°C WB

These specifications subject to change without notice.

* For mixed heating and cooling operation with an outdoor temperature in excess of 24°C DB, please use 50% or more of the horsepower of the outdoor unit for cooling operation.

System example





8-16 HP

26	28	30	32	34	36	38	40	42	44	46	48
U-10MF1E8 U-16MF1E8	U-12MF1E8 U-16MF1E8	U-14MF1E8 U-16MF1E8	U-16MF1E8 U-16MF1E8	U-10MF1E8 U-10MF1E8 U-14MF1E8	U-10MF1E8 U-12MF1E8 U-16MF1E8	U-10MF1E8 U-14MF1E8 U-16MF1E8	U-10MF1E8 U-14MF1E8 U-16MF1E8	U-12MF1E8 U-16MF1E8 U-16MF1E8	U-14MF1E8 U-16MF1E8 U-16MF1E8	U-16MF1E8 U-16MF1E8 U-16MF1E8	U-16MF1E8 U-16MF1E8 U-16MF1E8

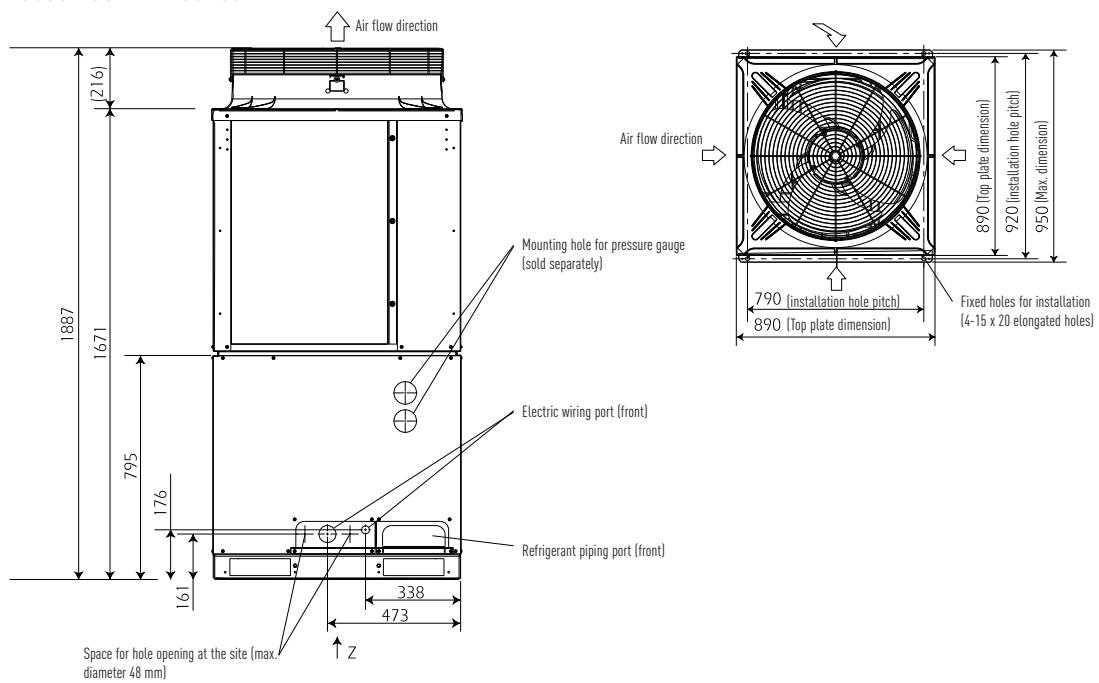
380/400/415V-3phase/50Hz

73,0	78,5	85,0	90,0	96,0	101,0	107,0	113,0	118,0	124,0	130,0	135,0
249.100	267.900	290.100	307.100	327.600	344.700	363.400	385.600	402.700	421.400	443.600	460.700
81,5	87,5	95,0	100,0	108,0	113,0	119,0	127,0	132,0	138,0	145,0	150,0
278.100	300.300	324.200	343.000	368.500	385.600	407.800	431.700	450.400	470.900	494.800	511.900
3,41	3,40	3,41	3,38	3,45	3,41	3,42	3,42	3,40	3,41	3,40	3,38
3,84	3,80	3,85	3,79	3,93	3,88	3,84	3,88	3,84	3,81	3,83	3,79
1.887x1.880x890(+60)	1.887x1.880x890(+60)	1.887x1.880x890(+60)	1.887x1.880x890(+60)	1.887x2.870x890(+60)							
630	630	680	680	920	920	920	970	970	970	1.020	1.020
36,5/34,7/33,5	39,4/37,5/36,1	43,0/40,8/39,4	45,9/43,6/42,1	47,5/45,1/43,5	50,5/48,0/46,3	53,0/51,0/49,0	57,0/54,0/52,0	60,0/57,0/55,0	63,0/60,0/58,0	66,0/63,0/60,0	69,0/65,0/63,0
21,4	23,1	24,9	26,6	27,8	29,6	31,3	33,0	34,7	36,4	38,2	39,9
36,2/34,4/33,1	39,3/37,3/36,0	42,6/40,5/39,0	45,6/43,3/41,7	46,9/44,6/43,0	49,7/47,2/45,5	53,0/50,0/48,0	56,0/54,0/52,0	59,0/56,0/54,0	63,0/59,0/57,0	65,0/62,0/60,0	68,0/65,0/63,0
21,2	23,0	24,7	26,4	27,5	29,1	31,0	32,7	34,4	36,2	37,9	39,6
160+220	180+220	200+220	220+220	160+160+200	160+160+220	160+180+220	160+200+220	160+220+220	180+220+220	200+220+220	220+220+220
23,6	23,6	23,6	23,6	35,4	35,4	35,4	36,0	36,0	36,0	36,0	36,0
Ø31,75	Ø31,75	Ø31,75	Ø31,75	Ø38,10							
Ø25,40	Ø28,58	Ø28,58	Ø28,58	Ø28,58	Ø31,75						
Ø19,05											
Ø9,52											

Cooling/Dry: -10°C~+43°C (DB). Heating: -20°C~+15°C (WB) Simultaneous operation: -10°C~+24°C (DB)

60	60,5	61	61,5	61	61,5	61,5	62	62,5	62,5	63	63,5
57	57,5	58	58,5	58	58,5	58,5	59	59,5	59,5	60	60,5

Dimensions 3 tubes ECOi MF1 series





MINI ECOi* High efficiency

FOR LIGHT COMMERCIAL USE

Panasonic's ECOi Mini, the 2 pipe heat pump small VRF system, is specifically designed for the most demanding applications. Offering between 11 kW and 16 kW cooling capacity in 3 sizes and up to 9 indoor units connected, the ECOi Mini sets standards of performance and flexibility.

Utilising R410A and DC inverter technology, Panasonic offers VRF to a new and growing market.

Forming a new key part of the Panasonic VRF line up, the ECOi Mini is compatible with the same indoor units and controls as the rest of the ECOi range.

*Available in November 2011.



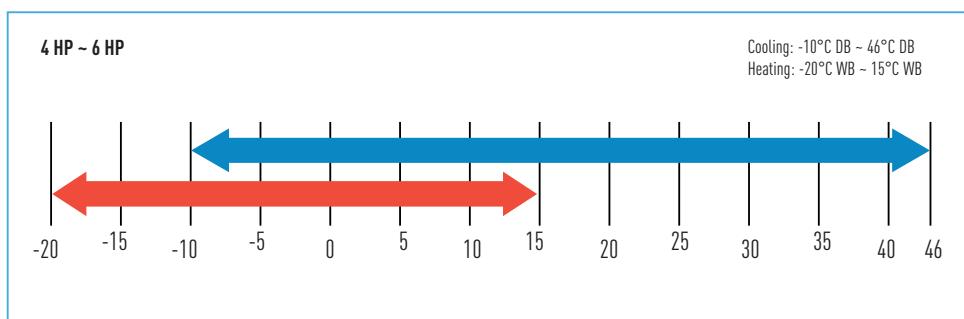
Features at a glance

- High efficiency
- Single phase or three phase power supply
- One AMP start current
- DC inverter technology combined with R410A for excellent efficiency
- Diversity ratio 50-130%
- Cooling operation to -10°C
- Full range of indoor units and control options
- Compact outdoor unit 1.330 x 940 x 410 mm

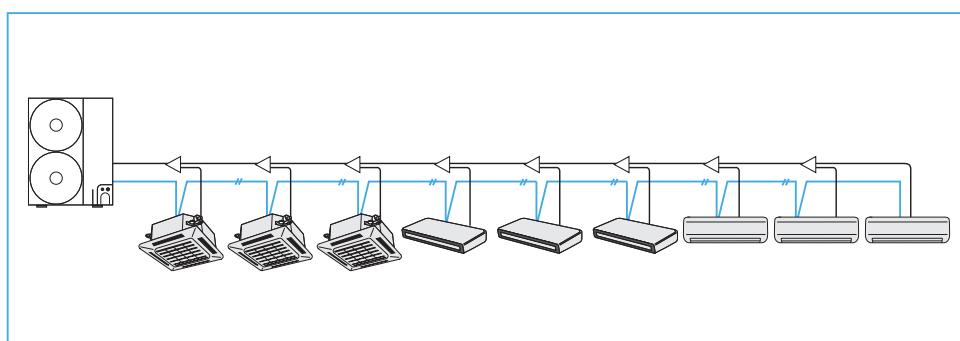
Wide operating range

The operating range for heating operation is to -20°C, the cooling range is to -10°C.

The remote controller temperature setting offers a range from 16°C to 30°C.



Up to 9 indoor units per system



NEW
2011



HP	4	5	6
Model name	U-4LE1E5	U-4LE1E8	U-5LE1E5
Power supply	230 V, 50 Hz	400 V, 50 Hz	230 V, 50 Hz
Cooling capacity	kW	12,10	14,00
Heating capacity	kW	12,50	16,00
Dimensions (H/W/D)		1.330 x 940 x 340	1.330 x 940 x 340
Piping connection	Gas	Inches	5/8
	Liquid	Inches	3/8
Maximum number of indoor units	6	6	8
	8	9	9

Preliminary specifications, subject to change without notice.





NEW GAS SYSTEM

INTRODUCING PANASONIC GAS DRIVEN VRF

THIS SPECIFICATION GUIDE HIGHLIGHTS ALL ASPECTS OF PANASONIC'S HIGHLY INNOVATIVE GAS DRIVEN VRF SYSTEMS.

In recent years expectations about air conditioning systems have significantly risen and changed from all perspectives, be it from the end user, consultant, specifier or installer. High expectations need to be met in providing optimised comfort climate control that is energy efficient, reduces running costs and gives maximum operating flexibility. Panasonic prides itself as a leading innovator and continuously strives to deliver excellence to our customers and partners by developing market leading products and giving best support in installation and maintenance as well as services information.

GAS HEAT PUMPS, GHP*

**NEW
GAS
SYSTEM**



The Gas Heat Pump

Panasonic Gas Heat Pump is natural choice for commercial projects, especially for those projects where power restrictions apply. As you would expect, all of our Gas Driven VRF systems are designed to give the highest reliability rates.

The GHP engine or (internal combustion engine) varies the engine speed to match the building load functions that are comparable with an inverter type electric air conditioner.

* Available in 2012

Easy to position

The advanced Gas Driven VRF systems offers increased efficiency and performance across the range.

Now more powerful than ever before, it can connect up to 48 indoor units. Improvements include increased part load performance, reduced gas consumption with a Miller-cycle engine and reduced electrical consumption by using DC fan motors.

- Up to 71kW of cooling from a current consumption of 11.0 AMPS
- Single phase power supply across the range
- The option of natural gas or LPG as its main power source
- A water heat exchanger to connect to domestic hot water systems 16–25 HP (2-pipe units only)
- Option of DX or chilled water for indoor heat exchange
- Reduced CO₂ emissions

Power supply problems?

If you are short of electrical power, gas heat pump could be the perfect solution:

- Runs on natural gas or LPG and just needs single phase supply
- Enables the building's electrical power supply to be used for other critical electrical demands
- Reduces capital cost to upgrade power substations to run heating and cooling systems
- Reduces power loadings within a building especially during peak periods
- Electricity supply freed up for other uses such as IT servers, commercial refrigeration, manufacturing, lighting etc.



Benefits

High-efficiency operation

All models are equipped with a high-performance air exchanger and a newly developed refrigerant heat exchanger for high efficiency operation, making them one of the most energy efficient solutions on the market.

Lowest nitrogen oxide emissions

The GHP VRF systems have the lowest nitrogen oxide emissions, 66% below the standard. In a pioneering development, the Panasonic GHP features a brand new lean-burn combustion system that utilises air fuel ratio feedback control to reduce NOx emissions to an all time low.

Excellent economy

The Panasonic GHP provides quick and powerful cooling/heating and increases delivery of heat into the space by the efficient recovery of heat from the engine cooling water, which is injected into the refrigerant circuit by an highly efficient plateheat-exchanger.

In addition, the use of engine waste heat ensures that our gas heat pump air conditioner requires no defrost cycle, therefore providing continuous 100% heating performance in severe weather conditions with an outside air temperature as low as -20 °C. During cooling mode the rejected heat from the engine is available for use with in a DHW system and can supply up to 25 kW of hot water at 75 °C. The DHW is also available in heating when the outside air temp is above 7 °C.

High performance

With its advanced heat exchanger design, this new GHP system offers improved efficiency and reduced running costs, which, coupled with improved engine management systems, have greatly improved the system COP rating.

Water chiller option

Our GHP system is also available with a water chiller option, which can be combined with individual outdoor units or as part of a DX chilled water mix of indoor units. The system can be operated via a BMS system or a Panasonic supplied control panel, with chilled water set points from -15°C - 15°C and heating set points 25°C - 55°C.

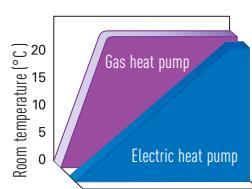
New electrical power generator model

The biggest breakthrough in recent GHP technology is the launch of the ECO G Power, which provides 4.0kW of power. That's enough electricity to power 8 PCs or 40 indoor units.

No defrost requirements

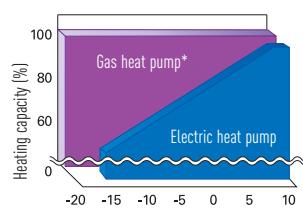
Below 7°C ambient in heating mode, the outdoor fans switch off, saving further running costs and CO2 emissions.

Comparison of the start times for heating operation



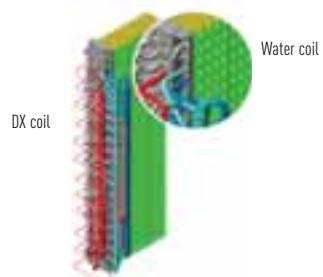
Time axis (in case of the same load)

Comparison of heating capacity



Outside air temperature (°C)
* regarding models 16 and 20

GHP Outdoor Heat Exchanger



- Integrated DX and hot water coil
- No defrost required
- Faster reaction to demand for heating

ECO G POWER*

2 PIPE HEAT PUMP SYSTEM WITH ELECTRICAL POWER GENERATOR

The 2 way Gas Driven VRF with an electrical power generator

Panasonic's ECO G Power is a revolution in air conditioning design. Fitted with a permanent magnet, non-bearing type generator, it is the first VRF system that can supply heating, cooling, hot water and now also a supply of electrical power. Each ECO G Power unit has a 4.0kW generator, which provides enough power for 40 indoor units or the equivalent of 8 PCs.

* Available in 2012

HP MODEL NAME		20 U-20GEG2E5	36 U-16GE2E5 U-20GEG2E5	40 U-20GEG2E5 U-20GEG2E5	45 U-20GEG2E5 U-25GE2E5
Capacity	Cooling	kW	56,00	101,0	112,00
	Heating	STD kW	63,00	113,00	126,00
		Low temp*1 kW	67,00	120,00	134,00
	Hot water (cooling mode)	kW	22,00	37,50	44,00
Power generator capacity at rating		kW	DC 2,50 (Max 4,30)	DC 5,00 (Max 8,60)	DC 2,50 (Max 4,30)
Electricity	Cooling	kW	1,35	2,70	2,70
	Heating	kW	1,01	2,02	2,02
Gas consumption	Cooling	kW	44,00 (38,30)*	75,60	88,00
	Heating STD	kW	48,70 (43,00)*	84,80	97,40
	Heating LOW	kW	62,10 (56,40)*	109,40	124,20
COP	Cooling		1,33 (1,41)*	1,29	1,23
	Heating	Air conditioning only	1,34 (1,43)*	1,30	1,27
	Average		1,34 (1,42)*	1,30	1,25
Max COP (Inc generator, hot water)	Cooling		1,78	1,80	1,78
Size	Height	mm			2248
	Width	mm	1800		1800 + 100 (Min distance) + 1800
	Depth	mm			1000 (+60)
Weight		kg	875	1685	1740
Starter amperes		A	30	30	30
Pipe	Gas	Inches	mm 1 1/8 (ø28.58)	1 1/4 (ø31.75)	1 1/2 (ø38.10)
	Liquid	Inches	mm 5/8 (ø15.88)	3/4 (ø19.05)	3/4 (ø19.05)
	Balance	Inches	mm 3/8 (ø9.52)	3/8 (ø9.52)	3/8 (ø9.52)
	Fuel gas			R3/4 (bolt, thread)	
	Exhaust drain port			ø25 rubber hose	
Operation sound		dB(A)	58	61	61
Indoor/outdoor capacity ratio					50-130%
Number of connections indoor*			32		48

* In case of not generator working.

* 1 Low temp condition: outdoor temperature 2°C

Specifications subject to change without notice.

GLOBAL REMARKS

Rated conditions:	Cooling	Heating
Indoor air temperature	27°C DB / 19°C WB	20°C DB
Outdoor air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

Specifications subject to change without notice.

NEW GAS SYSTEM



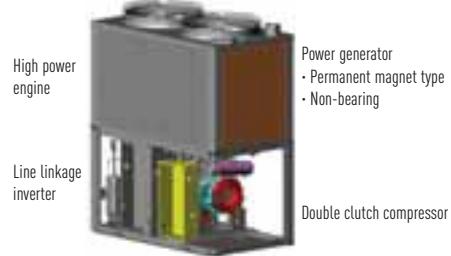
TECHNICAL ZOOM

- INNOVATIVE TECHNOLOGY THAT REDUCES CO₂ EMISSIONS BY UP TO 30%
- 2 WAY AIR CONDITIONING SYSTEM PROVIDING COOLING OR HEATING
- CAN PROVIDE BOTH ELECTRICITY AND HOT WATER IN HEATING AND COOLING MODE
- UP TO 4kW ELECTRICITY GENERATED
- VERY EFFICIENT GENERATOR
- ELECTRICITY IS OUTPUT TO LINE LINKAGE CONVERTER
- HOT WATER PROVIDED WHEN IN COOLING THROUGH OUT TEMPERATURE RANGE AND IN HEATING WHEN THE AMBIENT IS ABOVE 7 °C*
- 22kW HOT WATER GENERATION CAPACITY
- 20HP MODEL PROVIDES 56kW COOLING OR 63kW HEATING
- CAN CONNECT TO UP TO 32 INDOOR UNITS
- 200M MAXIMUM ALLOWABLE PIPING LENGTH (L1)
- IU/OU CAPACITY RATIO 50-130%

* referring to outside temperature

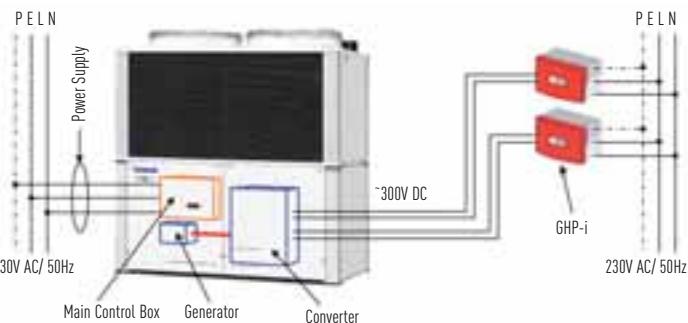
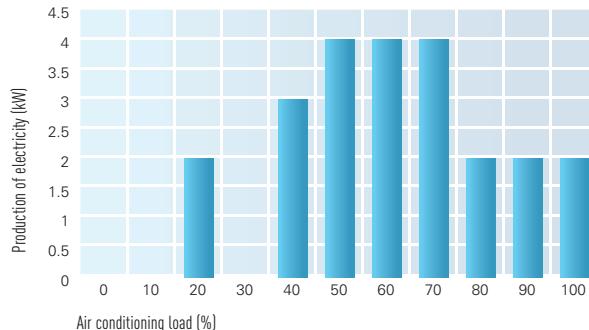
Generates electricity during heating or cooling operation

Generates electricity and air conditioning (heating or cooling) at the same time by using remaining engine power. ECO G Power can generate from 2.3 to 3.9kW electricity at a generation efficiency of more than 40%.



Production of electricity

Generates from 2kW to 4kW depending on air conditioning load



ECO G W-MULTI*

2 PIPE HEAT PUMP SYSTEM

ECO G W-Multi 2 Way for Heat Pump Applications

The M Series 2 Way not only offers improved performance but also increased flexibility. Now available as multi-systems, many combinations are possible, from 16HP to 50HP, allowing for more power and enabling accurate matching of a system building load. Additional new features include part load engine management and compressor run hour equalisation.

* Available in 2012

HP MODEL NAME		16 U-16GE2E5	20 U-20GE2E5	25 U-25GE2E5	32 U-16GE2E5 U-16GE2E5	36* U-16GE2E5 U-25GE2E5
Capacity	Cooling	kW	45,00	56,00	71,00	90,00
	Heating STD	kW	50,00	63,00	80,00	100,00
	Heating Low temp*1	kW	53,00	67,0	75,00	106,00
	Hot water (cooling mode)	kW	16,00	20,00	25,00	32,00
Electricity	Cooling	kW	1,35	1,35	2,70	2,70
	Heating	kW	1,01	1,01	1,54	2,02
Gas consumption	Cooling	kW	31,60	38,30	60,90	63,20
	Heating STD	kW	36,10	43,00	58,00	72,20
	Heating LOW	kW	47,30	56,40	64,90	94,60
COP	Cooling		1,37	1,41	1,14	1,37
	Heating		1,35	1,43	1,34	1,35
	Average		1,36	1,42	1,24	1,36
Max COP (inc hot water)	Cooling		1,85	1,92	1,54	1,85
Size	Height	mm	2248	2248	2248	2248
	Width	mm	1800	1800	1800 + 100 (min distance) + 1800 (in a straight installation)	
	Depth	mm	1000 (+60)	1000 (+60)	1000 (+60)	1000 (+60)
Weight		kg	790	820	850	1580
Starter amperes		A	30	30	30	30
Pipe Connections	Gas	Inches	1 1/8 (ø28.58)	1 1/8 (ø28.58)	1 1/8 (28.58)	1 1/4 (ø31.75)
	Liquid	Inches	1/2 (ø12.7)	5/8 (ø15.88)	5/8 (ø15.88)	3/4 (ø19.05)
	Balance	Inches	3/8 (ø9.52)	3/8 (ø9.52)	3/8 (ø9.52)	3/8 (ø9.52)
	Fuel gas		R3/4 (bolt thread)	R3/4 (bolt thread)	R3/4 (bolt thread)	R3/4 (bolt thread)
	Exhaust drain port		ø25 rubber hose	ø25 rubber hose	ø25 rubber hose	ø25 rubber hose
Operation sound		dB(A)	57	58	62	60
Indoor/outdoor capacity ratio			50-200 %	50-200 %	50-200 %	50-130 %
Number of connections indoor*			36	36	36	48

* In these combinations, EGW190M2G2W is able to connect to a W-multi system Specifications subject to change without notice instead of a EW190M2G2W.

*1 Low temp condition: outdoor temperature 2°C.

GLOBAL REMARKS

Rated conditions:	Cooling	Heating
Indoor air temperature	27°C DB / 19°C WB	20°C DB
Outdoor air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

Specifications subject to change without notice.

**NEW
GAS
SYSTEM**



40*	45*	50
U-20GE2E5	U-20GE2E5	U-25GE2E5
U-20GE2E5	U-25GE2E5	U25GE2E5
112,00	127,00	142,00
126,00	143,00	160,00
134,00	142,00	150,00
40,00	45,00	50,00
2,70	2,70	2,70
2,02	2,55	3,08
76,60	99,20	121,80
86,00	101,00	116,00
112,80	121,30	129,80
1,41	1,25	1,14
1,43	1,38	1,34
1,42	1,31	1,24
1,92	1,69	1,54
2248	2248	2248
1800 + 100 (min distance) + 1800 (in a straight installation)		
1000 (+60)	1000 (+60)	1000 (+60)
1640	1670	1700
30	30	30
1 1/2 (ø38.10)	1 1/2 (ø38.10)	1 1/2 (ø38.10)
3/4 (ø19.05)	3/4 (ø19.05)	3/4 (ø19.05)
3/8 (ø9.52)	3/8 (ø9.52)	3/8 (ø9.52)
R3/4 (bolt thread)	R3/4 (bolt thread)	R3/4 (bolt thread)
ø25 rubber hose	ø25 rubber hose	ø25 rubber hose
61	63	65
50-130 %	50-130 %	50-130 %
48	48	48

Specifications subject to change without notice.

TECHNICAL ZOOM

- REDUCED GAS CONSUMPTION BY MILLER-CYCLE ENGINE
- REDUCED ELECTRICAL POWER CONSUMPTION BY USING DC MOTORS
- NEW LIGHTWEIGHT DESIGN BY USE OF ALUMINIUM ENGINE BLOCK REDUCES WEIGHT BY 110KG
- PART LOAD EFFICIENCIES INCREASED
- CONNECTABILITY INCREASED - NOW UP TO 48 INDOOR UNITS
- MULTI-SYSTEMS WITH COMBINATIONS FROM 13HP UP TO 50HP
- 200M MAXIMUM ALLOWABLE PIPING LENGTH (L1)
- DIVERSITY RATIO 50-200% (SINGLE MODELS ONLY; EXCLUDING ECO G POWER)
- EXTENDED PIPE RUNS (TOTAL 780M)
- QUIET MODE OFFERS A FURTHER 2DB(A) REDUCTION
- CHILLER OPTION
 - 9HP (25KW COOLING - 30KW HEATING)
 - 18HP (50KW COOLING - 60KW HEATING)
- 10,000 RUN HOURS BETWEEN ENGINE SERVICE INTERVALS (EQUIVALENT TO ONE MAINTENANCE EVERY 3.2 YEARS*)
- FULL HEATING CAPACITY DOWN TO -20°C
- NO DEFROST CYCLE
- ASSUMING 3120 RUNNING HRS PER YEAR - 12 HRS X 5 DAYS X 52 WEEKS

* referring to outside temperature

Sample installation



ECO G W-MULTI

2 Pipe Heat Pump System

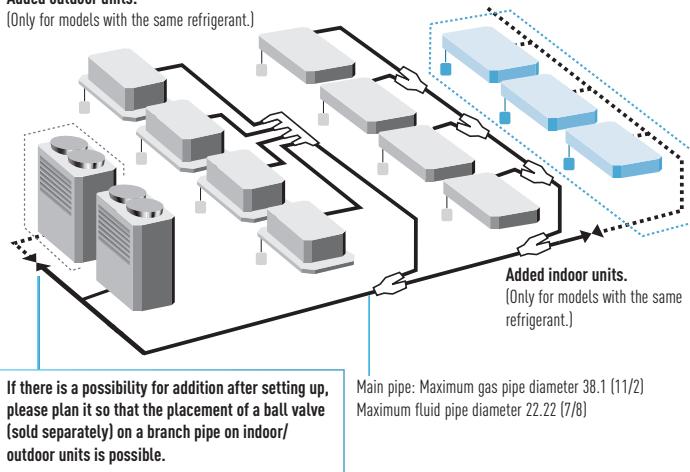
Easy to add additional units in the future

Load can easily be increased in the future by the addition of indoor and outdoor units without having to plumb pipe shafts.

* When specifying refrigerant pipe work, please choose the size according to the horsepower after the increase of units.

Added outdoor units.

(Only for models with the same refrigerant.)



Example of a system

Maximum possible number of outdoor units to be combined: 2 units

Maximum horsepower of combined outdoor units: 50hp

Maximum possible number of indoor units to be connected: 48 units *1

Indoor/outdoor units capacity ratio: 50%~130% *2

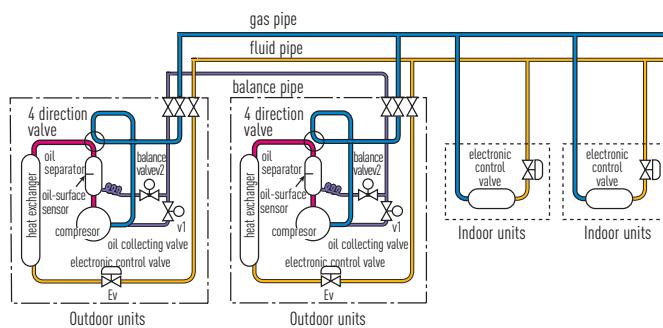
*1 When 2 outdoor units are connected

*2 Capacity of indoor units connection is :

Minimum) 50% of the capacity of the smallest outdoor unit within the system

Maximum) 130%: total capacity of the system outdoor units.

Indoor units are same as multi series for buildings.



Introducing the oil/refrigerant balance control system

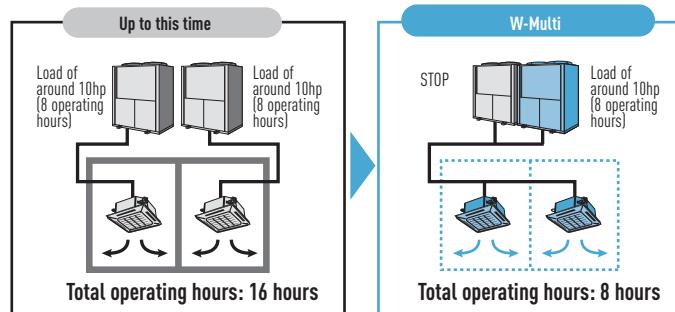
The amounts of oil between compressors are kept in balance by a signal from an oil temperature sensor, allowing the exchange of oil and refrigerant through a balance pipe.

Saving Energy

• Energy savings achieved by the Appropriate Capacity

• Equational Program Function

Energy savings are achieved by the Appropriate Load Divider Function, which enables efficient operation by concentrating the cooling/heating capacity to one outdoor unit and stopping the other. Compared to conventional machines with a similar COP, this function allows an achievement of energy savings and thus reduces the running costs, especially in part-load seasons like spring and autumn.



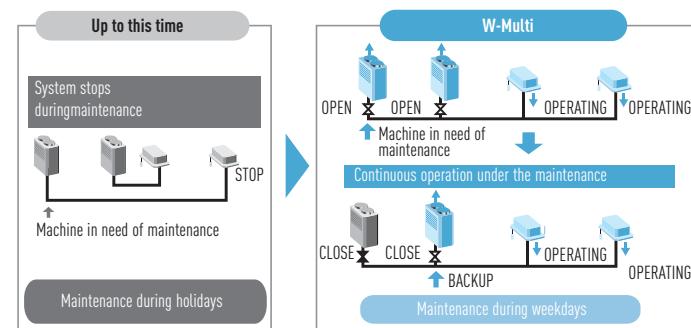
Non-stop operation, even during maintenance

• System will not stop even during maintenance, due to Manual Backup Operating Function

• Maintenance is possible during weekdays because it can continue operating during maintenance.

• Automatic Backup Operating Function enables continuous operation.

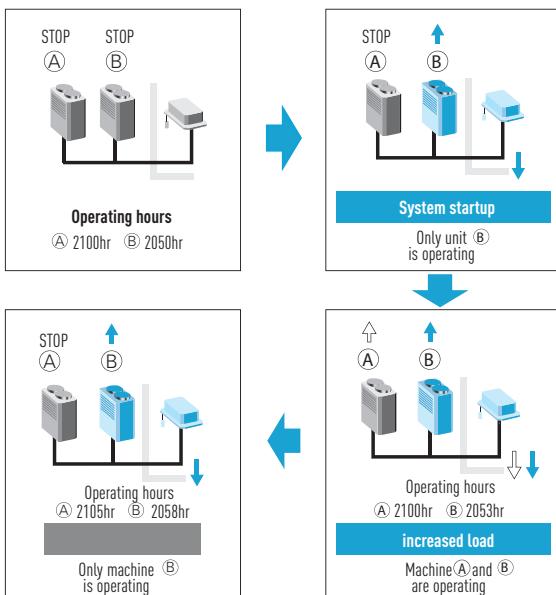
If one outdoor unit stops the backup function will automatically start on the remaining unit and continue operating. During service intervals, the system being serviced can be isolated by a closing valve in the outdoor unit, enabling continuous operation with the still operative outdoor unit.



Long lifetime

- Renewal period prolonged due to rotation function.

Rotation function, which is run from outdoor units with low operating time, will average the operating hours of each outdoor unit. This will result in prolongation of maintenance or replacement period.



Example of the rotation function

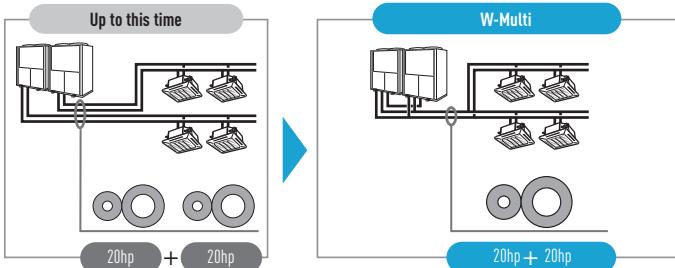
Ease of construction

- By using common header pipe work the installation cost and time is significantly reduced

By combining all pipes, which were needed for each indoor unit, into a common pipe in each system, the number of pipes are reduced by half* which leads to ease of construction. Furthermore, space of pipes within pipe shafts can be reduced by 2/3.*

*System with approximately 40hp (20hp x 2 units)

Combining all pipes, which were needed for each outdoor unit, into a pipe in each system. (Number of pipes is reduced by half)



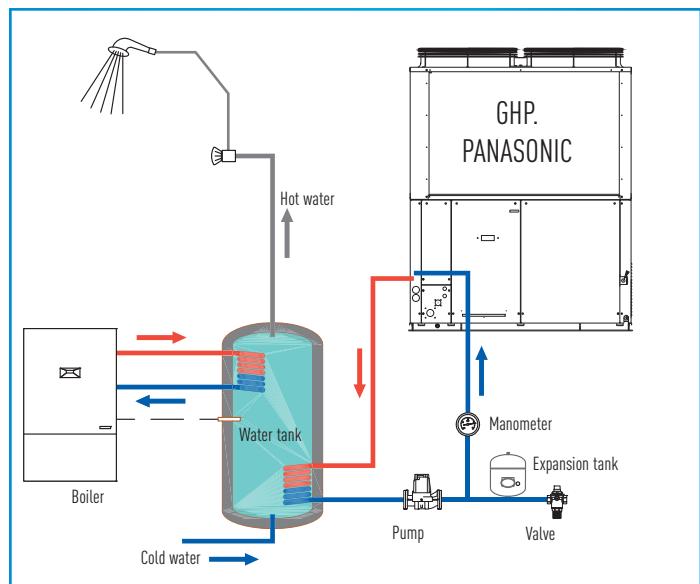
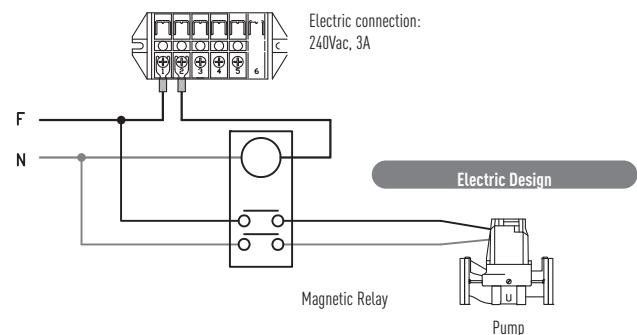
Example of a system with approximately 40hp

Hot Water Supply Function

- System Advantage

The engine waste heat, which is normally exhausted into the atmosphere, is recovered via the heat exchanger and effectively used as hot water, so the GHP Chiller acts as a sub system that alleviates the load on the client's main hot water system, and therefore offers 'free' hot water.

Capacity at cooling standard point	Outlet temp 75°C
Outdoor unit	U-16GE2E5
	16.00
	kW
U-20GE2E5	20.00
U-20GEG2E5	22.00
U-25GE2E5	25.00
Hot water piping allowable pressure	0.7
Hot water circulation rate	MPa
Hot water tube size	m³/h
	Rp 3/4"



- All the items illustrated in this drawing (except the outdoor unit) are not supplied by Panasonic
- During start up, set temperature value of the water in the outdoor unit's parameter.

ECO G 3 WAY MULTI*

3 PIPE HEAT RECOVERY SYSTEM WITH SIMULTANEOUS HEATING & COOLING

The only 3 way GHP system in Europe, the M Series ECO G 3 Way offers even more performance and outstanding features when you need simultaneous heating and cooling. Now with capacities available from 16HP to 25HP, Panasonic offers the greatest choice and flexibility to solve any power problem or site requirement.

* Available in 2012

HP MODEL NAME			16 U-16GF2E5	20 U-20GF2E5	25 U-25GF2E5
Capacity	Cooling	kW	45,00	56,00	71,00
	Heating	STD	50,00	63,00	80,00
		Low temp*	53,00	67,00	75,00
Electricity	Cooling	kW	1,35	1,35	1,35
	Heating	kW	1,010	1,01	1,54
Gas consumption	Cooling	kW	31,60	38,30	60,90
	Heating STD	kW	36,10	43,00	58,00
	Heating LOW	kW	47,30	56,40	64,90
COP	Cooling		1,37	1,41	1,14
	Heating		1,35	1,43	1,34
	Average		1,36	1,42	1,24
Size	Height	mm		2248	
	Width	mm		1800	
	Depth	mm		1000 (+60)	
Weight	kg	845	845	875	
Starter amperes	A	30	30	30	
Pipe	Gas	Inches	1 1/8 (ø28.58)	1 1/8 (ø28.58)	1 1/8 (ø28.58)
	Liquid	Inches	7/8 (ø22.22)	1" (ø25.40)	1" (ø25.40)
	Balance	Inches	3/4 (ø19.05)	3/4 (ø19.05)	3/4 (ø19.05)
	Fuel gas			R3/4	
	Exhaust drain port			ø 25	
Operation sound	dB(A)	57	58	62	
Indoor/outdoor capacity ratio				50-200% *1	
Number of connections indoor*				36	

*Low temp condition: outdoor temperature 2°C

*1 Indoor unit can be connected to up to 16kW model (model size 60)

Specifications subject to change without notice.

GLOBAL REMARKS

Rated conditions:	Cooling	Heating
Indoor air temperature	27°C DB / 19°C WB	20°C DB
Outdoor air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

Specifications subject to change without notice.

NEW GAS SYSTEM

Additional parts



Solenoid valve controller
CZ-CAPEZ / CZ-CAPEK2



Solenoid valve kit

CZ-P56HR2 (for an indoor capacity of max. 5,6 kW)

CZ-P160HR2 (for an indoor capacity of max. 16 kW)

* For conference rooms and other locations where low noise is required, pay attention to the installation location and install in a corridor etc.



TECHNICAL ZOOM

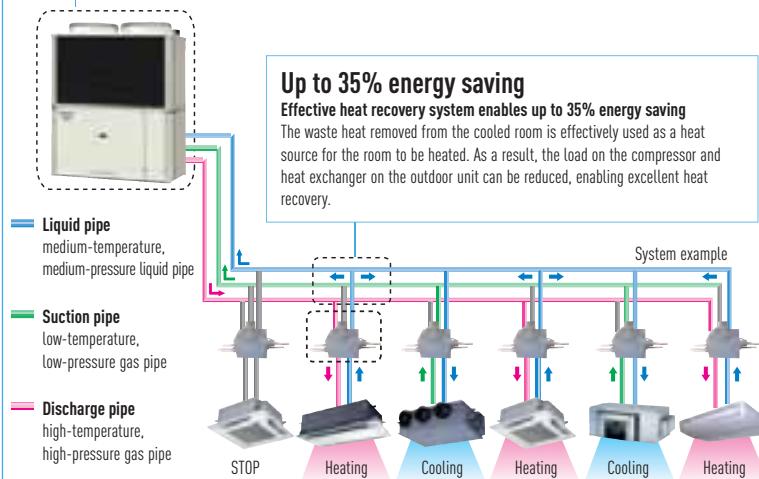
- SIMULTANEOUS HEATING AND COOLING FOR TOTAL CONTROL
- REDUCED GAS CONSUMPTION BY MILLER-CYCLE ENGINE
- REDUCED ELECTRICAL POWER CONSUMPTION BY USING DC MOTORS
- NEW USE OF ALUMINIUM ENGINE BLOCK REDUCES WEIGHT BY 110KG
- PART LOAD EFFICIENCIES INCREASED
- CONNECTABILITY INCREASED TO UP TO 36 INDOOR UNITS
- NOW AVAILABLE IN 16, 20 AND 25HP
- 200M MAXIMUM ALLOWABLE PIPING LENGTH, L1
- DIVERSITY RATIO 50–200%
- EXTENDED PIPE RUNS (TOTAL 780M)
- QUIET MODE OFFERS A FURTHER 2DB(A) REDUCTION
- 10 000 RUN HOURS BETWEEN ENGINE SERVICE INTERVALS (EQUIVALENT TO ONE MAINTENANCE EVERY 3.2 YEARS*)
- FULL HEATING CAPACITY DOWN TO -21 °C
- NO DEFROST CYCLE
- IDEAL FOR ALL BUILDING TYPES
- OPTION OF USING LPG AS A POWER SUPPLY (INCREASES FLEXIBILITY AND AVOIDS PROBLEMS OF POTENTIAL SITE RESTRICTIONS IN THE FUTURE. THE PURER FUEL IS ALSO EXCELLENT FOR FURTHER REDUCTIONS IN CO₂ EMISSIONS)
- ASSUMING 3120 RUNNING HRS PER YEAR - 12 HRS X 5 DAYS X 52 WEEKS

Excellent performance

Panasonic 3 WAY multi system is capable of simultaneous heating/cooling and individual operation of each indoor unit by only one outdoor unit. As a result, efficient individual air conditioning is possible in buildings having diverse room temperatures.

Improved maintenance intervals

The unit only needs to be serviced every 10,000 hours. This is the best in the industry.



Solenoid Valve Kit CZ-P56HR2, CZ-P160HR2

To be fitted on all 'zones' to allow simultaneous heating and cooling
Up to 36 indoor units are capable of simultaneous heating/cooling operation.

ECO G WATER HEAT EXCHANGER*

FOR HYDRONIC APPLICATIONS

The Panasonic ECO G Water Heat Exchanger can provide water at a wide range of temperatures suitable for a wide variety of commercial applications ranging from comfort air conditioning to food processing or the replacement of boilers and other systems.

* Available in 2012

ECO G WATER HEAT EXCHANGER

MODEL NO.		U-12GE2E5	U-250WX2E5	U-500WX2E5
U-12GE2E5	Cooling capacity	kW	25,00	30,00
	Heating capacity	kW	30,00	35,50
U-16GE2E5	Cooling capacity	kW	25,00	37,50
	Heating capacity	kW	30,00	45,00
U-20GE2E5 and U-20GEG2E5	Cooling capacity	kW	25,00	50,00
	Heating capacity	kW	30,00	60,00
U-25GE2E5	Cooling capacity	kW	25,00	56,00
	Heating capacity	kW	30,00	67,00
Must read:	Cooling	kW	0,01	0,01
	Heating	kW	0,01	0,01
Power supply			220/230/240V Single Phase 50Hz	220/230/240V Single Phase 50Hz
Size	Height	mm	1000	1000
	Width	mm	550	550
	Depth	mm	965	965
Weight	kg		125	160
Standard cold/hot water flow rate	m³/h		4,3	8,6
Hydrostatic loss	kPa		8,5	11,3
Holding water quantity inside the unit	m³		0,01	0,02
Minimum holding water quantity outside the unit	m³		0,28	0,50
Pipe connections	inches mm		7/8 (ø22.22)	1 1/8 (ø28.58)
	inches mm		3/8 (ø9.52)	5/8 (ø15.88)
Water circuit limit pressure	MPa		0,686	0,686
Anti-freezing protection system			Protective thermostat	Protective thermostat

Operating condition	Cooling	Heating
Water temperature of water heat exchanger unit	Outlet 7°C	Outlet 45°C
Outdoor side intake air temperature	35°C DB	7°C DB, 6°C WB

Specifications subject to change without notice.

GLOBAL REMARKS

Rated conditions:	Cooling	Heating
Indoor air temperature	27°C DB / 19°C WB	20°C DB
Outdoor air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

Specifications subject to change without notice.

NEW GAS SYSTEM



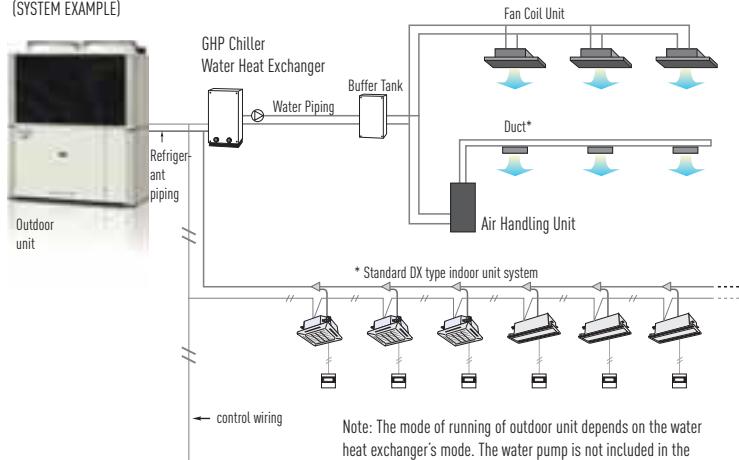
TECHNICAL ZOOM

- IN COOLING (CHILLER) MODE PROVIDES WATER FROM +5 °C TO +15 °C
- IN HEATING MODE CAN PROVIDE HOT WATER UP TO 55°C, FOR EXAMPLE FOR UNDER FLOOR HEATING APPLICATIONS
- INCLUDES WATER FLOW PROTECTION TO PREVENT FREEZING
- S-LINK COMMUNICATION
- ALL CONTROLLERS AND OPTIONAL PCB'S CAN BE USED FOR CONTROL
- HIGH FLEXIBILITY
- LIGHTER AND SMALLER
- SPLIT SYSTEM MEANS REDUCED INSTALLATION COST AND THE USE OF A LESS POWERFUL CIRCULATION PUMP
- ONE TOUCH CHANGEOVER BETWEEN COOLING AND HEATING OPERATION
- THE SYSTEM CAN ACCOMMODATE UP TO 120M (ACTUAL LENGTH) OF PIPING BETWEEN THE OUTDOOR UNIT AND THE WATER HEAT EXCHANGER, ALLOWING FLEXIBILITY OF INSTALLATION LOCATION



Mixed System Application

(SYSTEM EXAMPLE)



Note: The mode of running of outdoor unit depends on the water heat exchanger's mode. The water pump is not included in the water heat exchanger unit. For simultaneous operation, however, the maximum capacity is 130%. Please inquire details of this system design of Panasonic.

- Combined with a water heat exchanger unit, the Panasonic GHP can create a flexible system--the ideal replacement for existing chiller and boiler systems.
- The GHP Multi System can have an indoor unit plus a GHP chiller. When the two systems are operated independently, an outdoor unit with 130% capacity can be connected.

ECO G WATER HEAT EXCHANGER

For hydronic applications

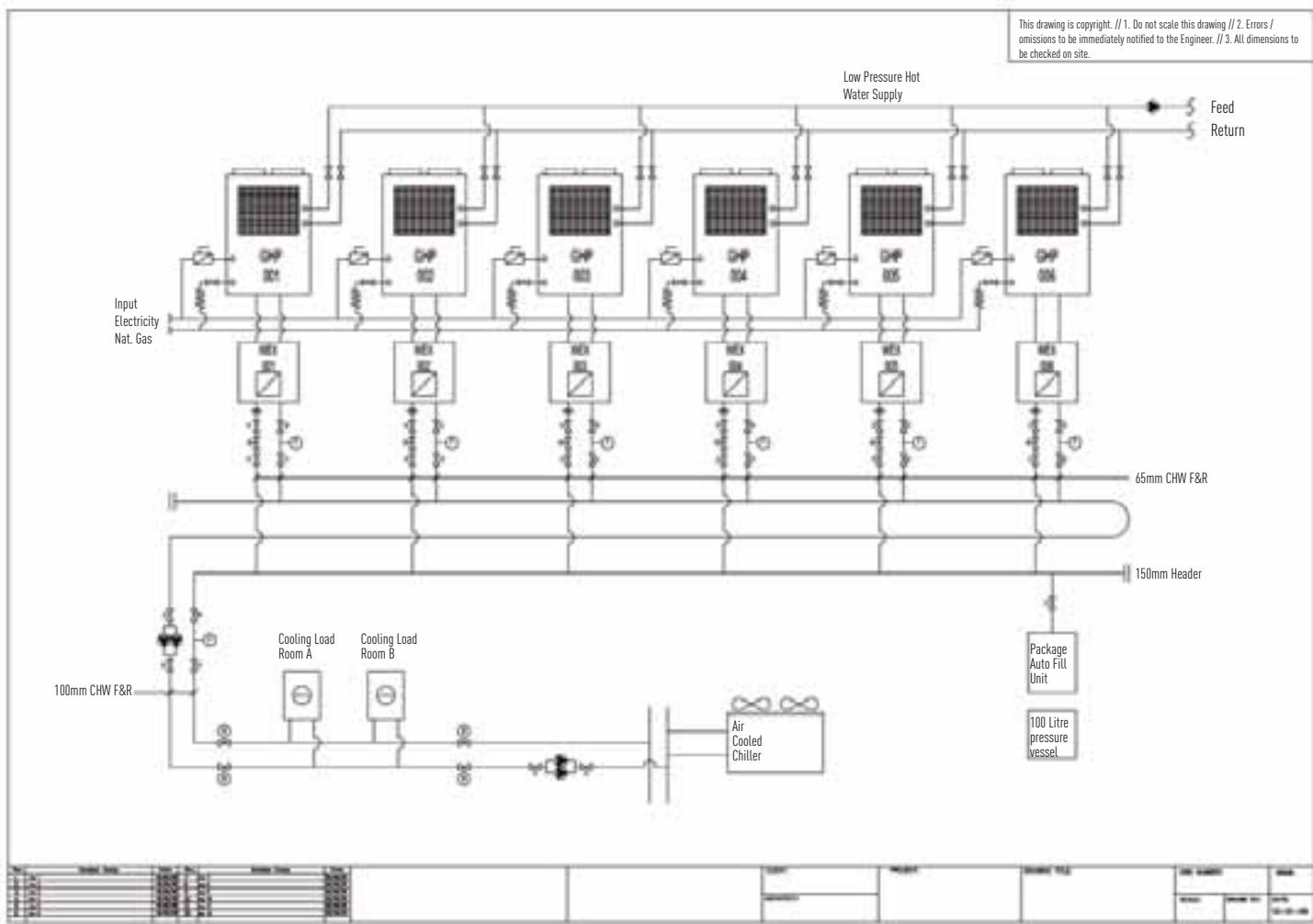


Application Examples

Connection to 'close control' computer equipment.

COMPUTER ROOM APPLICATIONS

When all available electrical power needed to be utilised for the IT equipment for a leading international bank, the cooling load of over 450kW needed to be powered by gas. The outdoor units were connected via Water heat exchangers to cooling coils inside the 'close control' units thereby maintaining a conditioned environment for temperature and humidity. By utilising the hot water function over 100kW of hot water are supplied to the building and therefore the additional benefit of considerable CO₂ savings is ensured.



This Part L design has reduced CO₂ Emissions by 26% or 166 tonnes per annum compared to electric chillers.

Specifications subject to change without notice. R410A

Connection to chilled water coils in air handling equipment.



AIR HANDLING APPLICATION

When a top London restaurant opened it needed large volumes of fresh air to ensure the optimum dining environment. GHP units connected to the cooling coils within the air handling equipment ensured the air was introduced in the right condition in both summer and winter.

Chiller replacement. Chilled water supply to fan coils.



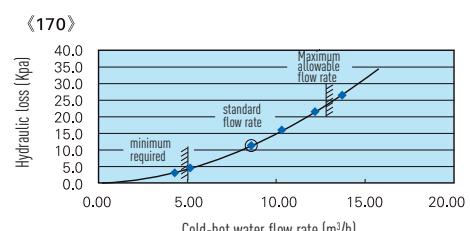
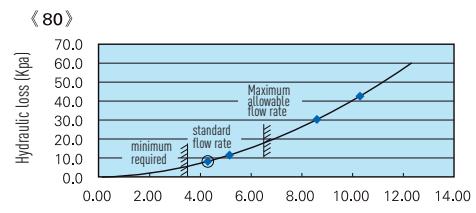
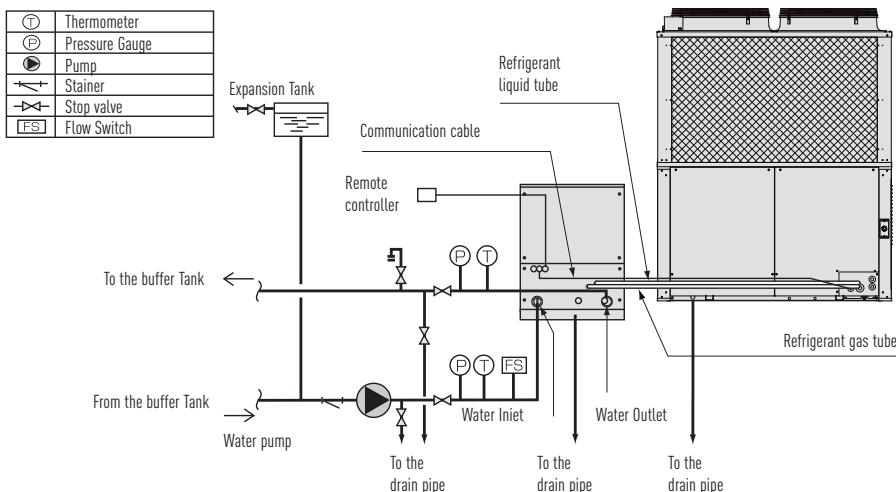
CHILLER REPLACEMENT

When it came for some old chillers to be replaced at the end of their operation life, GHPs with Water heat exchangers enabled the project to be carried out in stages whilst still utilising the existing water pipe work and fan coils. This enabled the project to be delivered on time, to a restricted budget and avoided all issues regarding refrigerant in confined spaces.

INSTALLATION INSTRUCTION OF GHP WATER HEAT EXCHANGER

1: In case of standard installation

2: L1 longer than 90m (Equivalent length) or more than 130% connection ratio



Water piping construction

Warning

- Only use water as the heat medium for the hot and cold water and the chilled water. Otherwise, this could result in fires or explosions.

Caution

- Use water that complies with water standards for hot and cold water and for cooling water.

Poor quality water can cause breakdown or water leaks.

- Dispose of brine and cleaning fluid in accordance with the applicable regulations.

If these items are illegally disposed, not only will this result in legal matters, but it will also have bad effect on the environment and health.

- (1) Water pipes can be connected to either the front or the rear of the water heat exchanger unit. When shipped from the factory, rubber stoppers are fitted to the openings. Openings that are not being used should be closed with the rubber stopper.

- (2) Connect the hot and cold water circulation pump to the inlet pipe side of the water heat exchanger.

- (3) Make the opening of the water pipe larger than the opening of the connector, (50A), and use as few bends as possible, in order to reduce the pipe resistance as much as possible. Also, use unions or flanges near the unit, so that the unit can be easily removed.

- (4) Install a suitable water removal valve and air removal valve in the water pipes. If air becomes mixed with the liquid in the pipes, this can cause noise, corrosion, and reduced performance.

- (5) Make sure that there is always at least the minimum quantity of water (0.3m^3) in the system. (if the water quantity is small, provide a storage tank or similar) If there is insufficient water in the unit this will cause the system to stop frequently or to breakdown.

- (6) Provide a water thermometer and flow rate adjustment valve, so that during test running it is possible to adjust the cold (hot) water flow rate while watching the water temperature. Also, after adjusting, do not touch the adjustment valve.

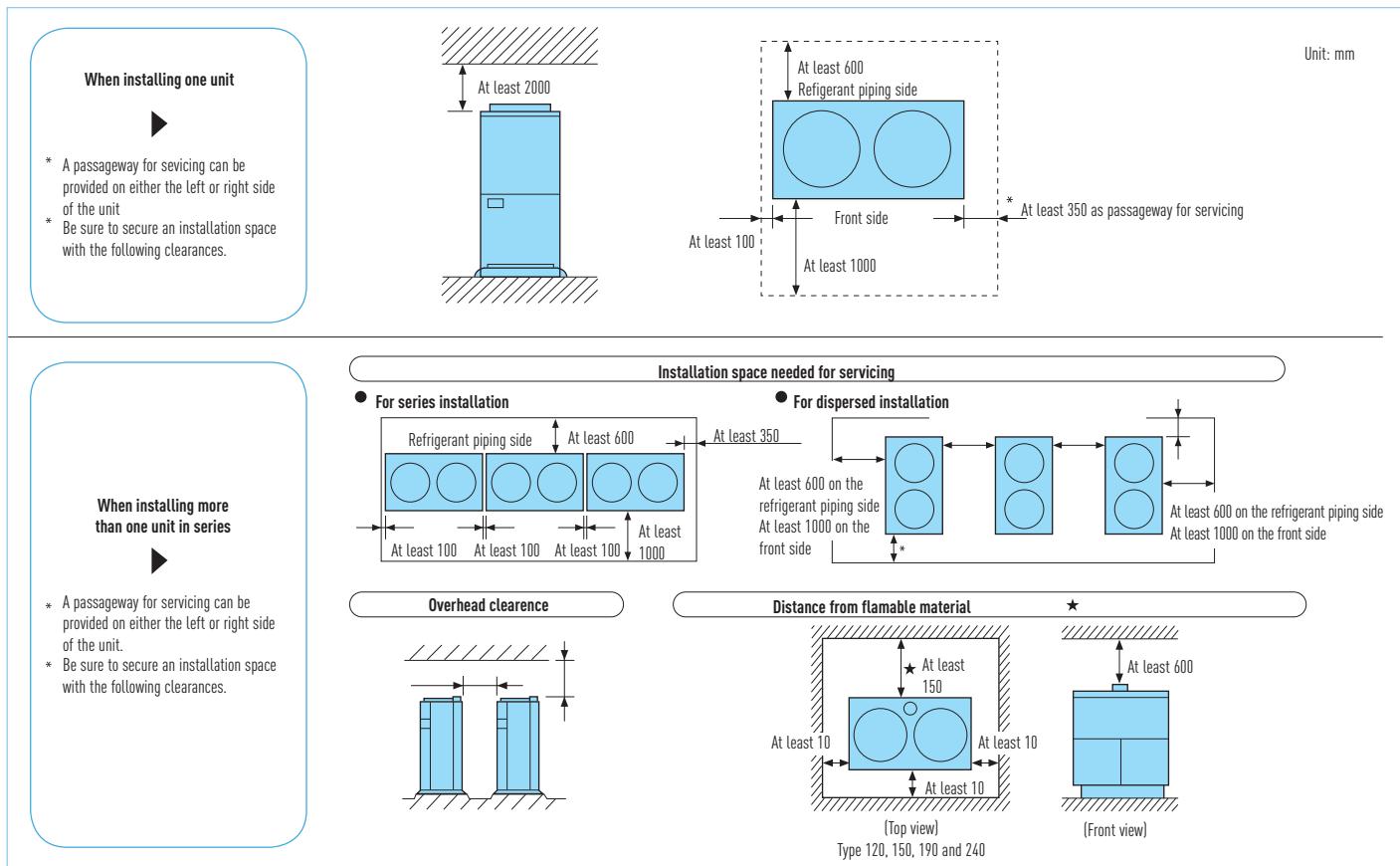
- (7) Adjust the water pressure so that the pressure in the water heat exchanger is less than, 0.69N/mm^2 .
 - (8) Install an expansion tank within the water pipe system.
 - (9) The hot and cold water flow rate should be within the range shown in Figure 3. If used outside this range then it could cause breakdown due to corrosion or freezing of the water heat exchanger unit.
 - (10) Provide sufficient insulation to the water pipes. If Insufficient insulation is provided then this will result in loss of heat. Also, in a severe cold period damage due to freezing of the pipes can occur.
 - (11) Within the water heat exchanger unit there is a circuit such that, if the external air temperature and the temperature of the water within the unit fall, the hot and cold water circulation pump automatically starts, to prevent freezing within the water heat exchanger unit. However, if the unit location or if the insulation to the water pipes is insufficient, the temperature of the water in the pump and hot and cold water pipes might fall and freeze before the temperature of the water in the unit falls. In this situation provide a circuit which detects the outdoor air temperature at the position of the whole water circulation system where the water temperature falls fastest, so that the hot and cold water circulation pump can automatically start. Attach suitable suspension fittings to the pipes, so that no unreasonable load is applied to the water heat exchanger unit.

PRECAUTIONS

Securing adequate space for servicing

Several units can be installed in series

Install the outdoor unit in a well-ventilated location that will help the heat exchanger work at its optimum level. Be sure to secure enough space for maintenance work, referring to the diagram below for minimum clearances. When installing up to three units in series provide a passageway between units for servicing.



Avoid the following installation locations

Install the unit safely and securely in a place where it will be adequately protected and be able to perform at its designed specifications.

- A place that has no space for servicing

Maintenance work can require a large number of instruments and tools. Lack of sufficient space for servicing may prevent the unit from being properly maintained and cared for.

- A place that is unsafe for maintenance work

If the unit is installed on the roof of a building (even if the spot is level) and it is not prevented from falling with a guard rail or similar means, not only will maintenance work become impossible but the unit may fall or other accidents may occur.

- A place where a ladder must be used to access the unit

An installation that requires maintenance workers to go up and down a ladder or stairs makes safe and reliable maintenance work not only difficult but dangerous as well.

- A poorly ventilated location

If the top, side or front of the unit is close to a wall or other obstruction, poor ventilation and lack of sufficient air circulation may not only cause trouble but also prevent the unit from operating normally.

Installing 8 or more outdoor units in series

When installing eight or more outdoor units in series, or when installing units near a wall or other locations where air circulation may be inadequate, give sufficient consideration to the possibility of the units shorting out.

- Near a street lamp or tree

Insects attracted by street lamps in large numbers and leaves from trees can get sucked into the unit and cause it to malfunction.

Other locations to avoid:

- Places where chemicals are used
- Places where the unit will disturb others
- Near a chimney or exhaust outlet
- Places exposed to strong winds
- An installation that has no vibration proof pad
- Near a wall other than a soundproof wall
- Places where salt damage may occur and no preventive measures are taken
- Places with no protection from snow.

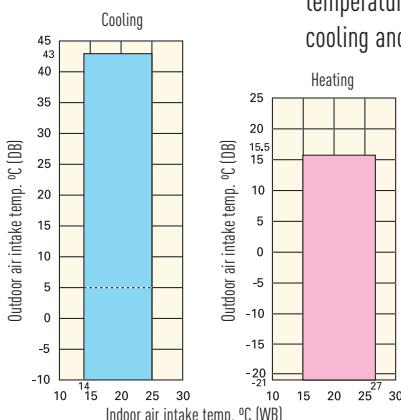
In addition, if the area below the outdoor unit is to be used, make sure the installation pad is constructed so that water drops and oily or greasy dirt will drip down into the area below. Do not use a pad fabricated by metal punching or a similar process.

FEATURES

High technology features



Wider operation



Cooling can be performed throughout the year for computer rooms, banquet halls, etc. Wider operation range covers outdoor temperatures of as low as -10°C DB for cooling and -21°C WB for heating.

Rated condition



Even when power failure occurs, preset programmed operation can be reactivated once power is resumed.



Self-diagnosing function

By using electronic control valves for details of past warnings are stored and can be verified on the liquid crystal display. This makes it easier to diagnose malfunctions, greatly reducing service labor.

SIMPLE, CONVENIENT FEATURES (INDOOR UNITS)



Automatic fan operation- Convenient microprocessor control automatically adjusts fan speed to High, Medium or Low, corresponding to room sensor and maintains comfortable airflow throughout the room.



Built-in drain pump

Max. head 50 cm (or 75 cm: U type) from the bottom of the unit.



Air Sweep

The air sweep function moves the flap up and down in the air outlet, directing air in a "sweeping" motion around the room and providing comfort in every corner.



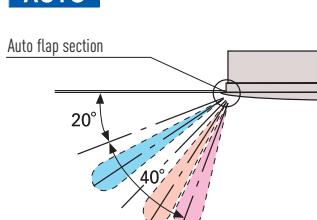
Air Sweep

When the unit is first turned on, flap position is automatically adjusted in accordance with the cooling or heating operation. This initial flap position can be preset within a certain range, for both cooling and heating. Auto button is included for continuous movement of flap to vary airflow direction.



Mild dry

By intermittent control of compressor and indoor unit's fan, "New Mild Dry" gives you comfort. It realizes efficient dehumidification according to room temperature.



Maintenance and inspection

1. Changing the engine oil

2. Checking the coolant level

3. Inspecting the engine system

4. Checking the safety protection system

5. Checking and adjusting the running conditions, collecting operating data, etc.

Since a heat pump air-conditioning system uses a gas engine as its power source, it should be periodically inspected to avoid trouble and keep it running efficiently. We recommend a maintenance contract for your Panasonic Gas Heat Pump, a great value because it not only ensures that problems will be fixed, but it helps reduce running costs and improve comfort and economical efficiency as well.

Maintenance and inspection

Fixing problems

Efficient operation

Preserving durability

Safe and reliable operation

Energy saving

GHP CHECKER SOFTWARE

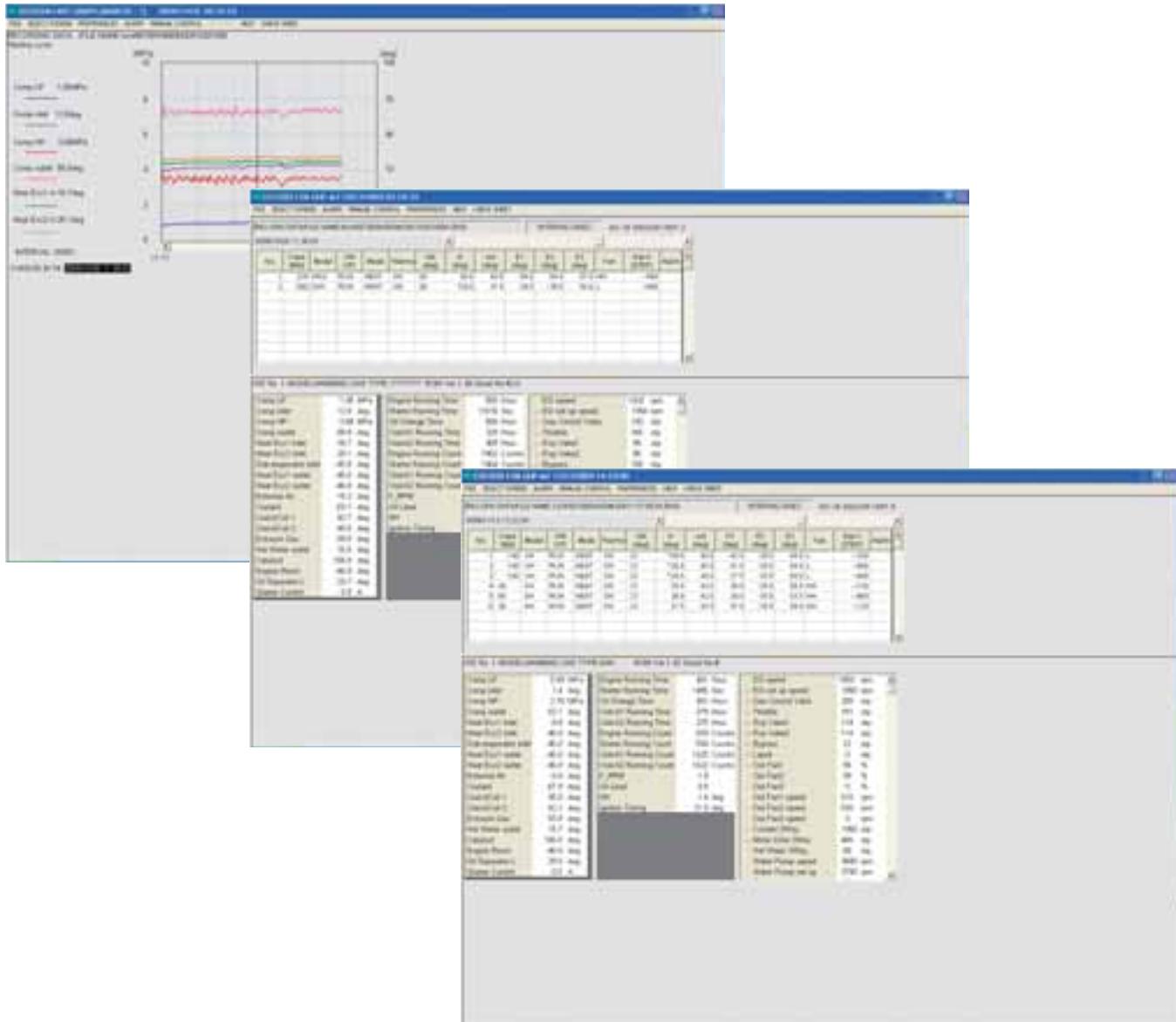
Panasonic's diagnosis software

The handy tool for optimising the running of your system:

Diagnosis for start ups, maintenance and system supervising

Features:

- Diagnosis with a PC
- Endless recording function allows analysis diagnosis even for long term running
- The GHP checker software needs no additional communication adaptor
- The communication between the PC and GHP is done by RS232



NEW
2011

INDOOR UNITS

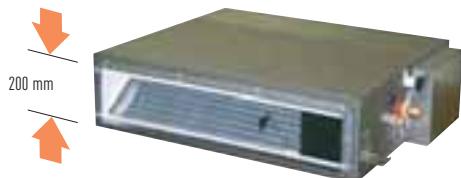
WIDE CHOICE OF MODELS
DEPENDING ON THE INDOOR
REQUIREMENTS



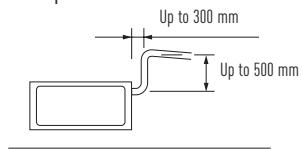


M1 TYPE SLIM LOW STATIC DUCTED

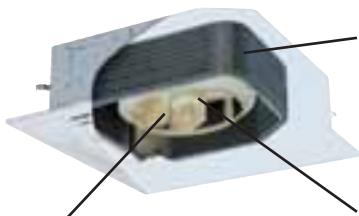
Ultra-slim profile: 200 mm height for all models



Drain pump with increased power!



4-WAY CASSETTE



Higher efficiency split fin.

Improved heat-transfer coefficient due to adoption of high efficiently grooved heat exchanger tube.

New DC-Fan motor.

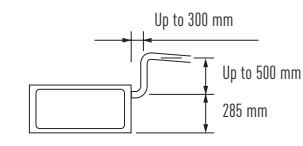
It is realized more optimum air-flow by a new DC-fan motor with independent control.

Individual flap control.

Flexible Air flow direction control by individual flap control is possible. 4 Flaps can be controlled individually by setting on wired timer remote controller. It can make more flexible Air-flow control to be matched to several demands in a room.

F1 TYPE SLIM LOW SILHOUETTE DUCTED

Drain pump with increased power!



By adoption of a high-lift drain pump, the drain piping rise height could be increased to 785 mm from the lower surface of the body.

The static pressure outside the unit can be increased!

By using the booster cable, the static pressure outside the unit can be increased.

Type	22.28.36	45.56	73.90	106	140.160
Standard	49	40	50	79	78
With booster cable use (HT connector)	69	62	92	122	113

K1 TYPE 4-WALL MOUNTED

The compact design and flat face match the interior, and installation without a sense of incongruity even in a small space.

All flat panel & weariless design until 36K btu type.

The compact design and flat face match the interior, and installation without a sense of incongruity even in a small space.

External expansion valve



CZ-P56SVK2
(for unit sizes 22 to 56)

CZ-P160SVK2
(for unit sizes 73 to 106)

Washable front panel.

The indoor unit's front panel can be easily removed and washed for trouble-free cleaning.



Anti-mold filters are standard equipment.

ECOi INDOOR UNITS RANGE

CLASS		22	28	36	45	56	73	90
CAPACITY (COOLING/HEATING)	kW BTU/h	2.2/2.5 7,500/8,500	2.8/3.2 9,600/11,000	3.6/4.2 12,000/14,000	4.5/5.0 15,000/17,000	5.6/6.3 19,000/21,000	7.3/8.0 25,000/27,000	9.0/10.0 30,000/34,000
U1 TYPE 4-WAY CASSETTE								
		S-22MU1E5	S-28MU1E5	S-36MU1E5	S-45MU1E5	S-56MU1E5	S-73MU1E5	
Y1 TYPE 4-WAY CASSETTE 60X60								
		S-22MY1E5	S-28MY1E5	S-36MY1E5	S-45MY1E5	S-56MY1E5		
L1 TYPE 2-WAY CASSETTE								
		S-22ML1E5	S-28ML1E5	S-36ML1E5	S-45ML1E5	S-56ML1E5	S-73ML1E5	
D1 TYPE 1-WAY CASSETTE								
			S-28MD1E5	S-36MD1E5	S-45MD1E5	S-56MD1E5	S-73MD1E5	
F1 TYPE LOW SILHOUETTE DUCTED								
		S-22MF1E5	S-28MF1E5	S-36MF1E5	S-45MF1E5	S-56MF1E5	S-73MF1E5	S-90MF1E5
M1 TYPE SLIM LOW STATIC DUCTED								
		S-22MM1E5	S-28MM1E5	S-36MM1E5	S-45MM1E5	S-56MM1E5		
E1 TYPE HIGH STATIC PRESSURE DUCTED								
							S-73ME1E5	
T1 TYPE CEILING								
				S-36MT1E5	S-45MT1E5	S-56MT1E5	S-73MT1E5	
K1 TYPE WALL MOUNTED								
		S-22MK1E5	S-28MK1E5	S-36MK1E5	S-45MK1E5	S-56MK1E5	S-73MK1E5	
P1 TYPE FLOOR STANDING								
		S-22MP1E5	S-28MP1E5	S-36MP1E5	S-45MP1E5	S-56MP1E5	S-71MP1E5	
R1 TYPE CONCEALED FLOOR STANDING								
		S-22MR1E5	S-28MR1E5	S-36MR1E5	S-45MR1E5	S-56MR1E5	S-71MR1E5	

Wide choice of models depending on the indoor requirements



106	140	160	224	280	WIRELESS REMOTE CONTROL	
10.6/11.4 36,000/39,000	14.0/16.0 47,800/54,600	16.0/18.0 54,600/61,500	22.4/25.0 76,400/85,300	28.0/31.5 95,500/107,500	Wireless sender + built-in receiver	Wireless sender + separately installed receiver
S-106MU1E5	S-140MU1E5	S-160MU1E5			X	X
					X	X
					X	X
					X	X
S-106MF1E5	S-140MF1E5	S-160MF1E5				X
						X
S-106ME1E5	S-140ME1E5	S-224ME1E5	S-280ME1E5			X
S-106MT1E5	S-140MT1E5			X	X	
S-106MK1E5				X	X	
					X	



Self-diagnosing function



Automatic restart function for power failure



Automatic fan operation



Air swing



Mild Dry



Built-in drain pump



Comfortable auto-flap control



U1 TYPE 4-WAY CASSETTE // SEMI CONCEALED CASSETTE

The award winning range of U1 type cassettes are smaller, shallower and lighter than previous models and feature a 950 x 950 mm panel throughout. The DC fan motor and air discharge louvre ensure quiet, optimum air distribution.



MODEL NAME		S-22MU1E5	S-28MU1E5	S-36MU1E5	S-45MU1E5	S-56MU1E5	S-73MU1E5	S-106MU1E5	S-140MU1E5	S-160MU1E5
Power source		220/230/240 V, 1 phase - 50, 60 Hz								
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.3	10.6	14	16
	BTU/h	7,500	9,600	12,000	15,000	19,000	25,000	36,000	47,800	54,600
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3	8.0	11.4	16.0	18.0
	BTU/h	8,500	11,000	14,000	17,000	21,000	27,000	39,000	54,600	61,400
Power input	Cooling	kW	0.030/0.031/0.034	0.030/0.031/0.034	0.030/0.031/0.034	0.033/0.035/0.038	0.039/0.041/0.044	0.053/0.054/0.057	0.100/0.102/0.106	0.109/0.110/0.114
	Heating	kW	0.019/0.019/0.021	0.019/0.019/0.021	0.019/0.019/0.021	0.022/0.023/0.024	0.030/0.031/0.031	0.044/0.044/0.046	0.093/0.094/0.096	0.102/0.102/0.105
Running current	Cooling	A	0.25/0.26/0.26	0.25/0.26/0.26	0.25/0.26/0.26	0.29/0.29/0.29	0.34/0.34/0.34	0.46/0.46/0.45	0.84/0.82/0.82	0.90/0.88/0.88
	Heating	A	0.18/0.18/0.17	0.18/0.18/0.17	0.18/0.18/0.17	0.21/0.21/0.21	0.28/0.28/0.27	0.41/0.40/0.39	0.80/0.77/0.76	0.86/0.83/0.83
Fan	Type	Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan
	Air flow rate (H/M/L)	m³/h	780/720/660	780/720/660	780/720/660	900/840/780	1,020/900/780	1,260/1,020/840	1,980/1,620/1,260	2,100/1,680/1,320
	Motor output	kW	0.05	0.05	0.05	0.05	0.05	0.09	0.09	0.09
Sound power level (L/M/H)	dB	38/40/42	38/40/42	38/40/42	38/40/42	38/40/42	39/42/45	44/47/50	45/49/53	47/51/55
Sound pressure level (L/M/H)	dB(A)	27/28/29	27/28/29	27/28/29	27/28/30	27/29/32	28/31/35	32/38/43	33/39/44	34/40/45
Dimensions	H x W x D	mm	256 (+33.5) x 840 (950) x 840 (950)					319 (+33.5) x 840 (950) x 840 (950)		
Pipe connections	Liquid	inches (mm)	1/4 (Ø6.35)	1/4 (Ø6.35)	1/4 (Ø6.35)	1/4 (Ø6.35)	3/8 (Ø9.52)	3/8 (Ø9.52)	3/8 (Ø9.52)	3/8 (Ø9.52)
	Gas	inches (mm)	1/2 (Ø12.7)	1/2 (Ø12.7)	1/2 (Ø12.7)	1/2 (Ø12.7)	5/8 (Ø15.88)	5/8 (Ø15.88)	5/8 (Ø15.88)	5/8 (Ø15.88)
	Drain piping	VP-25	VP-25	VP-25	VP-25	VP-25	VP-25	VP-25	VP-25	VP-25
Net weight	kg	24	24	24	24	24	25	29	29	29

GLOBAL REMARKS	Rated conditions:	Cooling Indoor air temperature Outdoor air temperature	Heating 27°C DB / 19°C WB 20°C DB 7°C DB / 6°C WB
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Specifications subject to change without notice.

**NEW
2011**

AIR INTAKE CHAMBER

Air intake plenum CZ-FDU2

Air intake box CZ-ATU2

Both Air intake plenum and Air intake box are necessary

**PANEL**

CZ-KPU2

**OPTIONAL CONTROLLER**

Timer remote controller

CZ-RTC2

Wireless remote controller

CZ-RWSU2

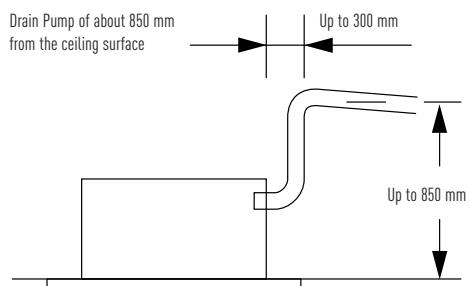
CZ-RWSC2

Simplified remote controller

CZ-RE2C2

**TECHNICAL FOCUS**

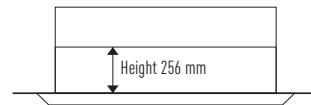
- COMPACT DESIGN
- REDUCED SOUND LEVELS (FROM PREVIOUS MODELS)
- DC FAN MOTOR FOR INCREASED EFFICIENCY
- POWERFUL DRAIN PUMP GIVES 850 mm LIFT
- LIGHTWEIGHT DESIGN
- FRESH AIR KNOCKOUT
- BRANCH DUCT CONNECTION
- OPTIONAL AIR-INTAKE PLENUM CZ-FDU2



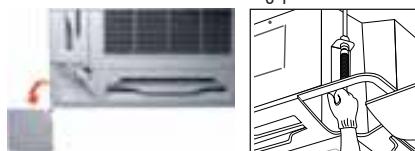
The flap can be removed easily for washing with water.



The top class lightest weight with 26 kg (sizes 140 and 160), body height only 256 mm (sizes 22 to 73), so that installation is possible even in narrow ceilings.

**Easy fine adjustment of the body suspension height!**

The four corners of the ceiling panel have adopted removable corner pockets.



Even after installation, fine adjustment of the suspension height is possible easily by removing the corner pockets.

Light, thin, and attractive design with easy installation

The direction of the air intake grille can be changed. A wireless remote control light receiver can be installed by changing the corner cover. The installation can be done in a short time.

**Easy servicing of the drain pan**

A large-diameter (45 mm) drain pan inspection port has been provided, and drain pan and drain pump can be cleaned easily.





Y1 TYPE 4-WAY CASSETTE 60X60 // MINI SEMI CONCEALED CASSETTE

Designed to fit exactly into a 600 x 600 mm ceiling grid without the need to alter the bar configuration, the Y1 is ideal for small commercial and retrofit applications. In addition, the improvements to efficiency make this one of the most advanced units in the industry.



MODEL NAME		S-22MY1E5	S-28MY1E5	S-36MY1E5	S-45MY1E5	S-56MY1E5
Power source		220/230/240 V, 1 phase - 50, 60 Hz				
Cooling capacity	kW	2.2	2.8	3.6	4.7	5.6
	BTU/h	7,500	9,600	12,000	16,000	19,000
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3
	BTU/h	8,500	11,000	14,000	17,000	21,000
Power input	Cooling	kW	0.024/0.025/0.025	0.024/0.025/0.025	0.026/0.027/0.027	0.030/0.031/0.031
	Heating	kW	0.014/0.015/0.015	0.014/0.015/0.015	0.017/0.017/0.018	0.020/0.021/0.021
Running current	Cooling	A	0.16/0.16/0.15	0.16/0.16/0.15	0.18/0.18/0.17	0.21/0.21/0.20
	Heating	A	0.13/0.13/0.12	0.13/0.13/0.12	0.15/0.15/0.14	0.18/0.18/0.17
Fan	Type		Centrifugal fan	Centrifugal fan	Centrifugal fan	Centrifugal fan
	Airflow rate (H/M/L)	m³/min	480/420/360	480/420/360	540/480/420	640/510/450
	Motor output	kW	0.030	0.030	0.030	0.030
Sound power level (L/M/H)		dB(A)	36/38/41	36/38/41	37/40/43	39/43/47
Sound pressure level (L/M/H)		dB(A)	25/27/30	25/27/30	26/29/32	28/32/36
Dimensions	H x W x D	mm	283+(30) x 575 (625) x 575 (625)			
Pipe connections	Liquid	inches (mm)	1/4 (Ø6.35)	1/4 (Ø6.35)	1/4 (Ø6.35)	1/4 (Ø6.35)
	Gas	inches (mm)	1/2 (Ø12.7)	1/2 (Ø12.7)	1/2 (Ø12.7)	1/2 (Ø12.7)
	Drain piping		VP-20	VP-20	VP-20	VP-20
Net weight	kg	18,4	18,4	18,4	18,4	18,4

GLOBAL REMARKS

Rated conditions:	Cooling	Heating
Indoor air temperature	27°C DB / 19°C WB	20°C DB
Outdoor air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

Specifications subject to change without notice.

**NEW
2011**

PANEL
CZ-KPY2



OPTIONAL CONTROLLER

Timer remote controller
CZ-RTC2

Wireless remote controller
CZ-RWSY2
CZ-RWSC2

Simplified remote controller
CZ-RE2C2



TECHNICAL FOCUS

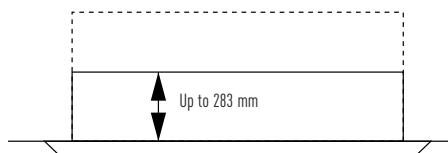
- MINI CASSETTE FITS INTO A 600x600 mm CEILING GRID
- FRESH AIR KNOCK OUT
- MULTIDIRECTIONAL AIR FLOW
- ANTI-MOULD AND ANTI-BACTERIA WASHABLE FILTERS
- POWERFUL DRAIN PUMP GIVES 850 mm LIFT
- TURBO FANS AND HEAT EXCHANGER FINS WITH IMPROVED DESIGN
- DC FAN MOTORS WITH VARIABLE SPEED, NEW HEAT EXCHANGERS, ETC. ENSURE AN EFFICIENT POWER CONSUMPTION
- OPTIONAL AIR-INTAKE PLENUM CZ-ATU2

Special designed flap

The flap can be removed easily for washing with water.

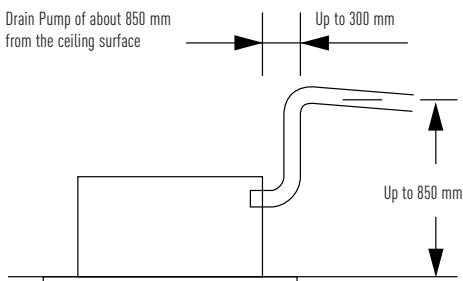


A lightweight unit at 18.4 kg the unit is also very slim with a height of only 283 mm, making installation possible even in narrow ceilings.



A drain height of approx. 850 mm from the ceiling surface

The drain height can be increased by approximately 350 mm over the conventional value by using a high-lift drain pump, and long horizontal piping is possible.





L1 TYPE 2-WAY CASSETTE

Realisation of thin, compact and light units. Remarkable size and weight reductions have been achieved by improvement of the design around the fan, the weight of all models now being 30 kg.



MODEL NAME		S-22ML1E5	S-28ML1E5	S-36ML1E5	S-45ML1E5	S-56ML1E5	S-73ML1E5
Power source		220/230/240V, 1 phase - 50, 60Hz					
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.3
	BTU/h	7,500	9,600	12,000	15,000	19,000	25,000
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3	8.0
	BTU/h	8,500	11,000	14,000	17,000	21,000	27,000
Power input	Cooling	kW	0.086/0.090/0.095	0.086/0.092/0.097	0.088/0.093/0.099	0.091/0.097/0.103/	0.091/0.097/0.103
	Heating	kW	0.055/0.058/0.062	0.055/0.060/0.064	0.057/0.061/0.066	0.060/0.065/0.070	0.060/0.065/0.070
Running current	Cooling	A	0.45/0.45/0.45	0.44/0.45/0.45	0.44/0.45/0.45	0.45/0.45/0.45	0.45/0.45/0.45
	Heating	A	0.29/0.29/0.30	0.28/0.29/0.30	0.28/0.29/0.30	0.29/0.29/0.30	0.46/0.48/0.49
Fan	Type		Sirocco fan				
	Airflow rate (H/M/L)	m³/min	480/420/360	540/480/420	580/520/460	660/540/480	660/540/480
	Motor output	kW	0.03	0.03	0.03	0.03	0.05
Sound power level (L/M/H)	dB(A)		35/38/40	37/40/44	39/42/45	40/44/46	40/44/46
Sound pressure level (L/M/H)	dB(A)		24/27/30	26/29/33	28/31/34	29/33/35	29/33/35
Dimensions	H x W x D	mm	350+(8) x 840 (1,060) x 600 (680)				
Pipe connections	Liquid	inches (mm)	1/4 (Ø6.35)				
	Gas	inches (mm)	1/2 (Ø12.7)				
	Drain piping		VP-25	VP-25	VP-25	VP-25	VP-25
Net weight	kg		30	30	30	30	30

GLOBAL REMARKS

Rated conditions:	Cooling	Heating
Indoor air temperature	27°C DB / 19°C WB	20°C DB
Outdoor air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

Specifications subject to change without notice.

**NEW
2011**

PANEL

CZ-02KPL2

Big size panel (for S-73ML1E5) CZ-03KPL2

**OPTIONAL CONTROLLER**

Timer remote controller

CZ-RTC2

Wireless remote controller

CZ-RWSL2

CZ-RWSC2

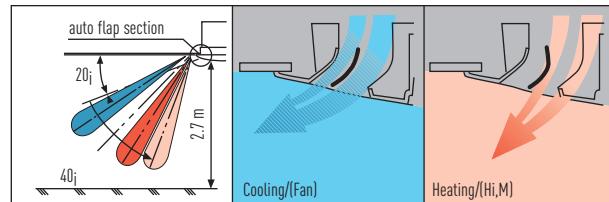
Simplified remote controller

CZ-RE2C2

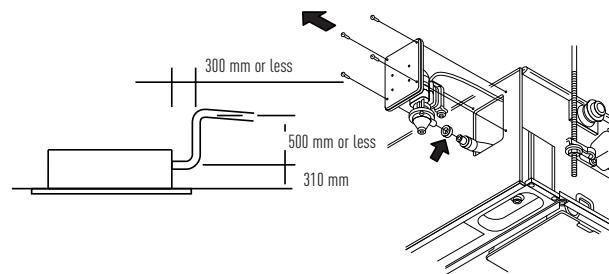
**TECHNICAL FOCUS**

- AIRFLOW AND DISTRIBUTION IS AUTOMATICALLY ALTERED DEPENDING ON THE OPERATIONAL MODE OF THE UNIT
- DRAIN UP IS POSSIBLE UP TO 500 mm FROM THE DRAIN PORT
- SIMPLE MAINTENANCE

Airflow and distribution is automatically altered depending on the operational mode of the unit.



Drain up is possible up to 500 mm from the drain port.



Maintenance of the drain pump is possible from two sides, from the left side (piping side) and from the inside of the unit.

Simple maintenance

The drain pan is equipped with site wiring and can be removed. The fan case has a split construction, and the fan motor can be removed easily when the lower case is removed.



D1 TYPE 1-WAY CASSETTE // SEMI CONCEALED SLIM CASSETTE

Designed for installation within the ceiling void, the D1 range of slimline 1 way blow cassettes feature powerful yet quiet fans for up to 4,2 metres.



MODEL NAME		S-28MD1E5	S-36MD1E5	S-45MD1E5	S-56MD1E5	S-73MD1E5
Power source		220/230/240 V, 1 phase - 50, 60 Hz				
Cooling capacity	kW	2.8	3.6	4.5	5.6	7.3
	BTU/h	9,600	12,000	15,000	19,000	25,000
Heating capacity	kW	3.2	4.2	5.0	6.3	8.0
	BTU/h	11,000	14,000	17,000	21,000	27,000
Power input	Cooling	kW	0.050/0.051/0.052	0.050/0.051/0.052	0.050/0.051/0.052	0.058/0.060/0.061
	Heating	kW	0.039/0.040/0.042	0.039/0.040/0.042	0.039/0.040/0.042	0.046/0.048/0.049
Running current	Cooling	A	0.40/0.39/0.39	0.40/0.39/0.39	0.40/0.39/0.39	0.46/0.46/0.46
	Heating	A	0.36/0.35/0.35	0.36/0.35/0.35	0.36/0.35/0.35	0.42/0.41/0.41
Fan	Type		Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
	Airflow rate (H/M/L)	m³/min	720/600/540	720/600/540	720/660/600	780/690/600
	Motor output	kW	0.05	0.05	0.05	0.05
Sound power level (L/M/H)		dB(A)	44/45/47	44/45/47	45/46/47	45/47/49
Sound pressure level (L/M/H)		dB(A)	33/34/36	33/34/36	34/35/36	34/36/38
Dimensions	H x W x D	mm	200+(20)x1,000(1,230)x710 (800)	200+(20)x1,000(1,230)x710 (800)	200+(20)x1,000(1,230)x710 (800)	200+(20)x1,000(1,230)x710 (800)
Pipe connections	Liquid	inches (mm)	1/4 (Ø6.35)	1/4 (Ø6.35)	1/4 (Ø6.35)	1/4 (Ø6.35)
	Gas	inches (mm)	1/2 (Ø12.7)	1/2 (Ø12.7)	1/2 (Ø12.7)	1/2 (Ø12.7)
	Drain piping		VP-25	VP-25	VP-25	VP-25
Net weight		kg	26,5	26,5	26,5	27,5

GLOBAL REMARKS

Rated conditions:	Cooling	Heating
Indoor air temperature	27°C DB / 19°C WB	20°C DB
Outdoor air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

Specifications subject to change without notice.

**NEW
2011**

PANEL
CZ-KPU2



OPTIONAL CONTROLLER

Timer remote controller
CZ-RTC2

Wireless remote controller
CZ-RWST2
CZ-RWSC2

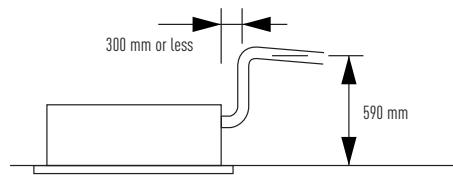
Simplified remote controller
CZ-RE2C2



TECHNICAL FOCUS

- ULTRA-SLIM
- SUITABLE FOR STANDARD AND HIGH CEILINGS
- BUILT-IN DRAIN PUMP PROVIDES 590 MM LIFT
- EASY TO INSTALL AND MAINTAIN
- HANGING HEIGHT CAN BE EASILY ADJUSTED
- USES A DC FAN MOTOR TO IMPROVE ENERGY-EFFICIENCY

Drain height



With 3 types of air-blow systems, the units can be used in various ways.

(1) One-direction down-blow system



Powerful one-direction "downblow" system reaches the floor even from high ceilings (up to 4,2 m).

(2) Two-direction ceiling-mounted system

"Down-blow" and "front-blow" systems are combined in a ceiling-mounted unit to blow air over a wide area.



(3) One-direction ceiling-mounted system

This powerful ceiling-mounted "front-blow" system efficiently air-conditions the space in front of the unit.

[Additional accessories required]



F1 TYPE LOW SILHOUETTE DUCTED

The new F1 type is designed specifically for applications requiring fixed square ducting. With internal filter and 10kW cooling capacity the UR Type is ideal for installations such as apartments.



MODEL NAME		S-22MF1E5	S-28MF1E5	S-36MF1E5	S-45MF1E5	S-56MF1E5	S-73MF1E5	S-90MF1E5	S-106MF1E5	S-140MF1E5	S-160MF1E5
Power source		220/230/240V, 1 phase - 50Hz									
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.3	9.0	10.6	14.0	16.0
	BTU/h	7,500	9,600	12,000	15,000	19,000	25,000	30,000	36,000	47,800	54,600
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3	8.0	10.0	11.4	16.0	18.0
	BTU/h	8,500	11,000	14,000	17,000	21,000	27,000	34,000	39,000	54,600	61,500
Power input	Cooling	kW	0.094/0.100/0.106	0.094/0.100/0.106	0.094/0.100/0.106	0.096/0.102/0.109	0.096/0.102/0.109	0.180/0.195/0.210	0.187/0.203/0.219	0.312/0.327/0.342	0.308/0.325/0.341
	Heating	kW	0.082/0.088/0.094	0.082/0.088/0.094	0.082/0.088/0.094	0.084/0.090/0.097	0.084/0.090/0.097	0.168/0.183/0.198	0.176/0.191/0.207	0.300/0.315/0.330	0.296/0.313/0.329
Running current	Cooling	A	0.45/0.46/0.47	0.45/0.46/0.47	0.45/0.46/0.47	0.44/0.45/0.46	0.44/0.45/0.46	0.83/0.86/0.89	0.88/0.91/0.94	1.44/1.45/1.46	1.42/1.43/1.44
	Heating	A	0.40/0.41/0.42	0.40/0.41/0.42	0.40/0.41/0.42	0.39/0.40/0.41	0.39/0.40/0.41	0.78/0.81/0.84	0.84/0.87/0.90	1.39/1.40/1.41	1.36/1.37/1.38
Fan motor	Type	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
	Airflow rate (H/M/L)	m³/min	600/510/420	600/510/420	600/510/420	720/630/540	720/630/540	1,080/900/780	1,200/1,020/840	1,800/1,560/1,260	1,980/1,800/1,500
	Motor output	kW	0.05	0.05	0.05	0.05	0.05	0.07	0.07	0.14	0.14
	External static pressure	Pa	49 (69)	49 (69)	49 (69)	40 (62)	40 (62)	50 (92)	50 (92)	79 (122)	78 (113)
Sound power level (L/M/H)		dB	33/37/40	33/37/40	33/37/40	36/39/41	36/39/41	38/41/45	38/41/45	42/44/49	44/48/51
Sound pressure level (L/M/H/[H-booster])		dB(A)	22/26/29/(32)	22/26/29/(32)	22/26/29/(32)	25/28/30/(33)	25/28/30/(33)	27/30/34/(38)	27/30/34/(38)	31/33/38/(42)	33/37/40/(44)
Dimensions		H x W x D	mm	310x700x630	310x700x630	310x700x630	310x700x630	310x1,000x630	310x1,000x630	310x1,480x630	310x1,480x630
Pipe connections	Liquid	inches (mm)	1/4 (Ø6.35)	3/8 (Ø9.52)	3/8 (Ø9.52)	3/8 (Ø9.52)	3/8 (Ø9.52)				
	Gas	inches (mm)	1/2 (Ø12.7)	5/8 (Ø15.88)	5/8 (Ø15.88)	5/8 (Ø15.88)	5/8 (Ø15.88)				
	Drain piping		VP-25								
Net weight		kg	24	24	24	25	25	32	32	47	47

GLOBAL REMARKS	Rated conditions:	Cooling Indoor air temperature Outdoor air temperature	Heating 27°C DB / 19°C WB 7°C DB / 6°C WB
		35°C DB / 24°C WB	

Specifications subject to change without notice.

**NEW
2011**



OPTIONAL CONTROLLER

Timer remote controller
CZ-RTC2

Wireless remote controller
CZ-RWSC2

Simplified remote controller
CZ-RE2C2

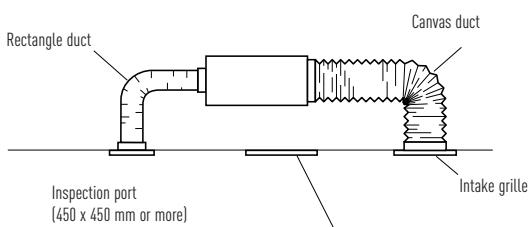


TECHNICAL FOCUS

- INDUSTRY-LEADING LOW SOUND LEVELS FROM 22 DB(A)
- BUILT-IN DRAIN PUMP PROVIDES 785 mm LIFT
- EASY TO INSTALL AND MAINTAIN
- AIR OFF SENSOR AVOIDS COLD AIR DUMPING
- CONFIGURABLE AIR TEMPERATURE CONTROL

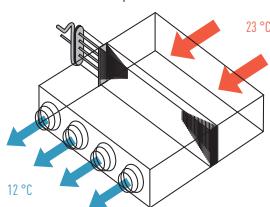
System example

An inspection port (450 mm x 450 mm or more) is required at the lower side of the indoor unit body.



7-22°C AIR OFF TEMPERATURE CONTROL AS STANDARD

- Able to control air off temperature
- Reduces cold drafts
- Accurate room temperature controls



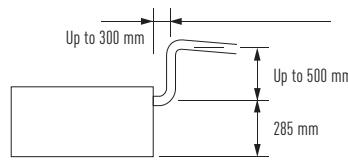
Lowest noise levels in the industry. The static pressure outside the unit can be increased

By using the booster cable, the static pressure outside the unit can be increased.

TYPE	7-9-12	16-18	25	36	48-60
Standard	49 Pa	40 Pa	50 Pa	79 Pa	78 Pa
With booster cable use	69 Pa	62 Pa	92 Pa	122 Pa	113 Pa

More powerful drain pump

By adoption of a high-lift drain pump, the drain piping rise height can be increased to 785 mm from the lower surface of the body.



Unified body height of approximately 310 mm for all models

Even models with different capacities can be installed smoothly in the ceiling.



External electrical equipment box makes maintenance easy



M1 TYPE SLIM LOW STATIC DUCTED // CONCEALED DUCT

The ultra slim M1 type is one of the leading products of its type in the industry. With a depth of only 200 mm it provides greater flexibility and can be used in far more applications. In addition, its high-efficiency and extremely quiet sound levels make it very popular with many users, including hotels and small offices.



MODEL NAME		S-22MM1E5	S-28MM1E5	S-36MM1E5	S-45M,MM1E5	S-56MM1E5
Power source		220/230/240 V, 1 phase - 50, 60 Hz				
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6
	BTU/h	7,500	9,600	12,000	15,000	19,000
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3
	BTU/h	8,500	11,000	14,000	17,000	21,000
Power input	Cooling	kW	0.036/0.036/0.036	0.040/0.040/0.040	0.042/0.042/0.042	0.049/0.049/0.049
	Heating	kW	0.026/0.026/0.026	0.030/0.030/0.030	0.032/0.032/0.032	0.039/0.039/0.039
Running current	Cooling	A	0.26/0.26/0.26	0.30/0.30/0.30	0.31/0.31/0.31	0.37/0.37/0.37
	Heating	A	0.23/0.23/0.23	0.27/0.27/0.27	0.28/0.28/0.28	0.34/0.34/0.34
Fan motor	Type	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
	Airflow rate (H/M/L)	m³/min	480/420/360	510/450/390	540/480/420	630/570/480
	Motor output	kW	0.05	0.05	0.05	0.05
	External static pressure	Pa	10 (30)	15 (30)	15 (40)	15 (40)
Sound power level (L/M/H)		dB	40/42/43	42/44/45	43/45/47	45/47/49
Sound pressure level (L/M/H)		dB(A)	25/27/28 (27/29/30) 1	27/29/30 (29/31/32) 1	28/30/32 (30/32/34) 1	30/32/34 (32/34/36) 1
Dimensions	H x W x D	mm	200 x 750 x 640			
Pipe connections	Liquid	inches (mm)	1/4 (Ø6.35)	1/4 (Ø6.35)	1/4 (Ø6.35)	1/4 (Ø6.35)
	Gas	inches (mm)	1/2 (Ø12.7)	1/2 (Ø12.7)	1/2 (Ø12.7)	1/2 (Ø12.7)
	Drain piping	VP-20	VP-20	VP-20	VP-20	VP-20
Net weight	kg	19	19	19	19	19

GLOBAL REMARKS

Rated conditions:	Cooling	Heating
Indoor air temperature	27°C DB / 19°C WB	20°C DB
Outdoor air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

Specifications subject to change without notice.

**NEW
2011**



OPTIONAL CONTROLLER

Timer remote controller
CZ-RTC2

Wireless remote controller
CZ-RWSC2

Simplified remote controller
CZ-RE2C2



TECHNICAL FOCUS

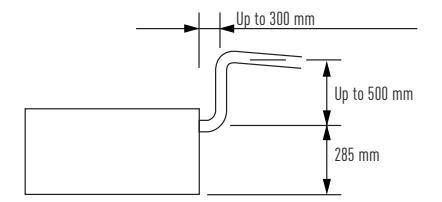
- ULTRA-SLIM PROFILE: 200 mm FOR ALL MODELS
- DC FAN MOTOR GREATLY REDUCES POWER CONSUMPTION
- IDEAL FOR HOTEL APPLICATION WITH VERY NARROW FALSE CEILINGS
- ANTI-MOULD WASHABLE FILTERS INCLUDED
- EASY MAINTENANCE AND SERVICE BY EXTERNAL ELECTRICAL BOX
- 40 PA STATIC PRESSURE ENABLES DUCTWORK TO BE FITTED.
- INCLUDES DRAIN PUMP

Ultra-slim profile for all models



Drain pump with increased power!

By adoption of a high-lift drain pump, the drain piping rise height can be increased to 785 mm from the lower surface of the body.





E1 TYPE HIGH STATIC PRESSURE DUCTED // CONCEALED DUCT HIGH-STATIC PRESSURE

The E1 range of ducted units offers improved design flexibility for extended duct layouts as a result of their increased external static pressures.



MODEL NAME		S-73ME1E5	S-106ME1E5	S-140ME1E5	S-224ME1E5	S-280ME1E5
Power source		220/230/240 V, 1 phase - 50, 60 Hz		220/230/240 V, 1 phase - 50 Hz		
Cooling capacity	kW	7.3	10.6	14.0	22.4	28.0
	BTU/h	25,000	36,000	47,800	76,400	95,500
Heating capacity	kW	8.0	11.4	16.0	25.0	31.5
	BTU/h	27,000	39,000	54,600	85,300	107,500
Power input	Cooling	kW	0.480/0.505/0.530	0.520/0.545/0.570	0.600/0.660/0.710	0.870/0.900/0.930
	Heating	kW	0.480/0.505/0.530	0.520/0.545/0.570	0.600/0.660/0.710	0.870/0.900/0.930
Running current	Cooling	A	2.29/2.30/2.31	2.46/2.46/2.47	2.80/2.90/3.00	4.05/4.06/4.07
	Heating	A	2.29/2.30/2.31	2.46/2.46/2.47	2.80/2.90/3.00	4.05/4.06/4.07
Fan	Type		Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
	Air flow rate (H/M/L)	m³/h	1,380/1,320/1,260	1,800/1,680/1,500	2,160/2,100/1,980	3,360/3,190/2,980
	Motor output	kW	0.2	0.2	0.35	0.2
	External static pressure	Pa	186	176	167	176
Sound power level (L/M/H)		dB	53/54/55	53/55/56	55/57/58	57/58/59
Sound pressure level (L/M/H)		dB(A)	42/43/44	42/44/45	44/46/47	46/47/48
Dimensions	H x W x D	mm	420 x 1,065 x 620	420 x 1,065 x 620	450 x 1,065 x 620	467 x 1,428 x 1,230
Pipe connections	Liquid	inches (mm)	3/8 (Ø9.52)	3/8 (Ø9.52)	3/8 (Ø9.52)	3/8 (Ø9.52)
	Gas	inches (mm)	5/8 (Ø15.88)	5/8 (Ø15.88)	5/8 (Ø19.05)	7/8 (Ø22.22)
	Drain piping		VP-25	VP-25	VP-25	VP-25
Net weight	kg	47	50	54	110	120

1 With booster cable.

GLOBAL REMARKS	Rated conditions:	Cooling	Heating
	Indoor air temperature	27°C DB / 19°C WB	20°C DB
	Outdoor air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

Specifications subject to change without notice.



**NEW
2011**



OPTIONAL CONTROLLER

Timer remote controller
CZ-RTC2

Wireless remote controller
CZ-RWSC2

Simplified remote controller
CZ-RE2C2

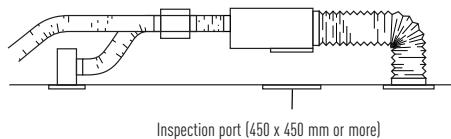


TECHNICAL FOCUS

- COMPLETE FLEXIBILITY FOR DUCTWORK DESIGN
- CAN BE LOCATED INTO A WEATHERPROOF HOUSING FOR EXTERNAL SITING
- AIR OFF SENSOR AVOIDS COLD AIR DUMPING
- CONFIGURABLE AIR TEMPERATURE CONTROL

System example

An inspection port (450 x 450 mm or more) is required at the lower side of the indoor unit body (field supply).



Rap valve kit CZ-P160RVK2

The types 224 and 280 require two rap valve kits for each unit.
(not required on a 1:1 installation)





T1 TYPE CEILING // FLOOR/CEILING MOUNTED

The T1 type ceiling mounted unit feature a DC fan motor for increased efficiency and reduced operating sound levels. All the units are the same height and depth for a uniform appearance in mixed installations and feature a fresh air knockout for improved air quality.



MODEL NAME		S-36MT1E5	S-45MT1E5	S-56MT1E5	S-73MT1E5	S-106MT1E5	S-140MT1E5
Power source		220/230/240 V, 1 phase - 50, 60 Hz					
Cooling capacity	kW	3.6	4.5	5.6	7.3	10.6	14.0
	BTU/h	12,000	15,000	19,000	25,000	36,000	47,800
Heating capacity	kW	4.2	5.0	6.3	8.0	11.4	16.0
	BTU/h	14,000	17,000	21,000	27,000	39,000	54,600
Power input	Cooling	kW	0.028/0.029/0.029	0.028/0.029/0.029	0.031/0.032/0.032	0.043/0.043/0.044	0.073/0.074/0.075
	Heating	kW	0.028/0.029/0.029	0.028/0.028/0.029	0.031/0.031/0.032	0.042/0.042/0.043	0.072/0.073/0.074
Running current	Cooling	A	0.26/0.24/0.23	0.26/0.24/0.23	0.28/0.26/0.24	0.38/0.35/0.33	0.62/0.57/0.53
	Heating	A	0.26/0.24/0.23	0.26/0.24/0.23	0.28/0.26/0.25	0.38/0.35/0.34	0.62/0.57/0.55
Fan	Type	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
	Air flow rate (H/M/L)	m³/h	720/600/540	780/660/540	780/660/540	1,110/900/840	1,650/1,380/1,200
	Motor output	kW	0.03	0.03	0.03	0.04	0.08
Sound power level (L/M/H)		dB	41/43/46	41/44/47	41/44/47	44/47/49	46/49/52
Sound pressure level (L/M/H)		dB(A)	30/32/35	30/33/36	30/33/36	33/36/38	35/38/41
Dimensions	H x W x D	mm	210 x 910 x 680	210 x 910 x 680	210 x 910 x 680	210 x 1,180 x 680	210 x 1,595 x 680
Pipe connections	Liquid	inches (mm)	1/4 (Ø6.35)	1/4 (Ø6.35)	1/4 (Ø6.35)	3/8 (Ø9.52)	3/8 (Ø9.52)
	Gas	inches (mm)	1/2 (Ø12.7)	1/2 (Ø12.7)	1/2 (Ø12.7)	5/8 (Ø15.88)	5/8 (Ø15.88)
	Drain piping	VP-20	VP-20	VP-20	VP-20	VP-20	VP-20
Net weight	kg	21	21	21	25	33	33

GLOBAL REMARKS	Rated conditions:	Cooling Indoor air temperature Outdoor air temperature	Heating 27°C DB / 19°C WB 7°C DB / 6°C WB
		35°C DB / 24°C WB	

Specifications subject to change without notice.

**NEW
2011**



OPTIONAL CONTROLLER

Timer remote controller
CZ-RTC2



Wireless remote controller
CZ-RWST2
CZ-RWSC2



Simplified remote controller
CZ-RE2C2

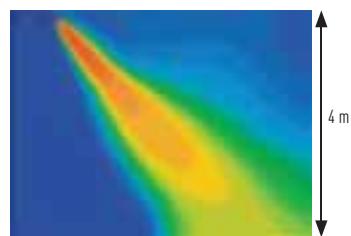


TECHNICAL FOCUS

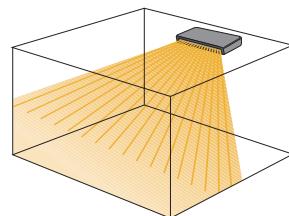
- LOW SOUND LEVELS
- NEW DESIGN, ALL UNITS JUST 210 mm HIGH
- LARGE AND WIDE AIR DISTRIBUTION
- EASY TO INSTALL AND MAINTAIN
- FRESH AIR KNOCKOUT

Further comfort improvement

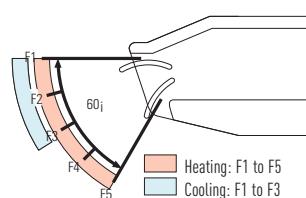
The wide air discharge opening widens the air flow to the left and the right, so that a comfortable temperature is obtained in the entire room. The unpleasant feeling caused when the air flow directly hits the human body is prevented by the "Draft prevention position", which changes the swing width, so that the degree of comfort is increased.



Further comfort improvement with airflow distribution



Air distribution is automatically altered depending on the operational mode of the unit





K1 TYPE // WALL MOUNTED

The K1 Type wall mounted unit has a stylish smooth panel which not only looks good but is also easy to clean. The unit is also smaller, lighter and substantially quieter than previous models making it ideal for small offices and other commercial applications.

environmentally friendly refrigerant
R410A

easy maintenance
SELF-DIAGNOSING

for more comfort
AUTOMATIC FAN

perfect humidity control
MILD DRY

further comfort
AUTO-FLAP CONTROL

practical operation
AUTOMATIC RESTART

comfort everywhere
AIR SWEEP

MODEL NAME		S-22MK1E5	S-28MK1E5	S-36MK1E5	S-45MK1E5	S-56MK1E5	S-73MK1E5	S-106MK1E5	
Power source		220/230/240 V, 1 phase - 50, 60 Hz							
Cooling capacity	kW	2.20	2.80	3.60	4.5	5.6	7.3	10.6	
	BTU/h	7,500	9,600	12,000	15,000	19,000	25,000	36,000	
Heating capacity	kW	2.50	3.20	4.20	5.0	6.3	8.0	11.4	
	BTU/h	8,500	11,000	14,000	17,000	21,000	27,000	39,000	
Power input	Cooling	kW	0.018/0.019/0.019	0.018/0.019/0.019	0.021/0.022/0.023	0.020/0.020/0.021	0.029/0.030/0.030	0.056/0.057/0.057	
	Heating	kW	0.019/0.019/0.020	0.019/0.019/0.020	0.022/0.023/0.023	0.020/0.020/0.021	0.029/0.030/0.030	0.056/0.057/0.057	
Running current	Cooling	A	0.16/0.16/0.16	0.16/0.16/0.16	0.19/0.19/0.20	0.27/0.26/0.23	0.36/0.35/0.32	0.59/0.58/0.52	
	Heating	A	0.17/0.17/0.18	0.17/0.17/0.18	0.20/0.20/0.20	0.27/0.26/0.23	0.36/0.35/0.32	0.59/0.58/0.52	
Fan	Type	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	
	Air flow rate (H/M/L)	m³/h	540/450/360	540/450/360	600/510/390	720/630/510	840/720/630	1,080/870/690	
	Motor output	kW	0.047	0.047	0.047	0.047	0.047	0.047	
Sound power level (L/M/H)		dB	39/43/46	39/43/46	40/44/48	41/45/49	51/55/58	51/55/58	
Sound pressure level (L/M/H)		dB(A)	28/32/35	28/32/35	29/33/37	30/34/38	32/36/40	40/44/47	
Dimensions	H x W x D	mm	285 x 825 x 217	285 x 825 x 217	285 x 825 x 217	300 x 1,065 x 230	300 x 1,065 x 230	300 x 1,065 x 230	
Pipe connections	Liquid	inches (mm)	1/4 (Ø6.35)	3/8 (Ø9.52)					
	Gas	inches (mm)	1/2 (Ø12.7)	5/8 (Ø15.88)					
	Drain piping	VP-13	VP-13	VP-13	VP-13	VP-13	VP-13	VP-13	
Net weight	kg	10	10	10	13	13	14.5	14.5	

GLOBAL REMARKS	Rated conditions:	Cooling	Heating
	Indoor air temperature	27°C DB / 19°C WB	20°C DB
	Outdoor air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

Specifications subject to change without notice.

**NEW
2011**



S-22MK1E5 / S-28MK1E5 / S-36MK1E5



S-45MK1E5 / S-56MK1E5 / S-73MK1E5 / S-106MK1E5

OPTIONAL CONTROLLER

Timer remote controller
CZ-RTC2

Wireless remote controller
CZ-RWSC2

Simplified remote controller
CZ-RE2C2

**TECHNICAL FOCUS**

- CLOSED DISCHARGE PORT
- LIGHTER AND SMALLER UNITS MAKE THE INSTALLATION EASY
- QUIET OPERATION
- SMOOTH AND DURABLE DESIGN
- PIPING OUTLET IN THREE DIRECTIONS
- WASHABLE FRONT PANEL
- AIR DISTRIBUTION IS AUTOMATICALLY ALTERED DEPENDING ON THE OPERATIONAL MODE OF THE UNIT
- ANTI-MOULD FILTERS ARE STANDARD

EXTERNAL VALVE (OPTIONAL)

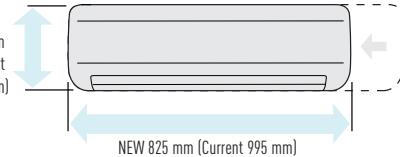
CZ-P56SVK2
(model sizes 22 to 56)
CZ-P160SVK2
(model sizes 73 to 106)

Closed discharge port

When the unit is turned off, the flap closes completely to prevent entry of dust into the unit and to keep the equipment clean.

Lighter and smaller units make the installation easy

The width has been decreased by 17% and the units are lighter.

**Quiet operation**

These units are among the quietest in the industry, making them ideal for hotels and hospitals.

Smooth and durable design

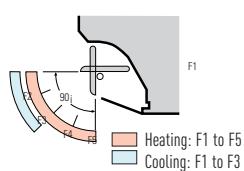
The smooth cover means these units match most modern interiors. Their compact size enables them to blend in, even in small spaces.

Piping outlet in three directions

Piping outlet is possible in the three directions of rear, right, and left, making the installation work easier.

Washable front panel

The indoor unit's front panel can be easily removed and washed for trouble-free cleaning.

**Air distribution is automatically altered depending on the operational mode of the unit**



P1 TYPE // FLOOR STANDING

The compact floor standing P1 units are the ideal solution for providing perimeter air conditioning. The standard wired controller can be incorporated into the body of the unit.



MODEL NAME		S-22MP1E5	S-28MP1E5	S-36MP1E5	S-45MP1E5	S-56MP1E5	S-71MP1E5
Power source		220/230/240 V, 1 phase - 50, 60 Hz					
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.1
	BTU/h	7,500	9,600	12,000	15,000	19,000	24,000
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3	8.0
	BTU/h	8,500	11,000	14,000	17,000	21,000	27,000
Power input	Cooling	kW	0.051/0.056/0.061	0.051/0.056/0.061	0.079/0.085/0.091	0.116/0.126/0.136	0.116/0.126/0.136
	Heating	kW	0.036/0.040/0.045	0.036/0.040/0.045	0.064/0.070/0.076	0.079/0.091/0.101	0.079/0.091/0.101
Running current	Cooling	A	0.24/0.25/0.26	0.24/0.25/0.26	0.37/0.38/0.39	0.54/0.56/0.58	0.54/0.56/0.58
	Heating	A	0.17/0.18/0.19	0.17/0.18/0.19	0.30/0.31/0.32	0.37/0.41/0.43	0.37/0.41/0.43
Fan	Type	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
	Air flow rate (H/M/L)	m³/h	420/360/300	420/360/300	540/420/360	720/540/480	900/780/660
	Motor output	kW	0.01	0.01	0.02	0.02	0.03
Sound power level (L/M/H)		dB	39/41/44	39/41/44	40/46/50	42/46/49	42/47/50
Sound pressure level (L/M/H)		dB(A)	28/30/33	28/30/33	29/35/39	31/35/38	31/36/39
Dimensions	H x W x D	mm	615 x 1,065 x 230	615 x 1,065 x 230	615 x 1,065 x 230	615 x 1,380 x 230	615 x 1,380 x 230
Pipe connections	Liquid	inches (mm)	1/4 (Ø6.35)				
	Gas	inches (mm)	1/2 (Ø12.7)				
	Drain piping	VP-20	VP-20	VP-20	VP-20	VP-20	VP-20
Net weight	kg	29	29	29	39	39	39

GLOBAL REMARKS

Rated conditions:	Cooling	Heating
Indoor air temperature	27°C DB / 19°C WB	20°C DB
Outdoor air temperature	35°C DB / 24°C WB	7°C DB / 6°C WB

Specifications subject to change without notice.



**NEW
2011**



OPTIONAL CONTROLLER

Timer remote controller
CZ-RTC2

Wireless remote controller
CZ-RWSC2

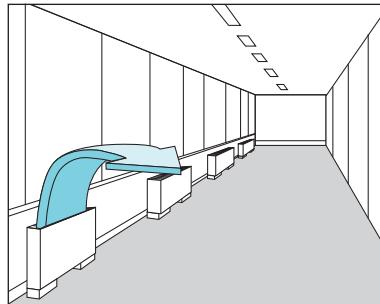
Simplified remote controller
CZ-RE2C2



TECHNICAL FOCUS

- PIPES CAN BE CONNECTED TO EITHER SIDE OF THE UNIT FROM THE BOTTOM OR REAR
- EASY TO INSTALL
- FRONT PANEL OPENS FULLY FOR EASY MAINTENANCE
- REMOVABLE AIR DISCHARGE GRILLE GIVES FLEXIBLE AIR FLOW
- ROOM FOR CONDENSATE PUMP

Effective perimeter handling



A standard wired remote control can be installed in the body





R1 TYPE // CONCEALED FLOOR STANDING

At just 229 mm deep, the R1 unit can be easily concealed in perimeter areas to provide powerful and effective air conditioning.



MODEL NAME		S-22MR1E5	S-28MR1E5	S-36MR1E5	S-45MR1E5	S-56MR1E5	S-71MR1E5
Power source		220/230/240 V, 1 phase - 50, 60 Hz					
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.1
	BTU/h	7,500	9,600	12,000	15,000	19,000	24,000
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3	8.0
	BTU/h	8,500	11,000	14,000	17,000	21,000	27,000
Power input	Cooling	kW	0.051/0.056/0.061	0.051/0.056/0.061	0.079/0.085/0.091	0.116/0.126/0.136	0.116/0.126/0.136
	Heating	kW	0.036/0.040/0.045	0.036/0.040/0.045	0.064/0.070/0.076	0.079/0.091/0.101	0.079/0.091/0.101
Running current	Cooling	A	0.24/0.25/0.26	0.24/0.25/0.26	0.37/0.38/0.39	0.54/0.56/0.58	0.54/0.56/0.58
	Heating	A	0.17/0.18/0.19	0.17/0.18/0.19	0.30/0.31/0.32	0.37/0.41/0.43	0.37/0.41/0.43
Fan	Type	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
	Air flow rate (H/M/L)	m³/h	420/360/300	420/360/300	540/420/360	720/540/480	900/780/660
	Motor output	kW	0.01	0.01	0.02	0.02	0.03
Sound power level (L/M/H)		dB	39/41/44	39/41/44	40/46/50	42/46/49	42/46/49
Sound pressure level (L/M/H)		dB(A)	28/30/33	28/30/33	29/35/39	31/35/38	31/36/39
Dimensions	H x W x D	mm	616 x 904 x 229	616 x 904 x 229	616 x 904 x 229	616 x 1,219 x 229	616 x 1,219 x 229
Pipe connections	Liquid	inches (mm)	1/4 (Ø6.35)				
	Gas	inches (mm)	1/2 (Ø12.7)				
	Drain piping	VP-20	VP-20	VP-20	VP-20	VP-20	VP-20
Net weight	kg	21	21	21	28	28	28

GLOBAL REMARKS	Rated conditions:	Cooling Indoor air temperature Outdoor air temperature	Heating 27°C DB / 19°C WB 7°C DB / 6°C WB
		35°C DB / 24°C WB	

Specifications subject to change without notice.



NEW
2011



OPTIONAL CONTROLLER

Timer remote controller
CZ-RTC2

Wireless remote controller
CZ-RWSC2

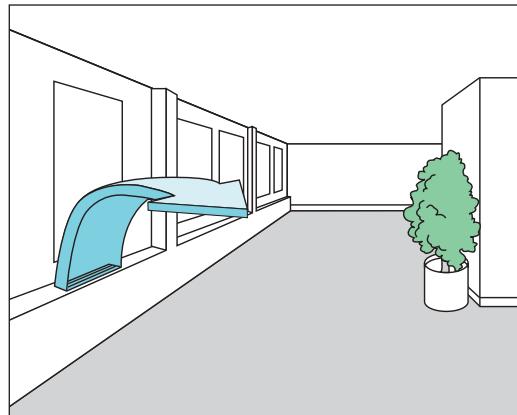
Simplified remote controller
CZ-RE2C2



TECHNICAL FOCUS

- CHASSIS UNIT FOR DISCRETE INSTALLATION
- COMPLETE WITH REMOVABLE FILTERS
- PIPES CAN BE CONNECTED TO EITHER SIDE OF THE UNIT FROM THE BOTTOM OR REAR
- EASY TO INSTALL

Perimeter air conditioning with high interior quality





OPERATION SYSTEM	INDIVIDUAL CONTROL SYSTEMS			TIMER OPERATION
Requirements	Normal operation	Operation from each seat	Quick and easy operation	Daily and weekly program
External appearance				
Type, model name	Timer Remote Controller (Wired)	Wireless Remote Controller	Simplified Remote Controller	Schedule Timer
	CZ-RTC2	CZ-RWSU2 CZ-RWSY2 CZ-RWSL2	CZ-RWSC2 CZ-RWST2 CZ-RWSK2	CZ-ESWC2
Number of indoor units which can be controlled	1 group, 8 units	1 group, 8 units	1 group, 8 units	64 groups, max. 64 units
Use limitations	• Up to 2 controllers can be connected per group.	• Up to 2 controllers can be connected per group.	• Up to 2 controllers can be connected per group.	• Required power supply from the system controller • When there is no system controller, connection is possible to the T10 terminal of an indoor unit.
Functions				
ON/OFF	✗	✗	✗	—
Mode setting	✗	✗	✗	—
Fan speed setting	✗	✗	✗	—
Temperature setting	✗	✗	✗	—
Air flow direction	✗ ¹	✗ ¹	✗ ¹	—
Permit/Prohibit switching	—	—	—	—
Weekly program	✗	—	—	✗
Load distribution ration	—	—	—	—

1. Setting is not possible when a remote control unit is present. (Use the remote control for setting.)
All specifications subject to change without notice.

NEW
2011

SYSTEM CONTROLS FOR VRF

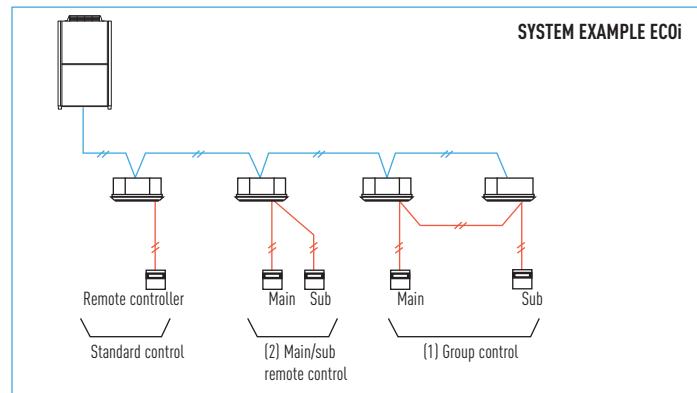
A WIDE VARIETY OF CONTROL OPTIONS TO
MEET THE REQUIREMENTS OF DIFFERENT
APPLICATIONS.

CENTRALIZED CONTROL SYSTEMS

Operation with various function from center station	Only ON/OFF operation from center station	Simplified load distribution ratio (LDR) for each tenant	
		Touch screen panel	Personal computer (field supply)
			
System Controller	ON/OFF Controller	Intelligent Controller	Communication adaptor
CZ-64ESMC2	CZ-ANC2	CZ-256ESMC2	CZ-CFUNC2
64 groups, max. 64 units	16 groups, max. 64 units	64 units x 4 systems, max. 256 units	2 systems, max. 128 units
<ul style="list-style-type: none"> Up to 10 controllers, can be connected to one system. Main unit/sub unit (1 main unit + 1 sub unit) connection is possible. Use without remote controller is possible. 	<ul style="list-style-type: none"> Up to 8 controllers (4 main units + 4 sub units) can be connected to one system. Use without remote controller is impossible. 	<ul style="list-style-type: none"> A communication adaptor (CZ-CFUNC2) must be installed for three or more systems. 	
X	X	X	X
X	—	X	X
X	—	X	X
X	—	X	X
X	—	X	X
X¹	X	X¹	X¹
—	—	X	X
—	—	X	X

INDIVIDUAL CONTROL SYSTEMS

CONTROL CONTENTS	PART NAME, MODEL NO.	QUANTITY
Standard Control - Control of the various operations of the indoor unit by wired or wireless remote controller. - Cooling or heating mode of the outdoor unit is decided by the first priority of the remote controller. - Switching between remote controller sensor and body sensor is possible.	Timer remote controller CZ-RTC2 Wireless remote controller CZ-RWSY2 CZ-RWSU2 CZ-RWSL2 CZ-RWSG2 CZ-RWSK2 CZ-RE2C2	1 unit each
(1) Group control - Batch remote control on all indoor units. - Operation of all indoor cells in the same mode. - Up to 8 units can be connected.	Timer remote controller CZ-RTC2 CZ-RE2C2	1 unit
(2) Main/sub remote control - Max 2 remote controllers per indoor unit. - The button pressed last has priority. - Timer setting is possible even with the sub remote controller.	Main or sub Timer remote controller CZ-RTC2 Wireless remote controller CZ-RWSY2 CZ-RWSU2 CZ-RWSL2 CZ-RWSG2 CZ-RWSK2 CZ-RE2C2	As required



Timer remote controller (CZ-RTC2)



Dimensions
H 120 x W 120 x D 16 mm

Basic remote controller ON/OFF

- Operation mode changeover (Cooling, Heating, Dry, Auto, Fan).
- Temperature setting (Cooling/Dry: 18-30 deg Heating: 16-30 deg).
- Fan speed setting H/ M/ L and Auto.
- Air flow direction adjustment.

Time Function 24 hours real time clock

- Day of the week indicator.

Weekly Programme Function

- A maximum of 6 actions can be programmed for each day.

Outing Function

- This function can prevent the room temperature from dropping or rising when the occupants are out for a long time.

Sleeping Function

- This function controls the room temperature for comfortable sleeping.

Max. 8 indoor units can be controlled from one remote controller

Remote control by main remote controller and sub controller is possible

Max. 2 remote controllers (main remote controller and sub controller) can be installed for one indoor unit.

Wireless remote controller



Y1 TYPE
CZ-RWSY2



U1 TYPE
CZ-RWSU2



L1 TYPE
CZ-RWSL2



D1 AND T1 TYPE
CZ-RWST2

Easy installation for the 4-way cassette type simply by replacing the corner part

24 hour timer function

Remote control by main remote controller and sub controller is possible

- Max. 2 remote controllers (main remote controller and sub controller) can be installed for one indoor unit.

When CZ-RWSC2 is used, wireless control becomes possible for all indoor units

- When a separate receiver is set up in a different room, control from that room also becomes possible.
- Automatic operation by means of the emergency operation button is possible even when the remote controller has been lost or the batteries have been exhausted.

Operation of separate energy recovery ventilators

When commercial ventilation fans or heat-exchange ventilation fans have been installed, they can be operated with this remote control (interlocked operation with the indoor unit or independent ventilation ON/OFF).



**WIRELESS REMOTE CONTROL
FOR ALL INDOOR UNITS**
CZ-RWSC2



K1 TYPE
CZ-RWSK2



A remote controller with simple functions and basic operation

- Suitable for open rooms or hotels where detailed functions are not required.
- ON/OFF, operation mode switching, temperature setting, wind velocity switching, wind direction setting, alarm display, and remote controller self-diagnosis can be performed.
- Batch group control for up to 8 indoor units.
- Remote control by main remote controller and sub controller is possible with a simplified remote controller or a wired remote controller (up to two units).

Simplified remote controller (CZ-RE2C2)



Dimensions
H 120 x W 70 x D 16 mm

Remote sensor (CZ-CSRC2)



- This remote sensor can be connected to any indoor unit. Please use it to detect the room temperature when no remote controller sensor or body sensor is used. (connection to a system without a remote controller is possible).
- For joint use with a remote control switch, use the remote control switch as main remote controller.

CENTRALISED CONTROL SYSTEMS

Schedule timer (CZ-ESWC2)



Dimensions
H 120 x W 120 x D 16 mm

The power supply for the schedule timer is taken from one of the following.

1. Control circuit board (T10) of a nearby indoor unit (power supply wiring length: within 200m from the indoor unit).
2. System controller (power supply wiring length: within 100 m from the indoor unit).

When the power supply for the schedule timer is taken from the control circuit board of the indoor unit, that indoor unit cannot be used with other control devices using the T10 terminal.

As operation mode and temperature settings are not possible with the schedule timer, it must be used together with a remote controller, a system controller, an intelligent controller, etc. Also, as it does not have an address setting function, the control function of a system controller etc. must be used for address setting.

Up to 64 groups (max. 64 indoor units) can be controlled divided into 8 timer groups

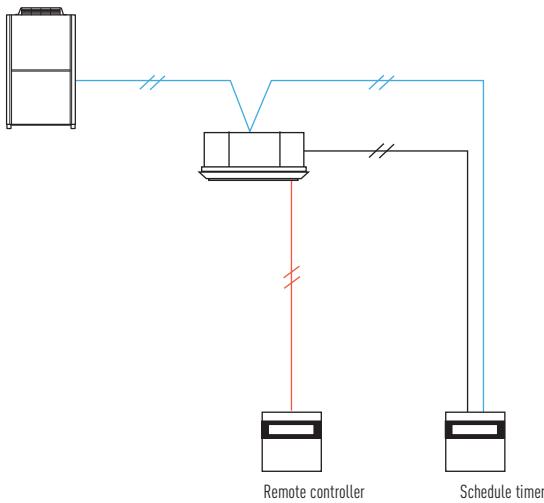
Six program operations (Operation/Stop/Local permission/ Local prohibition) per day can be set in a program for one week

- Only operation or stop, remote controller local permission or remote controller local prohibition, and their respective combinations are possible. (Operation + local permission, stop + local prohibition, only local permission, etc.)
- Local prohibition and the combination of the three items of temperature setting, mode change, and operation/stop can be set at the time of installation.

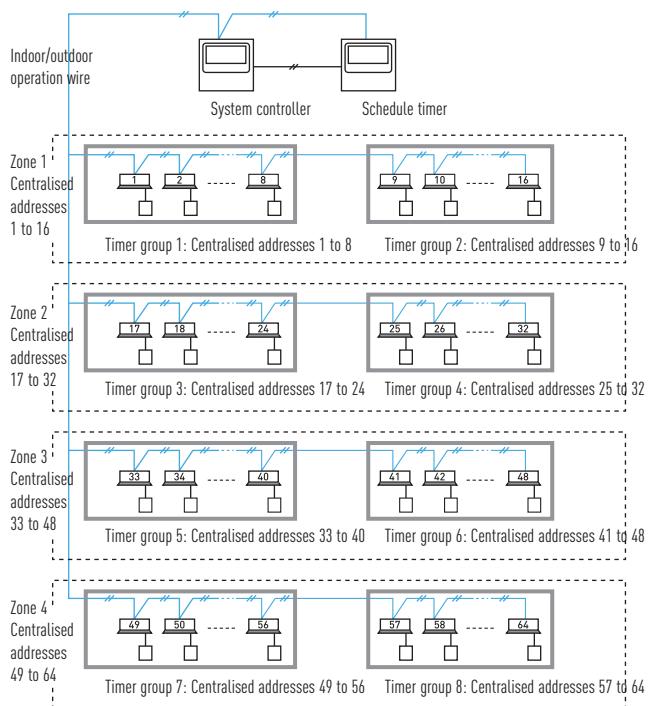
A function for pausing the timer in case of national holidays has been added, and timer operation also can be stopped for a long time

- By setting holidays or operation stop within one week, the timer can be paused just for that week.
- All timer settings can be stopped with the timer "ON/OFF effective" button. (Return to timer operation is made by pressing the button again.)

CONNECTION EXAMPLE 1
(POWER SUPPLY FROM THE INDOOR UNIT)



CONNECTION EXAMPLE 2
(POWER SUPPLY FROM THE CENTRAL CONTROLLER)



ON/OFF controller (CZ-ANC2)



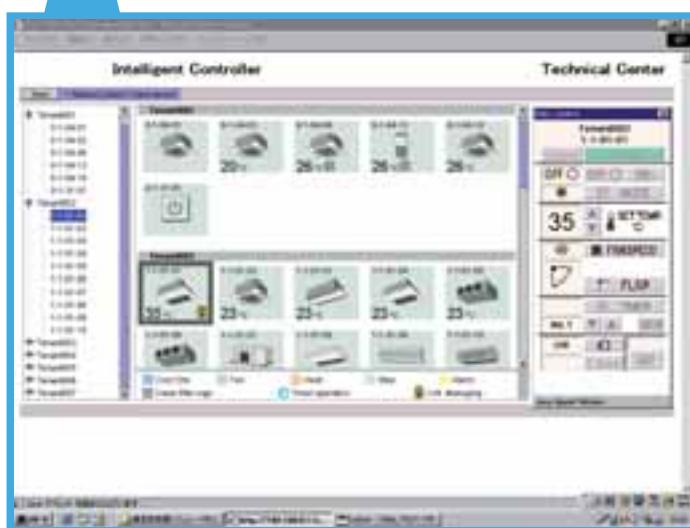
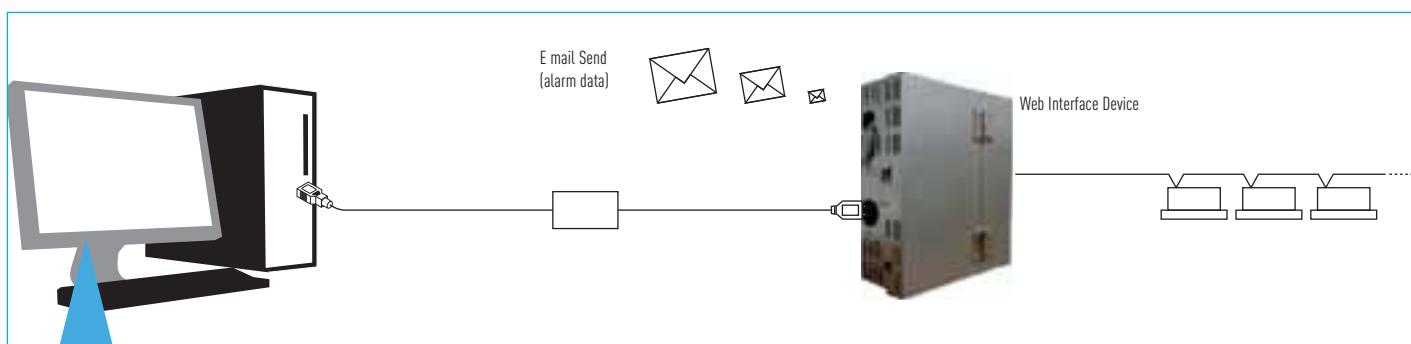
Dimensions
H 121 x W 122 x D 14 + 52
(embedding dimension mm)

Power supply: AC 220 to 240 V
I/O part: Remote input (effective voltage: within DC 240 V): All ON/OFF
Remote output (allowable voltage: within DC 30 V): All ON, All alarm

- 16 groups of indoor units can be controlled.
- Collective control and individual group (unit) control can also be performed.
- Up to 8 ON/OFF controller (4 main, 4 sub) can be installed in one link system.
- The operation status can be determined immediately.

Note: As operation mode and temperature settings are not possible with the ON/OFF controller, it must be used together with a remote controller, a system controller etc.

Web Interface Device (CZ-CWEB2)



Functions

- Access and operation by Web browser.
- Icon display.
- Language codes available in English, French, German, Italian, Portuguese, Spanish.
- Individual control possible (max. 64 indoor units) ON/OFF operation mode, set temperature, fan speed, Flap set, timer on/off alarm code monitoring, prohibit Remote Control.
- Each Tenant (Zone) control.
- All Units control.
- Alarm Log.
- Mail Sent Log.
- Program Timer set 50 daily timers with 50 actions each day, 50 weekly timers 50 weekly timers, 1 holiday timer, 5 special day timers, for each tenant.
- Prohibit Remote Control set.
- IP ADDRESS could be changed via Internet.

Note: it is recommended to install a remote controller or a system controller on site to enable local control if IT network experience a problem.

CENTRALISED CONTROL SYSTEMS

System controller (CZ-64ESMC2)



Dimensions
160 x W 160 x D 21 + 69
(embedding dimension mm)

Power supply: AC 220 to 240 V
I/O part: Remote input (effective voltage: DC 24 V): ALL ON/ALL OFF
Remote output (voltage-free contact): ALL ON/ALL OFF (external Power supply within DC 30 V, max 1 A)
Total wiring length 1 km

Individual control is possible for max. 64 groups, 64 indoor units.

Control of 64 indoor units divided into 4 zones. (One zone can have up to 16 groups, and one group can have up to 8 units.)

Control is possible for ON/OFF, operation mode, fan speed, air flow direction (only when used without a remote controller), operation monitoring, alarm monitoring, ventilation, remote controller local operation prohibition, etc.

- | | |
|------------|---|
| Individual | All operations are possible also from the remote controller. However, the contents will be changed to the contents of the controller operated last. |
| Central 1 | The remote controller cannot be used for ON/OFF. (All other operations are possible from the remote controller.) |
| Central 3 | The remote controller cannot be used for mode change or temperature setting change. (All other operations are possible from the remote controller.) |
| Central 4 | The remote controller cannot be used for operation mode change. (All other operations are possible from the remote controller.) |

Joint use with a remote controller, an intelligent controller, a schedule timer, etc. is possible

(The maximum number of connectable system controllers is 10, including other central controllers on the same circuit.)

(In case of joint use with a wireless remote controller, there are limitations for the control mode. Please use only with "Individual" and "Central 1".)

Control of systems without a remote controller and of main/sub systems (a total of up to 2 units) is possible

A control mode corresponding to the use condition can be selected from 10 patterns

A Operation mode: Central control mode or remote control mode can be selected

Central control mode: The system controller is used as centralised control device. (Setting from a remote controller can be prohibited by prohibiting local operation from the system controller.)

Remote control mode: The system controller is used as a remote controller. (Setting from the system controller can be prohibited by prohibiting local operation from another central control unit.)

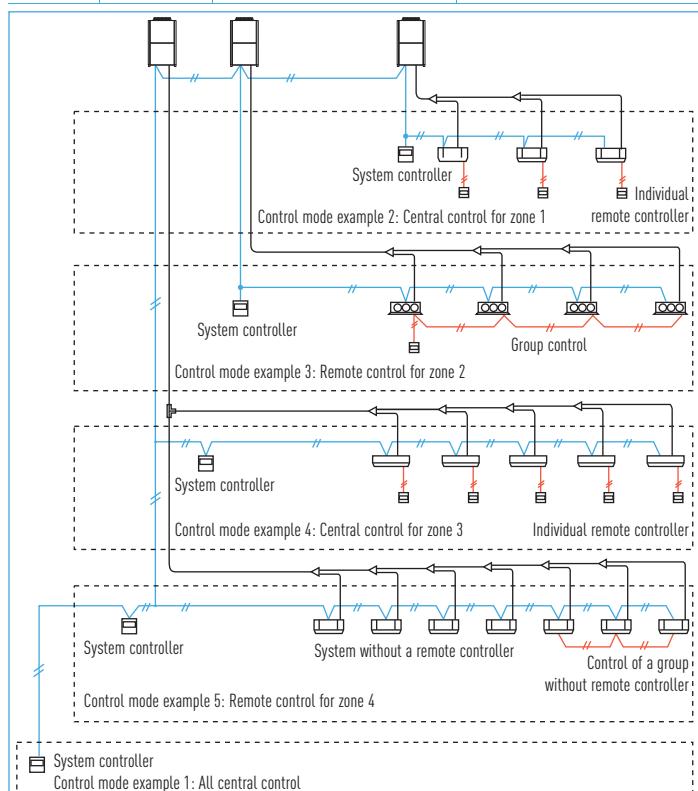
B Controlled unit number mode: All mode or zone 1, 2, 3, 4 mode can be selected

All mode: All, zone, or group unit can be selected.

Zone 1, 2, 3, 4 mode: Setting is possible only for the indoor units of zone 1, 2, 3, or 4.

CONNECTION EXAMPLE

		A Operation mode	
		Central control mode	Remote control mode
B Controlled unit number mode	All mode	All central control Example 1	All remote control
	Zone 1 mode	Zone 1 central control Example 2	Zone 1 remote control
	Zone 2 mode	Zone 2 central control	Zone 2 remote control Example 3
	Zone 3 mode	Zone 3 central control Example 4	Zone 3 remote control
	Zone 4 mode	Zone 4 central control	Zone 4 remote control Example 5



Intelligent controller (CZ-256ESMC2)



Touch panel

Dimensions
H 240 x W 280 x D 138 mm
Power supply AC 100 to 240 V (50 Hz), 20 W (separate power supply)
I/O part Remote in put (voltage-free contact): All ON/OFF
Remote output (voltage-free contact): All ON, All alarm (external power supply within DC 30 V, 0.5 A)
Total wiring length: 1 km for each system
Only for embedding in the panel

ON/OFF, operation mode setting, temperature setting, for fan speed setting, air flow direction setting (when used without a remote controller), and remote controller local operation prohibition (prohibition 1, 2, 3, 4) can be done

A system without a remote controller is possible. Joint use with a remote controller or a system controller is also possible

Use of a schedule timer and holiday setting also can be done

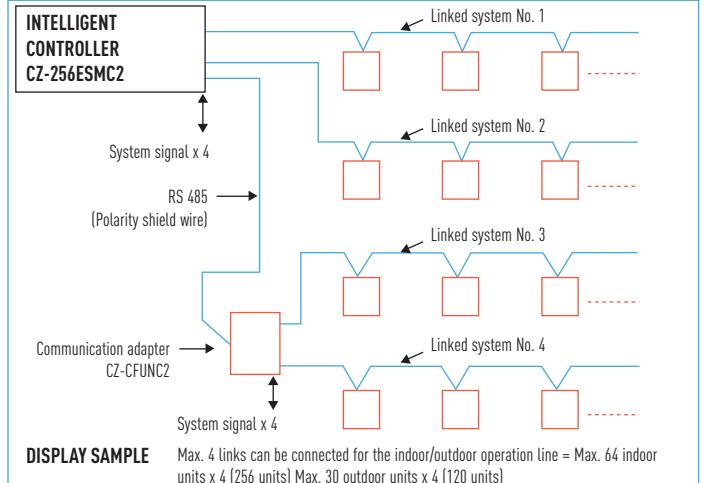
Proportional distribution of the air conditioning energy is possible. Including csv-file export via CF-card (supplementary accessory)

NEW function: Pulse signal input from electric/gas consumption meter

In case of joint use with a wireless remote control system, there are limitations for the control mode. Please use only with "Permission" and "Prohibition 1".



Web application



Limitation contents for prohibited operation

Prohibition means limitation of the operation contents from the remote controller. It is also possible to change the prohibition items.

Limitation contents (Limitations can be user defined)

- Individual There is no limitation for the operation of the remote controller. However, the contents will be changed to the contents of the controller operated last. (Last-pressed priority.)
- Prohibition 1 The remote controller cannot be used for ON/OFF. (All other operations are possible from the remote controller.)
- Prohibition 2 The remote controller cannot be used for ON/OFF, operation mode change and temperature setting. (All other operations are possible from the remote controller.)
- Prohibition 3 The remote controller cannot be used for operation mode change and temperature setting. (All other operations are possible from the remote controller.)
- Prohibition 4 The remote controller cannot be used for operation mode change. (All other operations are possible from the remote controller.)

Note: Avoid joint use of the AMY system and the intelligent controller on the same indoor/ outdoor operation line.

Max. 256 indoor units (4 systems x 64 units) can be controlled. In case of three or more systems, a communication adapter CZ-CFUNC2 must be installed on the outside

Operation is possible as batch, in zone units, in tenant and in group units

Communication adaptor (CZ-CFUNC2)



Required to connect three or more linked wiring systems (indoor/ outdoor operation lines) to the intelligent controller

Also required for connection of P-AIMS

Two linked wiring systems can be connected to one CZ-CFUNC2, but max. 4 systems can be connected for the entire intelligent controllers

* As this is not a splash-proof design, it must be installed indoors or in the control panel, etc.

WEB INTERFACE SYSTEMS

Web Interface / CZ-CWEBC2

Functions

- Access and operation by Web browser.
- Icon display.
- Language codes available in English, French, German, Italian, Portuguese, Spanish.
- Individual control possible (max. 64 indoor units)
ON/OFF operation mode, set temperature, fan speed, Flap set, timer on/off alarm code monitoring, prohibit Remote Control.
- Zone control*.
- All Units control.
- Alarm Log.
- Mail Sent Log.
- Program Timer set 50 daily timers with 50 actions each day, 50 weekly timers 50 weekly timers, 1 holiday timer, 5 special day timers, for each tenant
- Prohibit Remote Control set.
- IP ADDRESS could be changed via Internet.

Note: It is recommended to install a remote controller or a system controller on site to enable local control if it network experience a problem.

Easy to set to every room by recognizable icon and user-friendly remote control window

- If any of the indoor units is selected, the remote control window shown will be displayed for detailed setting modifications.

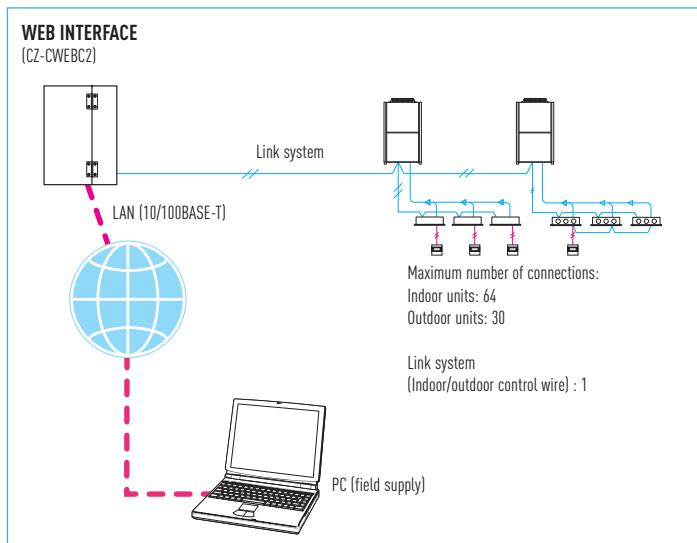
Easy to manage and monitor each tenant use*

- Each floor or tenant, otherwise each zone can be displayed and controlled.
- All unit statuses can also be displayed on one screen.

Program Timer set

- 50 daily timers with 50 actions each day, 50 weekly timers, holiday timer, 5 special day timers, for each tenant.

* Web interface system not applicable for load distribution.



(HxWxD): 248x185x80 mm
AC 100 to 240 V (50/60Hz), 17 W
(separate power supply)

LonWorks Interface CZ-CLNC2

Functions

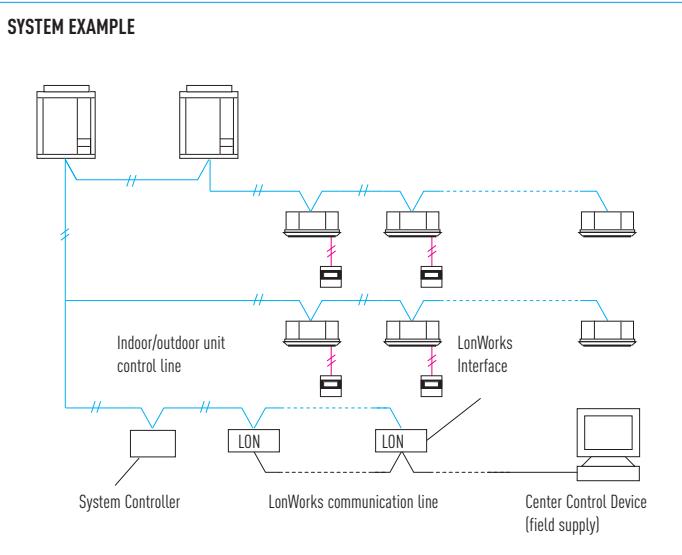
- This interface is a communications converter for connecting LonWorks to the control network of ECOi
- From the host connected to LonWorks, basic settings and status monitoring is possible for up to 16 groups of A/C units



Functions

A/C unit settings from the LonWorks communicator	Settings for each group of indoor units	Start/stop
		Temp. setting
		Operation mode
		Option 1 settings*
		Option 2 settings*
	Settings for all units	Emergency stop
A/C unit status notifications made to the LonWorks communicator		Start/stop
		Temp setting
		Operation mode
		Option 1 settings*
		Option 2 settings*
		Alarm status
		Indoor units with active alarms
		Room temp.
		A/C unit status
Configuration properties		Transmission intervals settings
		Minimum time secured for transmission

* Select two of the following: remote controller prohibit, fan speed setting, air direction setting, filter sign reset.



P-AIMS

PANASONIC TOTAL AIR CONDITIONING MANAGEMENT SYSTEM

P-AIMS Basic software / CZ-CSWKC2

- Up to 1024 indoor units can be controlled by one PC ~

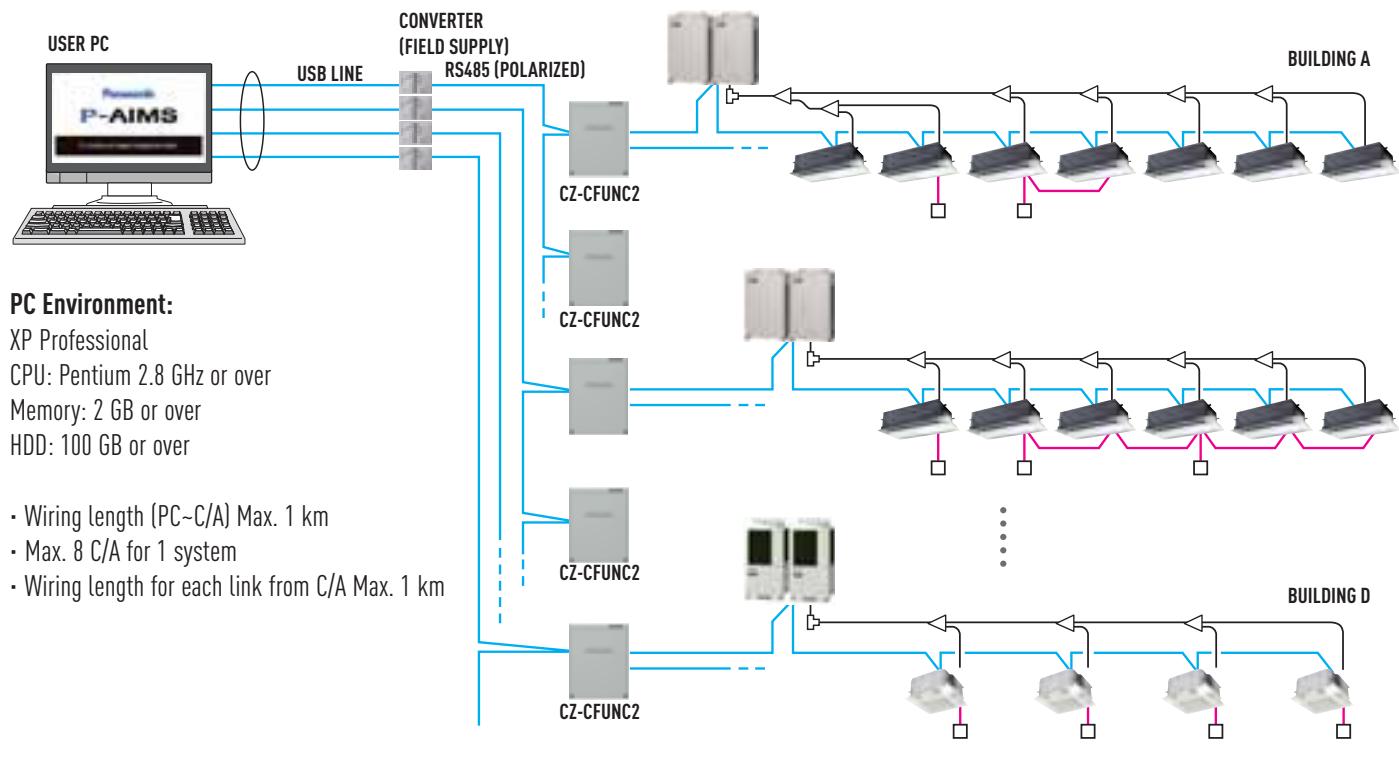
Functions of basic software

- Standard remote control for all indoor units.
- Many timer schedule programs can be set on the calendar.
- Detailed information display for alarms.
- CSV file output with alarm history, operating status.
- Automatic data backup to HDD.



With 4 upgrade packages the basic software can be upgraded to suit individual requirements

P-AIMS is suitable for large shopping centers and universities with many areas/ buildings. 1 "P-AIMS" PC can have 4 independent systems at once. Each system can have max. 8 C/A units, and control max. 512 units. In total, 1024 indoor units can be controlled by 1 "P-AIMS" PC.



P-AIMS optional software CZ-CSWAC2 for Load distribution

Load distribution calculation for each tenant

- Air-conditioner load distribution ratio is calculated for each unit (tenant) with used energy consumption data (m^3 , kWh).
- Calculated data is stored with CSV type file.
- Data of last 365 days is stored.

P-AIMS optional software CZ-CSWWC2 for Web application

Web access & control from remote station

- Accessing P-AIMS software from remote PC.
- You can monitor/operate ECOi system by using Web browser (Internet Explorer).

P-AIMS optional software CZ-CSWGC2 for Object layout display

Whole system can be controlled visually

- Operating status monitor is available on the layout display.
- Object's layout and indoor unit's location can be checked at once.
- Each unit can be controlled by virtual remote controller on the display.
- Max. 4 layout screens are shown at once.

P-AIMS optional software CZ-CSWBC2 for BACnet software interface

Connectable to BMS system

- Can communicate with other equipment by BACnet protocol.
- ECOi system can be controlled by both BMS and P-AIMS.
- Max. 255 indoor units can be connected to 1 PC (that has P-AIMS basic & BACnet software).

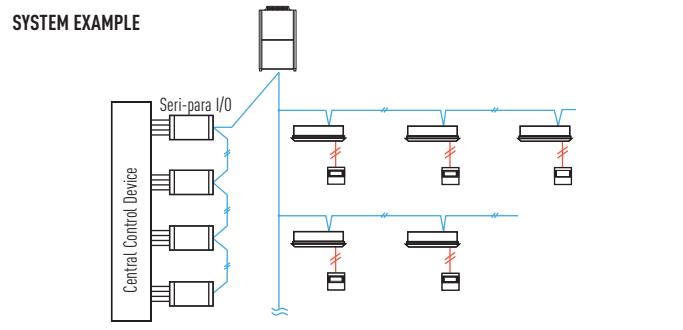
INTERFACES FOR EXTERNAL CONTROL

Seri-Para I/O unit for outdoor unit (CZ-CAPDC2)



Dimensions	H 80 x W 290 x D 260 mm
Power supply	Single phase 100/200 V (50/60 Hz), 18 W
Input	Batch operation/Batch stop (non-voltage contact/DC 24 V, pulse signal). Cooling/Heating (non-voltage contact/static signal). Demand 1/2 (non-voltage contact/static signal) (Local stop by switching)
Output	Operation output (non-voltage contact), Alarm output (non-voltage contact)
Wiring length	Indoor/Outdoor operation lines: Total length 1 km. Digital signal: 100 m or shorter

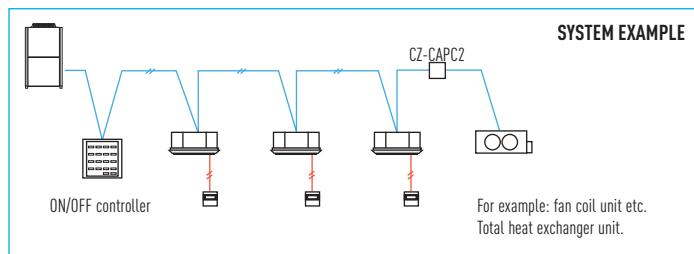
- This unit can control up to 4 outdoor units.
- From the centre control device, mode changing and batch operation/batch stop are possible.
- Required for demand control.



Local adaptor for ON/OFF control (CZ-CAPC2)



- Control and status monitoring is possible for individual indoor unit (or any external electrical device up to 250 V AC, 10 A) by contact signal.

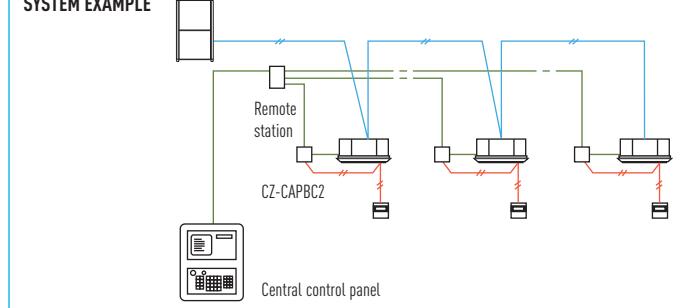


MINI Seri-Para I/O Unit (CZ-CAPBC2)

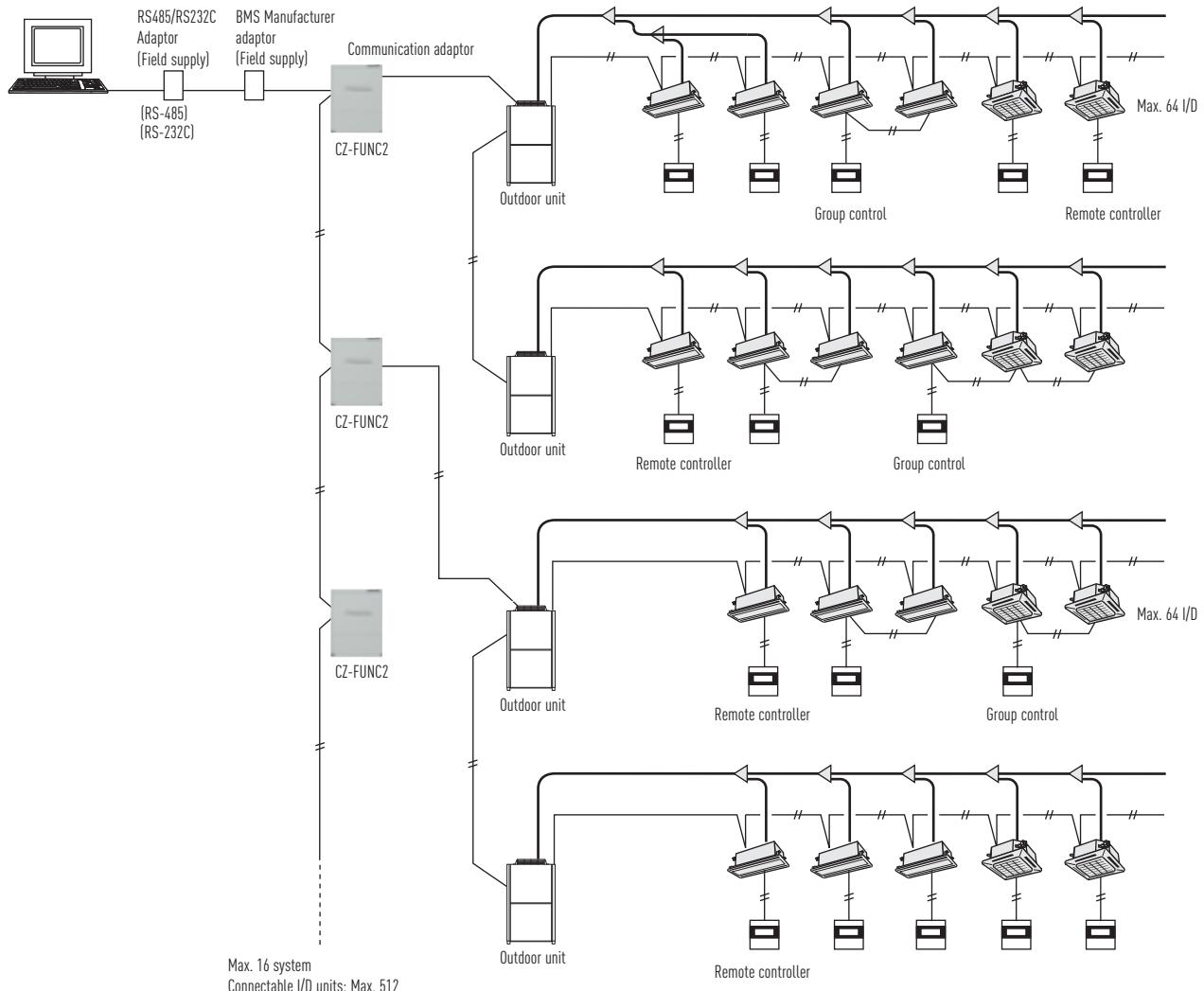


- Control and status monitoring is possible for individual indoor unit (1 group).
- In addition to operation and stop, there is a digital input function for air speed and operation mode.
- Temperature setting and measuring of the indoor suction temperature can be performed from central monitoring.
- The analog input for temperature setting is 0 to 10 V, or 0 to 140 Ohm.

- Power is supplied from the T10 terminal of the indoor units.
- Separate power supply also is possible (in case of suction temperature measuring).



Example of BMS connection for air conditioner central control system



A/C unit settings	Unit ON/OFF Mode-change Room temperature setting Fan speed setting Flap setting Central control setting Filter-sign clear Alarm reset
A/C unit status	Unit ON/OFF status Operation mode Setting temperature Fan speed status Flap status Central control setting Filter-sign situation Correct/incorrect status Alarm code

PANASONIC VRF DESIGNER: NEW SOFTWARE FOR EASY VRF CALCULATION

Panasonic VRF Designer

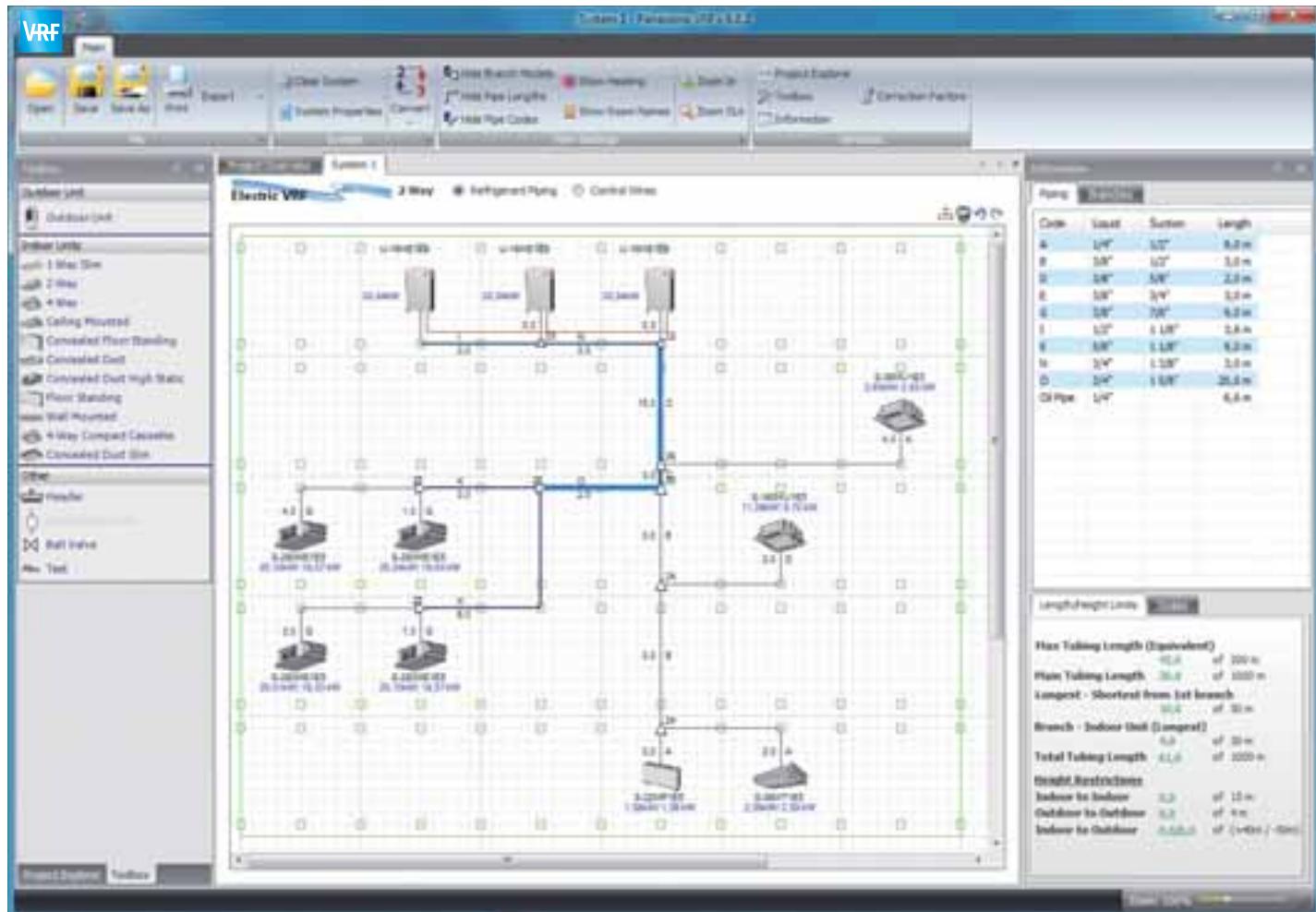


System designing for VRF (ECOi and FS Multi) has never been easier

Panasonic has identified the importance of ever-increasing demands for fast and accurate responses to customer requests in our industry. More and more emphasis is being placed upon energy-efficiency in our marketplace. The ability to calculate cooling/heating loads and produce information of actual design conditions is a major advantage to any architect, consultant, contractor or end user.

Panasonic understands the ever-changing and demanding industry we are in and we are pleased to announce the launch of the next generation of our system design software program. The advanced Panasonic VRF Designer system design software has been customised to make any selection and design process as quick and easy as possible.

The design package utilises system wizards and import tools to enable both simple and complex systems to be created. In addition, the system will allow outdoor and indoor units to be dragged and dropped on an interactive desktop. This allows users to create everything from realistic floor plans with detailed piping and wiring schematics to send out with quotations, through to installation guidance drawings.

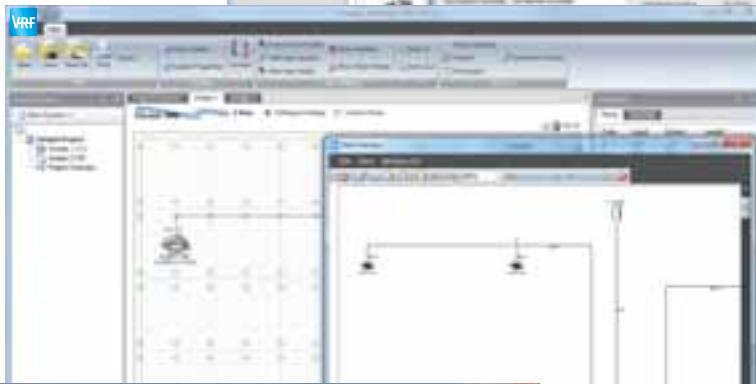
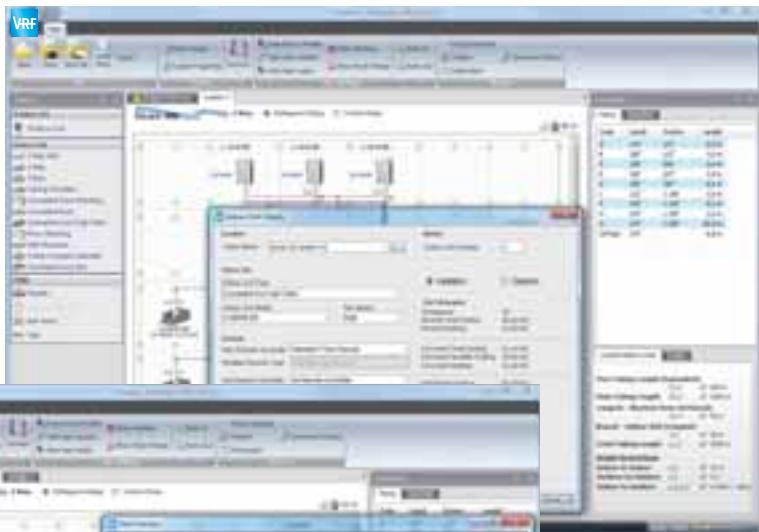


The Panasonic VRF Designer system software can be used for all Panasonic ECOi and FS Multi.

The Panasonic VRF Designer system software can be used for all
Panasonic ECOi and FS Multi

Features include

- Easy to use system wizards.
- Auto piping and wiring features.
- Converted duties for conditions and pipework.
- Auto CAD (DXF), Excel and PDF export.
- Detailed wiring and pipework diagram.







NEW
2011



WHY RENEWAL?

AN IMPORTANT DRIVE TO FURTHER REDUCE
THE POTENTIAL DAMAGE TO OUR OZONE

It is often said that legislation is ruling our lives but sometimes it is there to help save lives. R22 phase out can be described as one of these and starting from Jan 1st 2010 the use of Virgin (new) R22 refrigerant is banned within the European Community.

Panasonic are doing our part

We at Panasonic are also doing our part – recognising that all finances are under pressure at the moment., Panasonic have developed a clean and cost effective solution to enable this latest legislation to be introduced with as minimum an effect on businesses and cash reserves as possible.

The Panasonic renewal system allows good quality existing R22 pipe work to be re-used whilst installing new high efficiency R410A systems.

By bringing a simple solution to the problem Panasonic can renew all Split Systems and VRF systems; and depending upon certain restrictions we don't even limit the manufacturers equipment we are replacing.

By installing a new high efficiency Panasonic R410A system you can benefit from around 30% running cost saving compared to the R22 system. The installation can also qualify for the government's ECA (Enhanced Capital Allowance Scheme) which enables you to offset the cost against your Capital Gains Tax.

Yes...

1. Check the capacity of the system you wish to replace
 2. Select from the Panasonic range the best system to replace it with
 3. Follow the procedure detailed in the brochure and technical data
- Simple...

R22 - The reduction of Chlorine critical for a cleaner future

VRF RENEWAL

Panasonic's Renewal system allows a completely new VRF system, indoor and outdoor units, to be installed using the existing systems pipe work. Panasonic's advanced technology enables the system to work with previously installed pipe work by managing the working pressure within the system down to R22 (33 bar) levels, this ensures the system works safely and efficiently without loss of capacity.

The new equipment can offer increased COP/EER by using state of the art inverter compressor and heat exchanger technology.

Having contacted your Panasonic supplier regarding pipe work restrictions and gained approval to use the Panasonic Renewal System there are three main tests that have to be carried out to ensure that the system can be used effectively.

Firstly a thorough inspection of the pipe work must be carried out and any damage must be repaired.

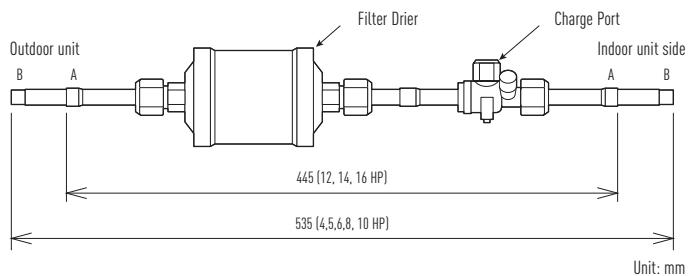
Secondly an oil test has to be carried out to ensure that the system has not been subject to a compressor burnout during its lifetime. Lastly a VRF Renewal Kit (CZ-SLK2) has to be installed within the pipe work to ensure that the system is cleaned of any remnants of oil.



VRF Renewal Kit (CZ-SLK2) and Sight Glass

The following shows an overview of the VRF Renewal Kit (CZ-SLK2) that is required when existing tubing is reused. If the exact tube length and tube size of the existing tubing are uncertain, attach a sight glass in accordance with the figure below. It will be used for checking the amount of additional refrigerant charge.

VRF RENEWAL KIT: CZ-SLK2



Connecting tube dimensions (Inch mm)

A Ø 1/2 (12.7) (12, 14, 16 HP)

B Ø 3/8 (9.52) (4,5,6,8,10 HP)

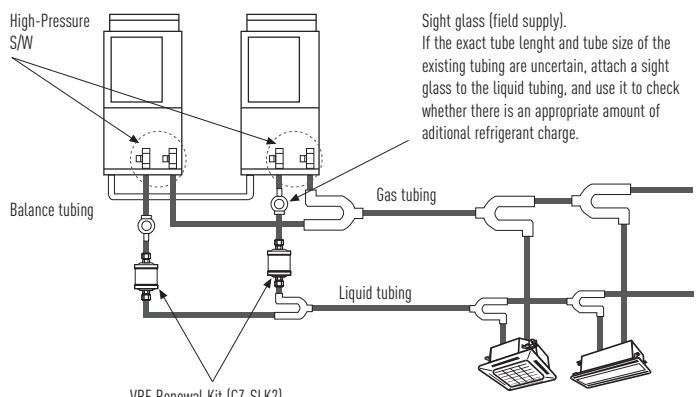
Note: If the tube size does not match that of the existing tubing, use a reducer (field supply) to adjust the tube diameter.

Sight glass (field supply)

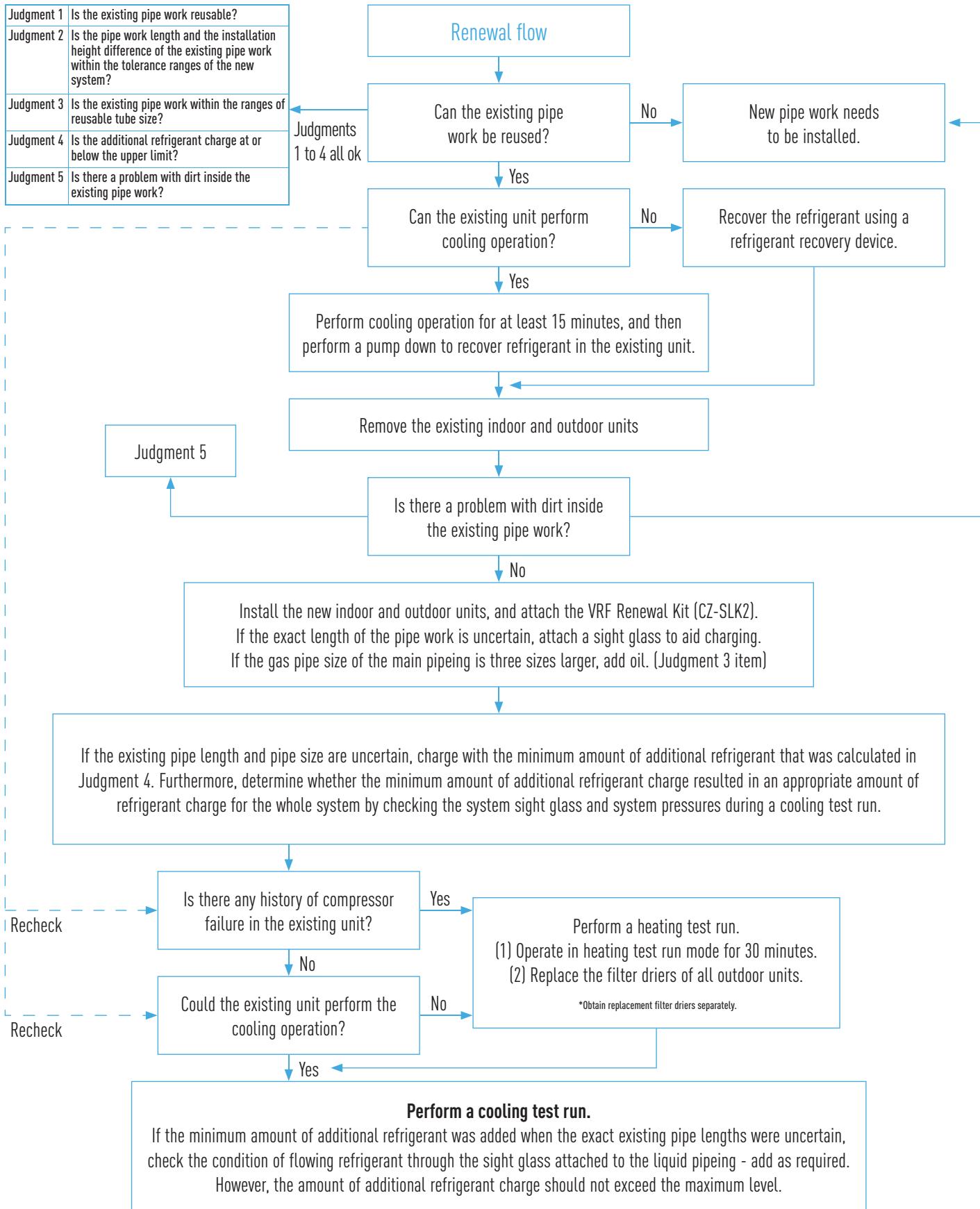
If the exact tube length and tube size of the existing tubing are uncertain, attach a sight glass to the liquid tubing, and use it to check whether there is an appropriate amount of additional refrigerant charge.

Attaching the Filter Drier Kit and sight glass

- To adjust the limited pressure level into 3.3 MPa, special setting is necessary at site.
- A filter Drier shall be attached to the liquid tubing of each outdoor unit.
- High-Pressure switches shall be attached to both the liquid and the gas tubings of each outdoor unit.
- There is no need to remove the Filter Drier Kit after a test run is performed because normal operation continues while it is attached.
- When attaching the Filter Drier Kit, care shall be taken with regards to the installation location and orientation of the filter drier and ball valve. If a mistake is made, the refrigerant is the system needs to be recovered when the filter drier is replaced, which will make maintenance difficult.
- Thermal insulation material (field supply: heat resistance of 80°C or higher and thickness of 10 mm or greater) shall be applied to the Filter Drier Kit.
- The filter drier of the Filter Drier Kit may need to be replaced depending on the condition of the existing unit. Use a Danfoss DMB 164 as the replacement filter drier (field supply).



PROCEDURE FOR VRF RENEWAL



BRANCHES AND HEADERS

Dimensions and Tube Sizes of Branches and Headers for 2 Tubes ECOi Systems (ME1)

Optional Distribution Joint Kits

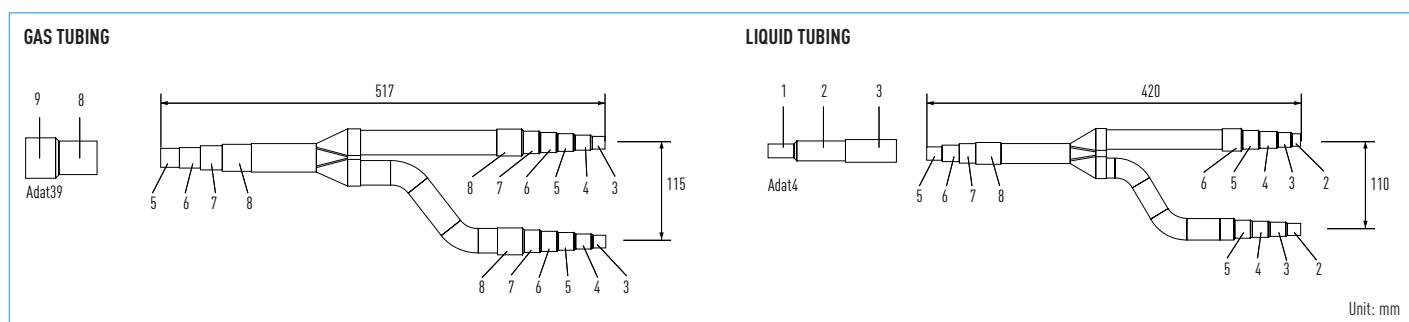
See the installation instructions packaged with the distribution joint kit for the installation procedure.

	COOLING CAPACITY AFTER DISTRIBUTION	REMARKS
Outdoor unit side	68.0 kW or less	CZ-P680PH2BM
	From 68.0 kW to 168.0 kW	CZ-P1350PH2BM
Indoor unit side	22.4 kW or less	CZ-P224BK2BM
	From 22.4 kW to 68.0 kW	CZ-P680BK2BM
	From 68.0 kW to 168.0 kW or less	CZ-P1350BK2BM

Tubing size (with thermal insulation)

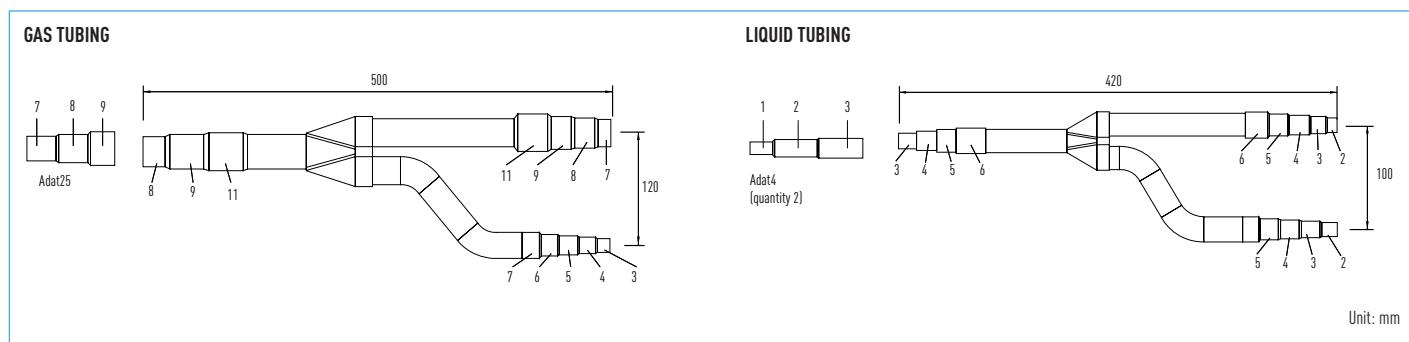
1. CZ-P680PH2BM

For outdoor unit side (Capacity after distribution joint is 68.0 kW or less.)



2. CZ-P1350PH2BM

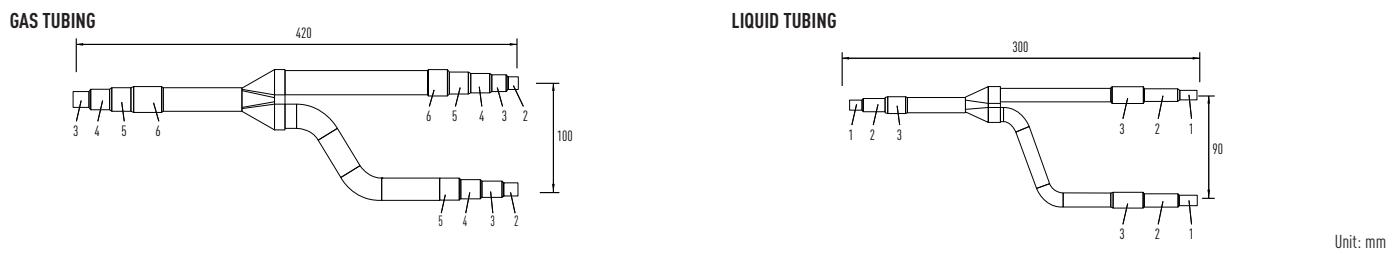
For outdoor unit side (Capacity after distribution joint is greater than 68.0 kW and no more than 168.0 kW.)





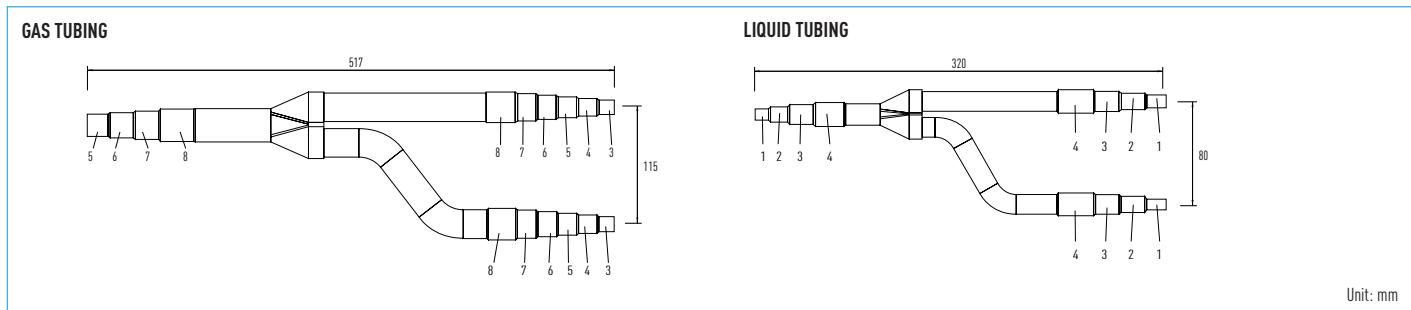
3. CZ-P224BK2BM

For indoor unit side (Capacity after distribution joint is 22.4 kW or less.)



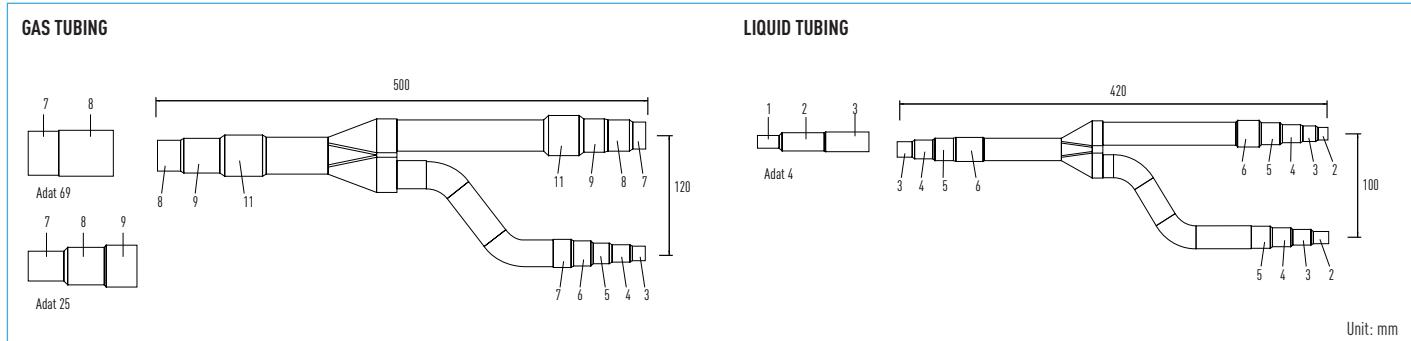
4. CZ-P680BK2BM

For indoor unit side (Capacity after distribution joint is greater than 22.4 kW and no more than 68.0 kW.)



5. CZ-P1350BK2BM

For indoor unit side (Capacity after distribution joint is greater than 68.0 kW and no more than 168.0 kW.)



DIAMETERS

1	6,35 mm	1/4"	6	22,40 mm	7/8"	11	38,10 mm	1"1/2"
2	9,52 mm	3/8"	7	25,40 mm	1"	12	41,28 mm	1"5/8"
3	12,70 mm	1/2"	8	28,57 mm	1" 1/8	13	44,45 mm	1"3/4"
4	15,88 mm	5/8"	9	31,75 mm	1" 1/4	14	50,80 mm	2"
5	19,05 mm	3/4"	10	34,92 mm	1"3/8"			

BRANCHES AND HEADERS

Dimensions and Tube Sizes of Branches and Headers for 3 Tubes ECOi Systems (MF1)

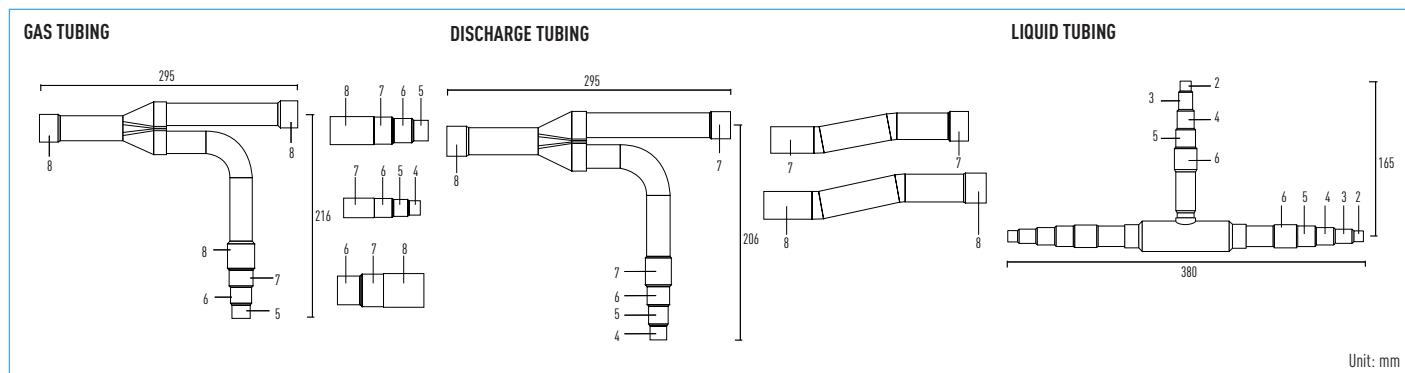
Optional Distribution Joint Kits

See the installation instructions packaged with the distribution joint kit for the installation procedure.

MODEL NAME	CAPACITY AFTER DISTRIBUTION JOINT	REMARKS
For outdoor unit	68.0 kW or less	CZ-P680PJ2BM
	greater than 68.0 kW and no more than 135.0 kW	CZ-P1350PJ2BM
For indoor unit	22.4 kW or less	CZ-P224BH2BM
	greater than 22.4 kW and no more than 68.0 kW	CZ-P680BH2BM
	greater than 68.0 kW and no more than 135.0 kW	CZ-P1350BH2BM

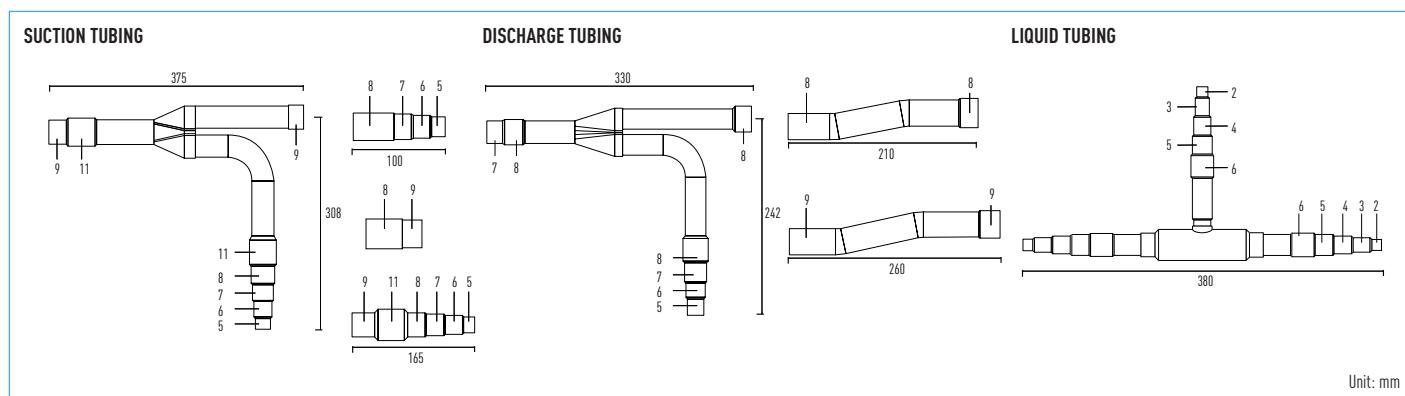
1. CZ-P680PJ2BM

For outdoor unit side (Capacity after distribution joint is 68.0 kW or less.)



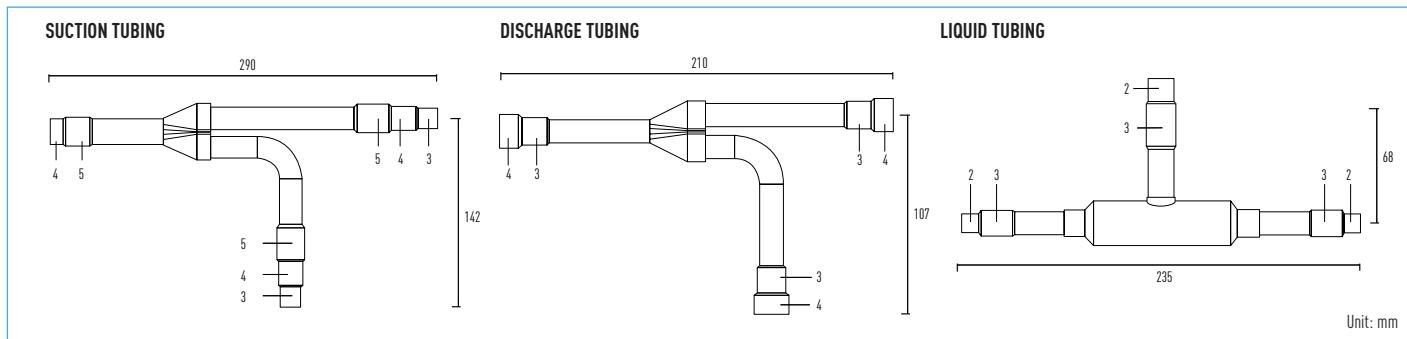
2. CZ-P1350PJ2BM

For outdoor unit side (Capacity after distribution joint is greater than 68.0 kW and no more than 135.0 kW.)



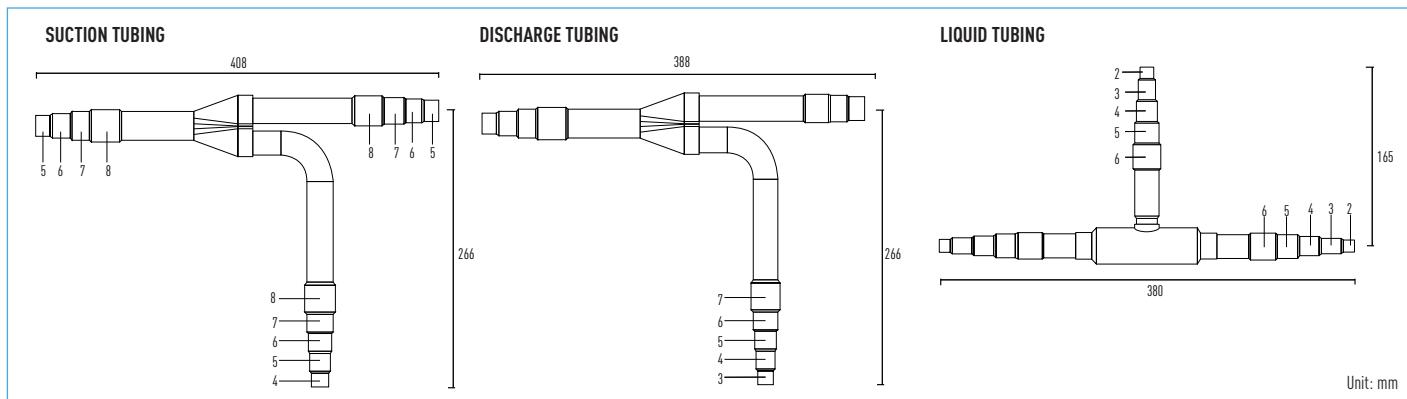
3. CZ-P224BH2BM.

For outdoor unit side (Capacity after distribution joint is 22.4 kW or less.)



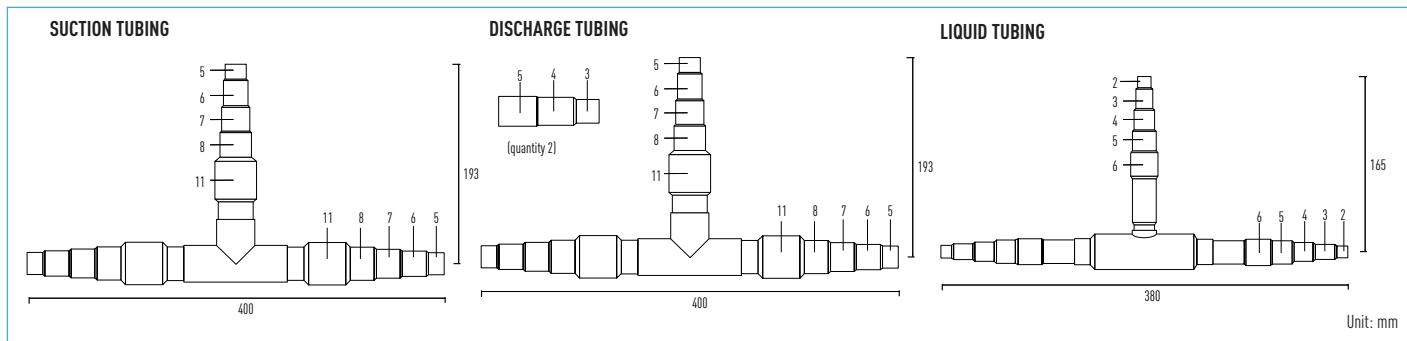
4. CZ-P680BH2BM.

For outdoor unit side (Capacity after distribution joint is greater than 22.4 kW and no more than 68.0 kW.)



5. CZ-P1350BH2BM.

For outdoor unit side (Capacity after distribution joint is greater than 68.0 kW and no more than 135.0 kW.)



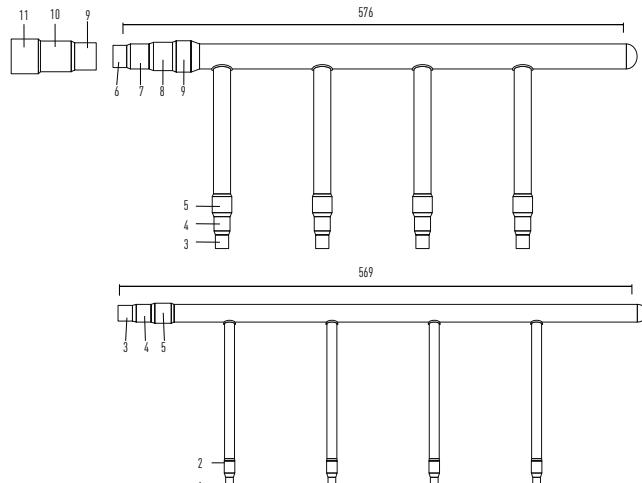
DIAMETERS

1	6,35 mm	1/4"	6	22,40 mm	7/8"	11	38,10 mm	1"1/2
2	9,52 mm	3/8"	7	25,40 mm	1"	12	41,28 mm	1"5/8
3	12,70 mm	1/2"	8	28,57 mm	1" 1/8	13	44,45 mm	1"3/4
4	15,88 mm	5/8"	9	31,75 mm	1" 1/4	14	50,80 mm	2"
5	19,05 mm	3/4"	10	34,92 mm	1"3/8			

Header pipe set FOR ECOi 2 pipe system ECOi

Header pipe models for 2 pipe systems:

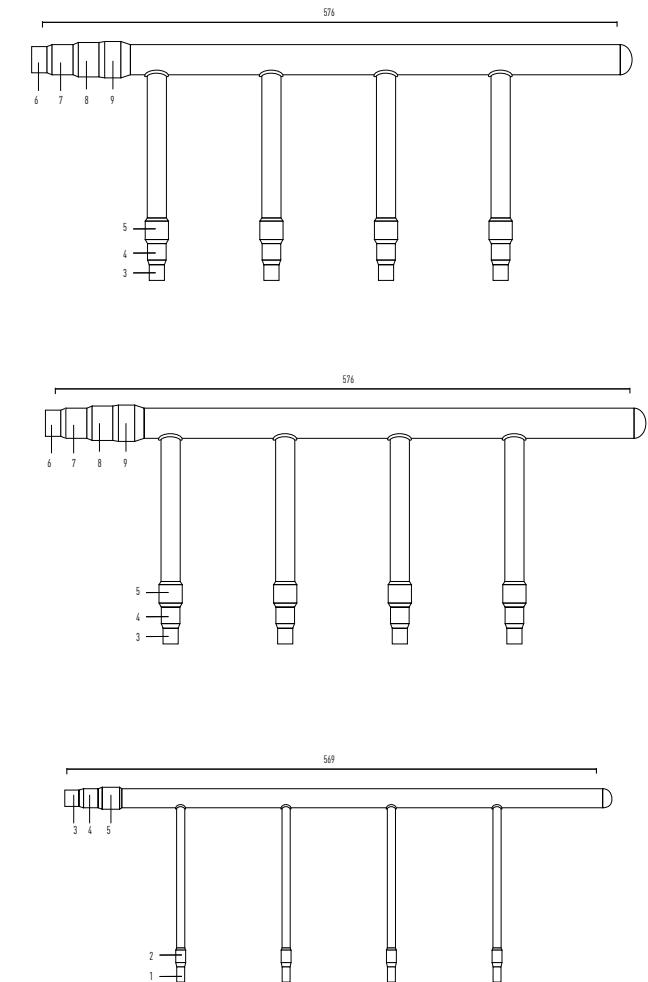
CZ-P4HP4C2BM



Header pipe set FOR 3 pipe system ECOi

Header pipe model for 3 pipe systems :

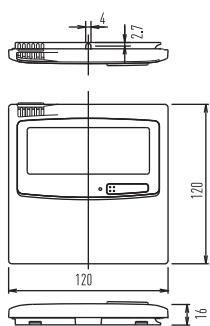
CZ-P4HP3C2BM



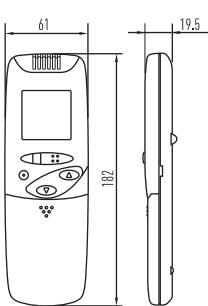
DIAMETERS		
1	6,35 mm	1/4"
2	9,52 mm	3/8"
3	12,70 mm	1/2"
4	15,88 mm	5/8"
5	19,05 mm	3/4"
6	22,40 mm	7/8"
7	25,40 mm	1"
8	28,57 mm	1" 1/8
9	31,75 mm	1" 1/4
10	34,92 mm	1" 3/8
11	38,10 mm	1" 1/2

CONTROL EQUIPMENT EXTERNAL DIMENSIONS

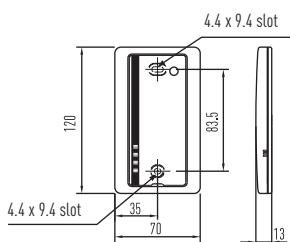
TIMER REMOTE CONTROLLER
(CZ-RTC2)



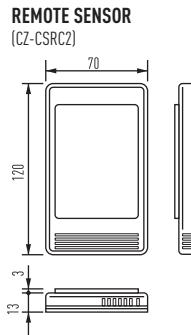
WIRELESS REMOTE CONTROLLER



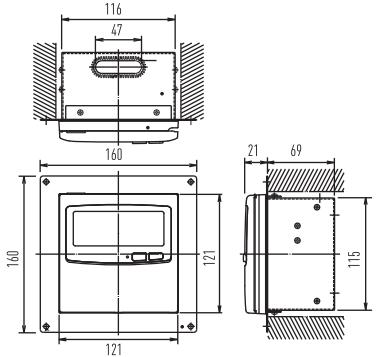
SEPARATE RECEIVER FOR WIRELESS REMOTE CONTROLLER



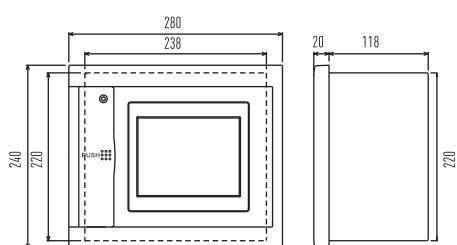
SIMPLIFIED REMOTE CONTROLLER
(CZ-REZC2)



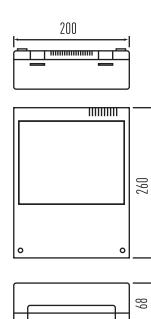
SYSTEM CONTROLLER
(CZ-64ESMC2)



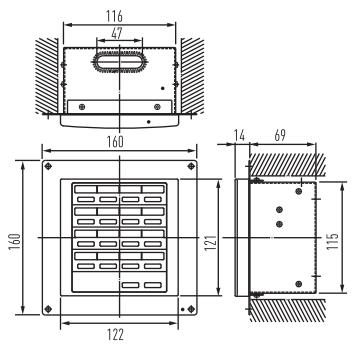
INTELLIGENT CONTROLLER
(CZ-256ESMC2)



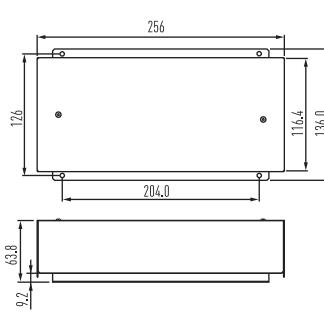
COMMUNICATION ADAPTER
(CZ-CFUNC2)



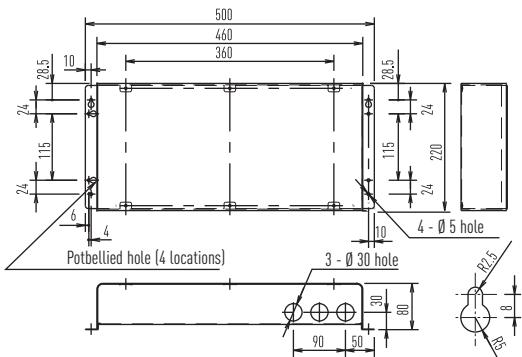
ON/OFF CONTROLLER
(CZ-ANC2)



SERI-PARA I/O UNIT FOR EACH INDOOR UNIT
(CZ-CAPBC2)

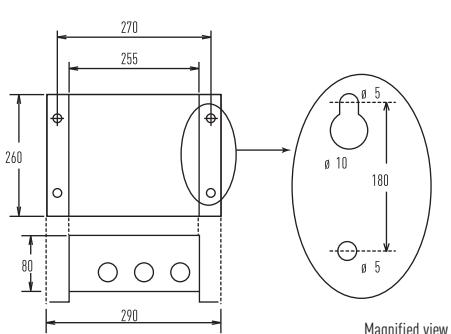


LONWORKS INTERFACE
(CZ-CLNC2)



Detail of the potbelly hole

SERI-PARA I/O UNIT FOR OUTDOOR UNIT
(CZ-CAPDC2)

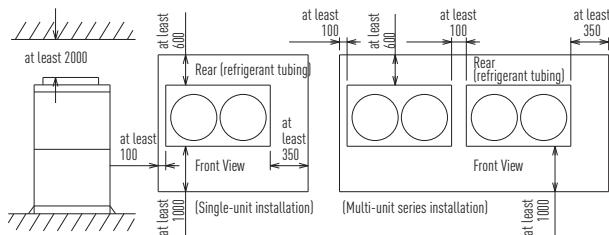


Magnified view

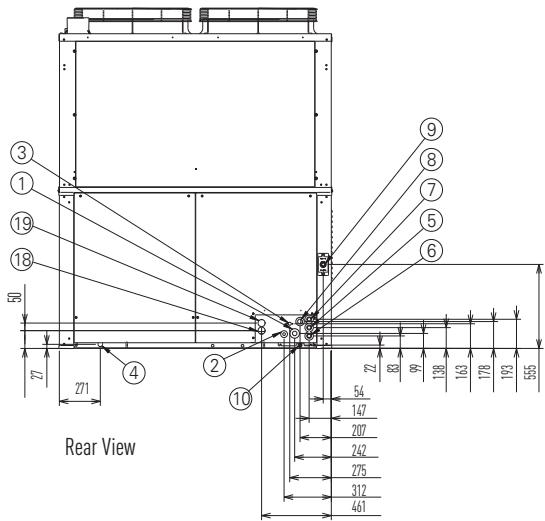
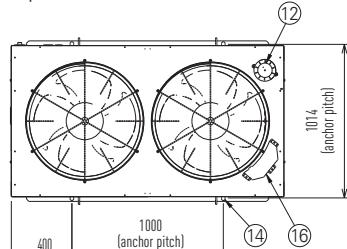
G POWER

	Size (mm)
1 Gas refrigerant pipe (gas tube)	Ø28.58
2 Liquid refrigerant pipe (liquid tube)	Ø15.88
3 Refrigerant balance pipe (balance tube)	Ø9.52
4 Exhaust gas drain hose	Ød: length:
5 Electrical power supply port	Ø28
6 Inter-unit cable port	Ø28
7 Inverter cable port	Ø28
8 Inverter cable port	Ø40
9 Fuel gas port	G: r3/4
10 Condensation drain opening	Ø20
11 Rain and condensation outlet	
12 Engine exhaust outlet	
13 Suspension holes 4 - ø20	
14 Anchor holes 4 - ø24	
15 Segmented display	
16 Coolant intake (top)	
17 Vent	
18 Hot water intake	Rp3/4
19 Hot water outlet	Rp3/4

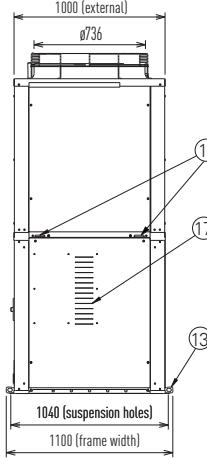
Service Clearances for installation (Units: mm)



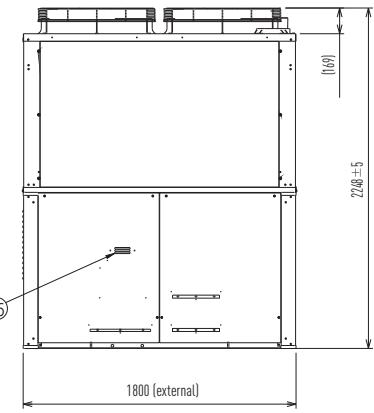
Top View



Rear View



Left Side View

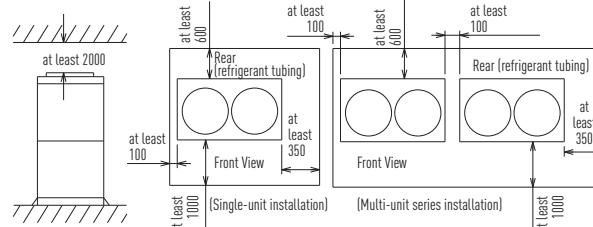


Front View

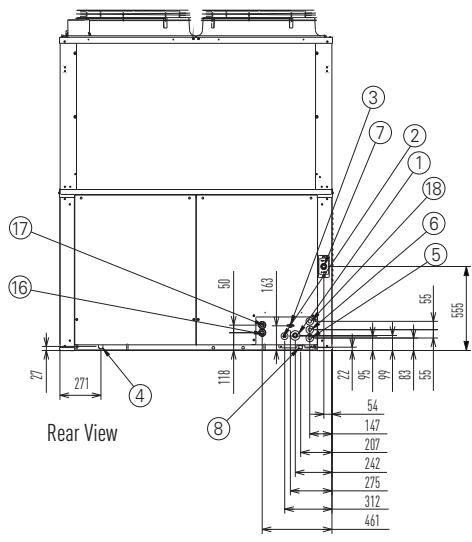
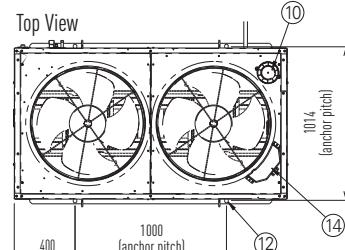
W-MULTI

	150	16 / 20 and 25
1 Gas refrigerant pipe (gas tube)	Ø28.58	Ø28.58
2 Liquid refrigerant pipe (liquid tube)	Ø12.7	Ø15.88
3 Refrigerant balance pipe (balance tube)	Ø9.52	
4 Exhaust gas drain hose	Ød:Ø25	Length: 200
5 Electrical power supply port	Ø28	
6 Inter-unit cable port	Ø28	
7 Fuel gas port	G: R3/4	
8 Condensation drain opening	Ø20	
9 Rain and condensation outlet		
10 Engine exhaust outlet		
11 Suspension holes	4 - ø20	
12 Anchor holes	4 - ø24	
13 Segmented display		
14 Coolant intake (top)		
15 Vent		
16 Hot water intake	Rp3/4	
17 Hot water outlet	Rp3/4	
18 Cable inlet for interlock and the like	Ø28	

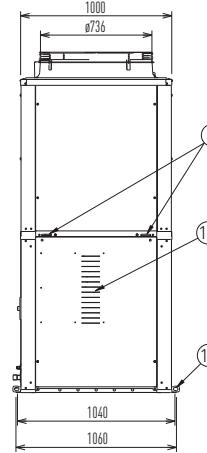
Service Clearances for installation (Units: mm)



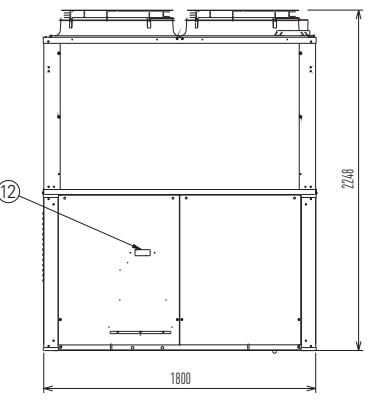
Top View



Rear View



Left Side View



Front View

Rating Conditions: Cooling Indoor 27°C DB 19°C WB Outdoor 35°C DB 24°C WB Heating Indoor 20°C DB Outdoor 7°C DB 6°C WB

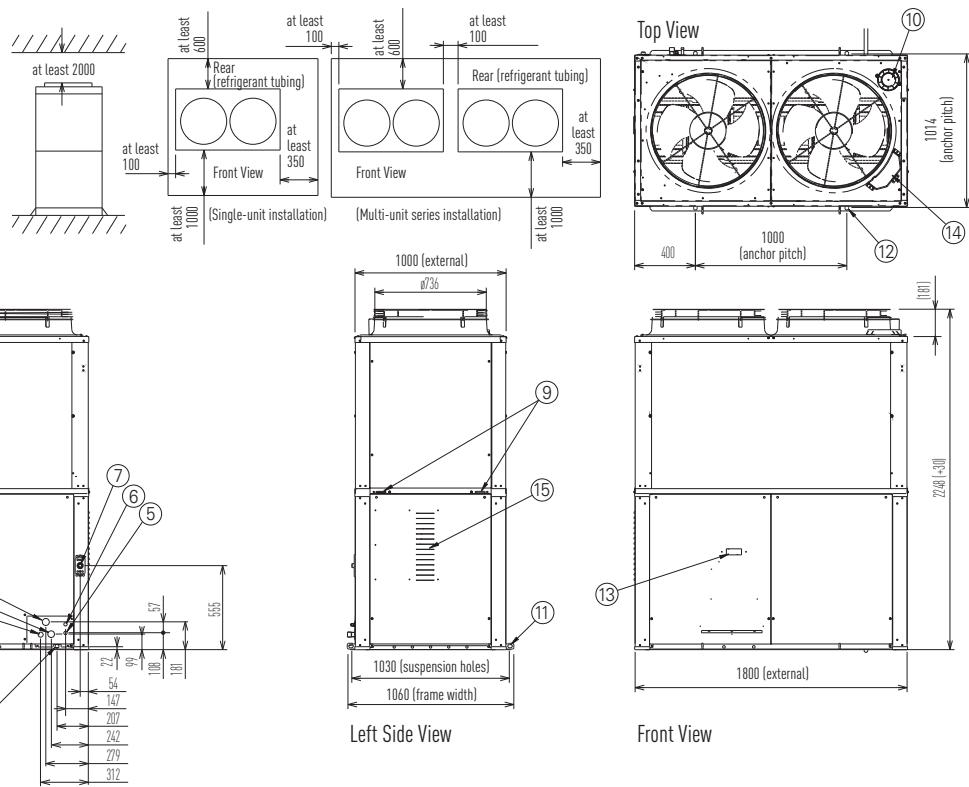
3WAY MULTI

MODEL TYPE

	150	190 and 240
1 Suction refrigerant pipe	Ø28.58	Ø25.4
2 Discharge refrigerant pipe	Ø22.22	Ø19.05
3 Liquid refrigerant pipe	Ø15.88 [170M1]	Ø9.52 [80M1]
4 Exhaust gas drain hose	OD: Ø25 Length: 200	
5 Inter-unit cable port	Ø28	
6 Electrical power supply port	Ø28	
7 Fuel gas port	G: R3/4	
8 Condensation drain opening	Ø20	
9 Rain and condensation outlet		
10 Engine exhaust outlet		
11 Suspension holes	4 - Ø20	
12 Anchor holes	4 - Ø24	
13 Segmented display		
14 Coolant intake (top)		
15 Vent		

Service Clearances for installation

(Units: mm)

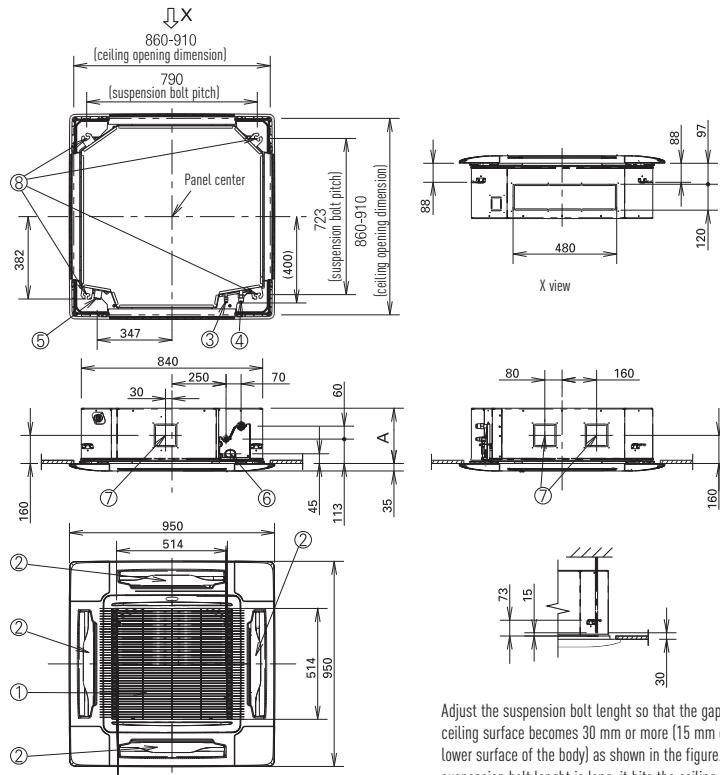


ECOI INDOOR UNITS DIMENSIONS

U1 TYPE 4-WAY CASSETTE

- 1 Air intake grill
- 2 Air outlet
- 3 Refrigerant piping (liquid pipes)
Size 22 to 56: Ø6.35 (flared)
Size 73 to 160: Ø9.52 (flared)
- 4 Refrigerant piping (gas pipes)
Size 22 to 56: Ø12.7 (flared)
Size 73 to 160: Ø15.88 (flared)
- 5 Drain outlet VP25 (outer Ø32)
- 6 Power supply entry
- 7 Discharge port (Ø150)
- 8 Suspension bolt hole (4-12 x 37 slot)
- 9 Outside air inlet duct connection port (Ø100)

	sizes 22 to 73	sizes 106 to 160
A	256	319

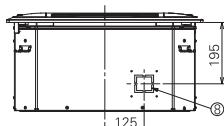
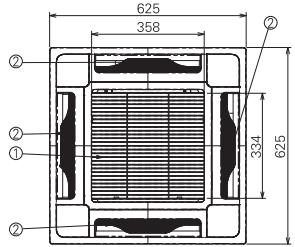
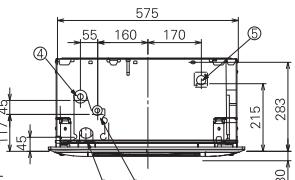
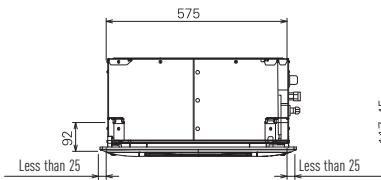


Adjust the suspension bolt length so that the gap from the lower ceiling surface becomes 30 mm or more (15 mm or more from the lower surface of the body) as shown in the figure. When the suspension bolt length is long, it hits the ceiling panel and installation is not possible.

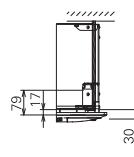
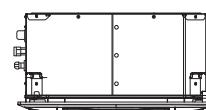
Dimensions: mm

Y1 TYPE 4-WAY CASSETTE 60X60

- 1 Air intake
- 2 Discharge outlet
- 3 Refrigerant piping (liquid pipes)
Size 22 to 56: Ø6.35 (flared)
- 4 Refrigerant piping (gas pipes)
Size 22 to 56: Ø12.7 (flared)
- 5 Drain tube connection port VP20 (outer Ø26)
- 6 Power supply port
- 7 Suspension bolt hole (4-12 x 30 hole)
- 8 Fresh air intake duct connection port (Ø100)



A view

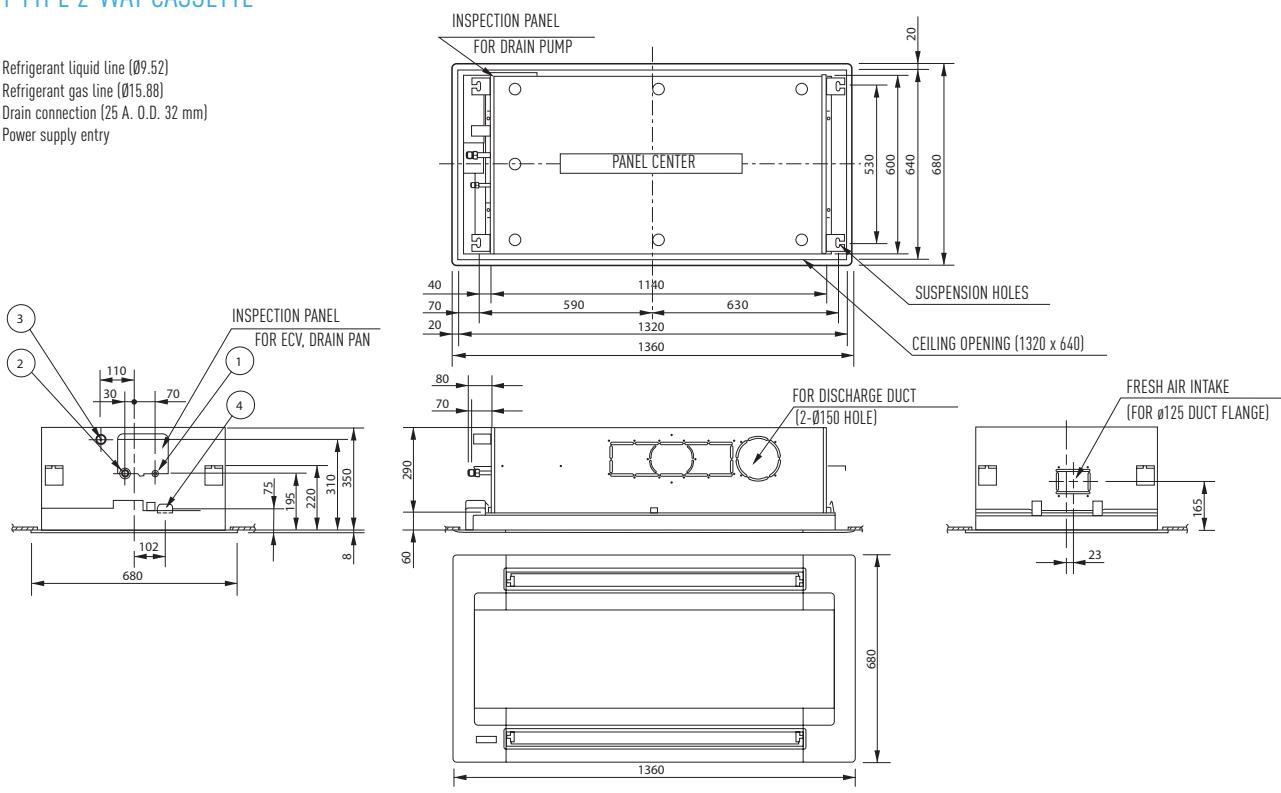


The length of the suspension bolts should be selected so that there is a gap of 30 mm or the ceiling (17 mm or more) below the lower surface of the main unit, as shown in the figure at right. If the suspension bolts are too long, it will contact the ceiling panel and the unit cannot be installed.

Dimensions: mm

L1 TYPE 2-WAY CASSETTE

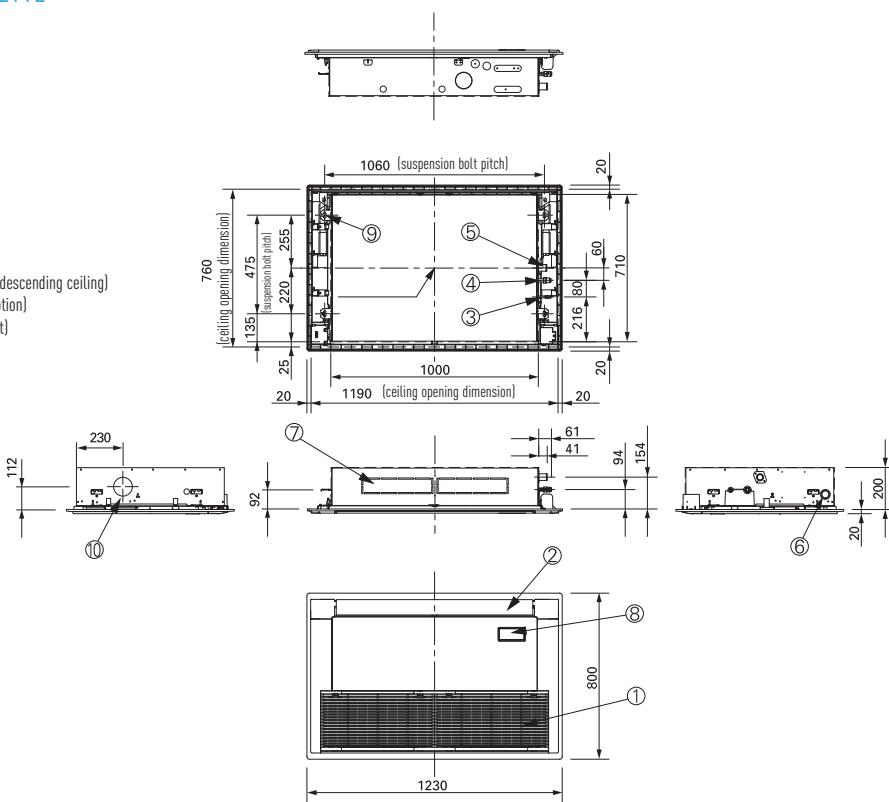
- 1 Refrigerant liquid line ($\varnothing 9.52$)
- 2 Refrigerant gas line ($\varnothing 15.88$)
- 3 Drain connection (25 A. O.D. 32 mm)
- 4 Power supply entry



Dimensions: mm

D1 TYPE 1-WAY CASSETTE

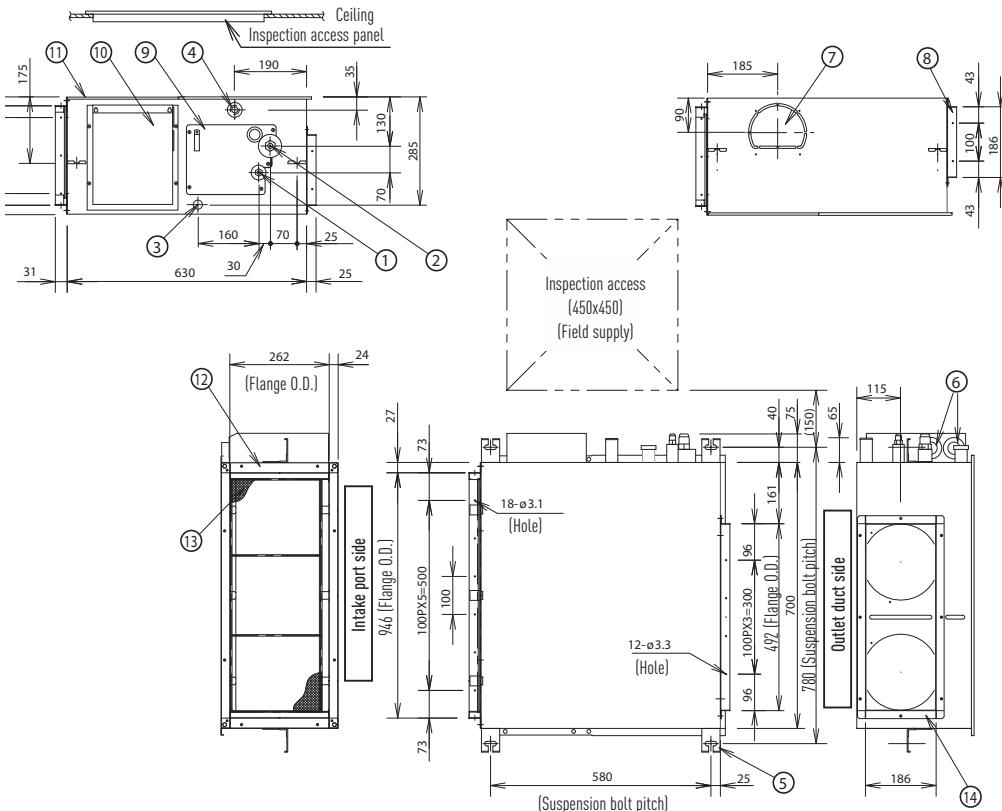
- 1 Air intake grille
- 2 Air outlet
- 3 Refrigerant piping (liquid pipes)
Sizes 28 to 56: $\varnothing 6.35$ (flared)
Size 73: $\varnothing 9.52$ (flared)
- 4 Refrigerant piping (gas pipes)
Type 9 to 18: $\varnothing 12.7$ (flared)
Type 25: $\varnothing 15.88$ (flared)
- 5 Drain connection VP25 (outer $\varnothing 32$)
- 6 Power supply entry
- 7 Discharge duct connection port (for descending ceiling)
- 8 Wireless remote control receiver (option)
- 9 Suspension mounting (4-12 x 30 slot)
- 10 Fresh air intake ($\varnothing 100$)



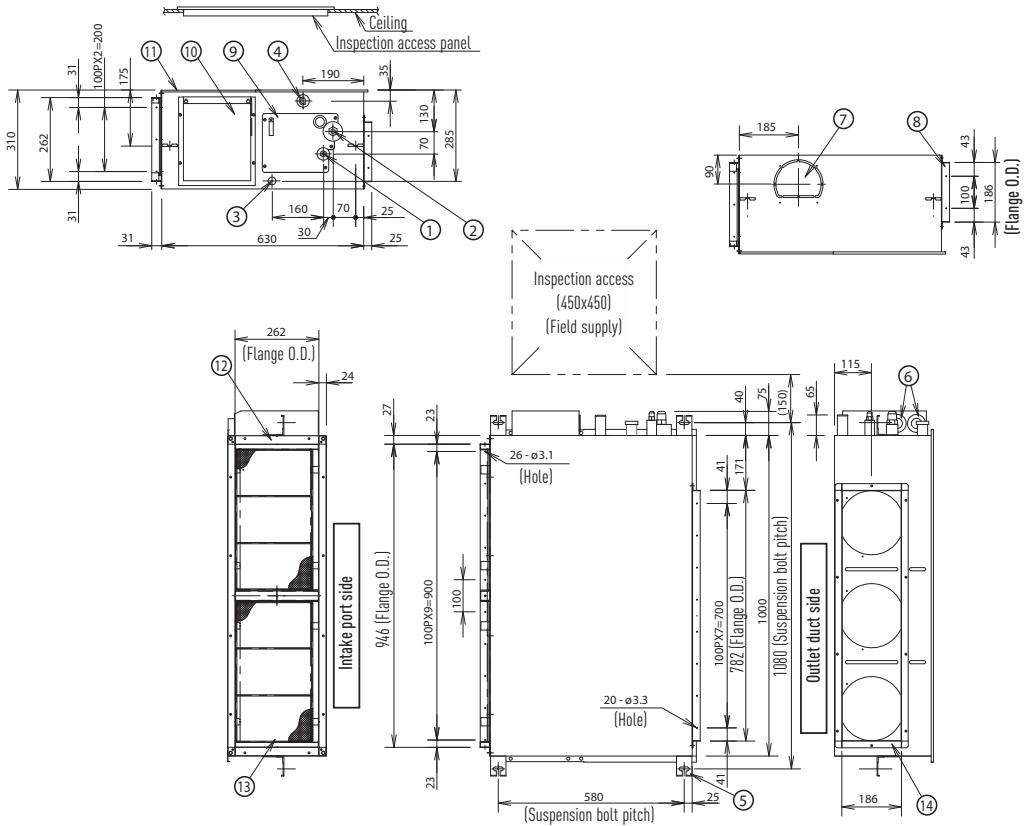
Dimensions: mm

ECOI INDOOR UNITS DIMENSIONS

F1 TYPE LOW SILHOUETTE DUCTED



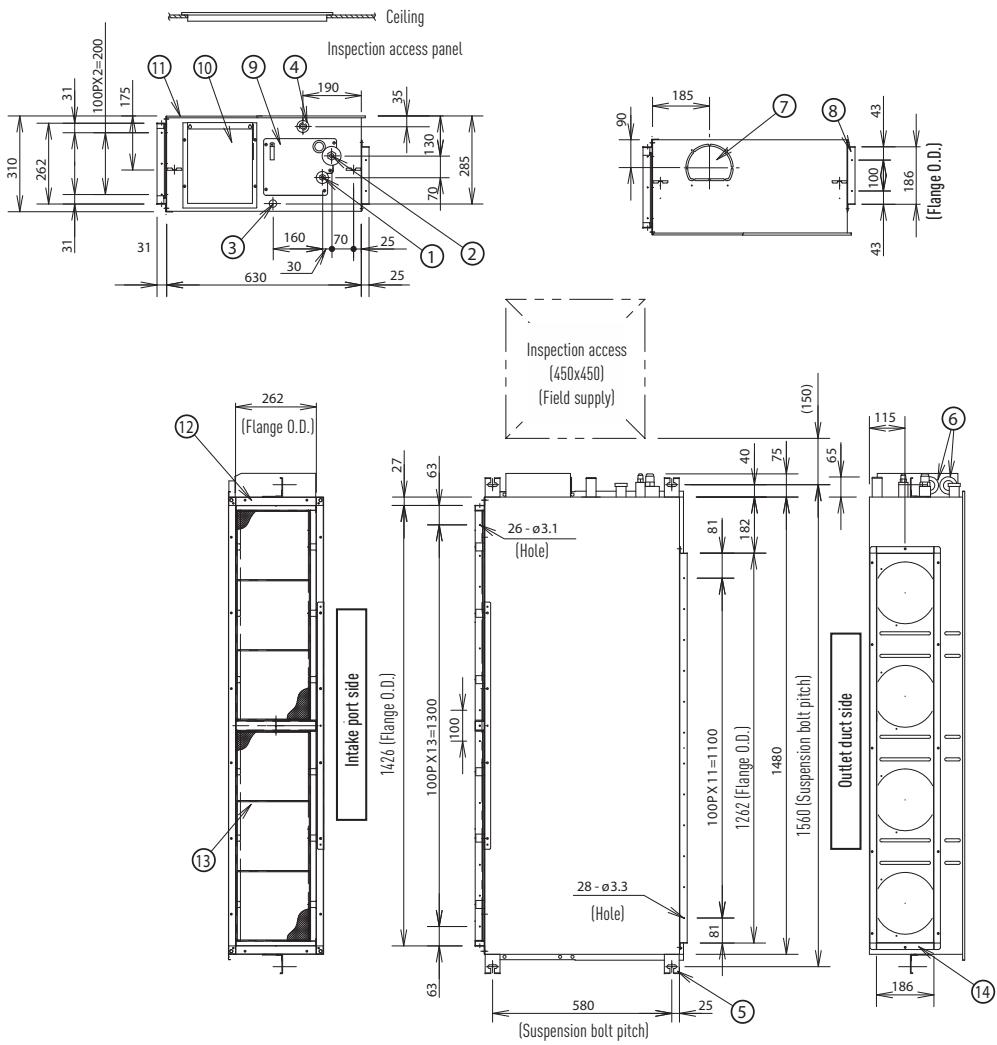
Dimensions: mm



Dimensions: mm



F1 TYPE LOW SILHOUETTE DUCTED



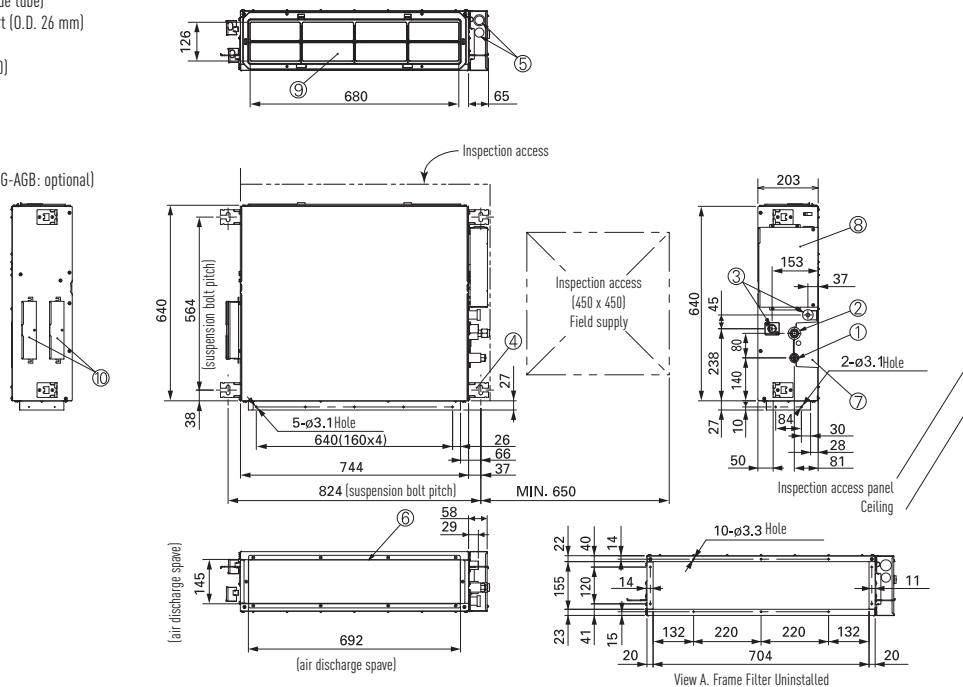
- 1 Refrigerant tubing joint Ø9,52 Flare (liquid tube)
- 2 Refrigerant tubing joint Ø15,88 Flare (gas tube)
- 3 Upper drain port VP25 (O.D. 32 mm)
Ø 200 flexible hose supplied
- 4 Bottom drain port VP25 (O.D. 32 mm)
- 5 Suspension lug (4-12 × 37 mm)
- 6 Power supply outlet (2-030 mm)
- 7 Fresh air intake port (Ø150 mm)
- 8 Flange for flexible air outlet duct
- 9 Tube cover
- 10 Electrical component box
- 11 Cover plate
- 12 Flange for air intake duct
- 13 Filter (677 × 241) × 2
- 14 Flange for air outlet duct

Dimensions: mm

ECOI INDOOR UNITS DIMENSIONS

M1 TYPE SLIM LOW STATIC DUCTED

- 1 Refrigerant tubing joint (narrow tube)
 - 2 Refrigerant tubing joint (wide tube)
 - 3 Upper and bottom drain port (O.D. 26 mm)
 - 4 Suspension lug
 - 5 Power supply outlet (2- Ø30)
 - 6 Flange for air intake duct
 - 7 PL cover
 - 8 Electrical component box
 - 9 Frame filter
 - 10 Signal output board (ACC-SG-AGB: optional)

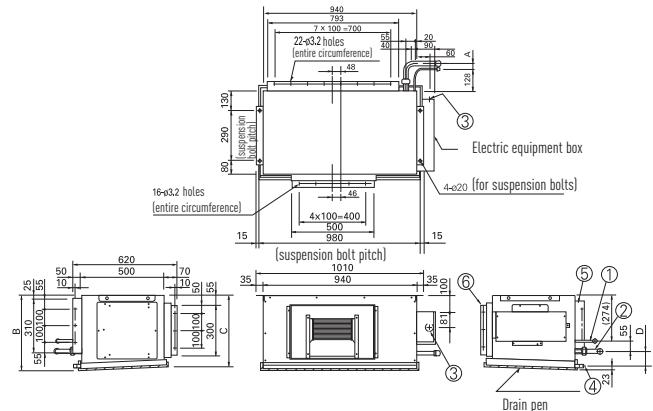


Dimensions: mm

E1 TYPE HIGH STATIC PRESSURE DUCTED

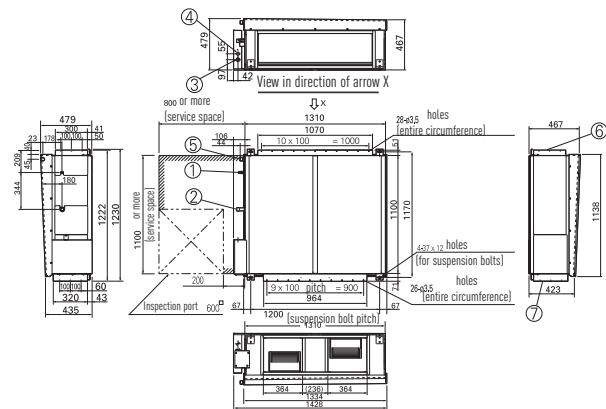
Sizes 73 to 140

- 1 Refrigerant piping (liquid pipes)
 - 2 Refrigerant piping (gas pipes)
 - 3 Power supply inlet
 - 4 Drain 25 A or VP25
 - 5 Duct connection for suction
 - 6 Duct connection for discharge



Sizes 224 and 280

- Sizes 224 and 260
 - 1 Refrigerant piping (liquid pipes) Ø9.52
 - 2 Refrigerant piping (gas pipes)
 - 76 type: Ø19.05, 96 type: Ø22.22
 - 3 Power supply outlet Ø25 grommet, rubber)
 - 4 Power supply outlet (spare) Ø30 knock-out)
 - 5 Drain port 25 A, male thread
 - 6 Duct connection for suction
 - 7 Duct connection for discharge



Dimensions: mm



T1 TYPE CEILING

1 Drain port VP20 (inner Ø26, hose accessory)

2 Drain for left piping

3 Upper piping outlet port (knock-out hole)

4 Right piping outlet port (knock-out hole)

5 Drain left piping outlet port (knock-out hole)

6 Power supply entry port (knock-out hole Ø40)

7 Remote controller wiring inlet port

8 Wireless remote control receiver mounting part

	12-18 type	25 type	36-48 type
A (body)	910	1,180	1,595
B (suspension bolt pitch)	855	1,125	1,540

9 Refrigerant gas piping

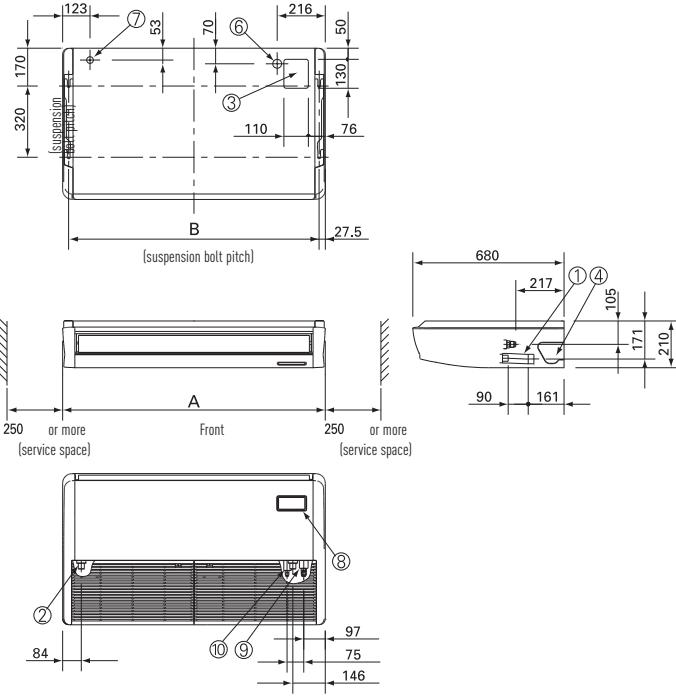
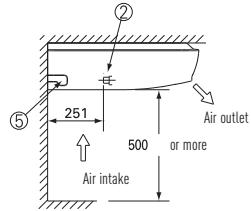
Type 12 to 18: Ø12.7

Type 25 to 48: Ø15.88

10 Refrigerant liquid piping

Type 12 to 18: Ø6.35

Type 25 to 48: Ø9.52

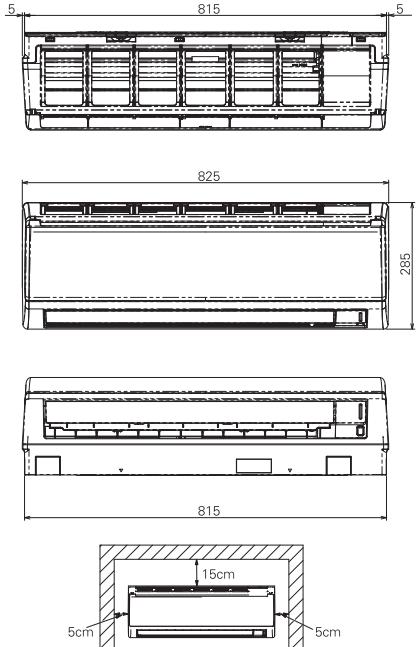


Dimensions: mm

ECOI INDOOR UNITS DIMENSIONS

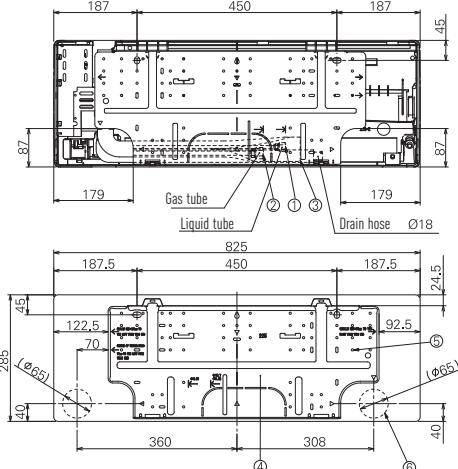
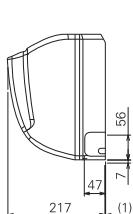
K1 TYPE WALL MOUNTED

Indoor unit:
S-22MK1E5 / S-28MK1E5 / S-36MK1E5

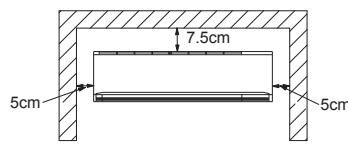
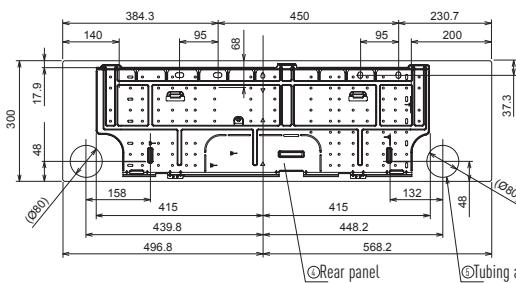
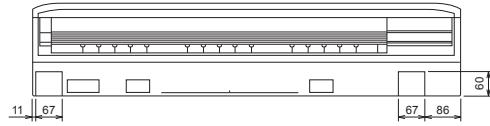
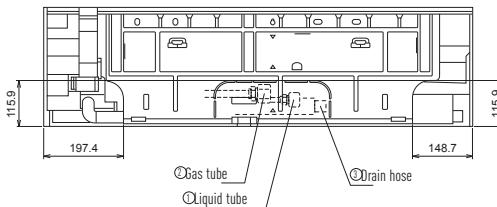
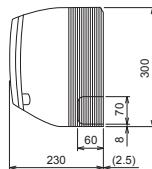
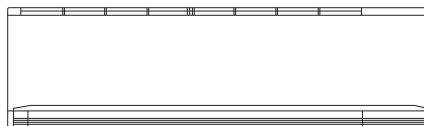
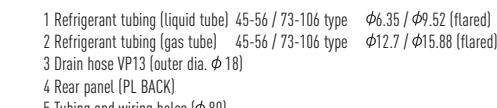
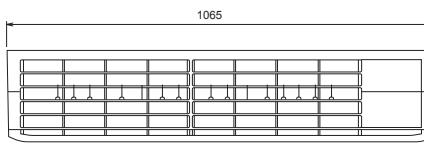


5 FILTER SIZE
(316 x 311 x 2) x 2pcs.

- 1 Refrigerant piping (liquid pipes) Ø6.35 (flared)
 - 2 Refrigerant piping (gas pipes) Ø12.7 (flared)
 - 3 Drain hose VP13 (outer Ø18)
 - 4 Rear panel (PL BLACK)
 - 5 Rear panel fixing holes (Ø5 holes or 5 x 13 oval holes)
 - 6 Piping & coiling holes (Ø65)



Indoor unit:
S-45MK1E5 / 56MK1E5 / 73MK1E5 / 106MK1E5



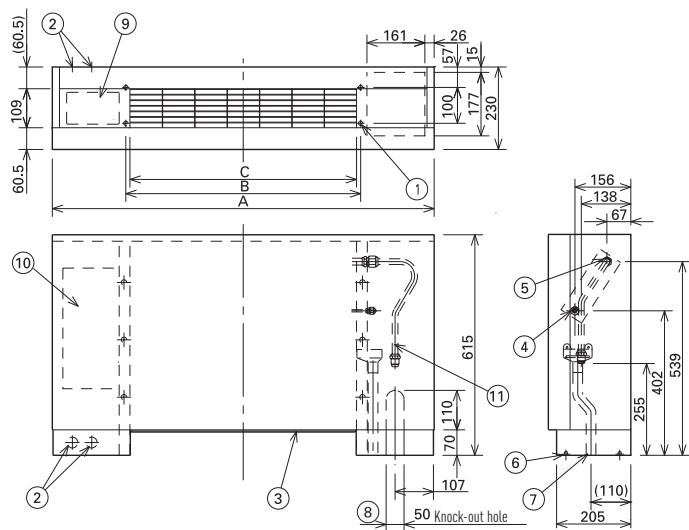
Front view

Dimensions: mm

P1 TYPE FLOOR STANDING

- 1 4 x Ø12 holes (for floor fixing)
- 2 Power supply outlet
- 3 Air filter
- 4 Refrigerant piping (liquid pipes)
- 5 Refrigerant piping (gas pipes)
- 6 Level adjustment bolt
- 7 Drain outlet VP20 (with vinyl hose)
- 8 Refrigerant piping connection port (bottom or rear)
- 9 Operation switch mounting part
- 10 Electric equipment box
- 11 Accessory copper pipe for gas pipe connection

Indoor unit	A	B	C	Liquid pipes	Gas pipes
22 to 36 type	1,065	665	632		
45 type				Ø6.35	Ø12.7
56 type	1,380	980	947		
71 type				Ø9.52	Ø15.88

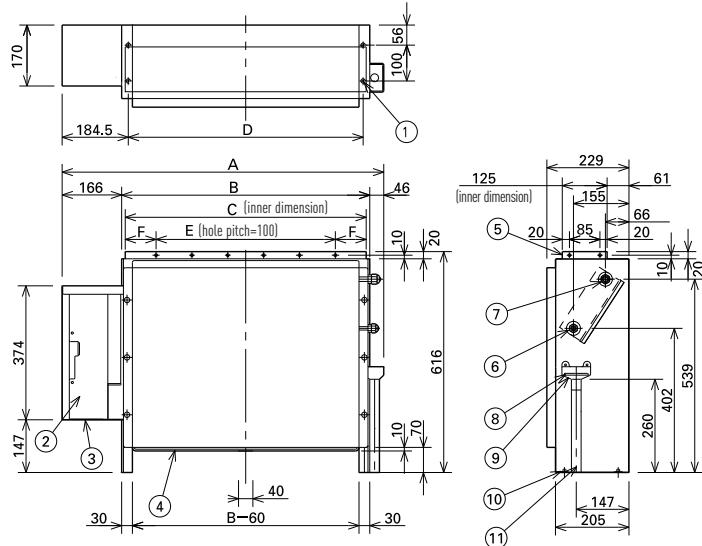


Dimensions: mm

R1 TYPE CONCEALED FLOOR STANDING

- 1 4 x Ø12 holes (for floor fixing)
- 2 Electric equipment box
- 3 Power supply outlet
- 4 Air filter
- 5 Discharge duct connection flange
- 6 Refrigerant connection outlet (liquid pipes)
- 7 Refrigerant connection outlet (gas pipes)
- 8 Drain filter
- 9 Drain pan
- 10 Level adjustment bolt
- 11 Drain outlet VP20 (with vinyl hose)

Indoor unit	A	B	C	D	E	F	Liquid pipes	Gas pipes
22 to 36 type	904	692	672	665	500	86		
45 type							Ø6.35	Ø12.7
56 type	1,219	1,007	1,002	980	900	51		
71 type							Ø9.52	Ø15.88



Dimensions: mm



PANASONIC'S ENERGY RECOVERY VENTILATOR UNIT OFFERS MAXIMUM COMFORT AND GREATER ENERGY SAVINGS

Energy recovery ventilators offer ventilation which increases comfort and saves energy. They efficiently recover the heat lost in ventilation during the heat recovery process.

20% energy saving

Energy consumption is dramatically reduced by using a counter-flow heat-exchange element. Air conditioning load is reduced by approximately 20%, resulting in significant energy savings.

Lightweight structure

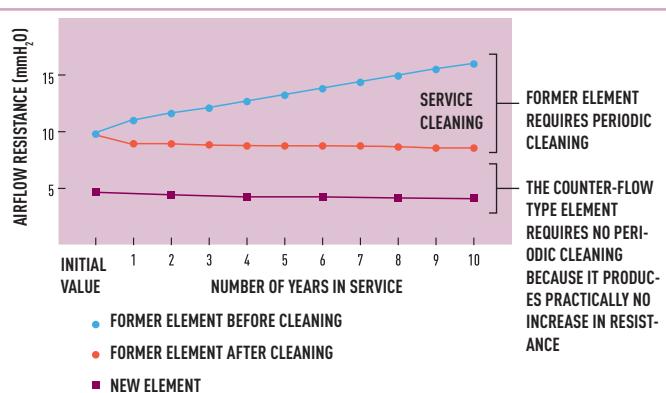
The lightweight structure makes installation easier.

Quiet operation

Low noise operation results in noticeably quieter units. All models with capacities below 500 m³/h run at noise levels below 32 dB (High setting) and even our largest 1,000 m³/h-capacity model runs at only 37.5 dB (High setting).

Long heat-exchange element service life

CHANGES IN AIRFLOW RESISTANCE BASED ON NUMBER OF YEARS IN SERVICE

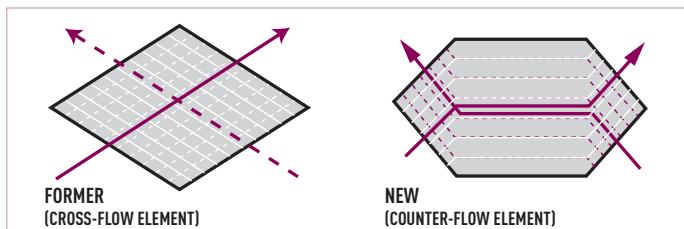




The heat exchanger is made up of a membrane manufactured from a special material covered in resin for optimal heat transmission. The nylon/polyester fibre filter offers high dust retention capacity. We have also redesigned the air ducts to obtain a long-lasting heat exchange system which does not need periodic cleaning.



Heat exchanger characteristics



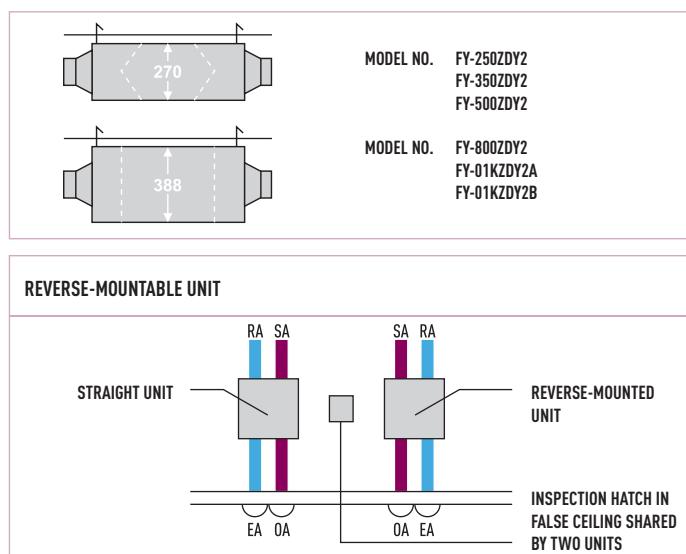
With the cross-flow element, air moves in a straight line across the element. With the counter-flow element, air flows through the element for a longer time (longer distance), so the heat-exchange effect remains unchanged even if the element is made thinner.

Characteristics common to all models

- Counter-flow heat exchange element used for reduced noise and slimmer, more compact body shape.
- All maintenance can be performed through a single inspection hole.
- Straight air supply / exhaust system used for easier installation.
- Each unit can be mounted in reverse position.
- Equipped with an Extra-High setting.
- Can incorporate a medium performance filter (optional, installed on site).

Slim shape and easier installation

Counter-flow heat exchange element used for reduced noise and slimmer, more compact body shape.



TECHNICAL ZOOM

- HIGH ENERGY SAVING, UP TO 20%
- COUNTER CROSS FLOW TECHNOLOGY FOR BETTER EFFICIENCY
- LONG LIFE ELEMENT CORE
- EASY INSTALLATION AND 20% LESS THICKNESS
- EASY CONNECTION TO AIR CONDITIONING UNITS
- SUPER QUIET UNITS

ENERGY RECOVERY VENTILATION SYSTEM

Recover up to 77% of the heat in the outgoing air, for an ecological and energy saving building

RATED FLOW RATE	250 M ³ /H	350 M ³ /H	500 M ³ /H	800 M ³ /H	1000 M ³ /H
MODELS	FY-250ZDY2	FY-350ZDY2	FY-500ZDY2	FY-800ZDY2	FY-01KZDY2A
Power Source	V.A.C 220 - 240	V.A.C 220 - 240	V.A.C 220 - 240	V.A.C 220 - 240	V.A.C 220 - 240
Frequency	Hz 50	Hz 50	Hz 50	Hz 50	Hz 50
HEAT EXCHANGE VENTILATION					
Input	Extra High W 104 - 119	137 - 154	188 - 214	316 - 347	399 - 445
	High W 99 - 114	124 - 137	169 - 188	309 - 329	360 - 399
	Low W 79 - 90	117 - 128	151 - 166	302 - 327	332 - 367
Current	Extra High A 0.48 - 0.50	0.63 - 0.65	0.86 - 0.90	1.51 - 1.54	1.97 - 2.04
	High A 0.46 - 0.48	0.59 - 0.60	0.79 - 0.81	1.48 - 1.50	1.85 - 1.93
	Low A 0.37 - 0.39	0.56 - 0.57	0.72 - 0.73	1.44 - 1.46	1.68 - 1.76
Air Volume	Extra High / High / Low m ³ /h 250 / 250 / 170	350 / 350 / 280	500 / 500 / 370	800 / 800 / 650	1000 / 1000 / 810
Air Volume	Extra High / High / Low ft ³ /min 148 / 148 / 100	207 / 207 / 165	295 / 295 / 218	472 / 472 / 384	590 / 590 / 478
External Static Pressure	Extra High / High / Low Pa 90 / 80 / 37	95 / 65 / 42	105 / 70 / 38	140 / 110 / 70	90 / 55 / 35
Temperature Exchange Efficiency	Extra High / High / Low %	75 / 75 / 77	75 / 75 / 77	75 / 75 / 76	75 / 75 / 76
Enthalpy Exchange Efficiency	Extra High / High / Low Cooling % 63 / 63 / 66	66 / 66 / 69	62 / 62 / 67	65 / 65 / 68	65 / 65 / 68
	Extra High / High / Low Heating % 70 / 70 / 73	69 / 69 / 71	67 / 67 / 71	71 / 71 / 74	71 / 71 / 73
NORMAL VENTILATION					
Input	Extra High W 103 - 119	133 - 151	184 - 210	309 - 337	392 - 438
	High W 98 - 114	119 - 132	161 - 182	300 - 325	358 - 392
	Low W 79 - 90	113 - 125	145 - 164	297 - 316	329 - 362
Current	Extra High A 0.47 - 0.50	0.61 - 0.63	0.84 - 0.88	1.47 - 1.50	1.95 - 2.03
	High A 0.46 - 0.48	0.57 - 0.60	0.76 - 0.77	1.45 - 1.48	1.84 - 1.92
	Low A 0.37 - 0.39	0.54 - 0.56	0.71 - 0.73	1.41 - 1.43	1.67 - 1.74
Air Volume	Extra High / High / Low m ³ /h 250 / 250 / 170	350 / 350 / 280	500 / 500 / 370	800 / 800 / 650	1000 / 1000 / 810
External Static Pressure	Extra High / High / Low Pa 90 / 80 / 37	95 / 65 / 42	105 / 70 / 38	140 / 110 / 70	90 / 55 / 35
Noise	Extra High dB 27 - 28	31 - 32	34 - 35	38.5 - 39.5	38 - 39
	High dB 26.5 - 27.5	30 - 31	32 - 33	37 - 38	36.5 - 37.5
	Low dB 21.5 - 22.5	26 - 27	26.5 - 27.5	33.35	31.5 - 33.5
Product Weight	Kg 29	37	43	71	83

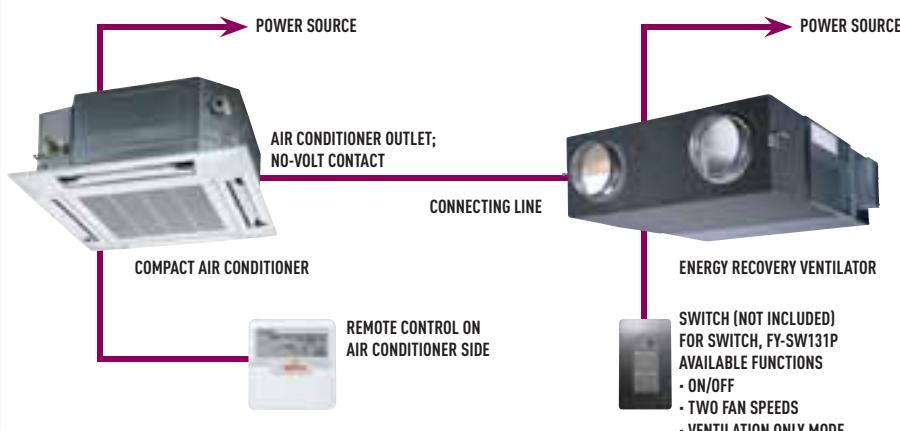
• This noise of the product is the value which was measured at the acoustic room. Actually, in the established condition, that undergo influence by the echoing of the room and so that become bigger than the display numerical value.

• The input, the current and the exchange efficiency are values at the time of the mentioned air volume.

• The noise level shall be measured 1.5m below the centre of the unit.

• The temperature exchange efficiency averages that of when cooling and when heating.

TYPICAL SYSTEM LINKED TO A CASSETTE TYPE AIR CONDITIONER



USE CONDITIONS

OUTDOOR AIR CONDITIONS
TEMPERATURE RANGE: -10 °C - 40 °C
RELATIVE HUMIDITY: 85% OR LESS

INDOOR AIR CONDITIONS
TEMPERATURE RANGE: -10 °C - 40 °C
RELATIVE HUMIDITY: 85% OR LESS

REQUIREMENTS FOR INSTALLATION

USE IS TO BE AVOIDED IN REFRIGERATED CHAMBERS OR OTHER PLACES WHERE THE TEMPERATURE MAY UNDERGO SIGNIFICANT FLUCTUATIONS, EVEN WHEN THE TEMPERATURE RANGE IS ACCEPTABLE.



FY-250ZDY2 // FY-350ZDY2 // FY-500ZDY2 // FY-800ZDY2 // FY-01KZDY2A

HEALTHY AIR

- The filter guarantees healthier air

ENERGY EFFICIENCY AND ECOLOGY

- Up to 20% energy saving in the installation
- Recovers up to 77% of the heat in the outgoing air

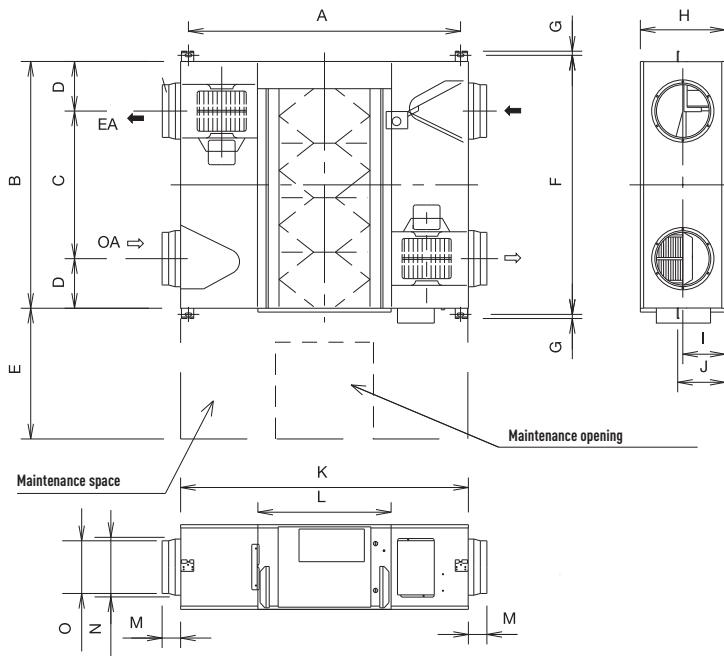
COMFORT

- Quiet units (21,5 dB for the FY-250ZDY2)
- Cleaning reduced due to the revolutionary structure of the exchanger (recommended every 6 months)
- Ideal for indoor spaces without windows

EASY INSTALLATION AND MAINTENANCE

- Five models for easier selection
- Reduced system height (270 mm and 388 mm)
- Side opening for cleaning (inspection of filter, motor and other parts)
- Installation can be reversed to share an inspection opening between 2 machines
- Easy connection to the air conditioning unit (without additional elements)
- Installation in false ceilings
- Units operate at 220 - 240V
- High static pressure for easier installation

INDOOR UNIT DIMENSIONS



	FY-250ZDY2	FY-350ZDY2	FY-500ZDY2	FY-800ZDY2	FY-01KZDY2A
A	810	810	890	1,250	1,250
B	599	804	904	884	1,134
C	315	480	500	428	678
D	142	162	202	228	228
E	600	600	600	600	600
F	655	860	960	940	1,190
G	19	19	19	19	19
H	270	270	270	288	388
I	135	145	145	194	194
J	159	159	159	218	218
K	882	882	962	1,322	1,322
L	414	414	414	612	612
M	95	95	107	85	85
N	219	219	246	258	258
O	144	144	194	242	242

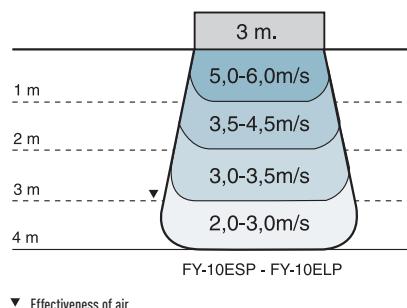
TECHNICAL ZOOM

- 2 SIZES : 900MM AND 1200MM
- POWERFUL AIR FLOW (10 M/S)
- VERY LOW NOISE, ONLY 42DB

AIR CURTAIN

2 sizes for 900mm and 1200mm air curtains. Ideal for separating areas and energy saving.

	FY-10ESPN AH		FY-10ELPNAH
Width		900	1.200
Watts	Hi	W	96
	Lo	W	74
Current	Hi	A	0,40
	Lo	A	0,29
Air speed	Hi	m/s	13,0
	Lo	m/s	11,1
Air volume	Hi	m ³ /h	750
	Lo	m ³ /h	630
Noise lever	Hi	dB(A)	46
	Lo	dB(A)	42
Weight	Kg	11	14





FY-10ESPN/NAH // FY-10ELPNAH

COMFORT

- Easy redirection of airflow by means of the manual deflector

EASE OF USE

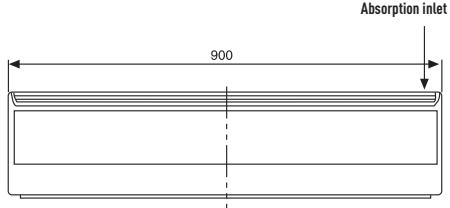
- Speed selector (high and low) on the unit itself

EASY INSTALLATION AND MAINTENANCE

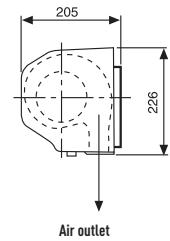
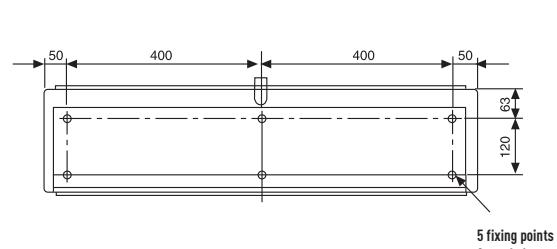
- Simple installation
- Its compact dimensions improve installation and positioning in any space

INDOOR UNIT DIMENSIONS FY-10ESPN/NAH

Front view

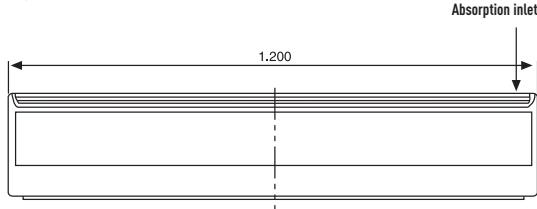


Back view

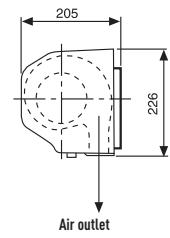
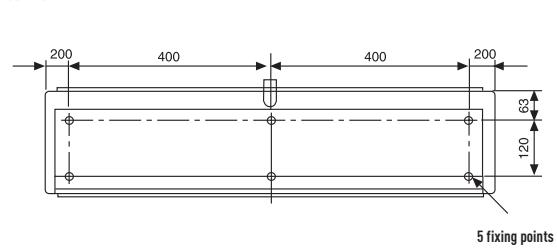


INDOOR UNIT DIMENSIONS FY-10ELPNAH

Front view



Back view



NOTES

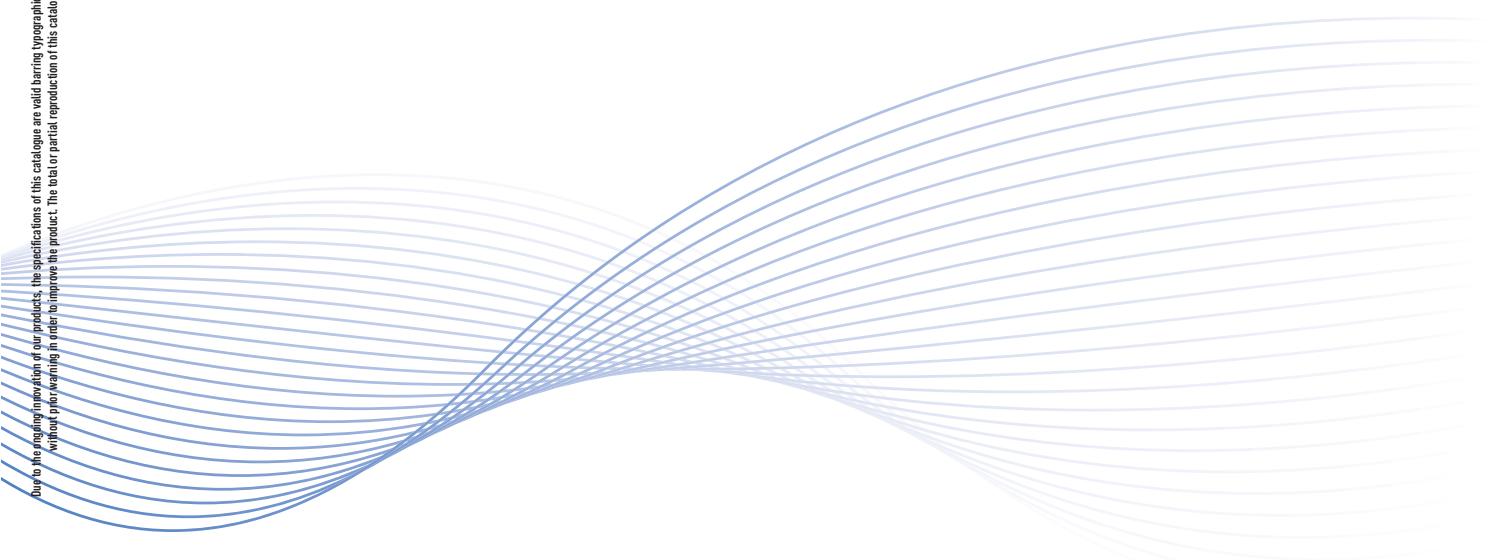
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www.panasonic.co.uk/aircon

Address: Panasonic Air Conditioning

Panasonic House

Willoughby Road

Bracknell

Berkshire

RG12 8FP

