

Panasonic

NEW PRODUCTS 2013 / 2014



AQUAREA AIR TO WATER HEAT PUMP



DOMESTIC AIR TO AIR HEAT PUMP



COMMERCIAL AIR TO AIR



VRF SYSTEMS

NEW PRODUCTS 2013 / 2014

AQUAREA

AQUAREA AIR TO WATER HEAT PUMP RANGE

Aquarea is a ground breaking low energy system for heating and domestic hot water production: delivering outstanding performance, even at extreme outdoor temperatures.

NEW

T-CAP WITH A CLASS PUMP FOR HIGH SAVINGS



NEW

NEW 3.5 AND 6 KW HEAT PUMPS FOR LOW CONSUMPTION



NEW

AQUAREA MANAGER. SMART CONTROLLERS FOR ECO-EFFICIENT HEATING



NEW

CONNECTIVITY SOLUTIONS FOR A BETTER CONTROL



NEW

SUPER LOW TEMPERATURE RADIATORS, FOR HIGH EFFICIENT INSTALLATION



NEW

LINE UP OF SUPER EFFICIENT TANKS



DOMESTIC

DOMESTIC RANGE

Panasonic has developed a range of domestic products designed for you and your clients.

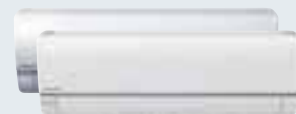
NEW

HEATCHARGE TECHNOLOGY POWERFULL AND EFFICIENT



NEW

ETHEREA COMFORT AND HEALTHY AIR



NEW

ETHEREA 1.6 KW MULTI APPLICATION FOR LOW CONSUMPTION HOUSES



NEW

FREE MULTI SYSTEM. UP TO 5 INDOOR UNITS WITH A SINGLE OUTDOOR UNIT



NEW

CONNECTIVITY SOLUTIONS WITH ENERGY CONSUMPTION DISPLAY



COMMERCIAL

COMMERCIAL RANGE

The commercial 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.

NEW

PACi STANDARD LINE UP



NEW

5kW PACi ELITE SUPER EFFICIENT OUTDOOR UNIT



NEW

WALL MOUNTED PKEA FOR SERVER ROOM APPLICATIONS



NEW

AIR CURTAIN CONNECTED TO PACi OUTDOOR UNITS



NEW

CONNECTIVITY SOLUTIONS



VRF

VRF SYSTEMS

The VRF industrial range considerably improves efficiency so even large buildings can benefit from a high-level of comfort with less energy consumption.

NEW

3-PIPE ECOi MF2 SERIES SIMULTANEOUS HEATING AND COOLING VRF SYSTEM



NEW

ECO G HIGH POWER. THE 2-PIPE GAS DRIVEN VRF WITH AN ELECTRICAL POWER GENERATOR



NEW

K2 TYPE WALL MOUNTED



NEW

AIR CURTAIN CONNECTED TO VRF INSTALLATION



NEW

SUPER LOW TEMPERATURE RADIATORS, FOR HIGH EFFICIENT INSTALLATION



NEW

SOLENOID VALVE KIT. OIL RECOVERY OPERATION



SUMMARY



EDITORIAL

The desire to advance has made Panasonic the international leader in air conditioning. Our industrial capabilities and firm commitment to the environment enable us to open new avenues of research and to develop innovative technologies which can enhance today's way of life.

- 6 PANASONIC – LEADING THE WAY IN HEATING & COOLING
- 8 RELIABILITY FACTS
- 10 ECO & SMART IDEAS FOR A SUSTAINABLE LIFESTYLE
- 12 PANASONIC TO SUPPORT THE CONCEPT DESIGN OF THE SKOLKOVO SMART CITY IN RUSSIA
- 14 PANASONIC PROFESSIONAL



AQUAREA AIR TO WATER HEAT PUMP

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 operating performance. This creates perfect comfort whatever the weather conditions, even at outdoor temperatures as low as -20 °C. Panasonic new heat pumps are designed in response to the new demand for low consumption housing, with high efficiency and low running costs.

- 16 NEW AQUAREA AIR TO WATER HEAT PUMP
- 18 HOW DO YOU GET HEATING AND HOT WATER FROM AIR?
- 20 "GREEN" HIGH-EFFICIENCY HEATING WITH PANASONIC'S NEW AIR TO WATER HEAT PUMP SYSTEMS
- 22 THE AQUAREA HEATING AND HOT WATER SYSTEM AND HEAT PUMP + PHOTOVOLTAIC
- 24 WHAT MAKES THE AIR TO WATER HEAT PUMP WORK
- 26 NEW AQUAREA 3 AND 5 KW BI-BLOC AND 6 AND 9 KW MONO-BLOC AIR TO WATER HEAT PUMP
- 28 CONTROL & CONNECTIVITY. THE NEXT GENERATION OF AQUAREA MANAGER
- 30 CONTROL YOUR HEAT PUMP FROM WHEREVER YOU ARE. CONTROL YOUR COMFORT AND EFFICIENCY WITH THE LOWEST ENERGY CONSUMPTION
- 32 AQUAREA LINE-UP!
- 34 AQUAREA HIGH PERFORMANCE BI-BLOC SINGLE PHASE HEATING ONLY - SDF, HEATING AND COOLING - SDC, 3 AND 5 KW
- 35 AQUAREA HIGH PERFORMANCE BI-BLOC SINGLE PHASE / THREE PHASE HEATING ONLY - SDF, HEATING AND COOLING - SDC
- 36 AQUAREA T-CAP BI-BLOC SINGLE PHASE / THREE PHASE HEATING ONLY - SXF, HEATING AND COOLING - SXC
- 37 AQUAREA HT BI-BLOC SINGLE PHASE / THREE PHASE HEATING ONLY - SHF
- 38 AQUAREA HIGH PERFORMANCE MONO-BLOC SINGLE PHASE HEATING ONLY - MDF, HEATING AND COOLING - MDC, 6 AND 9 KW
- 39 AQUAREA HIGH PERFORMANCE MONO-BLOC SINGLE PHASE / THREE PHASE HEATING ONLY - MDF, HEATING AND COOLING - MDC
- 40 AQUAREA T-CAP MONO-BLOC SINGLE PHASE / THREE PHASE HEATING ONLY - MXF, HEATING AND COOLING - MXC
- 41 AQUAREA HT MONO-BLOC SINGLE PHASE / THREE PHASE HEATING ONLY - MHF
- 42 ACCESSORIES
- 43 EXAMPLES OF INSTALLATIONS WITH AQUAREA MANAGER
- 44 NEW AQUAREA AIR RADIATORS
- 46 HEATING CAPACITY TABLE BASED ON OUTLET TEMPERATURE AND OUTSIDE TEMPERATURE
- 53 ERROR CODES
- 54 DIMENSIONS



DOMESTIC AIR TO AIR HEAT PUMP

With its innovative design, high efficiency and incomparable purification system, the Etherea 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.

- 56 WELCOME TO NEW DOMESTIC RANGE
- 58 NEW PANASONIC R2 ROTARY COMPRESSOR
- 60 DISCOVER HOW TO ACHIEVE ENERGY SAVINGS
- 62 NEW TEMPERATURE WAVE
- 64 ECONAVI INTELLIGENT SENSORS
- 66 PURIFIES THE AIR, SURFACES AND EVEN INSIDE ITSELF
- 68 PANASONIC'S NEW FULL LINE-UP OF A+++ HEAT PUMPS
- 70 INVERTER TECHNOLOGY. THE SECRET IS FLEXIBILITY
- 72 PANASONIC TECHNOLOGY FOR COMFORT
- 74 CONTROL YOUR AIR CONDITIONING FROM WHEREVER YOU ARE AT HOME. CONTROL YOUR COMFORT AND EFFICIENCY WITH THE LOWEST ENERGY CONSUMPTION
- 76 DOMESTIC AIR CONDITIONER RANGE
- 78 FEATURE EXPLANATIONS
- 79 FEATURE COMPARISON
- 80 WALL MOUNTED VE INVERTER+ ENERGY CHARGE SYSTEM
- 82 WALL MOUNTED ETHEREA INVERTER+ SILVER PLATED / WHITE
- 86 WALL MOUNTED RE TYPE STANDARD INVERTER
- 88 WALL MOUNTED RE-3 TYPE STANDARD INVERTER
- 90 FLOOR CONSOLE TYPE INVERTER+
- 92 4 WAY 60X60 CASSETTE INVERTER
- 94 LOW STATIC PRESSURE HIDE AWAY INVERTER
- 96 MRE WALL MOUNTED 2x1 STANDARD INVERTER
- 98 ETHEREA MULTI SPLIT 2x1 INVERTER+
- 102 ETHEREA MULTI SPLIT 3x1 INVERTER+
- 104 ETHEREA MULTI SPLIT 4x1 AND 5x1 INVERTER+
- 106 FREE MULTI SYSTEM
- 108 INDOOR UNITS AND OUTDOOR UNITS FOR FREE MULTI COMBINATIONS
- 110 FREE MULTI COMBINATIONS TABLE
- 120 FREE MULTI COMBINATIONS PIPING AND BRANCHES
- 122 SELF DIAGNOSIS DESCRIPTION AND CHECK POINT TABLE*
- 123 OPTIONAL ACCESSORIES FOR OLD MODELS



ISO 9000 Series Certification
CERTIFIED TO MS ISO 9002:1994
 Panasonic HA Air-Conditioning (M) Sdn. Bhd. (PHAAM)
 (Formerly known as Matsushita Industrial Corp. Sdn. Bhd.)
 Registration No.: AR 0866



Environment Management Systems Approval Certificate
CERTIFIED TO MS ISO 14001:1997
 Panasonic HA Air-Conditioning (M) Sdn. Bhd. (PHAAM)
 (Formerly known as Matsushita Industrial Corp. Sdn. Bhd.)
 Certification No.: M015802127



COMMERCIAL AIR TO AIR

Panasonic has developed an impressive range of highly efficient Commercial Air Conditioners. This range confirms our commitment to the environment. Our Inverter compressors optimise performance and thus reduce energy costs.

124	WELCOME TO THE COMMERCIAL RANGE
126	PACI STANDARD AND ELITE
128	PACI STANDARD AND ELITE: OUTDOOR UNIT
130	360° AIR FLOW 4 WAY 90x90 CASSETTE PACI STANDARD AND ELITE
132	PACI STANDARD AND ELITE: INDOOR UNITS
134	RANGE OF COMMERCIAL UNITS
136	WALL MOUNTED PKEA
138	WALL PACI STANDARD AND ELITE INVERTER+
140	4 WAY 60x60 CASSETTE PACI STANDARD AND ELITE INVERTER+
142	4 WAY 90x90 CASSETTE PACI STANDARD AND ELITE INVERTER+
144	LOW STATIC PRESSURE HIDE AWAY PACI STANDARD AND ELITE INVERTER+
146	HIGH STATIC PRESSURE HIDE AWAY PACI STANDARD AND ELITE INVERTER+
148	CEILING PACI STANDARD AND ELITE INVERTER+
150	HIGH STATIC PRESSURE HIDE AWAY 20.0-25.0 kW PACI THREE PHASE INVERTER+
152	PACI STANDARD SINGLE AND TWIN SYSTEM
154	PACI ELITE TWIN, TRIPLE AND DOUBLE-TWIN SYSTEM FROM 3.6 TO 14.0 kW
156	PACI ELITE TWIN, TRIPLE AND DOUBLE-TWIN SYSTEM FROM 20 TO 25 kW
158	ELECTRIC AIR CURTAIN
160	AIR CURTAIN
162	AIR HANDLING UNIT KIT 5-28 kW FOR PACI
164	CONTROL SYSTEMS FOR PACI
166	INTERNET CONTROL. CONTROL YOUR AIR CONDITIONING SYSTEM WITH YOUR SMART DEVICE - SMARTPHONE & INTERNET FOR PACI
168	PACI CONNECTIVITY INDOOR UNITS
170	R22 RENEWAL
174	DIMENSIONS



VRF SYSTEMS

Professional solutions for all types of projects. The new Panasonic VRF system 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. Panasonic VRF Systems: ECOi (Mini ECOi VRF, 2-Pipe ECOi 6N series and 3-Pipe ECOi MF2 series), ECO G and FS Multi VRF.

182	THE NEW PANASONIC INDUSTRIAL VRF SYSTEMS
184	FS MULTI VRF FROM PANASONIC
186	OUTDOOR UNITS
190	INTERNET CONTROL. CONTROL YOUR AIR CONDITIONING SYSTEM WITH YOUR SMART DEVICE - SMARTPHONE & INTERNET FOR PACI
192	INDIVIDUAL CONTROL SYSTEMS
194	COMBINATION TABLE / BRANCH PIPES
196	INDOOR AND OUTDOOR UNITS RANGE
198	FEATURE COMPARISON
200	5 AND 6 HP, OUTDOOR UNITS
202	8 AND 10 HP, OUTDOOR UNITS
204	WALL-MOUNTED TYPE // SILVER COLOUR
206	WALL-MOUNTED TYPE // WHITE COLOUR // WHITE COLOUR WIDE TYPE
208	CASSETTE TYPE (60x60)
210	CASSETTE TYPE (90x90)
212	LOW-SILHOUETTE // DUCT TYPE // LOW STATIC PRESSURE
214	LOW-SILHOUETTE // DUCT TYPE // MID STATIC PRESSURE
216	ECOi SERIES
218	2-PIPE MINI ECOi LE1 SERIES COOLING AND HEATING TYPE 1-PHASE COOLING AND HEATING TYPE 3-PHASE
222	MINI ECOi HIGH EFFICIENCY
224	2-PIPE ECOi 6N SERIES
228	8-12 HP // 2-PIPE ECOi 6N SERIES
230	14-16 HP // 2-PIPE ECOi 6N SERIES
232	18-20 HP // 2-PIPE ECOi 6N SERIES
234	2-PIPE ECOi 6N SERIES // COMBINATION FROM 22 TO 60 HP
236	10-12 HP // 2-PIPE ECOi 6N SERIES // HIGH COP SETTING MODEL
238	14-16 HP // 2-PIPE ECOi 6N SERIES // HIGH COP SETTING MODEL
240	2-PIPE ECOi 6N SERIES // HIGH COP SETTING MODEL // COMBINATION FROM 18 TO 48 HP
242	NEW 3-PIPE ECOi MF2 SERIES
246	8-16 HP // 3-PIPE ECOi MF2 SERIES
248	3-PIPE ECOi MF2 SERIES // COMBINATION FROM 18 TO 48 HP
250	3-PIPE ECOi MF2 SERIES // HIGH EFFICIENCY COMBINATION 16 TO 32 HP
252	PANASONIC INTRODUCING THE GAS DRIVEN VRF
254	ECO G OUTDOOR UNITS RANGE
256	ECO G HIGH POWER, ECO G AND ECO G MULTI TECHNOLOGY
258	ECO G WATER HEAT EXCHANGER FOR HYDRONIC APPLICATIONS
260	NEW ECO G HIGH POWER
262	ECO G AND ECO G MULTI
264	ECO G 3 WAY MULTI
266	THE NEW PANASONIC SOLUTION FOR CHILLED AND HOT WATER PRODUCTION!
268	NEW ECOi 2-PIPE WITH WATER HEAT EXCHANGER FOR CHILLED AND HOT WATER PRODUCTION
270	NEW ECO G WITH WATER HEAT EXCHANGER FOR CHILLED AND HOT WATER PRODUCTION
272	NEW AQUAREA AIR RADIATORS
274	FEATURES / PANASONIC'S DIAGNOSIS SOFTWARE
276	INDOOR UNITS FOR ECOi, MINI ECOi AND ECO G
278	VRF SYSTEMS INDOOR UNITS RANGE
280	U1 TYPE 4-WAY 90x90 CASSETTE SEMI CONCEALED CASSETTE
281	Y1 TYPE 4-WAY 60x60 CASSETTE MINI SEMI CONCEALED CASSETTE
282	L1 TYPE 2-WAY CASSETTE
283	D1 TYPE 1-WAY CASSETTE
284	F2 TYPE VARIABLE STATIC PRESSURE HIDE AWAY
285	M1 TYPE SLIM VARIABLE STATIC PRESSURE HIDE AWAY CONCEALED DUCT
286	E1 TYPE HIGH STATIC PRESSURE HIDE AWAY
287	T1 TYPE CEILING
288	K2/K1 TYPE WALL MOUNTED
289	P1 TYPE FLOOR STANDING R1 TYPE CONCEALED FLOOR STANDING
290	PANASONIC VENTILATION SOLUTIONS
292	AIR HANDLING UNIT KIT
294	AHU CONNECTION KIT, 28 kW AND 56 kW FOR ECOi AND GHP
296	AIR CURTAIN
298	ENERGY RECOVERY VENTILATOR
302	CONTROL SYSTEMS FOR VRF
304	INDIVIDUAL CONTROL SYSTEMS
306	CENTRALISED CONTROL SYSTEMS
312	INTERNET CONTROL. CONTROL YOUR AIR CONDITIONING SYSTEM WITH YOUR SMART DEVICE - SMARTPHONE & INTERNET FOR VRF SYSTEMS
314	EXAMPLE OF BMS CONNECTION FOR AIR CONDITIONER CENTRAL CONTROL SYSTEM
315	ECOi CONNECTIVITY INDOOR UNITS
317	R22 RENEWAL
320	BRANCHES AND HEADERS
325	CONTROL EQUIPMENT EXTERNAL DIMENSIONS
326	VRF INDOOR UNITS DIMENSIONS



Panasonic – leading the way in Heating & Cooling

With more than 30 years of experience, selling to more than 120 countries around the world, Panasonic is unquestionably one of the leaders in the heating and cooling sector.

With a diverse network of production and R&D facilities, Panasonic delivers innovative products incorporating cutting-edge technologies that set the standard for air conditioners worldwide. Expanding globally, Panasonic provides superior international products transcending borders.

History of Air Conditioning Group

Panasonic starts with a desire to create things of value. As hard work and dedication results in one innovative product after another, the fledgling company takes its first steps towards becoming the electronics giant of today.



- | | | | | | | | | | |
|---|--|---|---|--|--|---|---|--|--|
| <p>1936
First electric Fan with Automatic Oscillation (36 cm table top model).</p> | <p>1958
First room air conditioner launched for domestic installation. Prior to this date, air conditioners were large and only for commercial use. Panasonic developed the first compact air conditioner for windows; it was lightweight and easy to install, improving the quality of life in Japanese homes. 1,100 units were sold in Japan in the first year, and just two years later, in 1960, this figure rose to 230,000.</p> | <p>1973
Panasonic launches the first highly efficient air-to-water heat pump in Japan.</p> | <p>1975
Panasonic becomes the first Japanese air conditioner manufacturer in Europe.</p> | <p>2002
The Ion and Oxygen Generator — two of the most important contributions to air conditioning systems.</p> | <p>2008
Etherea new concept of air conditioning systems: high efficiency and high performances with a great design. Etherea also includes a very innovative air quality sensor and air purifier in order to enjoy healthy air at home at all times.</p> | <p>2010
New Aquarea. Panasonic has created Aquarea, an innovative new, low-energy system, designed to help you enjoy ideal temperatures and hot water in your home, even with extreme outdoor temperatures. Aquarea cools or heats to ensure maximum comfort. Aquarea is far cleaner, safer, cheaper and environmentally friendly than alternatives using gas, oil and other electrical systems.</p> | <p>2011
New Eco i VRF solution. The new Panasonic VRF solution for big buildings is the most efficient in the industry in more than 74% of combinations. ECO i satisfies the most demanding standards required by design offices, architects, owners and installers.</p> | <p>2012
New GHP units. Panasonic's gas-driven VRF systems are ideal for projects where power restrictions apply. In 2012, Panasonic extends the Gas Heat Pump range with a new GHP line-up, new GHP G Power (electricity production) and the new Chiller Units.</p> | <p>2013
New ECOi 3-pipes. The best efficiency for your building. Our New 6 Series 3-pipes is achieving a COP of 4.77 at full load, and even more when recovering heat from the building. There is no doubt, Panasonic is reducing environmental impact!</p> |
|---|--|---|---|--|--|---|---|--|--|



Panasonic Europe

Panasonic is committed to offering our customers innovative products in the heating and cooling market across Europe, which not only meet but exceed their requirements. Key to success is Panasonic's investment in R&D, manufacture and training to ensure innovative, cutting edge products and investment in our distribution channels and partners so that these products are accessible in Europe. Panasonic has developed a comprehensive network across Europe of training centers and training academies for installers, design offices and service teams in all major countries.



Panasonic Factories and R&D Department

There is a close relationship between R&D innovation and good manufacturing processes, and so Panasonic has placed its R&D facilities very close to its manufacturing bases. This ensures good integration between all divisions to deliver high quality and reliable solutions to our markets.

We control the process

The company is also a world leader in innovation as it has filed more than 91,539 patents to improve its customers' lives. Moreover, Panasonic is determined to remain at the forefront of its market. In all, the company has produced more than 200 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 heat pumps. This wish to excel has made Panasonic the international leader in heating and turn-key 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.

PRODUCTION 100% PANASONIC



SERVICE PROVIDER



RESEARCH & DEVELOPMENT AND DESIGN



TESTING AND QUALITY INSURANCE



100%
Panasonic



RELIABILITY FACTS

Reliable comfort comes from reliable technologies

Today, Panasonic air conditioners have earned widespread acclaim throughout the world. A rugged design ensures that the air conditioner will continue to keep the room comfortable, and operate trouble-free for many years. Panasonic believes this is the true value of an air conditioner. And this is why we subject them to a wide range of stringent tests.

Durability. 10,000 Hour Continuous Operation Simulation.



Long-term Durability Test

The air conditioner's main mission is to provide a level of durability that allows it to operate stably for years. In order to achieve this, we conduct an accelerated test for 10,000 hours of continuous operation. The results of this test, which is conducted under conditions that are much more severe than actual operating conditions, prove the rugged strength of Panasonic air conditioners.



Compressor Disassembly Test

After a test with 10,000 hours of continuous operation, we remove the compressor from a randomly selected outdoor unit, disassemble it, then examine the internal mechanisms and parts for possible failure. Panasonic air conditioners continue to provide their designed performance for many years even after prolonged operation under harsh conditions.



Operating Test in Harsh Conditions

In addition to normal operating conditions, an operating durability test is conducted in a high-temperature, high humidity test chamber at a temperature of 55 °C. For use in cold climates, the test is also conducted in a low temperature test chamber at -20 °C. This test assures that the oil inside the compressor will not freeze during use and interrupt operation.



Waterproof Test

The outdoor unit, which is subject to rain and wind, is provided with IPX4 waterproof compliance. Contact sections on printed circuit boards are also resin-potted to prevent adverse effects caused by an unlikely exposure to droplets of water.



Checking the oil inside the compressor under extremely cold conditions.



A resin-potted circuit board.



Shock Resistance

Panasonic simulates impacts, vibrations and other environmental conditions that air conditioners might be subjected to during transport. We promise that the quality and performance at the time of the final product inspection are unchanged when the product reaches the user's home.

No Breaking. When Dropped onto Sides or Corners.



Drop Test

Even with the large impacts that may occur due to improper handling during transportation, the product packaging has been strengthened to prevent it from being damaged. In addition to conventional vertical dropping, more severe conditions in which the sides or corners hit the floor first are carefully tested to ensure that the product's rigidity and shock-absorbing materials work to prevent problems.

Vibration Test

Preventing damage that would hinder the product's performance due to vibration during transport is a major role of the packaging. Panasonic confirms that the product operates properly even after applying vibrations in both horizontal and vertical directions.

Warehouse Storage Test

During distribution, products may be subjected to extended warehouse storage under unfavourable conditions. To simulate these conditions, we place a weight equal to a stack of five product packages on top of the test package, and leave it in that condition in a room at a temperature of 27°C and a humidity level of 85%. Then, the product is checked for proper operation.



Comfort

Air conditioners should keep each person in the room comfortable without making their presence known. They should work totally in the background, using their strength to create and maintain a relaxing environment. We build this hidden strength into our air conditioners, and test them repeatedly from this viewpoint.

Silence. That Does Not Disturb You.



Noise Test

The operating noise of the indoor and outdoor units is measured in an echo-free chamber. The noise test verifies that the operating noise is low enough so that the product operation will not disturb daily activities including conversations and sleep.

Amenity Test

An actual air conditioner is operated in a test room that simulates an ordinary living room. Conditions such as the amount of sunlight entering the room from outside are changed while measuring a variety of parameters, such as cooling speed, cooling efficiency, and temperature and humidity differences throughout the room. This makes it possible to confirm whether the air conditioner is operating at its designed performance level under ordinary conditions.

EMC (Electromagnetic Compatibility) Test

This test determines whether electromagnetic waves emitted during operation are sufficiently low to prevent adverse effects, i.e., electrical noise, on signals such as TV and radio broadcasts.

Remote Control Dropping Test

Because the remote control is the main interface between people and the air conditioner, it is naturally subjected to frequent impacts - such as drops and bumps - when it is passed from person to person during normal operation. Panasonic drops the remote control from a height of 1.5 metres at various angles to ensure that no problems in basic performance will result from accidental dropping.



Sunshine simulation.



World Standard Quality

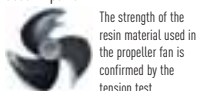
Over the years, Panasonic air conditioners have continued to offer the highest possible quality with the lowest environmental impact worldwide. Naturally, the fundamental production principles that are common to all Panasonic products apply to air conditioners as well. The fact that these principles actively support every product, rather than simply serving as slogans, is the result of the endless repetition of challenges and trial-and-error efforts that are conducted at our production bases all over the world.

Quality. Is at the Core of All Our Manufacturing.



Reliable Parts with Major Standards Approval

Panasonic air conditioners comply with all of the major standards that maintain high reliability in the countries and regions where they are marketed. To ensure this, we conduct a variety of tests to examine the quality of materials used in parts.



The strength of the resin material used in the propeller fan is confirmed by the tension test.

RoHS/REACH Compliant Parts

All parts and materials comply with RoHS/REACH, Europe's world-leading environmental regulations. Stringent inspections of more than 100 materials are conducted to ensure that no hazardous substances are included during parts development.

Sophisticated Production Process

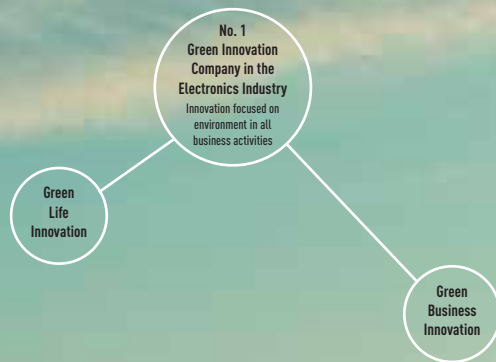
The air conditioner production line uses advanced, state-of-the-art factory automation technologies to produce products with higher reliability. Products are efficiently manufactured with high and uniform quality.

Eco Activities

Panasonic has set up eco ideas factories around the globe. While developing and manufacturing energy-saving products based on original environmental technologies, these factories reduce CO2 emissions from manufacturing processes and conduct regional-based environmental communication activities to contribute to both the global environment and the local communities that they serve.

Eco & smart ideas for a sustainable lifestyle

Panasonic aims to be the No. 1 Green Innovation Company in the Electronics Industry by 2018. We will make the environment central to all our business activities and work to realize our vision with innovations for both every day life and business.



Exemplary sustainable projects



Blackfriars Bridge
London, UK
with Panasonic solar panels.



Skolkovo City
Moscow, Russia
with Panasonic energy saving concept.

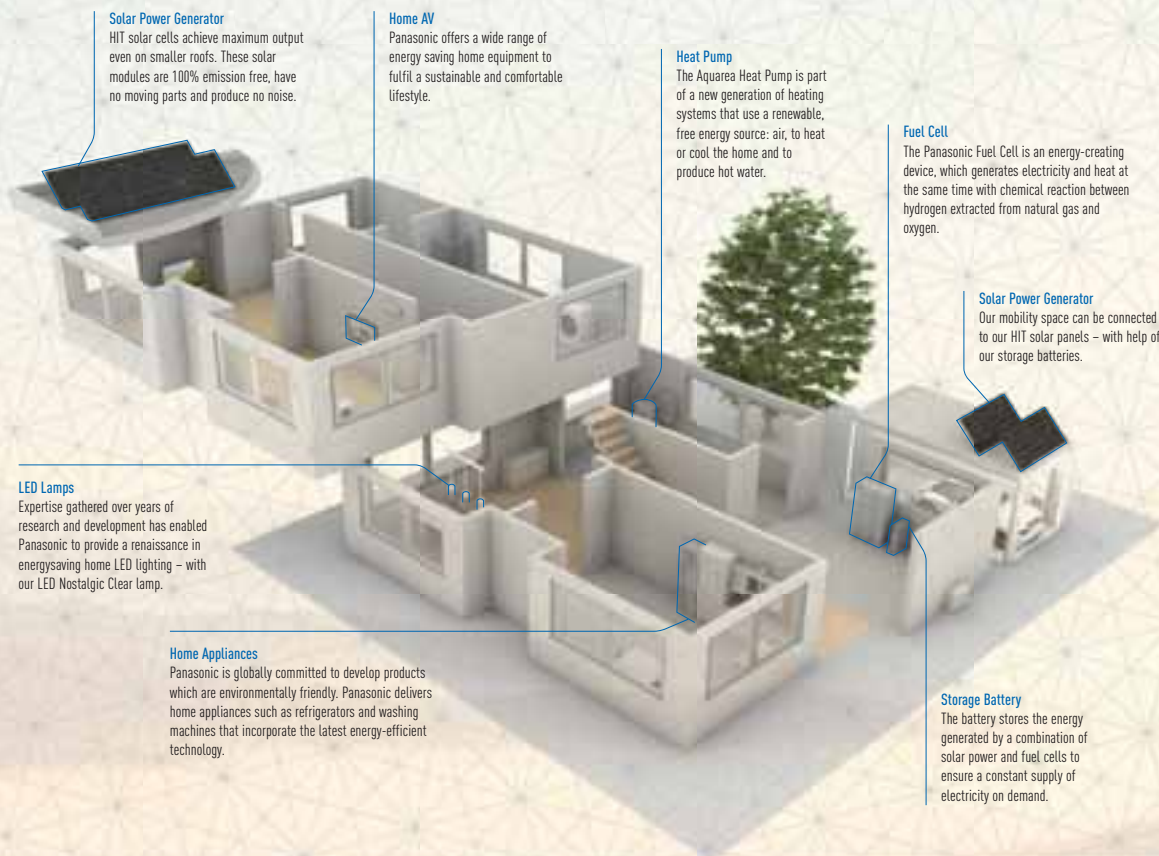


Photosynthesis
Milano Salone, Milano, Italy
with Panasonic LED light bulbs and HIT solar power generators.



Siestorage
modular energy storage solution with Panasonic lithium ion batteries.

We aim to realize a lifestyle with virtually zero CO₂ emissions throughout the entire home



Solar Power Generator
HIT solar cells achieve maximum output even on smaller roofs. These solar modules are 100% emission free, have no moving parts and produce no noise.

Home AV
Panasonic offers a wide range of energy saving home equipment to fulfil a sustainable and comfortable lifestyle.

Heat Pump
The Aquarea Heat Pump is part of a new generation of heating systems that use a renewable, free energy source: air, to heat or cool the home and to produce hot water.

Fuel Cell
The Panasonic Fuel Cell is an energy-creating device, which generates electricity and heat at the same time with chemical reaction between hydrogen extracted from natural gas and oxygen.

Solar Power Generator
Our mobility space can be connected to our HIT solar panels – with help of our storage batteries.

LED Lamps
Expertise gathered over years of research and development has enabled Panasonic to provide a renaissance in energysaving home LED lighting – with our LED Nostalgic Clear Lamp.

Home Appliances
Panasonic is globally committed to develop products which are environmentally friendly. Panasonic delivers home appliances such as refrigerators and washing machines that incorporate the latest energy-efficient technology.

Storage Battery
The battery stores the energy generated by a combination of solar power and fuel cells to ensure a constant supply of electricity on demand.



Panasonic to support the concept design of the Skolkovo Smart City in Russia

Panasonic has confirmed its participation in designing the Skolkovo Smart city concept. Panasonic together with Ernst&Young, Cisco and Russian Academy of Science to support the lead contractor Cognitive Technologies on the development of the Skolkovo Smart City project near Moscow in Russia. The 'Innovation City' of Skolkovo is due to be open in 2014-2015 and will provide homes for an estimated 31,000 people on a 400 hectare site. The project involves the creation of the Skolkovo Institute of Science and Technology, research and development centres, education facilities, housing, infrastructure and retail.

Panasonic is one of four contractors involved in creating the concept of Skolkovo Smart City. Panasonic is describing eco technologies and solutions which can provide more effective and less environmentally stressful functioning of Skolkovo. Mr Laurent Abadie, chief executive officer at Panasonic Europe said: "We are delighted to be involved in such a transformational project that will deliver world leading research and development. Our vision of smart, eco-friendly cities has never been closer to us in Europe now and with our partners, we truly look forward to showcase what can be achieved."



Tianjin Eco-City

Panasonic is taking part in a pioneering project by China and Singapore to create the Tianjin Eco-City, some 40 km from Tianjin city centre and 150 km from Beijing. Designed to be practical, replicable and scalable, the Tianjin Eco-city will demonstrate the determination of both countries in tackling environmental protection, resource and energy conservation, and sustainable development, and serve as a model for sustainable development for other cities in China. By 2020, there will be around 30 square kilometres of city capable of accommodating a population of around 400,000.

Home Energy Management System

Panasonic is supplying each of the houses built in Tianjin Eco-City with a mini-VRF air conditioning system with Home Energy Management System (HEMS). The HEMS will be central to saving energy in homes. By linking a whole range of domestic appliances, solar power generation equipment, electric vehicle chargers, storage batteries and other devices, the HEMS shows the amount of energy being used in the home. The system will indicate whether or not energy-saving goals are being achieved and will display advice on where further savings could be made.

By using easily-read displays on all screens throughout the home, homeowners will become more conscious of energy-saving activities and adopt a more natural and eco-friendly lifestyle.

Fujisawa Sustainable Smart Town

Panasonic is converting its former factory site in Fujisawa City in Japan, 50 km west of Tokyo, into a smart town deploying services and energy systems based on Panasonic's eco ideas for green lifestyles. Panasonic is working in partnership with eight other companies and Fujisawa City to build an innovative smart town. The developers, manufacturers and service providers will work closely together throughout every phase of the project, from the master planning stage to actual operation of the town that will have about 1,000 households spread over 19 hectares.

Homes will employ the full range of Panasonic's most advanced systems for energy production, storage and management. Houses will be fully self-sufficient by generating power from efficient solar modules and fuel cell systems, with energy stored in powerful lithium-ion batteries. Low energy lighting, air conditioning and household appliances will be interconnected via a computer system, and televisions and PCs will be used to display energy consumption and tips on savings.





Panasonic Professional

Panasonic has an impressive range of support services for designers, specifiers, engineers and distributors working in the heating and cooling markets.

Software

Panasonic provides bespoke software helping system designers, installers and dealers to very quickly design and size systems, create wiring diagrams and issue bills of quantities at the push of a button.



ECOi VRF Designer

The VRF Designer Software is very easy to use. By using it, engineers can develop projects quickly, by either using the drag and drop icons or the project wizard. It comes fully loaded with all appropriate Panasonic product details and is designed with flexibility in mind so that several different system designs can be created within one project.

The program will check system designs and correction factors are automatically applied to indoor unit capacities, depending on height differences, piping lengths, indoor/outdoor capacity ratio and design conditions. VRF Designer will also calculate any additional amounts of refrigerant that may be required, based on configuration and piping lengths. Existing projects can easily be modified or even extended at a later stage. Reports can be exported and printed showing piping and wiring diagrams, power supply diagrams as well as bill of quantities.



Aquarea Designer

This program allows HVAC designers, installers and distributors to identify the correct heat pump for a particular application from Panasonic's Aquarea range, calculate the savings compared to other heat sources and very quickly calculate CO₂ emissions.

Using Panasonic's Aquarea Designer, projects can be developed simply and easily, by either using the Quick Design or Expert Design options. Each allows the user to build up the project data in a simple step-by-step process and choose to output reports (in either Quick or Large formats) as HTML files or as print-outs. To create these useful reports, project data is input, including:

- Heated area
- Heating requirement
- Heating flow and return temperatures
- Climate data (from a simple drop-down menu) including outdoor temperature
- Type of hot water tank, storage capacity and hot water target temperature.

Aquarea Designer will calculate the project's energy costs in terms of hot water, heating and pumping. It will show the equipment running times and calculate the COP (coefficient of performance). It then allows the designer to show clients a comparison with other equipment options such as heating by conventional gas-fired boilers, oil systems, wood, standard electric heating and electric night storage heaters. This compares running costs, initial investment costs and maintenance costs. The comparison can also be made for CO₂ emissions and savings.



Panasonic

PRO Club 

Panasonic PRO Club

Panasonic announces a new initiative for all professionals involved in the heating and cooling business - the Panasonic PRO Club (www.panasonicproclub.com). This exciting new portal provides distributors, installers, engineers and specifiers with a direct communication channel with one of the industry's major manufacturers. The website contains a wealth of information from the latest versions of Panasonic's Aquarea and Etherea Design Software, to Technical Documentation, Catalogues and Images for the company's wide range of heating and cooling systems - all in an easy to navigate and use website. Also, registered users will be able to access news regarding special promotions and take advantage of these offers, as well as access helpful business advice such as ideas and guidelines for showroom decoration or van livery featuring Panasonic logos and display material.

www.panasonicproclub.com

or connect simply with your smartphone to the proclub using this QR:



Panasonic

PRO Academy 

The Panasonic PRO-Academy opens its doors

Panasonic takes its responsibility to its distributors, specifiers and installers seriously and has developed a comprehensive Training Programme. The Panasonic Pro-Academy encompasses the traditional hands-on approach, as well as embracing today's technology to offer an eLearning facility available 24 hours, 7 days a week!

New training courses cover three levels

Design, installation, and commissioning & trouble-shooting

Training courses include:

- Domestic applications Air to Air
- Aquarea air source heat pumps
- VRF ECOi

The courses are offered on site at Panasonic's premises across Europe as well as via the Panasonic ProClub eLearning site. The Training Centres display Panasonic's latest product range and give delegates an opportunity to get hands-on experience with the latest controllers, indoor and outdoor units from the VRF ECOi, Etherea, GHP and Aquarea ranges.

SEASONAL EFFICIENCY

PRODUCT READY FOR THE NEW ErP ECODESIGN REQUIREMENTS LOT 1



NEW AQUAREA AIR TO WATER HEAT PUMP

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 operating performance. This creates perfect comfort whatever the weather conditions, even at outdoor temperatures as low as -20 °C.

Panasonic new heat pumps are designed in response to the new demand for low consumption housing, with high efficiency and low running costs.



* Not all products certified. As the certification process is on-going and the list of certified products constantly changing, please check for latest details on the official websites.



AQUAREA

Aquarea's new Air To Water Heat Pump for residential applications

Offering capacities from 3 kW all the way through to 16 kW, the Aquarea Heat Pump Range is the widest on the market, ensuring a system is available, whatever your heating and cooling needs. Suitable for new build and refurbishment projects, the systems are cost-effective and environmentally friendly.

ENERGY SAVING



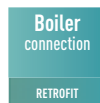
Inverter+ System. The A Inverter+ system provides energy savings of up to 30% compared to non Inverter models. Both you, and nature, wins!



Refrigerant R410A / R407C. R410A / R407C offers optimal performance and involves no environmental cost since it does not harm the ozone layer.



Up to -20 °C In Heating Mode. The Heat Pumps works in heat pump mode with an outdoor temperature as low as -20 °C.



Renovation. Our Aquarea heat pumps can be connected to an existing or new boiler for optimum comfort even at very low outdoor temperatures.



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



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



Connectivity. The communication port is integrated into the indoor unit and provides easy connection to, and control of, your Panasonic heat pump to your home or building management system.



Internet Control is a next generation system providing a user-friendly remote control of air conditioning or heat pump units from everywhere, using a simple Android or iOS smartphone, tablet or PC via internet.



5 Years Warranty. We guarantee the compressors in the entire range for five years.



DESIGNED
**FOR LOW
CONSUMPTION**
HOMES

How do you get heating and hot water from air?

Introducing the Panasonic Aquarea – Air Source Heat Pump

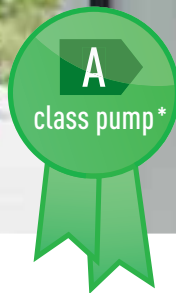
An Aquarea Air Source Heat Pump captures fresh air and passes it over refrigerant-filled coils (think fridge!). The captured heat is automatically transferred to water, which is then ready for use in your heating system and for supplying all of your domestic hot water needs. Panasonic's latest technology offers you a sustainable alternative to oil, LPG and electric heating systems.

SEASONAL EFFICIENCY

PRODUCT READY FOR THE NEW ErP ECODESIGN REQUIREMENTS LOT 1



* Heat pumps list with A class pump available P32.



“Green” High-efficiency 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 – 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 both new and old properties:

- A wide range from 3 to 16 kW, Single and Three Phase, Mono-Bloc and Bi-Bloc
- 3 Versions:
 - Aquarea High Performance. From 3 to 16 kW
 - Aquarea T-CAP. From 9 to 12 kW
 - Aquarea HT. From 9 to 12 kW
- The High-efficiency Heat Pump which operates at outside temperatures as low as -20 °C
- Reduces energy costs with its COP of 4.74¹

- Reduces energy consumption and CO₂ emissions
- Provides cooling in summer
- Highly flexible:
 - Can be connected to an existing heating system
 - Can be connected to photovoltaic solar panels

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

Heat pumps enable us to recover this free, inexhaustible energy and to harness its power to heat our homes. These systems have the huge advantages of, as well as reducing your electricity bill, but also of saving fossil fuels and at the same time limiting greenhouse gas emissions². Thus, Panasonic’s Aquarea system is an air/water heat pump system that uses energy from the outdoor air and transmits that energy 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 time and produce hot water all year round.

1. 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).

2. We note that ADEME (French environmental and energy management agency) encourages consumers to choose heating and cooling systems that use heat pump systems.

* Heat pumps list with A class pump available P32.

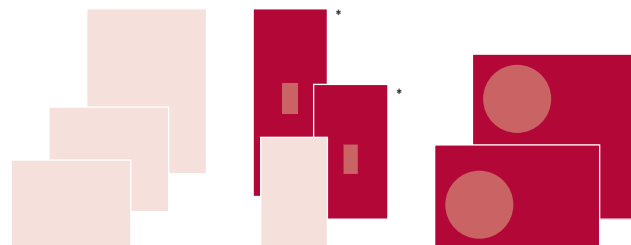


Panasonic has designed a completely new line-up to offer the best to our customers

There are several types of heat pump available:

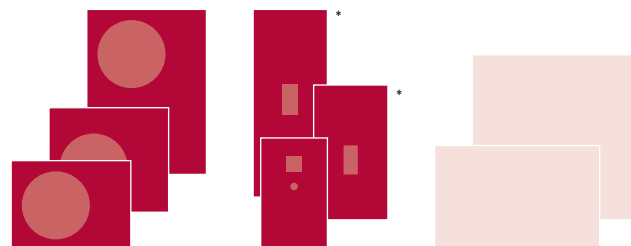
The Mono-Bloc system

This only has an outdoor unit. The installation doesn't require a refrigerated connection and is only connected to the heating and/or hot water.



The Bi-Bloc system

The system connects to the heating and/or hot water system.



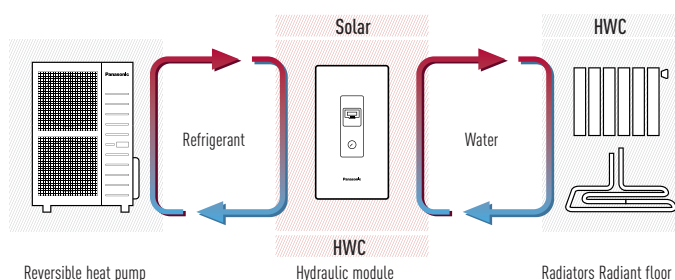
* Tank Optional



SEASONAL EFFICIENCY
 PRODUCT READY FOR THE NEW ErP ECODESIGN REQUIREMENTS LOT 1

How does the Aquarea system work ?

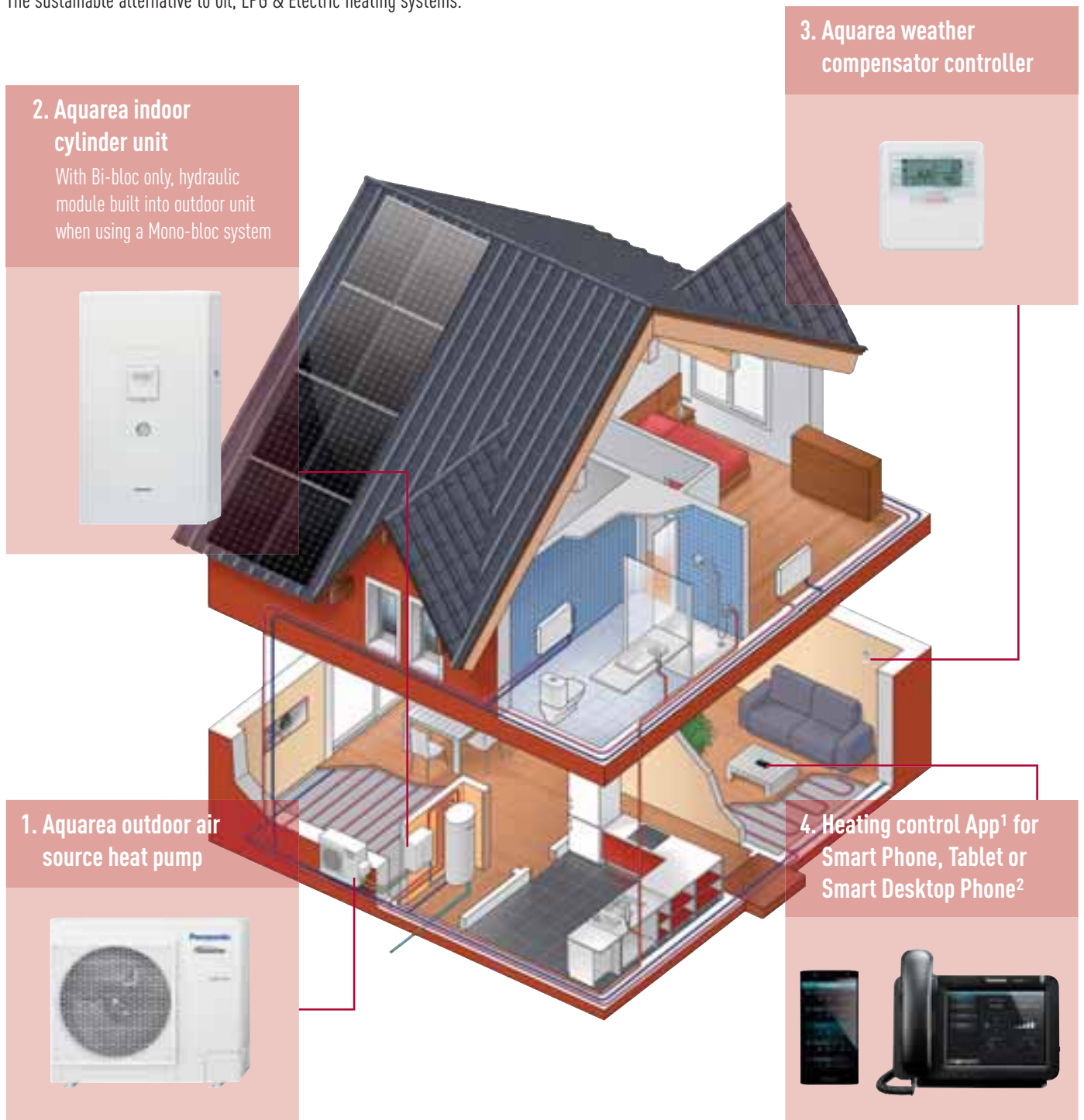
An air to water heat pump system uses heat energy present in the outdoor air to heat the house, cool it and also to produce hot water. The Aquarea system therefore uses free energy to heat or cool your home. It only consumes electricity to operate the compressor, the electronics, the pumps and in the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



Example : with split-system

The Aquarea heating and hot water system

The sustainable alternative to oil, LPG & Electric heating systems.



2. Aquarea indoor cylinder unit

With Bi-bloc only, hydraulic module built into outdoor unit when using a Mono-bloc system



3. Aquarea weather compensator controller



1. Aquarea outdoor air source heat pump



4. Heating control App¹ for Smart Phone, Tablet or Smart Desktop Phone²



1. Aquarea outdoor air source heat pumps

Panasonic has developed an extensive range of Air To Water heat pumps designed to efficiently convert free air into sustainable heating and hot water.

Fitted externally to your home and designed to operate in all year round weather conditions (-20 °C), it's the smart alternative to oil, LPG and electric heating systems.

2. Aquarea indoor cylinder unit

Using the latest technology and energy efficient installation the indoor cylinder unit provides constant hot water for domestic use.

3. Aquarea weather compensator controller

Built-in weather compensator allows accurate control of the inside temperature of the house based on the outdoor temperature.

4. Heating control App¹ for Smart Phone, Tablet or Smart Desktop Phone²

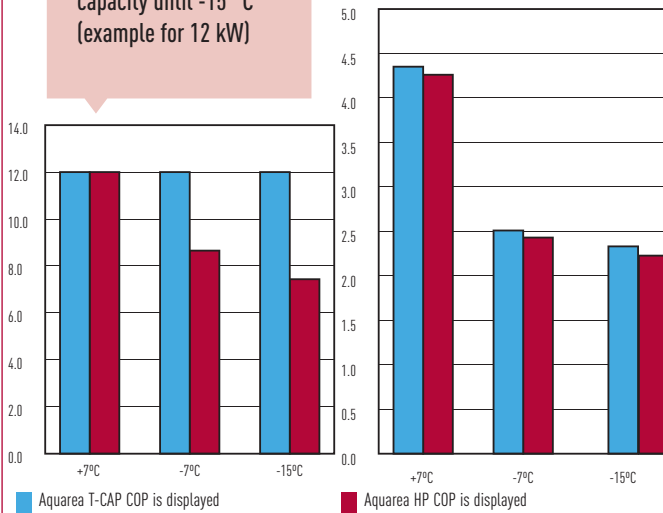
The heating control App allows you to control the heating and hot water system via your smart phone, tablet or computer with the same ease as if you were at home.

1. Optional.
2. KX-UT670 Smart Desktop Phone from Panasonic.

Aquarea T-CAP and High Performance comparison

Aquarea T-CAP maintains the nominal capacity until -15 °C (example for 12 kW)

Aquarea T-CAP and High Performance have extremely high efficiency even at -15 °C



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

“We expect to save around 1,000 € a year on fuel costs and we’ve been able to get rid of a large ugly oil tank in the garden thanks to the new Aquarea.”

Aquarea Customer, Surrey¹



* Information provided by Aquarea customer, August 2012.



HIT Photovoltaic solar panel from Panasonic

Heat Pump + Photovoltaic

Photovoltaic solar panels: the best solution for big savings

Combining photovoltaic solar panels with your heat pump can help to further reduce your electrical consumption and CO₂ emissions. Additionally, with the unique HIT photovoltaic solar panel technology from Panasonic, you can produce more electricity per square meter, helping you to increase your energy savings still further.

HIT cell technology

The Panasonic HIT (Heterojunction with Intrinsic Thin layer) solar cell is made of a thin mono crystalline silicon wafer surrounded by ultra-thin amorphous silicon layers. This product provides the industry’s leading performance and value using state-of-the-art manufacturing techniques.

Environmentally-Friendly Solar Cell

More Clean Energy. HIT can generate more clean Energy than other conventional crystalline solar cells.



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. This free energy is transported to the hydraulic module using an environmentally-friendly refrigerant gas with a high thermal exchange coefficient (R410A).
- Via the hydraulic module and control panel, temperature inside the house can be controlled and efficiency maximised. The heat exchanger transmits the energy contained in the refrigerant coming from the outdoor unit to the water used for the home's heating and hot water.

The hydraulic module manages priorities in terms of heating and hot water production.

In the case of the Bi-Bloc system, this hydraulic module is situated inside the property, and it is contained within outdoor unit in 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 photovoltaic solar panels for even greater efficiency.
 - A 3 kW immersion heater is included within the hot water tank to ensure:
 - Maximum comfort
 - Maximum efficiency
 - Protection against the legionella virus

Two or three earth leakage cut-outs

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

- 2 differential cut-outs: 3, 5, 6 and 9 kW
- 3 differential cut-outs: 12, 14 and 16 kW

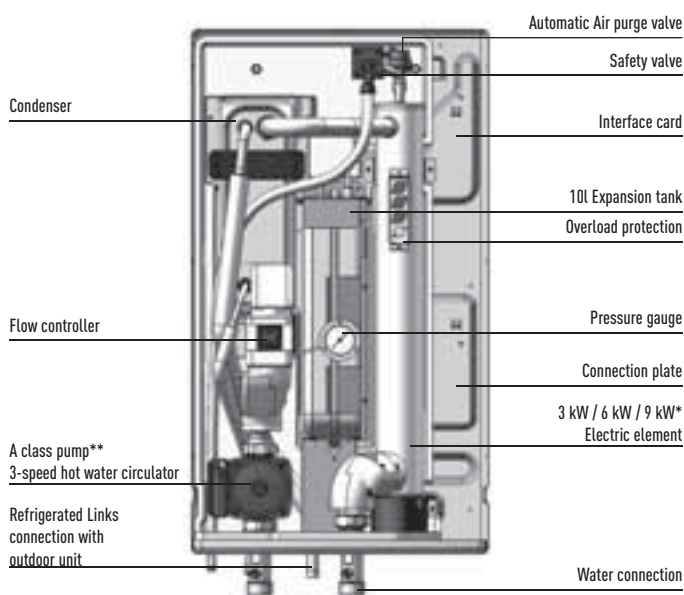
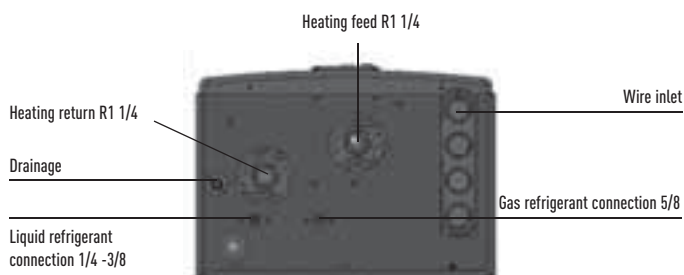




The control panel

The control panel allows accurate temperature control based on the outdoor temperature, providing maximum efficiency and comfort. The control panel manages the heating temperature and the hot water cylinder temperature very simply.

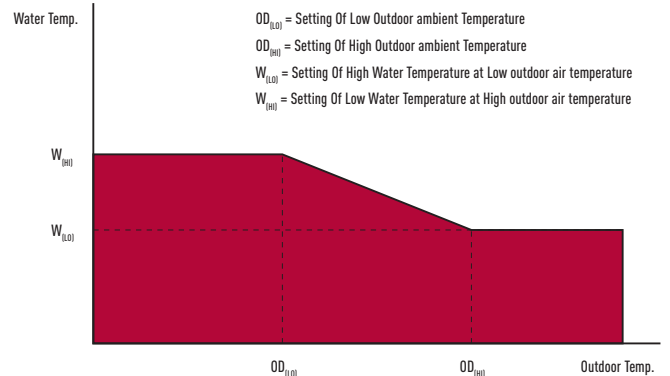
The hydraulic module



* 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
 ** only 3/5/6 kW

Easy programming of the control panel

The primary circuit temperature is controlled based on the outdoor temperature. The control parameters are adjusted through the remote control during the commissioning of the system as is shown in the diagram below. Your heating specialist must also select the type of operation you need: heating priority or hot water cylinder priority.



Clear Panel for water pressure data





Down to
-25 °C in
heating mode
OUTDOOR
TEMPERATURE



DESIGNED
**FOR LOW
CONSUMPTION**
HOMES

New Aquarea 3 and 5 kW Bi-Bloc and 6 and 9 kW Mono-Bloc Air to Water Heat Pump

Maximum savings, Maximum efficiency, Minimum CO₂ emissions, Minimum of space

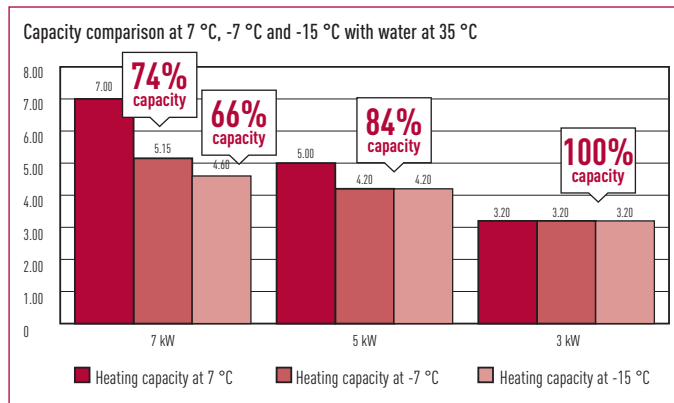
Panasonic has designed the new Aquarea Bi-Bloc and Mono-Bloc heat pumps for homes which have high performance requirements. Whatever the weather, Aquarea will always give you maximum efficiency, even at -25 °C! The New Aquarea is easy to install on new or existing installations, in all types of properties.

3/5 AND 6/9 kW DESIGNED FOR LOW CONSUMPTION HOMES

MAXIMUM SAVINGS, MAXIMUM EFFICIENCY,
MINIMUM CO₂ EMISSIONS, MINIMUM OF SPACE

Heating capacity adapted to suit low consumption / passivhaus

- Consistent capacity! No need to specify an oversized heat pump to heat the house at -7 °C - a 3 kW or 5 kW unit will deliver desired results!



- No Backup heater needed to maintain the capacity at -7 °C, High efficiency guaranteed even at -7 °C
- Low consumption due to the R2 rotary compressor's small size.

Technical benefits

- Super efficient: COP of 5 in the 3.2 kW!
- A Class Pump
- Special software for low consumption homes with minimum output temperature: 20 °C
- Works down to -20 °C
- Automatic Air purge valve

Technical elements

Mono-Bloc unit includes:

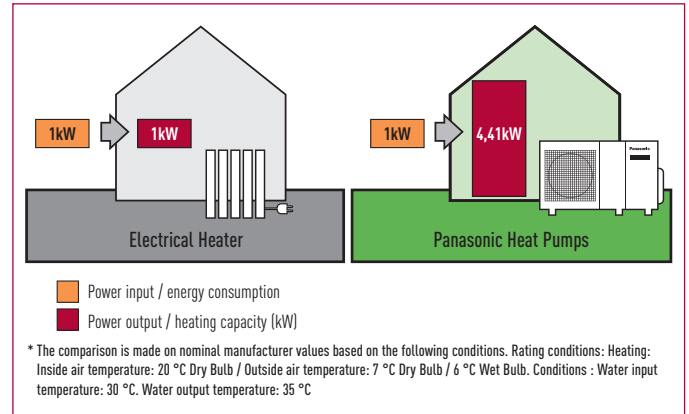
- Heat exchanger
- Variable speed pump
- 6 litre expansion vessel
- Safety valve
- Pressure gauge
- 3 kW electrical heater



* Heat pumps list with A class pump available P32.

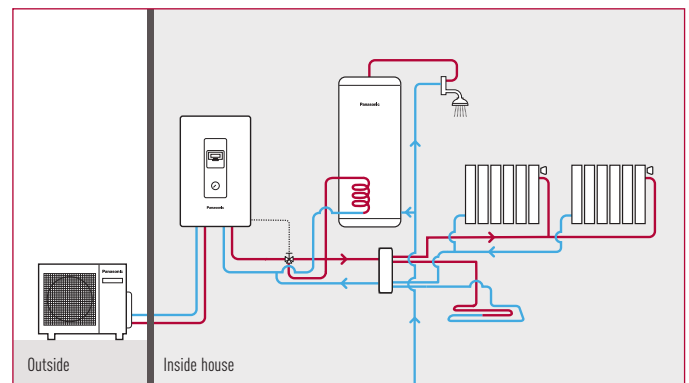
COP comparison

Electrical heater with Panasonic Heat Pump.



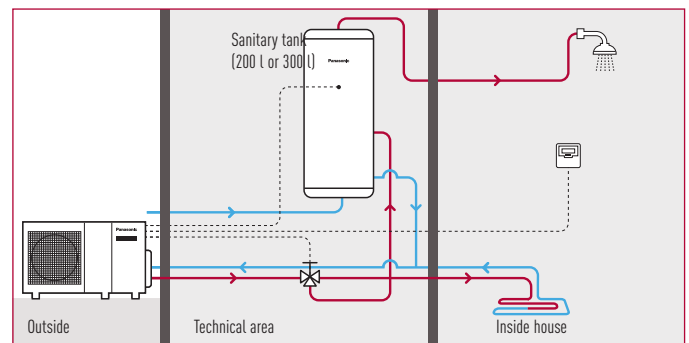
Bi-Bloc application Examples

Low Consumption Homes + Sanitary Hot Water + Hydraulic Switch

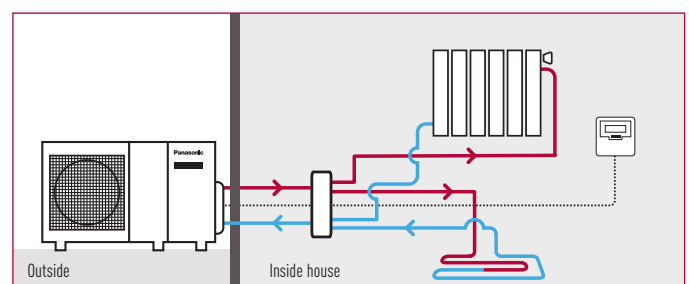


Mono-Bloc application Examples

Heating + Sanitary Hot Water



Heating Plug and Play System





Control & connectivity

Aware of the importance of both control and connectivity in offering the best comfort at the lowest price, Panasonic offers its customers cutting-edge technology, specially designed to ensure our Aquarea heat pump systems deliver maximum performance. You can properly manage the heat pump and perform comprehensive monitoring and control, with all of the features the remote control provides at home, from anywhere in the world thanks to the internet applications Panasonic has created for you.

OPTIONAL



With or without built-in display



External touch display available

NEW

The next generation of Aquarea Manager

This new generation of smart controllers for eco-efficient heating features our versatile stand-alone controller for heating and domestic hot water.

Panasonic offers:

Trends. Statistics. Consumption Energy Management-Optimization. Alarm. Handling + Maintenance. Complete documentation etc.



READY STEADY GO

Easy Installation & Easy Configuration

Ready: Pre-programmed with up to 160 applications/system diagrams

Steady: At start up - state the number of application/system diagram

Go: The controller starts working according to selected diagram

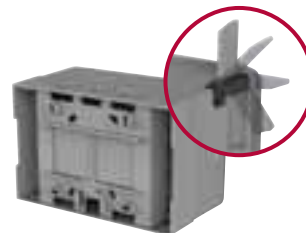
Technical Specification

2 x Mixed Heating Circuits

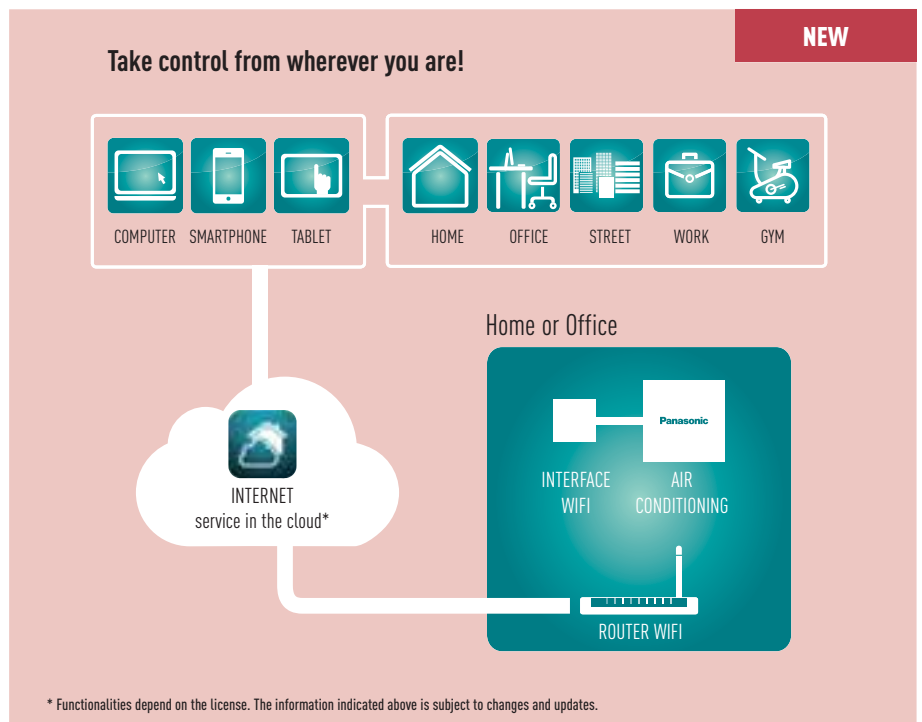
- Floor screed dry program
- Cascade/bivalent controller
- Automatic switch from heating to cooling mode
- Photovoltaic / Smart Grid contact
- Night shift: - Internal Energy Manager. - Trend
- Solar collector control
- Domestic hot water priority
- Web-control
- Up to 10 languages
- Ready, Steady, Go!: With up to 155 preconfigured system diagrams.
- Ready to operate in less than 3 minutes
- Easy to startup – easy to operate
- 230 V power supply
- 7 output relays
- 2 x 0.10 V output
- 8 Sensor inputs (PT1000)
- Built-in backlit text display
- USB interface (upload, service, remote control, trend)
- RS485 interface (com. with additional heat pump)
- RS485 interface (for external display)
- External touch display available
- Large Amount of External remote control units

Easy mounting

Simple mounting without screws in the cabinet/door or on DIN-rail. Also possible to mount directly on to the wall.



Control your heat pump from wherever you are. Control your comfort and efficiency with the lowest energy consumption



What's Internet Control?

Internet Control is a next generation system providing user-friendly remote control of air conditioning or heat pump units from anywhere, using a simple Android or iOS smartphone, tablet or PC via internet.

Simple Installation

Just connect the Internet Control device to the air conditioner or heat pump with the supplied wire and then link it to your WIFI Access point.

Internet Control. Easy to install. Maximum benefit

Internet Control is underlined with the slogan "Your home in the cloud", meaning a simple and easy to handle solution has been considered for every user to manage the device, not requiring any communication or computer skills.

No servers. No adaptors. No wires. Just a small box is needed to be connected and placed close to the air conditioning indoor unit... and your smartphone, tablet or PC.

Your existing WiFi connection does the rest when you are at home. Start the App from your smartphone device, your tablet or your computer, and enjoy a new experience in comfort. And if you are out of home, just launch the App, and manage the air conditioning of your home from the cloud. An intuitive and user-friendly application on the screen of your smartphone or PC that lets you manage the air conditioning unit in the same way you do with the remote controller at home.

Internet Control can be downloaded in Apple's AppStore and Android's PlayStore.

Control your air conditioning with the smart internet control device via smartphones, tablet, PC and smart desktop phone via internet

Offering the same functions as if you were at home or office: start/stop, Mode Operation, Set Temperature, Room Temperature etc as well as the new, advanced functionality provided by Internet Control to achieve the best comfort and efficiency with the lowest energy consumption.



Case Study: Helen, Panasonic customer

"I was sick of heating my house in the mountains on the weekends when I couldn't go. It was a pointless and annoying expense. But now, with Internet Control, I've managed to put the rigidity of weekly programming behind me. If I go then I just put my Panasonic Aquarea heating system on. And if I don't go then I go to the cinema or the theatre with the money I've saved."

Connectivity: Great flexibility for integration into your KNX / EnOcean / Modbus projects allows fully bi-directional monitoring and control of all the functioning parameters



Panasonic works with partners to ensure the optimum solutions for our clients. Our partner has designed a range of interfaces specifically for Panasonic to provide complete monitoring, control and full functionality of the entire Aquarea line-up from KNX, EnOcean and Modbus installations.

This connectivity solution is made by a third party company, please contact Panasonic for more information.

Easy control by BMS
CONNECTIVITY



Modbus®

Interface to connect Aquarea to KNX Reference: PAW-AW-KNX-1i

This new Aquarea-KNX interface allows full monitoring and control, bi-directionally, of all the functioning parameters of Aquarea control from KNX installations.

- Small dimensions. / Quick installation and possibility of hidden installation.
- External power not required.
- Direct connection to the unit.
- Fully KNX interoperable. Control and monitoring, from sensors or gateways, of the internal variables of the indoor unit and error codes and indication.
- Aquarea unit can be controlled simultaneously by the remote control of the Aquarea unit and by KNX devices.



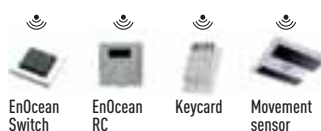
KNX Any standard KNX device

Model name	Interface
PAW-AW-KNX-1i	KNX
PAW-AW-ENO-1i	EnOcean
PAW-AW-MBS-1	Modbus RTU
PA-AW-WIFI-1	IntesisHome

Interface to connect Aquarea to EnOcean Reference: PAW-AW-ENO-1i

This new Aquarea-EnOcean interface allows full monitoring and control, bi-directionally, of all the functioning parameters of the Aquarea control from EnOcean installations.

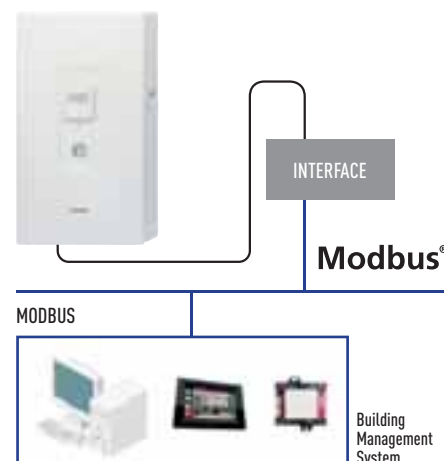
- Small dimensions. / Quick installation.
- External power not required.
- Direct connection to the Aquarea unit using the same parameters as on the control.
- Fully EnOcean interoperable. Control and monitoring, from sensors or gateways, of the internal variables of the indoor unit and error codes and indication.
- Aquarea unit can be controlled simultaneously by the remote control of the Aquarea unit and by EnOcean devices.



Interface to connect Aquarea to Modbus Reference: PAW-AW-MBS-1

This new Aquarea-Modbus RTU Slave interface allows monitoring and control, fully bi-directionally, all the functioning parameters of Aquarea control from Modbus installations.

- Small dimensions. / Quick installation and possibility of hidden installation.
- External power not required.
- Direct connection to the unit.
- Fully Modbus interoperable. Control and monitoring, from any BMS or PLC Modbus Master, of internal variables of the indoor unit and error codes and indication.
- Aquarea unit can be controlled simultaneously by the remote control of the Aquarea unit and by Modbus Master device.



Aquarea Line-Up!



FIGURE 1 (F1)

FIGURE 2 (F2)

FIGURE 3 (F3)

FIGURE 4 (F4)

Line up				3 kW	5 kW	6 kW	7 kW	9 kW	12 kW
Aquarea High Performance for well insulated houses	Bi-Bloc	Single Phase	Heating only	WH-SDF03E3E5 WH-UD03EE5 (F1)	WH-SDF05E3E5 WH-UD05EE5 (F1)		WH-SDF07C3E5 WH-UD07CE5-A (F3)	WH-SDF09C3E5 WH-UD09CE5-A (F3)	WH-SDF12C6E5 WH-UD12CE5-A (F4)
			Heating and cooling	WH-SDC03E3E5 WH-UD03EE5 (F1)	WH-SDC05E3E5 WH-UD05EE5 (F1)		WH-SDC07C3E5 WH-UD07CE5-A (F3)	WH-SDC09C3E5 WH-UD09CE5-A (F3)	WH-SDC12C6E5 WH-UD12CE5-A (F4)
		Three Phase	Heating only					WH-SDF09C3E8 WH-UD09CE8 (F4)	WH-SDF12C9E8 WH-UD12CE8 (F4)
			Heating and cooling					WH-SDC09C3E8 WH-UD09CE8 (F4)	WH-SDC12C9E8 WH-UD12CE8 (F4)
	Mono-Bloc	Single Phase	Heating only			WH-MDF06E3E5 (F2)		WH-MDF09E3E5 (F2)	WH-MDF12C6E5 (F5)
			Heating and cooling			WH-MDC06E3E5 (F2)		WH-MDC09E3E5 ¹ (F2)	WH-MDC12C6E5 (F5)
		Three Phase	Heating only					WH-MDF09C3E8 (F5)	WH-MDF12C9E8 (F5)
			Heating and cooling					WH-MDC09C3E8 (F5)	WH-MDC12C9E8 (F5)
Aquarea T-CAP for cold areas	Bi-Bloc	Single Phase	Heating only					WH-SXF09D3E5 WH-UX09DE5 (F4)	WH-SXF12D6E5 WH-UX12DE5 (F4)
			Heating and cooling					WH-SXC09D3E5 WH-UX09DE5 (F4)	WH-SXC12D6E5 WH-UX12DE5 (F4)
		Three Phase	Heating only					WH-SXF09D3E8 WH-UX09DE8 (F4)	WH-SXF12D9E8 WH-UX12DE8 (F4)
			Heating and cooling					WH-SXC09D3E8 WH-UX09DE8 (F4)	WH-SXC12D9E8 WH-UX12DE8 (F4)
	Mono-Bloc	Single Phase	Heating only					WH-MXF09D3E5 (F5)	WH-MXF12D6E5 (F5)
			Heating and cooling					WH-MXC09D3E5 (F5)	WH-MXC12D6E5 (F5)
		Three Phase	Heating only					WH-MXF09D3E8 (F5)	WH-MXF12D9E8 (F5)
			Heating and cooling					WH-MXC09D3E8 (F5)	WH-MXC12D9E8 (F5)
Aquarea HT for retrofit	Bi-Bloc	Single Phase	Heating only					WH-SHF09D3E5 WH-UH09DE5 (F4)	WH-SHF12D6E5 WH-UH12DE5 (F4)
		Three Phase	Heating only					WH-SHF09D3E8 WH-UH09DE8 (F4)	WH-SHF12D9E8 WH-UH12DE8 (F4)
	Mono-Bloc	Single Phase	Heating only					WH-MHF09D3E5 (F5)	WH-MHF12D6E5 (F5)
		Three Phase	Heating only					WH-MHF09D3E8 (F5)	WH-MHF12D9E8 (F5)

Low connectivity : control of 3 way valve, tank heater On/Off signal, tank thermostat signal reception, On/Off from external control, weekly timer. High connectivity : Low connectivity + solar panels connection, room thermostat connection.
 1 Available in November 2012.

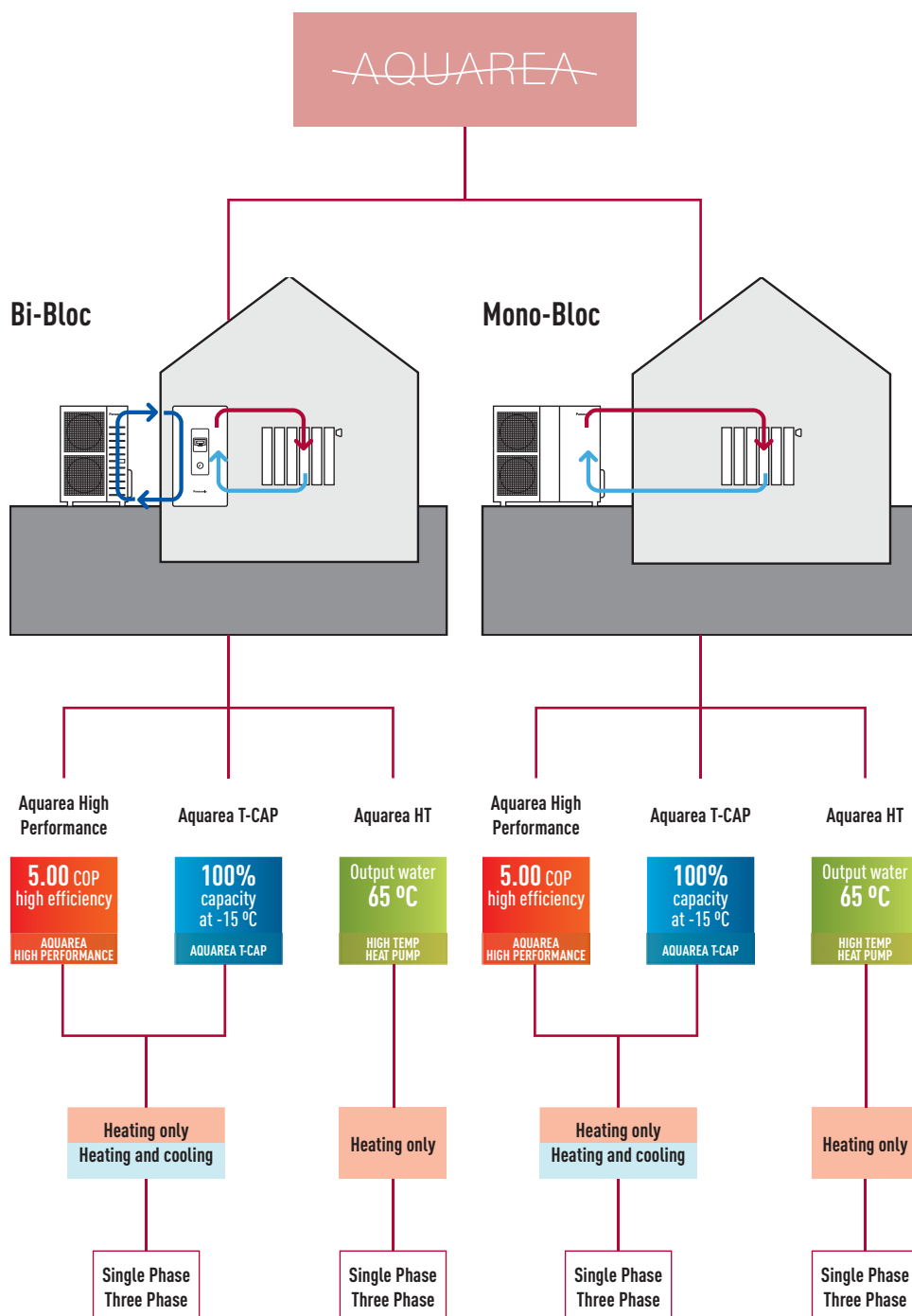


FIGURE 5 (F5)

SEASONAL EFFICIENCY

PRODUCT READY FOR THE NEW EPi ECODESIGN REQUIREMENTS LOT 1

14 kW	16 kW
WH-SDF14C6E5 WH-UD14CE5-A (F4)	WH-SDF16C6E5 WH-UD16CE5-A (F4)
WH-SDC14C6E5 WH-UD14CE5-A (F4)	WH-SDC16C6E5 WH-UD16CE5-A (F4)
WH-SDF14C9E8 WH-UD14CE8 (F4)	WH-SDF16C9E8 WH-UD16CE8 (F4)
WH-SDC14C9E8 WH-UD14CE8 (F4)	WH-SDC16C9E8 WH-UD16CE8 (F4)
WH-MDF14C6E5 (F5)	WH-MDF16C6E5 (F5)
WH-MDC14C6E5 (F5)	WH-MDC16C6E5 (F5)
WH-MDF14C9E8 (F5)	WH-MDF16C9E8 (F5)
WH-MDC14C9E8 (F5)	WH-MDC16C9E8 (F5)

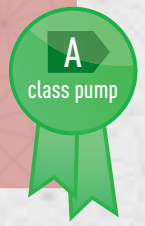


AQUAREA
HIGH PERFORMANCE
 BI-BLOC SINGLE PHASE
 HEATING ONLY - SDF
 HEATING AND COOLING - SDC
 3 AND 5 kW



DESIGN FOR LOW CONSUMPTION HOMES

MAXIMUM SAVINGS, MAXIMUM EFFICIENCY,
 MINIMUM CO₂ EMISSIONS, MINIMUM OF SPACE
 PRODUCT READY FOR THE NEW ErP ECODESIGN
 REQUIREMENTS LOT 1



The 3 and 5 kW is specially designed for low energy homes and achieves an impressive COP of 5 (on the 3.2 kW).

Thanks to the system's high degree of technology and advanced control, it is able to maintain a high capacity and efficiency even at -7 °C and -25 °C. The Aquarea's software is optimised to the requirements of low consumption homes in order to maximise energy efficiency. Whatever the weather, Aquarea will always give you maximum efficiency, even at -20 °C. The compact design of the outdoor unit makes installation very easy.

Technical focus

- **NEW!** Efficient control of room temperature based on the outdoor temperature, indoor temperature using the Aquarea Manager.
- Super efficient: COP of 5 in the 3.2 kW!
- A Class Pump
- Special software for low consumption homes with minimum output temperature: 20 °C
- Works down to -20 °C
- Automatic Air purge valve
- Display of the compressor frequency



WH-UD03EE5
 WH-UD05EE5

Kit	Single Phase Heating Only				Single Phase Heating and Cooling			
	KIT-WF03CE5		KIT-WF05CE5		KIT-WC03CE5		KIT-WC05CE5	
Indoor unit	WH-SDF03E3E5		WH-SDF05E3E5		WH-SDC03E3E5		WH-SDC05E3E5	
Outdoor unit	WH-UD03EE5		WH-UD05EE5		WH-UD03EE5		WH-UD05EE5	
Heating Capacity at +7 °C	kW	3.20	5.00	3.20	5.00	3.20	5.00	
COP at +7 °C with heating water at 35 °C		5.00	4.63	5.00	4.63	5.00	4.63	
Heating Capacity at +2 °C with heating water at 35 °C	kW	3.20	4.20	3.20	4.20	3.20	4.20	
COP at +2 °C with heating water at 35 °C		3.56	3.11	3.56	3.11	3.56	3.11	
Heating Capacity at -7 °C	kW	3.20	4.20	3.20	4.20	3.20	4.20	
COP at -7 °C		2.69	2.59	2.69	2.59	2.69	2.59	
Heating Capacity at -15 °C	kW	3.20	4.20	3.20	4.20	3.20	4.20	
COP at -15 °C with heating water at 35 °C		2.30	2.16	2.30	2.16	2.30	2.16	
Cooling capacity at 35 °C	kW	-	-	3.20	4.50	3.20	4.50	
EER at 35 °C with cooling water at 7/12 °C		-	-	3.08	2.69	3.08	2.69	
Indoor unit								
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	
Weight		kg	43	43	44	44	44	
Water pipe connector		mm	28	28	28	28	28	
A class Pump	No. of Speed		7	7	7	7	7	
	Input power (Max.)	W	25	29	25	29	29	
Heating water flow [ΔT=5 K, 35 °C]		l/min	9.2	14.3	9.2	14.3	14.3	
Capacity of integrated electric heater		kW	3	3	3	3	3	
Input Power		kW	0.64	1.08	0.64	1.08	1.08	
Running and Starting current		A	3	5	3	5	5	
Current 1 / Current 2 / Current 3		A						
Recommended Fuse		A	30 / 15	30 / 15	30 / 15	30 / 15	30 / 15	
Recommended power cable section		mm ²	4.0 / 1.5	4.0 / 1.5	4.0 / 1.5	4.0 / 1.5	4.0 / 1.5	
Outdoor unit								
Sound pressure level		dB(A)	47	48	47	48	48	
Sound power level		dB	65	66	65	66	66	
Dimensions	H x W x D	mm	622 x 824 x 298	622 x 824 x 298	622 x 824 x 298	622 x 824 x 298	622 x 824 x 298	
Weight		kg	39	39	39	39	39	
Pipe diameter	Liquid	mm (Inch)	6.35 (1/4)	6.35 (1/4)	6.35 (1/4)	6.35 (1/4)	6.35 (1/4)	
	Gas	mm (Inch)	12.7 (1/2)	12.7 (1/2)	12.7 (1/2)	12.7 (1/2)	12.7 (1/2)	
Refrigerant (R410A)		kg	1.20	1.20	1.20	1.20	1.20	
Pipe length range		m	3-15	3-15	3-15	3-15	3-15	
Pipe length for nominal capacity		m	7	7	7	7	7	
Pipe length for additional gas		m	10	10	10	10	10	
Additional gas amount (R410A)		g/m	20	20	20	20	20	
l/D&O/D Hight Difference		m	5	5	5	5	5	
Operation range	Outdoor ambient	°C	-20 to 35	-20 to 35	-20 to 35	-20 to 35	-20 to 35	
	Water outlet at -2/-7/-15	°C	20 - 55	20 - 55	20 - 55	20 - 55	20 - 55	

COP classification is at 230 V only in accordance with EU directive 2003/32/EC. Sound pressure measured at 1 m from the outdoor unit and at 1.5 m height. Performance in agreement with EN14511.

Internet Control Ready

INTERNET CONTROL

5.00 COP
high efficiency

AQUAREA HIGH PERFORMANCE

High efficiency heating

INVERTER+

Environmentally friendly refrigerant

R410A

Down to -20 °C in heating mode

OUTDOOR TEMPERATURE

Boiler connection

RETROFIT

Solar panels connection

SOLAR KIT

Domestic hot water

DHW

Easy control by BMS

CONNECTIVITY

5 year
compressor warranty

AQUAREA
HIGH PERFORMANCE
BI-BLOC SINGLE PHASE /
THREE PHASE
HEATING ONLY - SDF
HEATING AND COOLING - SDC



SEASONAL EFFICIENCY

PRODUCT READY FOR THE NEW ErP ECODESIGN REQUIREMENTS LOT 1

The Aquarea SDF / SDC range adapts well in an existing install with a boiler backup, and in a new application with underfloor heating, low temperature radiators or even fan-coil heaters. This range 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 (SDF) or better heating and cooling control (SDC) and management.

- Maximum hydraulic module output temperature: 55 °C
- Works down to -20 °C
- Maximum 40 m rise between the outdoor unit and the hydraulic module
- Cooling temperature range 5–20 °C (SDC)



WH-UD07CE5-A
WH-UD09CE5-A
WH-UD12CE5-A
WH-UD14CE5-A
WH-UD16CE5-A
WH-UD09CE8
WH-UD12CE8
WH-UD14CE8
WH-UD16CE8

Technical focus

- **NEW!** Efficient control of room temperature based on the outdoor temperature, indoor temperature using the Aquarea Manager.
- Optional Smartphone control
- Range from 7 to 16 kW, Single and Three Phase

Aquarea Manager for all Aquarea.



PAW-A2W-RTWIRED: Wired LCD room thermostat with weekly timer.



PAW-A2W-RTWIRELESS: Wireless LCD room thermostat with weekly timer.

		Single Phase (Power to indoor)					Three Phase (Power to indoor)				
Kit Heating Only		KIT-WF07CE5	KIT-WF09CE5	KIT-WF12CE5	KIT-WF14CE5	KIT-WF16CE5	KIT-WF09CE8	KIT-WF12CE8	KIT-WF14CE8	KIT-WF16CE8	
Kit Heating and Cooling		KIT-WC07CE5	KIT-WC09CE5	KIT-WC12CE5	KIT-WC14CE5	KIT-WC16CE5	KIT-WC09CE8	KIT-WC12CE8	KIT-WC14CE8	KIT-WC16CE8	
Indoor unit Heating Only		WH-SDF07C3E5	WH-SDF09C3E5	WH-SDF12C6E5	WH-SDF14C6E5	WH-SDF16C6E5	WH-SDF09C3E8	WH-SDF12C9E8	WH-SDF14C9E8	WH-SDF16C9E8	
Indoor unit Heating and Cooling		WH-SDC07C3E5	WH-SDC09C3E5	WH-SDC12C6E5	WH-SDC14C6E5	WH-SDC16C6E5	WH-SDC09C3E8	WH-SDC12C9E8	WH-SDC14C9E8	WH-SDC16C9E8	
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	
Heating Capacity at +7 °C with heating water at 35 °C	kW	7.0	9.0	12.0	14.0	16.0	9.0	12.0	14.0	16.0	
COP at +7 °C with heating water at 35 °C		4.40	4.10	4.67	4.50	4.23	4.74	4.67	4.50	4.23	
Heating Capacity at +2 °C with heating water at 35 °C	kW	6.55	6.70	11.40	12.40	13.00	9.00	11.40	12.40	13.00	
COP at +2 °C with heating water at 35 °C		3.30	3.10	3.40	3.32	3.25	3.53	3.40	3.32	3.25	
Heating Capacity at -7 °C with heating water at 35 °C	kW	5.15	5.90	10.00	10.70	11.40	9.00	10.00	10.70	11.40	
COP at -7 °C with heating water at 35 °C		2.65	2.50	2.70	2.62	4.47	2.81	2.70	2.62	2.55	
Heating Capacity at -15 °C with heating water at 35 °C	kW	4.60	5.90	8.90	9.50	10.30	8.30	8.90	9.50	10.30	
COP at -15 °C with heating water at 35 °C		2.30	2.20	2.43	2.35	2.33	2.55	2.43	2.35	2.33	
Cooling capacity at 35 °C with cooling water at 7 °C ¹	kW	6.00	7.00	10.00	11.50	12.20	7.00	10.00	11.50	12.20	
EER at 35 °C with cooling water at 7 °C ¹		2.61	2.41	2.78	2.61	2.54	3.11	2.82	2.61	2.54	
Indoor unit											
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	
Weight		kg	43 (45 ¹)	43 (45 ¹)	49 (51 ¹)	49 (51 ¹)	49 (51 ¹)	51 (52 ¹)	51 (52 ¹)	51 (52 ¹)	
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	
Pump	No. of Speed		3	3	3	3	3	3	3	3	
	Input power (Max.)	W	100 (75 ¹)	100 (75 ¹)	190	190	190	190	190	190	
Heating water flow (ΔT=5 K, 35 °C)		l/min	20.1	25.8	34.4	40.1	45.9	25.8	34.4	40.1	
Capacity of integrated electric heater		kW	3	3	6	6	6	3	9	9	
Input Power	Heating / Cooling ¹	kW	1.59 / 2.30	2.20 / 2.90	2.57 / 3.60	3.11 / 4.40	3.78 / 4.80	1.90 / 2.25	2.57 / 3.55	3.11 / 4.40	3.78 / 4.80
	Running and Starting current Heating / Cooling ¹	A	7.30 / 10.40	10.10 / 13.10	11.70 / 16.10	14.10 / 19.70	17.10 / 21.50	2.90 / 3.40	3.90 / 5.30	4.70 / 6.60	5.70 / 7.20
Current 1 / Current 2 / Current 3		A	21.0 / 26.0 / -	22.9 / 26.0 / -	24.0 / 26.0 / 13.0	25.0 / 26.0 / 13.0	26.0 / 26.0 / 13.0	11.8 / 13.0 / -	8.8 / 13.0 / 13.0	9.4 / 13.0 / 13.0	9.9 / 13.0 / 13.0
Recommended Fuse		A	30 / 30	30 / 30	30 / 30 / 16	30 / 30 / 16	30 / 30 / 16	16 / 16	16 / 16 / 16	16 / 16 / 16	
Recommended power cable section		mm ²	4.0 / 4.0	4.0 / 4.0	4.0 / 4.0 / 1.5	4.0 / 4.0 / 1.5	4.0 / 4.0 / 1.5	1.5 / 1.5	1.5 / 1.5 / 1.5	1.5 / 1.5 / 1.5	
Outdoor unit											
Sound pressure level		dB(A)	48	49	50	51	53	49	50	51	
Sound power level		dB	66	67	67	68	70	65	66	68	
Dimensions / Weight	H x W x D	mm / kg	795 x 900 x 320 / 66			1340 x 900 x 320 / 106					
Pipe diameter	Liquid / Gas	mm (Inch)	6.35 (1/4) / 15.88 (5/8)			9.52 (3/8) / 15.88 (5/8)					
Refrigerant (R410A)		kg	1.45	1.45	2.75	2.75	2.75	2.75	2.75	2.75	
Pipe length range		m	3 – 30	3 – 30	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	
Pipe length for additional gas		m	10	10	30	30	30	30	30	30	
Additional gas amount (R410A)		g/m	30	30	50	50	50	50	50	50	
I/D & O/D Height difference		m	20	20	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	
Water outlet at -2/-7/-15	Heating / Cooling ¹	°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	

COP classification is at 230 V only in accordance with EU directive 2003/32/EC. Sound pressure measured at 1 m from the outdoor unit and at 1.5 m height. Performance in agreement with EN14511. 1. Specifications for Heating and Cooling models.

Internet Control Ready

INTERNET CONTROL

4.74 COP high efficiency

AQUAREA HIGH PERFORMANCE

High efficiency heating

INVERTER+

Environmentally friendly refrigerant

R410A

Down to -20 °C in heating mode

OUTDOOR TEMPERATURE

Boiler connection

RETROFIT

Solar panels connection

SOLAR KIT

Domestic hot water

DHW

Easy control by BMS

CONNECTIVITY

5 year compressor warranty

INTERNET CONTROL READY: Optional.

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



SEASONAL EFFICIENCY
 PRODUCT READY FOR THE NEW ErP ECODESIGN REQUIREMENTS LOT 1

A
 class pump*



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

The new SXF / SXC is ideal for residential properties which don't have an external boiler and require a maintained capacity level.

T-CAP stands for Total Capacity. This new line-up is able to maintain 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 SXF / SXC adapts well in an existing install with a boiler backup, and in a new application with underfloor heating, low temperature radiators or even fan-coil heaters. This Range 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 (SXF) or better heating or cooling control (SXC) and management.

Technical focus

- **NEW!** Efficient control of room temperature based on the outdoor temperature, indoor temperature using the Aquarea Manager.
- Optional Smartphone control
- Range from 9 to 12 kW, Single and Three Phase
- Maximum hydraulic module output temperature: 55 °C
- Works down to -20 °C
- Cooling temperature range 5-20 °C (SXC)
- Constant capacity at outdoor temperatures down to -15 °C (at a heating water temperature of 35 °C)
- Maximum 30 m (SXF) 20 m (SXC) rise between the outdoor unit and the hydraulic module

* A class pump for Three Phase models.

		Single Phase (Power to indoor)		Three Phase (Power to indoor)	
		KIT-WXF09DE5	KIT-WXF12DE5	KIT-WXF09DE8	KIT-WXF12DE8
		KIT-WXC09DE5	KIT-WXC12DE5	KIT-WXC09DE8	KIT-WXC12DE8
Kit Heating Only					
Kit Heating and Cooling					
Indoor unit Heating Only		WH-SXF09D3E5	WH-SXF12D6E5	WH-SXF09D3E8	WH-SXF12D9E8
Indoor unit Heating and Cooling		WH-SXC09D3E5	WH-SXC12D6E5	WH-SXC09D3E8	WH-SXC12D9E8
Outdoor unit		WH-UX09DE5	WH-UX12DE5	WH-UX09DE8	WH-UX12DE8
Heating Capacity at +7 °C with heating water at 35 °C		kW 9.00	12.00	9.00	12.00
COP at +7 °C with heating water at 35 °C		4.74	4.67	4.74	4.67
Heating Capacity at +2 °C with heating water at 35 °C		kW 9.00	12.00	9.00	12.00
COP at +2 °C with heating water at 35 °C		3.53	3.40	3.53	3.40
Heating Capacity at -7 °C with heating water at 35 °C		kW 9.00	12.00	9.00	12.00
COP at -7 °C with heating water at 35 °C		2.81	2.70	2.81	2.70
Heating Capacity at -15 °C with heating water at 35 °C		kW 9.00	12.00	9.00	10.00
COP at -15 °C with heating water at 35 °C		2.54	2.40	2.54	2.40
Cooling capacity at 35 °C with cooling water at 7 °C ¹		kW 7.00	10.00	7.00	10.00
EER at 35 °C with cooling water at 7 °C ¹		3.11	2.78	3.11	2.78
Indoor unit					
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
Weight		kg 47 (48 ¹)	49 (51 ¹)	50 (51 ¹)	51 (52 ¹)
Water pipe connector		R 1 ½	R 1 ½	R 1 ½	R 1 ½
Pump	No. of Speed	3	3	7	7
	Input power (Max.)	W 190	190	39	50
Heating water flow (ΔT=5 K, 35 °C)		l/min 25.8	34.4	25.8	34.4
Capacity of integrated electric heater		kW 3	6	3	9
Input Power		kW 1.90	2.57	1.90	2.57
Starting Current		A 8.8 (10.4 ¹)	11.9 (16.7 ¹)	2.9 (3.4 ¹)	3.9 (5.4 ¹)
Current 1 / Current 2 / Current 3		A 25.0 / 26.0 / -	29.0 / 26.0 / 13.0	14.7 / 13.0 / -	11.9 / 13.0 / 13.0
Recommended Fuse		A 30 / 30	30 / 30 / 16	16 / 16	16 / 16 / 16
Recommended power cable section		mm ² 4.0 / 4.0	4.0 / 4.0 / 1.5	1.5 / 1.5	1.5 / 1.5 / 1.5
Outdoor unit					
Sound pressure level		dB(A) 49	50	49	50
Sound power level		dB 66	67	66	67
Dimensions / Weight	H x W x D	mm / kg 1340 x 900 x 320 / 107	1340 x 900 x 320 / 107	1340 x 900 x 320 / 110	1340 x 900 x 320 / 110
Pipe diameter	Liquid / Gas	mm (Inch) 9.52 (3/8) / 15.88 (5/8)	9.52 (3/8) / 15.88 (5/8)	9.52 (3/8) / 15.88 (5/8)	9.52 (3/8) / 15.88 (5/8)
Refrigerant (R410A)		kg 3.10	3.10	3.10	3.10
Pipe length range		m 3 - 30	3 - 30	3 - 30	3 - 30
Pipe length for nominal capacity		m 7	7	7	7
Pipe length for additional gas		m 15	15	15	15
Additional gas amount (R410A)		g/m 50	50	50	50
I/D&O/D Hight Difference		m 20	20	20	20
Operation range	Outdoor ambient	°C -20 to 35	-20 to 35	-20 to 35	-20 to 35
Water outlet at -2/-7/-15	Heating / Cooling ¹	°C 25 - 55 / 5 - 20	25 - 55 / 5 - 20	25 - 55 / 5 - 20	25 - 55 / 5 - 20

COP classification is at 230 V only in accordance with EU directive 2003/32/EC. Sound pressure measured at 1 m from the outdoor unit and at 1.5 m height. Performance in agreement with EN14511. 1. Specifications for Heating and Cooling models.

Internet Control Ready | 100% capacity at -15 °C | High efficiency heating | Environmentally friendly refrigerant | Down to -20 °C in heating mode | Boiler connection | Solar panels connection | Domestic hot water | Easy control by BMS | 5 year compressor warranty

AQUAREA HT
BI-BLOC SINGLE PHASE /
THREE PHASE
HEATING ONLY - SHF



SEASONAL EFFICIENCY

PRODUCT READY FOR THE NEW ErP CODESIGN REQUIREMENTS LOT 1

For a house with high temperature radiators (for example, cast iron radiators), the Aquarea High Temperature Solution is most suited as it provides output water temperatures of 65 °C even at -20 °C.

Aquarea HT is able to deliver water heated to 65 °C with the Heat Pump alone.

- Maximum hydraulic module output temperature: 65 °C
- Works down to -20 °C
- Maximum 30 m rise between the outdoor unit and the hydraulic module

Technical focus

- **NEW!** Efficient control of room temperature based on the outdoor temperature, indoor temperature using the Aquarea Manager.
- Optional Smartphone control
- Range from 9 to 12 kW, Single and Three Phase

Aquarea Manager for all Aquarea.



PAW-A2W-RTWIRED: Wired LCD room thermostat with weekly timer.



PAW-A2W-RTWIRELESS: Wireless LCD room thermostat with weekly timer.



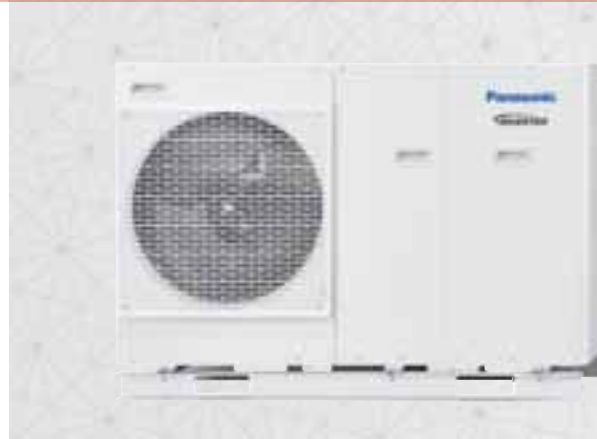
WH-UH09DE5 WH-UH09DE8
 WH-UH12DE5 WH-UH12DE8

Kit	Single Phase (Power to indoor)		Three Phase (Power to indoor)	
	KIT-WHF09DE5	KIT-WHF12DE5	KIT-WHF09DE8	KIT-WHF12DE8
Indoor unit	WH-SHF09D3E5*	WH-SHF12D6E5*	WH-SHF09D3E8*	WH-SHF12D9E8*
Outdoor unit	WH-UH09DE5	WH-UH12DE5	WH-UH09DE8	WH-UH12DE8
Heating Capacity at +7 °C with heating water at 35 °C	kW 9.17	11.58	9.00	12.00
COP at +7 °C with heating water at 35 °C	4.79	4.29	4.55	4.40
Heating Capacity at +2 °C with heating water at 35 °C	kW 8.90	11.48	9.00	12.00
COP at +2 °C with heating water at 35 °C	3.53	3.27	3.40	3.23
Heating Capacity at -7 °C with heating water at 35 °C	kW 9.78	11.91	9.00	12.00
COP at -7 °C with heating water at 35 °C	2.65	2.61	2.70	2.50
Heating Capacity at -15 °C with heating water at 35 °C	kW 9.02	11.20	9.00	12.00
COP at -15 °C with heating water at 35 °C	2.41	2.18	2.40	2.15
Heating Capacity at +7 °C with heating water at 65 °C	kW 9.00	12.00	9.00	12.00
COP at +7 °C with heating water at 65 °C	2.25	2.20	2.25	2.20
Heating Capacity at +2 °C with heating water at 65 °C	kW 9.00	10.30	9.00	10.30
COP at +2 °C with heating water at 65 °C	1.88	1.83	1.88	1.83
Heating Capacity at -7 °C with heating water at 65 °C	kW 8.90	9.60	8.90	9.60
COP at -7 °C with heating water at 65 °C	1.62	1.61	1.64	1.61
Heating Capacity at -15 °C with heating water at 65 °C	kW 7.80	8.00	7.80	8.00
COP at -15 °C with heating water at 65 °C	1.32	1.30	1.32	1.30
Indoor unit				
Dimensions / Weight	H x W x D	mm / kg	892 x 502 x 353 / 50	892 x 502 x 353 / 52
Water pipe connector			R 1 1/4	R 1 1/4
Pump	No. of Speed		3	3
	Input Power (Max.)	W	190	190
Heating water flow (ΔT=5 K, 35 °C)		l/min	25.8	34.4
Capacity of integrated electric heater		kW	3	6
Input Power		kW	1.98	2.73
Running and Starting current		A	9.5	13.0
Current 1 / Current 2 / Current 3		A	28.5 / 26.0 / -	29.0 / 26.0 / 13.0
Recommended Fuse		A	30 / 30	30 / 30 / 16
Recommended power cable section		mm²	4.0 / 4.0	4.0 / 4.0 / 1.5
Outdoor unit				
Sound pressure level / Sound power level	dB(A) / dB		49 / 53	50 / 53
Dimensions / Weight	H x W x D	mm / kg	1340 x 900 x 320 / 105	1340 x 900 x 320 / 105
Pipe diameter	Liquid / Gas	mm (Inch)	9.52 (3/8) / 15.88 (5/8)	9.52 (3/8) / 15.88 (5/8)
Refrigerant (R407C)		kg	2.99	2.99
Pipe length range		m	3 - 30	3 - 30
Pipe length for nominal capacity		m	7	7
Pipe length for additional gas		m	15	15
Additional gas amount (R407C)		g/m	70	70
I/D&O/D Height Difference		m	20	20
Operation range	Outdoor ambient	°C	-20 to 35	-20 to 35
Water outlet at -2/-7/-15		°C	25 - 65	25 - 65

Internet Control Ready INTERNET CONTROL	Output water 65 °C HIGH TEMP HEAT PUMP	High efficiency heating INVERTER+	Environmentally friendly refrigerant R407C	Down to -20 °C in heating mode OUTDOOR TEMPERATURE	Boiler connection RETROFIT	Solar panels connection SOLAR KIT	Domestic hot water DHW	Easy control by BMS CONNECTIVITY	5 year compressor warranty
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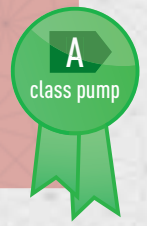
COP classification is at 230 V only in accordance with EU directive 2003/32/EC. Sound pressure measured at 1 m from the outdoor unit and at 1.5 m height. Performance in agreement with EN14511.
 * Tentative specifications.

AQUAREA
HIGH PERFORMANCE
 MONO-BLOC SINGLE PHASE
 HEATING ONLY - MDF
 HEATING AND COOLING - MDC
 6 AND 9 kW



DESIGN FOR LOW CONSUMPTION HOMES

MAXIMUM SAVINGS, MAXIMUM EFFICIENCY,
 MINIMUM CO₂ EMISSIONS, MINIMUM OF SPACE
 PRODUCT READY FOR THE NEW ErP ECODESIGN
 REQUIREMENTS LOT 1



Panasonic has designed the new Aquarea Mono-Bloc heat pump for houses which have high performance requirements but limited space to install the outdoor unit.

Whatever the weather, Aquarea will always give you maximum efficiency, even at -20 °C. The Mono-Bloc is easy to install in new and existing residential properties.

Technical focus

- **NEW!** Efficient control of room temperature based on the outdoor temperature, indoor temperature using the Aquarea Manager.
- Optional Smartphone control
- Range from 6 and 9 kW, Single Phase
- Maximum hydraulic module output temperature: 55 °C
- Works down to -20 °C
- Plug and play system

		Single Phase			
		WH-MDF06E3E5 ¹	WH-MDF09E3E5 ¹	WH-MDC06E3E5 ²	WH-MDC09E3E5 ^{1,2}
Heating Capacity at +7 °C with heating water at 35 °C	kW	6.00	9.00	6.00	9.00
COP at +7 °C with heating water at 35 °C		4.48	4.15	4.48	4.15
Heating Capacity at +2 °C with heating water at 35 °C	kW	5.00	7.45	5.00	7.45
COP at +2 °C with heating water at 35 °C		3.45	3.14	3.45	3.14
Heating Capacity at -7 °C with heating water at 35 °C	kW	5.15	7.70	5.15	7.70
COP at -7 °C with heating water at 35 °C		2.68	2.12	2.68	2.12
Heating Capacity at -15 °C with heating water at 35 °C	kW	5.90	7.60	5.90	7.60
COP at -15 °C with heating water at 35 °C		2.21	2.01	2.21	2.01
Cooling capacity at 35 °C with cooling water at 7 °C	kW	-	-	5.50	7.00
EER at 35 °C with cooling water at 7 °C		-	-	2.74	2.44
Sound pressure level	dB(A)	47	49	47	49
Sound power level	dB	65	67	65	67
Dimensions	H x W x D	mm 865 x 1283 x 320	865 x 1283 x 320	865 x 1283 x 320	865 x 1283 x 320
Weight	kg	112	112	112	112
Water pipe connector		R 1 1/4	R 1 1/4	R 1 1/4	R 1 1/4
Pump	No. of Speed	7	7	7	7
	Input Power	W 56	66	56	66
Water Flow (ΔT=5 K, 35 °C)	l/min	17.2	25.8	17.2	25.8
Capacity of integrated electric heater	kW	3.00	3.00	3.00	3.00
Input Power at +7 °C	kW	1.34	2.17	1.34	2.17
Running and Starting current at +7 °C	A	6.1	9.9	6.1	9.9
Current 1	A				
Current 2	A				
Current 3	A				
Recommended Fuse	A	30 / 16	30 / 16	30 / 16	30 / 16
Recommended power cable section	mm ²	4.0 / 1.5	4.0 / 1.5	4.0 / 1.5	4.0 / 1.5
Operation range	Outdoor ambient	°C -20 to 35	-20 to 35	-20 to 35	-20 to 35
Water outlet at -2/-7/-15	°C	20 - 55	20 - 55	20 - 55	20 - 55

COP classification is at 230 V only in accordance with EU directive 2003/32/EC.
 Sound pressure measured at 1 m from the outdoor unit and at 1.5 m height.
 Performance in agreement with EN14511.

1. Available from February 2013.
 2. Preliminary specifications.

Internet Control Ready

INTERNET CONTROL READY: Optional.

4.48 COP high efficiency

AQUAREA HIGH PERFORMANCE

High efficiency heating

INVERTER+

Environmentally friendly refrigerant

R410A

Down to -20 °C in heating mode

OUTDOOR TEMPERATURE

Easy control by BMS

CONNECTIVITY

5 year compressor warranty

AQUAREA
HIGH PERFORMANCE
MONO-BLOC SINGLE PHASE /
THREE PHASE
HEATING ONLY - MDF
HEATING AND COOLING - MDC



SEASONAL EFFICIENCY
 PRODUCT READY FOR THE NEW ErP ECODESIGN REQUIREMENTS LOT 1

The Aquarea MDF / MDC range adapts well in an existing installation with a boiler backup, and in a new application with underfloor heating, low temperature radiators or even fan-coil heaters. This range 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 (MDF) or better heating and cooling control (MDC) control and management.

- Range from 9 to 16 kW, Single and Three Phase
- Maximum hydraulic module output temperature: 55 °C
- Works down to -20 °C
- Cooling temperature range 5-20 °C (MDC)

Technical focus

- **NEW!** Efficient control of room temperature based on the outdoor temperature, indoor temperature using the Aquarea Manager.
- Optional Smartphone control

Aquarea Manager for all Aquarea.



PAW-A2W-RTWIRED: Wired LCD room thermostat with weekly timer.



PAW-A2W-RTWIRESLESS: Wireless LCD room thermostat with weekly timer.

		Single Phase			Three Phase				
		WH-MDF12C6E5	WH-MDF14C6E5	WH-MDF16C6E5	WH-MDF09C3E8	WH-MDF12C9E8	WH-MDF14C9E8	WH-MDF16C9E8	
		WH-MDC12C6E5	WH-MDC14C6E5	WH-MDC16C6E5	WH-MDC09C3E8	WH-MDC12C9E8	WH-MDC14C9E8	WH-MDC16C9E8	
Outdoor unit Heating Only									
Outdoor unit Heating and Cooling									
Heating Capacity at +7 °C with heating water at 35 °C		kW	12.00	14.00	16.00	9.00	12.00	14.00	16.00
COP at +7 °C with heating water at 35 °C			4.67	4.50	4.23	4.74	4.67	4.50	4.23
Heating Capacity at +2 °C with heating water at 35 °C		kW	11.40	12.40	13.00	9.00	11.40	12.40	13.00
COP at +2 °C with heating water at 35 °C			3.41	3.32	3.25	3.53	3.41	3.32	3.25
Heating Capacity at -7 °C with heating water at 35 °C		kW	10.00	10.70	11.40	9.00	10.00	10.70	11.40
COP at -7 °C with heating water at 35 °C			2.70	2.68	2.65	2.81	2.70	2.68	2.65
Heating Capacity at -15 °C with heating water at 35 °C		kW	8.90	9.50	10.30	8.30	8.90	9.50	10.30
COP at -15 °C with heating water at 35 °C			2.43	2.35	2.33	2.55	2.43	2.35	2.33
Cooling capacity at 35 °C with cooling water at 7 °C ¹		kW	10.00	11.50	12.20	7.00	10.00	11.50	12.20
EER at 35 °C with cooling water at 7 °C ¹			2.78	2.61	2.51	3.11	2.78	2.61	2.54
Sound pressure level		dB(A)	50	51	53	49	50	51	53
Sound power level		dB	63	63	64	60	62	64	65
Dimensions		H x W x D	mm	1410 x 1283 x 320	1410 x 1283 x 320	1410 x 1283 x 320	1410 x 1283 x 320	1410 x 1283 x 320	1410 x 1283 x 320
Weight		kg	153	153	153	157	157	157	
Water pipe connector			R 1 1/4	R 1 1/4	R 1 1/4	R 1 1/4	R 1 1/4	R 1 1/4	
Pump		No. of Speed	3	3	3	3	3	3	
		Input power (Max.)	W	190	190	190	190	190	
Heating water flow (ΔT=5 K, 35 °C)		l/min	34.4	40.1	45.9	25.8	34.4	40.1	45.9
Capacity of integrated electric heater		kW	6	6	6	3	9	9	
Input Power		Heating	kW	2.57	3.11	3.78	1.90	2.57	3.11
		Cooling ¹	kW	3.60	4.40	4.80	2.25	3.60	4.40
Running and Starting current		Heating	A	11.6	14.1	17.1	2.9	3.9	4.7
		Cooling ¹	A	16.1	19.7	21.5	3.4	5.3	6.6
Current 1		A	24.0	25.0	26.0	11.8	8.8	9.4	
Current 2		A	26.0	26.0	26.0	13.0	13.0	13.0	
Current 3		A	13.0	13.0	13.0		13.0	13.0	
Recommended Fuse		A	30 / 30 / 16	30 / 30 / 16	30 / 30 / 16	16 / 16	16 / 16 / 16	16 / 16 / 16	
Recommended power cable section		mm ²	4.0 / 4.0 / 1.5	4.0 / 4.0 / 1.5	4.0 / 4.0 / 1.5	1.5 / 1.5	1.5 / 1.5 / 1.5	1.5 / 1.5 / 1.5	
Operation range		Outdoor ambient	°C	-20 to 35	-20 to 35	-20 to 35	-20 to 35	-20 to 35	
		Heating / Cooling ¹	°C	25 - 55 / 5 - 20	25 - 55 / 5 - 20	25 - 55 / 5 - 20	25 - 55 / 5 - 20	25 - 55 / 5 - 20	

COP classification is at 230 V only in accordance with EU directive 2003/32/EC. Sound pressure measured at 1 m from the outdoor unit and at 1.5 m height. Performance in agreement with EN14511.
 1. Specifications for Heating a Cooling models.

Internet Control Ready

4.74 COP high efficiency

High efficiency heating

Environmentally friendly refrigerant

Down to -20 °C in heating mode

Boiler connection

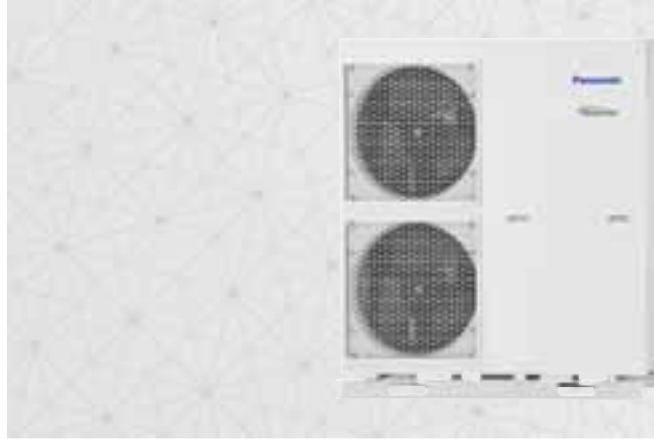
Solar panels connection

Domestic hot water

Easy control by BMS

5 year compressor warranty

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



SEASONAL EFFICIENCY
 PRODUCT READY FOR THE NEW ErP ECODESIGN REQUIREMENTS LOT 1

The new MXF / MXC is ideal for residential properties which don't have an external boiler and require a maintained capacity level.

T-CAP stands for Total Capacity. This new line-up is able to maintain 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 MXF adapts well in an existing install with a boiler backup, and in a new application with underfloor heating, low temperature radiators or even fan-coil heaters. This range 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 (MXF) or better heating or cooling control (MXC) and management.

Technical focus

- **NEW!** Efficient control of room temperature based on the outdoor temperature, indoor temperature using the Aquarea Manager.
- Optional Smartphone control
- Range from 9 to 12 kW, Single and Three Phase
- Maximum hydraulic module output temperature: 55 °C
- Works down to -20 °C
- Cooling temperature range 5-20 °C (MXC)

			Single Phase		Three Phase	
Outdoor unit Heating Only			WH-MXF09D3E5	WH-MXF12D6E5	WH-MXF09D3E8	WH-MXF12D9E8
Outdoor unit Heating and Cooling			WH-MXC09D3E5	WH-MXC12D6E5	WH-MXC09D3E8	WH-MXC12D9E8
Heating Capacity at +7 °C with heating water at 35 °C	kW		9.33	12.08	9.00	12.00
COP at +7 °C with heating water at 35 °C			4.89	4.73	4.74	4.67
Heating Capacity at +2 °C with heating water at 35 °C	kW		9.22	11.76	9.00	12.00
COP at +2 °C with heating water at 35 °C			3.66	3.32	3.53	3.40
Heating Capacity at -7 °C with heating water at 35 °C	kW		9.03	11.63	9.00	12.00
COP at -7 °C with heating water at 35 °C			2.91	2.60	2.81	2.70
Heating Capacity at -15 °C with heating water at 35 °C	kW		9.23	12.06	9.00	12.00
COP at -15 °C with heating water at 35 °C			2.50	2.32	2.54	2.40
Cooling capacity at 35 °C with cooling water at 7 °C ¹	kW		7.00	10.00	7.00	10.00
EER at 35 °C with cooling water at 7 °C ¹			3.11	2.78	3.11	2.78
Sound pressure level	dB(A)		49	50	49	50
Sound power level	dB		60	60	66.1	67.1
Dimensions	H x W x D	mm	1410 x 1283 x 320	1410 x 1283 x 320	1410 x 1283 x 320	1410 x 1283 x 320
Weight		kg	155	155	158	158
Water pipe connector			R 1 1/4	R 1 1/4	R 1 1/4	R 1 1/4
Pump	No. of Speed		3	3	3	3
	Input power (Max.)	W	190	190	190	190
Heating water flow [ΔT=5 K, 35 °C]	l/min		25.8	34.4	25.8	34.4
Capacity of integrated electric heater	kW		3	6	3	9
Input Power	kW		1.90	2.57	1.90	2.57
Starting Current	A		8.8 (10.4 ¹)	11.9 (16.7 ¹)	2.9	3.9
Current 1	A		25.0	29.0	14.7	11.9
Current 2	A		26.0	26.0	13.0	13.0
Current 3	A			13.0		13.0
Recommended Fuse	A		30 / 30	30 / 30 / 16	16 / 16	16 / 16 / 16
Recommended power cable section	mm ²		4.0 / 4.0	4.0 / 4.0 / 1.5	1.5 / 1.5	1.5 / 1.5 / 1.5
Operation range	Outdoor ambient	°C	-20 to 35	-20 to 35	-20 to 35	-20 to 35
Water outlet at -2/-7/-15	Heating / Cooling ¹	°C	25 - 55 / 5 - 20	25 - 55 / 5 - 20	25 - 55 / 5 - 20	25 - 55 / 5 - 20

COP classification is at 230 V only in accordance with EU directive 2003/32/EC. Sound pressure measured at 1 m from the outdoor unit and at 1.5 m height. Performance in agreement with EN14511.

1. Specifications for Heating and Cooling models.

Internet Control Ready INTERNET CONTROL READY: Optional.	100% capacity at -15 °C AQUAREA T-CAP	High efficiency heating INVERTER+	Environmentally friendly refrigerant R410A	Down to -20 °C in heating mode OUTDOOR TEMPERATURE	Boiler connection RETROFIT	Solar panels connection SOLAR KIT	Domestic hot water DHW	Easy control by BMS CONNECTIVITY	5 year compressor warranty
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AQUAREA HT

MONO-BLOC SINGLE PHASE / THREE PHASE

HEATING ONLY - MHF



SEASONAL EFFICIENCY

PRODUCT READY FOR
THE NEW ErP ECODESIGN
REQUIREMENTS LOT 1

For a house with high temperature radiators (for example, cast iron radiators), the Aquarea High Temperature Solution is most suited as it provides output water temperatures of 65 °C even at -20 °C.

Aquarea HT is able to deliver 65 °C with the Heat Pump alone.

- Optional Smartphone control
- Range from 9 to 12 kW, Single and Three Phase
- Maximum hydraulic module output temperature: 65 °C
- Works down to -20 °C

Technical focus

- **NEW!** Efficient control of room temperature based on the outdoor temperature, indoor temperature using the Aquarea Manager.

Aquarea Manager for all Aquarea.



PAW-A2W-RTWIRED: Wired LCD room thermostat with weekly timer.



PAW-A2W-RTWIREFLESS: Wireless LCD room thermostat with weekly timer.

		Single Phase		Three Phase	
		WH-MHF09D3E5*	WH-MHF12D6E5*	WH-MHF09D3E8*	WH-MHF12D9E8*
Heating Capacity at +7 °C with heating water at 35 °C	kW	9.00	12.00	9.00	12.00
COP at +7 °C with heating water at 35 °C		4.55	4.40	4.55	4.40
Heating Capacity at +2 °C with heating water at 35 °C	kW	9.00	12.00	9.00	12.00
COP at +2 °C with heating water at 35 °C		3.40	3.32	3.40	3.32
Heating Capacity at -7 °C with heating water at 35 °C	kW	9.00	12.00	9.00	12.00
COP at -7 °C with heating water at 35 °C		2.70	2.50	2.70	2.50
Heating Capacity at -15 °C with heating water at 35 °C	kW	9.00	12.00	9.00	12.00
COP at -15 °C with heating water at 35 °C		2.40	2.15	2.40	2.15
Heating Capacity at +7 °C with heating water at 65 °C	kW	9.00	12.00	9.00	12.00
COP at +7 °C with heating water at 65 °C		2.25	2.20	2.25	2.20
Heating Capacity at +2 °C with heating water at 65 °C	kW	9.00	10.30	9.00	10.30
COP at +2 °C with heating water at 65 °C		1.88	1.83	1.88	1.83
Heating Capacity at -7 °C with heating water at 65 °C	kW	8.90	9.60	8.90	9.60
COP at -7 °C with heating water at 65 °C		1.62	1.61	1.64	1.61
Heating Capacity at -15 °C with heating water at 65 °C	kW	7.80	8.00	7.80	8.00
COP at -15 °C with heating water at 65 °C		1.32	1.30	1.32	1.30
Sound pressure level	dB(A)	49	50	49	50
Sound power level	dB	66	67	66	67
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 1/4	R 1 1/4	R 1 1/4
Pump	No. of Speed		3	3	3
	Input Power (Max.)	W	190	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	6	3
Input Power		kW	1.98	2.73	1.98
Running and Starting current		A	9.5	12.8	9.5
Current 1		A	28.5	29.0	32.8
Current 2		A	26.0	26.0	13.0
Current 3		A		13.0	13.0
Recommended Fuse		A	30 / 30	30 / 30 / 16	30 / 16
Recommended power cable section		mm ²	4.0 / 4.0	4.0 / 4.0 / 1.5	4.0 / 1.5
Operation range	Outdoor ambient	°C	-20 to 35	-20 to 35	-20 to 35
Water outlet at -2/-7/-15		°C	25 - 65	25 - 65	25 - 65








COP classification is at 230 V only in accordance with EU directive 2003/32/EC. Sound pressure measured at 1 m from the outdoor unit and at 1.5 m height. Performance in agreement with EN14511.

* Tentative specifications.



INTERNET CONTROL READY: Optional.

Accessories

Tanks		Standard Sanitary		High Efficiency		Super High Efficiency		
Model		WH-TD20E3E5	WH-TD30E3E5-1	HR 200 ¹	HR 300 ¹	HRS 200 ¹	HRS 300 ¹	HRS 500 ¹
								
Water volume	L	200	300	200	300	200	300	500
Max. water temperature	°C	75	75	75	75	75	75	75
Dimension	Height / Diameter	mm 1,150 / 580	1,150 / 580	1,340 / 600	1,797 / 600	1,642 / 600	1,435 / 680	1,806 / 760
Weight	kg	49	65	108	140	135	170	254
Electric heater	kW	3	3	3	3	3	3	3
Power supply	V	230	230	230	230	230	230	230
Material inside tank		Stainless steel	Stainless steel	Enamelled	Enamelled	Enamelled	Enamelled	Enamelled
Exchange surface	m ²	1.4	1.8	1.8	2.6	2.3	3.5	6.0
Energy loss at 65 °C (insulated tested under EN12897)	kWh/24h	1.9	2.3	1.8	2.2		2.2	2.7
3 Way valve included		Yes	Yes	Yes	Yes	Yes	Yes	Yes
20 m temperature sensor cable included		Yes	Yes	Yes	Yes	Yes	Yes	Yes
Heat up time	Valuation	★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★
Energy losses	Valuation	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★
Efficiency of the tank	Valuation	★★★	★★★★	★★★★	★★★★	★★★★	★★★★	★★★★
Warranty		10 years	10 years	7 years	7 years	7 years	7 years	7 years
Maintenance required		No	No	Yearly	Yearly	Yearly	Yearly	Yearly

Panasonic has developed unique, high efficiency water tanks with a large exchange surface and high levels of insulation to minimise energy losses. For example, the HRS200 tank is suitable for installation in non-heated areas.



1. Panasonic's term of warranty is based on the warranty conditions provided by the tank supplier being met. Please ensure the maintenance programme is carried out as instructed in the tank manufacturer's manual.



Solar Kit Accessories	
CZ-NS1P	Solar connection PCB (for Bi-split type)
CZ-NS3P	Solar connection PCB (for Mono-Bloc 6 and 9 kW type)
CZ-NS2P	Solar connection PCB (for Mono-Bloc)
Sanitary Tank Accessories	
CZ-TK1	Temperature sensor kit for third party tank (with copper pocket and 6 m length sensor cable)
PAW-TS1	Sensor with 6 meter cable length
PAW-TS2	Sensor with 20 meter cable length

Deice Accessories	
CZ-NE1P	Base pan heater kit
Connectivity Solutions	
PAW-AW-KNX-1i	Interface to connect Aquarea to KNX
PAW-AW-ENO-1i	Interface to connect Aquarea to Enocan
PAW-AW-MBS-1	Interface to connect Aquarea to Modbus
PAW-AW-WIFI-1	Interface to connect Aquarea to IntesisHome



Aquarea Manager Kits		
Reference for Bi-Bloc and Mono-Bloc	Description	Material inside the kit
PAW-HPM12ZONE-U ¹ PAW-HPM12ZONE-M ²	Heat pump manager for control of 2 temperature zones, cascade system or bivalent system with room sensor and setpoint adaption	PAW-HPM1 // PAW-HPMINT-U ¹ // PAW-HPMINT-M ² // PAW-HPMB1 // PAW-HPMAH1 // PAW-HPMAH1 // PAW-HPMR4
PAW-HPM12ZONELCD-U ¹ PAW-HPM12ZONELCD-M ²	Heat pump manager for control of 2 temperature zones, cascade system or bivalent system with LCD Wireless Room Thermostat	PAW-HPM1 // PAW-HPMINT-U ¹ // PAW-HPMINT-M ² // PAW-HPMB1 // PAW-HPMAH1 // PAW-HPMAH1 // PAW-A2W-RTWIRELESS

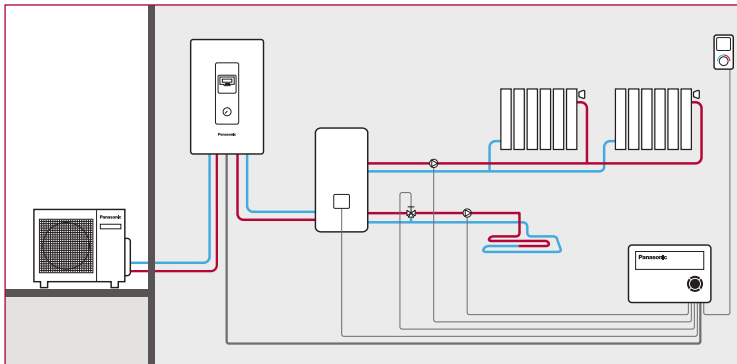
Aquarea Manager Accessories	
PAW-HPM1	Aquarea Manager with LCD
PAW-HPM2	Aquarea Manager without LCD
PAW-HPMINT-U	Interface to connect Aquarea Manager to Heat pump Aquarea Bi-Bloc, with inverter control
PAW-HPMINT-M	Interface to connect Aquarea Manager to Heat pump Aquarea Mono-Bloc, with inverter control
PAW-HPMB1	Buffer tank sensor
PAW-HPMDHW	Buffer tank sensor with well
PAW-HPMSOL1	Buffer tank sensor solar (with higher temperature range)
PAW-HPMUH	Outdoor temperature sensor
PAW-HPMAH1	Water flow sensor for heating circuit
PAW-HPMR4	Room sensor
PAW-HPMED	Touch screen
PAW-HPMLCD	Room thermostat with LCD

Room Thermostats	
PAW-A2W-RTWIRED	Wired LCD room thermostat with weekly timer
PAW-A2W-RTWIRELESS	Wireless LCD room thermostat with weekly timer

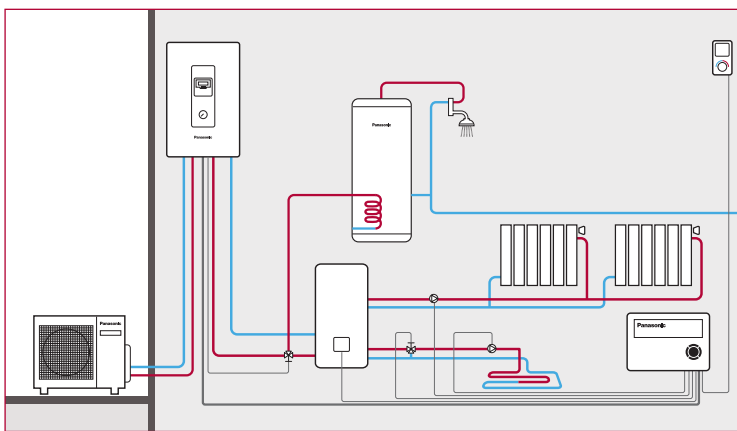
Hydraulic Accessories	
PAW-1PMP2ZONE	2 zone kit with Aquarea Manager, manifold, one A-class pumps, 1 mixture valve and check valve+filter
PAW-2PMP2ZONE	2 zone kit with Aquarea Manager, hydraulic switch, manifold, 2 A-class pumps, one mixture valve and check valve+ filter
PAW-FILTER	2 check valves + filter

1 For Bi-Bloc.
2 For Mono-Bloc.

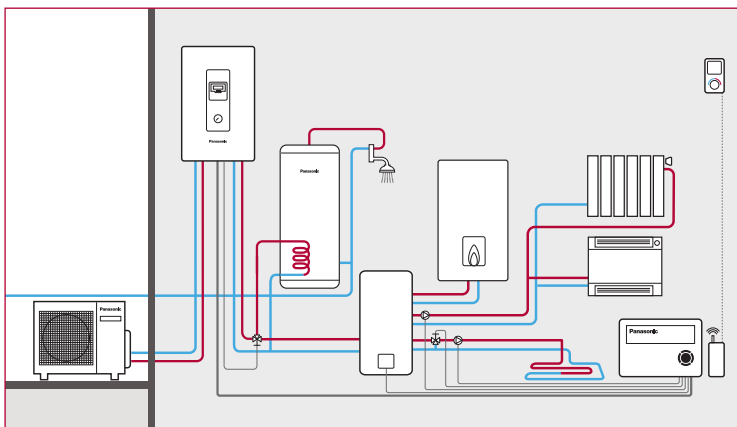
Examples of installations with Aquarea manager



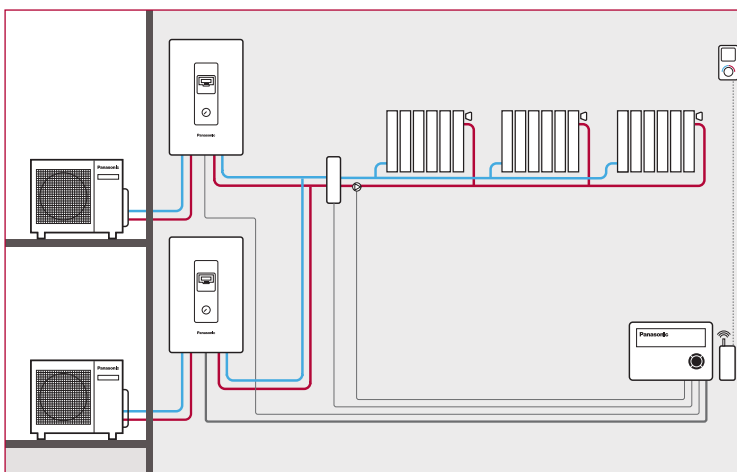
2 Zones Temperature Control with PAW-HPM12ZONE-U



2 Zones Temperature Control + DHW with PAW-HPM12ZONE-U



Heat Pump + Boiler Management with DHW with PAW-HPM12ZONELCD-U



2 Heat Pumps on cascade with PAW-HPM12ZONE-U

NEW AQUAREA AIR RADIATORS

High efficiency climate control High Efficiency Radiators Aquarea Air radiators are extremely slim. With a depth of just under 13 cm they are at the cutting edge of the market. Blending easily into the home, Aquarea Air's elegant design, and product refinements are clear to see in every detail.

Its particular slimness has been obtained thanks to the innovative layout of the ventilation unit and the heat exchanger. The fan is tangential with asymmetric blades and the heat exchanger has large surface, enabling high airflows to be achieved with low pressure loss and low noise levels. Exceptional ventilation efficiency means the motor uses considerably less energy (low wattage). The fan speed is continuously modulated by the temperature controller with proportional integral logic, with undoubted advantages for regulating the temperature and humidity in summer mode.

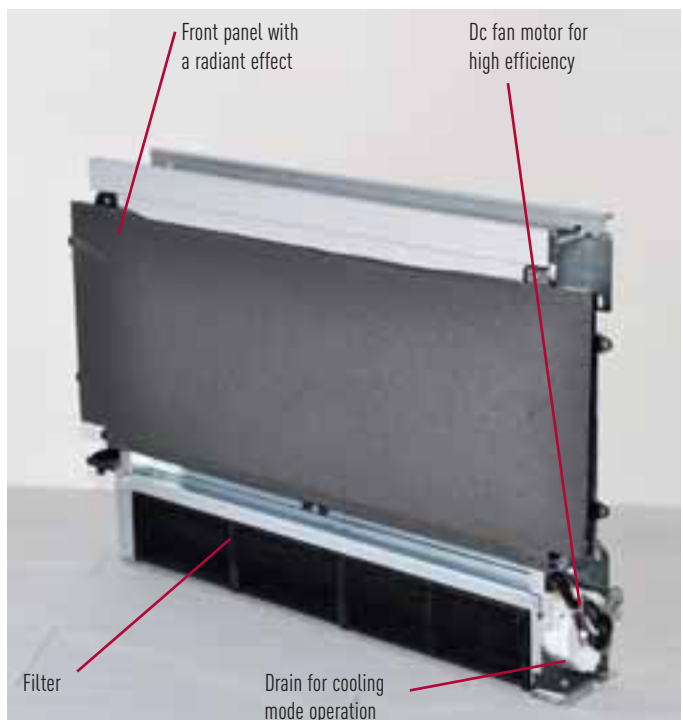
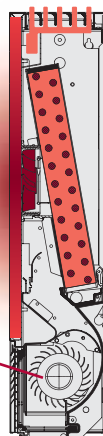


Fan Coils for Heat Pump application	W	PAW-AAIR-200					PAW-AAIR-700					PAW-AAIR-900						
		Main	Fan Off	Super	Min	Med	Max	Main	Fan Off	Super	Min	Med	Max	Main	Fan Off	Super	Min	Med
Total heating capacity	W	138	160	217	470	570	223	360	708	1032	1188	273	475	886	1420	1703		
Water flow	kg/h	23.7	27.5	37.3	80.8	98.0	38.4	61.9	121.8	177.5	204.3	47.0	81.7	152.4	244.2	292.9		
Water pressure drop	kPa	0.1	0.2	0.4	2.0	2.9	0.1	0.1	0.3	0.8	1.0	0.1	0.2	0.5	1.6	2.2		
Air flow	m ³ /h	28	37	55	113	162	44	84	155	252	320	54	110	248	367	461		
	Speed	Main	Fan Off	Super	Min	Med	Max	Main	Fan Off	Super	Min	Med	Max	Main	Fan Off	Super	Min	Med
Maximum input power	W	2	5	7	9	13	3	9	14	18	22	3	11	16	20	24		
Sound pressure level	dB(A)	17.6	18.8	24.7	33.2	39.4	18.4	19.6	25.8	34.1	40.2	18.4	22.3	26.2	34.4	42.2		
Inlet water temperature	°C	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35		
Outlet water temperature	°C	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30		
Inlet air temperature	°C	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19		
Outlet air temperature	°C	34.5	32.6	38.9	32.0	30.0	34.9	32.4	33.3	31.8	30.6	34.8	32.5	30.2	31.1	30.6		
Dimensions (H x W x D)	mm	735 x 576 x 129					935 x 579 x 129					1135 x 579 x 129						
Weight	kg	17					20					23						
3 ways valve included		Yes					Yes					Yes						
Touch screen thermostat		Yes					Yes					Yes						

During winter, the operating principle is based on micro fans of very low power consumption and minimum noise that send hot air, coming from the heat exchanger, to the inside of the front panel of the device and therefore heat it effectively. With this principle, the terminal also provides significant power while heating, without running the main fan. Comfort temperatures therefore maintained, without air movements and in silence. In summer mode, the airflow generated by the micro fans is stopped to avoid any dew formation on the terminal's front surface.

Radiant effect for better comfort

Very silent and efficient DC fan motor



32%
MORE EFFICIENT
THAN STANDARD
RADIATORS



PAW-AAIR-900

AQUAREA
AIR



PAW-AAIR-700

PAW-AAIR-200

New line up of Super low temperature radiators for Heat Pump application:

Aquarea Air 200/700/900 with radiating effect

Major Benefit

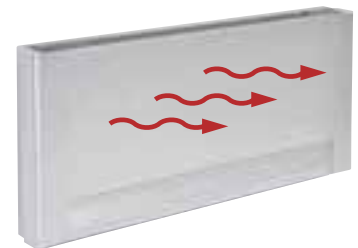
- On the water installation
 - Only 1 water temperature on the water circuit (35 °C)
 - No expansive 2 zone kits
 - No overflow valve (as Aquarea Air has a 3-way valve)
 - Very easy to install
- On the efficiency
 - COP with water at 35 °C is 32% higher than efficiency with water at 45 °C! (case MDF06, at +7 °C)

Main features

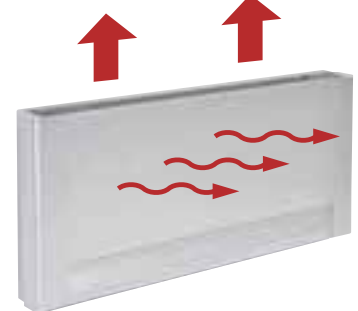
- Front panel heating with radiant effect
- High heating capacity (without main fan running)
- 4 fan speeds and capacities
- Exclusive design
- Extremely compact (only 12.9 cm deep)
- Cooling and dehumidification functions possible (drain is needed)
- 3-way valve included (no overflow valve needed on the installation if more than 3 radiators installed)
- Touch screen thermostat



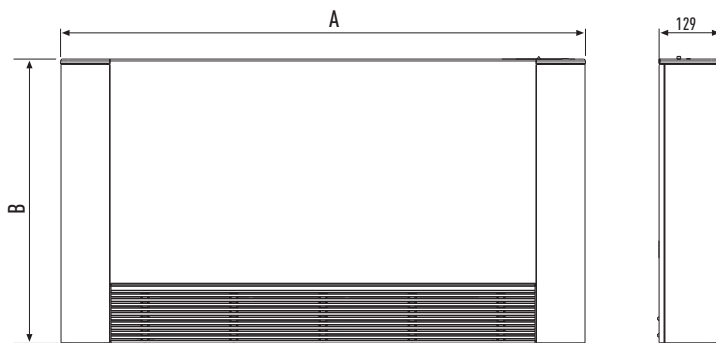
Operating on heating mode with radiator using only radiant effect



Operating on heating mode with radiant effect and fan mode



Operating on cooling mode with fan



	200R	700R	900R
A	735	935	1135
B	576	579	579

Heating Capacity table based on outlet temperature and outside temperature

Heating Capacity Curve

Aquarea. High Performance. Bi-Bloc Single Phase. Heating Only - SDF. Heating and Cooling - SDC. 3 and 5 kW

WH-SDF03E3E5

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	3.20	1.39	2.30	3.20	1.39	2.30	3.00	1.64	1.83	3.00	1.64	1.83	2.75	1.92	1.43	2.75	1.92	1.43
-7	3.20	1.19	2.69	3.20	1.19	2.69	3.20	1.48	2.16	3.20	1.48	2.16	3.20	1.86	1.72	3.20	1.86	1.72
2	3.20	0.90	3.56	3.20	0.90	3.56	3.20	1.16	2.76	3.20	1.16	2.76	3.20	1.49	2.15	3.20	1.49	2.15
7	3.20	0.64	5.00	3.20	0.64	5.00	3.20	0.89	3.60	3.20	0.89	3.60	3.20	1.20	2.67	3.20	1.20	2.67

WH-SDF05E3E5

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	4.20	1.94	2.16	4.20	1.94	2.16	3.4	1.98	1.72	3.40	1.98	1.72	3.00	2.12	1.42	3.00	2.12	1.42
-7	4.20	1.62	2.59	4.20	1.62	2.59	3.8	1.82	2.09	3.80	1.82	2.09	3.55	2.08	1.71	3.55	2.08	1.71
2	4.20	1.35	3.11	4.20	1.35	3.11	4.2	1.65	2.55	4.20	1.65	2.55	4.10	2.07	1.98	4.10	2.07	1.98
7	5.00	1.08	4.63	5.00	1.08	4.63	5.00	1.48	3.38	5.00	1.48	3.38	5.00	1.89	2.65	5.00	1.89	2.65

Heating Capacity Curve

Aquarea. High Performance. Mono-Bloc Single Phase. Heating Only - MDF. Heating and Cooling - MDC. 6 and 9 kW

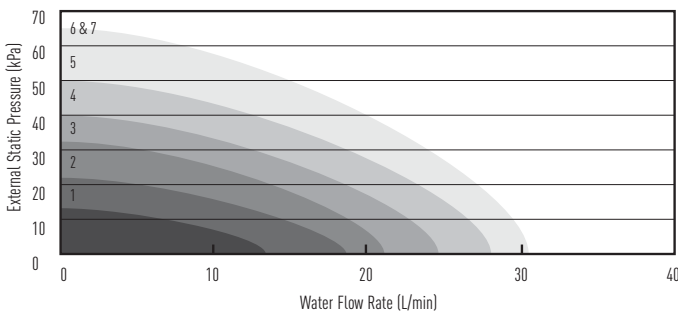
WH-MDF06E3E5

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	6.15	2.50	2.46	5.90	2.66	2.22	5.65	2.82	2.00	5.40	2.98	1.81	5.20	3.15	1.65	5.00	3.32	1.51
-7	5.18	1.68	3.08	5.15	1.92	2.68	5.13	2.17	2.36	5.10	2.41	2.12	5.45	2.81	1.94	5.80	3.20	1.81
2	5.00	1.23	4.06	5.00	1.45	3.45	5.00	1.68	2.98	5.00	1.90	2.63	5.00	2.19	2.29	5.00	2.48	2.02
7	6.00	1.13	5.31	6.00	1.35	4.44	6.00	1.58	3.80	6.00	1.80	3.33	6.00	2.09	2.87	6.00	2.38	2.52
25	7.30	0.78	9.36	7.10	0.93	7.63	6.90	1.09	6.33	6.70	1.24	5.40	6.50	1.41	4.61	6.30	1.58	3.99

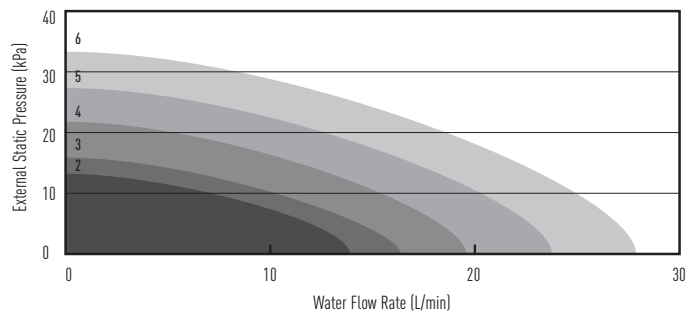
WH-MDF09E3E5

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	7.90	3.62	2.18	7.60	3.77	2.02	7.30	3.93	1.86	7.00	4.08	1.72	6.45	4.06	1.59	5.90	4.03	1.46
-7	7.80	3.38	2.31	7.70	3.63	2.12	7.60	3.88	1.96	7.50	4.13	1.82	7.55	4.59	1.65	7.60	5.05	1.50
2	7.00	2.01	3.48	7.00	2.30	3.04	7.00	2.60	2.69	7.00	2.89	2.42	7.00	3.37	2.08	7.00	3.85	1.82
7	9.00	1.87	4.81	9.00	2.17	4.15	9.00	2.48	3.63	9.00	2.78	3.20	8.95	3.31	2.70	8.90	3.84	2.32
25	9.00	0.99	9.09	9.00	1.31	6.87	9.00	1.63	5.52	9.00	1.95	4.62	9.00	2.20	4.09	9.00	2.45	3.67

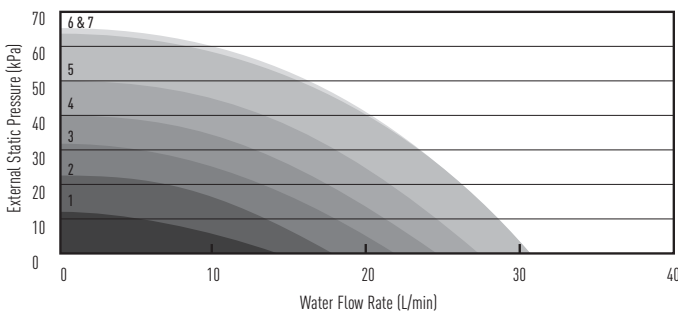
Constant Pressure Head Difference ($\Delta p-c$) SDC. 3 and 5 kW



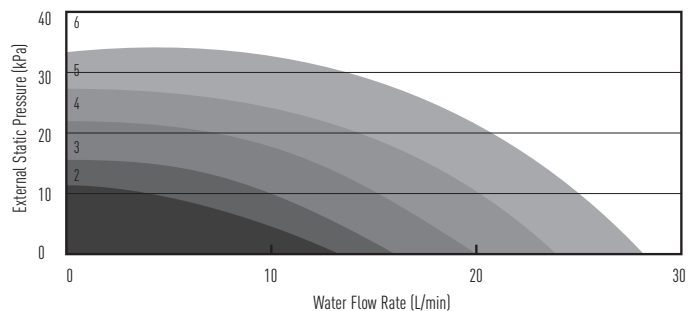
Variable Pressure Head Difference ($\Delta p-v$) SDC. 3 and 5 kW



Constant Pressure Head Difference ($\Delta p-c$) SDC. 6 and 9 kW



Variable Pressure Head Difference ($\Delta p-v$) SDC. 6 and 9 kW



Heating Capacity Curve

Aquarea. High Performance. Bi-Bloc Single Phase / Three Phase. Heating. SDF / SDC

WH-SDF07C3E5 / WH-SDC07C3E5

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	4.60	1.87	2.46	4.60	2.00	2.30	4.60	2.19	2.10	4.60	2.42	1.90	4.55	2.68	1.70	4.50	3.00	1.50
-7	5.15	1.80	2.86	5.15	1.94	2.65	5.08	2.14	2.37	5.00	2.38	2.10	4.90	2.47	1.98	4.80	2.67	1.80
2	6.70	1.83	3.66	6.55	1.98	3.31	6.58	2.29	2.87	6.60	2.64	2.50	6.30	2.90	2.17	6.00	3.16	1.90
7	7.00	1.43	4.90	7.00	1.59	4.40	7.00	1.77	3.95	7.00	2.12	3.30	6.90	2.30	3.00	6.80	2.72	2.50
25	7.00	0.79	8.86	7.00	0.93	7.53	6.40	1.03	6.21	6.10	1.17	5.21	5.90	1.33	4.44	5.70	1.49	3.83

WH-SDF09C3E5 / WH-SDC09C3E5

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	6.00	2.55	2.35	5.90	2.68	2.20	5.50	2.82	1.95	5.40	3.00	1.80	5.20	3.14	1.66	5.00	3.33	1.50
-7	6.10	2.16	2.82	5.90	2.36	2.50	5.85	2.63	2.22	5.80	2.90	2.00	5.80	3.06	1.90	5.80	3.22	1.80
2	6.80	1.87	3.64	6.70	2.16	3.10	6.70	2.38	2.82	6.60	2.64	2.50	6.30	2.90	2.17	6.00	3.16	1.90
7	9.00	1.93	4.66	9.00	2.20	4.09	9.00	2.45	3.67	9.00	2.81	3.20	8.95	3.23	2.77	8.90	3.87	2.30
25	9.00	1.07	8.41	9.00	1.27	7.09	8.40	1.40	6.00	8.00	1.59	5.03	7.80	1.81	4.31	7.50	2.03	3.69

WH-SDF12C6E5 / WH-SDC12C6E5

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	9.30	3.50	2.66	8.90	3.66	2.43	8.50	3.83	2.22	8.10	3.99	2.03	7.50	4.09	1.83	7.00	4.20	1.67
-7	10.40	3.41	3.05	10.00	3.70	2.70	9.60	3.99	2.41	9.20	4.28	2.15	8.70	4.30	2.02	8.20	4.31	1.90
2	11.80	3.14	3.76	11.40	3.35	3.40	11.00	3.57	3.08	10.60	3.78	2.80	9.80	3.98	2.46	9.10	4.18	2.18
7	12.00	2.14	5.61	12.00	2.57	4.67	12.00	3.00	4.00	12.00	3.43	3.50	12.00	3.82	3.14	12.00	4.20	2.86
25	12.00	1.42	8.45	12.00	1.70	7.06	11.80	1.98	5.96	11.70	2.27	5.15	11.50	2.53	4.55	11.40	2.78	4.10

WH-SDF14C6E5 / WH-SDC14C6E5

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	9.90	3.91	2.53	9.50	4.05	2.35	9.00	4.19	2.15	8.60	4.33	1.99	7.90	4.45	1.78	7.30	4.56	1.60
-7	11.10	3.73	2.98	10.70	4.08	2.62	10.20	4.43	2.30	9.80	4.78	2.05	9.10	4.76	1.91	8.50	4.74	1.79
2	12.90	3.51	3.68	12.40	3.73	3.32	11.90	3.95	3.01	11.40	4.17	2.73	10.40	4.29	2.42	9.50	4.40	2.16
7	14.00	2.60	5.38	14.00	3.11	4.50	14.00	3.63	3.86	14.00	4.14	3.38	13.60	4.61	2.95	13.30	5.08	2.62
25	14.00	1.75	8.00	14.00	2.10	6.67	14.00	2.45	5.71	14.00	2.80	5.00	14.00	3.05	4.59	14.00	3.44	4.07

WH-SDF16C6E5 / WH-SDC16C6E5

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	10.60	4.13	2.57	10.30	4.42	2.33	10.00	4.71	2.12	9.70	5.00	1.94	8.80	4.98	1.77	7.90	4.95	1.60
-7	11.90	4.07	2.92	11.40	4.47	2.55	10.80	4.87	2.22	10.30	5.26	1.96	9.60	5.13	1.87	9.00	4.99	1.80
2	13.50	3.78	3.57	13.00	4.00	3.25	12.40	4.22	2.94	11.90	4.44	2.68	10.80	4.50	2.40	9.80	4.55	2.15
7	16.00	3.25	4.92	16.00	3.78	4.23	16.00	4.31	3.71	16.00	4.84	3.31	15.20	5.15	2.95	14.50	5.45	2.66
25	16.00	2.35	6.81	16.00	2.73	5.86	16.00	3.11	5.14	16.00	3.49	4.58	16.00	3.71	4.31	15.90	3.93	4.05

WH-SDF09C3E8 / WH-SDC09C3E8

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	8.65	3.10	2.79	8.30	3.25	2.55	7.95	3.45	2.30	7.60	3.65	2.08	7.15	3.75	1.91	6.70	3.85	1.74
-7	9.35	2.95	3.17	9.00	3.20	2.81	8.85	3.58	2.47	8.70	3.96	2.20	8.30	3.93	2.11	7.90	3.90	2.03
2	9.31	2.39	3.90	9.00	2.55	3.53	9.00	2.82	3.19	9.00	3.09	2.91	8.90	3.53	2.52	8.80	3.98	2.21
7	9.00	1.58	5.70	9.00	1.90	4.74	9.00	2.20	4.09	9.00	2.50	3.60	9.00	2.80	3.21	9.00	3.10	2.90
25	9.00	1.09	8.26	9.00	1.28	7.03	8.73	1.48	5.90	8.46	1.68	5.04	8.28	1.86	4.45	8.10	2.04	3.97

WH-SDF12C9E8 / WH-SDC12C9E8

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	9.30	3.50	2.66	8.90	3.66	2.43	8.50	3.83	2.22	8.10	3.99	2.03	7.50	4.09	1.83	7.00	4.20	1.67
-7	10.40	3.41	3.05	10.00	3.70	2.70	9.60	3.99	2.41	9.20	4.28	2.15	8.70	4.30	2.02	8.20	4.31	1.90
2	11.80	3.14	3.76	11.40	3.35	3.40	11.00	3.57	3.08	10.60	3.78	2.80	9.80	3.98	2.46	9.10	4.18	2.18
7	12.00	2.14	5.61	12.00	2.57	4.67	12.00	3.00	4.00	12.00	3.43	3.50	12.00	3.82	3.14	12.00	4.20	2.86
25	12.00	1.42	8.45	12.00	1.70	7.06	11.80	1.98	5.96	11.70	2.27	5.15	11.50	2.53	4.55	11.40	2.78	4.10

WH-SDF14C9E8 / WH-SDC14C9E8

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	9.90	3.91	2.53	9.50	4.05	2.35	9.00	4.19	2.15	8.60	4.33	1.99	7.90	4.45	1.78	7.30	4.56	1.60
-7	11.10	3.73	2.98	10.70	4.08	2.62	10.20	4.43	2.30	9.80	4.78	2.05	9.10	4.76	1.91	8.50	4.74	1.79
2	12.90	3.51	3.68	12.40	3.73	3.32	11.90	3.95	3.01	11.40	4.17	2.73	10.40	4.29	2.42	9.50	4.40	2.16
7	14.00	2.60	5.38	14.00	3.11	4.50	14.00	3.63	3.86	14.00	4.14	3.38	13.60	4.61	2.95	13.30	5.08	2.62
25	14.00	1.75	8.00	14.00	2.10	6.67	14.00	2.45	5.71	14.00	2.80	5.00	14.00	3.05	4.59	14.00	3.44	4.07

WH-SDF16C9E8 / WH-SDC16C9E8

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	10.60	4.13	2.57	10.30	4.42	2.33	10.00	4.71	2.12	9.70	5.00	1.94	8.80	4.98	1.77	7.90	4.95	1.60
-7	11.90	4.07	2.92	11.40	4.47	2.55	10.80	4.87	2.22	10.30	5.26	1.96	9.60	5.13	1.87	9.00	4.99	1.80
2	13.50	3.78	3.57	13.00	4.00	3.25	12.40	4.22	2.94	11.90	4.44	2.68	10.80	4.50	2.40	9.80	4.55	2.15
7	16.00	3.25	4.92	16.00	3.78	4.23												

Heating Capacity table based on outlet temperature and outside temperature

Heating Capacity Curve

Aqueara. High Performance. Mono-Bloc Single Phase / Three Phase. Heating. MDF / MDC

WH-MDF12C6E5 / WH-MDC12C6E5																			
Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55	
-15	9.30	3.50	2.66	8.90	3.66	2.43	8.50	3.83	2.22	8.10	3.99	2.03	7.50	4.09	1.83	7.00	4.20	1.67	
-7	10.40	3.41	3.05	10.00	3.70	2.70	9.60	3.90	2.46	9.20	4.10	2.24	8.70	4.20	2.07	8.20	4.31	1.90	
2	11.80	3.14	3.76	11.40	3.34	3.41	11.00	3.57	3.08	10.60	3.78	2.80	9.80	3.98	2.46	9.10	4.18	2.18	
7	12.00	2.14	5.61	12.00	2.57	4.67	12.00	3.00	4.00	12.00	3.43	3.50	12.00	3.82	3.14	12.00	4.20	2.86	
25	12.00	1.42	8.45	12.00	1.70	7.06	11.80	1.98	5.96	11.70	2.27	5.15	11.50	2.53	4.55	11.40	2.78	4.10	

WH-MDF14C6E5 / WH-MDC14C6E5																			
Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55	
-15	9.90	3.91	2.53	9.50	4.05	2.35	9.00	4.19	2.15	8.60	4.33	1.99	7.90	4.45	1.78	7.30	4.56	1.60	
-7	11.10	3.73	2.98	10.70	4.00	2.68	10.20	4.20	2.43	9.80	4.40	2.23	9.10	4.57	1.99	8.50	4.74	1.79	
2	12.90	3.51	3.68	12.40	3.73	3.32	11.90	3.95	3.01	11.40	4.17	2.73	10.40	4.29	2.42	9.50	4.40	2.16	
7	14.00	2.60	5.38	14.00	3.11	4.50	14.00	3.63	3.86	14.00	4.14	3.38	13.60	4.61	2.95	13.30	5.08	2.62	
25	14.00	1.75	8.00	14.00	2.10	6.67	14.00	2.45	5.71	14.00	2.80	5.00	14.00	3.05	4.59	14.00	3.44	4.07	

WH-MDF16C6E5 / WH-MDC16C6E5																			
Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55	
-15	10.60	4.13	2.57	10.30	4.42	2.33	10.00	4.71	2.12	9.70	5.00	1.94	8.80	4.98	1.77	7.90	4.95	1.60	
-7	11.90	4.07	2.92	11.40	4.30	2.65	10.80	4.50	2.40	10.30	4.70	2.19	9.60	4.85	1.98	9.00	4.99	1.80	
2	13.50	3.78	3.57	13.00	4.00	3.25	12.40	4.22	2.94	11.90	4.44	2.68	10.80	4.50	2.40	9.80	4.55	2.15	
7	16.00	3.25	4.92	16.00	3.78	4.23	16.00	4.31	3.71	16.00	4.84	3.31	15.20	5.15	2.95	14.50	5.45	2.66	
25	16.00	2.35	6.81	16.00	2.73	5.86	16.00	3.11	5.14	16.00	3.49	4.58	16.00	3.71	4.31	15.90	3.93	4.05	

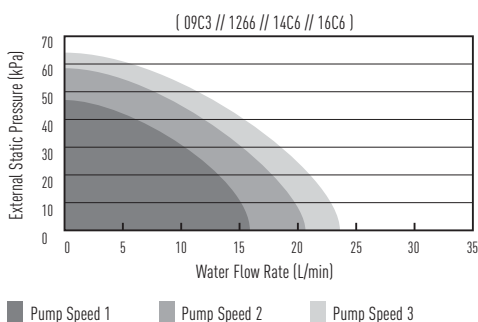
Cooling Capacity Curve

Aqueara. High Performance. Bi-Bloc Single Phase / Three Phase. Heating and Cooling - SDC

Models	WH-SDC09			WH-SDC12			WH-SDC14			WH-SDC16		
	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
16	5.90	1.01	5.84	7.65	1.30	5.88	8.85	1.50	5.90	9.62	1.63	5.90
25	7.45	1.59	4.69	9.20	2.30	4.00	10.00	2.68	3.73	10.51	2.85	3.69
35	7.00	2.25	3.11	10.00	3.55	2.82	11.50	4.40	2.61	12.20	4.80	2.54
43	5.80	2.59	2.24	7.60	3.95	1.92	9.05	5.01	1.81	10.08	5.47	1.84

Tamb: Ambient Temperature (°C). LWC: Leaving Water Condenser Temperature (°C). HC: Heating Capacity (kW). IP: Power Input (kW)
 This data is measured by Panasonic in accordance with EN14511-2 standard. This data is for reference purpose only, and does not guarantee the performance.

Hydraulic Pump Performance



Heating Capacity Curve

Aquarea. High Performance. Mono-Bloc Single Phase / Three Phase. Heating. MDF / MDC (Cont.)

WH-MDF09C3E8 / WH-MDC09C3E8

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	8.65	3.10	2.79	8.30	3.25	2.55	7.95	3.45	2.30	7.95	3.45	2.30	7.15	3.75	1.91	7.15	3.75	1.91
-7	9.35	2.95	3.17	9.00	3.20	2.81	8.85	3.50	2.53	8.85	3.50	2.53	8.30	3.85	2.16	8.30	3.85	2.16
2	9.31	2.39	3.90	9.00	2.55	3.53	9.00	2.82	3.19	9.00	2.82	3.19	8.90	3.53	2.52	8.90	3.53	2.52
7	9.00	1.58	5.70	9.00	1.90	4.74	9.00	2.20	4.09	9.00	2.20	4.09	9.00	2.80	3.21	9.00	2.80	3.21
25	9.00	1.09	8.26	9.00	1.28	7.03	8.73	1.48	5.90	8.73	1.48	5.90	8.28	1.86	4.45	8.28	1.86	4.45

WH-MDF12C9E8 / WH-MDC12C9E8

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	9.30	3.50	2.66	8.90	3.66	2.43	8.50	3.83	2.22	8.10	3.99	2.03	7.50	4.09	1.83	7.00	4.20	1.67
-7	10.40	3.41	3.05	10.00	3.70	2.70	9.60	3.90	2.46	9.20	4.10	2.24	8.70	4.20	2.07	8.20	4.31	1.90
2	11.80	3.14	3.76	11.40	3.34	3.41	11.00	3.57	3.08	10.60	3.78	2.80	9.80	3.98	2.46	9.10	4.18	2.18
7	12.00	2.14	5.61	12.00	2.57	4.67	12.00	3.00	4.00	12.00	3.43	3.50	12.00	3.82	3.14	12.00	4.20	2.86
25	12.00	1.42	8.45	12.00	1.70	7.06	11.80	1.98	5.96	11.70	2.27	5.15	11.50	2.53	4.55	11.40	2.78	4.10

WH-MDF14C9E8 / WH-MDC14C9E8

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	9.90	3.91	2.53	9.50	4.05	2.35	9.00	4.19	2.15	8.60	4.33	1.99	7.90	4.45	1.78	7.30	4.56	1.60
-7	11.10	3.73	2.98	10.70	4.00	2.68	10.20	4.20	2.43	9.80	4.40	2.23	9.10	4.57	1.99	8.50	4.74	1.79
2	12.90	3.51	3.68	12.40	3.73	3.32	11.90	3.95	3.01	11.40	4.17	2.73	10.40	4.29	2.42	9.50	4.40	2.16
7	14.00	2.60	5.38	14.00	3.11	4.50	14.00	3.63	3.86	14.00	4.14	3.38	13.60	4.61	2.95	13.30	5.08	2.62
25	14.00	1.75	8.00	14.00	2.10	6.67	14.00	2.45	5.71	14.00	2.80	5.00	14.00	3.05	4.59	14.00	3.44	4.07

WH-MDF16C9E8 / WH-MDC16C9E8

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	10.60	4.13	2.57	10.30	4.42	2.33	10.00	4.71	2.12	9.70	5.00	1.94	8.80	4.98	1.77	7.90	4.95	1.60
-7	11.90	4.07	2.92	11.40	4.30	2.65	10.80	4.50	2.40	10.30	4.70	2.19	9.60	4.85	1.98	9.00	4.99	1.80
2	13.50	3.78	3.57	13.00	4.00	3.25	12.40	4.22	2.94	11.90	4.44	2.68	10.80	4.50	2.40	9.80	4.55	2.15
7	16.00	3.25	4.92	16.00	3.78	4.23	16.00	4.31	3.71	16.00	4.84	3.31	15.20	5.15	2.95	14.50	5.45	2.66
25	16.00	2.35	6.81	16.00	2.73	5.86	16.00	3.11	5.14	16.00	3.49	4.58	16.00	3.71	4.31	15.90	3.93	4.05

Cooling Capacity Curve

Aquarea. High Performance. Mono-Bloc Single Phase / Three Phase. Cooling. MDC

Models	WH-MDC09			WH-MDC12			WH-MDC14			WH-MDC16		
	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
16	5.90	1.01	5.84	7.65	1.30	5.88	8.85	1.50	5.90	9.62	1.63	5.90
25	7.45	1.59	4.69	9.20	2.30	4.00	10.00	2.68	3.73	10.51	2.85	3.69
35	7.00	2.25	3.11	10.00	3.60	2.78	11.50	4.40	2.61	12.20	4.80	2.54
43	5.80	2.59	2.24	7.60	3.95	1.92	9.05	5.01	1.81	10.08	5.47	1.84

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

This data is measured by Panasonic in accordance with EN14511-2 standard. This data is for reference purpose only, and does not guarantee the performance.

Heating Capacity table based on outlet temperature and outside temperature

Heating Capacity Curve

Aquarea T-CAP. Mono-Bloc Single Phase / Three Phase. Heating. MXF / MXC

WH-MXF09D3E5 / WH-MXC09D3E5																			
Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55	
-15	9.00	3.28	2.74	9.00	3.55	2.54	9.00	3.95	2.28	9.00	4.34	2.07	9.00	4.77	1.89	9.00	5.20	1.73	
-7	9.00	2.75	3.27	9.00	3.20	2.81	9.00	3.66	2.46	9.00	4.11	2.19	9.00	4.31	2.09	9.00	4.50	2.00	
2	9.00	2.40	3.75	9.00	2.55	3.53	9.00	2.82	3.19	9.00	3.09	2.91	9.00	3.60	2.50	9.00	4.11	2.19	
7	9.00	1.68	5.36	9.00	1.90	4.74	9.00	2.20	4.09	9.00	2.50	3.60	9.00	2.88	3.13	9.00	3.10	2.90	
25	13.60	1.54	8.83	13.60	1.75	7.77	13.20	1.97	6.70	12.80	2.18	5.87	12.00	2.45	4.90	11.20	2.71	4.13	

WH-MXF12D6E5 / WH-MXC12D6E5																			
Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55	
-15	12.00	4.79	2.51	12.00	5.00	2.40	11.50	5.21	2.21	11.00	5.42	2.03	10.70	5.86	1.83	10.50	6.30	1.67	
-7	12.00	3.89	3.08	12.00	4.45	2.70	12.00	5.02	2.39	12.00	5.58	2.15	12.00	5.94	2.02	12.00	6.30	1.90	
2	12.00	3.23	3.72	12.00	3.53	3.40	12.00	3.91	3.07	12.00	4.29	2.80	12.00	4.90	2.45	12.00	5.51	2.18	
7	12.00	2.22	5.41	12.00	2.57	4.67	12.00	3.00	4.00	12.00	3.43	3.50	12.00	3.82	3.14	12.00	4.20	2.86	
25	13.60	1.59	8.55	13.60	1.80	7.56	13.40	2.14	6.26	13.20	2.47	5.34	12.60	2.70	4.67	12.00	2.93	4.10	

WH-MXF09D3E8 / WH-MXC09D3E8																			
Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55	
-15	9.00	3.28	2.74	9.00	3.55	2.54	9.00	3.95	2.28	9.00	4.34	2.07	9.00	4.77	1.89	9.00	5.20	1.73	
-7	9.00	2.75	3.27	9.00	3.20	2.81	9.00	3.66	2.46	9.00	4.11	2.19	9.00	4.31	2.09	9.00	4.50	2.00	
2	9.00	2.40	3.75	9.00	2.55	3.53	9.00	2.82	3.19	9.00	3.09	2.91	9.00	3.60	2.50	9.00	4.11	2.19	
7	9.00	1.68	5.36	9.00	1.90	4.74	9.00	2.20	4.09	9.00	2.50	3.60	9.00	2.88	3.13	9.00	3.10	2.90	
25	13.60	1.54	8.83	13.60	1.75	7.77	13.20	1.97	6.70	12.80	2.18	5.87	12.00	2.45	4.90	11.20	2.71	4.13	

WH-MXF12D9E8 / WH-MXC12D9E8																			
Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55	
-15	12.00	4.79	2.51	12.00	5.00	2.40	12.00	5.45	2.20	12.00	5.90	2.03	11.50	6.28	1.83	11.10	6.66	1.67	
-7	12.00	3.89	3.08	12.00	4.45	2.70	12.00	5.02	2.39	12.00	5.58	2.15	12.00	5.94	2.02	12.00	6.30	1.90	
2	12.00	3.23	3.72	12.00	3.53	3.40	12.00	3.91	3.07	12.00	4.29	2.80	12.00	4.90	2.45	12.00	5.51	2.18	
7	12.00	2.22	5.41	12.00	2.57	4.67	12.00	3.00	4.00	12.00	3.43	3.50	12.00	3.82	3.14	12.00	4.20	2.86	
25	13.60	1.59	8.55	13.60	1.80	7.56	13.40	2.14	6.26	13.20	2.47	5.34	12.60	2.70	4.67	12.00	2.93	4.10	

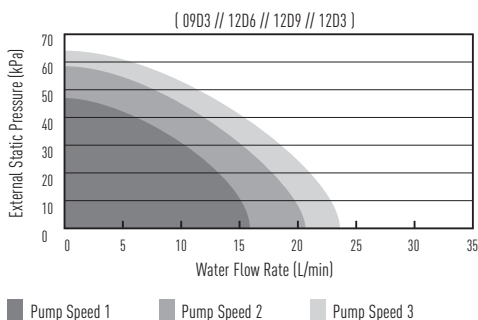
Cooling Capacity Curve

Aquarea T-CAP. Mono-Bloc Single Phase / Three Phase. Cooling. MXC

MODELS	WH-MXC09			WH-MXC12		
	HC	IP	COP	HC	IP	COP
16	7.00	1.40	5.00	7.50	1.45	5.17
25	7.65	1.95	3.92	8.90	2.20	4.05
35	7.00	2.25	3.11	10.00	3.60	2.78
43	6.25	2.70	2.31	8.00	3.05	2.62

Tamb: Ambient Temperature (°C). LWC: Leaving Water Condenser Temperature (°C). HC: Heating Capacity (kW). IP: Power Input (kW)
 This data is measured by Panasonic in accordance with EN14511-2 standard. This data is for reference purpose only, and does not guarantee the performance.

Hydraulic Pump Performance



Heating Capacity Curve

Aquarea T-CAP. Bi-Bloc Single Phase / Three Phase. Heating. SXF / SXC

WH-SXF09D3E5 / WH-SXC09D3E5

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	9.00	3.28	2.74	9.00	3.55	2.54	9.00	3.95	2.28	9.00	4.34	2.07	9.00	4.77	1.89	9.00	5.20	1.73
-7	9.00	2.75	3.27	9.00	3.20	2.81	9.00	3.66	2.46	9.00	4.11	2.19	9.00	4.31	2.09	9.00	4.50	2.00
2	9.00	2.40	3.75	9.00	2.55	3.53	9.00	2.82	3.19	9.00	3.09	2.91	9.00	3.60	2.50	9.00	4.11	2.19
7	9.00	1.68	5.36	9.00	1.90	4.74	9.00	2.20	4.09	9.00	2.50	3.60	9.00	2.80	3.21	9.00	3.10	2.90
25	13.60	1.54	8.83	13.60	1.75	7.77	13.20	1.97	6.70	12.80	2.18	5.87	12.00	2.45	4.90	11.20	2.71	4.13

WH-SXF12D6E5 / WH-SXC12D6E5

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	12.00	4.79	2.51	12.00	5.00	2.40	11.50	5.21	2.21	11.00	5.42	2.03	10.70	5.86	1.83	10.50	6.30	1.67
-7	12.00	3.89	3.08	12.00	4.45	2.70	12.00	5.02	2.39	12.00	5.58	2.15	12.00	5.94	2.02	12.00	6.30	1.90
2	12.00	3.23	3.72	12.00	3.53	3.40	12.00	3.91	3.07	12.00	4.29	2.80	12.00	4.90	2.45	12.00	5.51	2.18
7	12.00	2.22	5.41	12.00	2.57	4.67	12.00	3.00	4.00	12.00	3.43	3.50	12.00	3.82	3.14	12.00	4.20	2.86
25	13.60	1.59	8.55	13.60	1.80	7.56	13.40	2.14	6.26	13.20	2.47	5.34	12.60	2.70	4.67	12.00	2.93	4.10

WH-SXF09D3E8 / WH-SXC09D3E8

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	9.00	3.28	2.74	9.00	3.55	2.54	9.00	3.95	2.28	9.00	4.34	2.07	9.00	4.77	1.89	9.00	5.20	1.73
-7	9.00	2.75	3.27	9.00	3.20	2.81	9.00	3.66	2.46	9.00	4.11	2.19	9.00	4.31	2.09	9.00	4.50	2.00
2	9.00	2.40	3.75	9.00	2.55	3.53	9.00	2.82	3.19	9.00	3.09	2.91	9.00	3.60	2.50	9.00	4.11	2.19
7	9.00	1.68	5.36	9.00	1.90	4.74	9.00	2.20	4.09	9.00	2.50	3.60	9.00	2.80	3.21	9.00	3.10	2.90
25	13.60	1.54	8.83	13.60	1.75	7.77	13.20	1.97	6.70	12.80	2.18	5.87	12.00	2.45	4.90	11.20	2.71	4.13

WH-SXF12D9E8 / WH-SXC12D9E8

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	12.00	4.79	2.51	12.00	5.00	2.40	12.00	5.45	2.20	12.00	5.90	2.03	11.80	6.28	1.88	11.60	6.66	1.74
-7	12.00	3.89	3.08	12.00	4.45	2.70	12.00	5.02	2.39	12.00	5.58	2.15	12.00	5.94	2.02	12.00	6.30	1.90
2	12.00	3.23	3.72	12.00	3.53	3.40	12.00	3.91	3.07	12.00	4.29	2.80	12.00	4.90	2.45	12.00	5.51	2.18
7	12.00	2.22	5.41	12.00	2.57	4.67	12.00	3.00	4.00	12.00	3.43	3.50	12.00	3.82	3.14	12.00	4.20	2.86
25	13.60	1.59	8.55	13.60	1.80	7.56	13.40	2.14	6.26	13.20	2.47	5.34	12.60	2.70	4.67	12.00	2.93	4.10

Cooling Capacity Curve

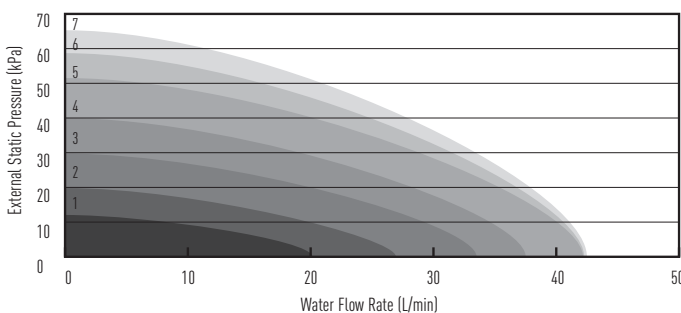
Aquarea T-CAP. Bi-Bloc Single Phase / Three Phase. Cooling. SXC

Models	WH-SXC09			WH-SXC12		
	HC	IP	COP	HC	IP	COP
16	7.00	1.40	5.00	7.50	1.45	5.17
25	7.65	1.95	3.92	8.90	2.20	4.05
35	7.00	2.25	3.11	10.00	3.60	2.78
43	6.25	2.70	2.31	8.00	3.05	2.62

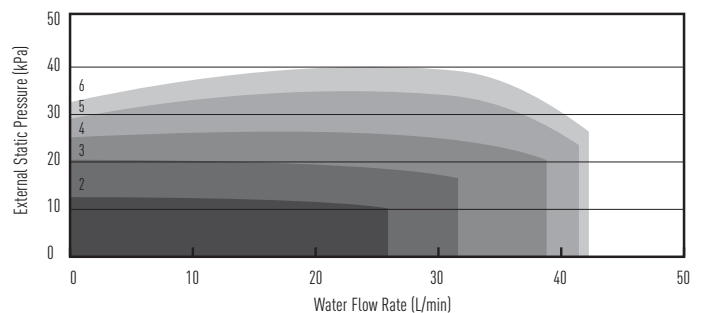
Tamb: Ambient Temperature (°C). LWC: Leaving Water Condenser Temperature (°C). HC: Heating Capacity (kW). IP: Power Input (kW)

This data is measured by Panasonic in accordance with EN14511-2 standard. This data is for reference purpose only, and does not guarantee the performance.

Constant Pressure Head Difference (Δp -c)



Variable Pressure Head Difference (Δp -v)



Heating Capacity table based on outlet temperature and outside temperature

Heating Capacity Curve

Aquarea HT. Bi-Bloc Single Phase / Three Phase. Heating Only - SHF

WH-SHF09D3E5												
Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	35	35	35	45	45	45	55	55	55	65	65	65
-15	9	3.75	2.40	8.80	4.30	2.05	8.50	4.95	1.72	7.80	5.90	1.32
-7	9	3.33	2.70	8.90	3.87	2.30	8.90	4.50	1.98	8.90	5.50	1.62
2	9	2.65	3.40	9.00	3.25	2.77	9.00	3.92	2.30	9.00	4.80	1.88
7	9	1.98	4.55	9.00	2.50	3.60	9.00	3.16	2.85	9.00	4.00	2.25

WH-SHF12D6E5												
Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	35	35	35	45	45	45	55	55	55	65	65	65
-15	12	5.57	2.15	10.80	5.53	1.95	9.70	5.80	1.67	8.00	6.15	1.30
-7	12	4.80	2.50	11.20	5.10	2.20	10.10	5.32	1.90	9.60	5.95	1.61
2	12	3.72	3.23	11.30	4.18	2.70	10.80	4.90	2.20	10.30	5.63	1.83
7	12	2.73	4.40	12.00	3.48	3.45	12.00	4.32	2.78	12.00	5.45	2.20

WH-SHF09D3E8												
Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	35	35	35	45	45	45	55	55	55	65	65	65
-15	9	3.75	2.40	8.80	4.30	2.05	8.50	4.95	1.72	7.80	5.90	1.32
-7	9	3.33	2.70	8.90	3.87	2.30	8.90	4.50	1.98	8.90	5.50	1.62
2	9	2.65	3.40	9.00	3.25	2.77	9.00	3.92	2.30	9.00	4.80	1.88
7	9	1.98	4.55	9.00	2.50	3.60	9.00	3.16	2.85	9.00	4.00	2.25

WH-SHF12D9E8												
Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	35	35	35	45	45	45	55	55	55	65	65	65
-15	12	5.57	2.15	10.80	5.53	1.95	9.70	5.80	1.67	8.00	6.15	1.30
-7	12	4.80	2.50	11.20	5.10	2.20	10.10	5.32	1.90	9.60	5.95	1.61
2	12	3.72	3.23	11.30	4.18	2.70	10.80	4.90	2.20	10.30	5.63	1.83
7	12	2.73	4.40	12.00	3.48	3.45	12.00	4.32	2.78	12.00	5.45	2.20

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

This data is measured by Panasonic in accordance with EN14511-2 standard. This data is for reference purpose only, and does not guarantee the performance.

Heating Capacity Curve

Aquarea Ht. Mono-Bloc Single Phase / Three Phase. Heating Only - MHF

WH-MHF09D3E5												
Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	35	35	35	45	45	45	55	55	55	65	65	65
-15	9	3.75	2.40	8.80	4.30	2.05	8.50	4.95	1.72	7.80	5.90	1.32
-7	9	3.33	2.70	8.90	3.87	2.30	8.90	4.50	1.98	8.90	5.50	1.62
2	9	2.65	3.40	9.00	3.25	2.77	9.00	3.92	2.30	9.00	4.80	1.88
7	9	1.98	4.55	9.00	2.50	3.60	9.00	3.16	2.85	9.00	4.00	2.25

WH-MHF12D6E5												
Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	35	35	35	45	45	45	55	55	55	65	65	65
-15	12	5.57	2.15	10.80	5.53	1.95	9.70	5.80	1.67	8.00	6.15	1.30
-7	12	4.80	2.50	11.20	5.10	2.20	10.10	5.32	1.90	9.60	5.95	1.61
2	12	3.72	3.23	11.30	4.18	2.70	10.80	4.90	2.20	10.30	5.63	1.83
7	12	2.73	4.40	12.00	3.48	3.45	12.00	4.32	2.78	12.00	5.45	2.20

WH-MHF09D3E8												
Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	35	35	35	45	45	45	55	55	55	65	65	65
-15	9	3.75	2.40	8.80	4.30	2.05	8.50	4.95	1.72	7.80	5.90	1.32
-7	9	3.33	2.70	8.90	3.87	2.30	8.90	4.50	1.98	8.90	5.50	1.62
2	9	2.65	3.40	9.00	3.25	2.77	9.00	3.92	2.30	9.00	4.80	1.88
7	9	1.98	4.55	9.00	2.50	3.60	9.00	3.16	2.85	9.00	4.00	2.25

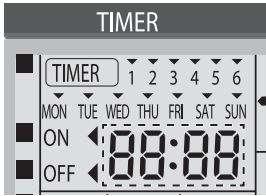
WH-MHF12D9E8												
Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	35	35	35	45	45	45	55	55	55	65	65	65
-15	12	5.57	2.15	10.80	5.53	1.95	9.70	5.80	1.67	8.00	6.15	1.30
-7	12	4.80	2.50	11.20	5.10	2.20	10.10	5.32	1.90	9.60	5.95	1.61
2	12	3.72	3.23	11.30	4.18	2.70	10.80	4.90	2.20	10.30	5.63	1.83
7	12	2.73	4.40	12.00	3.48	3.45	12.00	4.32	2.78	12.00	5.45	2.20

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

This data is measured by Panasonic in accordance with EN14511-2 standard. This data is for reference purpose only, and does not guarantee the performance.


Error Codes

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.

Force Heater mode button

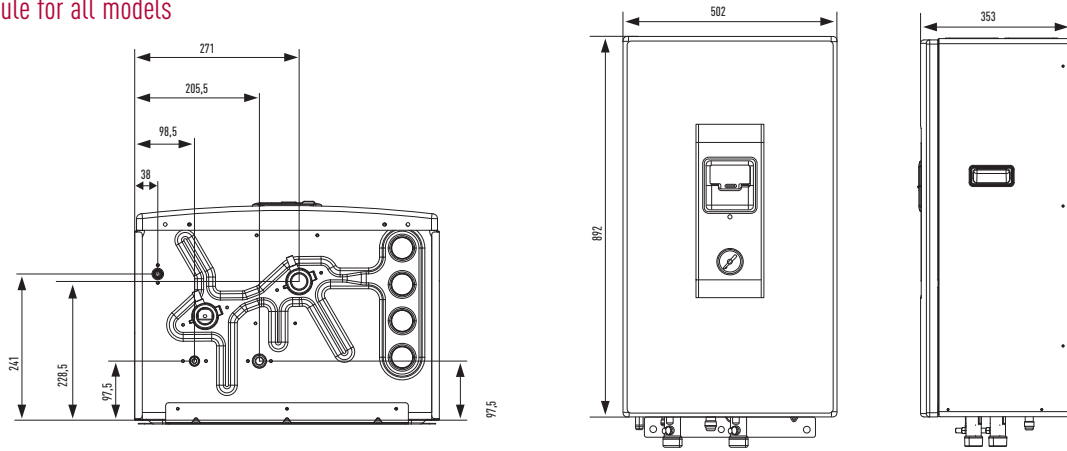
- The backup heater also serves as backup in case of malfunctioning of the outdoor unit.
- Press  to stop the force heater operation.
- During Force Heater mode, all other operations are not allowed.

Error Code List

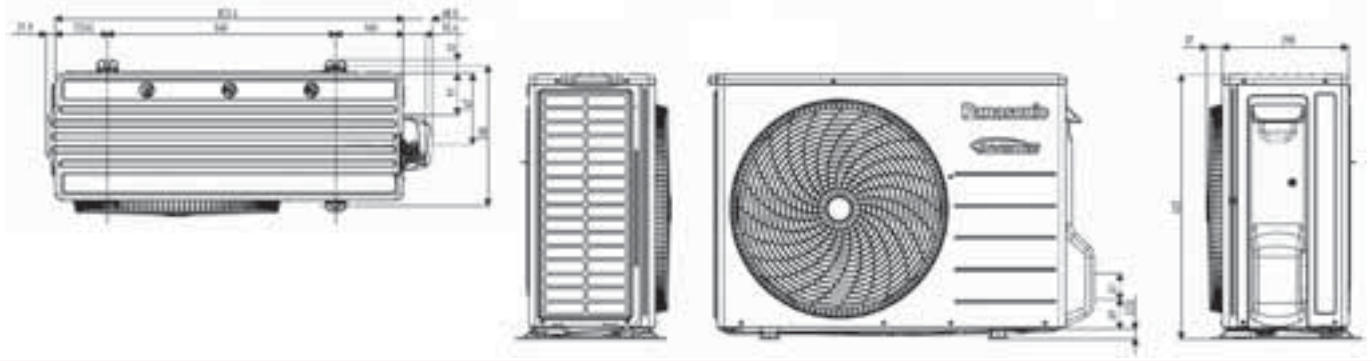
Diagnosis display	Abnormality / Protection control	Abnormality Judgement	Primary location to verify
H00	No abnormality detected	—	—
H12	Indoor/Outdoor capacity unmatched	90s after power supply	<ul style="list-style-type: none"> • Indoor/outdoor connection wire • Indoor/outdoor PCB • Specification and 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
F48	Outdoor EVA outlet temperature sensor abnormality	Continue for 5 sec.	• Outdoor EVA outlet temperature sensor (defective or disconnected)
F49	Out bypass outlet temperature sensor abnormality	Continue for 5 sec.	• Outdoor bypass outlet temperature sensor (defective or disconnected)

Dimensions

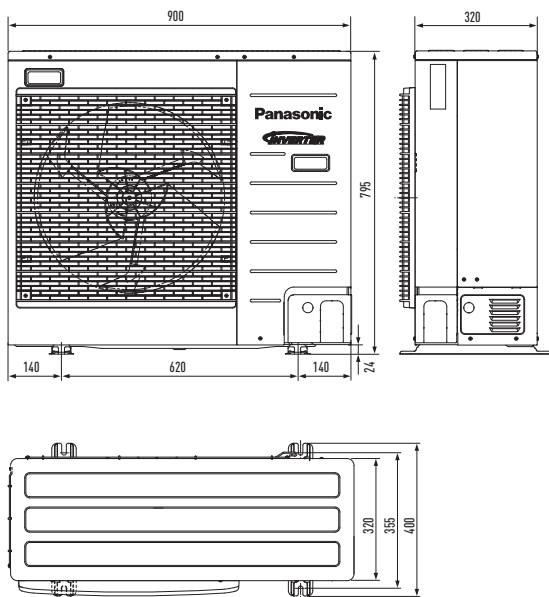
Hydraulic Module for all models



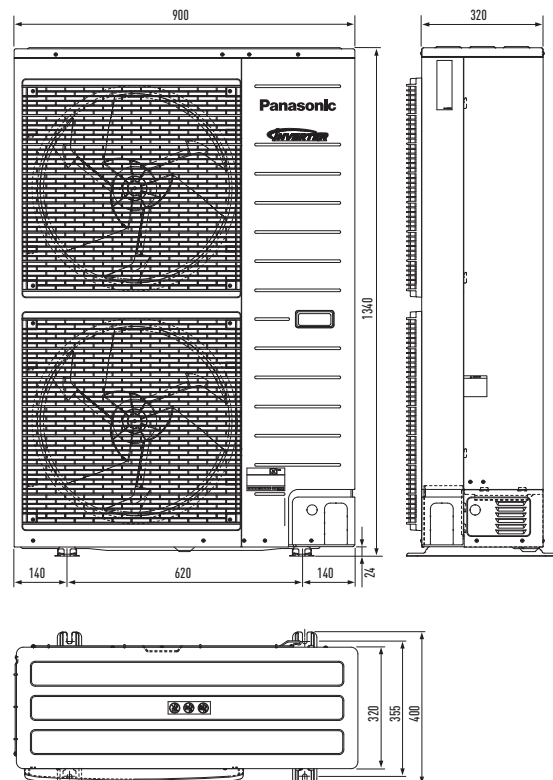
Bi-Bloc 3 and 5 kW



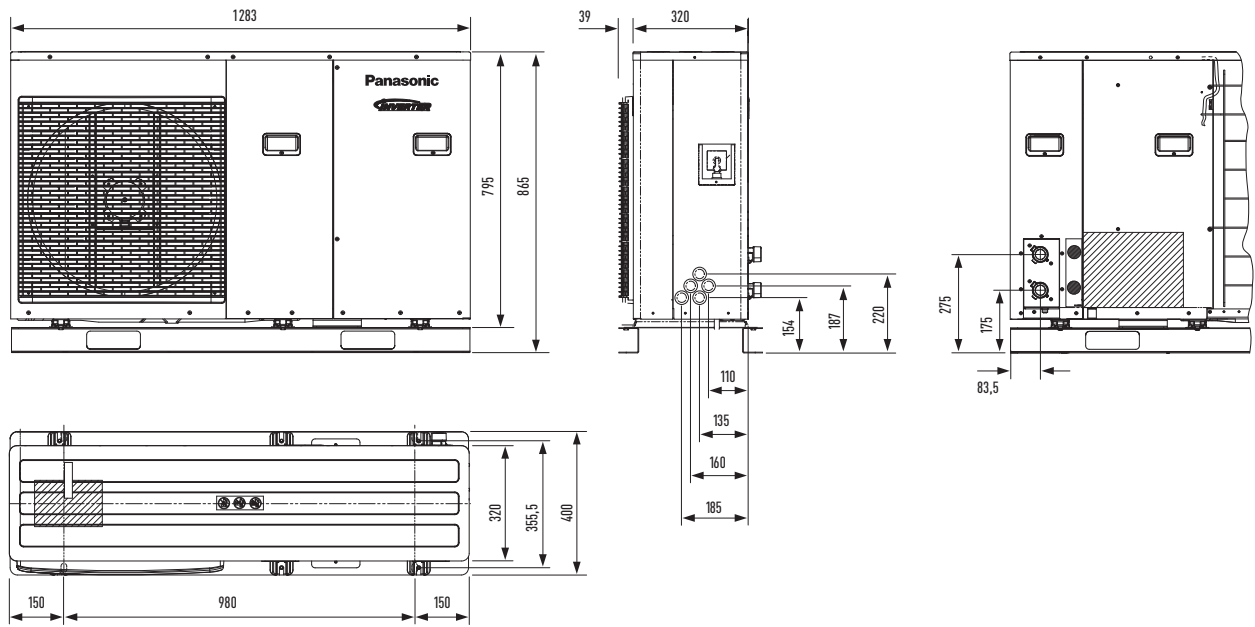
One Fan Outdoor Unit



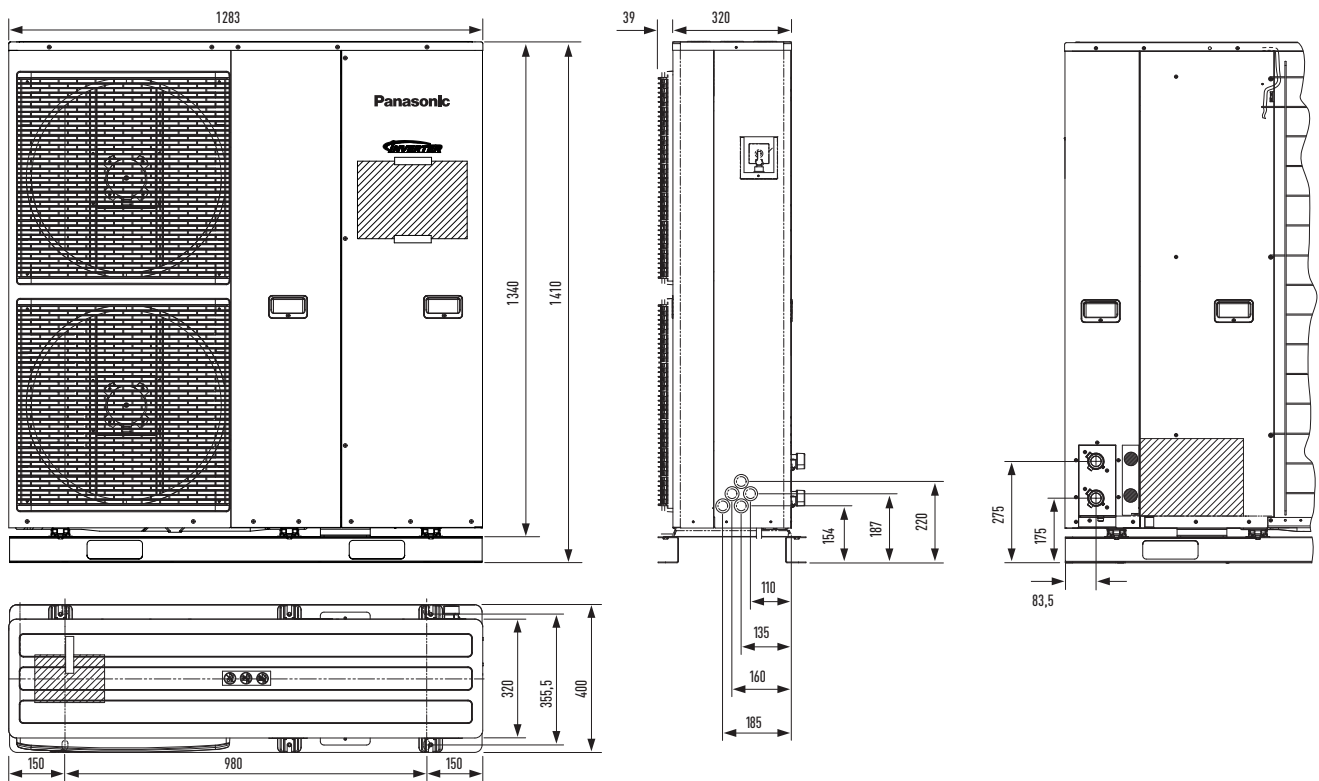
One Fan Outdoor Unit

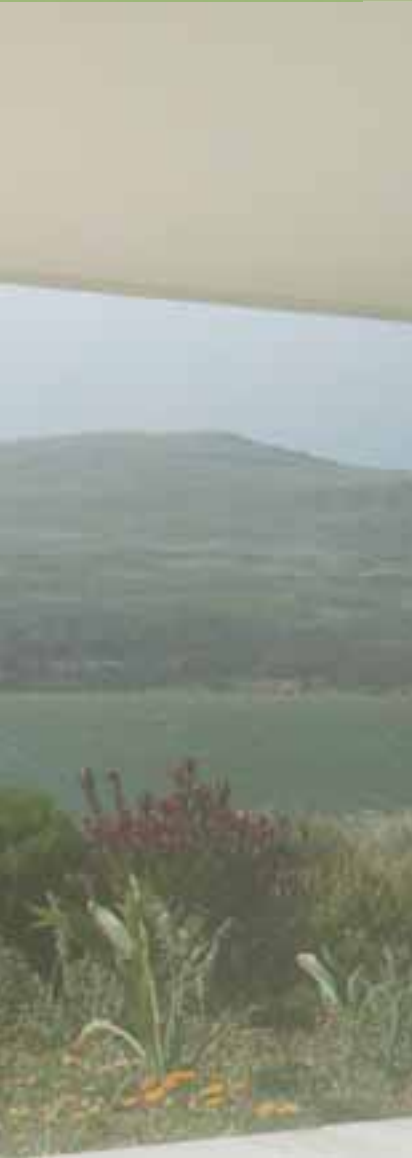


Mono-Bloc 6 and 9 kW



Mono-Bloc 9 to 16 kW





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ECONAVI

Panasonic has developed a range of products designed for you, better than ever before.

With its innovative design, high efficiency and incomparable purification system, the Etherea 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.



Panasonic Air Conditioning System Wins Prestigious Design Award
Panasonic is pleased to announce that its Etherea air conditioning system has won an iF 2013 Product Design Award.

The iF Product Design Awards are among the most important awards for product design excellence. With strict criteria to judge everything from cosmetic appearance, functionality, through to the environmental impact of the product, awards are only given to those products that demonstrate their innovative design.

Winning the award thanks to its highly intelligent functionality, the Panasonic Etherea is the ideal air-conditioning system for domestic and other localised installations. The unit makes use of multiple sensors, which measure the room's temperature, humidity, as well as detecting human presence.



ETHEREA

heatcharge

Go green. Go clean. Go your way

Panasonic Air Conditioners are designed to provide more than just cooling comfort to homes. They save energy. They purify your surroundings. They adjust cooling power to suit your living spaces and styles. Living an eco-lifestyle your way is now easier than ever.

HEALTHY AIR ENERGY SAVING

Air purifier
99% removal
bacteria - virus - mold
nanoe-G

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

Perfect humidity control
MILD DRY

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

A class energy saving
INVERTER+

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

6.6 A++ SEER
SEASONAL ENERGY EFFICIENCY RATIO

Exceptional Seasonal Cooling Efficiency based on the new ErP regulation. Higher SEER ratings mean greater efficiency. Save all the year while cooling!

4.0 A+ SCOP
SEASONAL COEFFICIENT OF PERFORMANCE

Exceptional Seasonal Heating Efficiency based on the new ErP regulation. Higher SCOP ratings mean greater efficiency. Save all the year while heating!

Up to 38% energy savings (cooling)
ECONAVI

Econavi features intelligent Human Activity Sensor and new Sunlight Sensor technologies that can detect and reduce waste by optimising air conditioner operation according to room conditions. With just one touch of a button, you can save energy efficiently with uninterrupted cooling, comfort and convenience.

Improved comfort
AUTOCOMFORT

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

Silent air 20 dB
SUPER QUIET

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

Easy control by BMS
CONNECTIVITY

The communication port is integrated into the indoor unit and provides easy connection to, and control of, your Panasonic heat pump to your home or building management system.

Internet Control Ready
INTERNET CONTROL

Internet Control is a next generation system providing a user-friendly remote control of air conditioning or heat pump units from everywhere, using a simple Android or iOS smartphone, tablet or PC via internet.

5 year compressor warranty

5 Years Warranty. We guarantee the compressors in the entire range for five years.

New Panasonic R2 Rotary Compressor

Panasonic Rotary Compressors for Room Air Conditioners have been installed in the most demanding environments around the world. Designed to withstand extreme conditions, Panasonic Rotary delivers high performance, efficiency and reliable service, no matter where you are.

Panasonic, the world's largest manufacturer of rotary compressors.

Making the world a cooler place since 1978.



Why is the Panasonic R2 Rotary Compressor so efficient?

- 1 High Efficiency Motor** The premium silicon steel motor meets industry efficiency requirements.
- 2 Improved Lubrication of High Volume Oil Pump** The extended, high volume oil pump in conjunction with a larger capacity oil reservoir provides superior lubrication.
- 3 Accumulator has Larger Refrigerant Capacity** The larger accumulator accommodates generous refrigerant amounts needed in longer line length installations.

R2 Compressor Value

About R2 Compressor

Built upon 28 years of compressor design and production experience, R2 is the next generation of Rotary Compressors for residential central air conditioning. New technology improvements, enhanced materials and simple design ensure R2 compressors are reliable, efficient and quiet. The R2 Compressor delivers quality, comfort and peace of mind in homes around the world.

Panasonic's Rotary Compressors have been life tested in some of the world's most demanding environments. Proven for years many of the most demanding areas of the world, the R2 design is the compressor of choice by contractors and homeowners in these challenging climates. For the high performance that home-owners demand, R2 Rotary Compressors are the best air conditioning engines for today's residential cooling solutions.

Leading Technology

Used in over 80% of cooling solutions globally, rotary is the world's dominant residential air conditioning compression technology. Panasonic is the leading rotary and residential AC compressor manufacturer in the world, with over 200 million compressors produced.

Benefits

Central air conditioning delivered with a Panasonic R2 Rotary Compressor ensures a superior level of comfort at an economical cost.

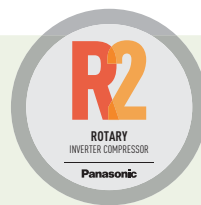


Vane - Long Life

The special Physical Vapor Deposition (PVD) coating applied to the Vane greatly enhances the durability and life of the compressor mechanism.

Piston - Durable

The piston is made of unique high-grade steel that prevents wear and extends operation life.



R2 Compressors:

- Higher efficiency
- Single and Dual Piston
- R-410A refrigerant
- Compact size

R2 rotary compressors utilize rolling piston technology.



The R2 compressor has been tested in extreme conditions.



FAQ

How does a Panasonic Rotary compressor work?

R2 compressors are rolling piston rotary compressors. The heart of the rotary compressor is the cylinder which houses the piston and the vane. The vane maintains constant contact with the piston as the piston rolls along the inside wall of the cylinder. As the piston rotates, gas is compressed into an increasingly smaller area until the discharge pressure is reached, releasing gas into the shell chamber. At the same time, more gas comes in through the suction port, enabling a continuous process of suction and discharge. The simple design and symmetry of the cylinder components, combined with a special coating and premium materials, provide a highly durable and reliable product, rotation after rotation.

What SEER range does the Panasonic Rotary compressor support?

R2 compressors are found in air conditioning products featuring the very latest technology and offering the highest efficiency on the market today. Our R2 compressors are engineered specifically for this SEER efficiency requirement. Combined with the inherently simple design of the rotary, this results in a high desirable and impressively economical solution.

What makes Panasonic Rotary compressor so reliable?

Changes to the construction and material of internal components enables the R2 compressor to reliably operate with an above average maximum discharge

pressure. A Physical Vapor Deposition (PVD) coating on the vane, along with enhanced steel materials, significantly reduces wear and increases durability.

What makes a Panasonic Rotary compressor so quiet?

The structure of the R2 compressor mechanism has been redesigned to increase stability and reduce vibration. Specifically, the compressor has an upper cylinder discharge, an enhanced fixed upper bearing, and reduced friction in the cylinder parts. The lower discharge and muffler in the dual piston compressors also enables lower noise levels. As a result, this new design optimises efficiency and minimises noise.

How do R2 rotary compressors compare to scroll and reciprocating compressors?

R2 rotary compressors are very similar to some scroll compressors in overall performance, including efficiency and reliability. The simple and symmetrical key components contribute to the R2 compressor's reliability, light weight, compact size, and economical applied cost, without sacrificing the key performance requirements of high efficiency and low noise levels.

Which refrigerants can be used with Panasonic Rotary compressor?

Panasonic has R2 Rotary Compressors available for R410A applications.



Discover how to achieve energy savings

When you are relaxing while watching television, the air conditioner's operation usually runs at a constant temperature setting.

Econavi detects and reduces this waste in all the right ways

Using high-tech sensors and precise control programs, it analyses room conditions and adjusts cooling power accordingly.

Econavi is smart enough to locate and operate in all the right places to give you better energy savings.

Up to **38%**
energy savings
(cooling)
ECONAVI



5 Features saving energy all at once

Econavi with intelligent eco sensors

Intelligent Sensors detect potential waste of energy using the Human Activity Sensor and Sunlight Sensor. It is able to monitor human location, movements, absence and sunlight intensity.

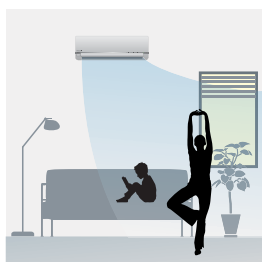
It then automatically adjusts cooling power to save energy efficiently with uninterrupted heating and cooling comfort and convenience.



New Temperature Wave

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

NEW



Area Search

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



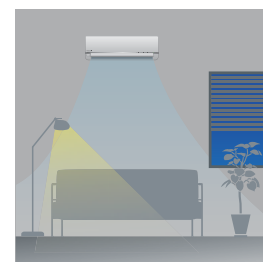
Activity Detection

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



Absence Detection

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



Sunlight Detection

Adjusts cooling power to changes in sunlight intensity.

So Much Saved with So Little Effort

Up to 38% energy savings for Inverter cooling model with temperature wave

Comparison of 1.5HP Inverter model between Econavi with (Human Activity Sensor, Sunlight Sensor, and Temperature Wave) ON and Econavi OFF (Cooling)

Econavi ON, Outside temperature: 35°C/24°C

Remote setting temperature: 23°C with Fan Speed (High)

Vertical Airflow direction: Auto, Horizontal Airflow direction: Econavi Mode

Setting temperature goes up 2°C in total, 1°C controlled by Econavi activity level detection and another 1°C controlled by Econavi light intensity detection.

Temperature Wave is ON, electric heater (300 W; simulating the heat of human and TV etc)

Econavi OFF, Outside temperature: 35°C/24°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 2 hours in stable condition. At Panasonic Amenity Room (size: 16.6m²).

This is the maximum energy savings value, and the effect differs according to conditions in installation and usage.



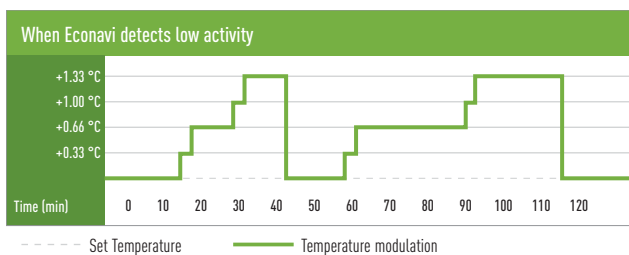
New temperature wave

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

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

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

How does temperature wave works?



Offset Thermal Physiological Response	
Average Room Temperature (Degree Celcius)	
Rhythmic temperature wave	
Result: More Energy Saving	
Thermal Sensation Votes (Mean Votes)	
Sensation vote	- 0.1
Result: Maintain within the comfortable range*	

The result of the experiment showed that thermal sensation was maintained within the comfortable range* even though average set temperature was moderately increased. Hence, when ECONAVI detects human presence and low activity level, Temperature Wave adapts to this rhythmic temperature control to realise further energy saving without sacrificing comfort.
 *The thermal condition of which PMV (Predicted Mean Value) is within -0.5 to +0.5 is recommended as comfortable condition (in the condition B) by International Standard EN ISO 7730.



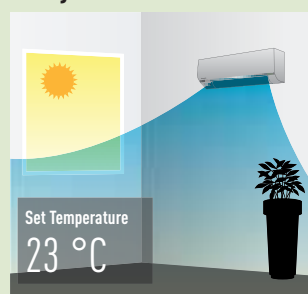
Econavi sunlight sensor

New Sunlight Detection (on Cooling Mode)

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

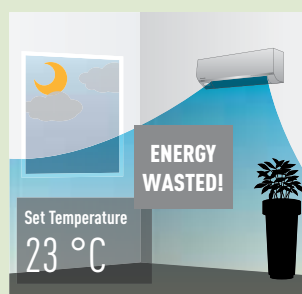
When weather changes from sunny to cloudy/night, Econavi detects less sunlight intensity and determines less cooling power is required. If cooling power remains the same, energy will be wasted. Econavi detects this waste and reduces cooling power by an amount equivalent to increasing the set temperature by 1 °C.

Sunny



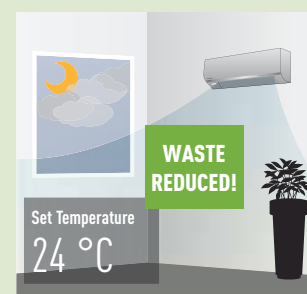
Econavi is switched on when it is sunny.

Detect



Econavi detects less cooling power is required.

Reduce waste



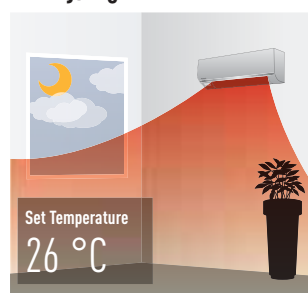
Reduces cooling power by an amount equivalent to increasing the set temperature by 1 °C.

New Sunlight Detection (on Heating Mode)

Econavi detects changes in sunlight intensity in the room and judges whether it is sunny or cloudy/night. It reduces the wasted of heating under more sunnier conditions.

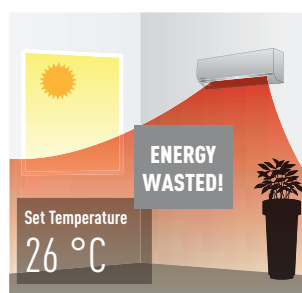
When weather changes from cloudy/night to sunny, Econavi detects more sunlight intensity and determines less heating power is required. If heating power remains the same, energy will be wasted. Econavi detects this waste and reduces heating power by an amount equivalent to decreasing the set temperature by 1 °C.

Cloudy/Night.



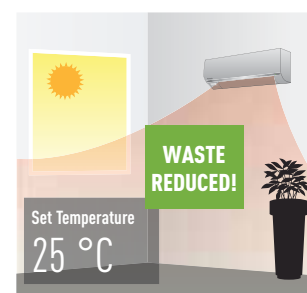
Econavi is switched on when it is cloudy/night.

Detect



Econavi detects less heating power is required.

Reduce waste



Reduces heating power by an amount equivalent to decreasing the set temperature by 1 °C.



Econavi intelligent sensors

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

Sunlight Sensor

Detects changes in Sunlight Intensity

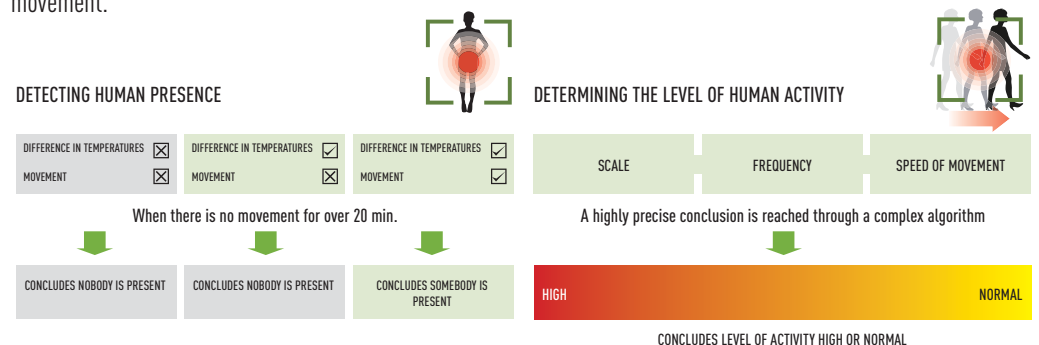
Human Activity Sensor

Detects human movements, changes in activity levels and human absence.



High-precision sensing

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



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
+ Movement

CONCLUDES IT IS NOT HUMAN

A ROLLING BALL



Difference in temperatures
+ Movement

CONCLUDES IT IS NOT HUMAN

SMALL INSECTS



Difference in temperatures
+ Movement

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
+ Movement

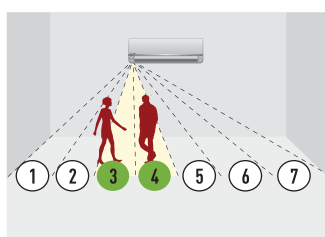
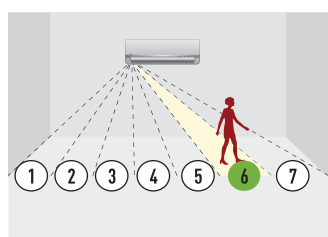
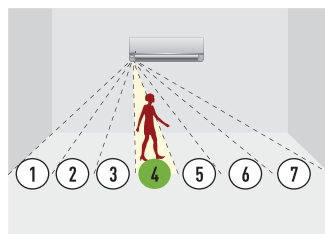
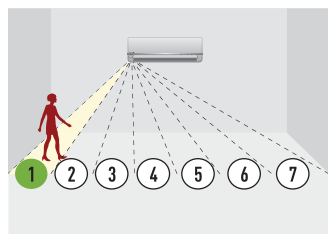
CONCLUDES IT IS NOT HUMAN

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.

Sensor detection principle

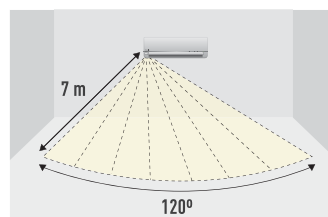
Human Activity Sensor detects human activity level and directs airflow to occupied or high activity zone.



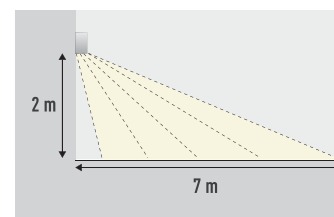
Coverage capabilities

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

HORIZONTAL SENSING AREA



VERTICAL SENSING AREA



Autocomfort sensor provides comfort

Autocomfort sensor is used to provide comfort. High Activity Detection detects when the level of activity increases, and automatically increases cooling power by an amount equivalent to decreasing the set temperature by 1 °C to improve comfort.

This is explained in the following scenario: High Activity Detection: Econavi High Activity Detection can detect changes in activity levels to adjust cooling power to improve comfort.

DETECT

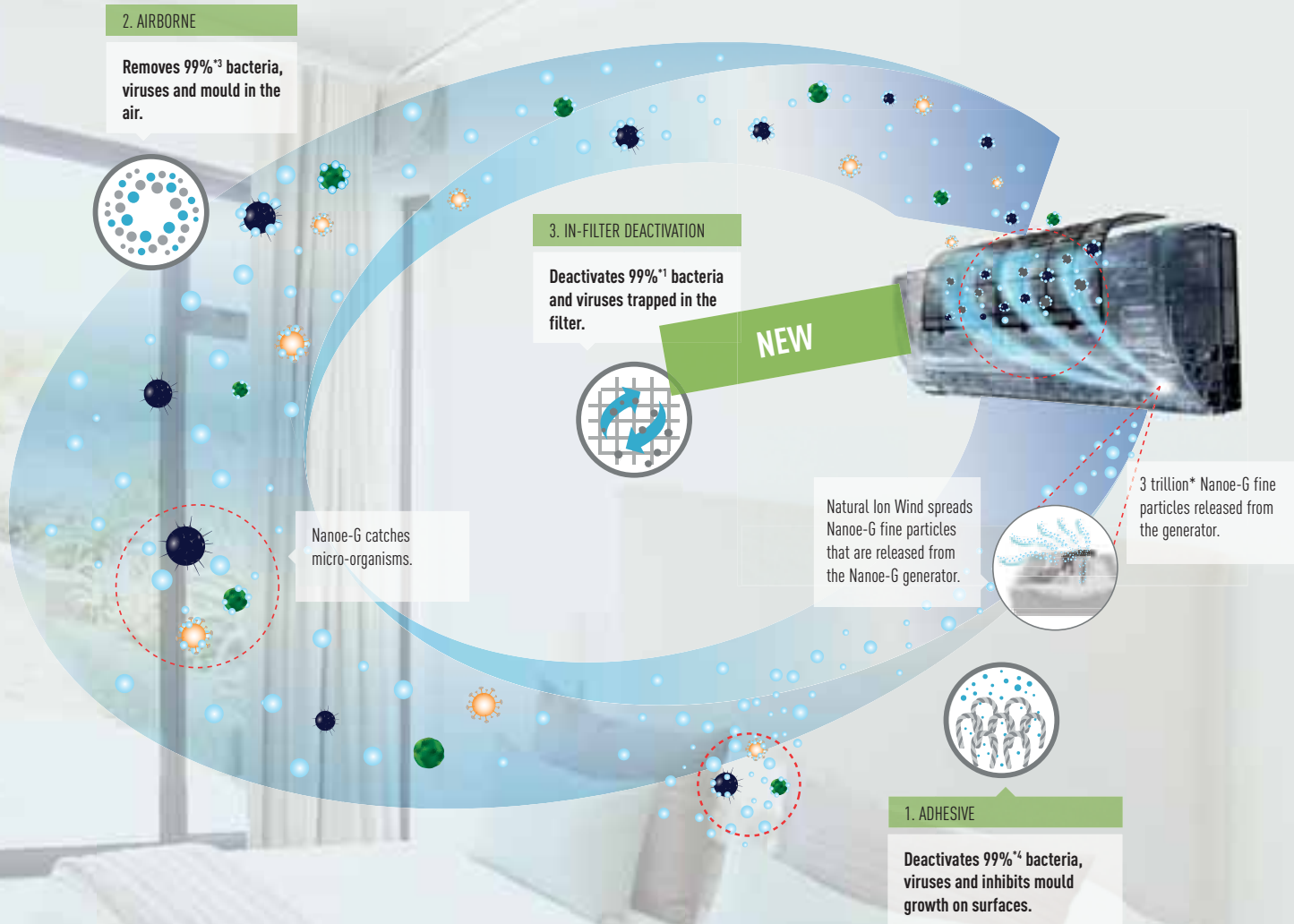


Level of activity increased. Detects high activity.

IMPROVE COMFORT



Increases cooling power by an amount equivalent to decreasing the set temperature by 1 °C.



Remark:
* 3 trillion is the simulated number of Nano-e-G fine particles under the mentioned conditions. Actual measured Nano-e-G fine particles at the centre of the room (13m³):100k/cc calculated number of Nano-e-G fine particles in the entire room assuming they are evenly distributed.




Air purifier
99% removal
bacteria · virus · mold
nano-e-G

Purifies the air, surfaces and even inside itself

Now you can purify living spaces more effectively with Nano-e-G. Using nano-technology fine particles, harmful micro-organisms are removed from the air you breathe. But what about the ones found on furniture and other surfaces? Amazingly, they can also be deactivated by these particles. And now, when you switch off your air conditioner, Nano-e-G will even deactivate the micro-organisms in the filter. So you can enjoy complete peace-of-mind with a living environment that is fresher and cleaner.

New Nano-e-G with In-filter Deactivation. Advanced air purification system for your home

Panasonic introduces an air purification system that captures harmful micro-organisms from the air, deactivates those trapped on surfaces and in the filter as well. It utilises nano-technology fine particles to purify the air and clean harmful micro-organisms attached onto fabrics in the room. And this year, it comes with a brand new feature that deactivates bacteria and viruses trapped in the filter. Thus, giving you the complete air purification system so you come home to a cleaner living environment.

	1. ADHESIVE	2. AIRBORNE	3. NEW IN-FILTER DEACTIVATION
Bacteria 	99% Deactivation	99% Removal	99% Deactivation
Viruses 	99% Deactivation	99% Removal	99% Deactivation
Mould 	Growth Inhibition	99% Removal	—

NEW

NEW

How does our new in-filter deactivation work?

1. Power "Off"



The air-conditioner first has to be turned off.
Remark: Main power must be switched on for the entire duration.

2. Fan Operation



The fan operation will run automatically for 30 minutes with the lower slightly open to ensure the internal components are dry and free from condensation.
Remark: The 30-minute fan operation is only applicable when the unit has been operated in COOL / DRY mode.

Fan Operation: On
Louver: Low Louver Angle
Nanoe-G LED: On

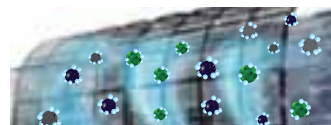
3. Nanoe-G Operation



Natural Ion Wind spreads Nanoe-G particles that are released from the Nanoe-G generator.

Fan Operation: Off
Louver: Closed
Nanoe-G LED: On

4. Deactivation Effect



Nanoe-G deactivates bacteria and viruses that are trapped in the filter within 2 hours.

Fan Operation: Off
Louver: Closed
Nanoe-G LED: On

Remark: Depending on the Air Conditioner's accumulated operation time, Nanoe-G In-Filter Deactivation may be activated only once a day.

The effectiveness of Nanoe-G

NEW

IN-FILTER DEACTIVATION



Target Substance	Substance Name	Effectiveness	Testing Institute	Test Report no	Method	Result
Bacteria	Bacteria Staphylococcus aureus (NBRC 12732)	99%	Japan Food Research Laboratories	Test Report No. 12037932001	The test piece impregnated with Staphylococcus aureus was placed on the filter of the Air Conditioner indoor unit, and then nanoe-G was operated. After the test piece was collected, viable cells were counted.	99% deactivated after 2-hour nanoe-G operation.
Virus	Escherichia coli phage (oX-174 ATCC 13706-B1)	99%	Japan Food Research Laboratories	Test Report No. 12014705001	The test piece impregnated with Escherichia coli phage was placed on the filter of the Air Conditioner indoor unit, and then nanoe-G was operated. After the test piece was collected, phage infectivity titer was determined.	99% deactivated after 2-hour nanoe-G operation.
	Influenza (H1N1) 2009 virus	Average 90% on filter (The percentage varies from 78.9% to 96.1% depending on its location)	Kitasato Research Center for Environmental Science	KRCES-Virus Test Report No. 24_0013	The test piece impregnated with Influenza (H1N1) 2009 virus was placed on the filter of the Air Conditioner indoor unit, and then nanoe-G was operated. After the test piece was collected, virus infectivity titer was determined.	Average 90% deactivation after 2-hour nanoe-G operation. (The percentage varies from 78.9% to 96.1%, depending on its location on filter)

Remark: All results are based on specific testing conditions. All tests are not demonstrated under actual usage situation. * test substance was placed on the 4 locations of the filter; upper/lower right and upper/lower left.

*1 In-Filter Deactivation was certified by Japan Food Research Laboratories - Test Report number : 12037932001 Bacteria : Staphylococcus aureus (NBRC 12732) - Test Report number : 12014705001 Virus : Escherichia coli phage (-174 ATCC 13706-B1)

*2 In-Filter Deactivation was certified by Kitasato Research Center for Environmental Science - Test Report number : KRCES-Virus Test Report No. 24_0013 Virus : Influenza (H1N1) 2009 Virus

Testing institute: Kitasato research center for environmental science

AIRBORNE



Target Substance	Substance Name	Effectiveness	Test Report no	Method	Result
Bacteria	Staphylococcus aureus (NBRC 12732)	99%	KRCES-Bio. Test Report No. 23_0182	The AC with nanoe-G was operated in a test room (25m ³) and aerosol was collected and bacterial count was calculated.	99% removal from the air after 150 minutes of operation.
Virus	Escherichia coli phage (oX-174 ATCC 13706-B1)	99%	KRCES-Env. Test Report No. 22_0008	The AC with nanoe-G was operated in a test room (25m ³) and airborne phages were collected and phage count of the collected air was calculated.	99% removal from the air after 120 minutes of operation.
		99%	KRCES-Env. Test Report No. 22_0008	Nanoe-G was operated in a test chamber (200 Litre) and the phages were collected and phage count of the collected air was calculated.	99% removal from the air after 5 minutes of operation.
	Influenza (H1N1) 2009 virus	99%	KRCES-Env. Test Report No. 22_0008	nanoe-G was operated in a test chamber (200 Litre) and the influenza viruses were collected and the virus titers were calculated by the Reed and Muench method.	99% removal from the air after 5 minutes of operation.
	Penicillium pinophilum (NBRC 6345)	99%	KRCES-Bio. Test Report No. 23_0140	In view of health hazard associated with spatial distribution of Influenza (H1N1) 2009 virus, nanoe-G removal effectiveness cannot be tested in large test room (25m ³). When tested in 200 Litre chamber, nanoe-G was able to decrease Influenza (H1N1) 2009 virus (99%) when it was operated for 5 minutes. Additionally when tested in larger test room (25m ³), nanoe-G can remove 99.5% of Coli phage virus when operated for 120 minutes. It was validated that evaluation on the influenza virus could be speculated from the results on the phage according to the test results in a 200 Litre test chamber. It appeared that the air-conditioners in a larger test room (25m ³) would be able to remove the influenza virus as effectively as the phage.	
Mould	Penicillium pinophilum (NBRC 6345)	99%	KRCES-Bio. Test Report No. 23_0140	The AC with nanoe-G was operated in a test room (25m ³) and aerosol was collected and fungal spores count was calculated.	99% removal from the air after 90 minutes of operation.

Remark: All results are based on specific testing conditions. All tests are not demonstrated under actual usage situation.

*3 Airborne Removal was certified by Kitasato Research Center for Environmental Science - KRCES-Bio. Test Report no.: 23_0182 Bacteria: Staphylococcus aureus (NBRC 12732) - KRCES-Env. Test Report no.: 22_0008 Virus: Escherichia coli phage (oX-174 ATCC 13706-B1): Influenza (H1N1) 2009 virus - KRCES-Env. Test Report no.: 23_0140 Mould: Penicillium pinophilum (NBRC 6345)

Testing institute: Japan food research laboratories

ADHESIVE



Inhibits mould growth

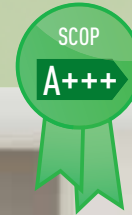
Target Substance	Substance Name	Effectiveness	Test Report no	Method	Result
Bacteria	Staphylococcus aureus (NBRC12732)	99%	Test Report No. 11047933001-02	The AC with nanoe-G was operated in a test space (10m ³) and viable cells were counted by pour plate method	99% deactivation after 24 hour operation of nanoe-G . (compared to the original condition/ ventilation mode)
Virus	Bacteriophage (Phi X 174 NBRC103405)	99%	Test Report No. 11073649001-02	Nanoe-G was operated in a test box (90 Litre) and phage infectivity titer was determined by plaque technique.	99% deactivation after 120 minutes operation of nanoe-G . (compared to non-operation)
Mould	Cladosporium cladosporioides (NBRC 6348)	Inhibit Mould Growth	Test Report No. 11047937001-02	Nanoe-G was operated in a test box (1m ³) and colonies on the plate were counted.	The growth of the subject was inhibited. (>85% after 7 days)

All results are based on specific testing conditions. All tests are not demonstrated under actual usage situation.

*4 Adhesive Deactivation was certified by Japan Food Research Laboratories - Test Report number: 11047933001-02 Bacteria: Staphylococcus aureus (NBRC 12732) - Test Report number: 11073649001-02 Virus: Bacteriophage (Phi X 174 NBRC 103405) - Test Report number: 11047937001-02 Mould : Cladosporium cladosporioides (NBRC 6348)

SEASONAL EFFICIENCY

PRODUCT FOLLOWS THE NEW ECODESIGN REQUIREMENTS



heatcharge

INTELLIGENT MICROPROCESSOR



DC INVERTER

Panasonic's new full line-up of A+++ heat pumps

In response to the Kyoto Protocol, the European Union set some challenging targets for the reduction in greenhouse-gas emissions. By the year 2020, across the member states, the EU wants to have achieved the following objectives:

- a 20% cut in greenhouse gas emissions (from 1990 base levels)
- the share of renewables in the energy mix to increase by 20%
- an overall reduction of 20% in energy consumption.

The new Heatcharge heating power and efficiency

- Energy Charge System. Heat storage unit which features Non-Stop heating and fast heating function
- Maximum efficiency and comfort with Econavi sunlight detection
- Nanoe-G air purifying system
- More powerful airflow to quickly reach the desired temperature

Powerful, reliable heating even at low ambient winter temperatures

When the air conditioner is operating, the compressor, which is the power source of the unit, generates heat. Until now, this heat was released into the atmosphere. Panasonic focused on this waste heat! Heatcharge is a unique, innovative Panasonic technology that stores this waste heat in the compressor and effectively uses it as heating energy. This lets you enjoy a new level of air conditioner heating power and efficiency.



Constant heating

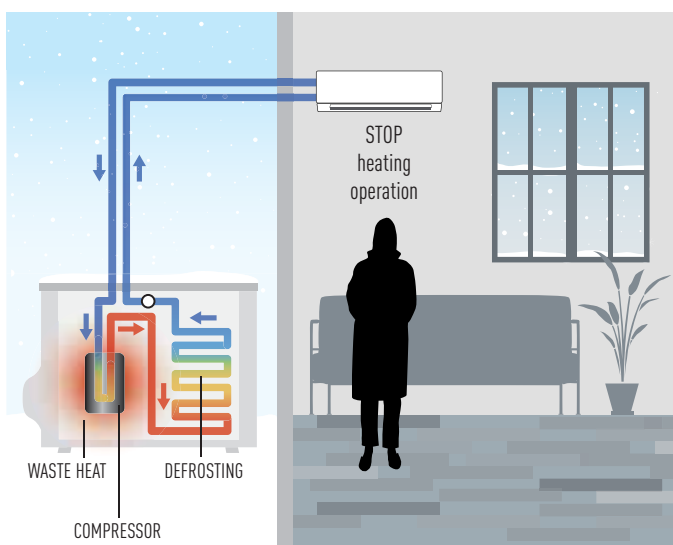
HEATCHARGE

Constant heating

Using stored heat provides stable heating with less drop in temperature. Even when heating operation stops during defrost operation, stored heat continues to constantly warm the room. This eliminates the previous discomfort due to the temperature dropping when heating temporarily stops to ensure stable air conditioner heating.



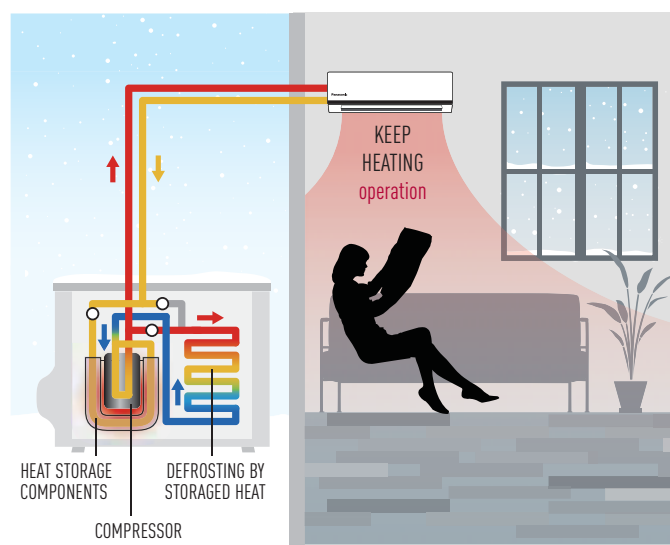
You can check the charge level with the remote control. Press the Information button and the level is displayed in five stages (from 0 to 4).



CONVENTIONAL THE ROOM GRADUALLY BECOMES COLD

DEFROST OPERATION: About 11 to 15 min.

FALL IN ROOM TEMPERATURE: About 5 to 6 °C



HEATCHARGE THE ROOM IS THOROUGHLY WARMED

DEFROST OPERATION: About 5 to 6 min.

FALL IN ROOM TEMPERATURE: About 1 to 2 °C

* Defrost operation time and how low room temperature falls differ depending on the environment in which the unit is being used (how insulated and airtight and room is), operation conditions, and temperature conditions.

* Output air temperature falls during defrost operation. How low room temperature falls differs depending on the environment in which the unit is being used (how insulated and airtight and room is), operation conditions, and temperature conditions.

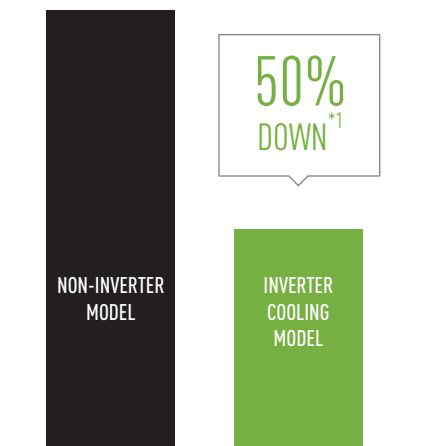
* In environments where a lot of frost accumulates, heating may stop during defrost operation.



A class energy saving
INVERTER+



ELECTRICITY CONSUMPTION COMPARISON



DURING COOLING UP TO 50%*1 ENERGY SAVINGS

*1 Comparison of 1.5HP Inverter model and 1.5HP Non-Inverter model (Cooling)
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 8 hours from starting. At Panasonic Amenity Room (size: 16.6m²) This is the maximum energy savings value, and the effect differs according to conditions in installation and usage.

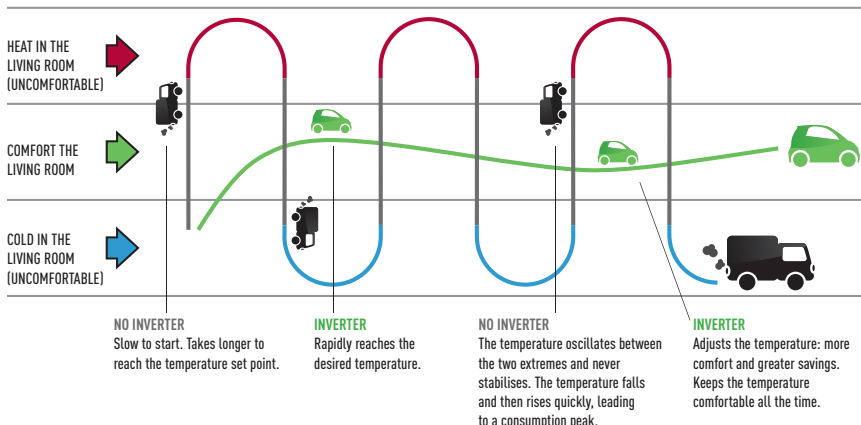
Inverter technology. The secret is flexibility

Panasonic Inverter air conditioners have the flexibility to vary the rotation speed of the compressor. This allows it to use less energy to maintain the set temperature while also being able to cool the room quicker at start up. So you can enjoy better savings on your electricity bills while maintaining cooling comfort

Exceptional energy-saving performance. Reduces Electricity Consumption

Panasonic Inverter air conditioners are designed to give you exceptional energy savings and performance, whilst also ensuring you stay comfortable at all times. At the start up of an air conditioner's operation, powerful operation is required to reach the set temperature. After the set temperature is reached, less power is required to maintain it. A conventional non-Inverter air conditioner can only operate at a constant speed which is too powerful to maintain the set temperature. Thus, in attempting to achieve this, it switches the compressor ON and OFF repeatedly. This results in wider temperature fluctuations leading to wasteful consumption of energy. The Panasonic Inverter air conditioner varies the rotation speed of the compressor. This provides a highly precise method of maintaining the set temperature. Unlike a conventional non-Inverter air conditioner which consumes a lot of energy, Panasonic Inverter air conditioner reduces wasteful operation - giving you energy savings of up to 50%*1 on cooling mode.

The advantages of inverter air conditioners. Comparing Inverter and non-Inverter air conditioners.



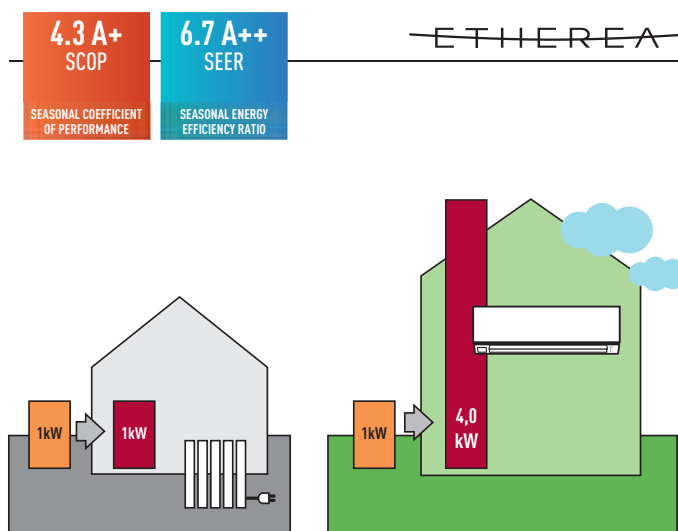
SEASONAL EFFICIENCY

PRODUCT FOLLOWS THE NEW ECODSIGN REQUIREMENTS

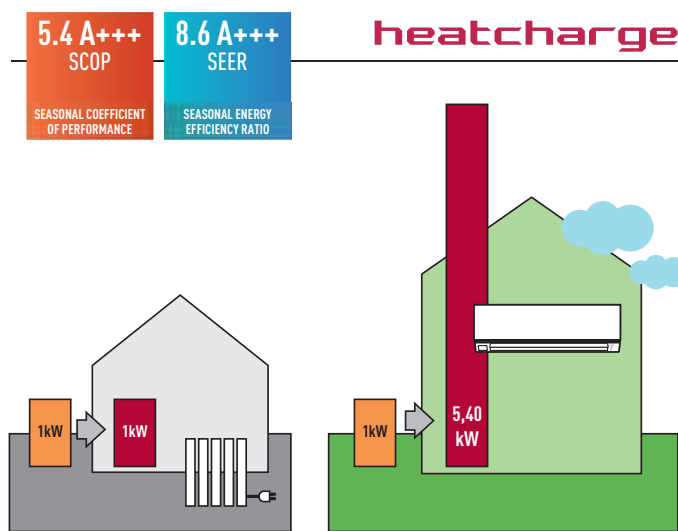


Economical, environment-friendly operation high SCOP (Seasonal Coefficient of Performance)

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.



* SCOP On heating mode, XE/E9-PKE compared with electrical heaters at +7°C



* SCOP On heating mode for VE9-NKE compared with electrical heaters at +7°C

Seasonal Efficiency: New Energy Efficiency Label

From January 2013, the energy performance calculation for air conditioning systems will change from an overall EU based standard of EER and COP to a new standard based on seasonal efficiencies of SEER and SCOP. These changes to the Energy Related Products Directive or ErP are designed to give consumers a better understanding of the real efficiency of air conditioning and heat pump systems whose nominal power rating does not exceed 12 Kw. Undergoing gradual implementation from 1 January 2013 until 1 January 2019, the schedule for each product category is as follows:

01 January 2013: A+++ , A++ , A+ , A , B , C , D , E , F and G.

01 January 2015: A+++ , A++ , A+ , A , B , C , D , E and F.

01 January 2017: A+++ , A++ , A+ , A , B , C , D and E.

01 January 2019: A+++ , A++ , A+ , A , B , C and D.

Seasonal Energy Efficiency Ratio (SEER) – This is the overall energy efficiency ratio of the unit, representative of the entire cooling season. It is calculated as the annual cooling demand divided by the annual consumption of electricity for cooling.

Seasonal Coefficient of Performance (SCOP) - This is the overall coefficient of performance of the unit, representative of the entire heating season designated (the value of SCOP corresponds to a determined heating season). It is calculated by dividing the reference annual heating demand by the annual consumption of electricity for heating.



A+++	SEER ≥ 8.50
A++	6.10 ≤ SEER < 8.50
A+	5.60 ≤ SEER < 6.10
A	5.10 ≤ SEER < 5.60
B	4.60 ≤ SEER < 5.10
C	4.10 ≤ SEER < 4.60
D	3.60 ≤ SEER < 4.10
E	3.10 ≤ SEER < 3.60
F	2.60 ≤ SEER < 3.10
G	SEER < 2.60



A+++	SCOP ≥ 5.10
A++	4.60 ≤ SCOP < 5.10
A+	4.00 ≤ SCOP < 4.60
A	3.40 ≤ SCOP < 4.00
B	3.10 ≤ SCOP < 3.40
C	2.80 ≤ SCOP < 3.10
D	2.50 ≤ SCOP < 2.80
E	2.20 ≤ SCOP < 2.50
F	1.90 ≤ SCOP < 2.20
G	SCOP < 1.90



Silent air
20 dB

SUPER QUIET

Panasonic technology for comfort

Extremely quiet. We have succeeded in making one of the most silent air conditioners on the market.

Panasonic Inverter air conditioner's indoor operating noise has been reduced by 3dB as the Inverter constantly varies its output power to enable more precise temperature control. In comparison, a non-Inverter air conditioner controls the temperature by switching on and off. Each time the air conditioner is switched on, it draws more energy to cool the room subsequently leading to more vibration and higher noise levels.

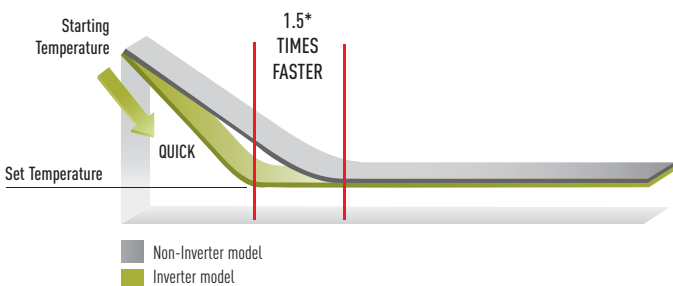


Other advantages of inverter air conditioners

Quick Comfort

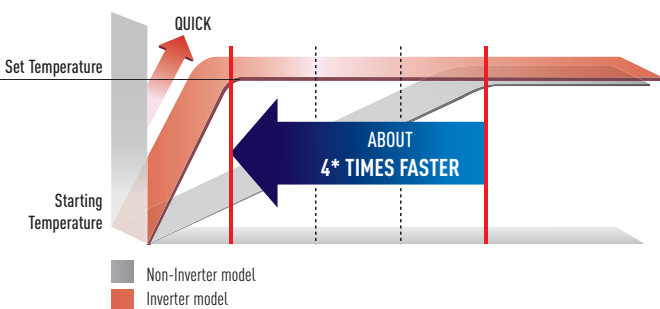
Panasonic Inverter air conditioners can operate with higher power during the start up period to cool the room 1.5 times faster and heat the room 4 times faster than non-Inverter models.

COMPARISON OF COOLING SPEED



* 1.5HP Inverter vs. non-Inverter. Outside room temperature: 35°C; setting temperature: 25°C

COMPARISON OF HEATING SPEED



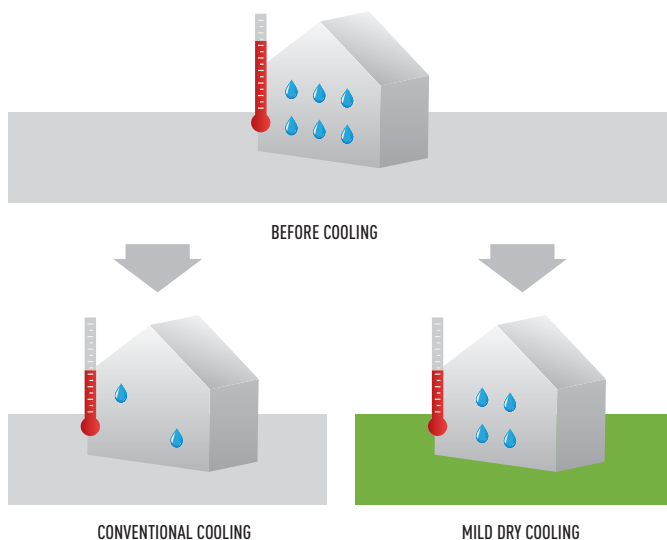
* Comparison of 1.0HP Inverter and Non-Inverter. Outside room temperature: 2°C; Setting temperature: 25°C

Perfect humidity control

MILD DRY

Mild Dry Cooling

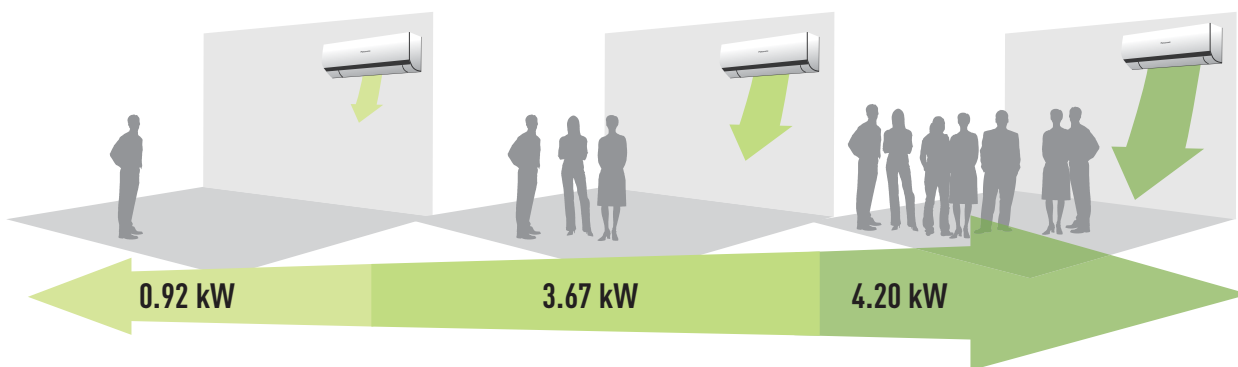
Mild dry cooling maintains a higher level of relative humidity of up to 10% compared to regular cooling operation. This helps to reduce skin dryness - and a dry throat.



Lowers room temperature while maintaining high humidity

Constant Comfort

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



Graph shows the 1.5HP Inverter model's wide power output range during cooling. / Graph shows the 1.5HP Inverter model's wide power output range during cooling.

Minimum Power

Compressor rotation speed: SLOW
When not required, the unit operates at low power to save energy.

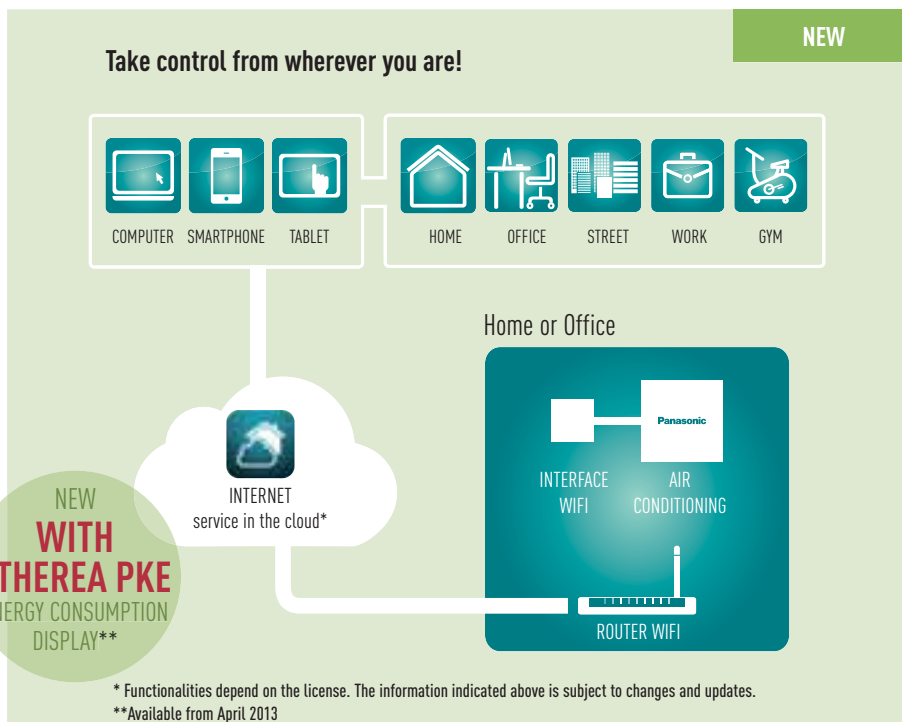
Medium Power

Normal Condition

Maximum Power

Compressor rotation speed: HIGH
When required, the unit operates at full power.

Control your air conditioning from wherever you are at home. Control your comfort and efficiency with the lowest energy consumption



What's Internet Control?

Internet Control is a next generation system providing a user-friendly remote control of air conditioning or heat pump units from everywhere, using a simple Android or iOS smartphone, tablet or PC via internet.

Simple Installation

Just connect the Internet Control device to the air conditioner or heat pump with the supplied wire and then link it to your WIFI Access point.

Internet Control. Easy to install. Maximum benefit

Internet Control is underlined with the slogan "Your home in the cloud", meaning a simple and easy to handle solution has been considered for every user to manage the device, not requiring any communication or computer skills.

No servers. No adaptors. No wires. Just a small box is needed to be connected and placed close to the air conditioning indoor unit... and your smartphone, tablet or PC.

Your existing WiFi connection does the rest when you are at home. Start the App from your smartphone device, your tablet or your computer, and enjoy a new experience in comfort. And if you are out of home, just launch the App, and manage the air conditioning of your home from the cloud. An intuitive and user-friendly application on the screen of your smartphone or PC that lets you manage the air conditioning unit in the same way you do with the remote controller at home.

Internet Control can be downloaded in Apple's AppStore and Android's PlayStore.

Control your air conditioning with the smart internet control device via smartphones, tablet, PC and smart desktop phone via internet

Offering the same functions as if you were at home or office: start/stop, Mode Operation, Set Temperature, Room Temperature etc as well as the new, advanced functionality provided by Internet Control to achieve the best comfort and efficiency with the lowest energy consumption.



Study Case. James, architect

"As an architect, I'm proud of my home. Unfortunately, the pace of my life revolves around airports on all five continents. Because of this, whenever I get the chance to enjoy even just a few days at home, I programme my Panasonic Multi Split System to my tablet and from wherever I happen to be, I can enjoy the comforts that the system gives me from the minute I arrive home."

Connectivity: Great flexibility for integration into your KNX / EnOcean / Modbus projects allows fully bi-directional monitoring and control of all the functioning parameters



Easy
control
by BMS

CONNECTIVITY

The interface has been designed specifically for Panasonic and provides complete monitoring, control and full functionality of the entire Aquarea line-up from KNX, EnOcean and Modbus installations.

This connectivity solution is made by a third party company, please contact Panasonic for more information.



Modbus®



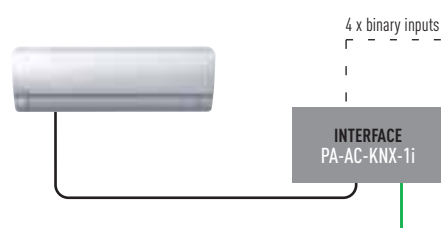
Modbus®

Interface to connect Etherea to KNX

References: PA-AC-KNX-1i

This new Etherea-KNX interface allows full bi-directional monitoring and control of all the functioning parameters of Etherea control from KNX installations. Small dimensions.

- Quick installation and possibility of hidden installation.
- External power not required.
- Direct connection to the AC indoor unit (split unit or Multi split unit)
- Fully KNX compatible. Control and monitoring, from sensors or gateways, of the internal variables of the indoor unit and error codes and indication.
- Use the air conditioner ambient temperature or the one measured by a KNX temperature sensor or Thermostat.
- AC unit can be controlled simultaneously by the remote control of the AC unit and by KNX devices.
- Advanced control functions: use it as a room controller.
- 4 binary inputs. They work as standard KNX binary inputs as well as being used to control the AC directly.



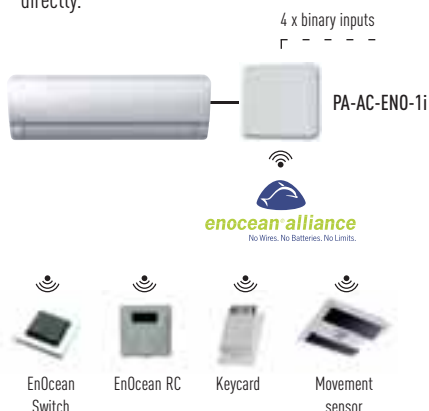
KNX
Any standard KNX device

Interface to connect Etherea to En-ocean

References: PA-AC-ENO-1i

This new Etherea-EnOcean interface allows monitoring and control, fully bi-directionally, all the functioning parameters of the Etherea control from EnOcean installations. Small dimensions.

- Quick installation and possibility of hidden installation.
- External power not required.
- Direct connection to the AC indoor unit (split unit).
- Fully EnOcean compatible. Control and monitoring, from sensors or gateways, of the internal variables of the indoor unit and error codes and indication.
- Use the air conditioner ambient temperature or the one measured by an EnOcean temperature sensor or Thermostat.
- AC unit can be controlled simultaneously by the remote control of the AC unit and by EnOcean devices.
- Advanced control functions: use it as a room controller.
- 4 binary inputs. They work as standard EnOcean binary inputs as well as being used to control the AC directly.

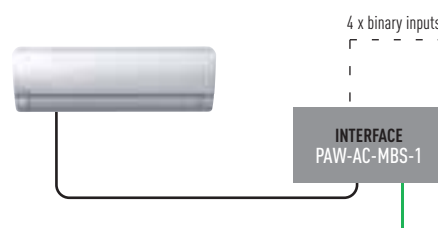


Interface to connect Etherea to Modbus

References: PAW-AC-MBS-1

This new Etherea-Modbus interface allows full bi-directional monitoring and control of all the functioning parameters of Etherea control from Modbus installations. Small dimensions.


























- Quick installation and possibility of hidden installation.
- External power not required.
- Direct connection to the AC indoor unit (split unit or Multi split unit)
- Fully Modbus compatible. Control and monitoring, from sensors or gateways, of the internal variables of the indoor unit and error codes and indication.
- Use the air conditioner ambient temperature or the one measured by a Modbus temperature sensor or Thermostat.
- AC unit can be controlled simultaneously by the remote control of the AC unit and by Modbus devices.
- Advanced control functions: use it as a room controller.
- 4 binary inputs. They work as standard Modbus binary inputs as well as being used to control the AC directly.
























Modbus®
Any standard Modbus device

Domestic Air Conditioner Range

NEW

1x1 and Multi Split Kits	2.2 kW	2.8 kW	3.2 kW	4.5 kW
Wall Mounted VE Inverter+ Energy Charge System		 KIT-VE9-NKE	 KIT-VE12-NKE	
Wall Mounted Etherea Inverter+ Silver	 KIT-XE7-PKE	 KIT-XE9-PKE	 KIT-XE12-PKE	 KIT-XE15-PKE
Wall Mounted Etherea Inverter+ White	 KIT-E7-PKE	 KIT-E9-PKE	 KIT-E12-PKE	 KIT-E15-PKE
Wall Mounted RE Type Standard Inverter		 KIT-RE9-PKE	 KIT-RE12-PKE	 KIT-RE15-PKE
Wall Mounted RE-3 Type Standard Inverter		 KIT-RE9-PKE-3	 KIT-RE12-PKE-3	 KIT-RE15-PKE-3
Floor Console Type Inverter+		 KIT-E9-PFE	 KIT-E12-PFE	
4-Way 60x60 Cassette Standard Inverter		 KIT-E9-PB4EA	 KIT-E12-PB4EA	
Low Static Pressure Hide Away Standard Inverter		 KIT-E9-PD3EA / KIT-E10-KD3EA	 KIT-E12-PD3EA	 KIT-E15-JD3EA
2x1 Wall Mounted MRE Standard Inverter				 KIT-2MRE77-PBE/PKE // KIT-2MRE79-PBE/PKE // KIT-2MRE712-PBE/PKE
Etherea Multi Split 2x1 Inverter+				 KIT-2XE/E77-PBE // KIT-2XE/E79-PBE // KIT-2XE/E712-PBE // KIT-2XE/E99-PBE
Etherea Multi Split 3x1 Inverter+				
Etherea Multi Split 4x1 Inverter+				
Etherea Multi Split 5x1 Inverter+				

Free Multi	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	1.6 to 14.5 kW
						
Outdoor Unit //Inverter+	CU-2E15PBE (2 rooms)	CU-2E18PBE (2 rooms)	CU-3E18PBE (3 rooms)	CU-4E23PBE (4 rooms)	CU-4E27PBE (4 rooms)	CU-5E34PBE (5 rooms)

5.0 kW	6.0 kW	6.5 kW	8.0 kW	10.0 kW
 KIT-XE18-PKE	 KIT-XE21-PKE			
 KIT-E18-PKE	 KIT-E21-PKE	 KIT-E24-PKE	 KIT-E28-PKE	
 KIT-RE18-PKE-3		 KIT-RE24-PKE-3		
 KIT-E18-PFE				
 KIT-E18-JD3EA				
 KIT-2MRE99-PKE // KIT-2MRE912-PKE // KIT-2MRE1212-PKE				
 KIT-2XE/E99-PKE // KIT-2XE/E712-PKE // KIT-2XE/E912-PKE // KIT-2XEE/1212-PKE				
	 KIT-3XE/E7712-PBE // KIT-3XE/E7715-PBE // KIT-3E557-PBE			
			 KIT-4E5557-PBE / KIT-4XE/E77712-PBE / KIT- 4XE/E77715-PBE / KIT-4XE/E7777-PBE / KIT- 4XE/E77712-PKE / KIT-4XE/E77715-PKE	
				 KIT-5XE7777-PBE / KIT-5E7777-PBE

Feature Explanations

Healthy Air Quality

Air purifier 99% removal bacteria-virus-mould
Nanoe-G
Nanoe-G utilises nano-technology fine particles to purify the air in the room. It works effectively on airborne and adhesive micro-organisms such as bacteria, viruses and mould thus ensuring a cleaner living environment.

Perfect humidity control
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.

Prevention allergen filter
Anti Bacterial Filter
The Anti Bacterial 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

Odour-removing function
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

A class energy saving
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.

A class energy saving
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.

Up to 38% energy savings (cooling)
Econavi
The sensor determines the human activity level and the position in the room and adjust the air flow orientation for maximum comfort and maximum savings, and detects changes in sunlight intensity and judges whether it is sunny or cloudy/night. It reduces the waste of heating under more sunlight conditions.

Sunlight detection
Econavi Sunlight Detection
Detects changes in sunlight intensity and judges whether it is sunny or cloudy/night. It reduces the waste of heating under more sunlight conditions.

Improved comfort
Autocomfort
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.

Silent air 20 dB
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 -10°C in cooling mode
Down to -10°C in cooling only mode
The air conditioner works in cooling only mode with an outdoor temperature of -10°C.

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

Down to -25°C in heating mode
Down to -25°C in heating mode
The air conditioner works in heat pump mode with an outdoor temperature as low as -25°C.

Constant heating
Heatcharge
This innovative, newly developed technology charges heat and uses it for heating. Thanks to this system, you can enjoy incredibly powerful, comfortable air conditioner heating.

Prevent freezing
Summer House
This innovative function keeps the house at 7/8 °C to avoid freezing pipes during the winter. This function is highly appreciated in summer house or week end houses.

Easy control by BMS
Easy control by BMS
The communication port is integrated into the indoor unit and provides easy connection to, and control of, your Panasonic heat pump to your home or building management system.

Powerful Mode
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 wellbeing 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. The flow can also be set a fixed angle with the remote control.

Manual Horizontal Airflow Control

Auto Mode (Inverter)
Automatically changes from cooling to heating depending on the set temperature for 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
Indicates the maximum length of pipe between the outdoor unit and the indoor unit(s). The distances permitted, demonstrate the 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.

5 Years Warranty.
Panasonic guarantees the compressors in the entire range for five years.

Feature Comparison

	MODELS	WALL MOUNTED VE INVERTER+ ENERGY CHARGE SYSTEM	WALL MOUNTED ETHEREA INVERTER+ SILVER	WALL MOUNTED ETHEREA INVERTER+ WHITE	WALL MOUNTED RE TYPE STANDARD INVERTER	WALL MOUNTED RE-3 TYPE STANDARD INVERTER	FLOOR CONSOLE TYPE INVERTER+	4-WAY 60x60 CASSETTE INVERTER	LOW STATIC PRESSURE HIDE AWAY INVERTER	2x1 WALL MOUNTED MRE TYPE STANDARD INVERTER	ETHEREA MULTI SPLIT 2x1 INVERTER+	ETHEREA MULTI SPLIT 3x1 INVERTER+	ETHEREA MULTI SPLIT 4x1 AND 5x1 INVERTER+
Healthy Air Quality	Nano-e air purifying system	✓	✓	✓							✓	✓	✓
	Mild Dry Cooling		✓	✓									
	Anti Bacterial Filter				✓ 10 years			✓ Optional		✓			
	One-Touch anti-mould air filter				✓	✓	✓	✓					
	Odour-removing function	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Removable, washable panel	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓
	Inverter+ system	✓	✓	✓			✓				✓	✓	✓
	Inverter system				✓	✓		✓	✓	✓			
	Econavi		✓	✓							✓	✓	✓
	Econavi Sunlight Detection	✓											
Comfort	Autocomfort		✓	✓							✓	✓	✓
	Super Quiet mode	✓	✓ For XE7, XE9 and XE12	✓ For E7, E9 and E12	✓ For RE9, RE12 and RE15	✓ For RE9, RE12 and RE15							
	Down to -10°C in cooling only	✓ -10 °C	✓ -10 °C	✓ -10 °C		✓ -10 °C		✓ -10 °C	✓ -10 °C		✓ -10 °C	✓ -10 °C	✓ -10 °C
	Down to -15°C in heating mode		✓ -15 °C	✓ -15 °C	✓ -10 °C	✓ -15 °C	✓ -15 °C	✓ -10 °C	✓ -10 °C	✓ -10 °C	✓ -15 °C	✓ -15 °C	✓ -15 °C
	Down to -25°C in heating mode	✓											
	Heatcharge	✓											
	Summer House	✓											
	Easy control by BMS	✓	✓	✓				✓	✓	✓	✓	✓	✓
	Powerful mode	✓	✓	✓	✓ For RE9, RE12 and RE15	✓ For RE9, RE12 and RE15	✓	✓	✓		✓	✓	✓
	Soft dry operation mode	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Use	Wide & long airflow vane	✓								✓			
	Personal airflow creation	✓	✓	✓		✓ For RE18 and RE24							
	Automatic vertical airflow control	✓	✓	✓	✓ For RE9, RE12 and RE15	✓ For RE9, RE12 and RE15	✓	✓	✓	✓	✓	✓	✓
	Manual horizontal airflow control	✓	✓ For XE7, XE9, XE12 and XE15	✓ For E7, E9, E12 and E15	✓ For RE9, RE12 and RE15	✓ For RE9, RE12 and RE15	✓	✓	✓	✓	✓	✓	✓
	AUTO mode (Inverter)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Simple Auto Changeover	✓	✓	✓	✓	✓							
	Hot start mode	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	12-hour ON&OFF timer				✓ For RE9, RE12 and RE15	✓ For RE9, RE12 and RE15							
	Real time clock with dual ON&OFF timer	✓	✓	✓							✓	✓	✓
	Real time clock with single ON&OFF timer					✓ For RE18 and RE24	✓	✓	✓	✓			
Reliability	LCD Wireless remote controller	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Automatic restart	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Long piping	✓ 15 m	✓ 15 m (XE7-15) 20 m (XE18-21)	✓ 15 m (E7-15) 20 m (E18-21) 30 m (E24-28)	✓ 15 m (RE9-15)	✓ 15 m (RE9-15) 20 m (RE18) 30 m (RE24)	✓ 15 m (E9-12) 20 m (E18)	✓ 20 m	✓ 20 m	✓ Max. 30 m	✓ Max. 30 m	✓ Max. 50 m	✓ Max. 70 m
	Top-Panel maintenance access	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Self-diagnosis function	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Warranty on the compressor	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

**WALL MOUNTED VE
INVERTER+
ENERGY CHARGE SYSTEM**

The new Heatcharge from Panasonic has the capacity to store heat on the outdoor unit which allows to start heating to start quickly just after turning on the heat pump. It also ensures a maximum comfort and heat in the house even during defrost operation as Heat charge also stores heat to prevent cool air during defrost.

ECONAVI builds-in a new Sunlight Detection technology to adjust output ideally thereby giving you the best comfort at anytime whilst saving energy.

Furthermore, the Nanoe-G revolutionary air-purifying system utilises nano technology fine particles to remove and deactivate 99% of both airborne and adhesive micro-organisms like bacteria, viruses and mould.



INTERNET CONTROL READY: Optional. SEER and SCOP: For KIT-VE9-NKE.

Max Capacity			7.70 kW	8.40 kW
Kit			KIT-VE9-NKE	KIT-VE12-NKE
Indoor			CS-VE9NKE	CS-VE12NKE
Outdoor			CU-VE9NKE	CU-VE12NKE
Cooling capacity	Nominal (Min - Max)	kW	2.50 (0.60 - 3.00)	3.50 (0.60 - 4.00)
EER¹⁾	Nominal	Energy Saving	5.15 A	3.98 A
SEER	Nominal	Energy Saving	8.60 A+++	8.50 A+++
Pdesign (cooling)			2.5	3.5
Power input Cooling	Nominal (Min - Max)	kW	0.480 (0.140 - 0.790)	0.880 (0.140 - 1.100)
Annual electricity consumption (cooling)²⁾			102	145
Heating capacity	Nominal (Min - Max)	kW	3.20 (0.60 - 7.70)	4.20 (0.60 - 8.40)
Heating capacity at -7 °C	Nominal	kW	3.2	5.60
COP¹⁾	Nominal	Energy Saving	5.47 A	4.91 A
SCOP	Nominal	Energy Saving	5.40 A+++	5.10 A+++
Pdesign at -10 °C			3.2	4.2
Power input Heating	Nominal (Min - Max)	kW	0.580 (0.140 - 2.720)	0.850 (0.140 - 3.160)
Annual electricity consumption (heating)²⁾			830	1153
Indoor Unit				
Power source	V		230	230
Recommended Fuse	A		16	16
Recommended power cable section	mm²		1.5	1.5
Connection	mm²		4 x 1.5	4 x 1.5
Current (Nominal)	Cooling / Heating	A	2.2 / 2.7	3.9 / 3.8
Max. current	A		14.0	15.0
Air Volume	Cooling / Heating	m³/h	600 / 600	654 / 618
Moisture removal volume	l/h		1.5	2.0
Sound pressure Level³⁾	Cooling (Hi / Lo / S-Lo)	dB(A)	44 / 26 / 23	45 / 29 / 26
	Heating (Hi / Lo / S-Lo)	dB(A)	44 / 27 / 24	45 / 33 / 30
Sound power Level	Cooling / Heating (Hi)	dB	59 / 59	60 / 60
Dimensions	H x W x D	mm	295 x 890 x 275	295 x 890 x 275
Net weight	kg		14.5	14.5
Air purifier filter			Nanoe-G	Nanoe-G
Outdoor Unit				
Air Volume	Cooling / Heating	m³/h	1.980 / 1.890	2.052 / 1.890
Sound pressure Level³⁾	Cooling (Hi)	dB(A)	49	50
	Heating (Hi)	dB(A)	49	50
Sound power Level	Cooling / Heating (Hi)	dB	64 / 64	65 / 65
Dimensions⁴⁾	H x W x D	mm	623 x 799 x 299	623 x 799 x 299
Net weight	kg		43	43
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	1.50	1.50
Elevation difference (in/out)	Max	m	12	12
Piping length	Min / Max	m	3 / 15	3 / 15
Precharge length	Max	m	7.5	7.5
Additional charge	g/m		20	20
Operating range	Cooling Min / Max	°C	-10 / +43	-10 / +43
	Heating Min / Max	°C	-25 ⁶⁾ / +24	-25 ⁶⁾ / +24

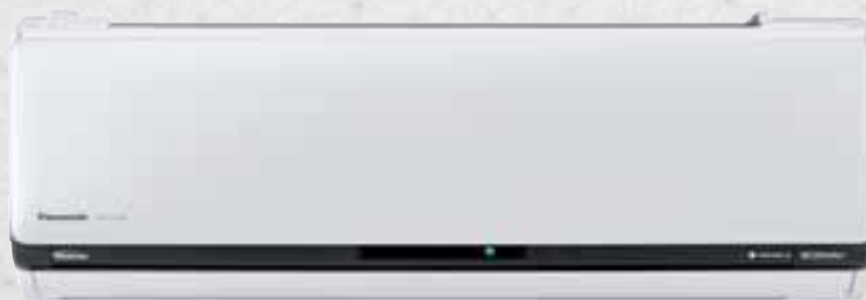
Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Heating Outdoor 7 °C DB / 6 °C WB. (DB: Dry Bulb; WB: Wet Bulb)

1) EER and COP classification is at 230 V in accordance with EU directive 2002/31/EC. 2) The annual energy consumption is calculated in accordance with the ErP directive. 3) The Sound pressure level of the units shows the value measured of 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. 6) Operation possible on heating mode up to -25 °C tested by SP. Performance guaranty on heating mode up to -20 °C.

Specifications subject to change without notice.

* Preliminary data.

For detailed information about ErP, please visit our page <http://www.doc.panasonic.de>



INCLUDED WITH
THE INDOOR UNIT

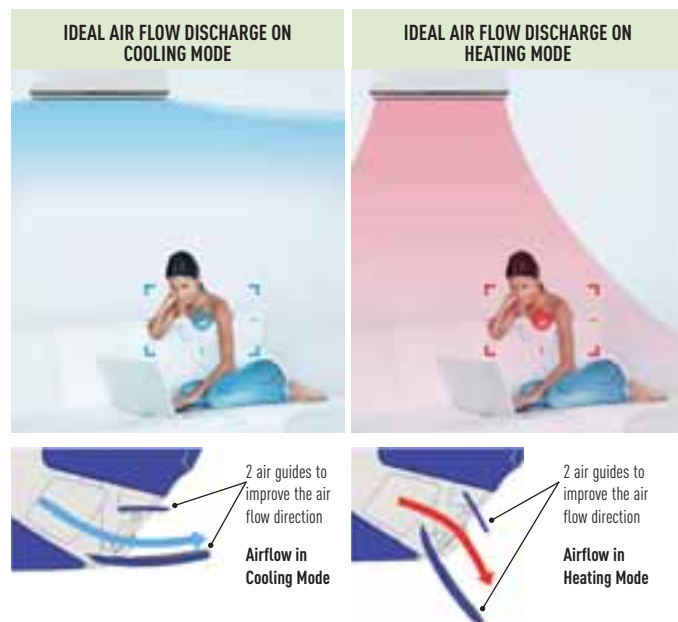


KIT-VE9-NKE // KIT-VE12-NKE

Technical focus

- **NEW!** ENERGY CHARGE SYSTEM. HEAT STORAGE UNIT WHICH REALIZES NON-STOP HEATING AND FAST HEATING FUNCTION
- **NEW!** MAXIMUM EFFICIENCY AND COMFORT WITH ECONAVI SUNLIGHT DETECTION
- **NEW!** NANO-E AIR PURIFYING SYSTEM, 99% EFFECTIVE ON BOTH AIRBORNE AND ADHESIVE MOULD, VIRUSES AND BACTERIA
- SUPER QUIET! ONLY 23 dB, EQUIVALENT TO NIGHT-TIME IN THE COUNTRY
- MORE POWERFUL AIRFLOW TO QUICKLY REACH THE DESIRED TEMPERATURE

NEW AIR FLOW DISCHARGE IDEAL AIR FLOW FOR HEATING AND FOR COOLING



CU-VE9NKE
CU-VE12NKE

Features

HEALTHY AIR

- **NEW!** Nanoe-G air purifying system

ENERGY EFFICIENCY AND ECOLOGY

- Maximum efficiency Inverter system, for bigger savings
- **NEW!** Econavi Sunlight Detection
- R410A refrigerant gas

COMFORT

- Super Quiet mode
- Super Powerful heating 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
- 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
- 12 m maximum elevation difference
- Maintenance access through the top panel of the outdoor unit
- Self-diagnosis function

WALL MOUNTED ETHEREA
INVERTER+
SILVER PLATED / WHITE

Etherea with enhanced Econavi sensor and new Nanoe-G air-purifying system: outstanding efficiency, comfort and healthy air combined with state-of-the-art design.

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



Internet Control Ready INTERNET CONTROL	A class energy saving INVERTER+	6.7 A++ SEER SEASONAL ENERGY EFFICIENCY RATIO	4.3 A+ SCOP SEASONAL COEFFICIENT OF PERFORMANCE	Air purifier 99% removal bacteria-virus-mold nanoe-g	Up to 38% energy savings (cooling) ECONAVI	Improved comfort AUTOCOMFORT	Perfect humidity control MILD DRY	Silent air 20 dB SUPER QUIET	Easy control by BMS CONNECTIVITY	5 year compressor warranty
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Awarded with the prestigious iF Design Award 2013

INTERNET CONTROL READY: Optional. SEER and SCOP: For KIT-XE7-PKE and KIT-E7-PKE. MILD DRY: Maintains a Relative Humidity up to 10% higher than cooling operation. Ideal when sleeping with the air conditioner on. SUPER QUIET: For XE7, XE9, XE12, E7, E9 and XE12.

Kit Silver Plated			KIT-XE7-PKE	KIT-XE9-PKE	KIT-XE12-PKE	KIT-XE15-PKE
Kit Silver Plated / with Smartphone Control			KIT-XE7-PKE-WIFI	KIT-XE9-PKE-WIFI	KIT-XE12-PKE-WIFI	KIT-XE15-PKE-WIFI
Kit White			KIT-E7-PKE	KIT-E9-PKE	KIT-E12-PKE	KIT-E15-PKE
Kit White / with Smartphone Control			KIT-E7-PKE-WIFI	KIT-E9-PKE-WIFI	KIT-E12-PKE-WIFI	KIT-E15-PKE-WIFI
Indoor Silver plated			CS-XE7PKEW	CS-XE9PKEW	CS-XE12PKEW	CS-XE15PKEW
Indoor White			CS-E7PKEW	CS-E9PKEW	CS-E12PKEW	CS-E15PKEW
Outdoor			CU-E7PKE	CU-E9PKE	CU-E12PKE	CU-E15PKE
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	4.41 (3.13-4.21) ◀A	4.72 (3.47-4.17) ◀A	4.12 (3.40-3.57) ◀A	3.36 (3.27-3.23) ◀A
SEER	Nominal	Energy Saving	6.7 ◀A++	6.6 ◀A++	6.6 ◀A++	5.9 ◀A+
Pdesign (cooling)		kW	2.1	2.5	3.5	4.2
Power input Cooling	Nominal (Min - Max)	kW	0.465 (0.240-0.570)	0.530 (0.245-0.720)	0.850 (0.250-1.120)	1.250 (0.260-1.550)
Annual electricity consumption (cooling) ²⁾		kWh/a	110	133	186	249
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)
Heating capacity at -7 °C	Nominal	kW	2.35	2.88	3.37	4.11
COP ¹⁾	Nominal (Min - Max)	Energy Saving	4.44 (3.26-3.96) ◀A	4.66 (3.54-3.88)	4.32 (3.47-3.55) ◀A	3.71 (3.33-3.52) ◀A
SCOP	Nominal	Energy Saving	4.3 ◀A+	4.1 ◀A+	4.0 ◀A+	3.6 ◀A
Pdesign at -10 °C		kW	2.1	2.7	3.2	3.6
Power input Heating	Nominal (Min - Max)	kW	0.630 (0.230-1.010)	0.730 (0.240-1.290)	0.925 (0.245-1.690)	1.430 (0.255-1.930)
Annual electricity consumption (heating) ²⁾		kWh/a	684	922	1120	1400
Indoor Unit						
Power source		V	230	230	230	230
Recommended Fuse		A	16	16	16	16
Recommended power cable section		mm ²	1.5	1.5	1.5	1.5
Connection indoor / outdoor		mm ²	4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5
Current (Nominal)	Cooling / Heating	A	2.15 / 2.85	2.4 / 3.35	3.80 / 4.10	5.50 / 6.40
Max. current		A	4.5	5.7	7.6	8.8
Air Volume	Cooling / Heating	m ³ /h	732 / 768	762 / 786	834 / 858	846 / 900
Moisture removal volume		l/h	1.3	1.5	2	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 / Heating	dB	53 / 54	55 / 56	58 / 58	59 / 59
Dimensions	H x W x D	mm	295 x 870 x 255	295 x 870 x 255	295 x 870 x 255	295 x 870 x 255
Net weight		kg	10	10	10	10
Air purifier filter			Nanoe-G	Nanoe-G	Nanoe-G	Nanoe-G
Outdoor Unit						
Air Volume	Cooling / Heating	m ³ /h	2,034 / 2,034	1,788 / 1,788	1,998 / 1,998	1,998 / 1,998
Sound pressure Level ³⁾	Cooling / Heating (Hi)	dB(A)	45 / 46	46 / 47	48 / 50	49 / 51
Sound power Level	Cooling / Heating (Hi)	dB	60 / 61	61 / 62	63 / 65	64 / 66
Dimensions ⁴⁾	H x W x D	mm	542 x 780 x 289	542 x 780 x 289	619 x 824 x 299	619 x 824 x 299
Net weight		kg	31	33	34	33
Piping connections	Liquid pipe / Gas pipe	inch (mm)	1/4 (6.35) / 3/8 (9.52)	1/4 (6.35) / 3/8 (9.52)	1/4 (6.35) / 3/8 (9.52)	1/4 (6.35) / 1/2 (12.70)
Refrigerant Loading	R410A	kg	0.830	1.00	1.05	1.02
Elevation difference (in/out)	Max	m	15	15	15	15
Piping length	Min / Max	m	3 / 15	3 / 15	3 / 15	3 / 15
Precharge length	Max	m	7.5	7.5	7.5	7.5
Additional charge		g/m	20	20	20	20
Operating range	Cooling Min / Max	°C	-10 / +43	-10 / +43	-10 / +43	-10 / +43
	Heating Min / Max	°C	-15 / +24	-15 / +24	-15 / +24	-15 / +24

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Heating Outdoor 7 °C DB / 6 °C WB. (DB: Dry Bulb; WB: Wet Bulb)
 Connectivity restriction: JKE units are not compatible with PKE units.

1) EER and COP classification is at 230 V in accordance with EU directive 2002/31/EC. 2) The annual energy consumption is calculated in accordance with the ErP directive. 3) The Sound pressure level of the units shows the value measured of 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.
 Specifications subject to change without notice.

For detailed information about ErP, please visit our page <http://www.doc.panasonic.de>



CS-E7PKEW // CS-E9PKEW //
CS-E12PKEW // CS-E15PKEW

CS-XE7PKEW // CS-XE9PKEW // CS-XE12PKEW // CS-XE15PKEW



INCLUDED WITH
THE INDOOR UNIT



OPTIONAL
WIRED REMOTE CONTROL
CZ-RD514C



KIT SILVER PLATED: KIT-XE7-PKE // KIT-XE9-PKE // KIT-XE12-PKE // KIT-XE15-PKE

KIT WHITE: KIT-E7-PKE // KIT-E9-PKE // KIT-E12-PKE // KIT-E15-PKE

Technical focus

- MAXIMUM EFFICIENCY AND COMFORT WITH ECONAVI, NOW WITH SUNLIGHT DETECTION
- NANO-E AIR PURIFYING SYSTEM, 99% EFFECTIVE ON BOTH AIRBORNE AND ADHESIVE MOULD, VIRUSES AND BACTERIA
- OPTIONAL SMARTPHONE CONTROL
- MILD DRY COOLING: PREVENT A RAPID DECREASE IN ROOM HUMIDITY
- SUPER QUIET! ONLY 20 dB, EQUIVALENT TO NIGHT-TIME IN THE COUNTRY (XE7, XE9 XE12, E7, E9 AND E12)
- MORE POWERFUL AIRFLOW TO QUICKLY REACH THE DESIRED TEMPERATURE

NEW AIR FLOW DISCHARGE IDEAL AIR FLOW FOR HEATING AND FOR COOLING



CU-E7PKE
CU-E9PKE



CU-E12PKE
CU-E15PKE

Features

HEALTHY AIR

- Nanoe-G air purifying system
- 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
- -45% consumption with Econavi on heat pump, and -38% 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
- Optional wired weekly timer with 6 settings per day and 42 settings per week
- Connectivity function (indoor unit equipped with PCB port which can be connected to outside network)
- Optional Smartphone control

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

WALL MOUNTED ETHEREA
INVERTER+
SILVER PLATED / WHITE

Etherea with enhanced Econavi sensor and new Nanoe-G air-purifying system: outstanding efficiency, comfort and healthy air combined with state-of-the-art design.

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



Internet Control Ready INTERNET CONTROL	A class energy saving INVERTER+	6.9 A++ SEER SEASONAL ENERGY EFFICIENCY RATIO	4.2 A+ SCOP SEASONAL COEFFICIENT OF PERFORMANCE	Air purifier 99% removal bacteria-virus-mold nanoe-G	Up to 38% energy savings (cooling) ECONAVI	Improved comfort AUTOCOMFORT	Perfect humidity control MILD DRY	Easy control by BMS CONNECTIVITY	5 year compressor warranty
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Awarded with the prestigious IF Design Award 2013

INTERNET CONTROL READY: Optional. SEER and SCOP: For KIT-XE18-PKE and KIT-E18-PKE. MILD DRY: Maintains a Relative Humidity up to 10% higher than cooling operation. Ideal when sleeping with the air conditioner on.

Kit Silver Plated			KIT-XE18-PKE	KIT-XE21-PKE	—	—
Kit Silver Plated / with Smartphone Control			KIT-XE18-PKE-WIFI	KIT-XE21-PKE-WIFI	—	—
Kit White			KIT-E18-PKE	KIT-E21-PKE	KIT-E24-PKE	KIT-E28-PKE
Kit White / with Smartphone Control			KIT-E18-PKE-WIFI	KIT-E21-PKE-WIFI	KIT-E24-PKE-WIFI	KIT-E28-PKE-WIFI
Indoor Silver plated			CS-XE18PKEW	CS-XE21PKEW	—	—
Indoor White			CS-E18PKEW	CS-E21PKEW	CS-E24PKEW	CS-E28PKES
Outdoor			CU-E18PKE	CU-E21PKE	CU-E24PKE	CU-E28PKE
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)
	Nominal (Min - Max)	kCal/h	4,300 (840-5,160)	5,420 (840-6,110)	5,850 (840-6,970)	6,580 (840-7,400)
EER ¹⁾	Nominal (Min - Max)	Energy Saving	3.47 (3.50-3.02) A	2.89 (3.50-2.84) C	3.27 (2.58-3.06) A	3.04 (2.58-2.95) B
SEER	Nominal	Energy Saving	6.9 A++	6.5 A++	6.1 A++	6.0 A+
Pdesign (cooling)		kW	5.0	6.3	6.8	7.7
Power input Cooling	Nominal (Min - Max)	kW	1.440 (0.280-1.990)	2.180 (0.280-2.500)	2.080 (0.380-2.650)	2.520 (0.380-2.920)
Annual electricity consumption (cooling) ²⁾		kWh/a	254	339	390	449
Heating capacity	Nominal (Min - Max)	kW	5.80 (0.98-8.00)	7.20 (0.98-8.50)	8.60 (0.98-9.90)	9.60 (0.98-11.00)
Heating capacity at -7 °C	Nominal (Min - Max)	kW	4,990 (840-6,880)	6,190 (840-7,310)	7,400 (840-8,510)	8,260 (840-9,460)
COP ¹⁾	Nominal (Min - Max)	Energy Saving	3.82 (2.88-3.11) A	3.44 (2.88-3.11) B	3.31 (2.18-3.16) C	2.94 (2.18-2.97) D
SCOP	Nominal	Energy Saving	4.2 A+	4.0 A+	3.8 A	3.6 A
Pdesign at -10 °C		kW	4.4	4.6	5.5	6.0
Power input Heating	Nominal (Min - Max)	kW	1.520 (0.340-2.570)	2.090 (0.340-2.730)	2.600 (0.450-3.130)	3.260 (0.450-3.700)
Annual electricity consumption (heating) ²⁾		kWh/a	1467	1610	2026	2333
Indoor Unit						
Power source		V	230	230	230	230
Recommended Fuse		A	16	20	20	20
Recommended power cable section		mm ²	1.5	2.5	2.5	2.5
Connection indoor / outdoor		mm ²	4 x 2.5	4 x 2.5	4 x 2.5	4 x 2.5
Current (Nominal)	Cooling / Heating	A	6.4 / 6.8	9.7 / 9.4	9.5 / 11.8	11.5 / 14.6
Max. current		A	11.3	11.9	13.8	15.5
Air Volume	Cooling / Heating	m ³ /h	1074 / 1158	1,034 / 1,200	1,188 / 1,272	1,266 / 1,314
Moisture removal volume		l/h	2.8	3.5	3.9	4.5
Sound pressure Level ³⁾	Cooling (Hi / Lo / S-Lo)	dB(A)	44 / 37 / 34	45 / 37 / 34	47 / 38 / 35	49 / 38 / 35
	Heating (Hi / Lo / S-Lo)	dB(A)	44 / 37 / 34	45 / 37 / 34	47 / 38 / 35	48 / 38 / 35
Sound power Level	Cooling / Heating (Hi)	dB	60 / 60	61 / 61	63 / 63	65 / 64
Dimensions	H x W x D	mm	295 x 1,070 x 255	295 x 1,070 x 255	295 x 1,070 x 255	295 x 1,070 x 255
Net weight		kg	13	13	13	13
Air purifier filter			Nanoe-G	Nanoe-G	Nanoe-G	Nanoe-G
Outdoor Unit						
Air Volume	Cooling / Heating	m ³ /h	2,352 / 2,274	2,502 / 2,424	3,012 / 3,012	3,270 / 3,270
Sound pressure Level ³⁾	Cooling / Heating (Hi)	dB(A)	47 / 47	48 / 49	52 / 52	53 / 53
Sound power Level	Cooling / Heating (Hi)	dB	61 / 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	795 x 875 x 320
Net weight		kg	46	47	67	67
Piping connections	Liquid pipe / Gas pipe	inch (mm)	1/4" (6.35) / 1/2" (12.70)	1/4" (6.35) / 1/2" (12.70)	1/4" (6.35) / 5/8" (15.88)	1/4" (6.35) / 5/8" (15.88)
Refrigerant Loading	R410A	kg	1.24	1.32	1.80	1.80
Elevation difference (in/out)	Max	m	15	15	20	20
Piping length	Min / Max	m	3 / 20	3 / 20	3 / 30	3 / 30
Precharge length	Max	m	7.5	7.5	10	10
Additional charge		g/m	20	20	30	30
Operating range	Cooling Min / Max	°C	-10 / +43	-10 / +43	-10 / +43	-10 / +43
	Heating Min / Max	°C	-15 / +24	-15 / +24	-15 / +24	-15 / +24

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Heating Outdoor 7 °C DB / 6 °C WB. (DB: Dry Bulb; WB: Wet Bulb)
 Connectivity restriction: JKE units are not compatible with PKE units.

1) EER and COP classification is at 230 V in accordance with EU directive 2002/31/EC. 2) The annual energy consumption is calculated in accordance with the ErP directive. 3) The Sound pressure 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.
 Specifications subject to change without notice.
 For detailed information about ErP, please visit our page <http://www.doc.panasonic.de>



CS-E18PKEW // CS-E21PKEW //
CS-E24PKEW // CS-E28PKEW

CS-XE18PKEW // CS-XE21PKEW



INCLUDED WITH
THE INDOOR UNIT



OPTIONAL
WIRED REMOTE CONTROL
CZ-RD514C



PRODUCT FOLLOWS THE NEW
ErP ECODSIGN REQUIREMENTS

KIT SILVER PLATED: KIT-XE18-PKE // KIT-XE21-PKE

KIT WHITE: KIT-E18-PKE // KIT-E21-PKE // KIT-E24-PKE // KIT-E28-PKE

Technical focus

- MAXIMUM EFFICIENCY AND COMFORT WITH ECONAVI, NOW WITH SUNLIGHT DETECTION
- NANO-E AIR PURIFYING SYSTEM, 99% EFFECTIVE ON BOTH AIRBORNE AND ADHESIVE MOULD, VIRUSES AND BACTERIA
- OPTIONAL SMARTPHONE CONTROL
- MILD DRY COOLING: PREVENT A RAPID DECREASE IN ROOM HUMIDITY
- MORE POWERFUL AIRFLOW TO QUICKLY REACH THE DESIRED TEMPERATURE

NEW AIR FLOW DISCHARGE IDEAL AIR FLOW FOR HEATING AND FOR COOLING



Airflow in
Cooling Mode

Airflow in
Heating Mode

Features

HEALTHY AIR

- Nanoe-G air purifying system
- 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
- -45% consumption with Econavi on heat pump, and -38% 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
- Optional wired weekly timer with 6 settings per day and 42 settings per week
- Connectivity function (indoor unit equipped with PCB port which can be connected to outside network)
- Optional Smartphone control

EASY INSTALLATION AND MAINTENANCE

- Removable, washable panel
- 20 m (for 18 and 21), 30 m (for 24 and 28) maximum connection distance
- 15 m maximum elevation difference
- Maintenance access through the top panel of the outdoor unit
- Self-diagnosis function



CU-E18PKE
CU-E21PKE



CU-E24PKE
CU-E28PKE

WALL MOUNTED RE TYPE STANDARD INVERTER

Inverter models are powerful and efficient and are always there when you need them. Furthermore, with the Anti Bacterial Filter, you can always enjoy the best quality air, without viruses, moulds and bacteria.



SUPER QUIET: For RE9 and RE12.

Kit			KIT-RE9-PKE	KIT-RE12-PKE	KIT-RE15-PKE
Indoor			CS-RE9PKE	CS-RE12PKE	CS-RE15PKE
Outdoor			CU-RE9PKE	CU-RE12PKE	CU-RE15PKE
Cooling capacity	Nominal (Min - Max)	kW	2.50 (0.90-3.00)	3.50 (0.90-3.90)	4.20 (1.00-4.60)
	Nominal (Min - Max)	kCal/h	2,150 (770-2,580)	3,010 (770-3,350)	3,610 (860-3960)
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
SEER	Nominal	Energy Saving	5.6 ◀A+	5.6 ◀A+	5.6 ◀A+
Pdesign (cooling)		kW	2.5	3.5	4.2
Power input Cooling	Nominal (Min - Max)	kW	0.700 (0.190-1.000)	1.010 (0.170-1.200)	1.260 (0.210-1.650)
Annual electricity consumption (cooling) ²⁾		kWh/a	156	219	263
Heating capacity	Nominal (Min - Max)	kW	3.30 (0.90-4.10)	4.25 (0.90-5.10)	5.00 (0.90-6.80)
	Nominal (Min - Max)	kCal/h	2,840 (770-3,530)	3,660 (770-4,390)	4,300 (770-5850)
Heating capacity at -7°C	Nominal	kW	3.00	3.70	4.93
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
SCOP	Nominal	Energy Saving	3.4 ◀A	3.4 ◀A	3.4 ◀A
Pdesign at -10 °C		kW	2.5	3.2	3.6
Power input Heating	Nominal (Min - Max)	kW	0.820 (0.170-1.150)	1.120 (0.150-1.460)	1.385 (0.210-2.280)
Annual electricity consumption (heating) ²⁾		kWh/a	1029	1318	1482
Indoor Unit					
Power source		V	230	230	230
Recommended Fuse		A	16	16	16
Recommended power cable section		mm ²	1.5	1.5	1.5
Connection (indoor/outdoor)		mm ²	4 x 1.5	4 x 1.5	4 x 1.5
Current (Nominal)	Cooling / Heating	A	3.3 / 3.8	4.7 / 5.2	6.0 / 6.3
Max. current		A	6.3	8.4	10.5
Air Volume	Cooling / Heating	m ³ /h	750 / 666	750 / 750	822 / 870
Moisture removal volume		l/h	1.4	2	2.4
Sound pressure Level ³⁾	Cooling (Hi / Lo / S-Lo)	dB(A)	42 / 27 / 22	42 / 30 / 22	44 / 31 / 29
	Heating (Hi / Lo / S-Lo)	dB(A)	42 / 27 / 25	42 / 33 / 25	46 / 34 / 28
Sound power Level	Cooling (Hi)	dB	58	58	60
	Heating (Hi)	dB	58	58	62
Dimensions	H x W x D	mm	290 x 848 x 213	290 x 848 x 213	290 x 848 x 213
Net weight		kg	8	8	8
Air purifier filter			Antiallergic filter	Antiallergic filter	Antiallergic filter
Outdoor Unit					
Air Volume	Cooling / Heating	m ³ /h	1,902 / 1,842	1,956 / 1,896	1,956 / 1,956
Sound pressure Level ³⁾	Cooling (Hi)	dB(A)	47	48	49
	Heating (Hi)	dB(A)	48	50	51
Sound power Level	Cooling (Hi)	dB	63	64	65
	Heating (Hi)	dB	64	66	67
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	23	26	27
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) / 1/2 (12.70)
Refrigerant Loading	R410A	kg	0.77	0.86	0.92
Elevation difference (in/out)	Max	m	10	10	10
Piping length	Min / Max	m	3 / 15	3 / 15	3 / 15
Precharge length	Max	m	7	7	7
Additional charge		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

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Heating Outdoor 7 °C DB / 6 °C WB. (DB: Dry Bulb; WB: Wet Bulb)
Connectivity restriction: JKE units are not compatible with PKE units.

1) EER and COP classification is at 230 V in accordance with EU directive 2002/31/EC. 2) The annual energy consumption is calculated in accordance with the ErP directive. 3) The Sound pressure level of the units shows the value measured of 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.

Specifications subject to change without notice.

For detailed information about ErP, please visit our page <http://www.doc.panasonic.de>



CS-RE9PKE // CS-RE12PKE // CS-RE15PKE



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



FOR RE18 AND RE24.
INCLUDED WITH THE
INDOOR UNIT

KIT-RE9-PKE // KIT-RE12-PKE // KIT-RE15-PKE

Technical focus

- COMPLETE LINE-UP OF STANDARD INVERTER MODELS
- QUIETER INDOOR UNITS
- HIGH ENERGY SAVINGS
- LONG CONNECTION DISTANCE (FROM 15 m UP TO 30 m)

Features

HEALTHY AIR

- New generation Anti Bacterial Filter
- Odour-removing function
- Anti-mould filter

ENERGY, EFFICIENCY AND ECOLOGY

- Inverter system
- R410A refrigerant gas

COMFORT

- 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)
- User friendly infrared remote control

EASY INSTALLATION AND MAINTENANCE

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



CU-RE9PKE CU-RE15PKE
CU-RE12PKE

WALL MOUNTED RE-3 TYPE STANDARD INVERTER

Inverter models are powerful and efficient and are always there when you need them.

A class
energy saving
INVERTER

6.7 A++
SEER
SEASONAL ENERGY EFFICIENCY RATIO

4.1 A+
SCOP
SEASONAL COEFFICIENT OF PERFORMANCE

Silent air
22 dB
SUPER QUIET

5 year
compressor
warranty

SEER and SCOP: For KIT-RE18-PKE-3. SUPER QUIET: For RE9 and RE12.

Kit			KIT-RE9-PKE-3	KIT-RE12-PKE-3	KIT-RE15-PKE-3	KIT-RE18-PKE-3	KIT-RE24-PKE-3
Indoor			CS-RE9PKE-3	CS-RE12PKE-3	CS-RE15PKE-3	CS-RE18PKE-3	CS-RE24PKE-3
Outdoor			CU-RE9PKE-3	CU-RE12PKE-3	CU-RE15PKE-3	CU-RE18PKE-3	CU-RE24PKE-3
Cooling capacity	Nominal (Min - Max)	kW	2.50 (0.90-3.00)	3.50 (0.90-3.90)	4.20 (1.00-4.60)	5.00 (0.98-6.00)	6.80 (0.98-8.10)
	Nominal (Min - Max)	kCal/h	2,150 (770-2,580)	3,010 (770-3,350)	3,610 (860-3960)	4,300 (840-5,160)	5,850 (840-6,970)
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 (3.50-2.96) ◀A	3.24 (2.58-3.03) ◀A
SEER	Nominal	Energy Saving	5.6 ◀A+	5.6 ◀A+	5.6 ◀A+	6.7 ◀A++	5.9 ◀A+
Pdesign (cooling)		kW	2.5	3.5	4.2	5.0	6.8
Power input Cooling	Nominal (Min - Max)	kW	0.700 (0.190-1.000)	1.010 (0.170-1.200)	1.260 (0.210-1.650)	1.470 (0.280-2.030)	2.100 (0.380-2.670)
Annual electricity consumption (cooling) ²⁾		kWh/a	156	219	263	261	403
Heating capacity	Nominal (Min - Max)	kW	3.30 (0.90-4.10)	4.25 (0.90-5.10)	5.00 (0.90-6.80)	5.80 (0.98-8.00)	8.60 (0.98-9.90)
	Nominal (Min - Max)	kCal/h	2,840 (770-3,530)	3,660 (770-4,390)	4,300 (770-5850)	4,990 (840-6,880)	7,400 (840-8,510)
Heating capacity at -7°C	Nominal	kW	3.00	3.70	4.93	4.98	6.13
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 (2.88-3.08) ◀A	3.28 (2.18-3.14) ◀C
SCOP	Nominal	Energy Saving	3.4 ◀A	3.4 ◀A	3.4 ◀A	4.1 ◀A+	3.4 ◀A
Pdesign at -10 °C		kW	2.5	3.2	3.6	4.4	5.5
Power input Heating	Nominal (Min - Max)	kW	0.820 (0.170-1.150)	1.120 (0.150-1.460)	1.385 (0.210-2.280)	1.540 (0.340-2.600)	2.620 (0.450-3.150)
Annual electricity consumption (heating) ²⁾		kWh/a	1029	1318	1482	1502	2265
Indoor Unit							
Power source		V	230	230	230	230	230
Recommended Fuse		A	16	16	16	20	20
Recommended power cable section		mm ²	1.5	1.5	1.5	2.5	2.5
Connection (indoor/outdoor)		mm ²	4 x 1.5	4 x 1.5	4 x 1.5	4 x 2.5	4 x 2.5
Current (Nominal)	Cooling / Heating	A	3.3 / 3.8	4.7 / 5.2	6.0 / 6.3	6.6 / 6.9	9.6 / 11.8
Max. current		A	6.3	8.4	10.5	11.4	13.9
Air Volume	Cooling / Heating	m ³ /h	750 / 666	750 / 750	822 / 870	978 / 1,074	1,104 / 1,164
Moisture removal volume		l/h	1.4	2	2.4	2.8	3.9
Sound pressure Level ³⁾	Cooling (Hi / Lo / S-Lo)	dB(A)	42 / 27 / 22	42 / 30 / 22	44 / 31 / 29	44 / 37	47 / 38
	Heating (Hi / Lo / S-Lo)	dB(A)	42 / 27 / 25	42 / 33 / 25	46 / 34 / 28	44 / 37	47 / 38
Sound power Level	Cooling (Hi)	dB	58	58	60	60	63
	Heating (Hi)	dB	58	58	62	60	63
Dimensions	H x W x D	mm	290 x 848 x 213	290 x 848 x 213	290 x 848 x 213	290 x 1,070 x 240	290 x 1,070 x 240
Net weight		kg	8	8	8	12	12
Outdoor Unit							
Air Volume	Cooling / Heating	m ³ /h	1,902 / 1,842	1,956 / 1,896	1,956 / 1,956	2,352 / 2,274	3,012 / 3,012
Sound pressure Level ³⁾	Cooling (Hi)	dB(A)	47	48	49	47	52
	Heating (Hi)	dB(A)	48	50	51	47	52
Sound power Level	Cooling (Hi)	dB	63	64	65	61	66
	Heating (Hi)	dB	64	66	67	61	66
Dimensions ⁴⁾	H x W x D	mm	540 x 780 x 289	540 x 780 x 289	540 x 780 x 289	695 x 875 x 320	795 x 875 x 320
Net weight		kg	23	26	27	46	67
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) / 1/2 (12.70)	1/4 (6.35) / 1/2 (12.70)	1/4 (6.35) / 5/8 (15.88)
Refrigerant Loading	R410A	kg	0.77	0.86	0.92	1.22	1.8
Elevation difference (in/out)	Max	m	10	10	10	15	20
Piping length	Min / Max	m	3 / 15	3 / 15	3 / 15	3 / 20	3 / 30
Precharge length	Max	m	7	7	7	7.5	10
Additional charge		g/m	20	20	20	20	30
Operating range	Cooling Min / Max	°C	-10 / +43	-10 / +43	-10 / +43	-10 / +43	-10 / +43
	Heating Min / Max	°C	-15 / +24	-15 / +24	-15 / +24	-15 / +24	-15 / +24

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Heating Outdoor 7 °C DB / 6 °C WB. (DB: Dry Bulb; WB: Wet Bulb)

1) EER and COP classification is at 230 V in accordance with EU directive 2002/31/EC. 2) The annual energy consumption is calculated in accordance with the ErP directive. 3) The Sound pressure level of the units shows the value measured of 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. Specifications subject to change without notice.

For detailed information about ErP, please visit our page <http://www.doc.panasonic.de>



CS-RE9PKE-3 // CS-RE12PKE-3 // CS-RE15PKE-3



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



FOR RE18 AND RE24.
INCLUDED WITH THE
INDOOR UNIT

KIT-RE9-PKE-3 // KIT-RE12-PKE-3 // KIT-RE15-PKE-3 // KIT-RE18-PKE-3 // KIT-RE24-PKE-3

Technical focus

- COMPLETE LINE-UP OF STANDARD INVERTER MODELS
- QUIETER INDOOR UNITS
- HIGH ENERGY SAVINGS
- LONG CONNECTION DISTANCE (FROM 15 m UP TO 30 m)

Features

HEALTHY AIR

- Odour-removing function
- Anti-mould filter

ENERGY, EFFICIENCY AND ECOLOGY

- Inverter system
- R410A refrigerant gas

COMFORT

- 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



CS-RE18PKE-3 // CS-RE24PKE-3

CU-RE9PKE-3 CU-RE12PKE-3
CU-RE15PKE-3

CU-RE18PKE-3



CU-RE24PKE-3

**FLOOR CONSOLE TYPE
INVERTER+**

Console designed for discreet integration on walls, and for high performance, 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.

A class
energy saving
INVERTER+

6.2 A++
SEER
SEASONAL ENERGY EFFICIENCY RATIO

3.9 A
SCOP
SEASONAL COEFFICIENT OF PERFORMANCE

Silent air
23 dB
SUPER QUIET

Down to
-15 °C in
heating mode
OUTDOOR TEMPERATURE

5 year
compressor
warranty

SEER and SCOP: For KIT-E18-PFE.

KIT			KIT-E9-PFE	KIT-E12-PFE	KIT-E18-PFE
Indoor			CS-E9GFEW	CS-E12GFEW	CS-E18GFEW
Outdoor			CU-E9PFE	CU-E12PFE	CU-E18PFE
Cooling capacity	Nominal (Min - Max)	kW	2.50 (0.85 - 3.00)	3.50 (0.85 - 3.80)	5.00 (0.98 - 5.60)
	Nominal (Min - Max)	kCal/h	2,150 (730 - 2,580)	3,010 (730 - 3,270)	4,300 (840 - 4,820)
EER ¹⁾	Nominal	Energy Saving	4.50 A	3.72 A	3.25 A
SEER	Nominal	Energy Saving	6.1 A++	5.8 A++	6.2 A++
Pdesign (cooling)		kW	2.500	3.500	5.000
Power input Cooling	Nominal	kW	0.56	0.94	1.54
Annual electricity consumption (cooling) ²⁾		kWh/a	143	211	282
Heating capacity	Nominal (Min - Max)	kW	3.40 (0.85 - 5.00)	4.00 (0.85 - 6.00)	5.80 (0.98 - 7.10)
	Nominal (Min - Max)	kCal/h	2920 (730 - 4,300)	3,440 (730 - 5,160)	4,990 (840 - 6,110)
COP ¹⁾	Nominal	Energy Saving	4.20 A	4.0 A	3.63 A
SCOP	Nominal	Energy Saving	3.8 A	3.8 A	3.9 A
Pdesign at -10 °C		kW	2.7	3.2	4.4
Power input Heating	Nominal	kW	0.810	1.000	1.600
Annual electricity consumption (heating) ²⁾		kWh/a	995	1,179	1,579
Indoor Unit					
Power source		V	230	230	230
Recommended Fuse		A	16	16	16
Recommended power cable section		mm ²	1.5	1.5	1.5
Connection		mm ²	4 x 1.5	4 x 1.5	4 x 1.5
Current (Nominal)	Cooling	A	2.6	4.4	7.2
	Heating	A	3.75	4.6	7.5
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	46 / 36 / 32
Sound power level	Cooling (Hi)	dB	54	55	60
	Heating (Hi)	dB	54	55	62
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					
Air Volume	Cooling / Heating	m ³ /h	1,788 / 1,788	1,998 / 1,998	2,352 / 2,274
Sound pressure Level ³⁾	Cooling (Hi)	dB(A)	46	48	47
	Heating (Hi)	dB(A)	47	50	48
Sound power level	Cooling (Hi)	dB	61	63	61
	Heating (Hi)	dB	62	65	62
Dimensions ⁴⁾	H x W x D	mm	542 x 780 x 289	619 x 824 x 299	695 x 875 x 320
Net weight		kg	33	34	46
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	0.970	1.000	1.120
Elevation difference (in/out)	Max	m	5	5	15
Piping length	Min / Max	m	3 / 15	3 / 15	3 / 20
Precharge length	Max	m	7.5	7.5	7.5
Additional charge		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

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Heating Outdoor 7 °C DB / 6 °C WB. (DB: Dry Bulb; WB: Wet Bulb)
Connectivity restriction: JKE units are not compatible with PKE units.

1) EER and COP classification is at 230 V in accordance with EU directive 2002/31/EC. 2) The annual energy consumption is calculated in accordance with the ErP directive. 3) The Sound pressure level of the units shows the value measured of a position 1 meter in front of the main body and 1 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.
Specifications subject to change without notice.

For detailed information about ErP, please visit our page <http://www.doc.panasonic.de>



INCLUDED WITH
THE INDOOR UNIT

KIT-E9-PFE // KIT-E12-PFE // KIT-E18-PFE

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

Features

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



CU-E9PFE
CU-E12PFE



CU-E18PFE

4 WAY 60x60 CASSETTE INVERTER

Small and powerful, ideal for offices and restaurants.



SEER and SCOP: For KIT-E9-PB4EA. ANTI BACTERIAL FILTER: Optional.

KIT			KIT-E9-PB4EA*			KIT-E12-PB4EA*		
Indoor			CS-E9PB4EA			CS-E12PB4EA		
Outdoor			CU-E9PB4EA			CU-E12PB4EA		
Panel			CZ-BT20E			CZ-BT20E		
Cooling capacity	Nominal (Min - Max)	kW	2.50 (0.85-3.20)			3.4 (0.9 - 4.8)		
	Nominal (Min - Max)	kCal/h	2150 (731-2752)			2924 (770 - 4130)		
EER ¹⁾	Nominal	kW	4.55 A			3.82 A		
SEER		W/W	5.8 A+			5.6 A+		
Pdesign (cooling)		kW	2.50			3.40		
Power input Cooling	Nominal	kW	0.550			0.890		
Annual electricity consumption (cooling) ²⁾		kWh/a	151			213		
Heating capacity	Nominal (Min - Max)	kW	3.20 (0.85-5.10)			4.5 (0.9 - 6.20)		
	Nominal (Min - Max)	kCal/h	2752 (731-4386)			3870 (770 - 5330)		
COP ¹⁾	Nominal	kW	4.00 A			3.17 D		
SCOP	Nominal	Energy Saving	4.0 A+			3.8 A		
Pdesign at -10 °C		kW	2.70			3.00		
Power input Heating	Nominal	kW	0.800			1.420		
Annual electricity consumption (heating) ²⁾		kWh/a	945			1105		
Indoor Unit								
Power source		V	230			230		
Recommended Fuse		A	16			16		
Recommended power cable section		mm ²	1.5			1.5		
Connection		mm ²	4 x 1.5 to 2.5			4 x 1.5 to 2.5		
Current Nominal	Cooling / Heating	A	2.9 / 3.8			6.0 / 8.0		
Air Volume	Cooling / Heating	m ³ /h	630 / 648			630 / 648		
Moisture removal volume		l/h	1.5			2.3		
Sound pressure level ³⁾	Cooling (Hi/Lo/S-Lo)	dB(A)	34 / 26 / 23			34 / 26 / 23		
	Heating (Hi/Lo/S-Lo)	dB(A)	35 / 28 / 25			35 / 28 / 25		
Sound power Level	Cooling (Hi)	dB	50			50		
	Heating (Hi)	dB	51			51		
Dimensions (H x W x D)	Indoor	mm	260 x 575 x 575			260 x 575 x 575		
	Panel	mm	51 x 700 x 700			51 x 700 x 700		
Net weight	Indoor / Panel	kg	18 / 2.5			18 / 2.5		
Dust filter			Yes			Yes		
Antiallergic filter	Optional		CZ-SA22P			CZ-SA22P		
Outdoor Unit								
Power source		V	220-240			220-240		
Air Volume	Cooling / Heating	m ³ /h	1728			2808		
Sound pressure level ³⁾	Cooling / Heating (Hi)	dB(A)	45 / 46			45 / 47		
Sound power Level	Cooling / Heating (Hi)	dB	58 / 59			58 / 60		
Dimensions ⁴⁾	H x W x D	mm	619 x 824 x 299			695 x 875 x 320		
Net weight		kg	35			48		
Piping connections	Liquid / Gas pipe	Inch (mm)	1/4 (6.35) / 3/8 (9.52)			1/4 (6.35) / 1/2 (12.70)		
Refrigerant Loading	R410A	kg	1.15			1.23		
Elevation difference (in/out)	Max	m	15			15		
Piping length	Min / Max	m	3 / 20			3 / 20		
Precharge length	Max	m	10			10		
Additional charge		g/m	20			20		
Operating range	Cooling (Min / Max)	°C	- 10 / 43			- 10 / 43		
	Heating (Min / Max)	°C	- 10 / 24			- 10 / 24		

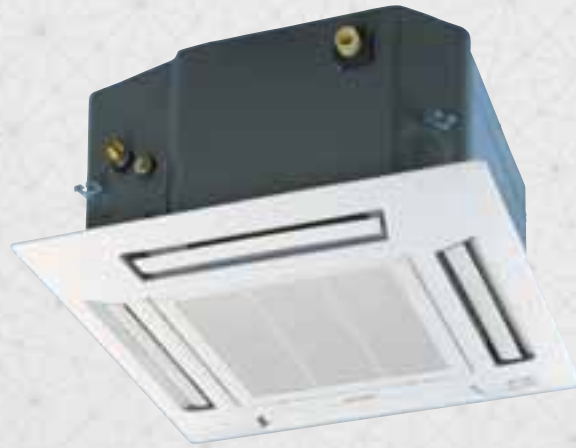
Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Heating Outdoor 7 °C DB / 6 °C WB. (DB: Dry Bulb; WB: Wet Bulb)

1) EER and COP, Energy Saving Classification, is at 220-240 V (380-415 V) only in accordance with EU directive 2002/31/EC. 2) The annual energy consumption is calculated in accordance with the ErP directive. 3) The Sound pressure level of the units shows the value measured at a position 1 meter in front of the main body and 1.5 m below the ceiling in the centre of the unit. The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification. 4) 70 mm for piping port.

* Available from June 2013.

Specifications subject to change without notice.

For detailed information about ErP, please visit our page <http://www.doc.panasonic.de>



INCLUDED WITH
THE INDOOR UNIT



OPTIONAL
WIRED REMOTE CONTROL
CZ-RD52CP

KIT-E9-PB4EA // KIT-E12-PB4EA

Technical focus

- EASY INSTALLATION ON THE DETACHABLE EUROPEAN 60x60 CEILING GRID
- OPERATION DOWN TO -10 °C IN COOLING AND HEATING MODES
- PIPING LENGTH UP TO 30 m
- MAXIMUM ELEVATION DIFFERENCE UP TO 20 m
- ULTRA COMPACT OUTDOOR UNITS FOR EASY INSTALLATION
- 24 HOUR ON/OFF TIMER

Features

HEALTHY AIR

- CZ-SA22P Anti Bacterial 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



CU-E9PB4EA



CU-E12PB4EA

**LOW STATIC PRESSURE
HIDE AWAY
INVERTER**

Compact line up of Inverter Hide Away Units, from 1.0 HP to 5.0 HP, Single Phase.

A class
energy saving

5.8 A+
SEER

4.2 A+
SCOP

Down to
-10 °C in
cooling mode

Down to
-10 °C in
heating mode

5 year
compressor
warranty

SEER and SCOP: For KIT-E9-PD3EA.

KIT			KIT-E9-PD3EA*	KIT-E12-PD3EA*	KIT-E10-KD3EA**	KIT-E15-JD3EA**	KIT-E18-JD3EA**
Indoor			CS-E9PD3EA	CS-E12PD3EA	CS-E10KD3EA	CS-E15JD3EA	CS-E18JD3EA
Outdoor			CU-E9PD3EA	CU-E12PD3EA	CU-E10HBEA	CU-E15HBEA	CU-E18HBEA
Cooling capacity	Nominal (Min-Max)	kW	2.50 (0.85-3.00)	3.4 (0.90-4.70)	2.50 (0.80-3.00)	4.10 (0.90-4.70)	5.10 (0.90-5.70)
	Nominal (Min-Max)	kCal/h	2150 (731-2580)	2924 (770-4040)	2150 (690-2580)	3530 (770-4040)	4390 (770-4900)
EER ¹⁾	Nominal (Min-Max)	kW	4.24 A	3.86 A	3.68 (3.87 - 3.53) A	3.31 (3.53 - 3.13) A	3.15 (3.53 - 3.10) B
SEER		W/W	5.8 A+	5.6 A			
Pdesign (cooling)		kW	2.50	3.40			
Power input Cooling	Nominal (Min-Max)	kW	0.590	0.880	0.680 (0.155 - 0.850)	1.240 (0.255 - 1.500)	1.620 (0.250 - 1.840)
Annual electricity consumption (cooling) ²⁾		kWh/a	151	213			
Heating capacity	Nominal (Min-Max)	kW	3.20 (0.85-5.00)	4.00 (0.90-5.5)	3.20 (0.60-5.00)	4.80 (0.90-55.0)	6.10 (0.90-7.10)
	Nominal (Min-Max)	kCal/h	2752 (731-4300)	3440 (770-4730)	2752 (516-4300)	4130 (770-4730)	5250 (770-6110)
COP ¹⁾	Nominal (Min-Max)	kW	3.72 A	3.54 B	3.64 (4.44 - 3.27) A	2.64 (3.46 - 2.63) E	3.30 (3.46 - 3.23) C
SCOP	Nominal	Energy Saving	4.2 A+	3.8 A			
Pdesign at -10 °C		kW	2.60	2.90			
Power input Heating	Nominal (Min-Max)	kW	0.860	1.130	0.880 (0.135 - 1.530)	1.82 (0.260 - 2.090)	1.85 (0.260 - 2.200)
Annual electricity consumption (heating) ²⁾		kWh/a	867	1068	340	620	810
Indoor Unit							
Power source		V	230	230	230	230	230
Recommended Fuse		A	16	16	16	16	16
Recommended power cable section		mm ²	1.5	1.5	1.5	1.5	1.5
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
Current Nominal	Cooling / Heating	A	3.10 / 4.10	5.7 / 8.2	3.1 / 4.1	5.7 / 8.2	7.3 / 8.3
External static pressure ³⁾	S-Hi / Hi / Me / Lo	Pa	54 / 24 / 15 / 10	54 / 24 / 15 / 10	54 / 24 / 15 / 10	54 / 24 / 15 / 10	54 / 24 / 15 / 10
Air Volume	Cooling / Heating	m ³ /h	660 / 660	660 / 660	660 / 660	660 / 660	750 / 750
Moisture removal volume		l/h	1.50	2.30	1.50	2.30	2.80
Sound pressure level ⁴⁾	Cooling (Hi / Lo / S-Lo)	dB(A)	33 / 27 / 24	33 / 27 / 24	33 / 24	33 / 24	41 / 27
	Heating (Hi / Lo / S-Lo)	dB(A)	35 / 28 / 25	35 / 28 / 25	35 / 25	35 / 25	41 / 29
Sound power Level	Cooling (Hi)	dB	49	49	49	49	57
	Heating (Hi)	dB	51	51	51	51	57
Dimensions	H x W x D	mm	235 x 750 x 370	235 x 750 x 370	235 x 750+65 ⁴⁾ x 370	235 x 750+65 ⁴⁾ x 370	285 x 750+65 ⁴⁾ x 370
Net weight		kg	17	17	17	18	18
Dust filter			No	No	No	No	No
Outdoor Unit							
Power source		V	220-240	220-240	220 - 240	220 - 240	220 - 240
Air Volume	Cooling/Heating	m ³ /h	1728	2808	1728	2808	2380 - 415
Sound pressure level ⁴⁾	Cooling / Heating (Hi)	dB(A)	45 / 46	46 / 47	45 / 46	46 / 47	47 / 48
Sound power Level	Cooling / Heating (Hi)	dB	58 / 59	59 / 60	58 / 59	59 / 60	60 / 61
Dimensions ⁵⁾	H x W x D	mm	619 x 824 x 299	695 x 875 x 320	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	35	48	48
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) / 3/8 (9.52)	1/4 (6.35) / 1/2 (12.70)	1/4 (6.35) / 1/2 (12.70)
Refrigerant Loading	R410A	kg	1.15	1.23	1.15	1.23	1.06
Elevation difference (in/out)	Max	m	15	15	15	15	20
Piping length	Min / Max	m	3 / 20	3 / 20	3-20	3-20	3-30
Precharge length	Max	m	10	10	10	10	10
Additional charge		g/m	20	20	20	20	20
Operating range	Cooling Min/Max	°C	-10 / 43	-10 / 43	-10/43	-10/43	-10/43
	Heating Min/Max	°C	-10 / 24	-10 / 24	-10/24	-10/24	-10/24

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Heating Outdoor 7 °C DB / 6 °C WB. (DB: Dry Bulb; WB: Wet Bulb)

1) EER and COP, Energy Saving Classification, is at 220-240 V (380-415 V) only in accordance with EU directive 2002/31/EC. 2) The annual energy consumption is calculated in accordance with the ErP directive. 3) The specification listed on the table indicates values under the condition of 50 Pa (5.1 mmAq) which are applied for factory default setting. Change connector on fan motor from Hi to Shi to have 7.0 mmAq. 4) The Sound pressure level of the units shows the value measured of a position of 1.5 m below the unit with 1 m duct on the suction side and 2 m duct on the discharge side. The sound pressure is measured in accordance with Eurovent 6/C/006-97 specification. 5) Add 100 mm for indoor unit or 70 mm for outdoor unit for piping port.

* Available from June 2013. ** Available until current stock ends.

Specifications subject to change without notice.

For detailed information about ErP, please visit our page <http://www.doc.panasonic.de>



INCLUDED WITH THE
INDOOR UNIT

KIT-E9-PD3EA // KIT-E12-PD3EA // KIT-E10-KD3EA // KIT-E15-JD3EA // KIT-E18-JD3EA

Technical focus

- ECO MODE FOR 20% ENERGY SAVING
- EXTREMELY COMPACT INDOOR UNITS WITHOUT LOSING STATIC PRESSURE (ONLY 250 mm HIGH)
- WEEKLY TIMER, 42 SETTINGS PER WEEK
- EASY CHECK MODE FOR FAILURE DETECTION

Features

ENERGY, EFFICIENCY AND ECOLOGY

- Maximum efficiency Inverter system
- 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 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



CU-E9PD3EA



CU-E12PD3EA

MRE WALL MOUNTED 2x1
STANDARD INVERTER

MRE Multi Inverter models are powerful and efficient and are always there when you need them.

Furthermore, with the Anti Bacterial Filter, you can always enjoy the best quality air, without viruses, moulds and bacteria.

A class
energy saving

6.5 A++
SEER

4.0 A+
SCOP

Prevention
allergen filter

5 year
compressor
warranty

SEER and SCOP: For KIT-2MRE79-MBE

Kit			KIT-2MRE77-PBE	KIT-2MRE79-PBE	KIT-2MRE712-PBE	KIT-2MRE77-PKE	KIT-2MRE79-PKE
Indoor			CS-MRE7PKE	CS-MRE7PKE	CS-MRE7PKE	CS-MRE7PKE	CS-MRE7PKE
			CS-MRE7PKE	CS-MRE9PKE	CS-MRE12PKE	CS-MRE7PKE	CS-MRE9PKE
Outdoor			CU-2RE15PBE	CU-2RE15PBE	CU-2RE15PBE	CU-2RE18PBE	CU-2RE18PBE
Cooling capacity	Nominal (Min - Max)	kW	4.00 (1.50 - 4.60)	4.40 (1.50 - 4.80)	4.40 (1.50 - 4.80)	4.40 (1.50 - 4.60)	4.50 (1.50 - 4.80)
	Nominal (Min - Max)	kCal/h	3,560 (1,290 - 4,094)	3,916 (1,290 - 4,272)	3,916 (1,290 - 4,272)	3,916 (1,290 - 4,094)	3,870 (1,290 - 4,272)
Cooling capacity room A	Nominal	kW	2.00	1.95	1.70	2.00	2.00
Cooling capacity room B	Nominal	kW	2.00	2.45	2.70	2.00	2.50
EER ¹⁾	Nominal (Min - Max)	Energy Saving	3.42 (5.55 - 3.43) ◀A	3.38 (5.55 - 3.15) ◀A	3.38 (5.55 - 3.15) ◀A	3.45 (5.55 - 3.43) ◀A	3.44 (5.55 - 3.18) ◀A
SEER	Nominal	Energy Saving		6.50 ◀A++			
Pdesign (cooling)		kW		4.400			
Power input Cooling	Nominal (Min - Max)	kW	1.170 (0.270 - 1.340)	1.300 (0.270 - 1.520)	1.300 (0.270 - 1.520)	1.160 (0.270 - 1.340)	1.400 (0.270 - 1.510)
Annual electricity consumption (cooling) ²⁾		kWh/a					
Heating capacity	Nominal (Min - Max)	kW	5.80 (1.10 - 6.30)	5.80 (1.10 - 6.30)	5.80 (1.10 - 6.30)	5.20 (1.10 - 6.30)	5.20 (1.10 - 6.30)
	Nominal (Min - Max)	kCal/h	5,162 (950 - 5,607)	5,162 (950 - 5,607)	5,162 (950 - 5,607)	4,628 (979 - 5,607)	4,628 (979 - 5,607)
Heating capacity room A	Nominal	kW	2.40	2.15	1.85	2.60	2.60
Heating capacity room B	Nominal	kW	2.40	2.65	2.95	2.60	2.90
COP ¹⁾	Nominal (Min - Max)	Energy Saving	4.00 (4.58 - 3.91) ◀A	4.00 (4.58 - 3.91) ◀A	4.00 (4.58 - 3.91) ◀A	4.00 (4.58 - 3.91) ◀A	4.00 (4.58 - 3.91) ◀A
SCOP	Nominal	Energy Saving		4.00 ◀A+			
Pdesign at -10 °C		kW		3.60			
Power input Heating	Nominal (Min - Max)	kW	1.200 (0.240 - 1.610)	1.200 (0.240 - 1.610)	1.200 (0.240 - 1.610)	1.300 (0.240 - 1.610)	1.300 (0.240 - 1.610)
Annual electricity consumption (heating) ²⁾		kWh/a		1,260			
Indoor unit							
Connection		mm ²	4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5
Current Nominal	Cooling / Heating	A	5.45 / 5.35	6.10 / 5.35	6.10 / 5.35	6.10 / 5.80	6.10 / 5.80
Air Volume	Cooling	m ³ /h	606	606	606 (E7) / 654 (E12)	606	606
Moisture removal volume	Cooling	l/h	1.3 (E7)	1.3 (E7) / 1.5 (E9)	1.1 (E7) / 1.6 (E12)	1.3 (E7)	1.3 (E7) / 1.5 (E9)
Sound pressure Level ³⁾	Cooling & Heating (Lo)	dB(A)	29	29	29 (E7) / 32 (E12)	29	29
Sound power Level	Cooling & Heating (Hi)	dB	56	56	56 (E7) / 60 (E12)	56	56
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	290 x 870 x 204
Net weight		kg	9	9	9	9	9
Air purifier filter			Anti Bacterial Filter	Anti Bacterial Filter	Anti Bacterial Filter	Anti Bacterial Filter	Anti Bacterial Filter
Outdoor unit							
Power source		V	230	230	230	230	230
Recommended Fuse		A	16	16	16	16	16
Recommended power cable section		mm ²	1.5	1.5	1.5	1.5	1.5
Air Volume		m ³ /h	1,998	1,998	1,998	1,998	1,998
Sound pressure Level ³⁾	Cooling / Heating (Hi)	dB(A)	47 / 49	47 / 49	47 / 49	47 / 49	47 / 49
Sound power Level	Cooling / Heating (Hi)	dB	62 / 64	62 / 64	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	540 x 780 (+70) x 289	540 x 780 (+70) x 289
Net weight		kg	38	38	38	38	38
Piping connections	Liquid pipe / Gas pipe	inch (mm)	1/4 (6.35) / 3/8 (9.52)	1/4 (6.35) / 3/8 (9.52)	1/4 (6.35) / 3/8 (9.52)	1/4 (6.35) / 3/8 (9.52)	1/4 (6.35) / 3/8 (9.52)
Refrigerant Loading	R410A	kg	1.45	1.45	1.45	1.45	1.45
Elevation difference (in/out)	Max	m	10	10	10	10	10
Piping length (total)	Min / Max	m	30	30	30	30	30
Piping length (one unit)	Min / Max	m	3 / 20	3 / 20	3 / 20	3 / 20	3 / 20
Precharge length	Max	m	20	20	20	20	20
Additional charge		g/m	20	20	20	20	20
Operating range	Cooling Min / Max	°C	16 / 43	16 / 43	16 / 43	16 / 43	16 / 43
	Heating Min / Max	°C	-10 / 24	-10 / 24	-10 / 24	-10 / 24	-10 / 24

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Heating Outdoor 7 °C DB / 6 °C WB. (DB: Dry Bulb; WB: Wet Bulb)

1) EER and COP classification is at 230 V in accordance with EU directive 2002/31/EC. 2) The annual energy consumption is calculated in accordance with the ErP directive. 3) The Sound pressure level of the units shows the value measured of 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. Specifications subject to change without notice.

For detailed information about ErP, please visit our page <http://www.doc.panasonic.de>



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

KIT-2MRE712-PKE	KIT-2MRE99-PKE	KIT-2MRE912-PKE	KIT-2MRE1212-PKE
CS-MRE7PKE	CS-MRE9PKE	CS-MRE9PKE	CS-MRE12PKE
CS-MRE12PKE	CS-MRE9PKE	CS-MRE12PKE	CS-MRE12PKE
CU-2RE18PBE	CU-2RE18PBE	CU-2RE18PBE	CU-2RE18PBE
4.80 (1.50 - 4.90)	4.70 (1.50 - 4.80)	4.80 (1.50 - 5.00)	4.80 (1.50 - 5.00)
3,916 (1,290 - 4,272)	4,183 (1,290 - 4,272)	3,916 (1,290 - 4,450)	3,916 (1,290 - 4,450)
1.85	2.35	2.10	2.40
2.95	2.35	2.70	2.40
3.43 (5.55 - 3.20) ◀A	3.43 (5.55 - 3.18) ◀A	3.22 (5.55 - 3.20) ◀A	3.22 (5.55 - 3.16) ◀A
	6.50 ◀A++		
	4.80		
1.400 (0.270 - 1.530)	1.370 (0.270 - 1.510)	1.490 (0.270 - 1.560)	1.490 (0.270 - 1.580)
5.80 (1.10 - 6.70)	5.80 (1.10 - 6.70)	5.80 (1.10 - 6.70)	5.80 (1.10 - 6.70)
5,162 (950 - 5,963)	5,162 (950 - 5,963)	5,162 (950 - 5,963)	5,162 (950 - 5,963)
2.00	2.60	2.30	2.30
3.20	2.60	2.95	2.95
3.94 (4.58 - 3.90) ◀A	3.88 (4.58 - 3.85) ◀A	3.94 (4.58 - 3.80) ◀A	4.00 (4.58 - 3.90) ◀A
	4.00 ◀A+		
	3.80		
1.320 (0.240 - 1.720)	1.340 (0.240 - 1.740)	1.320 (0.240 - 1.720)	1.300 (0.240 - 1.700)
	1,330		
4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5
6.50 / 5.85	6.40 / 5.95	6.95 / 5.85	6.95 / 5.75
606 (E7) / 654 (E12)	606	606 (E9) / 654 (E12)	654
1.2 (E7) / 1.5 (E12)	1.5	1.4 / 1.6	1.5
29 (E7) / 32 (E12)	29	26 (E9) / 29 (E12)	29
56 (E7) / 60 (E12)	56	56 (E9) / 60 (E12)	60
290 x 870 x 204	290 x 870 x 204	290 x 870 x 204	290 x 870 x 204
9	9	9	9
Anti Bacterial Filter	Anti Bacterial Filter	Anti Bacterial Filter	Anti Bacterial Filter
230	230	230	230
16	16	16	16
1.5	1.5	1.5	1.5
1,998	1,998	1,998	1,998
47 / 49	47 / 49	47 / 49	47 / 49
62 / 64	62 / 64	62 / 64	62 / 64
540 x 780 (+70) x 289	540 x 780 (+70) x 289	540 x 780 (+70) x 289	540 x 780 (+70) x 289
38	38	38	38
1/4 (6.35) / 3/8 (9.52)	1/4 (6.35) / 3/8 (9.52)	1/4 (6.35) / 3/8 (9.52)	1/4 (6.35) / 3/8 (9.52)
1.45	1.45	1.45	1.45
10	10	10	10
30	30	30	30
3 / 20	3 / 20	3 / 20	3 / 20
20	20	20	20
20	20	20	20
16 / 43	16 / 43	16 / 43	16 / 43
-10 / 24	-10 / 24	-10 / 24	-10 / 24

**KIT-2MRE77-PBE // KIT-2MRE79-PBE // KIT-2MRE712-PBE //
KIT-2MRE77-PKE // KIT-2MRE79-PKE // KIT-2MRE712-PKE //
KIT-2MRE99-PKE // KIT-2MRE912-PKE // KIT-2MRE1212-PKE**

Technical focus

- HIGH ENERGY SAVINGS
- LARGE ELEVATION DISTANCE (10 m)
- LARGE PIPING LENGTH (30 m)

Features

HEALTHY AIR

- New generation Anti Bacterial Filter with 10-year warranty
- Odour-removing function
- Anti-mould filter

ENERGY, EFFICIENCY AND ECOLOGY

- Inverter system
- R410A refrigerant gas

COMFORT

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

EASE OF USE

- 24-hrs timer
- User friendly infrared remote control

EASY INSTALLATION AND MAINTENANCE

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



CU-2RE15PBE
CU-2RE18PBE

**ETHEREA MULTI SPLIT 2x1
INVERTER+**

Etherea with enhanced Econavi sensor and new Nanoe-G air-purifying system: outstanding efficiency, comfort and healthy air combined with state-of-the-art design

Econavi features an in-built human activity sensor and a new sunlight detection technology to adjust output thereby giving you the best comfort at anytime whilst saving energy. Econavi not only optimizes air flow orientation and volume according to human presence, it also reduces cooling power automatically by no/less sunshine. With Econavi, energy savings of up to 38% are possible, whilst increasing your comfort. Furthermore, the Nanoe-G revolutionary air-purifying system utilises nano technology fine particles to remove and deactivate 99% of both airborne and adhesive micro-organisms like bacteria, viruses and mould. Using a Multi Split 2x1 Inverter+ system with the outdoor unit CU-2E15PBE 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.



Internet Control Ready INTERNET CONTROL	A class energy saving INVERTER+	6.5 A++ SEER SEASONAL ENERGY EFFICIENCY RATIO	4.0 A+ SCOP SEASONAL COEFFICIENT OF PERFORMANCE	Air purifier 99% removal bacteria-virus-mold nanoe-G	Up to 38% energy savings (cooling) ECONAVI	Improved comfort AUTOCOMFORT	Down to -15 °C in heating mode OUTDOOR TEMPERATURE	Easy control by BMS CONNECTIVITY	5 year compressor warranty
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Awarded with the prestigious IF Design Award 2013

INTERNET CONTROL READY: Optional. SEER and SCOP: For KIT-2XE79-PBE and KIT-2E79-PBE.

			KIT-2XE77-PBE	KIT-2XE79-PBE	KIT-2XE712-PBE	KIT-2XE99-PBE
Silver Kit						
Silver Kit with Smartphone Control						
Indoor			KIT-2XE77-PBE-WIFI	KIT-2XE79-PBE-WIFI	KIT-2XE712-PBE-WIFI	KIT-2XE99-PBE-WIFI
White Kit						
White Kit with Smartphone Control						
Indoor			KIT-2E77-PBE	KIT-2E79-PBE	KIT-2E712-PBE	KIT-2E99-PBE
Outdoor			KIT-2E77-PBE-WIFI	KIT-2E79-PBE-WIFI	KIT-2E712-PBE-WIFI	KIT-2E99-PBE-WIFI
Indoor			CS-E7PKEW (x2)	CS-E7PKEW + CS-E9PKEW	CS-E7PKEW + CS-E12PKEW	CS-E9PKEW (x2)
Outdoor			CU-2E15PBE	CU-2E15PBE	CU-2E15PBE	CU-2E15PBE
Cooling capacity	Nominal (Min - Max)	kW	4.00 (1.50 - 5.00)	4.50 (1.50 - 5.20)	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)	3,870 (1,290 - 4,470)
EER 1)	Nominal (Min - Max)	Energy Saving	3.66 (6.00 - 3.70) ◀A	3.66 (6.00 - 3.42) ◀A	3.66 (6.00 - 3.42) ◀A	3.66 (6.00 - 3.42) ◀A
	Nominal	Energy Saving		6.50 ◀A++		
Pdesign (cooling)	Nominal (Min - Max)	kW	1.090 (0.250 - 1.360)	1.230 (0.250 - 1.520)	1.230 (0.250 - 1.530)	1.230 (0.250 - 1.520)
	Annual electricity consumption (cooling) 2)	kWh/a	5.40 (1.10 - 7.00)	5.40 (1.10 - 7.00)	5.40 (1.10 - 7.00)	5.40 (1.10 - 7.00)
Heating capacity	Nominal (Min - Max)	kW	4.640 (950 - 6,020)	4.640 (950 - 6,020)	4.640 (950 - 6,020)	4.640 (950 - 6,020)
	Nominal (Min - Max)	kCal/h	4,640 (950 - 6,020)	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 (5.24 - 4.19) ◀A	4.62 (6.61 - 4.19) ◀A
	Nominal	Energy Saving		4.00 ◀A+		
Pdesign at -10 °C	Nominal (Min - Max)	kW	1.170 (0.210 - 1.670)	1.170 (0.210 - 1.670)	1.170 (0.210 - 1.670)	1.170 (0.210 - 1.670)
	Annual electricity consumption (heating) 2)	kWh/a	1,400	1,400	1,400	1,400
Indoor Unit						
Connection		mm ²	4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5
Current Nominal	Cooling / Heating	A	5.10 / 5.20	5.75 / 5.20	5.75 / 5.20	5.75 / 5.20
Air Volume	Cooling	m ³ /h	600	690 (E7) / 714 (E9)	690 (E7) / 762 (E12)	714
Moisture removal volume		l/h	1.3 / 1.3	1.3 (E7) / 1.8 (E12)	1.3 (E7) / 1.8 (E12)	1.5 / 1.5
Sound pressure Level 3)	Cooling & Heating (S-Lo)	dB(A)	23	23	23	23
Sound power Level	Cooling & Heating (S-Lo)	dB	56	56	56	56
Dimensions	H x W x D	mm	295 x 870 x 255	295 x 870 x 255	295 x 870 x 255	295 x 870 x 255
Net weight		kg	9	9	9	9
Air purifier filter			Nanoe-G	Nanoe-G	Nanoe-G	Nanoe-G
Outdoor Unit						
Power source		V	230	230	230	230
Recommended Fuse		A	16	16	16	16
Recommended power cable section		mm ²	1.5	1.5	1.5	1.5
Air Volume	Cooling / Heating	m ³ /h	1962 / 2214	1962 / 2214	1962 / 2214	1962 / 2214
Sound pressure Level 3)	Cooling / Heating (Hi)	dB(A)	47 / 49	47 / 49	47 / 49	47 / 49
Sound power Level	Cooling / Heating (Hi)	dB	62 / 64	62 / 64	62 / 64	62 / 64
Dimensions 4)	H x W x D	mm	619 x 824 +70 x 299	619 x 824 +70 x 299	619 x 824 +70 x 299	619 x 824 +70 x 299
Net weight		kg	39	39	39	39
Piping connections	Liquid pipe / Gas pipe	inch (mm)	1/4 (6.35) / 3/8 (9.52)	1/4 (6.35) / 3/8 (9.52)	1/4 (6.35) / 3/8 (9.52)	1/4 (6.35) / 3/8 (9.52)
Refrigerant Loading	R410A	kg	1.40	1.40	1.40	1.40
Elevation difference (in/out)	Max	m	10	10	10	10
Piping length (total)	Min / Max	m	3 / 30	3 / 30	3 / 30	3 / 30
Piping length (one unit)	Min / Max	m	3 / 20	3 / 20	3 / 20	3 / 20
Precharge length	Max	m	20	20	20	20
Additional charge		g/m	15	15	15	15
Operating range	Cooling Min / Max	°C	-10 / 46	-10 / 46	-10 / 46	-10 / 46
	Heating Min / Max	°C	-10 / 24	-15 / 24	-15 / 24	-15 / 24

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Heating Outdoor 7 °C DB / 6 °C WB. (DB: Dry Bulb; WB: Wet Bulb)
Connectivity restriction: CS-E/XE_PKE units are only compatible with CU-2E15PBE, CU-2E18PBE, CU-3E18PBE, CU-4E27PBE and CU-4E27PBE 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 energy consumption is calculated in accordance with the ErP directive. 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 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.
Specifications subject to change without notice.
For detailed information about ErP, please visit our page <http://www.doc.panasonic.de>



INCLUDED WITH
THE INDOOR UNIT



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

Technical focus

- MAXIMUM EFFICIENCY AND COMFORT WITH ECONAVI, NOW WITH SUNLIGHT DETECTION
- NANO-E-G AIR PURIFYING SYSTEM, 99% EFFECTIVE ON BOTH AIRBORNE AND ADHESIVE MOULD, VIRUSES AND BACTERIA
- OPTIONAL SMARTPHONE CONTROL
- MORE POWERFUL AIRFLOW TO QUICKLY REACH THE DESIRED TEMPERATURE



CS-E7PKEW // CS-E9PKEW // CS-E912PKEW

Features

HEALTHY AIR

- Nanoe-G air purifying system

ENERGY, EFFICIENCY AND ECOLOGY

- Maximum efficiency Inverter system, for bigger savings
- -45% consumption with Econavi on heat pump, and -35% 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
- Optional wired weekly timer with 6 settings per day and 42 settings per week
- Connectivity function (indoor unit equipped with PCB port which can be connected to outside network)
- Optional Smartphone control

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-2E15PBE

**ETHEREA MULTI SPLIT 2x1
INVERTER+**

Etherea with enhanced Econavi sensor and new Nanoe-G air-purifying system: outstanding efficiency, comfort and healthy air combined with state-of-the-art design

Econavi features an in-built human activity sensor and a new sunlight detection technology to adjust output thereby giving you the best comfort at anytime whilst saving energy. Econavi not only optimizes air flow orientation and volume according to human presence, it also reduces cooling power automatically by no/less sunshine. With Econavi, energy savings of up to 38% are possible, whilst increasing your comfort. Furthermore, the Nanoe-G revolutionary air-purifying system utilises nano technology fine particles to remove and deactivate 99% of both airborne and adhesive micro-organisms like bacteria, viruses and mould. Using a Multi Split 2x1 Inverter+ system with the outdoor unit CU-2E18PBE 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.



Internet Control Ready INTERNET CONTROL	A class energy saving INVERTER+	6.5 A++ SEER SEASONAL ENERGY EFFICIENCY RATIO	4.0 A+ SCOP SEASONAL COEFFICIENT OF PERFORMANCE	Air purifier 99% removal bacteria-virus-mold nanoe-G	Up to 38% energy savings (cooling) ECONAVI	Improved comfort AUTOCOMFORT	Down to -15 °C in heating mode OUTDOOR TEMPERATURE	Easy control by BMS CONNECTIVITY	5 year compressor warranty
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Awarded with the prestigious IF Design Award 2013

INTERNET CONTROL READY: Optional. SEER and SCOP: For KIT-2XE712-PKE and KIT-2E712-PKE.

Silver Kit			KIT-2XE99-PKE	KIT-2XE712-PKE	KIT-2XE912-PKE	KIT-2XE1212-PKE
Silver Kit with Smartphone Control			KIT-2XE99-PKE-WIFI	KIT-2XE712-PKE-WIFI	KIT-2XE912-PKE-WIFI	KIT-2XE1212-PKE-WIFI
Indoor			CS-XE9PKEW (x2)	CS-XE7PKEW + CS-XE12PKEW	CS-XE9PKEW + CS-XE12PKEW	CS-XE12PKEW (x2)
White Kit			KIT-2E99-PKE	KIT-2E712-PKE	KIT-2E912-PKE	KIT-2E1212-PKE
White Kit with Smartphone Control			KIT-2E99-PKE-WIFI	KIT-2E712-PKE-WIFI	KIT-2E912-PKE-WIFI	KIT-2E1212-PKE-WIFI
Indoor			CS-E9PKEW (x2)	CS-E7PKEW + CS-E12PKEW	CS-E9PKEW + CS-E12PKEW	CS-E12PKEW (x2)
Outdoor			CU-2E18PBE	CU-2E18PBE	CU-2E18PBE	CU-2E18PBE
Cooling capacity	Nominal (Min - Max)	kW	4.80 (1.50 - 5.20)	5.20 (1.50 - 5.40)	5.00 (1.50 - 5.30)	5.20 (1.50 - 5.40)
	Nominal (Min - Max)	kCal/h	4,130 (1,290 - 4,470)	4,472 (1,290 - 4,644)	4,300 (1,290 - 4,560)	4,470 (1,290 - 4,640)
EER ¹⁾	Nominal (Min - Max)	Energy Saving	3.66 (6.00 - 3.42) ◀A	3.42 (6.00 - 3.42) ◀A	3.36 (6.00 - 3.44) ◀A	3.42 (6.00 - 3.42) ◀A
SEER	Nominal	Energy Saving		6.50 ◀A++		
Pdesign (cooling)				5.20		
Power input Cooling	Nominal (Min - Max)	kW	1.310 (0.250 - 1.520)	1.490 (0.250 - 1.540)	1.490 (0.250 - 1.540)	1.520 (0.250 - 1.580)
Annual electricity consumption (cooling) ²⁾		kWh/a		280		
Heating capacity	Nominal (Min - Max)	kW	5.60 (1.10 - 7.20)	5.60 (1.10 - 7.20)	5.60 (1.10 - 7.20)	5.60 (1.10 - 7.20)
	Nominal (Min - Max)	kCal/h	4,820 (950 - 6,190)	4,820 (950 - 6,190)	4,820 (950 - 6,190)	4,820 (950 - 6,190)
COP ¹⁾	Nominal (Min - Max)	Energy Saving	4.48 (5.24 - 4.14) ◀A	4.63 (4.24 - 5.24) ◀A	4.55 (5.24 - 4.19) ◀A	4.63 (5.24 - 4.24) ◀A
SCOP	Nominal	Energy Saving		4.00 ◀A+		
Pdesign at -10 °C				3.80		
Power input Heating	Nominal (Min - Max)	kW	1.250 (0.210 - 1.740)	1.300 (0.240 - 1.700)	1.230 (0.210 - 1.720)	1.210 (0.210 - 1.700)
Annual electricity consumption (heating) ²⁾		kWh/a		1400		
Indoor unit						
Connection		mm ²	4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5
Current	Cooling / Heating Nominal	A	6.10 / 5.55	6.95 / 5.45	6.95 / 5.45	7.10 / 5.35
Air Volume	Cooling	m ³ /h	714	714 (E9) / 762 (E12)	606 (E9) / 654 (E12)	654
Moisture removal volume		l/h	1.5 / 1.5	1.5 (E9) / 1.8 (E12)	1.4 (E9) / 1.6 (E12)	1.6 / 1.6
Sound pressure Level ³⁾	Cooling & Heating (S-Lo)	dB(A)	23	23	23	23
Sound power Level	Cooling & Heating (S-Lo)	dB	56	56	56	56
Dimensions	H x W x D	mm	295 x 870 x 255	295 x 870 x 255	295 x 870 x 255	295 x 870 x 255
Net weight		kg	9	9	9	9
Air purifier filter			Nanoe-G	Nanoe-G	Nanoe-G	Nanoe-G
Outdoor unit						
Power source		V	230	230	230	230
Recommended Fuse		A	16	16	16	16
Recommended power cable section		mm ²	1.5	1.5	1.5	1.5
Air Volume	Cooling / Heating	m ³ /h	2214 / 2466	2214 / 2466	2214 / 2466	2214 / 2466
Sound pressure Level ³⁾	Cooling / Heating (Hi)	dB(A)	49 / 51	49 / 51	49 / 51	49 / 51
Sound power Level	Cooling / Heating (Hi)	dB	64 / 66	64 / 66	64 / 66	64 / 66
Dimensions ⁴⁾	H x W x D	mm	619 x 824 x 229	619 x 824 x 229	619 x 824 x 229	619 x 824 x 229
Net weight		kg	39	39	39	39
Piping connections	Liquid pipe / Gas pipe	inch (mm)	1/4 (6.35) / 3/8 (9.52)	1/4 (6.35) / 3/8 (9.52)	1/4 (6.35) / 3/8 (9.52)	1/4 (6.35) / 3/8 (9.52)
Refrigerant Loading	R410A	kg	1.40	1.40	1.40	1.40
Elevation difference (in/out)	Max	m	10	10	10	10
Piping length (total)	Max	m	30	30	30	30
Piping length (one unit)	Min / Max	m	3 / 20	3 / 20	3 / 20	3 / 20
Precharge length	Max	m	20	20	20	20
Additional charge		g/m	15	15	15	15
Operating range	Cooling Min / Max	°C	-10 / 46	-10 / 46	-10 / 46	-10 / 46
	Heating Min / Max	°C	-15 / 24	-15 / 24	-15 / 24	-15 / 24

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Heating Outdoor 7 °C DB / 6 °C WB. (DB: Dry Bulb; WB: Wet Bulb)
Connectivity restriction: CS-E/XE_PKE units are only compatible with CU-2E18PBE, CU-2E18PBE, CU-3E18PBE, CU-4E27PBE and CU-4E27PBE 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 energy consumption is calculated in accordance with the ErP directive. 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 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.
Specifications subject to change without notice.

For detailed information about ErP, please visit our page <http://www.doc.panasonic.de>



INCLUDED WITH
THE INDOOR UNIT



**KIT-2XE99-PKE // KIT-2XE712-PKE // KIT-2XE912-PKE //
KIT-2XE1212-PKE // KIT-2E99-PKE // KIT-2E712-PKE //
KIT-2E912-PKE // KIT-2E1212-PKE**

Technical focus

- MAXIMUM EFFICIENCY AND COMFORT WITH ECONAVI, NOW WITH SUNLIGHT DETECTION
- NANO-E AIR PURIFYING SYSTEM, 99% EFFECTIVE ON BOTH AIRBORNE AND ADHESIVE MOULD, VIRUSES AND BACTERIA
- OPTIONAL SMARTPHONE CONTROL
- MORE POWERFUL AIRFLOW TO QUICKLY REACH THE DESIRED TEMPERATURE



CS-E7PKEW // CCS-E9PKEW // CS-E12PKEW

Features

HEALTHY AIR

- Nanoe-G air purifying system

ENERGY, EFFICIENCY AND ECOLOGY

- Maximum efficiency Inverter system, for bigger savings
- -45% consumption with Econavi on heat pump, and -35% 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
- Optional wired weekly timer with 6 settings per day and 42 settings per week
- Connectivity function (indoor unit equipped with PCB port which can be connected to outside network)
- Optional Smartphone control

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-2E18PBE

ETHEREA MULTI SPLIT 3x1 INVERTER+

Etherea with enhanced Econavi sensor and new Nanoe-G air-purifying system: outstanding efficiency, comfort and healthy air combined with state-of-the-art design

Econavi features an in-built human activity sensor and a new sunlight detection technology to adjust output thereby giving you the best comfort at anytime whilst saving energy. Econavi not only optimizes air flow orientation and volume according to human presence, it also reduces cooling power automatically by no/less sunshine. With Econavi, energy savings of up to 38% are possible, whilst increasing your comfort. Furthermore, the Nanoe-G revolutionary air-purifying system utilises nano technology fine particles to remove and deactivate 99% of both airborne and adhesive micro-organisms like bacteria, viruses and mould. Using a Multi Split 3x1 Inverter+ system with the outdoor unit CU-3E18PBE 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.



Awarded with the prestigious
iF Design Award 2013

INTERNET CONTROL READY: Optional. SEER and SCOP: For KIT-3E557-PBE.

Silver Kit			—	KIT-3XE7712-PBE	KIT-3XE7715-PBE*
Silver Kit with Smartphone Control			—	KIT-3XE7712-PBE-WIFI	KIT-3XE7715-PBE-WIFI
Indoor			—	CS-XE7PKEW (x2) + CS-XE12PKEW (x1)	CS-XE7PKEW (x2) + CS-XE15PKEW (x1)
White Kit			KIT-3E557-PBE	KIT-3E7712-PBE	KIT-3E7715-PBE*
White Kit with Smartphone Control			KIT-3E557-PBE-WIFI	KIT-3E7712-PBE-WIFI	KIT-3E7715-PBE-WIFI
Indoor			CS-ME5PKEW (x2) + CS-E7PKEW (x1)	CS-E7PKEW (x2) + CS-E12PKEW (x1)	CS-E7PKEW (x2) + CS-E15PKEW (x1)
Outdoor			CU-3E18PBE	CU-3E18PBE	CU-3E18PBE
Cooling capacity	Nominal (Min - Max)	kW	5.20 (1.80-7.30)	5.20 (1.90-7.20)	5.20 (1.80-7.30)
	Nominal (Min - Max)	kCal/h	4,470 (1,548-6,278)	4,470 (1,630-6,190)	4,470 (1,550-6,280)
EER ¹⁾	Nominal (Min - Max)	Energy Saving	4.33 (5.00 - 3.35) ◀A	4.30 (5.28 - 3.30) ◀A	4.30 (5.00 - 3.35) ◀A
SEER	Nominal	Energy Saving	7.00 ◀A++		
Pdesign (cooling)		kW	5.20		
Power input Cooling	Nominal (Min - Max)	kW	1.210 (0.360-2.180)	1.210 (0.360-2.180)	1.210 (0.360-2.180)
Annual electricity consumption (cooling) ²⁾		kWh/a	260		
Heating capacity	Nominal (Min - Max)	kW	6.80 (1.60-8.30)	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 (1,200-7,140)	5,850 (1,380-7,140)
COP ¹⁾	Nominal (Min - Max)	Energy Saving	4.69 (3.93 - 5.00) ◀A	4.63 (4.38 - 3.94) ◀A	4.72 (5.00 - 3.93) ◀A
SCOP	Nominal	Energy Saving	4.00 ◀A+		
Pdesign at -10 °C		kW	4.80		
Power input Heating	Nominal (Min - Max)	kW	1.450 (0.320 - 2.110)	1.470 (0.320-2.110)	1.440 (0.320-2.110)
Annual electricity consumption (heating) ²⁾		kWh/a	1,680		
Indoor unit					
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	m ³ /h	690 (E7) / 690 (E7)	690 (E7) / 712 (E12)	606 (E7) / 786 (E15)
Moisture removal volume		l/h	1.3 (E7) / 1.3 (E7)	1.3 (E7) / 1.8 (E12)	0.8 (E7) / 2.3 (E15)
Sound pressure Level ³⁾	Cooling — Heating (S-Lo)	dB(A)	23	23	23 (E7) / 28 (E15)
Sound power Level	Cooling & Heating (Hi)	dB	56	56	56
Dimensions	H x W x D	mm	295 x 870 x 255	295 x 870 x 255	295 x 870 x 255
Net weight		kg	9	9	9
Air purifier filter			Nanoe-G	Nanoe-G	Nanoe-G
Outdoor unit					
Power source		V	230	230	230
Recommended Fuse		A	16	16	16
Recommended power cable section		mm ²	1.5	1.5	1.5
Air Volume	Cooling / Heating	m ³ /h	2,502	2,502	2,502
Sound pressure Level ³⁾	Cooling / Heating (Hi)	dB(A)	46 / 47	46 / 47	46 / 47
Sound power Level	Cooling / Heating (Hi)	dB	60 / 61	60 / 61	60 / 61
Dimensions ⁴⁾	H x W x D	mm	795 x 875 (+95) x 320	795 x 875 (+95) x 320	795 x 875 (+95) x 320
Net weight		kg	71	71	71
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	2.64
Elevation difference (in/out)	Max	m	15	15	15
Piping length (total)	Min / Max	m	3 / 50	3 / 50	3 / 50
Piping length (one unit)	Min / Max	m	3 / 25	3 / 25	3 / 25
Precharge length	Max	m	30	30	30
Additional charge		g/m	20	20	20
Operating range	Cooling Min / Max	°C	-10 / 46	-10 / 46	-10 / 46
	Heating Min / Max	°C	-15 / 24	-15 / 24	-15 / 24

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Heating Outdoor 7 °C DB / 6 °C WB. (DB: Dry Bulb; WB: Wet Bulb)
Connectivity restriction: CS-E/XE_PKE units are only compatible with CU-2E15PBE, CU-2E18PBE, CU-3E18PBE, CU-4E27PBE and CU-4E27PBE 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 energy consumption is calculated in accordance with the ErP directive. 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.

Specifications subject to change without notice.

For detailed information about ErP, please visit our page <http://www.doc.panasonic.de>

*CZ-MA1P reduced needed and Not included on the Kit.



INCLUDED WITH
THE INDOOR UNIT



KIT SILVER PLATED: KIT-3XE7712-PBE // KIT-3XE7715-PBE

**KIT WHITE: KIT-3E557-PBE // KIT-3E7712-PBE //
KIT-3E7715-PBE**

Technical focus

- MAXIMUM EFFICIENCY AND COMFORT WITH ECONAVI, NOW WITH SUNLIGHT DETECTION
- NANO-E AIR PURIFYING SYSTEM, 99% EFFECTIVE ON BOTH AIRBORNE AND ADHESIVE MOULD, VIRUSES AND BACTERIA
- OPTIONAL SMARTPHONE CONTROL
- MORE POWERFUL AIRFLOW TO QUICKLY REACH THE DESIRED TEMPERATURE



CS-ME5PKEW // CS-E7PKEW // CS-E12PKEW // CS-E15PKEW

Features

HEALTHY AIR

- Nanoe-G air purifying system

ENERGY, EFFICIENCY AND ECOLOGY

- Maximum efficiency Inverter system, for bigger savings
- -45% consumption with Econavi on heat pump, and -35% 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
- Optional wired weekly timer with 6 settings per day and 42 settings per week
- Connectivity function (indoor unit equipped with PCB port which can be connected to outside network)
- Optional Smartphone control

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-3E18PBE

ETHEREA MULTI SPLIT
4x1 AND 5x1
INVERTER+

Etherea with enhanced Econavi sensor and new Nanoe-G air-purifying system: outstanding efficiency, comfort and healthy air combined with state-of-the-art design

Econavi features an in-built human activity sensor and a new sunlight detection technology to adjust output thereby giving you the best comfort at anytime whilst saving energy. Econavi not only optimizes air flow orientation and volume according to human presence, it also reduces cooling power automatically by no/less sunshine. With Econavi, energy savings of up to 38% are possible, whilst increasing your comfort. Furthermore, the Nanoe-G revolutionary air-purifying system utilises nano technology fine particles to remove and deactivate 99% of both airborne and adhesive micro-organisms like bacteria, viruses and mould. Using a Multi Split 4x1 or 5x1 Inverter+ system with the outdoors units CU-4E23PBE, CU-4E27PBE or CU-5E34PBE instead of 4 or 5 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.



Internet Control Ready INTERNET CONTROL	A class energy saving INVERTER+	7.0 A++ SEER SEASONAL ENERGY EFFICIENCY RATIO	4.0 A+ SCOP SEASONAL COEFFICIENT OF PERFORMANCE	Air purifier 99% removal bacteria-virus-mold nanoe-G	Up to 38% energy savings (cooling) ECONAVI	Improved comfort AUTOCOMFORT	Down to -15 °C in heating mode OUTDOOR TEMPERATURE	Easy control by BMS CONNECTIVITY	5 year compressor warranty
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Awarded with the prestigious IF Design Award 2013

INTERNET CONTROL READY: Optional. SEER and SCOP: For KIT-4E5557-PBE, KIT-4E7771-PBE and KIT-4E7777-PKE.

			KIT-4XE77712-PBE	KIT-4XE77715-PBE*	KIT-4XE7777-PKE	KIT-4XE77712-PKE*	KIT-4XE77715-PKE*	KIT-5XE7777-PBE
Silver Kit								
Silver Kit with Smartphone Control								
Indoor								
White Kit								
White Kit with Smartphone Control								
Indoor								
Outdoor								
Cooling capacity	Nominal (Min-Max)	kW	6.80 (1.90-8.80)	6.80 (1.90-8.80)	6.80 (1.90-8.80)	8.00 (3.00-9.20)	8.00 (2.80-8.90)	10.00 (2.9-11.5)
	Nominal (Min-Max)	kCal/h	5,850 (1,630-7,570)	5,850 (1,630-7,570)	5,850 (1,630-7,650)	6,880 (2,580-7,912)	6,880 (2,410-7,650)	8,600 (2,494-9,890)
EER ¹⁾	Nominal (Min-Max)	Energy Saving	4.05 (5.59-3.56) A	4.12 (5.59-3.56) A	4.12 (5.59-3.56) A	4.04 (5.66-3.21) A	3.76 (5.71-3.09) A	3.5 (5.27-2.98) A
	Nominal	Energy Saving	7.00 A++			7.00 A++		6.50 A++
SEER	Nominal	kWh/a	340			400		538
	Pdesign (cooling)	kW	6.80			8.00		10.00
Power input Cooling	Nominal (Min-Max)	kW	1.680 (0.340-2.470)	1.650 (0.340-2.470)	1.650 (0.340-2.470)	1.980 (0.530-2.870)	2.130 (0.490-2.880)	2.860 (0.550-3.860)
	Annual electricity consumption (cooling) ²⁾	kWh/a	340			400		538
Heating capacity	Nominal (Min-Max)	kW	8.50 (3.00-10.60)	8.60 (3.00-10.60)	8.60 (3.00-10.60)	9.40 (4.20-10.60)	9.40 (3.40-10.50)	12.00 (3.40-14.50)
	Nominal (Min-Max)	kCal/h	7,130 (2,580-9,120)	7,400 (2,580-9,120)	7,400 (2,580-9,120)	8,084 (3,612-9,116)	8,080 (3,270-9,030)	10,320 (2,924-12,470)
COP ¹⁾	Nominal (Min-Max)	Energy Saving	4.47 (4.08-5.17) A	4.65 (5.17-4.08) A	4.67 (5.09-4.09) A	4.52 (6.00-3.46) A	4.43 (5.76-3.30) A	4.20 (6.42-3.42) A
	Nominal	Energy Saving	4.00 A+			4.00 A+		4.00 A+
SCOP	Nominal	kW	5.50			8.00		10.00
	Pdesign at -10 °C	kW	5.50			8.00		10.00
Power input Heating	Nominal (Min-Max)	kW	1.850 (0.580-2.600)	1.850 (0.580-2.600)	1.840 (0.590-2.590)	2.080 (0.700-3.060)	2.120 (0.590-3.180)	2.860 (0.530-4.240)
	Annual electricity consumption (heating) ²⁾	kWh/a	1925			2800		3,500
Indoor unit								
Connection		mm ²						
Current	Cool / Heat	A						
Air Volume	Cool	m ³ /h	600 (E5) / 690 (E7)	690 (E7) / 712 (E12)	606 (E7) / 786 (E15)	714 (E7)	654 (E7) / 762 (E12)	606 (E7) / 786 (E15)
Moisture removal volume		l/h	1 (E5) / 1.3 (E17)	1.3 (E7) / 1.8 (E12)	0.8 (E7) / 2.3 (E15)	1.3 (E7)	1.3 (E7) / 1.8 (E12)	1.3 (E7) / 2.3 (E15)
Sound pressure level ³⁾	Cool & Heat (S-Lo)	dB(A)	23	23	23 (E7) / 28 (E15)	23	23	23 (E7) / 28 (E15)
Sound power level	Cool & Heat (Hi)	dB	56	56	56	56	56	56
Dimensions / Net weight	H x W x D	mm	295 x 870 x 255 / 9	295 x 870 x 255 / 9	295 x 870 x 255 / 9	295 x 870 x 255 / 9	295 x 870 x 255 / 9	295 x 870 x 255 / 9
Air purifier filter			Nanoe-G	Nanoe-G	Nanoe-G	Nanoe-G	Nanoe-G	Nanoe-G
Outdoor unit								
Power source	V		230	230	230	230	230	230
Recommended Fuse	A		20	20	20	20	20	25
Recommended power cable section	mm ²		2.5	2.5	2.5	2.5	2.5	3.5
Air Volume	Cool / Heat	m ³ /h	2,550	2,550	2,550	3,024	3,024	3,648
Sound pressure Level ³⁾	Cool / Heat (Hi)	dB(A)	48 / 49	48 / 49	48 / 49	51 / 52	51 / 52	53 / 54
Sound power Level	Cool / Heat (Hi)	dB	62 / 63	62 / 63	62 / 63	67 / 68	67 / 68	69 / 70
Dimensions ⁴⁾	H x W x D	mm	795 x 875 (+95) x 320	795 x 875 (+95) x 320	795 x 875 (+95) x 320	999 x 940 x 340	999 x 940 x 340	999 x 940 x 340
Net weight	kg		72	72	72	80	80	81
Piping connections	Liquid pipe	inch (mm)	1/4 (6.35)	1/4 (6.35)	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)	2x 3/8 (9.52), 2x 1/2 (12.7)	2x 3/8 (9.52), 2x 1/2 (12.7)	2x 3/8 (9.52), 2x 1/2 (12.7)
Refrigerant Loading	R410A	kg	2.64	2.64	2.64	3.4	3.4	3.4
Elevation difference (in/out)	Max	m	15	15	15	15	15	15
Piping length total (1 unit)	Max (Min / Max)	m	60 (3 / 25)	60 (3 / 25)	60 (3 / 25)	70 (3 / 25)	70 (3 / 25)	80 (3 / 25)
Precharge length	Max	m	30	30	30	45	45	45
Additional charge		g/m	20	20	20	20	20	20
Operating range	Cool Min / Max	°C	-10 / 46	-10 / 46	-10 / 46	-10 / 46	-10 / 46	-10 / 46
	Heat Min / Max	°C	-15 / 24	-15 / 24	-15 / 24	-15 / 24	-15 / 24	-15 / 24

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Heating Outdoor 7 °C DB / 6 °C WB. (DB: Dry Bulb; WB: Wet Bulb)

1) EER and COP classification is at 230 V in accordance with EU directive 2002/31/EC. 2) The annual energy consumption is calculated in accordance with the ErP directive. 3) The Sound pressure level of the units shows the value measured of 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. Specifications subject to change without notice.

For detailed information about ErP, please visit our page <http://www.doc.panasonic.de>

*CZ-MA1P reduced needed and Not included on the Kit.



INCLUDED WITH
THE INDOOR UNIT

**KIT SILVER PLATED: KIT-4XE77712-PBE // KIT-4XE77715-PBE //
KIT-4XE7777-PKE // KIT-4XE77712-PKE // KIT-4XE77715-PKE**

**KIT WHITE: KIT-4E5557-PBE // KIT-4E77712-PBE //
KIT-4E77715-PBE // KIT-4E7777-PKE // KIT-4E77712-PKE //
KIT-4E77715-PKE**

5x1 KIT SILVER PLATED: KIT-5XE77777-PBE

5x1 KIT WHITE: KIT-5E77777-PBE

Technical focus

- MAXIMUM EFFICIENCY AND COMFORT WITH ECONAVI, NOW WITH SUNLIGHT DETECTION
- NANO-E AIR PURIFYING SYSTEM, 99% EFFECTIVE ON BOTH AIRBORNE AND ADHESIVE MOULD, VIRUSES AND BACTERIA
- OPTIONAL SMARTPHONE CONTROL
- MORE POWERFUL AIRFLOW TO QUICKLY REACH THE DESIRED TEMPERATURE



CS-E7PKEW // CS-E12PKEW // CS-E15PKEW

Features

HEALTHY AIR

- Nanoe-G air purifying system

ENERGY, EFFICIENCY AND ECOLOGY

- Maximum efficiency Inverter system, for bigger savings
- -45% consumption with Econavi on heat pump, and -35% 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
- Optional wired weekly timer with 6 settings per day and 42 settings per week
- Connectivity function (indoor unit equipped with PCB port which can be connected to outside network)
- Optional Smartphone control

EASY INSTALLATION AND MAINTENANCE

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



CU-4E23PBE



CU-4E27PBE CU-5E34PBE

FREE MULTI SYSTEM

Up to 5 indoor units with a single outdoor unit

Connect up to five different rooms with a single outdoor unit using the Free Multi system.

With Free Multi you can take care of 2, 3, 4 or 5 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.

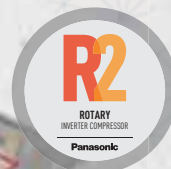
Choose the indoor units according to the individual requirements of each of your client's rooms, and calculate which outdoor unit best adapts itself to the combinations of indoor units.

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

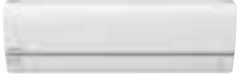










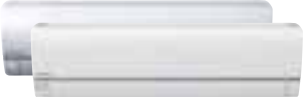



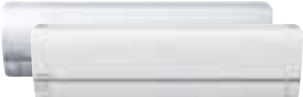




INTERNET CONTROL READY and EASY CONTROL by BMS: Optional only for Etherca.

Possible outdoor/indoor units combinations																			
Models	Range of connectable total indoor unit capacity	Piping connections		Pipe length						Capacity combinations	Indoor Unit Capacities								
		Liquid pipe (Inch)	Gas pipe (Inch)	Max. pipe length (1 room)	Max. pipe length (total)	Precharge length	Additional charge	Elevation difference (in/out)	5 1.6 kW		7 2.0 kW	9 2.5 kW	9 2.8 kW	12 3.2 kW	15 4.0 kW	18 5.0 kW	21 6.8 kW	24 7.1 kW	
2	CU-2E15PBE 	4.0-5.6 kW	1/4	3/8	20 m	30 m	20 m	20 g/m	10 m	For 2 indoor units	✓	✓	✓	✓	✓				
	CU-2E18PBE 	4.0-6.4 kW	1/4	3/8	20 m	30 m	20 m	20 g/m	10 m	For 2 indoor units	✓	✓	✓	✓	✓				
3	CU-3E18PBE 	4.5-9.0 kW	1/4	3/8	25 m	50 m	30 m	20 g/m	15 m	For 3 indoor units	✓	✓	✓	✓	✓	✓	✓		
4	CU-4E23PBE 	4.5-11.0 kW	1/4	3/8	25 m	60 m	30 m	20 g/m	15 m	For 4 indoor units	✓	✓	✓	✓	✓	✓	✓	✓	
	CU-4E27PBE 	4.5-13.6 kW	1/4	3/8	25 m	70 m	40 m	20 g/m	15 m	For 4 indoor units		✓	✓	✓	✓	✓	✓	✓	✓
5	CU-5E34PBE 	1.6-14.5 kW	1/4	3/8	30 m	80 m	45 m	20 g/m	15 m	For 5 indoor units		✓	✓	✓	✓	✓	✓	✓	✓



NEW

Indoor Unit Capacities				
Capacity	Split Etherea	Floor Console	Low Static Pressure Hide Away	4 Way 60x60 Cassette
5 - 1.6 kW	 CS-ME5PKEW ¹			
7 - 2.0 kW	 CS-XE7PKEW / CS-E7PKEW			
9 - 2.5 kW	 CS-XE9PKEW / CS-E9PKEW		 CS-ME9PD3EA	 CS-ME9PB4EA
9 - 2.8 kW		 CS-E9GFEW		
12 - 3.2 kW	 CS-XE12PKEW / CS-E12PKEW	 CS-E12GFEW	 CS-ME12PD3EA ²	 CS-ME12PB4EA ²
15 - 4.0 kW	 CS-XE15PKEW ² / CS-E15PKEW ²			
18 - 5.0 kW	 CS-XE18PKEW ² / CS-E18PKEW ²	 CS-E18GFEW ²	 CS-ME18PD3EA ²	 CS-ME18PB4EA ²
21 - 6.8 kW	 CS-XE21PKEW ² / CS-E21PKEW ²			 CS-ME21PB4EA ²
24 - 7.1 kW	 CS-E24PKEW ¹			

1. Only for connection with CU-2E15PBE, CU-2E18PBE, CU-3E18PBE and CU-4E23PBE.
 2. A CZ-MA1P pipe reducer is needed on the E15 and E18, a CZ-MA2P pipe expander is needed on the E21. And a CZ-MA2P pipe expander plus a CZ-MA3P pipe reducer are needed on the E24.
 3. At least two indoor units must be connected.

Indoor Units for Free Multi combinations



OPTIONAL WIRED REMOTE CONTROL CZ-RD514C

INTERNET CONTROL READY: Optional.

Internet Control Ready	Air purifier 99% removal bacteria-virus-mold	Up to 38% energy savings (cooling)	Improved comfort	Perfect humidity control	Silent air 23 dB	Easy control by BMS
INTERNET CONTROL	NANO-E	ECONAVI	AUTOCOMFORT	MILD DRY	SUPER QUIET	CONNECTIVITY

Etherea // Silver or White			1.6 kW	2.0 kW	2.5 kW	3.2 kW	4.0 kW	5.0 kW	6.8 kW	8.0 kW
Silver Indoor			—	CS-XE7PKEW	CS-XE9PKEW	CS-XE12PKEW	CS-XE15PKEW	CS-XE18PKEW	CS-XE21PKEW	—
White Indoor			CS-ME5PKEW*	CS-E7PKEW	CS-E9PKEW	CS-E12PKEW	CS-E15PKEW	CS-E18PKEW	CS-E21PKEW	CS-E24PKEW
Cooling capacity	Nominal	kW/kCal/h	1.6 / 1,376	2.00 / 1,720	2.50 / 2,150	3.20 / 2,750	4.00 / 3,440	5.00 / 4,300	6.00 / 5,160	7.65 / 6,580
Heating capacity	Nominal	kW/kCal/h	2.6 / 2,236	3.20 / 2,750	3.60 / 3,010	4.50 / 3,870	5.60 / 4,820	6.80 / 5,850	8.50 / 7,310	9.60 / 8,260
Connection		mm ²	4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5
Sound pressure level ¹	Cooling (Hi/Lo/S-Lo)	dB(A)	39 / 29 / 23	40 / 26 / 23	40 / 26 / 23	44 / 32 / 26	44 / 32 / 26	46 / 33 / 30	46 / 33 / 30	49 / 38 / 35
	Heating (Hi/Lo/S-Lo)	dB(A)	39 / 29 / 23	40 / 26 / 23	40 / 26 / 23	44 / 32 / 26	44 / 33 / 32	46 / 35 / 32	46 / 35 / 32	48 / 38 / 35
Sound power level	Cooling (Hi)	dB	55	54	56	60	60	62	62	65
	Heating (Hi)	dB	55	56	56	60	60	62	62	64
Dimensions	H x W x D	mm	295 x 870 x 255	295 x 870 x 255	295 x 870 x 255	295 x 870 x 255	295 x 870 x 255	290 x 1,070 x 255	290 x 1,070 x 255	290 x 1,070 x 255
Net weight		kg	9	9	9	9	9	12	12	12
Air purifier filter			Nanoe-G	Nanoe-G	Nanoe-G	Nanoe-G	Nanoe-G	Nanoe-G	Nanoe-G	Nanoe-G
Piping connections	Liquid pipe	inch (mm)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)	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)	1/2 (12.70)	1/2 (12.70)	1/2 (12.70)	5/8 (15.88)

* Only for connection with CU-2E15PBE, CU-2E18PBE, CU-3E18PBE and CU-4E23PBE.



INCLUDE ON THE INDOOR UNIT

OPTIONAL WIRED REMOTE CONTROL CZ-RD52CP

CZ-BT20E SOLD SEPARATELY

OPTIONAL: CZ-SA11P



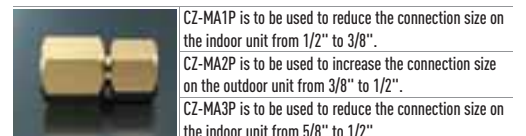
4 Way 60x60 Cassette			2.5 kW	3.2 kW	5.0 kW	6.0 kW
Indoor (from June 2013)			CS-ME9PB4E	CS-ME12PB4E	CS-ME18PB4E	CS-ME21PB4E
Panel	Sold separatel		CZ-BT20E	CZ-BT20E	CZ-BT20E	CZ-BT20E
Cooling capacity	Nominal	kW/kCal/h	2.50 / 2,150	4.00 / 3,440	5.00 / 4,300	6.00 / 5,160
Heating capacity	Nominal	kW/kCal/h	3.60 / 3,100	5.60 / 4,820	6.80 / 5,850	8.50 / 7,310
Connection		mm ²	4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5
Sound pressure level ¹	Cooling (Hi/Lo/S-Lo)	dB(A)	34 / 26 / 23	34 / 26 / 23	36 / 28 / 25	41 / 33 / 30
	Heating (Hi/Lo/S-Lo)	dB(A)	35 / 28 / 25	35 / 28 / 25	37 / 29 / 26	42 / 34 / 31
Sound power level	Cooling (Hi)	dB	47	47	49	54
	Heating (Hi)	dB	58	48	50	55
Dimensions	Indoor (H x W x D)	mm	260 x 575 x 575	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	51 x 700 x 700
Net weight	Indoor (Panel)	kg	18 (2.5)	18 (2.5)	18 (2.5)	18 (2.5)
Air purifier filter	Optional		CZ-SA22P	CZ-SA22P	CZ-SA22P	CZ-SA22P
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)



Silent air 23 dB SUPER QUIET

Floor Console			2.8 kW	3.2 kW	5.0 kW
Indoor			CS-E9GFEW	CS-E12GFEW	CS-E18GFEW
Cooling capacity	Nominal	kW/kCal/h	2.80 / 2,410	3.20 / 2,750	5.00 / 4,300
Heating capacity	Nominal	kW/kCal/h	4.00 / 3,440	4.50 / 3,870	6.80 / 5,850
Connection		mm ²	4 x 1.5	4 x 1.5	4 x 1.5
Sound pressure level ¹	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	46 / 36 / 32
Sound power level	Cooling (Hi)	dB	54	55	60
	Heating (Hi)	dB	54	55	62
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
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)

Outdoor Multi combination model	Accessory needed
CS-XE7*** CS-E7*** CS-XE9*** CS-E9*** CS-XE12*** CS-E12***	CU-2E15*** CU-2E18*** CU-3E18*** CU-4E23*** CU-4E27*** CU-5E34***
CS-XE15*** CS-E15*** CS-XE18*** CS-E18***	CU-3E18*** CU-4E23*** CU-4E27*** CU-5E34***
CS-XE21*** CS-E21***	CU-4E23*** CU-4E27*** CU-5E34***
CS-E24***	CU-4E27*** CU-5E34***



CZ-MA1P is to be used to reduce the connection size on the indoor unit from 1/2" to 3/8".
CZ-MA2P is to be used to increase the connection size on the outdoor unit from 3/8" to 1/2".
CZ-MA3P is to be used to reduce the connection size on the indoor unit from 5/8" to 1/2".

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Heating Outdoor 7 °C DB / 6 °C WB. (DB: Dry Bulb; WB: Wet Bulb)

1) 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. 2) EER and COP classification is at 230 V in accordance with EU directive 2002/31/EC. Specifications subject to change without notice.



INCLUDE ON THE
INDOOR UNIT

Low Static Pressure Hide Away		2.5 kW	3.2 kW	5.0 kW
Indoor (available from June 2013)		CS-ME9PD3E	CS-ME12PD3E	CS-ME18PD3E
Indoor (available until end of stock)		CS-E10KD3EA	CS-E15JD3EA	CS-E18JD3EA
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
External static pressure	Hi / Lo	Pa (mm) 34 / 64 (3.47 / 6.53)	34 / 69 (3.47 / 7.04)	34 / 78 (3.47 / 7.95)
Air Volume	Hi / Med / Lo	m ³ /h 414 / 402 / 330	474 / 402 / 330	624 / 528 / 444
Sound pressure level ¹	Cooling (Quiet/Lo/Hi)	dB(A) 24 / 27 / 31	24 / 27 / 33	27 / 30 / 41
	Heating (Quiet/Lo/Hi)	dB(A) 24 / 27 / 35	24 / 27 / 33	29 / 32 / 41
Sound power level	Cooling (Hi)	dB 49	49	57
	Heating (Hi)	dB 51	51	57
Dimensions	H x W x D	mm 235 x 750 (+65) x 370	235 x 750 (+65) x 370	285 x 750 (+65) x 370
Net weight		kg 17	18	18
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)

Plenums

Air Outlet Plenum (without regulation adaptor)				Air Inlet Plenum		
	Diameters	Model	Description		Diameters	Model
CS-ME9PD3E/CS-E10KD3EA	2 x ø 160	CZ-DUMPAF10ES2	Outside Insulated	CS-ME9PD3E/CS-E10KD3EA	2 x ø 200	CZ-DUMPAF10ER2
CS-ME12PD3E/CS-E15JD3EA	2 x ø 160	CZ-DUMPAF15ES2	with 9 mm Armaduct	CS-ME12PD3E/CS-E15JD3EA	2 x ø 200	CZ-DUMPAF15ER2
CS-ME18PD3E/CS-E18JD3EA	3 x ø 160	CZ-DUMPAF18ES3		CS-ME18PD3E/CS-E18JD3EA	2 x ø 200	CZ-DUMPAF18ER2



Outdoor Units for Free Multi combinations



Outdoor Unit // Inverter+			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	1.6 to 14.5 kW
Unit			CU-2E15PBE	CU-2E18PBE	CU-3E18PBE	CU-4E23PBE	CU-4E27PBE	CU-5E34PBE
Cooling capacity	Nominal (Min - Max)	kW	4.50 (1.50 - 5.20)	5.20 (1.50 - 5.40)	5.20 (1.80-7.30)	6.80 (1.90 - 8.80)	8.00 (3.00 - 9.20)	10.00 (2.9 - 11.5)
	Nominal (Min - Max)	kCal/h	3,870 (1,290 - 4,470)	4,472 (1,290 - 4,644)	4,470 (1,548-6,278)	5,850 (1,630 - 7,570)	6,880 (2,580 - 7,912)	8,600 (2,494 - 9,890)
EER ²	Nominal (Min - Max)	W/W	3.66 (6.00 - 3.42) ◀A	3.42 (6.00 - 3.42) ◀A	4.33 (5.00 - 3.35) ◀A	4.05 (5.59 - 3.56) ◀A	4.04 (5.66 - 3.21) ◀A	3.5 (5.27 - 2.98) ◀A
SEER	Nominal	W/W	6.50 ◀A++	6.50 ◀A++	7.00 ◀A++	7.00 ◀A++	7.00 ◀A++	6.50 ◀A++
Pdesign (cooling)			4.50	5.20	5.20	6.80	8.00	10.00
Power input Cooling	Nominal (Min - Max)	kW	1.230 (0.250 - 1.520)	1.490 (0.250 - 1.540)	1.210 (0.360-2.180)	1.680 (0.340 - 2.470)	1.980 (0.530 - 2.870)	2.860 (0.550 - 3.860)
Annual electricity consumption (cooling)		kWh	242	280	260	340	400	538
Heating capacity	Nominal (Min - Max)	kWh/a	5.40 (1.10 - 7.00)	5.60 (1.10 - 7.20)	6.80 (1.60-8.30)	8.50 (3.00 - 10.60)	9.40 (4.20 - 10.60)	12.00 (3.40 - 14.50)
	Nominal (Min - Max)	kCal/h	4,640 (950 - 6,020)	4,820 (950 - 6,190)	5,850 (1,200-7,140)	7,130 (2,580 - 9,120)	8,084 (3,612 - 9,116)	10,320 (2,924 - 12,470)
COP ²	Nominal (Min - Max)	W/W	4.62 (5.24 - 4.19) ◀A	4.63 (4.24 - 5.24) ◀A	4.69 (3.93 - 5.00) ◀A	4.47 (4.08 - 5.17) ◀A	4.52 (6.00 - 3.46) ◀A	4.20 (6.42 - 3.42) ◀A
SCOP	Nominal	W/W	4.00 ◀A+	4.00 ◀A+	4.00 ◀A+	4.00 ◀A+	4.00 ◀A+	4.00 ◀A+
Pdesign at -10 °C			4.00	3.80	4.80	5.50	8.00	10.00
Power input Heating	Nominal (Min - Max)	kW	1.170 (0.210 - 1.670)	1.300 (0.240 - 1.700)	1.450 (0.320 - 2.110)	1.850 (0.580 - 2.600)	2.080 (0.700 - 3.060)	2.860 (0.530 - 4.240)
Annual electricity consumption (heating)		kWh/a	1400	1330	1680	1925	2,800	3,500
Current	Cooling	A	5.75	7.10	5.30	7.50	9.40	13.20
	Heating	A	5.20	5.35	6.70	8.80	9.80	13.40
Power source		V	230	230	230	230	230	230
Recommended Fuse		A	16	16	16	20	20	25
Recommended power cable section		mm ²	1.5	1.5	2.5	2.5	2.5	3.5
Sound pressure level ²	Cooling / Heating (Hi)	dB(A)	47 / 49	49 / 51	46 / 47	48 / 49	51 / 52	53 / 54
	Cooling / Heating (Hi)	dB	62 / 64	64 / 66	60 / 61	62 / 63	67 / 68	69 / 70
Dimensions		H x W x D	mm 619 x 824 +70 x 299	619 x 824 x 229	795 x 875 (+95) x 320	795 x 875 (+95) x 320	999 x 940 x 340	999 x 940 x 340
Net weight		kg	39	39	71	72	80	81
Piping connections	Liquid pipe	inch (mm)	1/4 (6.35)	1/4 (6.35)	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)	3/8 (9.52)	3/8 (9.52)
Refrigerant Loading		R410A	kg 1.40	1.40	2.64	2.64	3.4	3.4
Elevation diff. (in/out)		Max	m 10	10	15	15	15	15
Piping length total		Min / Max	m 3 / 30	30	3 / 50	60	70	80
Piping length to one unit		Min / Max	m 3 / 20	3 / 20	3 / 25	3 / 25	3 / 25	3 / 25
Precharge length		m (Max)	20	20	30	30	45	45
Additional charge		g/m	15	15	20	20	20	20
Operating range	Cooling Min/Max	°C	-10 / 46	-10 / 46	-10 / 46	-10 / 46	-10 / 46	-10 / 46
	Heating Min/Max	°C	-15 / 24	-15 / 24	-15 / 24	-15 / 24	-15 / 24	-15 / 24

For detailed information about ErP, please visit our page <http://www.doc.panasonic.de>

Free Multi combinations table

Table of combinations CU-5E34PBE / 4 indoor units connected

Nominal Cooling Capacity per room in kW	2.0																																													2.5					2.5					2.5					2.5					2.5					2.5				
	2.0																									2.5					2.5					2.5					2.5					2.5																													
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	2.0																									2.5					2.5					2.5					2.5					2.5																													
Indoor unit 1	✓																																																																										
Indoor unit 2	✓																																																																										
Indoor unit 3						✓																																																																					
Indoor unit 4											✓																																																																

4 indoor units connected

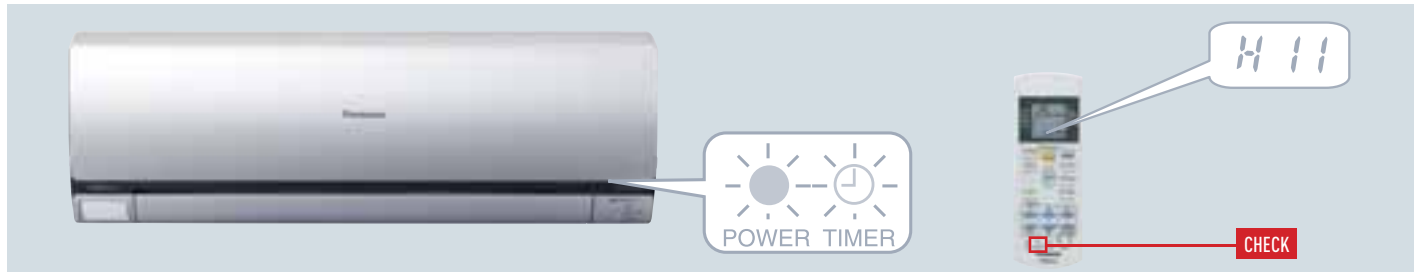
Nominal Cooling Capacity per room in kW	2.0																																													2.5					2.5					2.5					2.5					2.5					2.5				
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Indoor unit 5																																																																											

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 buzzer 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.

* Not for CU-5E34NBE



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 (0L 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 on 7 successive occasions. • Low-voltage PAM: 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) (0L 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 (0L 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 (0L 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 (0L 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 (0L 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 (0L 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 (0L 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 (0L 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 one 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 flow from tip cover by hand.

H51	Vacuum Nozzle Failure	This display appears when the vacuum nozzle stop.	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. 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.
H52	Limit Switch Failure	This display appears when both Limit Switch (left & right) detected short circuit.	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.
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.	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.)	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.	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.	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.	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) Main circuit low voltage (CU-3E/4E)	CU-2E: When the reputation 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.	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 appears.	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 reputation 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.	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.	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 OLP 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.	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 steps. 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).	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 steps 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.	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 (± 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.	1. Check whether the compressor is defective (locked up or shorted winding). Check the outdoor unit control PCB.

Optional accessories for old models

Replacement anti-allergen filter



CZ-E9/12/15/18/21HKEA



CS-PW9/12/18/21HKE, CS-PW24JKE, CS-V7DKE, CS-V9DKE, CS-V12DKE, CS-V18DKE, CS-V24DKE, CS-V28EKE, CS-E15DTEW, CS-E18DTEW, CS-E21DTE



CS-RE9/12/18/24NKE



WELCOME TO THE COMMERCIAL RANGE

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

Panasonic has developed an impressive range of highly efficient Commercial Air Conditioners. This range confirms our commitment to the environment. Our Inverter compressors optimise performance and thus reduce energy costs.



PACi
STANDARD

PACi
ELITE

PACi Standard for economy and value

With high quality design and engineering, the PACi Standard is the perfect solution for projects which demand quality on a limited budget. In addition, its compact size and light weight make it ideal for installations with limited space including small commercial and residential applications.

PACi Elite, Newly designed next generation VRF!

Energy-saving concept. The use of energy saving designs for the structure of fans, fan motors, compressors and heat exchangers resulted in a high COP value, ranked as one of the top classed in the industry. In addition, use of highly efficient R410A refrigerant reduces CO₂ emission and lowers operating costs.

A class
energy saving

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.

6.8 A++
SEER

Exceptional Seasonal Cooling Efficiency based on the new ErP regulation. Higher SEER ratings mean greater efficiency. Save all the year while cooling!

4.0 A+
SCOP*

Exceptional Seasonal Heating Efficiency based on the new ErP regulation. Higher SCOP ratings mean greater efficiency. Save all the year while heating!

Down to
-15 °C in
cooling mode

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

Down to
-20 °C in
heating mode

The air conditioner works in heat pump mode even when outdoor temperatures are as low as low as -20 °C or -15 °C.

Easy
control
by BMS

The communication port is integrated into the indoor unit and provides easy connection to, and control of, your Panasonic heat pump to your home or building management system.

Environmentally
friendly
refrigerant

R410A. Environmentally friendly refrigerant.

5 year
compressor
warranty

5 years warranty. We guarantee the compressors in the entire range for five years.



A class
energy saving

INVERTER+

PACi
STANDARD

PACi
ELITE

PACi Standard and Elite

Newly designed next generation Commercial Range!

New PACi Standard

The use of an energy-saving design for the construction of fans, fan motors, compressors and heat exchangers, has resulted in a high COP value, which ranks as one of the best in class in the industry. In addition, use of highly efficient R410A refrigerant reduces CO₂ emission and lowers operating costs.

PACi Elite

DC Inverter can attain both comfort and energy-saving operation.

SEASONAL EFFICIENCY (SCOP)

PRODUCT FOLLOWS THE NEW ECODESIGN REQUIREMENTS

PACi STANDARD
SEER/SCOP

A++/A

NEW



SEASONAL EFFICIENCY (SCOP)

PRODUCT FOLLOWS THE NEW ECODESIGN REQUIREMENTS

PACi ELITE
SEER/SCOP

A++/A+

NEW



PACi Standard, Improved energy saving

- Good balance, system cost vs energy efficiency
- Top class SEER/SCOP as a Standard Inverter category
SEER: +A / SCOP: A at 10.0 kW
- Interchangeable controller with ECOi
- 1 compact, outdoor fan (up to 12.5 kW)
- Twin connection possible

PACi Elite

- Meeting all necessary safety approvals to ensure quality and safety
- Top-class EER: 4.20 / COP: 4.31 (In case of 10 kW)
- Cooling operation is possible when outdoor temperature as high as 46 °C
- DC inverter technology combined with R410A for excellent efficiency
- Cooling operation is possible when outdoor temperature as low as -15 °C
- Heating operation is possible when outdoor temperature as low as -20 °C
- Compact outdoor unit 1416 x 940 x 340 mm
- Auto restart from outdoor unit





PACi Standard: outdoor unit

More compact

The new outdoor unit is much more compact than the previous model. The slim and lightweight design means the PACi outdoor unit can be installed in a number of situations.

* Only for U-100PEY1E8, U-125PEY1E8, U-100PEY1E5 and U-125PEY1E5.

CURRENT MODEL
(1170 x 900 x 320)

**-15%
SMALLER**

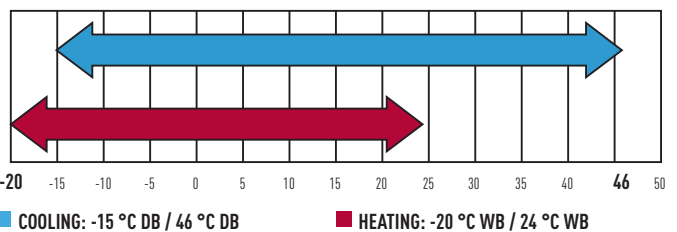


NEW. ON THE 12.5 kW
(996 x 940 x 340)

PACi Elite: outdoor unit

Wide operating range

- Cooling operation is possible when outdoor temperature as low as -15 °C
 - Cooling operation is possible when outdoor temperature as high as 46 °C
 - Heating operation is possible when outdoor temperature as low as -20 °C
- The remote control temperature setting offers a range from 16 °C to 30 °C.



Product Quality and Safety

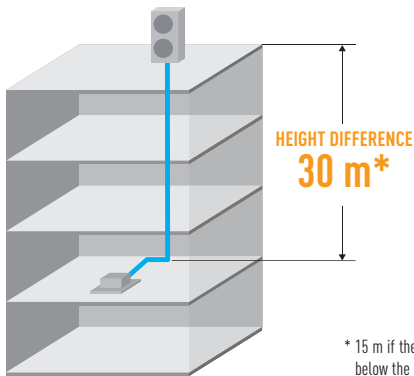
All Panasonic air conditioners undergo strict quality and safety tests before sale. This rigorous process includes obtaining all necessary safety approvals, to ensure that all air conditioners we sell are not only built to the highest market standards, but are also completely safe.

PACi Elite: outdoor unit

Increased Piping Length for Greater Design Flexibility

Adaptable to various building types and sizes.

Max. piping length: 75 m (10.0, 12.5, 14.0 kW). 50m (6.0, 7.1 kW).



* 15 m if the outdoor unit is below the indoor unit.

Compact and Lightweight

As the unit only weighs 98 kg, it is easy to carry and easy to install.



Quiet mode

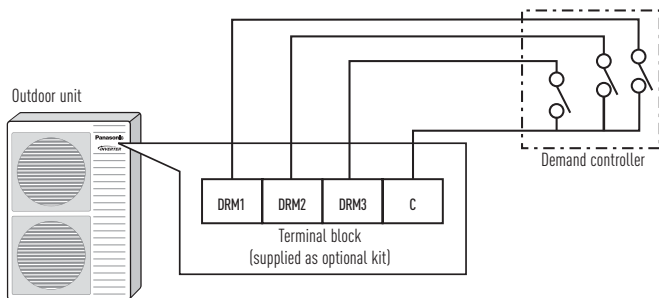
5 dB can be reduced by setting. External input signal is also available.

Demand Response Compliant (CZ-CAPDC3)

This optional part allows demand control of the outdoor unit.

Several level of settings are available:

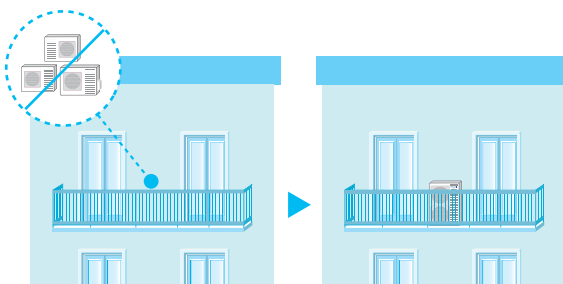
- Level-1, 2, 3 : 75 / 50 / 0 %
- Level-1, 2 can be set in 40 - 100% (40, 45, 50...95, 100: each 5%)



Demand control terminal is available to control 0-50-75% of capacities.

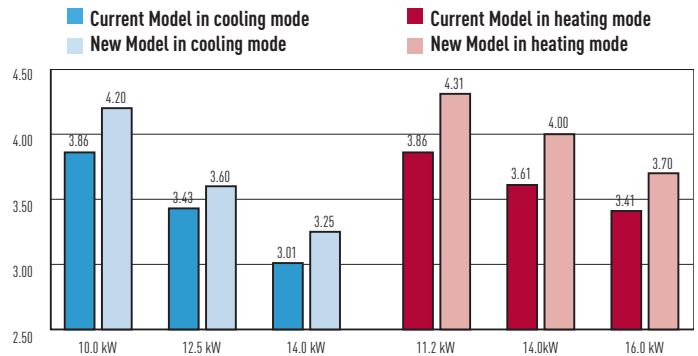
Compact & Flexible-design

The slim and lightweight design means the PACi outdoor unit can be installed in a number of compact situations.

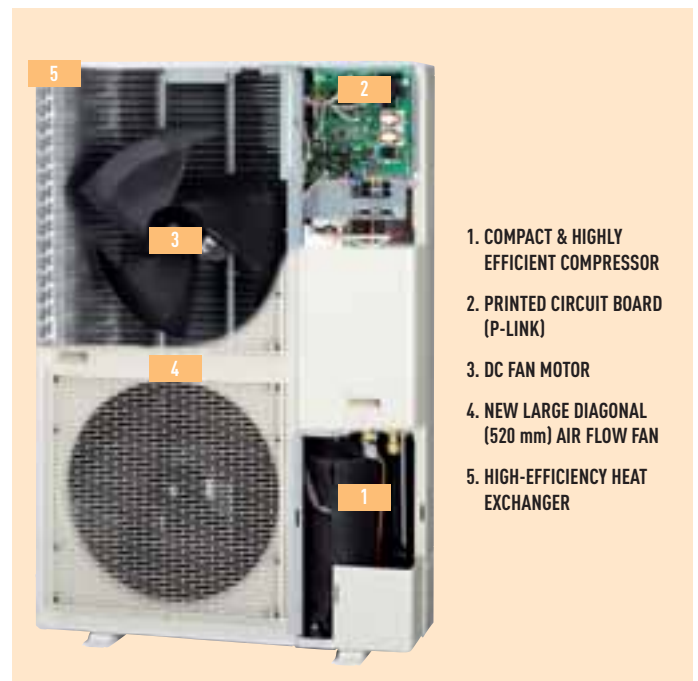


Improved energy saving

Operating efficiency has been improved using highly efficient R410A refrigerant, new DC inverter compressor, new DC motor and a new heat exchanger design.



4 / 5 / 6 HP



Energy saving concept

The use of energy saving designs for the structure of fans, fan motors, compressors and heat exchanges has resulted in a high COP value, ranked as one of the top classed in the industry. In addition, use of highly efficient R410A refrigerant reduces CO₂ emission and lowers operating costs.

1. Compact & Highly Efficient Compressor. Large-capacity inverter compressor has been adopted. The inverter compressor is superior in performance with improved partial-load capacity.
2. Printed Circuit Board (P-LINK). To improve maintenance, the number of PCBs have been reduced to two.
3. DC fan motor. Considering load and outside temperature, the DC motor is controlled for optimum air volume.
4. New Large Diagonal (520 mm) Air Flow Fan. The fan has been designed to reduce air turbulence and increase efficiency. As fan diameter has been increased to 520 mm, the air volume has been increased by 12% whilst maintaining a low sound level.
5. High-Efficiency Heat Exchanger. The heat exchanger size and the copper tube sizes in the heat exchanger have been redesigned to increase efficiency.



360° Air Flow 4 Way 90x90 Cassette PACi Standard and Elite

4 Way 90x90 Cassette. Wide & Comfortable Airflow

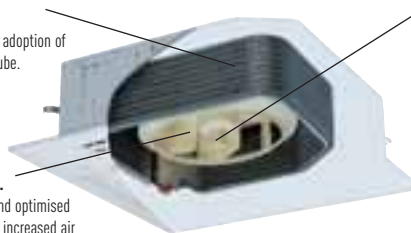
This proprietary design provides a wide and very comfortable airflow. The cassette's wide-angle discharge outlets and flaps are larger in the middle, featuring a shape that was selected based on geometrics and testing of actual prototype units. Air coming out of the center of the discharge outlets travels farther. From the sides of each outlet, where the openings are larger, airflow spreads out to reach the corners of the room. Air is discharged across a wide area from the four sides of the unit. The curves on the room temperature distribution graph expand gently out through 360° in a circle centered on the indoor unit.

HIGHER EFFICIENCY SPLIT FIN.

Improved heat-transfer coefficient due to adoption of high efficiently grooved heat exchanger tube.

HIGH-EFFICIENT & SILENT TURBO FAN.

The newly developed larger fan chassis and optimised design of the airflow path has resulted in increased air volume and quieter performance.



NEW DC-FAN MOTOR.

Optimum airflow is achieved by a new DC-fan motor with independent control.

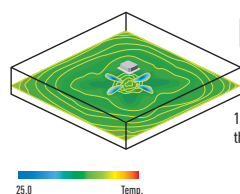
INDIVIDUAL FLAP CONTROL.

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.

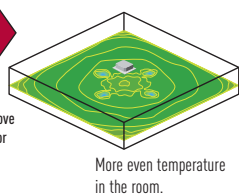
New 360° Air Flow for improved comfort

The new air-outlet and flap design creates a soft and gentle air flow which circulates throughout the whole space and provides an even temperature distribution in the room.

CURRENT MODEL



360° AIR FLOW

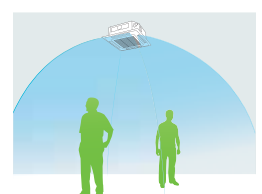


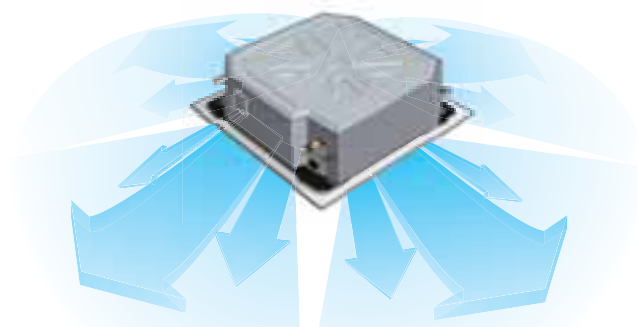
Simulated condition: Floor area: 225 m². Ceiling height: 3 m, Unit 12.5 kW type.

CURRENT MODEL



360° AIR FLOW



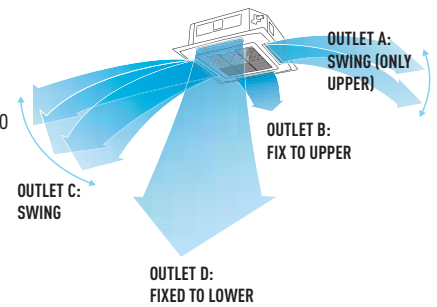


Ample airflow: 36 m³/min
Industry's highest in the 140 PU class.

Flexible 3D air-flow control

Comfort air flow control & proper energy use. Flexible Air flow direction control by individual flap control:

- 4 Flaps can be controlled individually (by standard wired remote controller*).
- Versatile air flow control to cover a wide variety of demands.

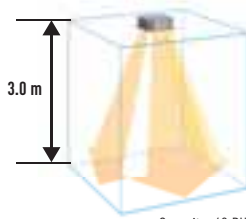


* Pre-setting is required for this function at System Test-run procedure.

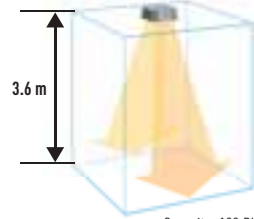
High-Ceiling Installation (Up to 5 m for 100 PU and higher models)

The units can be installed in rooms with high ceilings, where they provide ample floor-level heating in the winter. (See ceiling height guidelines below.)

HIGH CEILING (FACTORY SETTINGS)



Capacity: 60 PU, 71 PU

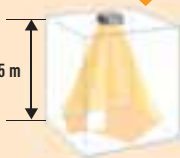


Capacity: 100 PU, 125 PU, 140 PU

INDUSTRY'S TOP-CLASS

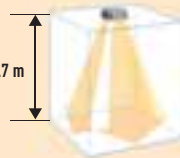
4-way discharge high ceiling settings²

4.5 m



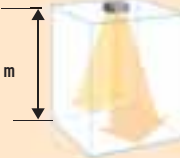
3-way discharge with the optional air-blocking materials

4.7 m



2-way discharge with the optional air-blocking materials

5 m



Ceiling height guidelines

Settings ¹	4-way discharge		3-way discharge (optional air-blocking materials)		2-way discharge (optional air-blocking materials) ²	
	Factory settings ¹	High ceiling setting ¹	High ceiling setting ²	High ceiling setting ²	High ceiling setting ²	High ceiling setting ²
Indoor unit: 60PU-71PU	3.0	3.3	3.6	3.8	4.2	4.2
Indoor unit: 100PU, 125PU, 140PU	3.6	3.9	4.5	4.7	5.0	5.0

¹ When using the unit in a configuration other than the factory settings, it is necessary to make settings on site to increase airflow. ² Use air-blocking materials (CZ-CFU2) to completely block two discharge outlets for 2-way airflow.

Easy Maintenance and Cleaning

The flap can be removed easily for washing with water.

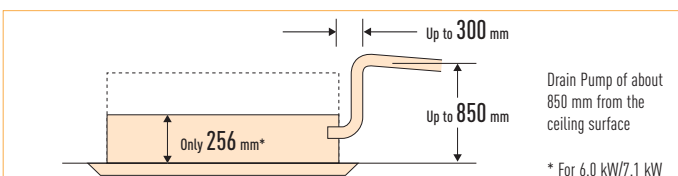


Lighter and Slimmer, Easier Installation

A lightweight unit at 24 kg, the unit is also very slim with a height of only 256 mm, making installation possible even in narrow ceiling voids.

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.



Low-Profile 33.5 mm Panel

The square panel integrates seamlessly with the ceiling. Discharge outlets close when the unit is stopped.

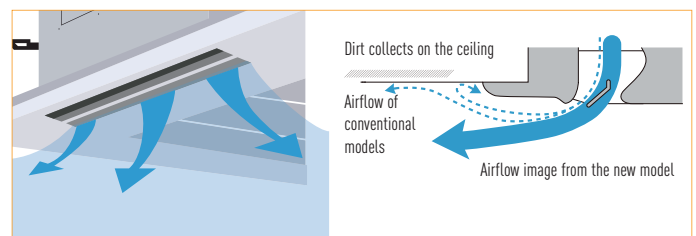
ONE OF THE INDUSTRY'S THINNEST PANELS



New design

Wide direction air discharge by outlet design.

The Circle Flow Flap and re-designed air-outlet eliminate airflow along recessed parts of the ceiling which reduces contamination. If air flows only along these recessed parts, they will quickly become dirty. The new, improved air outlet design therefore greatly reduces dirt accumulation.



PACi Standard and Elite: indoor units

4-Way 60x60 Cassette

Lighter and slimmer, easier installation

Lightweight and very slim which makes installation possible even in narrow ceilings.

A drain height of approx. 850 mm from the ceiling surface

The drain height can be increased by approx. 350 mm over the conventional value by using a high-lift drain pump, and long horizontal piping is possible.

Significant reduction of power consumption by using highly developed DC fan motors with variable speed, special heat exchangers, etc.

Convenient cleaning. The flap can be removed easily for washing.

Wall Mounted

The unit's compact design and flat face ensure discreet installation, even in a small space.



Washable front panel.

The indoor unit's front panel can be easily removed and washed for trouble-free cleaning.



Closed discharge port

When the unit is turned off, the flap closes completely to prevent dust getting into the unit and to keep the equipment clean.

Quiet operation

These units are among the quietest in the industry, making them ideal for hotels and hospitals.

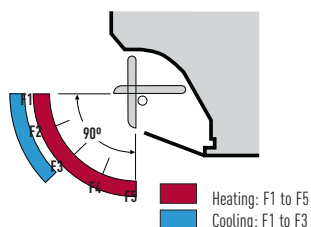
Smooth and durable design

The sleek, compact design ensures a discreet installation - even where space is limited.

Piping outlet in three directions

With three options for pipe outlets - rear, right and left - installation is made easy.

Air distribution is altered depending on the operational mode of the unit



Low Static Pressure Hide Away (PN Type)

Ultra-slim profile: 250 mm height for all models.



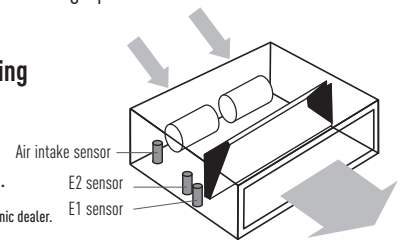
Discharge air temperature control

• Possible to reduce cold drafts at heating operation.

Cold Drafts Reduction at Heating

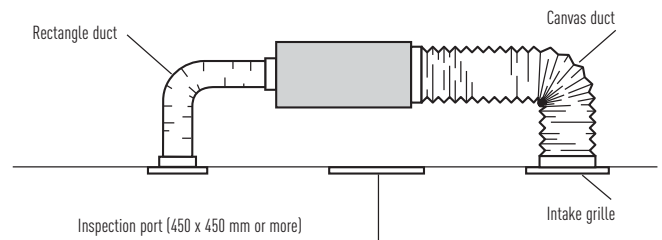
• Accurate temperature measurement by E1/E2 sensor to reduce cold drafts at heating.

Before spec-in, please consult with an authorized Panasonic dealer.



System Example

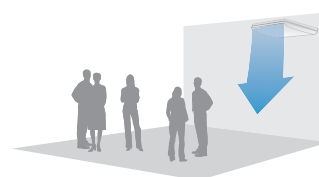
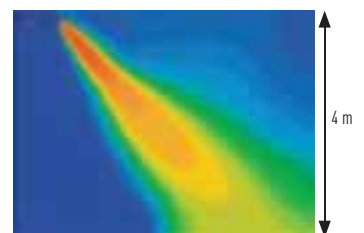
An inspection port (450 mm x 450 mm or more) is required at the control-box side of the indoor unit body.



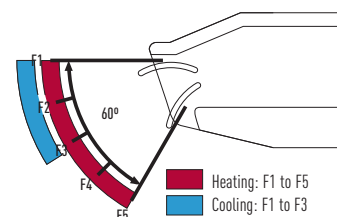
Ceiling

Further comfort improvement

The wide air discharge opening expands the air flow to the left and the right. 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.

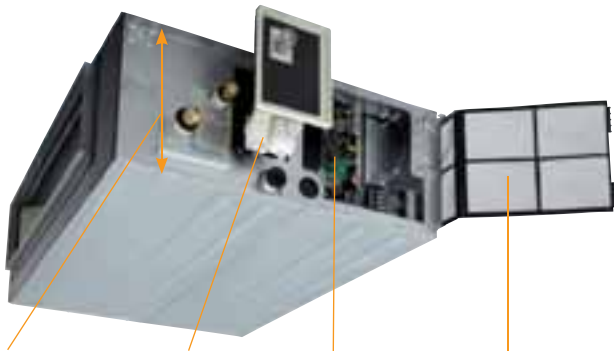


Further comfort improvement with airflow distribution



Air distribution is altered depending on the operational mode of the unit

High Static Pressure Hide Away (PF Type)



STANDARDIZED HEIGHT OF 290 mm FOR ALL MODELS

Height standardization enables easy and uniform installation for models with different capacities.

Built-in Drain pump (DC motor pump)

EXTERNAL ELECTRICAL EQUIPMENT BOX MAKES MAINTENANCE EASY
P-link PCB

- Built-in filter
- Side removable filter

The static pressure outside the unit can be increased up to 150 Pa.

Type	60	71	100	125	140
Standard	70 Pa	70 Pa	100 Pa	100 Pa	100 Pa
Max. available setting	150 Pa	150 Pa	150 Pa	150 Pa	150 Pa

More powerful drain pump

Using a high-lift drain pump, drain piping can be elevated up to 785 mm from the base of the unit.

Air inlet

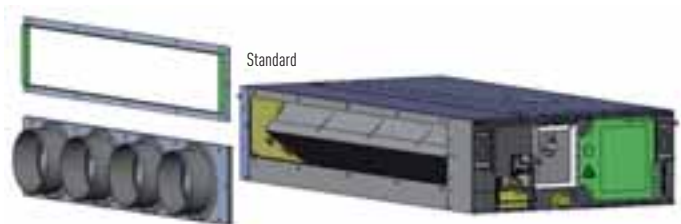
The unit features air inlet on one side, air outlet on the other side. The air inlet filter can be pulled out from the side of the unit and can be folded. Easy access if through the maintenance opening.



When air inlet duct (field supplied) is connected on suction side, remove the filter, frame and insulation materials on both sides of the unit. Connect the duct on the suction side of the unit by using prepared holes on the unit.

Air outlet site

A rectangular duct flange for the air outlet is fitted as standard. Round outlet flange kits are available as an optional accessory kit.



Round flange : CZ-160DAF2 □200 outlet frange x 4 ports

Circle duct flange (option)

Model	N. of exits with diameters	Model Code
	2 x Ø 200	CZ-56DAF2 (2 SA outlet)
	3 x Ø 200	CZ-90DAF2 (3 SA outlet)
	4 x Ø 200	CZ-160DAF2 (4 SA outlet)

AIRZONE



Control of the PACi Hide Aways by Airzone

Airzone has developed interfaces to easily connect to Panasonic PACi Hide Away units. Ensuring optimum performance, comfort and energy savings, the new system is efficient and easy to install. Interface dimensions: 120 x 25 x 65 cm (W x H x D). Interfaces must be purchased direct from Airzone.

Airzone full range of accessories for any duct project



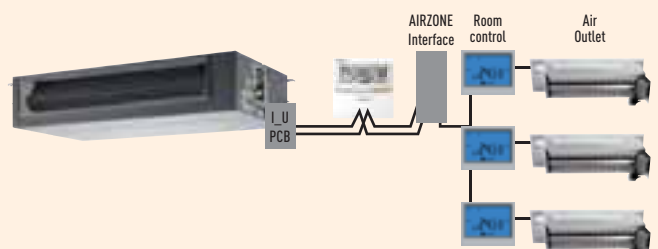
Different type of outlets





Also plenum automatic doors



Full range of RC (wired/wireless, ...)







Range of Commercial units

WALL-MOUNTED FOR PROFESSIONAL APPLICATIONS WALL MOUNTED PKEA*	2.8 kW	3.2 kW	4.5 kW	5.0 kW
	 CS-E9PKEA	 CS-E12PKEA	 CS-E15PKEA	 CS-E918PKEA






















* PKEA indoor units are only compatible with PKEA Outdoor Units.











INDOOR UNITS PACi STANDARD AND ELITE WALL PACi // INVERTER+	3.6 kW	4.6 kW	5.0 kW	6.0 kW
	 S-36PK1E5	 S-45PK1E5	 S-50PK1E5	 S-60PK1E5
4-WAY 60x60 CASSETTE PACi // INVERTER+ (FOR TWIN COMBINATIONS)	 S-36PY1E5	 S-45PY1E5	 S-50PY1E5	
4 WAY 90x90 CASSETTE PACi // INVERTER+	 S-36PU1E5	 S-45PU1E5	 S-50PU1E5	 S-60PU1E5
LOW STATIC PRESSURE HIDE AWAY PACi // INVERTER+	 S-36PN1E5	 S-45PN1E5	 S-50PN1E5	 S-60PN1E5
HIGH STATIC PRESSURE HIDE AWAY PACi // INVERTER+	 S-36PF1E5	 S-45PF1E5	 S-50PF1E5	 S-60PF1E5
CEILING PACi // INVERTER+ ¹	 S-36PT1E5	 S-45PT1E5	 S-50PT1E5	 S-60PT1E5
HIGH STATIC PRESSURE HIDE AWAY 20.0-25.0 kW PACi // THREE PHASE INVERTER+ AHU Kit			 CZ-280PAH1	 CZ-280PAH1
AIR CURTAIN JET-FLOW ²				
AIR CURTAIN STANDARD ²				

* The indoor units from 3.6 to 5.0 kW are only available only for Twin, Triple and Quadruple combinations. 1 Available from November 2013. 2 Available from April 2013.

OUTDOOR UNITS PACi STANDARD AND ELITE PACi STANDARD			5.0 kW	6.0 kW
				 U-60PE1E5 ¹
PACi ELITE			 U-50PE1E5 ¹	 U-60PE1E5 ¹

¹ Single Phase ² Three Phase

7.1 kW	10.0 kW	12.5 kW	14.0 kW	20.0 kW	25.0 kW
 S-71PK1E5					
 S-71PU1E5	 S-100PU1E5	 S-125PU1E5	 S-140PU1E5		
 S-71PN1E5	 S-100PN1E5	 S-125PN1E5	 S-140PN1E5		
 S-71PF1E5	 S-100PF1E5	 S-125PF1E5	 S-140PF1E5		
 S-71PT1E5	 S-100PT1E5	 S-125PT1E5	 S-140PT1E5		
				 S-200PE1E8A	 S-250PE1E8
 CZ-280PAH1	 CZ-280PAH1	 CZ-280PAH1	 CZ-280PAH1	 CZ-280PAH1	 CZ-280PAH1
		 PAW-10PAIRC-MJ		 PAW-15PAIRC-MJ	 PAW-20PAIRC-MJ
		 PAW-10PAIRC-MS			 PAW-20PAIRC-MS

7.1 kW	10.0 kW	12.5 kW	14.0 kW	20.0 kW	25.0 kW
 U-71PE1E5 ¹	 U-100PE1E5 ¹ // U-100PE1E8 ^{III}	 U-125PE1E5 ¹ // U-125PE1E8 ^{III}	 U-140PE1E8 ^{III}		
 U-71PE1E5 ¹ // U-71PE1E8 ^{III}	 U-100PE1E5 ¹ // U-100PE1E8 ^{III}	 U-125PE1E5 ¹ // U-125PE1E8 ^{III}	 U-140PE1E5 ¹ // U-140PE1E8 ^{III}	 U-200PE1E8 ^{III}	 U-250PE1E8 ^{III}

WALL MOUNTED PKEA

Complete line-up with high efficiency even at -15 °C

This wall-mounted air conditioner 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.



			Single Phase			
			2.8 kW	3.2 kW	4.5 kW	5.0 kW
KIT			KIT-E9-PKEA	KIT-E12-PKEA	KIT-E15-PKEA	KIT-E18-PKEA
Indoor			CS-E9PKEA	CS-E12PKEA	CS-E15PKEA	CS-E18PKEA
Outdoor			CU-E9PKEA	CU-E12PKEA	CU-E15PKEA	CU-E18PKEA
Cooling capacity	Nominal (Min-Max)	kW	2.50 (0.85-3.00)	3.50 (0.85-4.00)	4.20 (0.98-5.00)	5.00 (0.98-6.00)
	Nominal (Min-Max)	kCal/h	2,150 (730-2,580)	3,010 (730-3,440)	3,610 (840-4,300)	4,300 (840-5,160)
EER ¹⁾	Nominal (Min-Max)	Energy Saving	4.85 (4.23-5.00) ◀A	4.02 (3.57-5.00) ◀A	3.50 (3.50-3.16) ◀A	3.47 (3.50-3.02) ◀A
SEER	Nominal	Energy Saving	7.1 ◀A++	6.7 ◀A++	6.3 ◀A++	6.9 ◀A++
P Design at -10 °C		kW	2.5	3.5	4.2	5.0
Power input Cooling	Nominal (Min-Max)	kW	0.515 (0.170-0.710)	0.870 (0.170-1.120)	1.200 (0.280-1.580)	1.440 (0.280-1.990)
Annual Energy Consumption (cooling)		kWh	123	183	233	254
Heating capacity	Nominal (Min-Max)	kW	3.40 (0.85-5.40)	4.00 (0.85-6.60)	5.40 (0.98-7.10)	5.80 (0.98-8.00)
	Nominal (Min-Max)	kCal/h	2,920 (730-4,640)	3,440 (730-5,680)	4,640 (840-6,110)	4,990 (840-6,880)
Heating capacity at -7 °C	Nominal	kW	3.91	4.78	5.14	5.80
COP 1)	Nominal (Min-Max)	Energy Saving	4.86 (4.12-5.15) ◀A	4.35 (3.63-5.15) ◀A	3.75 (2.88-3.24) ◀A	3.82 (2.88-3.11) ◀A
SCOP	Nominal	Energy Saving	4.4 ◀A+	4.1 ◀A+	3.9 ◀A	4.2 ◀A+
P Design at -10 °C		kW	2.8	3.6	3.6	4.4
Power input Heating	Nominal (Min-Max)	kW	0.700 (0.165-1.310)	0.920 (0.1650-1.820)	1.440 (0.340-2.190)	1.520 (0.340-2.570)
Annual Energy Consumption (heating)		kWh	891	1229	1292	1467
Indoor Unit						
Power source	V		230	230	230	230
Recommended Fuse	A		16	16	16	16
Connection indoor / outdoor	mm		4 x 1.5	4 x 1.5	4 x 1.5	4 x 2.5
Current (Nominal)	Cooling / Heating	A	2.5 / 3.3	4.0 / 4.2	5.4 / 6.5	6.4 / 6.8
Max. Current		A	7.8	8.4	9.6	11.3
Air Volume	Cooling / Heating	m ³ /h	798 / 876	816 / 882	846 / 900	1074 / 1158
Moisture removal volume		l/h	1.5	2.0	2.4	2.8
Sound pressure Level ²⁾	Cooling (Hi / Lo / S-Lo)	dB(A)	39 / 26 / 23	42 / 29 / 26	43 / 32 / 29	44 / 37 / 34
	Heating (Hi / Lo / S-Lo)	dB(A)	40 / 27 / 24	42 / 33 / 30	43 / 35 / 32	44 / 37 / 34
Sound power level	Cooling / Heating (Hi)	dB	55 / 56	58 / 58	59 / 59	60 / 60
Dimensions ³⁾	H x W x D	mm	295 x 870 x 255	295 x 870 x 255	295 x 870 x 255	295 x 1070 x 255
Net weight		kg	10	10	10	13
Air purifier filter						
Outdoor Unit						
Air Volume	Cooling / Heating	m ³ /h	1878 / 1782	1974 / 1926	2052 / 1980	2352 / 2274
Sound pressure Level ²⁾	Cooling / Heating (Hi)	dB(A)	46 / 47	48 / 50	46 / 46	47 / 47
Sound power level	Cooling / Heating (Hi)	dB	61 / 62	63 / 65	61 / 61	61 / 61
Dimensions ³⁾	H x W x D	mm	622 x 824 x 299	622 x 824 x 299	695 x 875 x 320	695 x 875 x 320
Net weight		kg	36	36	45	46
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)
Refrigerant loading	R410A	kg	1,100	1,100	1.060	1.240
Elevation difference (in/out) ⁴⁾	Max	m	5	5	15	15
	Min / Max	m	3-15	3-15	3-15	3-20
Piping length		m	7.5	7.5	7.5	7.5
Precharge length	Max	m	7.5	7.5	7.5	7.5
Additional charge		g/m	20	20	20	20
Operating range	Cooling Min / Max	°C	-15 / +43	-15 / +43	-15 / +43	-15 / +43
	Heating Min / Max	°C	-15 / +24	-15 / +24	-15 / +24	-15 / +24

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Cooling Outdoor 7 °C DB / 6 °C WB. (DB: Dry Bulb; WB: Wet Bulb)

1) EER and COP, Energy Saving Classification, is at 220 / 240 V (380 / 415 V) only in accordance with EU directive 2002/31/EC. 2) The annual consumption is calculated by multiplying the input power at 220 / 240 V (380 / 415 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 1.5 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.

Recommended fuse for the indoor 3A.

Specifications subject to change without notice.

For detailed information about ErP, please visit our page <http://www.doc.panasonic.de>



INCLUDED ON THE KIT

Timer remote controller



KIT-E9-PKEA KIT-E12-PKEA KIT-E15-PKEA KIT-E18-PKEA

Technical Focus

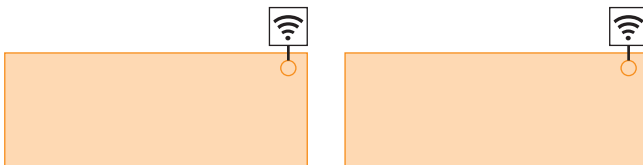
- DESIGNED FOR FOR 24H/7D A WEEK OPERATION
- HIGHLY EFFICIENT EVEN AT -15 °C

Outdoor

- Cooling from as low as ambient -15 °C
- Electronic expansion valve (accurate sub-cooling and adjustable refrigerant flow)
- Outdoor DC fan motor to provide flexible air-flow to ensure optimum condensation pressure (works on outdoor pipe temperature sensor)

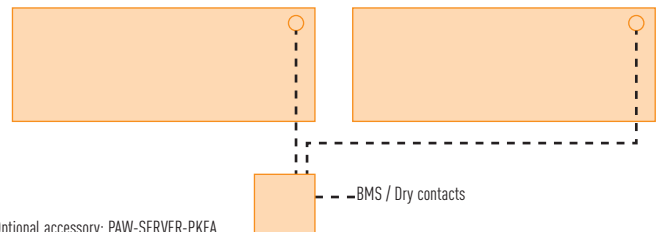
2 INTERFACE OPTIONS TO MANAGE SERVER ROOM OPERATION

- **IntesisHome**, Advance package: PA-AC-WIFI-1 + Advance function. 1 interface PA-AC-WIFI-1 for indoor unit is needed. This interface must be connected to the local Wi-Fi network. Server room functionalities of the PA-AC-WIFI-1 + Advance function:
 - On/Off, temperature setting management
- Backup management
 - Alternative running
 - Email in case of failure
 - Room temperature display on the online Intesishome application
 - Energy consumption display
 - Online access of all functionalities
 - Ipad / Iphone / Android / Web application



2 Interface options to manage server room operation: PA-AC-WIFI-1

- **PAW-SERVER-PKEA** server room interface with dry contacts for a easy interconnection with BMS systems. 1 interface PAW-SERVER-PKEA can be connected to 2 PKEA indoor units. Server room functionalities with the PAW-SERVER-PKEA:
 - On/Off management by dry contact
 - Temperature set-up (easy setup on the interface without computer)
- Backup management (easy setup on the interface without computer)
 - Alternative running (easy setup on the interface without computer)
 - Dry contact in case of failure (easy setup on the interface without computer)



Optional accessory: PAW-SERVER-PKEA



CU-E9PKEA
CU-E12PKEA



CU-E15PKEA
CU-E18PKEA

WALL PACi STANDARD AND ELITE INVERTER+

The extension of the range to include a 7.1 kW unit allows for many more applications such as studios, gyms, high ceiling areas and even computer server rooms.

Technical Focus

- New 7.1 kW capacity unit
- New flat face design for modern appearance
- New compact design offers over 15% reduction in overall size
- Washable front panel
- DC FAN for better efficiency and control
- Three directional piping outlet



STANDARD

NEW

			Single Phase		
			6.0 kW		7.1 kW
KIT			KIT-60PYK1E5*		KIT-71PYK1E5*
Indoor			S-60PK1E5		S-71PK1E5
Outdoor			U-60PEY1E5		U-71PEY1E5
Wireless remote controller			CZ-RWSK2		CZ-RWSK2
Cooling capacity	Nom. (Min-Max)	kW	6.0 (2.0-7.0)		7.1 (2.0-7.7)
EER ¹⁾	Nom. (Min-Max)	W/W	3.23 [6.15-2.55] ◀A		2.90 [6.15-2.57] ◀D
SEER		W/W	5.4 ◀A		5.1 ◀A
Pdesign		kW	6.0		7.1
Power input Cooling	Nom. (Min-Max)	kW	1.860 (0.325-2.750)		2.450 (0.325-3.000)
Annual Energy Consumption (ErP)^{2-a)}			930		1225
Annual Energy Consumption (ErP)^{2-b)}			389		487
Heating capacity	Nom. (Min-Max)	kW	6.0 (1.8-7.0)		7.1 (1.8-8.1)
COP1)	Nom. (Min-Max)	W/W	4.00 [6.55-3.18] ◀A		3.74 [6.55-3.18] ◀A
SCOP		W/W	3.9 ◀A		3.9 ◀A
Pdesign at -10 °C		kW	6.0		6.0
Power input Heating	Nom. (Min-Max)	kW	1.500 (0.275-2.200)		1.900 (0.275-2.550)
Annual Energy Consumption (ErP)^{2-b)}			2154		2154
Indoor unit					
Air Volume	Cool / Heat	m³/h	1080 / 1080		1080 / 1080
Moisture removal volume		U/h	4.2		4.2
Sound pressure Level	Cool (Hi/Me/Lo)	dB(A)	47 / 44 / 40		47 / 44 / 40
	Heat (Hi/Me/Lo)	dB(A)	47 / 44 / 40		47 / 44 / 40
Sound power level	Cool (Hi)	dB	64		64
	Heat (Hi)	dB	64		64
Dimensions	H x W x D	mm	300 x 1065 x 230		300 x 1065 x 230
Net weight		kg	14.5		14.5
Outdoor unit					
Power source	V	220 / 230 / 240		220 / 230 / 240	
Recommended fuse	A	20		20	
Connection	mm²	2.5		2.5	
Current Cooling	A	8.80 / 8.50 / 8.25		11.70 / 11.30 / 10.90	
Current Heating	A	7.05 / 6.80 / 6.60		9.00 / 8.70 / 8.40	
Air Volume	Cool / Heat	m³/h	1800 / 2100		2340
Sound pressure Level ³⁾	Cool / Heat (Hi)	dB(A)	46 / 50		50 / 52
Sound power level	Cool / Heat (Hi)	dB	65 / 69		70 / 70
Dimensions	H x W x D	mm	569 x 790 x 285		569 x 790 x 285
Net weight		kg	42		42
Piping connections	Liquid pipe	Inch (mm)	3/8 (9.52)		3/8 (9.52)
	Gas pipe	Inch (mm)	5/8 (15.88)		5/8 (15.88)
Refrigerant loading	R410A	kg	1.7		1.7
Elevation dif. (in/out) ⁴⁾	Max	m	30		30
Piping length	Min/Max	m	50		50
Precharge length	Max	m	20		20
Additional charge		g/m	40		40
Operating range	Cool Min/Max	°C	-10 / 43		-10 / 43
	Heat Min/Max	°C	-15 / 24		-15 / 24

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Cooling Outdoor 7 °C DB / 6 °C WB. (DB: Dry Bulb; WB: Wet Bulb). // Specifications subject to change without notice.

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STANDARD

A class energy saving	5.4 A SEER	3.9 A SCOP	Down to -10 °C in cooling mode	Down to -15 °C in heating mode	Easy control by BMS	Possible to use on R22 pipings
<small>INVERTER+</small>	<small>SEASONAL ENERGY EFFICIENCY RATIO</small>	<small>SEASONAL COEFFICIENT OF PERFORMANCE</small>	<small>OUTDOOR TEMPERATURE</small>	<small>OUTDOOR TEMPERATURE</small>	<small>CONNECTIVITY</small>	<small>R22 RENEWAL</small>

5 year
compressor
warranty



U-60PEY1E5
U-71PEY1E5

INCLUDED ON THE KIT

Wireless control
CZ-RWSK2

OPTIONAL CONTROLLERS

Timer remote controller
CZ-RTC2Simplified remote controller
CZ-RE2C2

COMPATIBLE WITH ALL ECOi CONNECTIVITY SOLUTIONS



ELITE

		Single Phase			Three Phase		
		5.0 kW	6.0 kW	7.1 kW	7.1 kW		
KIT		KIT-50PEK1E5*	KIT-60PEK1E5	KIT-71PEK1E5	KIT-71PEK1E8		
Indoor		S-50PK1E5	S-60PK1E5	S-71PK1E5	S-71PK1E5		
Outdoor		U-50PE1E5	U-60PE1E5	U-71PE1E5	U-71PE1E8		
Wireless remote controller		CZ-RWSK2	CZ-RWSK2	CZ-RWSK2	CZ-RWSK2		
Cooling capacity	Nom. (Min-Max)	kW	5.0 (1.5-5.6)	6.0 (2.5-7.1)	7.1 (2.5-8.0)	7.1 (3.2-8.0)	
EER¹⁾	Nom. (Min-Max)	kW	3.21 (5.77-2.49) ◀A	3.85 (5.56 - 3.55) ◀A	3.40 (5.56 - 3.02) ◀A	3.40 (5.71 - 3.02) ◀A	
SEER		W/W	6.0 ◀A+	6.6 ◀A++	6.6 ◀A++	6.1 ◀A++	
Pdesign		kW	5.0	6.0	7.1	7.1	
Power input Cooling	Nom. (Min-Max)	kW	1.560 (0.260-2.250)	1.560 (0.450-2.000)	2.090 (0.450-2.650)	2.090 (0.560-2.650)	
Annual Energy Consumption (ErP)²⁻³⁾			780	780	1045	1045	
Annual Energy Consumption (ErP)²⁻³⁾			292	318	376	407	
Heating capacity	Nom. (Min-Max)	kW	5.6 (1.5-6.5)	7.0 (2.0-8.0)	8.0 (2.0-9.0)	8.0 (2.8-9.0)	
COP¹⁾	Nom. (Min-Max)	W/W	3.73 (6.82-2.65) ◀A	3.85 (5.00 - 3.23) ◀A	3.76 (5.00-3.10) ◀A	3.76 (5.60-3.10) ◀A	
SCOP		W/W	3.9 ◀A	3.9 ◀A	3.9 ◀A	3.8 ◀A	
Pdesign at -10 °C		kW	4.0	6.0	7.1	7.1	
Power input Heating	Nom. (Min-Max)	kW	1.500 (0.220-2.450)	1.820 (0.400-2.480)	2.130 (0.400-2.900)	2.070	
Annual Energy Consumption (ErP)²⁻³⁾			1436	780	2548	2616	
Indoor unit							
Air Volume	Cool / Heat	m ³ /h	840 / 840	1080 / 1080	1080 / 1080	1080 / 1080	
Moisture removal volume		U/h	2.8	3.4	4.2	4.2	
Sound pressure Level	Cool (Hi/Me/Lo)	dB(A)	40 / 36 / 32	47 / 44 / 40	47 / 44 / 40	47 / 44 / 40	
	Heat (Hi/Me/Lo)	dB(A)	40 / 36 / 32	47 / 44 / 40	47 / 44 / 40	47 / 44 / 40	
Sound power level	Cool (Hi)	dB	57	64	64	64	
	Heat (Hi)	dB	57	64	64	64	
	Heat (Hi)	dB	57	64	64	64	
Dimensions	H x W x D	mm	300 x 1065 x 230	300 x 1065 x 230	300 x 1065 x 230	300 x 1065 x 230	
Net weight		kg	13.0	14.5	14.5	14.5	
Outdoor unit							
Power source	V		220 / 240	220 / 240	220 / 240	380 / 415	
Recommended fuse	A		16	20	20	16	
Connection	mm ²		2.5	2.5	2.5	2.5	
Current Cooling	Nom. (Min-Max)	A	7.25 / 7.00 / 6.80	7.15	9.40	3.15	
Current Heating	Nom. (Min-Max)	A	6.95 / 6.75 / 6.50	8.15	9.50	3.20	
Air Volume	Cool / Heat	m ³ /h	1800 / 2100	3600 / 3600	3600 / 3600	3600 / 3600	
Sound pressure Level³⁾	Cool / Heat (Hi)	dB(A)	46 / 50	48 / 50	48 / 50	48 / 50	
Sound power level	Cool / Heat (Hi)	dB	65 / 69	65 / 67	65 / 67	65 / 67	
Dimensions	H x W x D	mm	569 x 790 x 285	996 x 940 x 340	996 x 940 x 340	996 x 940 x 340	
Net weight		kg	42	68	69	71	
Piping connections	Liquid pipe	Inch (mm)	1/4 (6.35)	3/8 (9.52)	3/8 (9.52)	3/8 (9.52)	
	Gas pipe	Inch (mm)	1/2 (12.7)	5/8 (15.88)	5/8 (15.88)	5/8 (15.88)	
Refrigerant loading	R410A	kg	1.65	2	2.35	2.35	
Elevation dif. (in/out)⁴⁾	Max	m	30	30	30	30	
Piping length	Min/Max	m	40	5-50	5-50	5-50	
Precharge length	Max	m	30	30	30	30	
Additional charge		g/m	20	50	50	50	
Operating range	Cool Min/Max	°C	-15 / 46	-15 / 46	-15 / 46	-15 / 46	
	Heat Min/Max	°C	-20 / 24	-20 / 24	-20 / 24	-20 / 24	

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Cooling Outdoor 7 °C DB / 6 °C WB. (DB: Dry Bulb; WB: Wet Bulb). // Specifications subject to change without notice.

1) EER and COP, Energy Saving Classification, is at 220 / 240 V (380 / 415 V) only in accordance with EU directive 2002/31/EC. 2) The annual consumption is calculated by multiplying the input power at 220 / 240 V (380 / 415 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 1.5 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. // Recommended fuse for the indoor 3A. // * Available from May 2013.

For detailed information about ErP, please visit our page <http://www.dpc.panasonic.de>

ELITE

A class energy saving	6.6 A++ SEER*	3.9 A SCOP	Down to -15 °C in cooling mode	Down to -20 °C in heating mode	Easy control by BMS	Possible to use on R22 pipings
INVERTER+	SEASONAL ENERGY EFFICIENCY RATIO	SEASONAL COEFFICIENT OF PERFORMANCE	OUTDOOR TEMPERATURE	OUTDOOR TEMPERATURE	CONNECTIVITY	R22 RENEWAL

5 year
compressor
warranty

SEER and SCOP: For KIT-60PEK1E5 and KIT-71PEK1E5

4 WAY 60x60 CASSETTE PACi STANDARD AND ELITE INVERTER+

Small and powerful, ideal for offices and restaurants.
Only for Twin, Triple and Double-twin combinations.

Technical Focus

- Fresh air knock out
- Multidirectional air flow
- Integrated drain pump gives 850 mm lift
- 3 speed centrifugal fan
- Anti-mould and anti-bacteria washable filters
- DC FAN for better efficiency and control



STANDARD

NEW

			3.6 kW	4.5 kW	5.0 kW
Indoor			S-36PY1E5 ^{1)*}	S-45PY1E5 ^{1)*}	S-50PY1E5*
Panel			CZ-KPY21	CZ-KPY21	CZ-KPY21
Wired remote control			CZ-RTC2	CZ-RTC2	CZ-RTC2
Cooling capacity	Nom. (Min-Max)	kW	3.6	4.5	5.0
Heating capacity	Nom. (Min-Max)	kW	4.2	5.2	5.6
Air Volume	Cool/Heat	m ³ /h	540 / 540	636 / 636	750 / 750
Moisture removal volume		l/h	2.1	2.5	2.8
Sound pressure Level	Cool (Hi/Me/Lo)	dB(A)	32 / 29 / 26	36 / 32 / 28	41 / 37 / 33
	Heat (Hi/Me/Lo)	dB(A)	32 / 29 / 26	36 / 32 / 28	41 / 37 / 33
Sound power Level	Cool (Hi)	dB	49 / 46 / 42	53 / 48 / 45	58 / 54 / 50
	Heat (Hi)	dB	49 / 46 / 42	53 / 48 / 45	58 / 54 / 50
Dimensions indoor	H x W x D	mm	283 x 575 x 575	283 x 575 x 575	283 x 575 x 575
Dimensions panel	H x W x D	mm	30 x 625 x 625	30 x 625 x 625	30 x 625 x 625
Net weight	Indoor (Panel)	kg	16 (2.4)	16 (2.4)	16 (2.4)

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Cooling Outdoor 7 °C DB / 6 °C WB. (DB: Dry Bulb; WB: Wet Bulb). // Specifications subject to change without notice.

1) Only for multi combinations.
Recommended fuse for the indoor 3A.
* Available from April 2013.

STANDARD

PANEL

CZ-KPY2



INCLUDED IN THE KIT

Timer remote controller
CZ-RTC2

OPTIONAL

Wireless remote controller
CZ-RWSY2Simplified remote controller
CZ-RE2C2

COMPATIBLE WITH ALL ECOi CONNECTIVITY SOLUTIONS



ELITE

			5.0 kW
KIT			
Indoor			S-50PY1E5*
Outdoor			U-50PE1E5
Panel			CZ-KPY2
Wired remote control			CZ-RTC2
Cooling capacity	Nom. (Min-Max)	kW	5.0 (1.5 - 5.6)
EER ¹⁾	Nom. (Min-Max)	W/W	3.04 (5.58 - 2.29) ◀ B
SEER		W/W	5.90 ◀ A+
Pdesign			kW
Power input Cooling			5.0
Nom. (Min-Max)			1.64 (0.260 - 2.45)
Annual Energy Consumption ^{2-a)}			kWh
			820
Annual Energy Consumption (ErP) ^{2-b)}			kWh
			297
Heating capacity	Nom. (Min-Max)	kW	5.6 (1.5 - 6.3)
COP ¹⁾	Nom. (Min-Max)	W/W	3.12 (6.82 - 2.45) ◀ D
SCOP		W/W	3.80 ◀ A
Pdesign at -10 °C			kW
Power input Heating			4.0
Nom. (Min-Max)			1.79 (0.22 - 2.57)
Annual Energy Consumption (ErP) ^{2-b)}			kWh
			1474
Indoor unit			
Air Volume	Cooling/Heating	m ³ /h	750 / 750
Moisture removal volume		l/h	2.8
Sound pressure Level	Cooling (Hi/Me/Lo)	dB(A)	41 / 37 / 33
	Heating (Hi/Me/Lo)	dB(A)	41 / 37 / 33
Sound power Level	Cooling (Hi)	dB	58 / 54 / 50
	Heating (Hi)	dB	58 / 54 / 50
Dimensions		H x W x D	mm
			283 x 575 x 575
Dimensions panel		H x W x D	mm
			30 x 625 x 625
Net weight			kg
			16
Outdoor unit			
Power source		V	220 - 240
Recommended fuse		A	16
Connection		mm ²	2.5
Current Cooling	Nom. (Min-Max)	A	7.5
Current Heating	Nom. (Min-Max)	A	8.2
Air Volume	Cooling/Heating	m ³ /h	1800 / 2100
Sound pressure Level ³⁾	Cooling/Heating (Hi)	dB(A)	46 / 50
Sound power Level	Cooling/Heating (Hi)	dB	65 / 69
Dimensions		H x W x D	mm
			569 x 790 x 285
Net weight			kg
			42
Piping connections	Liquid pipe / Gas pipe	Inch (mm)	1/4 (6.35) / 1/2 (12.7)
Refrigerant Loading	R410A	kg	1.65
Elevation dif. (in/out) ⁴⁾	Max	m	30
Piping length	Min/Max	m	5 - 40
Precharge length	Max	m	30
Additional gas		g/m	20
Operating range	Cooling Min/Max	°C	-15 / 46
	Heating Min/Max	°C	-20 / 24

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Cooling Outdoor 7 °C DB / 6 °C WB. (DB: Dry Bulb; WB: Wet Bulb). // Specifications subject to change without notice.

1) EER and COP, Energy Saving Classification, is at 220-240 V (380-415 V) only in accordance with EU directive 2002/31/EC. 2-a) The annual consumption is calculated by multiplying the input power at 220-240 V (380-415 V) by an average of 500 hours per year in cooling mode. 2-b) The annual consumption(ErP) is calculated by formula determined by ErP regulation. 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. Recommended fuse for the indoor 3A. * Available from April 2013. For detailed information about ErP, please visit our page <http://www.doc.panasonic.de>

ELITE

A class energy saving	5.9 A+ SEER	3.8 A SCOP	Down to -15 °C in cooling mode	Down to -20 °C in heating mode	Easy control by BMS	Possible to use on R22 pipings
<small>INVERTER+</small>	<small>SEASONAL ENERGY EFFICIENCY RATIO</small>	<small>SEASONAL COEFFICIENT OF PERFORMANCE</small>	<small>OUTDOOR TEMPERATURE</small>	<small>OUTDOOR TEMPERATURE</small>	<small>CONNECTIVITY</small>	<small>R22 RENEWAL</small>

5 year
compressor
warranty



U-50PE1E5

4 WAY 90x90 CASSETTE PACi STANDARD AND ELITE INVERTER+

The 4 Way 90x90 Cassette incorporates many new benefits thanks to advances in design and technology.

Technical Focus

- New Circle Flow Flap for more even temp. distribution
- Higher efficiency split fin
- New DC fan motor
- Highly efficient and silent turbo fan
- Individual flap control for flexible air flow direction
- Easy to clean suction grill & flap
- Special adjustment for high ceiling application
- DC FAN for better efficiency and control



AIR INTAKE CHAMBER

1. Air intake box CZ-BCU2 for main unit.
 2. Air intake box CZ-ATU2* for Air intake plenum.
- * When using Air intake box (CZ-ATU2), Air intake plenum // (CZ-FDU2) is required.

**360°
air flow**



STANDARD

NEW

	Single Phase				Three Phase				
	6.0 kW	7.1 kW	10.0 kW	12.5 kW	10.0 kW	12.5 kW	14.0 kW		
KIT	KIT-60PUY1E5*	KIT-71PUY1E5*	KIT-100PUY1E5**	KIT-125PUY1E5**	KIT-100PUY1E8**	KIT-125PUY1E8**	KIT-140PUY1E8***		
Indoor	S-60PU1E5	S-71PU1E5	S-100PU1E5	S-125PU1E5	S-100PU1E5	S-125PU1E5	S-140PU1E5		
Outdoor	U-60PEY1E5	U-71PEY1E5	U-100PEY1E5	U-125PEY1E5	U-100PEY1E8	U-125PEY1E8	U-140PEY1E8		
Panel	CZ-KPU2	CZ-KPU2	CZ-KPU2	CZ-KPU2	CZ-KPU2	CZ-KPU2	CZ-KPU2		
Wired remote control	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2		
Cooling capacity	Nom. (Min-Max) kW	6.0 (2.0-7.0)	7.1 (2.0-7.7)	10.0	12.5 (3.8-13.5)	10.0 (2.7-11.5)	12.5 (3.8-13.5)	14.0 (3.3-15.5)	
EER¹⁾	Nom. (Min-Max) W/W	3.55 (6.15-2.80) ◀A	3.24 (6.15-2.75) ◀A	3.11 ◀B	3.11 (4.22-2.70) ◀B	3.11 (5.09-2.74) ◀B	3.11 (4.22-2.70) ◀B	3.21 (3.93 - 2.58) ◀A	
SEER	W/W	6.8 ◀A++	6.3 ◀A++	6.4 ◀A++	—	6.2 ◀A++	—	—	
Pdesign	kW	6.0	7.1	10	—	10.0	—	—	
Power input Cooling	Nom. (Min-Max) kW	1.690 (0.325-2.500)	2.190 (0.325-2.800)	3.220 (0.530-4.200)	4.020 (0.900-5.000)	3.220 (0.530-4.200)	4.020 (0.900-5.000)	4.36 (0.84 - 6.00)	
Annual Energy Consumption^{2-a)}		845	1095	1610	2010	1610	2010	2155	
Annual Energy Consumption(ERP) 2-b)		309	394	547	—	564	—	—	
Heating capacity	Nom. (Min-Max) kW	6.0 (1.8-7.0)	7.1 (1.8-8.1)	10.0	12.5 (3.4-15.0)	10.0 (2.1-13.8)	12.5 (3.4-15.0)	14.0 (4.1-16.0)	
COP1)	Nom. (Min-Max) W/W	4.05 (6.55-3.25) ◀A	3.78 (6.55-3.23) ◀A	3.80 ◀A	3.80 (4.66-3.41) ◀A	3.80 (5.12-3.45) ◀A	3.80 (4.66-3.41) ◀A	3.89 (4.56 - 3.08) ◀A	
SCOP	W/W	4.0 ◀A+	4.0 ◀A+	4.0 ◀A+	—	4.0 ◀A+	—	—	
Pdesign at -10 °C	kW	6.0	6.0	10.0	—	10.0	—	—	
Power input Heating	Nom. (Min-Max) kW	1.480 (0.275-2.155)	1.880 (0.275-2.510)	2.630 (0.410-4.000)	3.290 (0.730-4.400)	2.630 (0.410-4.000)	3.290 (0.730-4.400)	3.60 (0.90 - 5.20)	
Annual Energy Consumption (ErP)^{2-b)}		2100	2100	3500	—	3500	—	—	
Indoor unit									
Air Volume	Cool / Heat	m³/h	960 / 960	1320 / 1320	1980 / 1980	2060 / 2060	1980 / 1980	2060 / 2060	2160 / 2160
Moisture removal volume		U/h	3.0	4.2	6.0	7.9	6.0	7.9	9.0
Sound pressure Level	Cool (Hi/Me/Lo)	dB(A)	32 / 29 / 27	37 / 31 / 28	44 / 38 / 32	45 / 39 / 33	44 / 38 / 32	45 / 39 / 33	46 / 40 / 34
	Heat (Hi/Me/Lo)	dB(A)	32 / 29 / 27	37 / 31 / 28	44 / 38 / 32	45 / 39 / 33	44 / 38 / 32	45 / 39 / 33	46 / 40 / 34
Sound power level	Cool (Hi/Me/Lo)	dB	49 / 46 / 44	54 / 48 / 45	62 / 55 / 49	63 / 56 / 50	62 / 55 / 49	63 / 56 / 50	64 / 57 / 51
	Heat (Hi/Me/Lo)	dB	49 / 46 / 44	54 / 48 / 45	62 / 55 / 49	63 / 56 / 50	62 / 55 / 49	63 / 56 / 50	64 / 57 / 51
Dimensions H x W x D	Indoor	mm	256 x 840 x 840	256 x 840 x 840	319 x 840 x 840	319 x 840 x 840	319 x 840 x 840	319 x 840 x 840	319 x 840 x 840
	Panel	mm	33.5 x 950 x 950	33.5 x 950 x 950	33.5 x 950 x 950	33.5 x 950 x 950	33.5 x 950 x 950	33.5 x 950 x 950	33.5 x 950 x 950
Net weight	Indoor (Panel)	kg	24 (4)	24 (4)	27 (4)	27 (4)	27 (4)	27 (4)	27 (4)
Outdoor unit									
Power source	V	220 / 230 / 240	220 / 230 / 240	220 / 230 / 240	220 / 230 / 240	380 / 400 / 415	380 / 400 / 415	380 / 415	
Recommended fuse	A	20	20	25	30	16	16	16	
Connection	mm²	2.5	2.5	4	6	2.5	2.5	2.5	
Current Cooling	A	8.30 / 7.90 / 7.60	10.70 / 10.30 / 9.80	15.10 / 14.40 / 13.80	19.2 / 18.4 / 17.6	5.10 / 4.85 / 4.70	6.35 / 6.05 / 5.80	5.15	
Current Heating	A	7.20 / 6.90 / 6.60	9.10 / 8.70 / 8.30	12.00 / 11.60 / 11.20	15.4 / 14.8 / 14.2	4.15 / 3.95 / 3.80	5.15 / 4.90 / 4.70	5.20	
Air Volume	Cool / Heat	m³/h	1800 / 2100	2340	4560 / 4020	4800 / 4380	4560 / 4020	4800 / 4380	8100 / 6600
Sound pressure Level³⁾	Cool / Heat (Hi)	dB(A)	46 / 50	50 / 52	54 / 54	56 / 56	54 / 54	56 / 56	54 / 53
Sound power level	Cool / Heat (Hi)	dB	65 / 69	70 / 70	70 / 70	73 / 73	70 / 70	73 / 73	71 / 70
Dimensions	H x W x D	mm	569 x 790 x 285	569 x 790 x 285	996 x 940 x 340	996 x 940 x 340	996 x 940 x 340	1416 x 940 x 340	
Net weight		kg	42	42	73	85	85	98	
Piping connections	Liquid / 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)	3/8 (9.52) / 5/8 (15.88)	
Refrigerant loading	R410A	kg	1.7	1.7	2.60	3.20	2.60	3.4	
Elevation dif. (in/out)⁴⁾	Max	m	30	30	30	30	30	30	
Piping length	Min/Max	m	50	50	5 / 50	5 / 50	5 / 50	5-75	
Precharge length	Max	m	20	20	30	30	30	30	
Additional charge		g/m	40	40	50	50	50	50	
Operating range	Cool Min/Max	°C	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43	
	Heat Min/Max	°C	-15 / 24	-15 / 24	-15 / 24	-15 / 24	-15 / 24	-15 / 24	

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Cooling Outdoor 7 °C DB / 6 °C WB. (DB: Dry Bulb; WB: Wet Bulb). // Specifications subject to change without notice.

1) EER and COP, Energy Saving Classification, is at 220 / 240 V (380 / 415 V) only in accordance with EU directive 2002/31/EC. 2-a) The annual consumption is calculated by multiplying the input power at 220 / 240 V (380 / 415 V) by an average of 500 hours per year in cooling mode. 2-b) The annual consumption(ErP) is calculated by formula determined by ErP regulation. 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. // Recommended fuse for the indoor 3A. // * Available from May 2013. ** Available from January 2013. *** TBC. For detailed information about ErP, please visit our page <http://www.doc.panasonic.de>

STANDARD

A class
energy saving

INVERTER+

6.8 A++
SEER

SEASONAL ENERGY EFFICIENCY RATIO

4.0 A+
SCOP*

SEASONAL COEFFICIENT OF PERFORMANCE

Down to
-10 °C in
heating mode

OUTDOOR TEMPERATURE

Down to
-15 °C in
heating mode

OUTDOOR TEMPERATURE

Easy
control by
BMS

CONNECTIVITY

Possible
to use on
R22 pipings

R22 RENEWAL

5 year
compressor
warranty



SEER and SCOP: For KIT-60PUY1E5

PANEL

CZ-KPU2



OPTIONAL CONTROLLERS

Timer remote controller
CZ-RTC2



Wireless remote controller
CZ-RWSU2



Simplified remote controller
CZ-RE2C2



COMPATIBLE WITH ALL ECOi CONNECTIVITY SOLUTIONS



ELITE

		Single Phase						Three Phase				
		5.0 kW	6.0 kW	7.1 kW	10.0 kW	12.5 kW	14.0 kW	7.1 kW	10.0 kW	12.5 kW	14.0 kW	
KIT		KIT-50PU1E5*	KIT-60PU1E5	KIT-71PU1E5	KIT-100PU1E5	KIT-125PU1E5	KIT-140PU1E5	KIT-PE71U1E8	KIT-100PU1E8	KIT-125PU1E8	KIT-140PU1E8	
Indoor		S-50PU1E5	S-60PU1E5	S-71PU1E5	S-100PU1E5	S-125PU1E5	S-140PU1E5	S-71PU1E5	S-100PU1E5	S-125PU1E5	S-140PU1E5	
Outdoor		U-50PE1E5	U-60PE1E5	U-71PE1E5	U-100PE1E5	U-125PE1E5	U-140PE1E5	U-71PE1E8	U-100PE1E8	U-125PE1E8	U-140PE1E8	
Panel		CZ-KPU2	CZ-KPU2	CZ-KPU2	CZ-KPU2	CZ-KPU2	CZ-KPU2	CZ-KPU2	CZ-KPU2	CZ-KPU2	CZ-KPU2	
Wired remote control		CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	
Cooling capacity	Nom. (Min-Max)	5.0 (1.5-5.6)	6.0 (2.5-7.1)	7.1 (2.5-8.0)	10.0 (3.3-12.5)	12.5 (3.3-14.0)	14.0 (3.3-15.5)	7.1 (2.5-8.0)	10.0 (3.3-12.5)	12.5 (3.3-14.0)	14.0 (3.3-15.5)	
EER ¹⁾	Nom. (Min-Max)	3.70 (5.77-2.80) A	4.06 (5.56-3.55) A	3.94 (5.56-3.02) A	4.20 (3.93-3.38) A	3.60 (3.93-3.04) A	3.25 (3.93-2.58) A	3.94 (5.56-3.02) A	4.20 (3.93-3.38) A	3.60 (3.93-3.04) A	3.25 (3.93-2.58) A	
SEER	W/W	6.5 A++	7.4 A++	7.4 A++	6.6 A++	—	—	6.8 A++	6.5 A++	—	—	
Pdesign	kW	5.0	6.0	7.1	10.0	—	—	10.0	—	—	—	
Power input Cooling	Nom. (Min-Max)	1.350 (0.260-2.000)	1.480 (0.450-2.000)	1.800 (0.450-2.650)	2.380 (0.840-3.700)	3.470 (0.840-4.600)	4.310 (0.840-6.000)	1.800 (0.450-2.650)	2.380 (0.840-3.700)	3.470 (0.840-4.600)	4.310 (0.840-6.000)	
Annual Energy Consumption ^{2-a)}		675	740	900	1190	1735	2155	900	1190	1735	2155	
Annual Energy Consumption(ErP) ^{2-b)}		269	284	336	530	—	—	365	538	—	—	
Heating capacity	Nom. (Min-Max)	5.6 (1.5-6.5)	7.0 (2.0-8.0)	8.0 (2.0-9.0)	11.2 (4.1-14.0)	14.0 (4.1-16.0)	16.0 (4.1-18.0)	8.0 (2.0-9.0)	11.2 (4.1-14.0)	14.0 (4.1-16.0)	16.0 (4.1-18.0)	
COP ¹⁾	Nom. (Min-Max)	3.92 (6.82-2.83) A	3.87 (5.00-3.23) A	4.00 (5.00-3.10) A	4.31 (4.56-3.18) A	4.00 (4.56-3.08) A	3.70 (4.56-3.05) A	4.00 (5.00-3.10) A	4.31 (4.56-3.18) A	4.00 (4.56-3.08) A	3.70 (4.56-3.05) A	
SCOP	W/W	3.8 A	4.1 A+	4.1 A+	4.2 A+	—	—	4.0 A+	4.2 A+	—	—	
Pdesign at -10 °C	kW	4.0	6.0	7.1	10.0	—	—	7.1	10.0	—	—	
Power input Heating	Nom. (Min-Max)	1.430 (0.220-2.300)	1.810 (0.400-2.480)	2.000 (0.400-2.900)	2.600 (0.900-4.400)	3.500 (0.900-5.200)	4.330 (0.900-5.900)	2.000 (0.400-2.900)	2.600 (0.900-4.400)	3.500 (0.900-5.200)	4.330 (0.900-5.900)	
Annual Energy Consumption (ErP) ^{2-a)}		1474	2047	2424	1190	—	—	2485	1190	—	—	
Indoor unit												
Air Volume	Cool / Heat	m³/h	960 / 960	1260 / 1260	1320 / 1320	1980 / 1980	2100 / 2100	2160 / 2160	1320 / 1320	1980 / 1980	2100 / 2100	2160 / 2160
Moisture removal volume		l/h	2.8	3.4	4.2	6.0	7.9	9.0	4.2	6.0	7.9	9.0
Sound pressure level	Cool (Hi/Me/Lo)	dB(A)	32 / 29 / 27	36 / 31 / 28	37 / 31 / 28	44 / 38 / 32	45 / 39 / 33	46 / 40 / 34	37 / 31 / 28	44 / 38 / 32	45 / 39 / 33	46 / 40 / 34
	Heat (Hi/Me/Lo)	dB(A)	32 / 29 / 27	36 / 31 / 28	37 / 31 / 28	44 / 38 / 32	45 / 39 / 33	46 / 40 / 34	37 / 31 / 28	44 / 38 / 32	45 / 39 / 33	46 / 40 / 34
Sound power level	Cool (Hi/Me/Lo)	dB	49 / 46 / 44	53 / 48 / 45	54 / 48 / 45	62 / 55 / 49	63 / 56 / 50	64 / 57 / 51	54 / 48 / 45	62 / 55 / 49	63 / 56 / 50	64 / 57 / 51
	Heat (Hi/Me/Lo)	dB	49 / 46 / 44	53 / 48 / 45	54 / 48 / 45	62 / 55 / 49	63 / 56 / 50	64 / 57 / 51	54 / 48 / 45	62 / 55 / 49	63 / 56 / 50	64 / 57 / 51
Dimensions H x W x D	Indoor	mm	256 x 840 x 840	256 x 840 x 840	256 x 840 x 840	319 x 840 x 840	319 x 840 x 840	319 x 840 x 840	256 x 840 x 840	319 x 840 x 840	319 x 840 x 840	319 x 840 x 840
	Panel	mm	33.5 x 950 x 950	33.5 x 950 x 950	33.5 x 950 x 950	33.5 x 950 x 950	33.5 x 950 x 950	33.5 x 950 x 950	33.5 x 950 x 950	33.5 x 950 x 950	33.5 x 950 x 950	33.5 x 950 x 950
Net weight	Indoor (Panel)	kg	24 (4)	24 (4)	24 (4)	27 (4)	27 (4)	27 (4)	24 (4)	27 (4)	27 (4)	
Outdoor unit												
Power source	V		220 / 240	220 / 240	220 / 240	220 / 240	220 / 240	220 / 240	380/415	380 / 415	380 / 415	380 / 415
Recommended fuse	A		16	20	20	25	30	16	16	16	16	
Connection	mm²		2.5	2.5	2.5	4	6	2.5	2.5	2.5	2.5	
Current	Cool / Heat	A	6.5 / 6.9	6.90 / 8.20	8.10 / 9.00	10.30 / 11.40	15.30 / 15.40	19.00 / 19.20	— / —	3.50 / 3.85	5.15 / 5.20	6.45 / 6.50
Air Volume	Cool / Heat	m³/h	1800 / 2100	3600 / 3600	3600 / 3600	6600 / 5700	7800 / 6600	8100 / 7200	3600 / 3600	6600 / 5700	7800 / 6600	8100 / 7200
Sound pressure Level ³⁾	Cool / Heat (Hi)	dB(A)	46 / 50	48 / 50	48 / 50	52 / 52	53 / 53	54 / 55	48 / 50	52 / 52	53 / 53	54 / 55
Sound power level	Cool / Heat (Hi)	dB	65 / 69	65 / 67	65 / 67	69 / 69	70 / 70	71 / 71	65 / 67	69 / 69	70 / 70	71 / 71
Dimensions	H x W x D	mm	569 x 790 x 285	996 x 940 x 340	996 x 940 x 340	1416 x 940 x 340	1416 x 940 x 340	1416 x 940 x 340	996 x 940 x 340	1416 x 940 x 340	1416 x 940 x 340	1416 x 940 x 340
Net weight	kg		42	68	69	98	98	98	69	98	98	
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)	3/8 (9.52)	
	Gas pipe	Inch (mm)	1/2 (12.7)	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	1.65	2	2.35	3.4	3.4	3.4	2.35	3.4	3.4	
Elevation dif. (in/out) ⁴⁾	Max	m	30	30	30	30	30	30	30	30	30	
Piping length	Min/Max	m	40	5-50	5-50	5-75	5-75	5-75	5-50	5-75	5-75	
Precharge length	Max	m	30	30	30	30	30	30	30	30	30	
Additional charge	g/m		20	50	50	50	50	50	50	50	50	
Operating range	Cool Min/Max	°C	-15 / 46	-15 / 46	-15 / 46	-15 / 46	-15 / 46	-15 / 46	-15 / 46	-15 / 46	-15 / 46	
	Heat Min/Max	°C	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24	

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Cooling Outdoor 7 °C DB / 6 °C WB. (DB: Dry Bulb; WB: Wet Bulb). // Specifications subject to change without notice.

1) EER and COP, Energy Saving Classification, is at 220 / 240 V (380 / 415 V) only in accordance with EU directive 2002/31/EC. 2-a) The annual consumption is calculated by multiplying the input power at 220 / 240 V (380 / 415 V) by an average of 500 hours per year in cooling mode. 2-b) The annual consumption(ErP) is calculated by formula determined by ErP regulation. 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. // Recommended fuse for the indoor 3A. // * Available from May 2013. For detailed information about ErP, please visit our page <http://www.doc.panasonic.de>

ELITE

A class
energy saving

7.4 A+++
SEER

4.1 A+
SCOP

Down to
-15 °C in
cooling mode

Down to
-20 °C in
heating mode

Easy
control by
BMS

Possible
to use on
R22 pipings

5 year
compressor
warranty



SEER and SCOP: For KIT-60PU1E5 and KIT-71PU1E5

LOW STATIC PRESSURE HIDE AWAY PACi STANDARD AND ELITE INVERTER+

The depth of only 250mm provides greater installation flexibility and the unit can be used in more applications. Ideal for sites with narrow ceiling voids.

Technical Focus

- Compact indoor units without losing static pressure (Only 250 mm high)
- 50 Pa static pressure
- Easy maintenance and service via external electrical box
- 3 speed centrifugal fan through wired or wireless remote control
- DC FAN for better efficiency and control



STANDARD

NEW

		Single Phase				Three Phase			
		6.0 kW	7.1 kW	10.0 kW	12.5 kW	10.0 kW	12.5 kW	14.0 kW	
KIT		KIT-60PNY1E5*	KIT-71PNY1E5*	KIT-100PNY1E5**	KIT-125PNY1E5**	KIT-100PNY1E8**	KIT-125PNY1E8**	KIT-140PNY1E8***	
Indoor		S-60PN1E5	S-71PN1E5	S-100PN1E5	S-125PN1E5	S-100PN1E5	S-125PN1E5	S-140PN1E5	
Outdoor		U-60PEY1E5	U-71PEY1E5	U-100PEY1E5	U-125PEY1E5	U-100PEY1E8	U-125PEY1E8	U-140PEY1E8	
Wired remote control		CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	
Cooling capacity	Nom. (Min-Max)	kW 6.0 (2.0-7.0)	7.1 (2.0-7.7)	10.0 (2.7-11.5)	12.5 (3.8-13.5)	10.0 (2.7-11.5)	12.5 (3.8-13.5)	14.0 (3.3-15.5)	
EER¹⁾	Nom. (Min-Max)	W/W 3.02 (6.15-2.38) ◀C	2.76 (6.15-2.38) ◀D	2.81 (4.74-2.67) ◀C	2.81 (4.00-2.60) ◀C	2.81 (4.74-2.67) ◀C	2.81 (4.00-2.60) ◀C	3.01 (3.30-2.50) ◀B	
SEER		W/W 4.7 ◀B	5.0 ◀B	5.3 ◀A	—	5.2 ◀A	—	—	
Pdesign		kW 6.0	7.1	10.0	—	10.0	—	—	
Power input Cooling	Nom. (Min-Max)	kW 1.99 (0.325-2.94)	2.57 (0.325-3.23)	3.560 (0.570-4.300)	4.445 (0.95-5.20)	3.550 (0.570-4.300)	4.445 (0.95-5.20)	4.650 (1.000-6.200)	
Annual Energy Consumption^{2-a)}		995	1265	1775	2223	1775	2223	2325	
Annual Energy Consumption(ErP)^{2-b)}		444	496	660	—	673	—	—	
Heating capacity	Nom. (Min-Max)	kW 6.0 (1.8-7.0)	7.1 (1.8-8.1)	10.0 (2.1-13.8)	12.5 (3.4-15.0)	10.0 (2.1-13.8)	12.5 (3.4-15.0)	14.0 (4.1-16.0)	
COP¹⁾	Nom. (Min-Max)	W/W 3.61 (6.55-2.89) ◀B	3.41 (6.55-2.91) ◀B	3.41 (4.67-3.37) ◀B	3.41 (4.36-3.26) ◀B	3.41 (4.67-3.37) ◀B	3.41 (4.36-3.26) ◀B	3.61 (3.90-2.96) ◀A	
SCOP		W/W 3.8 ◀A	3.8 ◀A	3.8 ◀A	—	3.8 ◀A	—	—	
Pdesign at -10 °C		kW 4.8	5.3	7.6	—	7.6	—	—	
Power input Heating	Nom. (Min-Max)	kW 1.66 (0.275-2.42)	2.08 (0.275-2.78)	2.935 (0.450-4.100)	3.665 (0.780-4.600)	2.935 (0.450-4.100)	3.665 (0.78-4.60)	3.880 (1.050-5.400)	
Annual Energy Consumption (ErP)^{2-b)}		1757	1952	2800	—	2800	—	—	
Indoor unit									
External static pressure³⁾	Nom. (Min-Max)	Pa 50 (10-80)	50 (10-80)	50 (10-80)	50 (10-80)	50 (10-80)	50 (10-80)	50 (10-80)	
Air Volume	Cool / Heat	m ³ /h 1320 / 1320	1320 / 1320	2160 / 2160	2280 / 2280	2160 / 2160	2280 / 2280	2400 / 2400	
Moisture removal volume		l/h 3.4	4.2	6.0	7.9	6.0	7.9	9.0	
Sound pressure Level	Cool (Hi/Me/Lo)	dB(A) 43 / 41 / 36	43 / 41 / 36	44 / 42 / 37	45 / 43 / 38	44 / 42 / 37	45 / 43 / 38	46 / 44 / 39	
	Heat (Hi/Me/Lo)	dB(A) 43 / 41 / 36	43 / 41 / 36	44 / 42 / 37	45 / 43 / 38	44 / 42 / 37	45 / 43 / 38	46 / 44 / 39	
Sound power level	Cool (Hi/Me/Lo)	dB 60 / 58 / 53	60 / 58 / 53	65 / 63 / 58	66 / 64 / 59	65 / 63 / 58	66 / 64 / 59	67 / 65 / 60	
	Heat (Hi/Me/Lo)	dB 60 / 58 / 53	60 / 58 / 53	65 / 63 / 58	66 / 64 / 59	65 / 63 / 58	66 / 64 / 59	67 / 65 / 60	
Dimensions	H x W x D	mm 250 x 1000 (+100) x 650	250 x 1000 (+100) x 650	250 x 1200 (+100) x 650	250 x 1200 (+100) x 650	250 x 1200 (+100) x 650	250 x 1200 (+100) x 650	250 x 1200 (+100) x 650	
Net weight		kg 32	32	41	41	41	41	41	
Outdoor unit									
Power source		V 220 / 230 / 240	220 / 230 / 240	220 / 230 / 240	220 / 230 / 240	380 / 400 / 415	380 / 400 / 415	380 / 415	
Recommended fuse		A 20	20	25	30	16	16	16	
Connection		mm ² 2.5	2.5	4	6	2.5	2.5	2.5	
Current Cooling		A 9.1/8.7/8.4	12.0/11.5/11.0	16.0 / 15.3 / 14.8	20.1 / 19.3 / 18.7	5.45 / 5.20 / 5.05	6.85 / 6.50 / 6.25	6.60	
Current Heating		A 7.5/7.2/6.9	9.6/9.2/8.9	13.0 / 12.5 / 12.1	16.5 / 15.8 / 15.2	4.45 / 4.25 / 4.10	5.55 / 5.30 / 5.10	6.65	
Air Volume	Cool / Heat	m ³ /h 1800/2100	2340	4560 / 4020	4800 / 4380	4560 / 4020	4800 / 4380	8100 / 6600	
Sound pressure Level⁴⁾	Cool / Heat (Hi)	dB(A) 46 / 50	50 / 52	54 / 54	56 / 56	54 / 54	56 / 56	54 / 53	
Sound power level	Cool / Heat (Hi)	dB 65 / 69	70 / 70	70 / 70	73 / 73	70 / 70	73 / 73	71 / 70	
Dimensions	H x W x D	mm 569 x 790 x 285	569 x 790 x 285	996 x 940 x 340	996 x 940 x 340	996 x 940 x 340	996 x 940 x 340	1416 x 940 x 340	
Net weight		kg 42	42	73	85	73	85	98	
Piping connections	Liquid / 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)	3/8 (9.52) / 5/8 (15.88)	3/8 (9.52) / 5/8 (15.88)	
Refrigerant loading		kg 1.7	1.7	2.60	3.20	2.60	3.20	3.4	
Elevation dif. (in/out)⁵⁾	Max	m 30	30	30	30	30	30	30	
Piping length	Min/Max	m 50	50	5 / 50	5 / 50	5 / 50	5 / 50	5-75	
Precharge length	Max	m 20	20	30	30	30	30	30	
Additional charge		g/m 40	40	50	50	50	50	50	
Operating range	Cool Min/Max	°C -10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43	
	Heat Min/Max	°C -15 / 24	-15 / 24	-15 / 24	-15 / 24	-15 / 24	-15 / 24	-15 / 24	

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Cooling Outdoor 7 °C DB / 6 °C WB. (DB: Dry Bulb; WB: Wet Bulb). // Specifications subject to change without notice.
 1) EER and COP, Energy Saving Classification, is at 220 / 240 V (380 / 415 V) only in accordance with EU directive 2002/31/EC. 2-a) The annual consumption is calculated by multiplying the input power at 220 / 240 V (380 / 415 V) by an average of 500 hours per year in cooling mode. 2-b) The annual consumption(ErP) is calculated by formula determined by ErP regulation. 3) Medium External static pressure setting from factory. The specification listed on the table indicates values under the condition of 50 Pa (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 Eurovent 4/C/006-97 specification. 5) Add 100 mm for indoor unit or 70 mm for outdoor unit for piping port. 6) When installing the outdoor unit at a higher position than the indoor unit. // Recommended fuse for the indoor 3A. // * Available from May 2013. ** Available from January 2013. *** TBC.
 For detailed information about ErP, please visit our page <http://www.doc.panasonic.de>

STANDARD

A class
energy saving

INVERTER+

5.4 A
SEER

SEASONAL ENERGY EFFICIENCY RATIO

3.8 A
SCOP

SEASONAL COEFFICIENT OF PERFORMANCE

Down to
-10 °C in
heating mode

OUTDOOR TEMPERATURE

Down to
-15 °C in
heating mode

OUTDOOR TEMPERATURE

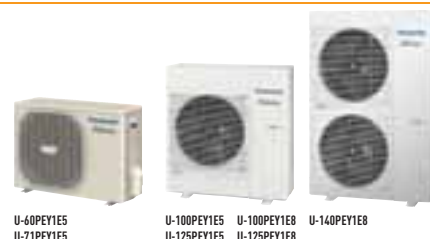
Easy
control
by BMS

CONNECTIVITY

Possible
to use on
R22 pipings

R22 RENEWAL

5 year
compressor
warranty



OPTIONAL CONTROLLERS

Timer remote controller
CZ-RTC2



Wireless remote controller
CZ-RWSC2



Simplified remote controller
CZ-REZC2



COMPATIBLE WITH ALL ECOi CONNECTIVITY SOLUTIONS



ELITE

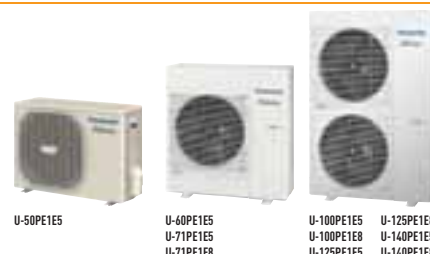
		Single Phase						Three Phase			
		5.0 kW	6.0 kW	7.1 kW	10.0 kW	12.5 kW	14.0 kW	7.1 kW	10.0 kW	12.5 kW	14.0 kW
KIT		KIT-50PN1E5*	KIT-60PN1E5	KIT-71PN1E5	KIT-100PN1E5	KIT-125PN1E5	KIT-140PN1E5	KIT-71PN1E8	KIT-100PN1E8	KIT-125PN1E8	KIT-140PN1E8
Indoor		S-50PN1E5	S-60PN1E5	S-71PN1E5	S-100PN1E5	S-125PN1E5	S-140PN1E5	S-71PN1E5	S-100PN1E5	S-125PN1E5	S-140PN1E5
Outdoor		U-50PE1E5	U-60PE1E5	U-71PE1E5	U-100PE1E5	U-125PE1E5	U-140PE1E5	U-71PE1E8	U-100PE1E8	U-125PE1E8	U-140PE1E8
Wired remote control		CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2
Cooling capacity	Nom. (Min-Max) kW	5.0 (1.5 - 5.6)	6.0 (2.5-7.1)	7.1 (2.5-8.0)	10.0 (3.3-12.5)	12.5 (3.3-14.0)	14.0 (3.3-15.5)	7.1 (2.5-8.0)	10.0 (3.3-12.5)	12.5 (3.3-14.0)	14.0 (3.3-15.5)
EER¹⁾	Nom. (Min-Max) kW	3.21 (5.77 - 2.42) A	3.24 (4.55-3.37) A	3.30 (4.55-2.91) A	3.75 (3.79-3.29) A	3.16 (3.90-2.96) A	3.01 (3.30-2.50) A	3.30 (4.55-2.91) A	3.75 (3.79-3.29) A	3.21 (3.30-2.92) A	3.01 (3.30-2.50) A
SEER	W/W	4.4 B	5.5 A+	5.5 A+	6.0 A+	—	—	5.2 A+	5.8 A+	—	—
Pdesign	kW	5.0	6.0	7.1	10.0	—	—	7.1	10.0	—	—
Power input Cooling	Nom. (Min-Max) kW	1.56 (0.26 - 2.31)	1.850 (0.550-2.100)	2.150 (0.550-2.150)	2.670 (0.870-3.800)	3.890 (1.000-4.800)	4.650 (1.000-6.200)	2.150 (0.550-2.150)	2.670 (0.870-3.800)	3.890 (1.000-4.800)	4.650 (1.000-6.200)
Annual Energy Consumption^{2-a)}		780	925	1075	1335	1945	2325	1075	1335	1945	2325
Annual Energy Consumption(ErP)^{2-b)}		380	382	452	583	—	—	477	603	—	—
Heating capacity	Nom. (Min-Max) kW	5.6 (1.5 - 6.3)	7.0 (2.0-8.0)	8.0 (2.0-9.0)	11.2 (4.1-14.0)	14.0 (4.1-16.0)	16.0 (4.1-18.0)	8.0 (2.0-9.0)	11.2 (4.1-14.0)	14.0 (4.1-16.0)	16.0 (4.1-18.0)
COP¹⁾	Nom. (Min-Max) W/W	3.22 (6.82 - 2.50) A	3.61 (4.00-3.09) A	3.54 (4.00-3.08) B	3.80 (4.18-3.11) A	3.61 (3.90-2.96) A	3.41 (3.90-2.95) B	3.54 (4.00-3.08) B	3.80 (4.18-3.11) A	3.61 (3.90-2.96) A	3.41 (3.90-2.95) B
SCOP¹⁾	W/W	3.8 A	3.8 A	3.7 A	5.3 A+++	—	—	3.7 A	5.2 A+++	—	—
Pdesign at -10 °C	kW	3.8	5.6	6.5	7.6	—	—	6.5	7.6	—	—
Power input Heating	Nom. (Min-Max) kW	1.74 (0.22 - 2.52)	1.940 (0.500-2.580)	2.260 (0.500-2.820)	2.950 (0.980-4.500)	3.880 (1.050-5.400)	4.690 (1.050-6.100)	2.260 (0.500-2.820)	2.950 (0.980-4.500)	3.880 (1.050-5.400)	4.690 (1.050-6.100)
Annual Energy Consumption (ErP)^{2-b)}		1400	2061	2458	3590	—	—	2458	3684	—	—
Indoor unit											
External static pressure³⁾	Hi/Me/Lo Pa	50 (10 - 80)	80 / 50 / 10	80 / 50 / 10	80 / 50 / 10	80 / 50 / 10	80 / 50 / 10	80 / 50 / 10	80 / 50 / 10	80 / 50 / 10	80 / 50 / 10
Air Volume	Cool / Heat m ³ /h	960 / 960	1320 / 1320	1320 / 1320	2160 / 2160	2280 / 2280	2400 / 2400	1320	2160 / 2160	2280 / 2280	2400 / 2400
Moisture removal volume	l/h	2.8	3.4	4.2	6.0	7.9	9.0	4.2	6.0	7.9	9.0
Sound pressure Level	Cool (Hi/Me/Lo) dB(A)	41 / 39 / 35	43 / 41 / 36	43 / 41 / 36	44 / 42 / 37	45 / 43 / 38	46 / 44 / 39	43 / 41 / 36	44 / 42 / 37	45 / 43 / 38	46 / 44 / 39
	Heat (Hi/Me/Lo) dB(A)	41 / 39 / 35	43 / 41 / 36	43 / 41 / 36	44 / 42 / 37	45 / 43 / 38	46 / 44 / 39	43 / 41 / 36	44 / 42 / 37	45 / 43 / 38	46 / 44 / 39
Sound power level	Cool (Hi/Me/Lo) dB	58 / 56 / 52	60 / 58 / 53	60 / 58 / 53	65 / 63 / 58	66 / 64 / 59	67 / 65 / 60	60 / 58 / 53	65 / 63 / 58	66 / 64 / 59	67 / 65 / 60
	Heat (Hi/Me/Lo) dB	58 / 56 / 52	60 / 58 / 53	60 / 58 / 53	65 / 63 / 58	66 / 64 / 59	67 / 65 / 60	60 / 58 / 53	65 / 63 / 58	66 / 64 / 59	67 / 65 / 60
Dimensions	H x W x D mm	250x1000+100x650	250x1000+100x650	250x1000+100x650	250x1200+100x650	250x1200+100x650	250x1200+100x650	250x1000+100x650	250x1200+100x650	250x1200+100x650	250x1200+100x650
Net weight	kg	32	32	32	41	41	41	32	41	41	41
Outdoor unit											
Power source	V	220 / 240	220 / 240	220 / 240	220 / 240	220 / 240	220 / 240	380 / 415	380 / 415	380 / 415	380 / 415
Recommended fuse	A	16	20	20	25	30	16	16	16	16	16
Connection	mm ²	2.5	2.5	2.5	4	6	2.5	2.5	2.5	2.5	2.5
Current	Cool / Heat A	7.1 / 8.0	8.00 / 8.40	9.40 / 9.90	11.20 / 12.50	16.90 / 16.80	20.10 / 20.20	— / —	3.75 / 4.15	5.50 / 5.50	6.60 / 6.65
Air Volume	Cool / Heat m ³ /h	1800 / 2100	3600 / 3600	3600 / 3600	6600 / 5700	7800 / 6600	8100 / 7200	3600 / 3600	6600 / 5700	7800 / 6600	8100 / 7200
Sound pressure Level⁴⁾	Cool / Heat (Hi) dB(A)	46 / 50	48 / 50	48 / 50	52 / 52	53 / 53	54 / 55	48 / 50	52 / 52	53 / 53	54 / 55
Sound power level	Cool / Heat (Hi) dB	65 / 69	65 / 67	65 / 67	69 / 69	70 / 70	71 / 71	65 / 67	69 / 69	70 / 70	71 / 71
Dimensions	H x W x D mm	569 x 790 x 285	996 x 940 x 340	996 x 940 x 340	1416 x 940 x 340	1416 x 940 x 340	1416 x 940 x 340	996 x 940 x 340	1416 x 940 x 340	1416 x 940 x 340	1416 x 940 x 340
Net weight	kg	42	68	69	98	98	98	69	98	98	98
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)	3/8 (9.52)	3/8 (9.52)
	Gas pipe Inch (mm)	1/2 (12.7)	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)
Refrigerant loading	R410A kg	1.65	2	2.35	3.4	3.4	3.4	2.35	3.4	3.4	3.4
Elevation dif. (in/out)⁵⁾	Max m	30	30	30	30	30	30	30	30	30	30
Piping length	Min/Max m	5 - 40	5-50	5-50	5-75	5-75	5-75	5-50	5-75	5-75	5-75
Precharge length	Max m	30	30	30	30	30	30	30	30	30	30
Additional charge	g/m	20	50	50	50	50	50	50	50	50	50
Operating range	Cool Min/Max °C	-15 / 46	-15 / 46	-15 / 46	-15 / 46	-15 / 46	-15 / 46	-15 / 46	-15 / 46	-15 / 46	-15 / 46
	Heat Min/Max °C	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Cooling Outdoor 7 °C DB / 6 °C WB. (DB: Dry Bulb; WB: Wet Bulb). // Specifications subject to change without notice.
 1) EER and COP, Energy Saving Classification, is at 220 / 240 V (380 / 415 V) only in accordance with EU directive 2002/31/EC. 2-a) The annual consumption is calculated by multiplying the input power at 220 / 240 V (380 / 415 V) by an average of 500 hours per year in cooling mode. 2-b) The annual consumption(ErP) is calculated by formula determined by ErP regulation. 3) Medium External static pressure setting from factory. The specification listed on the table indicates values under the condition of 50 Pa (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 Eurovent 4/C006-97 specification. 5) Add 100 mm for indoor unit or 70 mm for outdoor unit for piping port. 6) When installing the outdoor unit at a higher position than the indoor unit. // Recommended fuse for the indoor 3A. // * Available from May 2013.
 For detailed information about ErP, please visit our page <http://www.doc.panasonic.de>

ELITE

A class energy saving
6.0 A+ SEER
5.3 A+++ SCOP
 Down to **-15 °C** in cooling mode
 Down to **-20 °C** in heating mode
 Easy control by BMS
 Possible to use on R22 pipings
5 year compressor warranty

SEER and SCOP: For KIT-100PN1E5



HIGH STATIC PRESSURE HIDE AWAY PACi STANDARD AND ELITE INVERTER+

The ducted systems are the ideal solution for flexible, concealed air conditioning and the optional 200 mm spigots ensure simple, hassle-free connection to spiral ductwork.

Technical Focus

- Extremely quiet operation from 25 dB(A)
- Auto restart after power failure
- Auto changeover
- Twin, triple and double-twin split options
- DC FAN for better efficiency and control
- Built in drain pump



S-100PF1E5 // S-125PF1E5 // S-140PF1E5



S-60PF1E5 // S-71PF1E5

STANDARD

NEW

		Single Phase				Three Phase			
		6.0 kW	7.1 kW	10.0 kW	12.5 kW	10.0 kW	12.5 kW	14.0 kW	
KIT		KIT-60PFY1E5*	KIT-71PFY1E5*	KIT-100PFY1E5**	KIT-125PFY1E5**	KIT-100PFY1E8**	KIT-125PFY1E8**	KIT-140PFY1E8***	
Indoor		S-60PF1E5	S-71PF1E5	S-100PF1E5	S-125PF1E5	S-100PF1E5	S-125PF1E5	S-140PF1E5	
Outdoor		U-60PEY1E5	U-71PEY1E5	U-100PEY1E5	U-125PEY1E5	U-100PEY1E8	U-125PEY1E8	U-140PEY1E8	
Wired remote control		CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	
Cooling capacity		Nom. (Min-Max) kW	6.0 (2.0-7.0)	7.1 (2.0-7.7)	10.0 (2.7-11.5)	12.5 (3.8-13.5)	10.0 (2.7-11.5)	12.5 (3.8-13.5)	14.0 (3.3-15.5)
EER ¹⁾		Nom. (Min-Max) W/W	3.11 (6.15-2.46) ◀B	2.76 (6.15-2.35) ◀D	3.01 (5.09-2.74) ◀B	3.05 (4.22-2.70) ◀B	3.01 (5.09-2.74) ◀B	3.05 (4.22-2.70) ◀B	3.21 (3.93-2.58) ◀A
SEER		W/W	5.4 ◀A	5.3 ◀A	5.4 ◀A	—	5.2 ◀A	—	
Pdesign		kW	6.0	7.1	10.0	—	10.0	—	
Power input Cooling		Nom. (Min-Max) kW	1.930 (0.325-2.850)	2.570 (0.325-3.270)	3.320 (0.530-4.200)	4.100 (0.900-5.000)	3.320 (0.530-4.200)	4.100 (0.900-5.000)	4.360 (0.840-6.000)
Annual Energy Consumption (ErP) ²⁻³⁾			965	1285	1660	2050	1660	2050	2155
Annual Energy Consumption (ErP) ²⁻³⁾			389	469	648	—	673	—	
Heating capacity		Nom. (Min-Max) kW	6.0 (1.8-7.0)	7.1 (1.8-8.1)	10.0 (2.1-13.8)	12.5 (3.4-15.0)	10.0 (2.1-13.8)	12.5 (3.4-15.0)	14.0 (4.1-16.0)
COP ¹⁾		Nom. (Min-Max) W/W	4.26 (6.55-3.41) ◀A	3.94 (6.55-3.40) ◀A	3.80 (5.12-3.45) ◀A	3.82 (4.66-3.41) ◀A	3.80 (5.12-3.45) ◀A	3.82 (4.66-3.41) ◀A	3.89 (4.56-3.08) ◀A
SCOP		W/W	3.8 ◀A	3.8 ◀A	3.8 ◀A	—	3.8 ◀A	—	
Pdesign at -10 °C		kW	5.0	5.5	9.5	—	9.5	—	
Power input Heating		Nom. (Min-Max) kW	1.410 (0.275-2.055)	1.800 (0.275-2.380)	2.630 (0.410-4.000)	3.270 (0.730-4.400)	2.630 (0.410-4.000)	3.270 (0.730-4.400)	3.600 (0.900-5.200)
Annual Energy Consumption (ErP) ²⁻³⁾			1842	2026	3500	—	3500	—	
Indoor unit									
External static pressure ³⁾		Nom. (Min-Max) Pa	70 (10-150)	70 (10-150)	100 (10-150)	100 (10-150)	100 (10-150)	100 (10-150)	100 (10-150)
Air Volume		Cool / Heat m ³ /h	1260 / 1260	1260 / 1260	1920 / 1920	2040 / 2040	1920 / 1920	2040 / 2040	2160 / 2160
Moisture removal volume		l/h	3.4	4.2	6.0	7.9	6.0	7.9	9.0
Sound pressure level		Cool (Hi/Me/Lo) dB(A)	35 / 32 / 26	35 / 32 / 26	38 / 34 / 31	39 / 35 / 32	38 / 34 / 31	39 / 35 / 32	40 / 36 / 33
		Heat (Hi/Me/Lo) dB(A)	35 / 32 / 26	35 / 32 / 26	38 / 34 / 31	39 / 35 / 32	38 / 34 / 31	39 / 35 / 32	40 / 36 / 33
Sound power level		Cool (Hi/Me/Lo) dB	57 / 54 / 48	57 / 54 / 48	60 / 56 / 53	61 / 57 / 54	60 / 56 / 53	61 / 57 / 54	62 / 58 / 55
		Heat (Hi/Me/Lo) dB	57 / 54 / 48	57 / 54 / 48	60 / 56 / 53	61 / 57 / 54	60 / 56 / 53	61 / 57 / 54	62 / 58 / 55
Dimensions		H x W x D mm	290 x 1000 x 700	290 x 1000 x 700	290 x 1400 x 700	290 x 1400 x 700	290 x 1400 x 700	290 x 1400 x 700	290 x 1400 x 700
Net weight		kg	33	33	45	45	45	45	
Outdoor unit									
Power source		V	220 / 240	220 / 240	220 / 240	220 / 240	380 / 415	380 / 415	380 / 415
Recommended fuse		A	20	20	25	30	16	16	16
Connection		mm ²	2.5	2.5	4	6	2.5	2.5	2.5
Current Cooling		A	8.6	11.7	15.1 / 14.5 / 13.9	18.8 / 18.0 / 17.2	5.10 / 4.85 / 4.70	6.20 / 5.90 / 5.70	6.60
Current Heating		A	6.1	7.9	11.8 / 11.2 / 10.7	14.6 / 14.0 / 13.4	4.05 / 3.80 / 3.65	4.90 / 4.65 / 4.50	6.65
Air Volume		Cool / Heat m ³ /h	1800 / 2100	2340 / 2340	4560 / 4020	4800 / 4380	4560 / 4020	4800 / 4380	8100 / 6600
Sound pressure level ⁴⁾		Cool / Heat (Hi) dB(A)	46 / 50	50 / 52	54 / 54	56 / 56	54 / 54	56 / 56	54 / 53
Sound power level		Cool / Heat (Hi) dB	66 / 69	70 / 70	70 / 70	73 / 73	70 / 70	73 / 73	71 / 70
Dimensions		H x W x D mm	569 x 790 x 285	569 x 790 x 285	996 x 940 x 340	996 x 940 x 340	996 x 940 x 340	996 x 940 x 340	1416 x 940 x 340
Net weight		kg	42	42	73	85	73	85	98
Piping connections		Liquid / 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)	3/8 (9.52) / 5/8 (15.88)	3/8 (9.52) / 5/8 (15.88)
Refrigerant loading		R410A kg	1.7	1.7	2.60	3.20	2.60	3.20	3.4
Elevation dif. (in/out) ⁵⁾		Max m	30	30	30	30	30	30	30
Piping length		Min/Max m	5 - 50	5 - 50	5 / 50	5 / 50	5 / 50	5 / 50	5-75
Precharge length		Max m	20	20	30	30	30	30	30
Additional charge		g/m	40	40	50	50	50	50	50
Operating range		Cool Min/Max °C	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43
		Heat Min/Max °C	-15 / 24	-15 / 24	-15 / 24	-15 / 24	-15 / 24	-15 / 24	-15 / 24

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Cooling Outdoor 7 °C DB / 6 °C WB. (DB: Dry Bulb; WB: Wet Bulb). // Specifications subject to change without notice.

1) EER and COP, Energy Saving Classification, is at 220 / 240 V (380 / 415 V) only in accordance with EU directive 2002/31/EC. 2) The annual consumption is calculated by multiplying the input power at 220 / 240 V (380 / 415 V) by an average of 500 hours per year in cooling mode. 3) Medium External static pressure setting from factory. 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 Eurovent 6/C006-97 specification. 5) When installing the outdoor unit at a higher position than the indoor unit. // Recommended fuse for the indoor 3A. // * Available from May 2013. ** Available from January 2013. *** TBC. For detailed information about ErP, please visit our page <http://www.doc.panasonic.de>

STANDARD

A class
energy saving

5.4 A
SEER

3.8 A
SCOP

Down to
-10 °C in
cooling mode

Down to
-15 °C in
heating mode

Easy
control
by BMS

Possible
to use on
R22 pipings

5 year
compressor
warranty



SEER and SCOP: For KIT-60PFY1E5 and KIT-100PFY1E5

PLENUMS



Air Outlet Plenum (without regulation adaptor)		
	Diameters	Model
60 & 71	3 x ø 200	CZ-90DAF2
100, 125 & 140	4 x ø 200	CZ-160DAF2
Air Inlet Plenum		
60 & 71	2 x ø 250	CZ-DUMPA90MF2
100, 125 & 140	4 x ø 200	CZ-DUMPA160MF2

OPTIONAL CONTROLLERS



COMPATIBLE WITH ALL ECOi CONNECTIVITY SOLUTIONS



ELITE

	Single Phase										Three Phase			
	5.0 kW	6.0 kW	7.1 kW	10.0 kW	12.5 kW	14.0 kW	7.1 kW	10.0 kW	12.5 kW	14.0 kW				
KIT	KIT-50PF1E5*	KIT-60PF1E5	KIT-71PF1E5	KIT-100PF1E5	KIT-125PF1E5	KIT-140PF1E5	KIT-71PF1E8	KIT-100PF1E8	KIT-125PF1E8	KIT-140PF1E8				
Indoor	S-50PF1E5	S-60PF1E5	S-71PF1E5	S-100PF1E5	S-125PF1E5	S-140PF1E5	S-71PF1E5	S-100PF1E5	S-125PF1E5	S-140PF1E5				
Outdoor	U-50PE1E5	U-60PE1E5	U-71PE1E5	U-100PE1E5	U-125PE1E5	U-140PE1E5	U-71PE1E8	U-100PE1E8	U-125PE1E8	U-140PE1E8				
Wired remote control	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2				
Cooling capacity Nom. (Min-Max) kW	5.0 (1.5-5.6)	6.0 (2.5-7.1)	7.1 (2.5-8.0)	10.0 (3.3-12.5)	12.5 (3.3-14.0)	14.0 (3.3-15.5)	7.1 (3.2-8.0)	10.0 (3.3-12.5)	12.5 (3.3-14.0)	14.0 (3.3-15.5)				
EER1 Nom. (Min-Max) kW	3.70(5.58-2.80) A	3.90(4.72-3.55) A	3.84(4.72-3.02) A	4.10(3.93-3.38) A	3.50(3.93-3.04) A	3.25(3.93-2.58) A	3.84(5.0-3.02) A	4.10(3.93-3.38) A	3.50(3.93-3.04) A	3.25(3.93-2.58) A				
SEER W/W	5.7 A+	6.4 A++	6.4 A++	5.8 A+	-	-	6.0 A+	5.7 A+	-	-				
Pdesign kW	5.0	6.0	7.1	10.0	-	-	7.1	10.0	-	-				
Power input Cooling Nom. (Min-Max) kW	1.350 (0.260-2.000)	1.540 (0.530-2.000)	1.850 (0.530-2.650)	2.440 (0.840-3.700)	3.570 (0.840-4.600)	4.310 (0.840-6.000)	1.850 (0.640-2.650)	2.440 (0.840-3.700)	3.570 (0.840-4.600)	4.310 (0.840-6.000)				
Annual Energy Consumption 2-a)	675	770	925	1220	1785	2155	925	1220	1785	2155				
Annual Energy Consumption(ErP) 2-b)	307	328	388	603	-	-	414	614	-	-				
Heating capacity Nom. (Min-Max) kW	5.6 (1.5-6.5)	7.0 (2.0-8.0)	8.0 (2.0-9.0)	11.2 (4.1-14.0)	14.0 (4.1-16.0)	16.0 (4.1-18.0)	8.0 (2.8-9.0)	11.2 (4.1-14.0)	14.0 (4.1-16.0)	16.0 (4.1-18.0)				
COP1 Nom. (Min-Max) W/W	3.73(6.82-2.71) A	3.87(4.17-3.23) A	3.85(4.17-3.10) A	4.31(4.56-3.18) A	4.02(4.56-3.08) A	3.60(4.56-3.05) A	3.85(4.83-3.10) A	4.31(4.56-3.18) A	4.02(4.56-3.08) A	3.60(4.56-3.05) A				
SCOP W/W	3.8 A	3.9 A	4.0 A+	3.8 A	-	-	3.9 A	3.8 A	-	-				
Pdesign at -10 °C kW	4.0	6.0	7.1	10.0	-	-	7.1	10.0	-	-				
Power input Heating Nom. (Min-Max) kW	1.500 (0.220-2.400)	1.810 (0.480-2.480)	2.080 (0.480-2.900)	2.600 (0.90-4.400)	3.480 (0.900-5.200)	4.440 (0.900-5.900)	2.080 (0.580-2.900)	2.600 (0.90-4.400)	3.480 (0.900-5.200)	4.440 (0.90-5.900)				
Annual Energy Consumption (ErP) 2-b)	1474	2154	2485	3684	-	-	2548	3684	-	-				
Indoor unit														
External static pressure³⁾ Nom. (Min-Max) Pa	70 (10-150)	70 (10-150)	70 (10-150)	100 (10-150)	100 (10-150)	100 (10-150)	70 (10-150)	100 (10-150)	100 (10-150)	100 (10-150)				
Air Volume Cool / Heat m ³ /h	960 / 960	1260 / 1260	1260 / 1260	1920 / 1920	2040 / 2040	2160 / 2160	1260 / 1260	1920 / 1920	2040 / 2040	2160 / 2160				
Moisture removal volume l/h	2.8	3.4	4.2	6.0	7.9	9.0	4.2	6.0	7.9	9.0				
Sound pressure Level Cool (Hi/Me/Lo) dB(A)	34 / 30 / 26	35 / 32 / 26	35 / 32 / 26	38 / 34 / 31	39 / 35 / 32	40 / 36 / 33	35 / 32 / 26	38 / 34 / 31	39 / 35 / 32	40 / 36 / 33				
Heat (Hi/Me/Lo) dB(A)	34 / 30 / 26	35 / 32 / 26	35 / 32 / 26	38 / 34 / 31	39 / 35 / 32	40 / 36 / 33	35 / 32 / 26	38 / 34 / 31	39 / 35 / 32	40 / 36 / 33				
Sound power level Cool (Hi/Me/Lo) dB	56 / 52 / 48	57 / 54 / 48	57 / 54 / 48	60 / 56 / 53	61 / 57 / 54	62 / 58 / 55	57 / 54 / 48	60 / 56 / 53	61 / 57 / 54	62 / 58 / 55				
Heat (Hi/Me/Lo) dB	56 / 52 / 48	57 / 54 / 48	57 / 54 / 48	60 / 56 / 53	61 / 57 / 54	62 / 58 / 55	57 / 54 / 48	60 / 56 / 53	61 / 57 / 54	62 / 58 / 55				
Dimensions H x W x D mm	290 x 800 x 700	290 x 1000 x 700	290 x 1000 x 700	290 x 1400 x 700	290 x 1400 x 700	290 x 1400 x 700	290 x 1000 x 700	290 x 1400 x 700	290 x 1400 x 700	290 x 1400 x 700				
Net weight kg	28	33	33	45	45	45	33	45	45	45				
Outdoor unit														
Power source V	220 / 240	220 / 240	220 / 240	220 / 240	220 / 240	220 / 240	380 / 415	380 / 415	380 / 415	380 / 415				
Recommended fuse A	16	20	20	25	30	16	16	16	16	16				
Connection mm ²	2.5	2.5	2.5	4	6	2.5	2.5	2.5	2.5	2.5				
Current Cool / Heat A	5.85 / 6.55	7.40 / 8.40	8.60 / 9.50	10.60 / 11.20	15.90 / 15.80	19.30 / 19.10	2.65 / 3.00	3.53 / 3.70	5.29 / 5.26	6.42 / 6.35				
Air Volume Cool / Heat m ³ /h	1800 / 2100	3600 / 3600	3600 / 3600	6600 / 5700	7800 / 6600	8100 / 7200	3600 / 3600	6600 / 5700	7800 / 6600	8100 / 7200				
Sound pressure Level⁴⁾ Cool / Heat (Hi) dB(A)	46 / 50	48 / 50	48 / 50	52 / 52	53 / 53	54 / 55	48 / 50	52 / 52	53 / 53	54 / 55				
Sound power level Cool / Heat (Hi) dB	65 / 69	65 / 67	65 / 67	69 / 69	70 / 70	71 / 71	65 / 67	69 / 69	70 / 70	71 / 71				
Dimensions H x W x D mm	569 x 790 x 285	996 x 940 x 340	996 x 940 x 340	1416 x 940 x 340	1416 x 940 x 340	1416 x 940 x 340	996 x 940 x 340	1416 x 940 x 340	1416 x 940 x 340	1416 x 940 x 340				
Net weight kg	42	68	69	98	98	98	71	98	98	98				
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)	3/8 (9.52)	3/8 (9.52)				
Gas pipe Inch (mm)	1/2 (12.7)	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)				
Refrigerant loading R410A kg	1.65	2	2.35	3.4	3.4	3.4	2.35	3.4	3.4	3.4				
Elevation dif. (in/out)⁵⁾ Max m	30	30	30	30	30	30	30	30	30	30				
Piping length Min/Max m	5-40	5-50	5-50	5-75	5-75	5-75	5-50	5-75	5-75	5-75				
Precharge length Max m	30	30	30	30	30	30	30	30	30	30				
Additional charge g/m	20	50	50	50	50	50	50	50	50	50				
Operating range Cool Min/Max °C	-15 / 46	-15 / 46	-15 / 46	-15 / 46	-15 / 46	-15 / 46	-15 / 46	-15 / 46	-15 / 46	-15 / 46				
Heat Min/Max °C	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24				

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Cooling Outdoor 7 °C DB / 6 °C WB. (DB: Dry Bulb; WB: Wet Bulb). // Specifications subject to change without notice.

1) EER and COP, Energy Saving Classification, is at 220 / 240 V (380 / 415 V) only in accordance with EU directive 2002/31/EC. 2-a) The annual consumption is calculated by multiplying the input power at 220 / 240 V (380 / 415 V) by an average of 500 hours per year in cooling mode. 2-b) The annual consumption(ErP) is calculated by formula determined by ErP regulation. 3) Medium External static pressure setting from factory. 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 Eurovent 6/C/006-97 specification. 5) When installing the outdoor unit at a higher position than the indoor unit. // Recommended fuse for the indoor 3A. // * Available from May 2013. For detailed information about ErP, please visit our page <http://www.doc.panasonic.de>

ELITE

A class
energy saving

INVERTER+

6.4 A++
SEER

SEASONAL ENERGY EFFICIENCY RATIO

4.0 A+
SCOP*

SEASONAL COEFFICIENT OF PERFORMANCE

Down to
-15 °C in
cooling mode

OUTDOOR TEMPERATURE

Down to
-20 °C in
heating mode

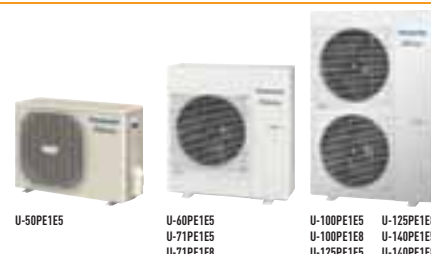
OUTDOOR TEMPERATURE

Easy
control by
BMS

CONNECTIVITY

Possible
to use on
R22 pipings

R22 RENEWAL



SEER and SCOP: For KIT-71PF1E5

CEILING

PACi STANDARD AND ELITE INVERTER+

This range of ceiling mounted units 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 mixed installations. A knock out is provided to allow for supplementary fresh air for improved air quality.

Technical Focus

- All units just 210 mm high
- Twin rotary compressor dramatically reduces vibration and noise during operation
- DC inverter control
- Large and wide air distribution
- Industry-leading low sound levels
- Twin, Triple and Double-twin split options



STANDARD

NEW

		Single Phase				Three Phase			
		6.0 kW	7.1 kW	10.0 kW	12.5 kW	10.0 kW	12.5 kW	14.0 kW	
KIT		KIT-60PTY1E5*	KIT-71PTY1E5*	KIT-100PTY1E5**	KIT-125PTY1E5**	KIT-100PTY1E8**	KIT-125PTY1E8**	KIT-140PTY1E8***	
Indoor		S-60PT1E5	S-71PT1E5	S-100PT1E5	S-125PT1E5	S-100PT1E5	S-125PT1E5	S-140PT1E5	
Outdoor		U-60PEY1E5	U-71PEY1E5	U-100PEY1E5	U-125PEY1E5	U-100PEY1E8	U-125PEY1E8	U-140PEY1E8	
Wired remote control		CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	
Cooling capacity	Nom. (Min-Max)	kW	6.0 (2.0-7.0)	7.1 (2.0-7.7)	10.0 (2.7-11.5)	12.5 (3.8-13.5)	10.0 (2.7-11.5)	12.5 (3.8-13.5)	14.0 (3.3-15.5)
EER¹⁾	Nom. (Min-Max)	W/W	2.90 (6.15-2.41) ◀C	2.63 (6.15-2.33) ◀D	2.90 (5.09-2.74) ◀C	2.90 (4.22-2.70) ◀C	2.90 (5.09-2.74) ◀C	2.92 (3.93-2.58) ◀C	
SEER		W/W	5.5 ◀B	5.1 ◀B	6.2 ◀A++	—	6.0 ◀A+	—	
Pdesign		kW	6	7.1	10.0	—	10.0	—	
Power input Cooling	Nom. (Min-Max)	kW	2.070 (0.325-2.900)	2.700 (0.325-3.300)	3.450 (0.530-4.200)	4.310 (0.900-5.000)	3.450 (0.530-4.200)	4.310 (0.900-5.000)	4.800 (0.840-6.000)
Annual Energy Consumption^{2-a)}			1035	1350	1725	2155	1725	2155	2400
Annual Energy Consumption(ERP)^{2-b)}			382	487	564	—	583	—	
Heating capacity	Nom. (Min-Max)	kW	6.0 (1.8-7.0)	7.1 (1.8-8.1)	10.0 (2.1-13.8)	12.5 (3.4-15.0)	10.0 (2.1-13.8)	12.5 (3.4-15.0)	14.0 (4.1-16.0)
COP¹⁾	Nom. (Min-Max)	W/W	4.05 (6.55-3.25) ◀A	3.60 (6.55-3.12) ◀A	3.70 (5.12-3.45) ◀A	3.70 (4.66-3.41) ◀A	3.70 (5.12-3.45) ◀A	3.70 (4.66-3.41) ◀A	3.83 (4.56-3.08) ◀A
SCOP		W/W	3.8 ◀A	3.8 ◀A	3.8 ◀A	—	3.8 ◀A	—	
Pdesign at -10 °C		kW	6.0	6.0	10.0	—	10.0	—	
Power input Heating	Nom. (Min-Max)	kW	1.480 (0.275-2.155)	1.970 (0.275-2.600)	2.700 (0.410-4.000)	3.380 (0.730-4.400)	2.700 (0.410-4.000)	3.380 (0.730-4.400)	3.660 (0.900-5.200)
Annual Energy Consumption (ErP)^{2-b)}			2210	2210	3684	—	3684	—	
Indoor unit									
Air Volume	Cool / Heat	m ³ /h	1140 / 1140	1140 / 1140	1980 / 1980	2100 / 2100	1980 / 1980	2100 / 2100	2160 / 2160
Moisture removal volume		U/h	3.4	4.2	6.0	7.9	6.0	7.9	9.0
Sound pressure Level	Cooling (Hi / Lo)	dB(A)	39 / 36 / 33	39 / 36 / 33	42 / 38 / 35	45 / 40 / 37	42 / 38 / 35	45 / 40 / 37	46 / 41 / 38
	Heating (Hi / Lo)	dB(A)	40 / 36 / 33	40 / 36 / 33	42 / 38 / 35	45 / 40 / 37	42 / 38 / 35	45 / 40 / 37	47 / 43 / 39
Sound power level	Cool (Hi)	dB	58	58	62 / 56 / 53	64 / 58 / 55	62 / 56 / 53	64 / 58 / 55	64
	Heat (Hi)	dB	58	58	62 / 56 / 53	64 / 58 / 55	62 / 56 / 53	64 / 58 / 55	65
Dimensions	H x W x D	mm	210 x 1180 x 680	210 x 1180 x 680	210 x 1595 x 680	210 x 1595 x 680	210 x 1595 x 680	210 x 1595 x 680	210 x 1595 x 680
Net weight		kg	25	25	33	33	33	33	33
Outdoor unit									
Power source	V		220 / 230 / 240	220 / 230 / 240	220 / 230 / 240	220 / 230 / 240	380 / 400 / 415	380 / 400 / 415	380 / 415
Recommended fuse	A		20	20	25	30	16	16	16
Connection	mm ²		2.5	2.5	4	6	2.5	2.5	2.5
Current Cooling	A		9.75 / 9.4 / 9.1	12.8 / 12.4 / 12.0	16.2 / 15.5 / 14.6	20.4 / 19.5 / 18.7	5.45 / 5.20 / 4.95	6.75 / 6.45 / 6.20	6.60
Current Heating	A		6.9 / 6.65 / 6.45	9.3 / 9.0 / 8.7	12.6 / 12.0 / 11.5	15.8 / 15.1 / 14.4	4.30 / 4.05 / 3.90	5.25 / 5.00 / 4.80	6.65
Air Volume	Cool / Heat	m ³ /h	1800 / 2100	2340	4560 / 4020	4800 / 4380	4560 / 4020	4800 / 4380	8100 / 6600
Sound pressure Level³⁾	Cool / Heat (Hi)	dB(A)	46 / 50	50 / 52	54 / 54	56 / 56	54 / 54	56 / 56	54 / 53
Sound power level	Cool / Heat (Hi)	dB	65 / 69	70 / 70	70 / 70	73 / 73	70 / 70	73 / 73	71 / 70
Dimensions	H x W x D	mm	569 x 790 x 285	569 x 790 x 285	996 x 940 x 340	996 x 940 x 340	996 x 940 x 340	996 x 940 x 340	1416 x 940 x 340
Net weight		kg	42	42	73	85	73	85	98
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	2.60	3.20	2.60	3.20	3.4
Elevation dif. (in/out)⁴⁾	Max	m	30	30	30	30	30	30	30
Piping length	Min/Max	m	50	50	5 / 50	5 / 50	5 / 50	5 / 50	5-75
Precharge length	Max	m	20	20	30	30	30	30	30
Additional charge		g/m	40	40	50	50	50	50	50
Operating range	Cool Min/Max	°C	-10 ~ 43	-10 ~ 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43	-10 / 43
	Heat Min/Max	°C	-15 ~ 24	-15 ~ 24	-15 / 24	-15 / 24	-15 / 24	-15 / 24	-15 / 24

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Cooling Outdoor 7 °C DB / 6 °C WB. (DB: Dry Bulb; WB: Wet Bulb). // Specifications subject to change without notice.

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STANDARD

A class
energy saving

6.2 A++
SEER

3.8 A
SCOP

Down to
-10 °C in
heating mode

Down to
-15 °C in
heating mode

Easy
control
by BMS

Possible
to use on
R22 pipings

5 year
compressor
warranty



SEER and SCOP: For KIT-100PFY1E5

OPTIONAL CONTROLLERS

Timer remote controller
CZ-RTC2



Wireless remote controller
CZ-RWSC2 / CZ-RWST2



Simplified remote controller
CZ-REZC2



COMPATIBLE WITH ALL ECOi CONNECTIVITY SOLUTIONS



ELITE

		Single Phase						Three Phase				
		5.0 kW	6.0 kW	7.1 kW	10.0 kW	12.5 kW	14.0 kW	7.1 kW	10.0 kW	12.5 kW	14.0 kW	
KIT		KIT-50PT1E5*	KIT-60PT1E5	KIT-71PT1E5	KIT-100PT1E5	KIT-125PT1E5	KIT-140PT1E5	KIT-71PT1E8	KIT-100PT1E8	KIT-125PT1E8	KIT-140PT1E8	
Indoor		S-50PT1E5	S-60PT1E5	S-71PT1E5	S-100PT1E5	S-125PT1E5	S-140PT1E5	S-71PT1E5	S-100PT1E5	S-125PT1E5	S-140PT1E5	
Outdoor		U-50PE1E5	U-60PE1E5	U-71PE1E5	U-100PE1E5	U-125PE1E5	U-140PE1E5	U-71PE1E8	U-100PE1E8	U-125PE1E8	U-140PE1E8	
Wired remote control		CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	CZ-RTC2	
Cooling capacity	Nom. (Min-Max) kW	5.0 (1.5-5.6)	6.0 (2.5-7.1)	7.1 (2.5-8.0)	10.0 (3.3-12.5)	12.5 (3.3-14.0)	14.0 (3.3-15.5)	7.1 (2.5-8.0)	10.0 (3.3-12.5)	12.5 (3.3-14.0)	14.0 (3.3-15.5)	
EER¹⁾	Nom. (Min-Max) kW	2.99 (5.77-2.38) C	3.75 (5.56-3.55) A	3.24 (5.56-3.02) A	3.70 (3.93-3.38) A	3.24 (3.93-3.04) A	2.92 (3.93-2.58) C	3.24 (5.56-3.02) A	3.70 (3.93-3.38) A	3.24 (3.93-3.04) A	2.92 (3.93-2.58) C	
SEER	W/W	5.2 A+	6.4 A++	6.0 A+	6.3 A++	—	—	5.5 A	6.2 A++	—	—	
Pdesign	kW	5.0	6.0	7.1	10.0	—	—	7.1	10.0	—	—	
Power input Cooling	Nom. (Min-Max) kW	1.670 (0.260-2.350)	1.600 (0.450-2.00)	2.190 (0.450-2.650)	2.700 (0.840-3.700)	3.860 (0.840-4.600)	4.800 (0.840-6.00)	2.190 (0.450-2.650)	2.700 (0.840-3.700)	3.860 (0.840-4.600)	4.800 (0.840-6.00)	
Annual Energy Consumption^{2-a)}		835	800	1095	1350	1930	2400	1095	1350	1930	2400	
Annual Energy Consumption (ErP)^{2-b)}		336	328	414	555	—	—	452	564	—	—	
Heating capacity	Nom. (Min-Max) kW	5.6 (1.5-6.5)	7.0 (2.0-8.0)	8.0 (2.0-9.0)	11.2 (4.1-14.0)	14.0 (4.1-16.0)	16.0 (4.1-18.0)	8.0 (2.0-9.0)	11.2 (4.1-14.0)	14.0 (4.1-16.0)	16.0 (4.1-18.0)	
COP¹⁾	Nom. (Min-Max) W/W	3.39 (6.82-2.50) C	3.80 (5.00-3.23) A	3.45 (5.00-3.10) B	4.18 (4.56-3.18) A	3.83 (4.56-3.08) A	3.45 (4.56-3.05) B	3.45 (5.00-3.10) B	4.18 (4.56-3.18) A	3.83 (4.56-3.08) A	3.45 (4.56-3.05) B	
SCOP¹⁾	W/W	3.5 A	3.8 A	3.5 A	4.1 A+	—	—	3.4 A	4.1 A+	—	—	
Pdesign at -10 °C	kW	4.0	6.0	7.1	10.0	—	—	7.1	10.0	—	—	
Power input Heating	Nom. (Min-Max) kW	1.650 (0.220-2.600)	1.840 (0.400-2.480)	2.320 (0.400-2.900)	2.680 (0.900-4.400)	3.660 (0.900-5.200)	4.640 (0.900-5.900)	2.320 (0.400-2.900)	2.680 (0.900-4.400)	3.660 (0.900-5.200)	4.640 (0.900-5.900)	
Annual Energy Consumption (ErP)^{2-b)}		1600	2210	2840	3415	—	—	2923	3415	—	—	
Indoor unit												
Air Volume	Cool / Heat m ³ /h	780 / 780	1140 / 1140	1140 / 1140	1980 / 1980	2100 / 2100	2160 / 2160	1140 / 1140	1980 / 1980	2100 / 2100	2160 / 2160	
Moisture removal volume	l/h	2.8	3.4	4.2	6.0	7.9	9.0	4.2	6.0	7.9	9.0	
Sound pressure Level	Cooling (Hi / Lo) dB(A)	36 / 33 / 30	39 / 36 / 33	39 / 36 / 33	42 / 38 / 35	45 / 40 / 37	46 / 41 / 38	39 / 36 / 33	42 / 38 / 35	45 / 40 / 37	46 / 41 / 38	
	Heating (Hi / Lo) dB(A)	36 / 33 / 30	40 / 36 / 33	40 / 36 / 33	44 / 39 / 36	46 / 41 / 38	47 / 43 / 39	40 / 36 / 33	44 / 39 / 36	46 / 41 / 38	47 / 43 / 39	
Sound power level	Cool (Hi) dB	47	58	58	61	63	64	58	61	63	64	
	Heat (Hi) dB	47	58	58	62	64	65	58	62	64	65	
Dimensions	H x W x D mm	210 x 910 x 680	210 x 1180 x 680	210 x 1180 x 680	210 x 1595 x 680	210 x 1595 x 680	210 x 1595 x 680	210 x 1180 x 680	210 x 1595 x 680	210 x 1595 x 680	210 x 1595 x 680	
Net weight	kg	21	25	25	33	33	33	25	33	33	33	
Outdoor unit												
Power source	V	220 / 240	220 / 240	220 / 240	220 / 240	220 / 240	220 / 240	380 / 415	380 / 415	380 / 415	380 / 415	
Recommended fuse	A	16	20	20	25	30	16	16	16	16	16	
Connection	mm ²	2.5	2.5	2.5	4	6	2.5	2.5	2.5	2.5	2.5	
Current Cooling	Nom. (Min-Max) A	7.70 / 7.45 / 7.20	7.40	9.90	11.90	17.10	21.30	3.30	4.05	5.80	7.25	
Current Heating	Nom. (Min-Max) A	7.60 / 7.35 / 7.15	8.30	10.40	11.80	16.20	20.60	3.45	4.00	5.50	7.00	
Air Volume	Cool / Heat m ³ /h	1800 / 2100	3600 / 3600	3600 / 3600	6600 / 5700	7800 / 6600	8100 / 7200	3600 / 3600	6600 / 5700	7800 / 6600	8100 / 7200	
Sound pressure Level³⁾	Cool / Heat (Hi) dB(A)	46 / 50	48 / 50	48 / 50	52 / 52	53 / 53	54 / 55	48 / 50	52 / 52	53 / 53	54 / 55	
Sound power level	Cool / Heat (Hi) dB	65 / 69	65 / 67	65 / 67	69 / 69	70 / 70	71 / 71	65 / 67	69 / 69	70 / 70	71 / 71	
Dimensions	H x W x D mm	569 x 790 x 285	996 x 940 x 340	996 x 940 x 340	1416 x 940 x 340	1416 x 940 x 340	1416 x 940 x 340	996 x 940 x 340	1416 x 940 x 340	1416 x 940 x 340	1416 x 940 x 340	
Net weight	kg	42	68	69	98	98	98	69	98	98	98	
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)	3/8 (9.52)	3/8 (9.52)	
	Gas pipe Inch (mm)	1/2 (12.7)	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)	
Refrigerant loading	R410A kg	1.65	2	2.35	3.4	3.4	3.4	2.35	3.4	3.4	3.4	
Elevation dif. (in/out)⁴⁾	Max m	30	30	30	30	30	30	30	30	30	30	
Piping length	Min/Max m	40	5-50	5-50	5-75	5-75	5-75	5-50	5-75	5-75	5-75	
Precharge length	Max m	30	30	30	30	30	30	30	30	30	30	
Additional charge	g/m	20	50	50	50	50	50	50	50	50	50	
Operating range	Cool Min/Max °C	-15 / 46	-15 / 46	-15 / 46	-15 / 46	-15 / 46	-15 / 46	-15 / 46	-15 / 46	-15 / 46	-15 / 46	
	Heat Min/Max °C	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24	

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Cooling Outdoor 7 °C DB / 6 °C WB. (DB: Dry Bulb; WB: Wet Bulb). // Specifications subject to change without notice.

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ELITE

A class
energy saving

6.4 A++
SEER

3.8 A
SCOP

Down to
-15 °C in
cooling mode

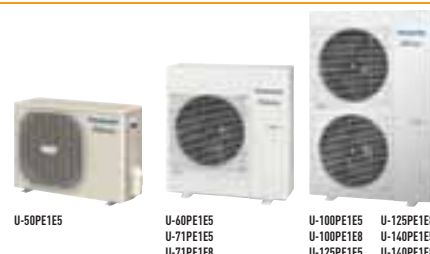
Down to
-20 °C in
heating mode

Easy
control by
BMS

Possible
to use on
R22 pipings

SEER and SCOP: For KIT-60PT1E5

5 year
compressor
warranty



U-50PE1E5

U-60PE1E5
U-71PE1E5
U-71PE1E8

U-100PE1E5 U-125PE1E8
U-100PE1E8 U-140PE1E5
U-125PE1E5 U-140PE1E8

HIGH STATIC PRESSURE HIDE AWAY 20.0-25.0 kW PACi THREE PHASE INVERTER+

Panasonic breaks new ground in offering high performance and power in a small space. The 20.0-25.0 kW 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 20.0-25.0 kW systems which have a larger and therefore require more space.



			Three Phase	
			20.0 kW	25.0 kW
KIT			KIT-200PE1E8	KIT-250PE1E8
Indoor			S-200PE1E8A	S-250PE1E8
Outdoor			U-200PE1E8	U-250PE1E8
Remote control (optional)			CZ-RTC2	CZ-RTC2
Cooling capacity	Nom. (Min-Max)	kW	20.0 (6.0-22.4)	25.0 (6.0-28.0)
EER ¹⁾	Nominal	W/W	2.62 ◀D	2.62 ◀D
SEER		W/W	—	—
Pdesign		kW	—	—
Power input Cooling	Nominal	kW	7.640	9.550
Running amperes		A	11.8	14.8
Annual Energy Consumption ^{2-a)}			3820	4775
Annual Energy Consumption(ErP) ^{2-b)}			—	—
Heating capacity	Nom. (Min-Max)	kW	21.8 (6.0-22.4)	28.0 (6.0-31.5)
COP ¹⁾	Nominal	W/W	3.54 ◀B	3.41 ◀B
SCOP		W/W	—	—
Pdesign at -10 °C		kW	—	—
Power input Heating	Nominal	kW	6.150	8.200
Running amperes		A	9.5	12.6
Annual Energy Consumption (ErP) ^{2-b)}			—	—
Indoor unit				
Power source		V / ph / Hz	220 / 240 / 1 / 50	220 / 240 / 1 / 50
External static pressure ³⁾	With booster cable	Pa	216 (235)	216 (235)
Air volume	Cooling/Heating	m ³ /h	4320	4320
Moisture removal volume	Cooling	l/h	11.1	13.9
Sound pressure level ⁴⁾	(H/M/L)	dB(A)	51 / 50 / 49	51 / 50 / 49
Sound power level		dB(A)	82	82
Dimensions / Net weight	H x W x D	mm / kg	479 x 1428 x 1230 / 120	479 x 1428 x 1230 / 120
Outdoor unit				
Power source		V / ph / Hz	380 / 415 / 3+N / 50/60	380 / 415 / 3+N / 50/60
Recommended fuse		A	15	20
Air Volume	Cooling/Heating	m ³ /h	7740	7080
Sound pressure level ⁴⁾	Cooling / Heating (Hi)	dB(A)	57 / 57	57 / 58
Sound power level	(Hi)	dB	72	73
Dimensions	H x W x D	mm	1526 x 940 x 340	1526 x 940 x 340
Net weight		kg	118	128
Piping connections	Liquid pipe	mm (Inch)	9.52 (3/8)	12.7 (1/2)
	Gas pipe	mm (Inch)	25.4 (1)	25.4 (1)
Refrigerant loading			5.3	6.5
Elevation dif. (in/out) ⁵⁾	Max	m	30	30
Piping length	Min-Max	m	5-100	5-100
Precharge length	Max	m	30	30
Additional charge		g/m	40	80
Operating range	Cool Min/Max	°C	-15 / 43	-15 / 43
	Heat Min/Max	°C	-20 / 15	-20 / 15

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Cooling Outdoor 7 °C DB / 6 °C WB. (DB: Dry Bulb; WB: Wet Bulb)

1) EER and COP, Energy Saving Classification, is at 220 - 240 V (380 - 415 V) only in accordance with EU directive 2002/31/EC. 2-a) The annual consumption is calculated by multiplying the input power at 220 / 240 V (380 / 415 V) by an average of 500 hours per year in cooling mode. 2-b) The annual consumption(ErP) is calculated by formula determined by ErP regulation. 3) The specification listed on the table indicates values under the condition of 50 Pa (5.1 mmAq) which are applied for factory default setting. Change connector on fan motor from Hi to Shi to have 7.0 mmAq. 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 Eurovent 6/C/006-97 specification. 5) Add 100 mm for indoor unit or 70 mm for outdoor unit for piping port. 6) When installing the outdoor unit at a higher position than the indoor unit. Specifications subject to change without notice.

For detailed information about ErP, please visit our page <http://www.doc.panasonic.de>



OPTIONAL CONTROLLERS

Timer remote controller
CZ-RTC2



Wireless remote controller
CZ-RWSC2



Simplified remote controller
CZ-RE2C2



KIT-200PE1E8 // KIT-250PE1E8

Technical Focus

- HIGH EFFICIENCY INVERTER SYSTEM
- COOLING WITH LOW OUTDOOR TEMPERATURES (DOWN TO -15 °C)
- MAXIMUM PIPE LENGTH 100 M (MORE THAN 40% LONGER THAN OTHER SPLIT SYSTEMS)
- MULTIFUNCTIONAL WIRELESS REMOTE CONTROL WITH BUILT-IN TEMPERATURE CONTROL
- FRESH AIR SUPPLY FOR IMPROVED AIR QUALITY

COMPATIBLE WITH ALL ECOi CONNECTIVITY SOLUTIONS



U-200PE1E8
U-250PE1E8

Features

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

EASE OF USE

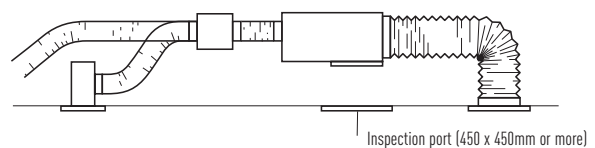
- Weekly On/Off timer (6 settings per day and 42 per week)
- Selection of wired / Wireless and simplified wired remote controller

EASY INSTALLATION AND MAINTENANCE

- High static pressure units ideal for shops and offices

System example

An inspection port (450 x 450 mm or more) is required at the lower side of the indoor unit body. Distributor (field supply).



Plenums

Air Outlet Plenum (suitable for rigid + flexible duct)		
	N. of exits with diameters	Model
S-200PE1E8A / S-250PE1E8	1 x 500 mm	CZ-TREMIESPW706

PACi Standard Single and Twin System

Up to 2 indoor units connectable on the same outdoor.

Panasonic's PACi units can be installed as single and twin systems. The indoor units can be combined following the selection table. The operation will always be simultaneous. All the indoor units will work with the same settings.

SINGLE

TWIN

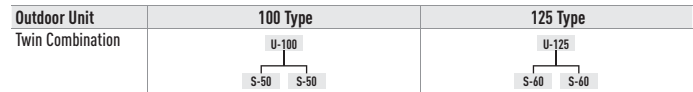
Joint distribution (sold separately) A= CZ-P155BK1

Item		Contents	Symbol	Actual length (m)
			Single	Twin
Allowable tubing lengths	Maximum distribution tubing length	Maximum branch pipe length	-	Q1 Q2
	Sum Total Length	Maximum allowable tubing length and the sum total of other tubing	-	L + Q1 > Q2
Maximum branch tubing length		Maximum branch pipe length difference	-	Q1 > Q2 Q1-Q2
Maximum allowable height difference	Maximum indoor-outdoor height difference	If outdoor unit is higher	H1	≤ 30
		If outdoor unit is lower		≤ 15
	Maximum height difference between indoor units			H2

	Main tubing (L)		Double-twin distribution tube (L1, L2)		Indoor unit connection tube (Q1, Q2, Q3, Q4)	
Type capacity of indoor unit	50 - 60		100 - 140		60	50
Gas tube	Ø15.88		Ø15.88		Ø15.88	Ø12.7
Liquid tube	Ø9.52	Ø12.7	Ø9.52		Ø9.52	Ø6.35
Amount of additional charge per 1 m	50 g	50 g	50 g		50 g	20 g

Single/Simultaneous operation system combinations

Indoor size / Outdoor size	10.0 kW	12.5 kW
5.0 kW	Twin	
6.0 kW		Twin
10.0 kW	Single	
12.5 kW		Single



Compatible Outdoor Units

			10.0 kW	10.0 kW	12.5 kW	12.5 kW
Outdoor			U-100PEY1E5	U-100PEY1E8	U-125PEY1E5	U-125PEY1E8
Cooling capacity	Nom. (Min-Max)	kW	10	10.0 (2.7-11.5)	12.5 (3.8-13.5)	12.5 (3.8-13.5)
Heating capacity	Nom. (Min-Max)	kW	10	10.0 (2.1-13.8)	12.5 (3.4-15.0)	12.5 (3.4-15.0)
Power source		V	220 / 230 / 240	380 / 400 / 415	220 / 230 / 240	380 / 400 / 415
Connection		mm ²				
Air Volume	Cooling/Heating	m ³ /h	4560 / 4020	4560 / 4020	4800 / 4380	4800 / 4380
Sound pressure Level	Cooling/Heating (Hi)	dB(A)	54 / 54	54 / 54	56 / 56	56 / 56
Sound power Level	Cooling/Heating (Hi)	dB	70 / 70	70 / 70	73 / 73	73 / 73
Dimensions (Net weight)	H x W x D	mm (kg)	996 x 940 x 340 (73)	996 x 940 x 340 (73)	996 x 940 x 340 (85)	996 x 940 x 340 (85)
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)
Refrigerant Loading	R410A	kg	2.60	2.60	3.20	3.20
Elevation dif. (in/out)	Max	m	30	30	30	30
Piping length	Min/Max	m	5 - 50	5 - 50	5 - 50	5 - 50
Precharge length	Max	m	30	30	30	30
Additional gas		g/m	50	50	50	50
Operating range	Cooling Min/Max	°C	-10 / 43	-10 / 43	-10 / 43	-10 / 43
	Heating Min/Max	°C	-15 / 24	-15 / 24	-15 / 24	-15 / 24

U-__PEY1E5 Single Phase // U-__PEY1E8 Three Phase

Compatible Indoor Units



S-50PK1E5 / S-60PK1E5



S-50PY1E5 / S-60PY1E5



S-50PU1E5 / S-60PU1E5



S-50PT1E5 / S-60PT1E5



S-50PN1E5 / S-60PN1E5



S-50PF1E5 / S-60PF1E5

Compatible Outdoor Units



U-100PEY1E5 // U-125PEY1E5 // U-100PEY1E8
// U-125PEY1E8

Compatible Indoor Units

			5.0 kW	6.0 kW
Wall			S-50PK1E5	S-60PK1E5
Capacity	Cooling	kW	5.0	6.0
	Heating	kW	5.6	6.0
Dimensions	H x W x D	mm	300 x 1065 x 230	300 x 1065 x 230
Sound pressure level	Cooling (Hi/Me/Lo)	dB(A)	40 / 36 / 32	47 / 44 / 40
	Heating (Hi/Me/Lo)	dB(A)	40 / 36 / 32	47 / 44 / 40
Air Volume	Cooling / Heating	m ³ /h	840 / 840	1080 / 1080
4 Way 60x60 Cassette			S-50PY1E5	S-60PY1E5
Capacity	Cooling	kW	5.0	10.0
	Heating	kW	5.6	10.0
Dimensions	Indoor H x W x D	mm	283 x 575 x 575	283 x 575 x 575
	Panel H x W x D	mm	30 x 625 x 625	30 x 625 x 625
Sound pressure level	Cooling (Hi/Me/Lo)	dB(A)	41 / 37 / 33	41 / 37 / 33
	Heating (Hi/Me/Lo)	dB(A)	41 / 37 / 33	41 / 37 / 33
Air Volume	Cooling / Heating	m ³ /h	750 / 750	750
4 Way 90x90 Cassette			S-50PU1E5	S-60PU1E5
Capacity	Cooling	kW	5.0	6.0
	Heating	kW	5.6	6.0
Dimensions	Indoor H x W x D	mm	256 x 840 x 840	256 x 840 x 840
	Panel H x W x D	mm	33.5 x 950 x 950	33.5 x 950 x 950
Sound pressure level	Cooling (Hi/Me/Lo)	dB(A)	32 / 29 / 27	32 / 29 / 27
	Heating (Hi/Me/Lo)	dB(A)	32 / 29 / 27	32 / 29 / 27
Air Volume	Cooling / Heating	m ³ /h	960 / 960	960 / 960
Low Static Pressure Hide Away			S-50PN1E5	S-60PN1E5
Capacity	Cooling	kW	5.0	6.0
	Heating	kW	5.6	7.0
Dimensions	H x W x D	mm	250 x 780(+100) x 650	250 x 1000(+100) x 650
Sound pressure level	Cooling (Hi/Me/Lo)	dB(A)	41 / 35	43 / 41 / 36
	Heating (Hi/Me/Lo)	dB(A)	41 / 35	43 / 41 / 36
External static pressure	Nominal (Min-Max)	Pa	80 / 50 / 10	50 (10-80)
Air Volume	Cooling / Heating	m ³ /h	960 / 960	1320 / 1320
Hide Away High Stratic Pressure			S-50PF1E5	S-60PF1E5
Capacity	Cooling	kW	5.0	6.0
	Heating	kW	5.6	6.0
Dimensions	H x W x D	mm	290 x 800 x 700	290 x 1000 x 700
Sound pressure level	Cooling (Hi/Me/Lo)	dB(A)	34 / 30 / 26	35 / 32 / 26
	Heating (Hi/Me/Lo)	dB(A)	34 / 30 / 26	35 / 32 / 26
External static pressure	High / Medium / Low	Pa	150 / 70 / 10	70 (10-150)
Air Volume	Cooling / Heating	m ³ /h	960 / 960	1260 / 1260
Ceiling			S-50PT1E5	S-60PT1E5
Capacity	Cooling	kW	5.0	6.0
	Heating	kW	5.6	6.0
Dimensions	H x W x D	mm	210 x 910 x 680	210 x 1180 x 680
Sound pressure level	Cooling (Hi/Me/Lo)	dB(A)	38 / 33 / 30	39 / 36 / 33
	Heating (Hi/Me/Lo)	dB(A)	39 / 34 / 30	40 / 36 / 33
Air Volume	Cooling / Heating	m ³ /h	840 / 840	1140 / 1140

PACi Elite Twin, Triple and Double-Twin System from 3.6 to 14.0 kW

TWIN

TRIPLE

DOUBLE-TWIN

Joint distribution (sold separately)

A= CZ-P155BK1
B= CZ-P3HPC2BM

Equivalent pipe lengths and height differences		Symbols			Spec
		Twin	Triple	Double-Twin	
Total pipe length		L+L1+L2	L+L1+L2+L3	L+L1+L2+L3+L4+L5+L6	U-60/71P: 50 m / U-100/125/140: 75 m
Maximum branch pipe length		L1 or L2	L1 or L2 or L3	L1+L3 or L1+L4 or L2+L5 or L2+L6	Less than 15 m
Maximum branch pipe length differences		L1 > L2 L1-L2	L1 > L2 > L3 L1-L2	L2+L6 → MAX L2+L6 → MIN (L2+L6)-(L1+L3)	Less than 10 m
Maximum pipe length differences of branch pipe 1 (Double-Twin)		—	—	L2 > L1	Less than 10 m
Maximum pipe length differences of branch pipe 1 (Double-Twin)		—	—	L4 > L3 L6 > L5	Less than 10 m
Height difference	Outdoor located higher installation	H1			Less than 30 m
	Outdoor located lower installation	H1			Less than 15 m
Height difference between indoor units		H2	H2 or H3 or H4	H2 or H3 or H4 or H5 or H6 or H7	Less than 0.5 m

Outdoor unit main pipe diameter (mm)	Branch pipe diameter	Indoor unit combination				
Liquid side: Ø 9.52	Liquid side	S-36	S-45	S-50	S-60	S-71
Gas side: Ø 15.88	Gas side	Ø 6.35	Ø 6.35	Ø 6.35	Ø 9.52	Ø 9.52
Branch pipe kit (option)	TWIN, DOUBLE-TWIN	CZ-P155BK1				
	TRIPLE	CZ-P3HPC2BM				

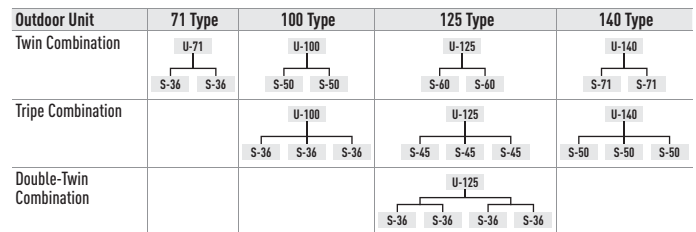
Refrigerant charging: For the twin connection, the amount of refrigerant required for pipe length 30 m has been included in this unit at the factory while that required for pipe length 20 m has been included for the Triple / Double-Twin connections. No additional charge is required for the first 30 m pipe length in the case of the twin connection and for the first 20 m in the case of the Triple / Double-Twin connections. The amount of included refrigerant for each model is listed on NAMA PLATE.

Make additional charges by adding up pipe length in an order of main (L) → branch pipe (L1→L2→L3 wide diameter) and then selecting the amount of refrigerant corresponding to the remaining (after 30 m for the Twin connection and after 20 m for the Triple / Double-Twin connections) liquid side pipe diameter and pipe length from the below table.

Liquid pipe diameter	Addition amount of refrigerant (g/m)
Ø 6.35	20
Ø 9.52	50

Single/Simultaneous operation system combinations

Indoor Outdoor size	6.0 kW	7.1 kW	10.0 kW	12.5 kW	14.0 kW
3.6 kW		Twin		Double-twin	Double-twin
4.5 kW				Triple	
5.0 kW			Twin		Triple
6.0 kW	Single			Twin	
7.1 kW		Single			Twin
10.0 kW			Single		
12.5 kW				Single	
14.0 kW					Single



Compatible Outdoor Units

		7.1 kW	7.1 kW	10.0 kW	10.0 kW	12.5 kW	12.5 kW	14.0 kW	14.0 kW
		U-71PE1E5	U-71PE1E8	U-100PE1E5	U-100PE1E8	U-125PE1E5	U-125PE1E8	U-140PE1E5	U-140PE1E8
Outdoor									
Cooling capacity	Nom. (Min-Max)	kW	7.1 (2.5 - 8.0)	7.1 (2.5 - 8.0)	10.0 (3.3 - 12.5)	10.0 (3.3 - 12.5)	12.5 (3.3 - 14.0)	12.5 (3.3 - 14.0)	14.0 (3.3 - 15.5)
Heating capacity	Nom. (Min-Max)	kW	8.0 (2.0 - 9.0)	8.0 (2.0 - 9.0)	11.2 (4.1 - 14.0)	11.2 (4.1 - 14.0)	14.0 (4.1 - 16.0)	14.0 (4.1 - 16.0)	16.0 (4.1 - 18.0)
Power source	V		220 - 240	380-415	220 - 240	380 - 415	220 - 240	380 - 415	220 - 240
Connection	mm ²		2 x 1.5 or 2.5	2 x 1.5 or 2.5	2 x 1.5 or 2.5	2 x 1.5 or 2.5	2 x 1.5 or 2.5	2 x 1.5 or 2.5	2 x 1.5 or 2.5
Air Volume	Cooling/Heating	m ³ /h	3600 / 3600	3600 / 3600	6600 / 5700	6600 / 5700	7800 / 6600	7800 / 6600	8100 / 7200
Sound pressure Level	Cooling/Heating (Hi)	dB(A)	48 / 50	48 / 50	52 / 52	52 / 52	53 / 53	53 / 53	54 / 55
Sound power Level	Cooling/Heating (Hi)	dB	65 / 67	65 / 67	69 / 69	69 / 69	70 / 70	70 / 70	71 / 71
Dimensions (Net weight)	H x W x D	mm (kg)	996 x 940 x 340 (69)	996 x 940 x 340 (69)	1416 x 940 x 340 (98)	1416 x 940 x 340 (98)	1416 x 940 x 340 (98)	1416 x 940 x 340 (98)	1416 x 940 x 340 (98)
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)	3/8 (9.52) / 5/8 (15.88)	3/8 (9.52) / 5/8 (15.88)
Refrigerant Loading	R410A	kg	2.35	2.35	3.4	3.4	3.4	3.4	3.4
Elevation dif. (in/out)	Max	m	30	30	30	30	30	30	30
Piping length	Min/Max	m	5 - 50	5 - 50	5 - 75	5 - 75	5 - 75	5 - 75	5 - 75
Precharge length	Max	m	30	30	30	30	30	30	30
Additional gas		g/m	50	50	50	50	50	50	50
Operating range	Cooling Min/Max	°C	-15 / 46	-15 / 46	-15 / 46	-15 / 46	-15 / 46	-15 / 46	-15 / 46
	Heating Min/Max	°C	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24	-20 / 24

U_ _ E1E5 Single Phase // U_ _ E1E8 Three Phase

Compatible Indoor Units



S-36PK1E5 / S-45PK1E5 / S-50PK1E5 / S-60PK1E5 / S-71PK1E5



S-36PU1E5 / S-45PU1E5 / S-50PU1E5 / S-60PU1E5 / S-71PU1E5



S-36PN1E5 / S-45PN1E5 / S-50PN1E5 / S-60PN1E5 / S-71PN1E5



S-36PY1E5 / S-45PY1E5 / S-50PY1E5



S-36PT1E5 / S-45PT1E5 / S-50PT1E5 / S-60PT1E5 / S-71PT1E5



S-36PF1E5 / S-45PF1E5 / S-50PF1E5 / S-60PF1E5 / S-71PF1E5

Compatible Outdoor Units



U-71PE1E5 / U-71PE1E8



U-100PE1E5 / U-100PE1E8 / U-125PE1E5 / U-125PE1E8 / U-140PE1E5 / U-140PE1E8

Compatible Indoor Units

			3.6 kW	4.6 kW	5.0 kW	6.0 kW	7.1 kW
Wall			S-36PK1E5	S-45PK1E5	S-50PK1E5	S-60PK1E5	S-71PK1E5
Capacity	Cooling	kW	3.6	4.5	5.0	6.0	7.1
	Heating	kW	4.2	5.2	5.6	7.0	8.0
Dimensions	H x W x D	mm	300 x 1065 x 230	300 x 1065 x 230	300 x 1065 x 230	300 x 1065 x 230	300 x 1065 x 230
Sound pressure level	Cooling (Hi/Me/Lo)	dB(A)	35 / 31 / 27	38 / 34 / 30	40 / 36 / 32	47 / 44 / 40	47 / 44 / 40
	Heating (Hi/Me/Lo)	dB(A)	35 / 31 / 27	38 / 34 / 30	40 / 36 / 32	47 / 44 / 40	47 / 44 / 40
Air Volume	Cooling / Heating	m ³ /h	660 / 660	720 / 720	840 / 840	1080 / 1080	1080 / 1080
4 Way 60x60 Cassette			S-36PY1E5	S-45PY1E5	S-50PY1E5		
Capacity	Cooling	kW	3.6	4.5	5.0		
	Heating	kW	4.2	5.2	5.6		
Dimensions	Indoor H x W x D	mm	283 x 575 x 575	283 x 575 x 575	283 x 575 x 575		
	Panel H x W x D	mm	30 x 625 x 625	30 x 625 x 625	30 x 625 x 625		
Sound pressure level	Cooling (Hi/Me/Lo)	dB(A)	32 / 29 / 26	36 / 32 / 28	41 / 37 / 33		
	Heating (Hi/Me/Lo)	dB(A)	32 / 29 / 26	36 / 32 / 28	41 / 37 / 33		
Air Volume	Cooling / Heating	m ³ /h	540 / 540	636 / 636	750 / 750		
4 Way 90x90 Cassette			S-36PU1E5	S-45PU1E5	S-50PU1E5	S-60PU1E5	S-71PU1E5
Capacity	Cooling	kW	3.6	4.5	5.0	6.0	7.1
	Heating	kW	4.2	5.2	5.6	7.0	8.0
Dimensions	Indoor H x W x D	mm	256 x 840 x 840	256 x 840 x 840	256 x 840 x 840	256 x 840 x 840	256 x 840 x 840
	Panel H x W x D	mm	33.5 x 950 x 950	33.5 x 950 x 950	33.5 x 950 x 950	33.5 x 950 x 950	33.5 x 950 x 950
Sound pressure level	Cooling (Hi/Me/Lo)	dB(A)	30 / 28 / 27	31 / 28 / 27	32 / 29 / 27	36 / 31 / 28	37 / 31 / 28
	Heating (Hi/Me/Lo)	dB(A)	30 / 28 / 27	31 / 28 / 27	32 / 29 / 27	36 / 31 / 28	37 / 31 / 28
Air Volume	Cooling / Heating	m ³ /h	840 / 840	900 / 900	960 / 960	1260 / 1260	1320 / 1320
Low Static Pressure Hide Away			S-36PN1E5	S-45PN1E5	S-50PN1E5	S-60PN1E5	S-71PN1E5
Capacity	Cooling	kW	3.6	4.5	5.0	6.0	7.1
	Heating	kW	4.2	5.2	5.6	7.0	8.0
Dimensions	H x W x D	mm	250 x 780(+100) x 650	250 x 780(+100) x 650	250 x 780(+100) x 650	250 x 1000(+100) x 650	250 x 1000(+100) x 650
Sound pressure level	Cooling (Hi/Me/Lo)	dB(A)	40 / 35	41 / 35	41 / 35	43 / 41 / 36	43 / 41 / 36
	Heating (Hi/Me/Lo)	dB(A)	40 / 35	41 / 35	41 / 35	43 / 41 / 36	43 / 41 / 36
External static pressure	High / Medium / Low	Pa	80 / 50 / 10	80 / 50 / 10	80 / 50 / 10	80 / 50 / 10	80 / 50 / 10
Air Volume	Cooling / Heating	m ³ /h	840 / 840	960 / 960	960 / 960	1320 / 1320	1320 / 1320
Hide Away High Stratic Pressure			S-36PF1E5	S-45PF1E5	S-50PF1E5	S-60PF1E5	S-71PF1E5
Capacity	Cooling	kW	3.6	4.5	5.0	6.0	7.1
	Heating	kW	4.2	5.2	5.6	7.0	8.0
Dimensions	H x W x D	mm	290 x 800 x 700	290 x 800 x 700	290 x 800 x 700	290 x 1000 x 700	290 x 1000 x 700
Sound pressure level	Cooling (Hi/Me/Lo)	dB(A)	33 / 29 / 25	34 / 30 / 26	34 / 30 / 26	35 / 32 / 26	35 / 32 / 26
	Heating (Hi/Me/Lo)	dB(A)	33 / 29 / 25	34 / 30 / 26	34 / 30 / 26	35 / 32 / 26	35 / 32 / 26
External static pressure	High / Medium / Low	Pa	150 / 70 / 10	150 / 70 / 10	150 / 70 / 10	150 / 70 / 10	150 / 70 / 10
Air Volume	Cooling / Heating	m ³ /h	840 / 840	840 / 840	960 / 960	1260 / 1260	1260 / 1260
Ceiling			S-36PT1E5	S-45PT1E5	S-50PT1E5	S-60PT1E5	S-71PT1E5
Capacity	Cooling	kW	3.6	4.5	5.0	6.0	7.1
	Heating	kW	4.2	5.2	5.6	7.0	8.0
Dimensions	H x W x D	mm	210 x 910 x 680	210 x 910 x 680	210 x 910 x 680	210 x 1180 x 680	210 x 1180 x 680
Sound pressure level	Cooling (Hi/Me/Lo)	dB(A)	35 / 32 / 30	38 / 33 / 30	38 / 33 / 30	39 / 36 / 33	39 / 36 / 33
	Heating (Hi/Me/Lo)	dB(A)	36 / 32 / 30	39 / 34 / 30	39 / 34 / 30	40 / 36 / 33	40 / 36 / 33
Air Volume	Cooling / Heating	m ³ /h	720 / 720	840 / 840	840 / 840	1140 / 1140	1140 / 1140

PACi Elite Twin, Triple and Double-Twin System from 20 to 25 kW

Up to 4 indoor units can be connected to the same outdoor unit. Panasonic's PACi units 200 and 250 can be installed as twin, triple and double-twin systems. The indoor units can be combined as per the selection table. The operation will always be simultaneous. All the indoor units will work with the same settings.

SINGLE

TWIN

TRIPLE

DOUBLE-TWIN

Joint distribution (sold separately)

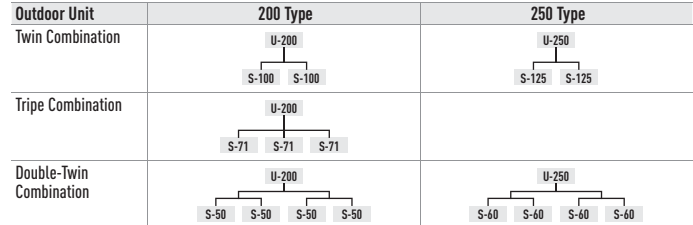
A= CZ-P680BK2BM
C=CZ-P155BK1BM

Item	Contents		Symbol	Actual length (m)			
	Single	Twin		Triple	Double-Twin		
Allowable tubing lengths	Maximum allowable tubing length	One-way length of tubing from outdoor unit to the most distant indoor unit	L	L + l1 L + l2	L + l1 + l2 L + l3	L + L1 + l1 + l2 L + L2 + l3 + l2 + l4	≤ 100
	Maximum distribution tubing length	Maximum length following the first branch point (No. 1 distribution)	-	l1 l2	l1 l2 l3	l1 l2 l3 l4	≤ 20
		Maximum length following the second branch point (double twin)	-	-	-	-	≤ 15
Sum Total Length	Maximum allowable tubing length and the sum total of other tubing	-	-	L + l1 + l2 + l3	L + L1 + L2 + l1 + l2 + l3 + l4	≤ 120	
Maximum branch tubing length	Difference between the maximum length and minimum length in tubing following the first branch point	-	-	l1 > l2 l1 - l2	l1 > l2 > l3 l1 - l3	Max.: L2 + l2 // Min.: L1 + l1 (L2 + l4) - (L1 + l1)	≤ 15
Maximum difference between lengths of No. 1 distribution tubing (double twin)							≤ 10
Maximum allowable height difference	Maximum I.U. - O.U. height difference	If outdoor unit is higher	H1	-	-	L2 > L1 // L2 - L1	≤ 30
	Maximum height difference between indoor units	If outdoor unit is lower	-	H2	H2 H3 H4	H2 H3 H4 H5 H6 H7	≤ 0.5

	Main tubing (L)		Double-twin distribution tube (L1, L2)		Indoor unit connection tube (l1, l2, l3, l4)	
	200	250	Total type capacity of indoor unit connected after the branch		l1, l2	l3, l4
Type capacity of indoor unit	200	250	100 - 140		60-140	36-50
Gas tube	Ø25.4		Ø15.88		Ø15.88	Ø12.7
Liquid tube	Ø9.52	Ø12.7	Ø9.52		Ø9.52	Ø6.35
Amount of additional charge per 1 m	40 g	80 g	40 g		40 g	20 g

Single/Simultaneous operation system combinations

Indoor size / Outdoor size	20.0 kW	25.0 kW
3.6 kW		
4.5 kW		
5.0 kW	Double-twin	
6.0 kW		Double-twin
7.1 kW	Triple	
10.0 kW	Twin	
12.5 kW		Twin
14.0 kW		
20.0 kW	Single	
25.0 kW		Single



Compatible Outdoor Units

			20.0 kW	25.0 kW
Outdoor			U-200PE1E8	U-250PE1E8
Cooling capacity	Nom. (Min-Max)	kW	20.0 (6.0-22.4)	25.0 (6.0-28.0)
Heating capacity	Nom. (Min-Max)	kW	21.8 (6.0-22.4)	28.0 (6.0-31.5)
Power source		V / ph / Hz	380 / 415 / 3+N / 50/60	380 / 415 / 3+N / 50/60
Recommended fuse			15A	20A
Recommended cable size		m	14	14
Air Volume	Cooling/Heating	m³/h	7740	7080
Sound pressure level	Cooling / Heating (Hi)	dB(A)	57 / 57	57 / 58
Sound power level	(Hi)	dB	72	73
Dimensions / Net weight	H x W x D	mm / kg	1526 x 940 x 340 / 118	1526 x 940 x 340 / 128
Refrigerant circuit				
Tube diameter Narrow/Wide	mm (inch)		9.52 (3/8) / 25.4 (1)	12.7 (1/2) / 25.4 (1)
Max piping length	m		100	100
Amount of additional refrigerant	g/m		40	80
Piping connections	Liquid / Gas pipe	mm (Inch)	9.52 (3/8) / 25.4 (1)	12.7 (1/2) / 25.4 (1)
Refrigerant loading			5.3	6.5
Elevation dif. (in/out)	Max	m	30	30
Piping length	Min-Max	m	5-100	5-100
Precharge length	Max	m	30	30
Additional charge		g/m	40	80
Operating range	Cooling Min/Max	°C	-15 / 43	-15 / 43
	Heating Min/Max	°C	-20 / 15	-20 / 15

U-__E1E5 Single Phase // U-__E1E8 Three Phase

Compatible Indoor Units



S-50PK1E5 / S-60PK1E5 / S-71PK1E5



S-50PY1E5



S-50PU1E5 / S-60PU1E5 / S-71PU1E5 / S-100PU1E5 / S-125PU1E5



S-50PT1E5 / S-60PT1E5 / S-71PT1E5 / S-100PT1E5 / S-125PT1E5



S-50PN1E5 / S-60PN1E5 / S-71PN1E5 / S-100PN1E5 / S-125PN1E5



S-50PF1E5 / S-60PF1E5 / S-71PF1E5 / S-100PF1E5 / S-125PF1E5

Compatible Outdoor Units



U-200PE1E8 / U-250PE1E8

Compatible Indoor Units

			5.0 kW	6.0 kW	7.1 kW	10.0 kW	12.5 kW
Wall			S-50PK1E5		S-60PK1E5		S-71PK1E5
Capacity	Cooling	kW	5.0	6.0	7.1		
	Heating	kW	5.6	7.0	8.0		
Dimensions	H x W x D	mm	300 x 1065 x 230		300 x 1065 x 230		300 x 1065 x 230
Sound pressure level	Cooling (Hi/Me/Lo)	dB(A)	40 / 36 / 32		47 / 44 / 40		47 / 44 / 40
	Heating (Hi/Me/Lo)	dB(A)	40 / 36 / 32		47 / 44 / 40		47 / 44 / 40
Air Volume	Cooling / Heating	m ³ /h	840 / 840		1080 / 1080		1080 / 1080
4 Way 60x60 Cassette			S-50PY1E5				
Capacity	Cooling	kW	5.0				
	Heating	kW	5.6				
Dimensions	Indoor H x W x D	mm	283 x 575 x 575				
	Panel H x W x D	mm	30 x 625 x 625				
Sound pressure level	Cooling (Hi/Me/Lo)	dB(A)	41 / 37 / 33				
	Heating (Hi/Me/Lo)	dB(A)	41 / 37 / 33				
Air Volume	Cooling / Heating	m ³ /h	750 / 750				
4 Way 90x90 Cassette			S-50PU1E5	S-60PU1E5	S-71PU1E5	S-100PU1E5	S-125PU1E5
Capacity	Cooling	kW	5.0	6.0	7.1	10.0	12.5
	Heating	kW	5.6	7.0	8.0	11.2	14.0
Dimensions	Indoor H x W x D	mm	256 x 840 x 840	256 x 840 x 840	256 x 840 x 840	319 x 840 x 840	319 x 840 x 840
	Panel H x W x D	mm	33.5 x 950 x 950	33.5 x 950 x 950	33.5 x 950 x 950	33.5 x 950 x 950	33.5 x 950 x 950
Sound pressure level	Cooling (Hi/Me/Lo)	dB(A)	32 / 29 / 27	36 / 31 / 28	37 / 31 / 28	44 / 38 / 32	45 / 39 / 33
	Heating (Hi/Me/Lo)	dB(A)	32 / 29 / 27	36 / 31 / 28	37 / 31 / 28	44 / 38 / 32	45 / 39 / 33
Air Volume	Cooling / Heating	m ³ /h	960 / 960	1.260 / 1.260	1.320 / 1.320	1.980 / 1.980	2.100 / 2.100
Low Static Pressure Hide Away			S-50PN1E5	S-60PN1E5	S-71PN1E5	S-100PN1E5	S-125PN1E5
Capacity	Cooling	kW	5.0	6.0	7.1	10.0	12.5
	Heating	kW	5.6	7.0	8.0	11.2	14.0
Dimensions	H x W x D	mm	250 x 780(+100) x 650	250 x 1000(+100) x 650	250 x 1000(+100) x 650	250 x 1200(+100) x 650	250 x 1200(+100) x 650
Sound pressure level	Cooling (Hi/Me/Lo)	dB(A)	41 / 35	43 / 41 / 36	43 / 41 / 36	44 / 42 / 37	46 / 44 / 39
	Heating (Hi/Me/Lo)	dB(A)	41 / 35	43 / 41 / 36	43 / 41 / 36	44 / 42 / 37	46 / 44 / 39
External static pressure	High / Medium / Low	Pa	80 / 50 / 10	80 / 50 / 10	80 / 50 / 10	80 / 50 / 10	80 / 50 / 10
Air Volume	Cooling / Heating	m ³ /h	960 / 960	1320 / 1320	1320 / 1320	2160 / 2160	2400 / 2400
Hide Away High Stratic Pressure			S-50PF1E5	S-60PF1E5	S-71PF1E5	S-100PF1E5	S-125PF1E5
Capacity	Cooling	kW	5.0	6.0	7.1	10.0	12.5
	Heating	kW	5.6	7.0	8.0	11.2	14.0
Dimensions	H x W x D	mm	290 x 800 x 700	290 x 1000 x 700	290 x 1000 x 700	290 x 1400 x 700	290 x 1400 x 700
Sound pressure level	Cooling (Hi/Me/Lo)	dB(A)	34 / 30 / 26	35 / 32 / 26	35 / 32 / 26	38 / 34 / 31	39 / 35 / 32
	Heating (Hi/Me/Lo)	dB(A)	34 / 30 / 26	35 / 32 / 26	35 / 32 / 26	38 / 34 / 31	39 / 35 / 32
External static pressure	High / Medium / Low	Pa	150 / 70 / 10	150 / 70 / 10	150 / 70 / 10	150 / 100 / 10	150 / 100 / 10
Air Volume	Cooling / Heating	m ³ /h	960 / 960	1260 / 1260	1260 / 1260	1920 / 1920	2040 / 2040
Ceiling			S-50PT1E5	S-60PT1E5	S-71PT1E5	S-100PT1E5	S-125PT1E5
Capacity	Cooling	kW	5.0	6.0	7.1	10.0	12.5
	Heating	kW	5.6	7.0	8.0	11.2	14.0
Dimensions	H x W x D	mm	210 x 910 x 680	210 x 1180 x 680	210 x 1180 x 680	210 x 1180 x 680	210 x 1595 x 680
Sound pressure level	Cooling (Hi/Me/Lo)	dB(A)	38 / 33 / 30	39 / 36 / 33	39 / 36 / 33	42 / 38 / 35	45 / 40 / 37
	Heating (Hi/Me/Lo)	dB(A)	39 / 34 / 30	40 / 36 / 33	40 / 36 / 33	42 / 38 / 35	46 / 41 / 38
Air Volume	Cooling / Heating	m ³ /h	840 / 840	1140 / 1140	1140 / 1140	1980 / 1980	2100 / 2100

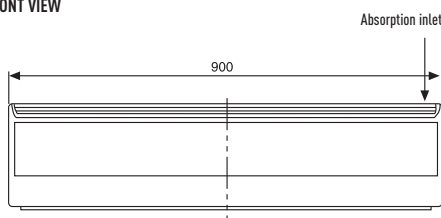
ELECTRIC AIR CURTAIN

Air curtains can help reduce whole building heating or cooling costs by helping to stop heat escaping the building or keeping cooled air in. Panasonic offers 2 sizes - 900 mm and 1200 mm electric air curtains. Ideal for separating areas and energy saving.

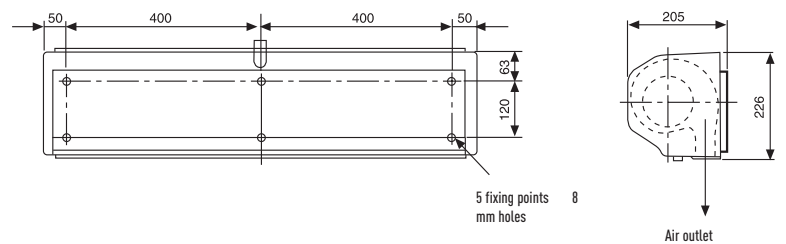
			FY-10ESPNAH	FY-10ELPNAH
Width			900	1.200
Watts	Hi	W	71,5	96
	Lo	W	61,5	74
Current	Hi	A	0,40	0,54
	Lo	A	0,29	0,35
Air speed	Hi	m/s	13,0	13,1
	Lo	m/s	11,1	11,0
Air volume	Hi	m ³ /h	750	1.000
	Lo	m ³ /h	630	830
Noise lever	Hi	dB(A)	46	46
	Lo	dB(A)	42	41
Weight		kg	11	14

INDOOR UNIT DIMENSIONS FY-10ESPNAH

FRONT VIEW

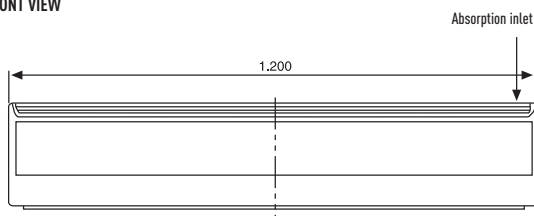


BACK VIEW

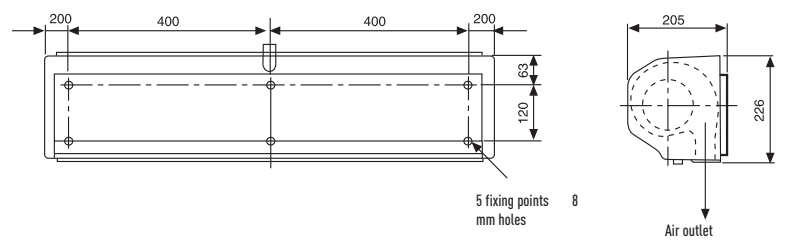


INDOOR UNIT DIMENSIONS FY-10ELPNAH

FRONT VIEW



BACK VIEW





FY-10ESPNAH // FY-10ELPNAH

Technical Focus

- 2 SIZES: 900 MM AND 1,200 mm
- POWERFUL AIR FLOW (10 m/s)
- VERY LOW NOISE, ONLY 42 dB

Features

COMFORT

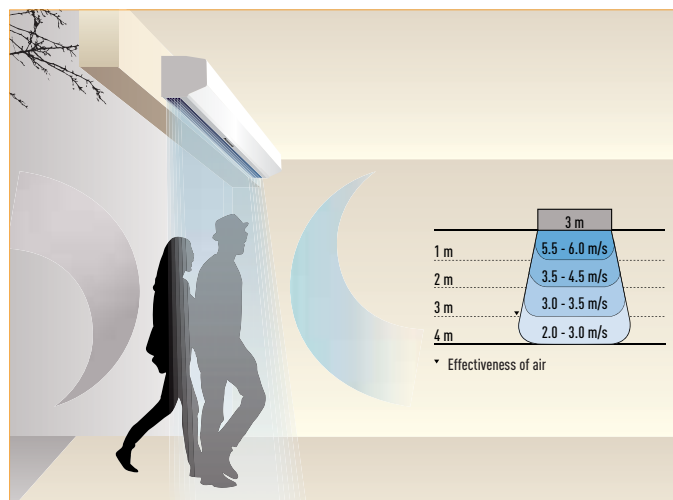
- Easy redirection of airflow by means of the manual deflector

EASE OF USE

- Speed selector (high and low) on the unit itself

EASY INSTALLATION AND MAINTENANCE

- Simple installation
- Compact dimensions improve installation and positioning in any space



AIR CURTAIN

High efficiency Air curtain connected to your PACi installation on 1x1 connection!

Plug & Play Installation

EC Fan motor for a smooth operation and efficient performance.

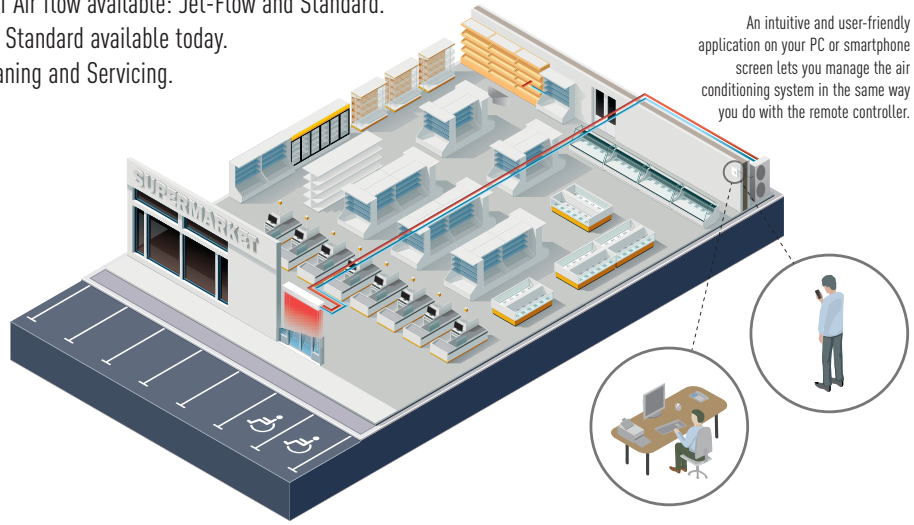
2 types of Air flow available: Jet-Flow and Standard.

2015 Fan Standard available today.

Easy Cleaning and Servicing.

INTERNET CONTROL

An intuitive and user-friendly application on your PC or smartphone screen lets you manage the air conditioning system in the same way you do with the remote controller.

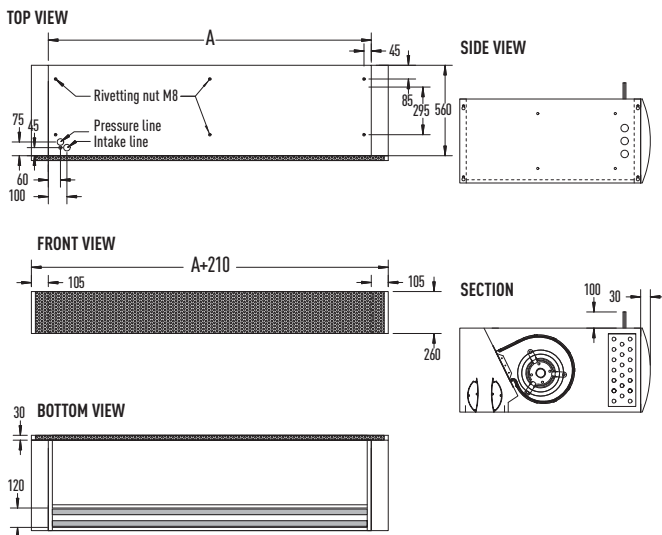


HP	4		8		10		4		10	
Air Curtain	PAW-10PAIRC-MJ*		PAW-15PAIRC-MJ*		PAW-20PAIRC-MJ*		PAW-10PAIRC-MS*		PAW-20PAIRC-MS*	
Air flow type	Jetflow		Jetflow		Jetflow		Standard		Standard	
Air Volume	High / Med / Low	m ³ /h	2700 / 1900 / 1200	3600 / 2500 / 1600	5400 / 3800 / 2400	2700 / 1900 / 1200	5400 / 3800 / 2400	2700 / 1900 / 1200	5400 / 3800 / 2400	5400 / 3800 / 2400
Air flow length (A)		m	1.0	1.5	2.0	1.0	2.0	1.0	2.0	2.0
Heating capacity max (at air in 20 °C)		kW	12.47	19.55	29.99	12.47	29.99	12.47	29.99	29.99
Max Installation high		m	2.7	2.7	2.7	2.4	2.4	2.4	2.4	2.4
Refrigerant			R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Pressure		bar	45	45	45	45	45	45	45	45
Tubing Gas		mm	16	18	22	16	16	16	22	22
Tubing Liquid		mm	10	10	10	10	10	10	10	10
Fan		-	230 V / 50 Hz / 1 / N / PE	230 V / 50 Hz / 1 / N / PE	230 V / 50 Hz / 1 / N / PE	230 V / 50 Hz / 1 / N / PE	230 V / 50 Hz / 1 / N / PE	230 V / 50 Hz / 1 / N / PE	230 V / 50 Hz / 1 / N / PE	230 V / 50 Hz / 1 / N / PE
Fan type			EC	EC	EC	EC	EC	EC	EC	EC
Currency	High / Med / Low	A	2.1 / 0.8 / 0.3	2.8 / 1.1 / 0.4	4.2 / 1.6 / 0.6	2.1 / 0.8 / 0.3	4.2 / 1.6 / 0.6	2.1 / 0.8 / 0.3	4.2 / 1.6 / 0.6	4.2 / 1.6 / 0.6
Electrical Consumption	High / Med / Low	kW	0.44 / 0.17 / 0.06	0.59 / 0.23 / 0.08	0.89 / 0.34 / 0.12	0.44 / 0.17 / 0.06	0.89 / 0.34 / 0.12	0.44 / 0.17 / 0.06	0.89 / 0.34 / 0.12	0.89 / 0.34 / 0.12
Protecting Fuse		A	M16A	M16A	M16A	M16A	M16A	M16A	M16A	M16A
Noise		dB(A)	40-55	40-56	40-57	40-55	40-55	40-55	40-57	40-57
Dimensions	L x H x D	mm	1210 x 260 x 590	1710 x 260 x 590	2210 x 260 x 590	1210 x 260 x 490	2210 x 260 x 490	1210 x 260 x 490	2210 x 260 x 490	2210 x 260 x 490
Weight		kg	70	100	138	60	60	60	128	128

Outdoor combination with PACi Elite unit	U-100PE1E5/8	U-200PE1E8	U-250PE1E8	U-100PE1E5/8	U-250PE1E8
Outdoor combination with PACi Standard unit	U-100PEY1E5/8			U-100PEY1E5/8	

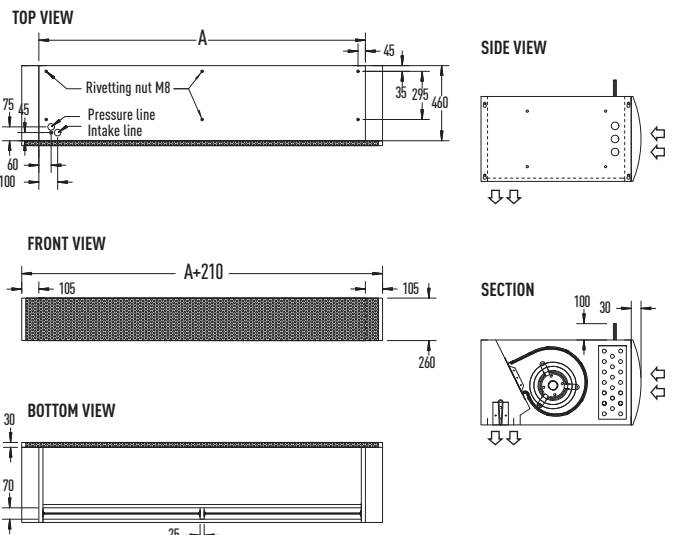
* Available from April 2013.

JETFLOW DIMENSIONS



	PAW-10PAIRC-MJ	PAW-15PAIRC-MJ	PAW-20PAIRC-MJ
A	1000	1500	2000

STANDARD DIMENSIONS



	PAW-10PAIRC-MS	PAW-20PAIRC-MS
A	1000	2000



JET-FLOW: PAW-10PAIRC-MJ // PAW-15PAIRC-MJ // PAW-20PAIRC-MJ

Technical Focus

- PLUG & PLAY INSTALLATION
- SAVE UP TO 40% ENERGY COSTS BY USE OF THE INTEGRATED EC FAN TECHNOLOGY
 - HIGHER EFFICIENCY CONVENTIONAL AC FAN
 - SOFTSTART
 - LONGER MOTOR DURATION
- 3 LENGTHS OF AIR CURTAINS, FROM 1,0 TO 2,0 m
- INSTALLATION HEIGHT UP TO 2,7 m
- OUTLET GRILLES CAN BE ADJUSTED IN FIVE POSITIONS, TO SUITE DIFFERENT INDOOR AND INSTALLATION REQUIREMENTS
- CONTROL WITH PANASONIC REMOTE CONTROL SYSTEMS (OPTIONAL)
- DIRECT INTEGRATION TO BMS BY OPTIONAL PANASONIC INTERFACES
- DRAIN INCLUDED FOR COOLING OPERATION

STANDARD: PAW-10PAIRC-MS // PAW-20PAIRC-MS

Technical Focus

- PLUG & PLAY INSTALLATION
- SAVE UP TO 40% ENERGY COSTS BY USE OF THE INTEGRATED EC FAN TECHNOLOGY
 - HIGHER EFFICIENCY CONVENTIONAL AC FAN
 - SOFTSTART
 - LONGER MOTOR DURATION
- 2 LENGTHS OF AIR CURTAINS, 1,0 AND 2,0 m
- INSTALLATION HEIGHT UP TO 2,4 m
- CONTROL WITH PANASONIC REMOTE CONTROL SYSTEMS (OPTIONAL)
- DIRECT INTEGRATION TO BMS BY OPTIONAL PANASONIC INTERFACES
- DRAIN INCLUDED FOR COOLING OPERATION

Features

COMFORT

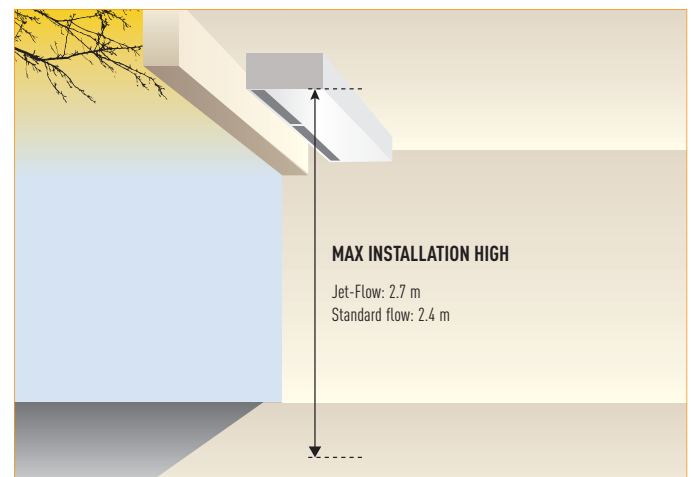
- Easy redirection of Air-Flow by means of manual deflector (Jet-Flow)

EASE OF USE

- Speed selector (high and low) on the unit itself

EASY INSTALLATION AND MAINTENANCE

- Easy installation
- Compact dimensions improve installation and positioning (Jet-Flow)
- Easy cleaning of grid without opening of the unit





Air Handling Unit Kit 5-28 kW for PACi

New AHU Kit connects PACi outdoor units to Air Handling Units system.

The Panasonic AHU Kits offer a wealth of connectivity possibilities so can be easily integrated into many systems.

Application: Hotels, offices, server rooms or all large buildings where air quality control such as humidity control and fresh air and is needed.



AHU CONNECTION KIT



PCB, Power trans, Terminal block



Remote control can be easily installed on the AHU box. Remote control must be purchase separately.



Thermistor x2 (Refrigerant: E1, E2)



Thermistor x1 (Air: Tf)

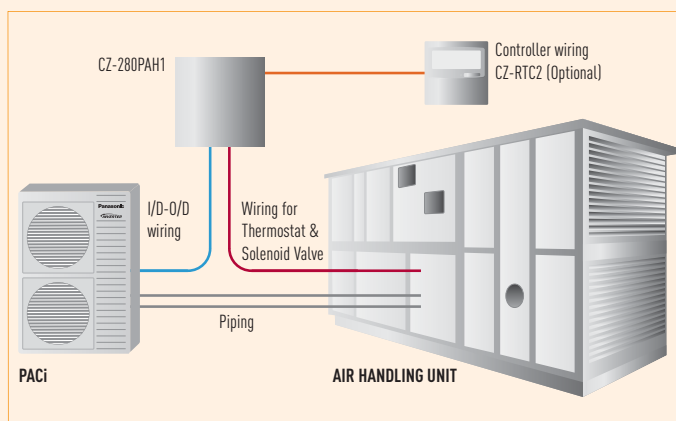
REMOTE CONTROLLER



Standard wired remote controller. Optional

Panasonic AHU Kit, 5-28 kW connected to PACi outdoor unit

PCB, Transformer, Thermistor x 3 pcs, Terminal Base and Electrical Component Box.



Optional parts: Following functions are available by using different type of control accessories:

CZ-RTC2 Wired remote controller

- Operation-ON/OFF
- Mode select
- Temperature setting

* Fan operation signal can be taken from the PCB.

CZ-T10 terminal

- Input signal= Operation ON/OFF
- Remote controller prohibition
- Output signal= Operating-ON status
- Alarm output (by DC12 V)

PAW-OCT, DC12 V outlet. OPTION terminal

- Output signal= Cool / Heat/Fan status
- Defrost
- Thermostat-ON

CZ-CAPBC2 Mini seri-para I/O unit

- Temperature setting by 0-10 V or 0-140 \square input signal
- Room (inlet air) temp outlet by 4-20 mA
- Mode select or/and ON/OFF control
- Fan operation control
- Operation status output/ Alarm output

COMBINATION TABLE FOR PACi SINGLE OUTDOOR UNIT

Combination shown in below table is available for PACi single system

Power	Size	PACi Standard	PACi Elite	AHU kit
Single phase	5.0 kW		U-50PE1E5	CZ-280PAH1 (Common use for all outdoor units. Only 1 by 1 connection is allowed.)
	6.0 kW	U-60PEY1E5	U-60PE1E5	
	7.1 kW	U-71PEY1E5	U-71PE1E5	
	10.0 kW	U-100PEY1E5	U-100PE1E5	
	12.5 kW	U-125PEY1E5	U-125PE1E5	
Three phase	14.0 kW		U-140PE1E5	
	7.1 kW		U-71PE1E8	
	10.0 kW	U-100PEY1E8	U-100PE1E8	
	12.5 kW	U-125PEY1E8	U-125PE1E8	
	14.0 kW	U-140PEY1E8	U-140PE1E8	
	20.0 kW		U-200PE1E8	
	25.0 kW		U-250PE1E8	

* Additional notice/instruction for system design, installation work will be defined for PAC-i connection.









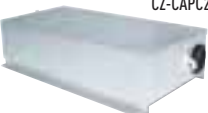



Control Systems for PACi

A wide variety of control options to meet the requirements of different applications.
More information P.302.

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) CZ-RTC2	Wireless Remote Controller CZ-RWSU2 CZ-RWSY2 CZ-RWSL2 CZ-RWSC2 CZ-RWST2 CZ-RWSK2	Simplified Remote Controller CZ-RE2C2	Backlight remote controller CZ-RELC2	Schedule Timer CZ-ESWC2
Built-in Thermostat	✗	✗	✗		
N. of I/O 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.	· CZ-RE2C2: up to 2 controllers can be connected per group. · CZ-RELC2: can not operate other (SUB) remo-con.	· Required power supply from the system controller · When there is no system controller, connection is possible to the T10 terminal of an indoor unit.	
Function ON/OFF	✗	✗	✗	—	
Mode setting	✗	✗	✗	—	
Fan speed setting	✗	✗	✗	—	
Temperature setting	✗	✗	✗	—	
Air flow direction	✗	✗ ¹	✗ ¹	—	
Permit/Prohibit switching	—	—	—	—	
Weekly program	✗	—	—	✗	

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.

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	BMS System. PC Base	Connection with 3rd Party Controller
			<p>P-AIMS. Basic Software</p>  <p>CZ-CSWKC2</p>	<p>Seri-Para I/O unit for outdoor unit CZ-CSWKC2</p> 
<p>System Controller</p>	<p>ON/OFF Controller</p>	<p>Intelligent Controller (Touch screen panel)</p>	<p>CZ-CSWKC2</p>	<p>Seri-Para I/O unit for outdoor unit CZ-CSWKC2</p>
<p>CZ-64ESMC2</p>	<p>CZ-ANC2</p>	<p>CZ-256ESMC2 (CZ-CFUNC2)</p>	<p>Optional software</p> 	<p>Local adaptor for ON/OFF control CZ-CAPC2</p> 
<p>—</p>	<p>—</p>	<p>—</p>	<p>—</p>	<p>—</p>
<p>64 groups, max. 64 units</p> <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. 	<p>16 groups, max. 64 units</p> <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. 	<p>64 units x 4 systems, max. 256 units</p> <ul style="list-style-type: none"> A communication adaptor (CZ-CFUNC2) must be installed for three or more systems. 	<p>CZ-CSWAC2 for Load distribution. CZ-CSWWC2 for Web application. CZ-CSWGC2 for Object layout display. CZ-CSWBC2 for BAC net software interface. *PC required (field supply)</p>	<p>MINI Seri-Para I/O Unit CZ-CAPBC2</p> 
<p>×</p>	<p>×</p>	<p>×</p>	<p>Web Interface Systems CZ-CWEBC2 *PC required (field supply)</p> 	<p>Communication Adaptor CZ-CFUNC2</p> 
<p>×</p>	<p>—</p>	<p>×</p>		
<p>×</p>	<p>—</p>	<p>×</p>		
<p>×</p>	<p>—</p>	<p>×</p>		
<p>×¹</p>	<p>—</p>	<p>×¹</p>		
<p>×</p>	<p>×</p>	<p>×</p>		
<p>—</p>	<p>—</p>	<p>×</p>		

INTERNET CONTROL. CONTROL YOUR AIR CONDITIONING SYSTEM WITH YOUR SMART DEVICE -SMARTPHONE & INTERNET FOR PACI



Internet Control Ready
CONTROL YOUR AIR CONDITIONING FROM EVERYWHERE
INTERNET CONTROL

Reference PA-RC2-WIFI-1



KX-UT670 Smart Desktop Phone from Panasonic.

Control your comfort and efficiency with the lowest energy consumption

What's Internet Control?

Internet Control is a next generation system providing a user-friendly remote control of air conditioning or heat pump units from everywhere, using a simple Android or iOS smartphone, tablet or PC via internet.

Simple Installation

Just connect the Internet Control device to the air conditioner or heat pump with the supplied wire and then link it to your WIFI Access point.

Internet Control. Easy to install. Maximum benefit

Internet Control is underlined with the slogan "Your home in the cloud", meaning a simple and easy to handle solution has been considered for every user to manage the device, not requiring any communication or computer skills.

No servers. No adaptors. No wires. Just a small box is needed to be connected and placed close to the air conditioning indoor unit... and your smartphone, tablet or PC.

Start the App from your smartphone device, your tablet or your computer, and enjoy a new experience in comfort. An intuitive and user-friendly application on the screen of your smartphone or PC that lets you manage the air conditioning unit in the same way you do with the remote controller. Internet Control can be downloaded in Apple's AppStore and Android's PlayStore.

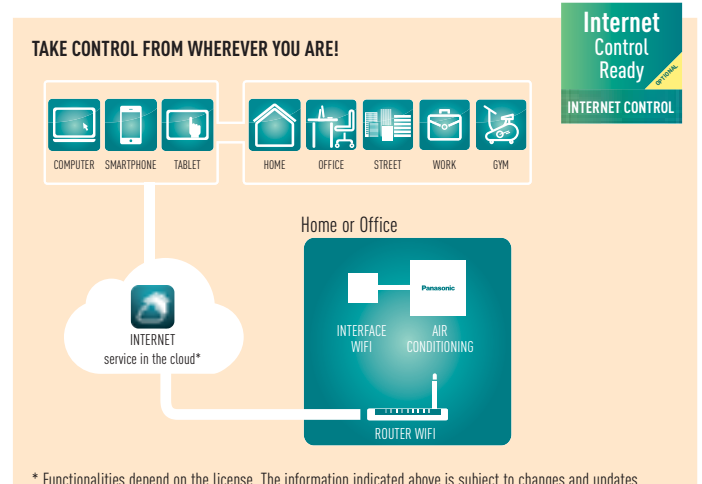
Control your air conditioning with the smart internet control device via smartphones, tablet, PC and smart desktop phone via internet

Offering the same functions as if you were at home or office: start/stop, Mode Operation, Set Temperature, Room Temperature etc as well as the new, advanced functionality provided by Internet Control to achieve the best comfort and efficiency with the lowest energy consumption.



Study Case. Alice, Shop Owner

"I want maximum comfort and the best savings for my shop. And I manage to get these in the easiest and most natural way possible. From my smartphone, something I always carry with me, I can control the temperature of my shop and in this way, as well as maintaining an ideal temperature I also save a small fortune in electricity at the end of the year."



Internet Control Ready
INTERNET CONTROL

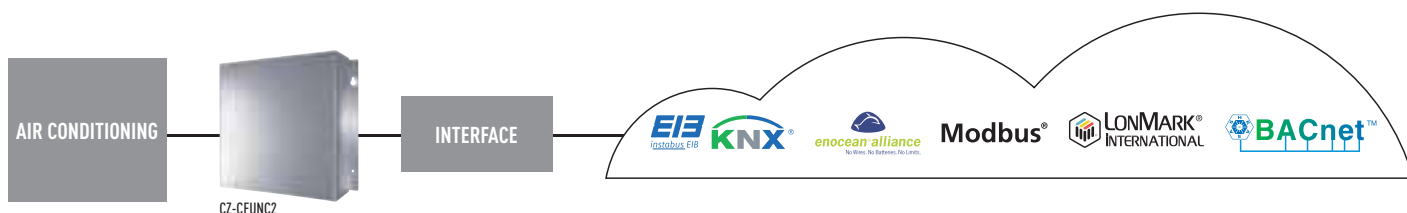
* Functionalities depend on the license. The information indicated above is subject to changes and updates.

PACi CONNECTIVITY. EASY CONNECTION TO KNX, ENOCEAN, MODBUS, LONWORKS AND BACNET



Easy control by BMS
CONNECTIVITY

Panasonic Partners have designed solutions specifically for Panasonic air conditioners, and provide complete monitoring, control and full functionality of the entire Commercial line-up from KNX / EnOcean / Modbus / LonWorks / BACnet installations. Great flexibility for integration into your KNX / EnOcean / Modbus / LonWorks / BACnet projects allows fully bi-directional monitoring and control of all the functioning parameters. For more information, contact Panasonic.



	PANASONIC MODEL NAME	INTERFACE	CONNECTED ON P-LINK OR IN THE INDOOR UNIT	MAX NUMBER OF INDOOR UNITS CONNECTED
ECOi / PACi indoor units	PAW-RC2-KNX-1i	KNX	Indoor unit	1 (1 Group of Indoor units)
	PAW-RC2-MBS-1	Modbus RTU*	Indoor unit	1 (1 Group of Indoor units)
	PAW-RC2-ENO-1i	EnOcean	Indoor unit	1 (1 Group of Indoor units)
	PA-RC2-WIFI-1	IntesisHome	Indoor unit	1 (1 Group of Indoor units.)

* Interface Modbus RTU/TCP is needed

Communication adaptor (CZ-CFUNC2)

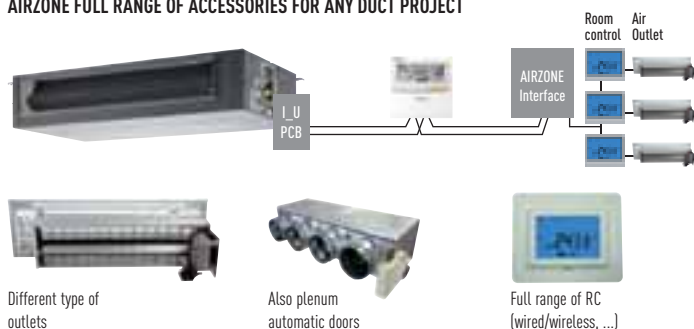
This communication interface is required to connect a ECOi and GHP systems to a BMS. An additional interface is needed to convert the information into KNX/Modbus/Bacnet language. CZ-CFUNC2 is very easy to operate and to connect to the Panasonic P-link, which is the ECOi bus. From the CZ-CFUNC2, all the indoor and outdoor units of the installation can be easily control. Two linked wiring systems can be connected to one CZ-CFUNC2. Dimensions: H 260 x W 200 x D 68 mm

* As this is not a splash-proof design, it must be installed indoors or in the control panel, etc.

AIRZONE. CONTROL OF THE PACI HIDE AWAYS

Airzone has developed interfaces to easily connect to Panasonic PACi Hide Away units. Ensuring optimum performance, comfort and energy savings, the new system is efficient and easy to install.

AIRZONE FULL RANGE OF ACCESSORIES FOR ANY DUCT PROJECT



Interface dimensions: 120 x 25 x 65 cm (W x H x D). Interfaces must be purchased direct from Airzone.

AIRZONE



PACi Connectivity indoor units

T10 connector (CN015)

PCB'S AND CABLES FOR PACi/VRF INDOOR UNITS		
NAME OF THE CABLES	FUNCTION	COMMENT
CZ-T10	All T10 functions	Requires field supplied accessory
PAW-FDC	Operate external fan	Requires field supplied accessory
PAW-OCT	All option monitoring signals	Requires field supplied accessory
PAW-EXCT	Forced Thermo OFF/Leakage D.	Requires field supplied accessory
NAME OF THE PCB	FUNCTION	COMMENT
PAW-T10	All T10 functions	Allows easy connection "Plug & Play"
PAW-T10V	All T10 functions + powermonitoring	Same like PAW-T10 + monitoring the power supply of indoor unit
PAW-T10H	ON/OFF; Prohibit 5VDC & 230VAC	Specials for single hotel card or window contact
PAW-T10HW	ON/OFF; Prohibit 5VDC	For hotel card + window contact at same time
PAW-PACR2	Redundancy of 2 systems; T monitor	Redundancy of 2 PACi systems including temperature monitoring an equal operating time
PAW-PACR3	Redundancy of 3 systems; T monitor	Redundancy of 3 PACi systems including temperature monitoring an equal operating time
PAW-ECF	Fan speed control external EC fan	For external production Air Curtain units allow the EC fan control by standard VRF IU PCB

CZ-T10: Panasonic has developed an optional accessory (consisting of plug + wires) called CZ-T10 to enable an easy connection to this T10 connector.



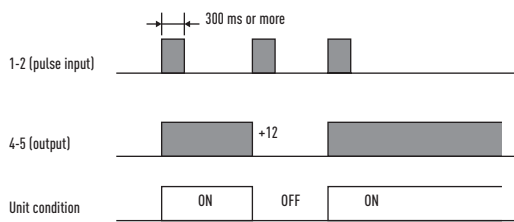
Connecting an ECOi indoor unit to an external device is easy. The T10 terminal featured in the electronic circuit board of all indoor units enables digital connection to external devices.

EXAMPLE OF APPLICATIONS



T10 terminal Specification (T10: CN015 at indoor unit PCB)

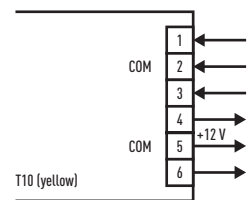
- Control items:
 1. Start/stop input
 2. Remote controller prohibit input
 3. Start signal output
 4. Alarm signal output



NOTE: The wire length from indoor unit to the Relay must be within 2.0 m. Pulse signal changeable to static with JP cutting. (Refer to JP001)

- Condition
 - 1-2 (Pulse input): Unit ON/OFF condition switching with a pulse signal. (1 pulse signal: shortage status more than 300 msec. or more)
 - 2-3 (Static input): Open / Operation with Remote is permitted. (Normal condition) Close / Remote controller is prohibited.
 - 4-5 (Static output): 12 V output during the unit ON. / No output at OFF.
 - 5-6 (Static output): 12 V output when some errors occur / No output at normal.

Example of wiring

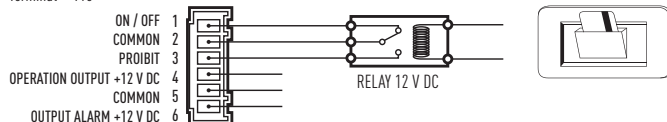


Usage Example Forced OFF control

Term 1 & 2: Free contact for ON/OFF signal (cut *JP1* for static signal) when the hotel card is it connected the contact must be close (the unit can be used).

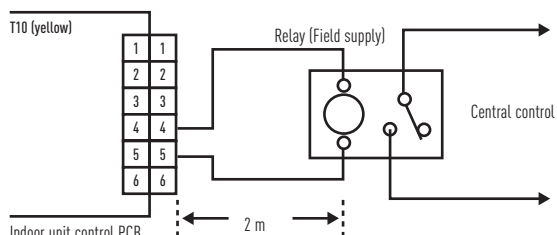
Term 2 & 3: Free contact to prohibit all function in the remote controller install in the room when the hotel card is it removed the contact must be closed (the unit can not work).

Terminal = T10



Operation ON/OFF signal output

- Condition:
 - 4-5 (Static output): 12 V output during the unit ON / No output at OFF
- Example of wiring



NOTE: The wire length from indoor unit to the Relay must be within 2.0 m. Pulse signal changeable to static with JP cutting. (Refer to JP001)

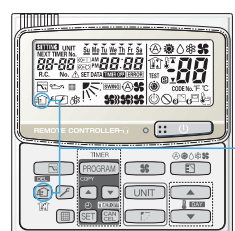
Fan Drive Connector (CN017)

PAW-FDC: Panasonic has developed an optional accessory (consisting of plug + wires) called PAW-FDC to enable an easy connection to this Fan Drive Connector (CN017).



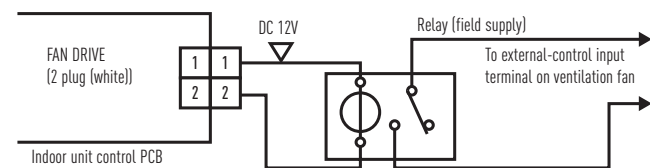
Operating the ventilation fan from the remote controller

- Start / stop of external ventilation and total heat exchanger fans
- Works even if indoor unit is stopped
- In case of group control → all fans will operate; no individual control



EXTERNAL FAN ON / OFF

Ventilation button



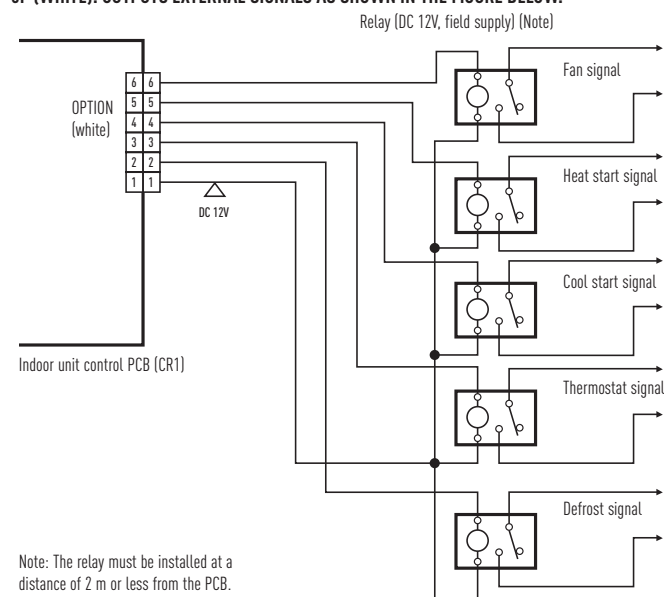
Option Connector (CN060) Output external signals



PAW-OCT: Panasonic has developed an optional accessory (consisting of plug + wires) called PAW-OCT to enable an easy connection to this Option Connector (CN060).

With the combination of the T10 and the option CN060 an external control of the I_U is possible!

6P (WHITE): OUTPUTS EXTERNAL SIGNALS AS SHOWN IN THE FIGURE BELOW.



EXCT Connector (CN009)

PAW-EXCT: Panasonic has developed an optional accessory (consisting of plug + wires) called PAW-EXCT to enable an easy connection to this EXCT Connector (CN009).

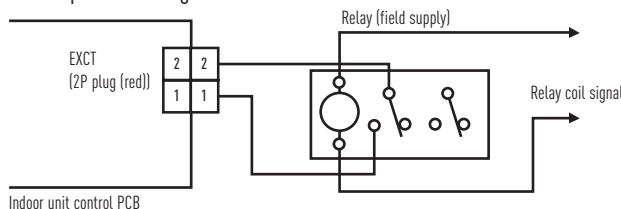
A) With static input

→ STATIC INPUT → THERMO OFF → ENERGY SAVING

2P plug (red): Can be used for demand control. When input is present, forces the unit to operate with the thermostat OFF.

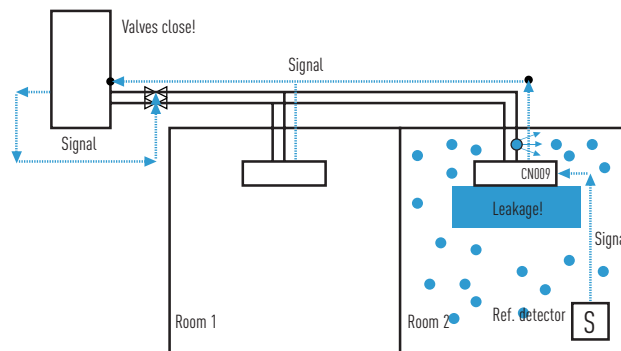
Note: The length of the wiring from the indoor unit control PCB to the relay must be 2m or less.
* Lead wire with 2P plug (special—order part: WIRE K/854 05280 75300)

- Examples of wiring:



B) Example: In connection with a refrigerant sensor

- Signal from leakage detector: non voltage, static.
- Indoor unit setting: Code 0b → 1
- Connector for leak detector: EXCT
- Outdoor unit setting:
 - Code C1 → 1 power output if alarm from O2 connector 230 V
 - Code C1 → 2 power output if alarm from O2 connector 0 V
- Displayed alarm message P14





Possible to use on R22 pipings

R22 RENEWAL

R22 Renewal. 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 from Jan 1st 2010 the use of Virgin (new) R22 refrigerant was 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 has 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 PACi systems; and depending upon certain restrictions we don't

even limit the manufacturer's 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



Reuse of existing piping (Renewal Design & Installation)

Notes on Reuse of Existing Refrigerant Piping

It is possible for each series of PE1 type and PEY1 type outdoor unit to reuse the existing refrigerant piping without cleaning when obtained a certain condition. Make sure that the requirements under the section "Notes on Reuse of Existing Refrigerant Piping", "Measurement Procedure for Renewal" and "Refrigerant Piping Size and Allowable Piping Length" will be satisfied in order to carry out .

Also, check the items with regard to section "Safety" and "Cleaning".

1. Prerequisite

- If the refrigerant used for the existing unit is other than R22, R407C and R410A, the existing refrigerant piping cannot be used.
- If the existing unit has another use than air conditioning, then existing refrigerant piping cannot be used.

2. Safety

- If there is a hollow, crack or corrosion on the piping, make sure to install new piping.
- If the existing piping is other than capable of reuse of piping as shown in the flowchart, make sure to install new piping.
- In case of multiple operation type, use our genuine branch piping for refrigerant R410A.

A local supplier shall assume responsibility for the defects and hollows on the reuse of existing piping surface and recognition of reliability of the piping strength. There is no guarantee that we take responsibility for such damages.
The operational pressure of the refrigerant R410A becomes higher compared to R22. In the worst case, a lack of compressive strength may lead to piping explosion.

3. Cleaning

- When the refrigerant oil used for the existing unit is other than the listed below, make sure to install new piping or wash it thoroughly before reusing it.
[Mineral Oil] SUNISO, FIORE S, MS
[Synthesized oil] alkyl benzene oil (HAB, parallel freeze), ester oil, ether oil (PVE only)

If the existing unit is GHP type, it is necessary to wash the piping thoroughly.

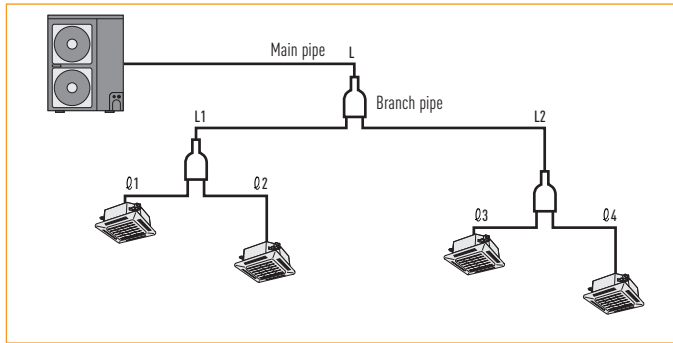
- If the existing pipes in the outdoor and indoor units remain disconnected, make sure to install a new piping or wash it thoroughly before reusing it.
- If the discolored oil or residue remains in the existing piping, make sure to install a new piping or wash it thoroughly before reusing it. See "Deterioration Criteria for Refrigerant Oil" in table 3.
- If the compressor of the existing air conditioner has a failure history, make sure to install a new piping or wash it through thoroughly before reusing it.

When reusing the existing piping as it is without removing dirt and dust, inadequate piping could result a renewal appliance in failure.

Notes on Renewal for Simultaneous Operation of Multiple Units

Only main pipe is applicable for using the different diameter size. In case of different diameter size for the branch pipes, a new installation work for a standard size is necessary.

Be sure to use our genuine branch piping for refrigerant R410A.



- Only the main pipe L can be used among different diameter's existing piping.
- Installation work as a standard size is capable for L1, L2, L1 - L4 piping.
- Be sure to use our genuine branch piping for refrigerant R410A.

1. In case of single unit

It is not necessary to charge with additional refrigerant until the charge less pipe length in the table 2.

If the pipe length is exceeding the charge less pipe length, charge with additional refrigerant amount per 1 m according to the equivalent length.

2. In case of simultaneous operation of multiple units

Calculate the refrigerant charging amount according to the calculating method of the standard piping diameter.

As to the additional refrigerant charging amount per 1 m, refer to the additional amount in the table 2.

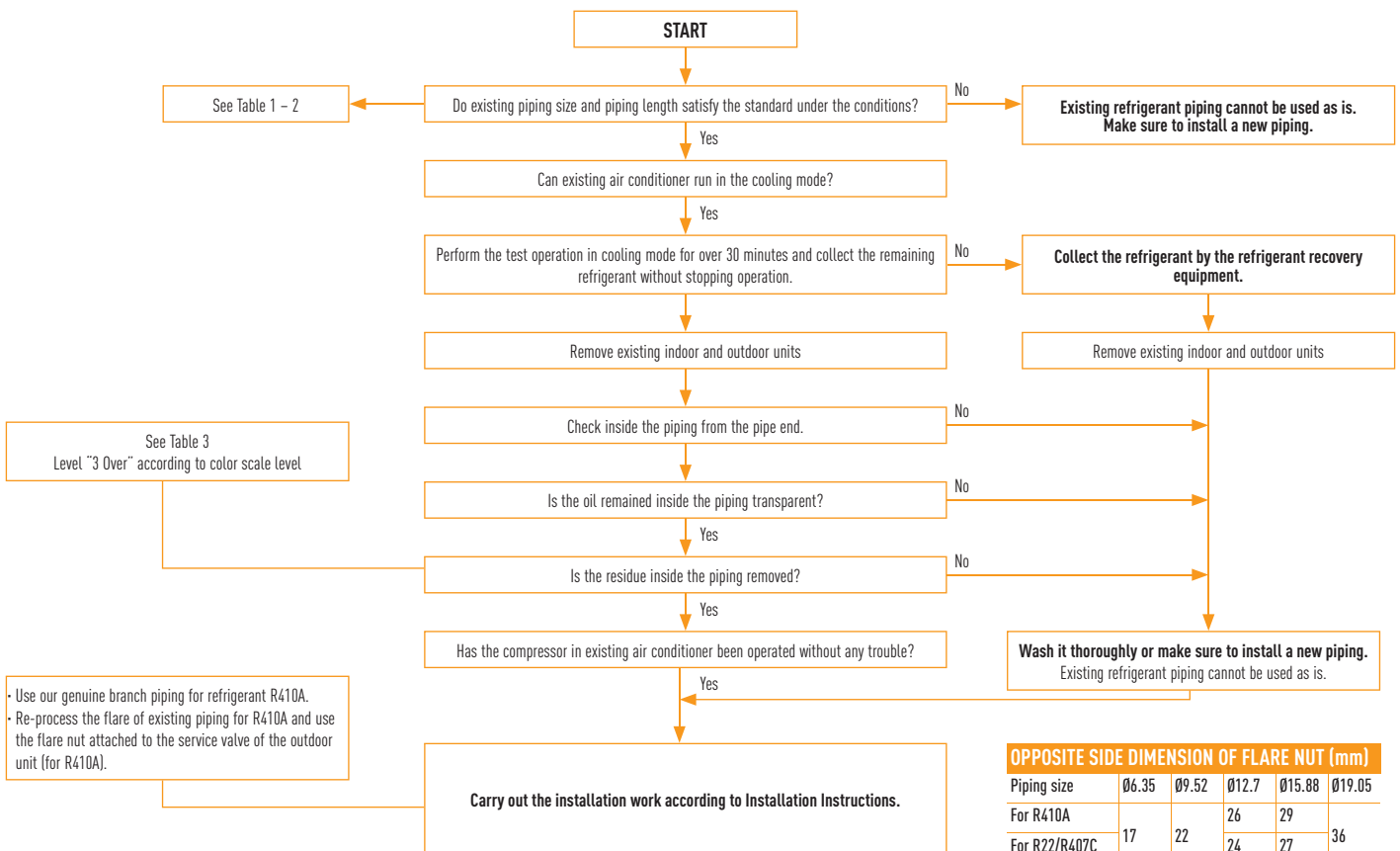
NOTES ON RENEWAL FOR SIMULTANEOUS OPERATION OF MULTIPLE UNITS

Capacity class	Standard piping size	
	Liquid pipe	Gas pipe
Type 50	Ø6.35	Ø12.7
Type from 60 to 140	Ø9.52	Ø15.88
Type 200	Ø9.52	Ø25.4
Type 250	Ø12.7	

Measurement Procedure for Renewal

Observe the following procedure when reusing the existing piping or carrying out renewal installation work.

Flowchart of Existing Piping Measures Criteria for PE1 Type and PEY1 Type Outdoor Unit



Refrigerant Piping Size and Allowable Piping Length

Check if reuse of existing refrigerant piping is possible based on the following chart.

The standards other than this one (difference of elevation, etc.) are identical to the requirements of ordinary refrigerant piping.

TABLE 1 REUSABLE EXISTING PIPING (mm)								
Material	0				1/2 H, H*			
External diameter	Ø6.35	Ø9.52	Ø12.7	Ø15.88	Ø19.05	Ø22.22	Ø25.4	Ø28.58
Thickness	0.80	0.80	0.80	1.00	1.00	1.00	1.00	1.00

* It is impossible to reuse the size of Ø19.05, Ø22.22, Ø25.4 and Ø28.58 for material O. Change to material 1/2H or material H.

TABLE 2 - 1 REFRIGERANT PIPING SIZE: 3.6 - 14.0 kW TYPE (mm)									
Liquid pipe		Ø6.35			Ø9.52			Ø12.7	
Gas pipe		Ø9.52	Ø12.7	Ø15.88	Ø12.7	Ø15.88	Ø19.05	Ø15.88	Ø19.05
PE	Type 50	✗	Standard 40 m (30 m)	⊙ 40 m (30 m)	□ 20 m (15 m)	□ 20 m (15 m)	✗	✗	✗
PEY	Type 60 Type 71	✗	▽ 10 m (10 m)	□ 10 m (10 m)	▽ 30 m (20 m)	Standard 50 m (20 m)	✗	□ 25 m (10 m)	✗
Additional refrigerant charging amount per 1 m		20 g/m			40 g/m			80 g/m	
PE	Type 60 Type 71	✗	▽ 10 m (10 m)	□ 10 m (10 m)	▽ 30 m (30 m)	Standard 50 m (30 m)	✗	□ 25 m (15 m)	✗
	Type 100 Type 125 Type 140	✗	✗	✗	✗	Standard 75 m (30 m)	⊙ 75 m (30 m)	□ 35 m (15 m)	□ 35 m (15 m)
PEY	Type 100 Type 125 Type 140	✗	✗	✗	✗	Standard 50 m (30 m)	⊙ 50 m (30 m)	□ 25 m (15 m)	□ 25 m (15 m)
Additional refrigerant charging amount per 1 m		20 g/m			50 g/m			80 g/m	

How to see table definition (example):

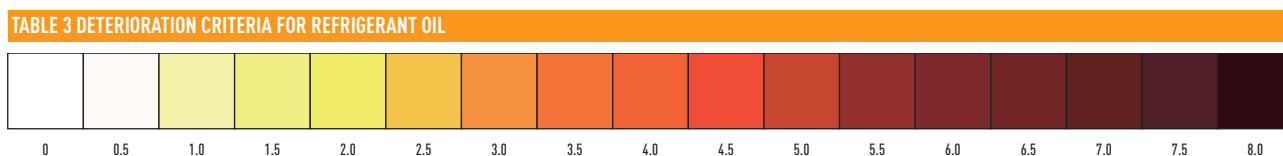
In case of type 71, standard size is liquid pipe Ø9.52 / gas pipe Ø15.88.

There is a limitation to liquid pipe Ø9.52 / gas pipe Ø12.7 and to liquid pipe Ø12.7 / gas pipe Ø15.88.

However, they are applicable for different diameter's pipes.

TABLE 2 - 2 REFRIGERANT PIPING SIZE: 20.0 - 25.0 kW TYPE (mm)										
Liquid pipe		Ø9.52			Ø12.7			Ø15.88		
Gas pipe		Ø22.22	Ø25.4	Ø28.58	Ø22.22	Ø25.4	Ø28.58	Ø22.22	Ø25.4	Ø28.58
PE	Type 200	▽ 80 m (30 m)	Standard 100 m (30 m)	⊙ 100 m (30 m)	▽ 50 m (15 m)	□ 50 m (15 m)	□ 50 m (15 m)	✗	✗	✗
	Type 250	✗	✗	✗	▽ 80 m (30 m)	Standard 100 m (30 m)	⊙ 100 m (30 m)	▽ 65 m (20 m)	□ 65 m (20 m)	□ 65 m (20 m)
Additional refrigerant charging amount per 1 m		40 g/m			80 g/m			120 g/m		

- ⊙ Allowable
- ▽ Cooling capacity down
- Limited piping length
- ✗ Unallowable
- 50 m Maximum piping length
- (50 m) Charge less piping length in a single connection



PKEA dimensions

Wall Mounted PKEA

TOP VIEW



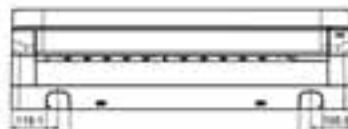
FRONT VIEW



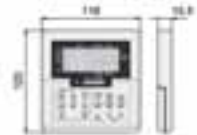
SIDE VIEW



BOTTOM VIEW

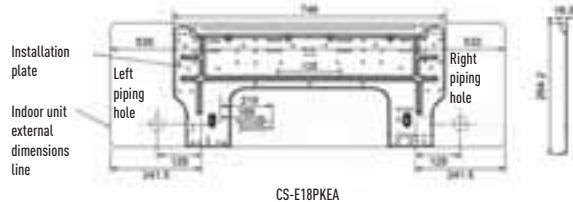
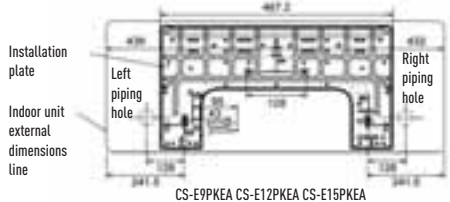


REAR VIEW

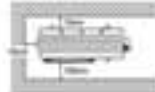


	A
CS-E9PKEA / CS-E12PKEA / CS-E15PKEA	870
CS-E18PKEA	1070

RELATIVE POSITION BETWEEN THE INDOOR UNIT AND THE INSTALLATION PLATE (FRONT VIEW)



Space necessary for installation



Anchor Bolt Pitch 330 x 540

SIDE VIEW



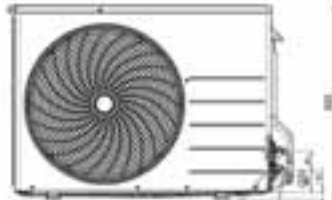
TOP VIEW



SIDE VIEW



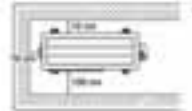
FRONT VIEW



2-way valve at liquid side (High Pressure)

3-way valve at gas side (Low Pressure)

Space necessary for installation



Anchor Bolt Pitch 383 x 612.5

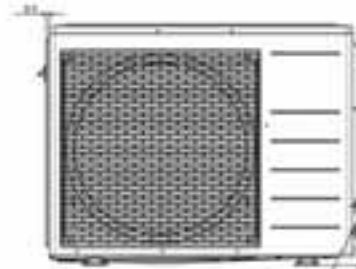
SIDE VIEW



TOP VIEW



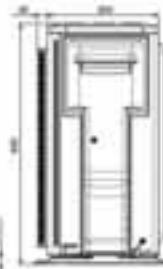
FRONT VIEW



2-way valve at liquid side (High Pressure)

3-way valve at gas side (Low Pressure)

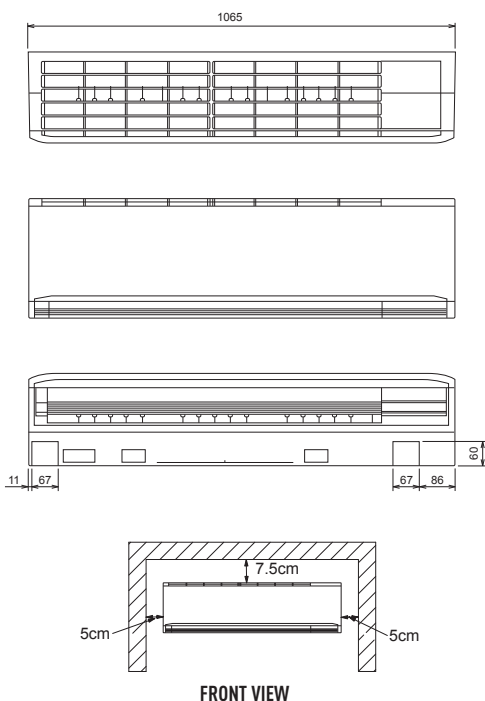
SIDE VIEW



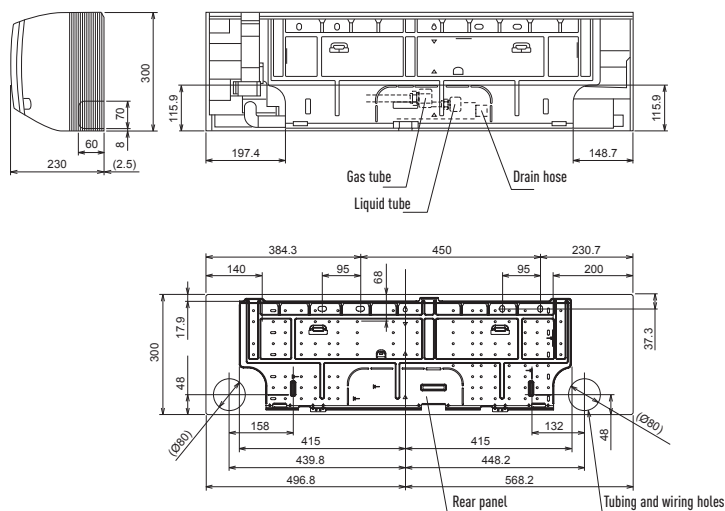
Unit: mm

PACi Standard and Elite dimensions

Wall

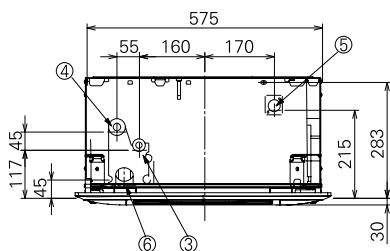
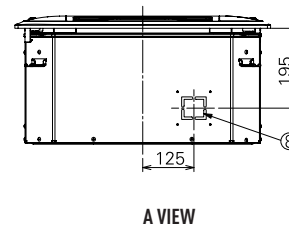
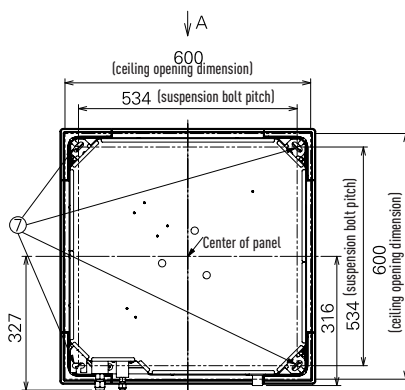
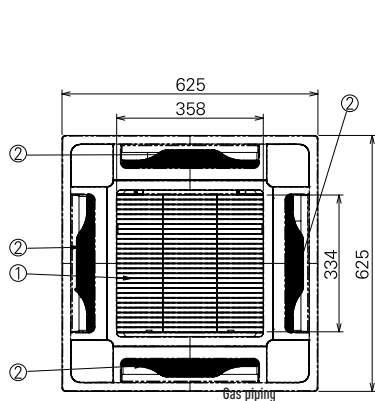


Type	36-50	60-71
Refrigerant tubing (liquid tube)	Ø6.35 (flared)	Ø9.52 (flared)
Refrigerant tubing (gas tube)	Ø12.7 (flared)	Ø15.88 (flared)
Drain hose VP13	outer dia. Ø18	
Rear panel	PL BACK	
Tubing and wiring holes	Ø80	



Unit: mm

4-Way 60x60 Cassette



- 1 Air intake
- 2 Discharge outlet
- 3 Refrigerant tubing (liquid tube) Ø6.35 (flared)
- 4 Refrigerant tubing (gas tube) Ø12.7 (flared)
- 5 Drain tube connection port VP20 (outer dia. Ø26)
- 6 Power supply port
- 7 Suspension bolt hole (4-12 x 30 hole)
- 8 Fresh air intake duct connection port (Ø100)

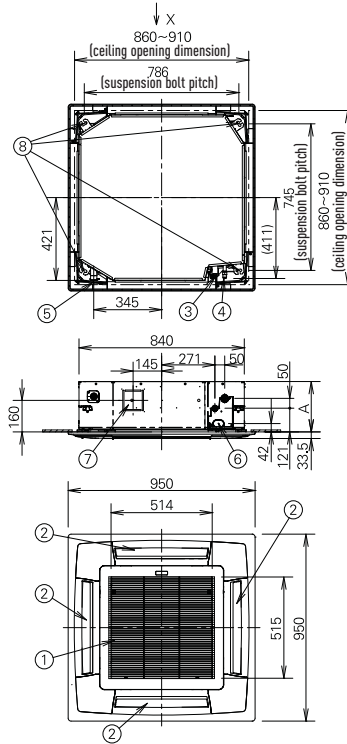
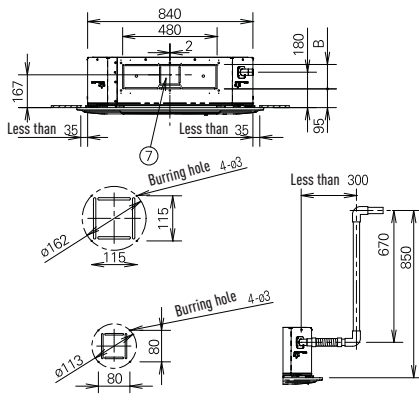
Unit: mm

PACi Standard and Elite dimensions

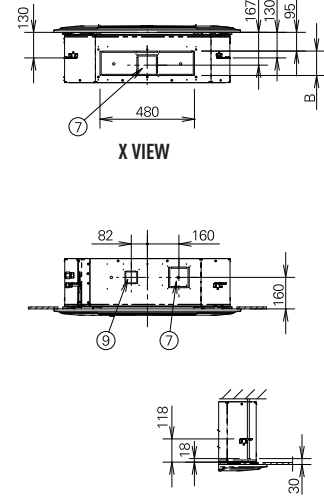
4 Way 90x90 Cassette

Type	36-50	60-140
1 Air intake grill		
2 Air discharge outlet		
3 Refrigerant piping (liquid pipes)	Ø6.35 (flared)	Ø9.52 (flared)
4 Refrigerant piping (gas pipes)	Ø12.7 (flared)	Ø15.88 (flared)
5 Drain outlet VP50	outer Ø32	
6 Power supply port		
7 Discharge duct	Ø150	
8 Suspension bolt hole	4-12x30 slot	
9 Fresh air intake duct connection port	Ø100 ¹	

1 Air inlet kit is necessary.
Filter size: 520 x 520 x 16



Type	36-71	100-140
A	256	319
B	124	187



Adjust the suspension bolt length so that the gap from the lower ceiling surface becomes 30 mm or more (18 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.

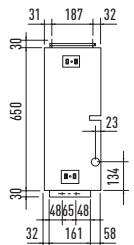
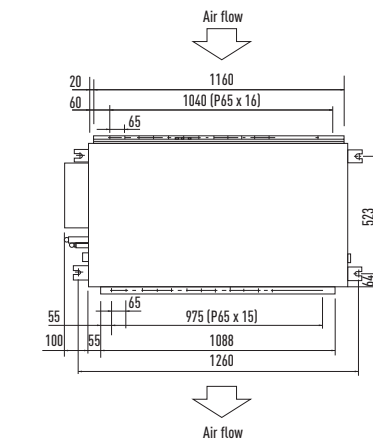
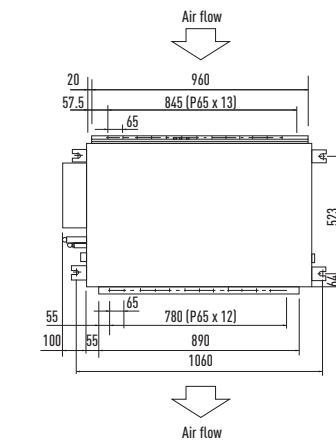
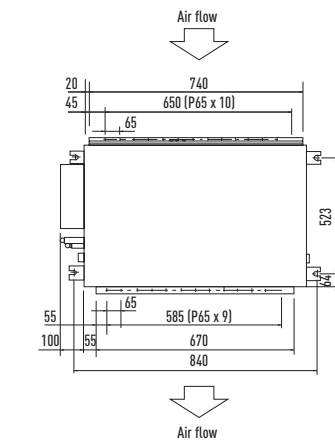
Unit: mm

Low Static Pressure Hide Away

S-36PN1E5 // S-45PN1E5 // S-50PN1E5

S-60PN1E5 // S-71PN1E5

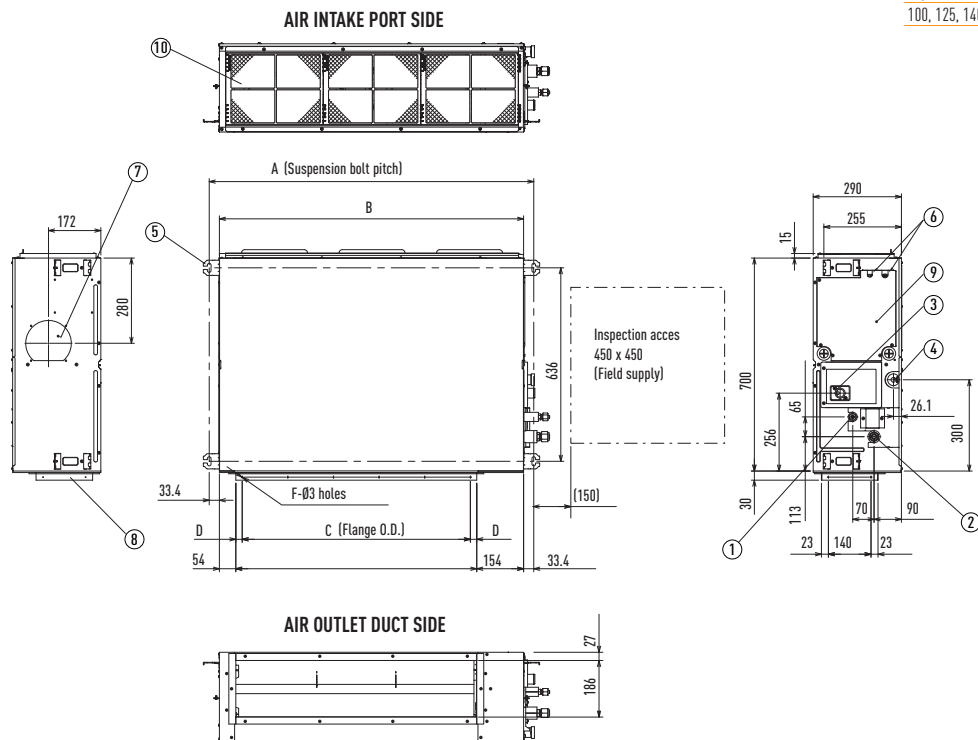
S-100PN1E5 // S-125PN1E5 // S-140PN1E5



Unit: mm

High Static Pressure Hide Away

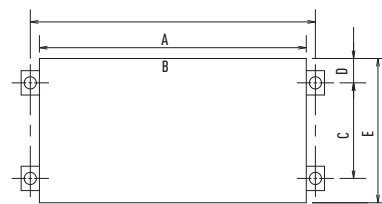
Type	A	B	C	D	E	F
36, 45, 50	867	800	450 (Pitch 150 × 3)	71	592	12
60, 71	1,067	1,000	750 (Pitch 150 × 5)	21	792	16
100, 125, 140	1,467	1,400	1,050 (Pitch 150 × 7)	71	1,192	20



- 1 Refrigerant tubing joint (liquid tube)
- 2 Refrigerant tubing joint (gas tube)
- 3 Upper drain port VP25 (O.D. 32 mm)
2 200 flexible hose supplied
- 4 Bottom drain port VP25 (O.D. 32 mm)
- 5 Suspension lug (4 - 12 × 30 mm)
- 6 Power supply outlet
- 7 Fresh air intake port (Ø150 mm)
- 8 Flange for flexible air outlet duct
- 9 Electrical component box
- 10 Filter

POSITION OF SUSPENSION BOLT

TYPE	A	B	C	D	E
36, 45, 50	840	780	523	64	650
60, 71	1060	1000	523	64	650
100, 125, 140	1260	1200	523	64	650



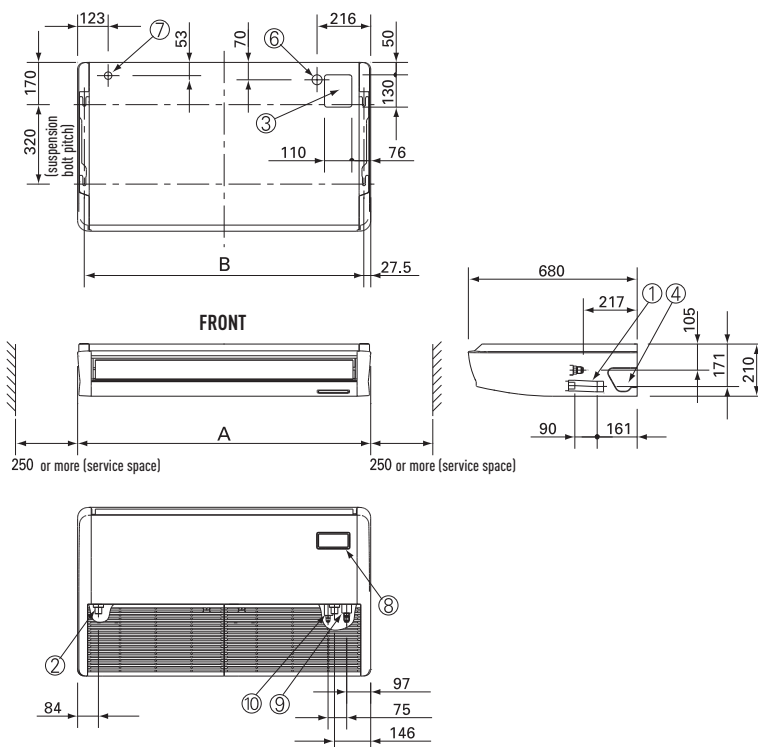
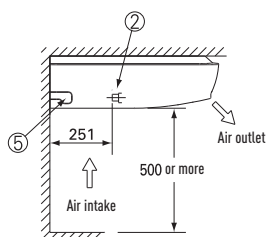
Unit: mm

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

Type	36-50	60-71	100-140
A (body)	910	1,180	1,595
B (suspension bolt pitch)	855	1,125	1,540

- 9 Refrigerant gas piping
Type 36 to 50: Ø12.7
Type 60 to 140: Ø15.88
- 10 Refrigerant liquid piping
Type 36 to 50: Ø6.35
Type 60 to 140: Ø9.52

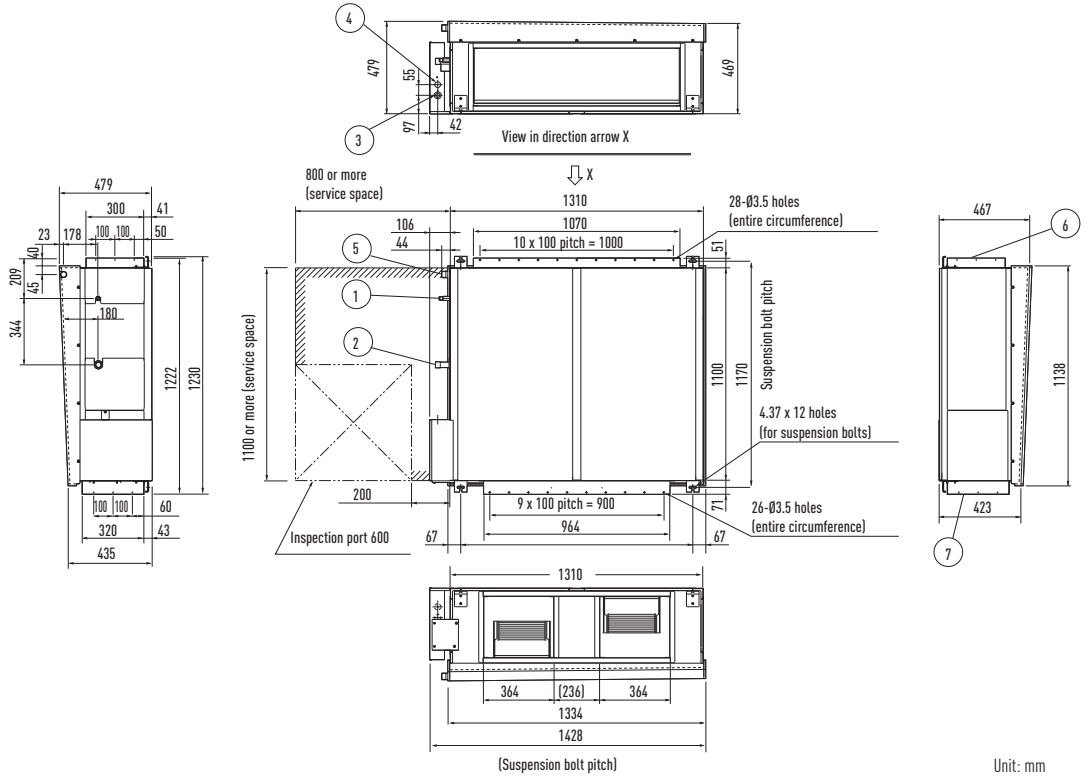


Unit: mm

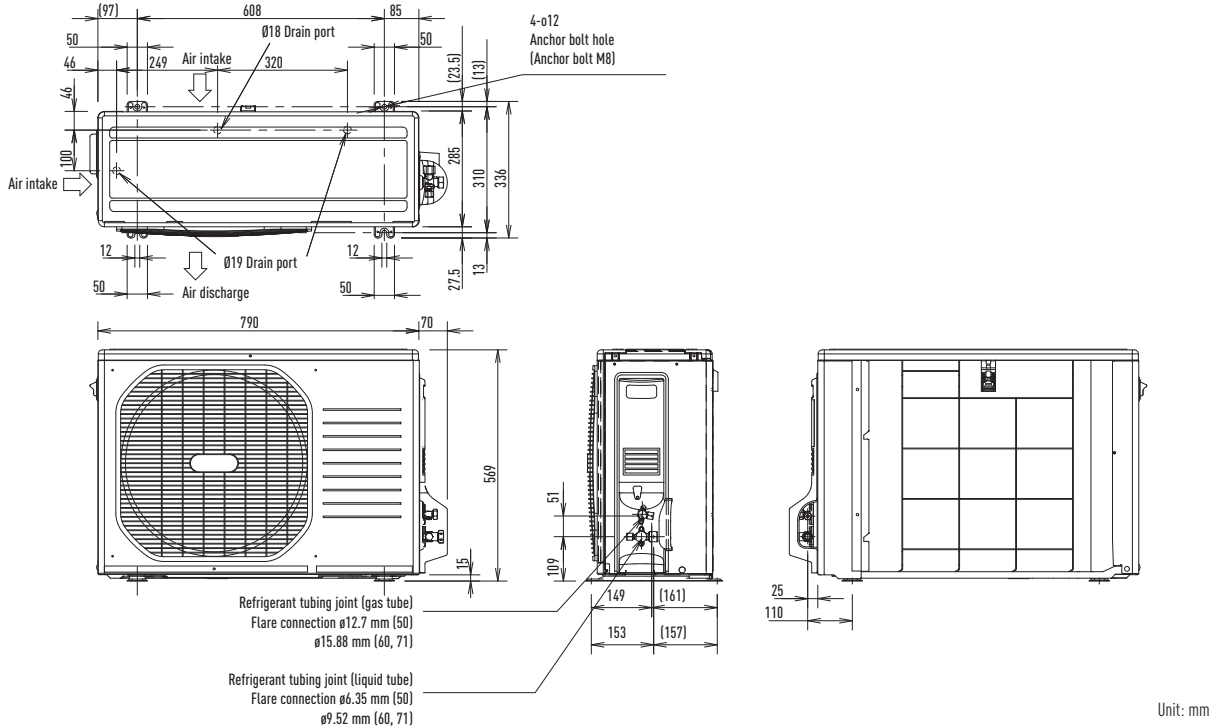
PACi Standard and Elite dimensions

High Static Pressure Hide Away 20.0-25.0 kW

- 1 Refrigerant piping (liquid pipes)
20.0 kW type: Ø9.52(With reducer Ø12.7-Ø9.52)
25.0 kW type: Ø12.7
- 2 Refrigerant piping (gas pipes) Ø25.4
- 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

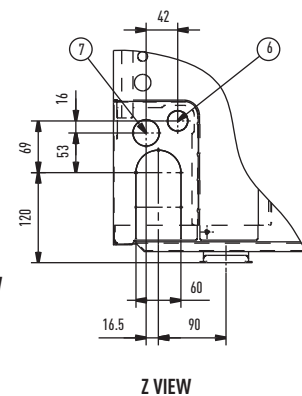
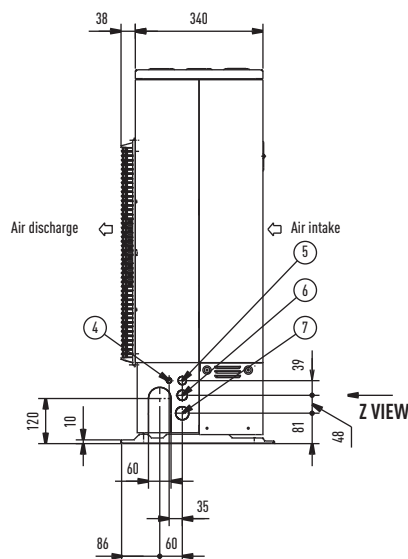
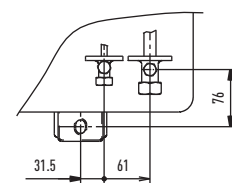
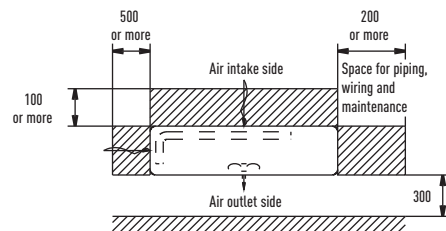
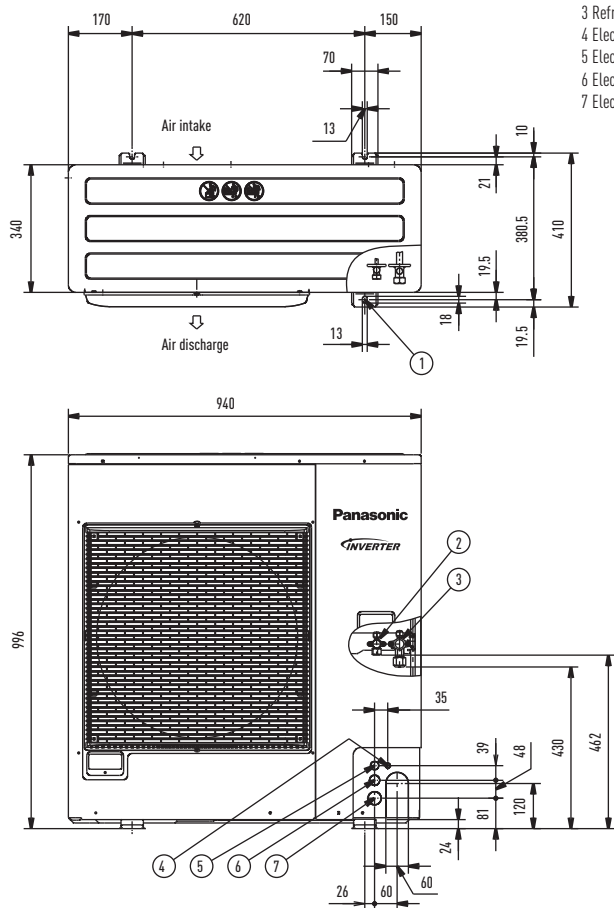


Outdoor Unit PACi Standard 6.0 and 7.1 kW and PACi Elite 5.0 kW



Outdoor unit PACi Standard 10.0 and 12.5 kW and PACi Elite 6.0 and 7.1 kW

- 1 Mounting hole (4-R6.5), anchor bolt : M10
- 2 Refrigerant piping (liquid pipe), flared connection (Ø9.52)
- 3 Refrigerant piping (gas pipe), flared connection (Ø15.88)
- 4 Electrical wiring port (Ø13)
- 5 Electrical wiring port (Ø22)
- 6 Electrical wiring port (Ø27)
- 7 Electrical wiring port (Ø35)

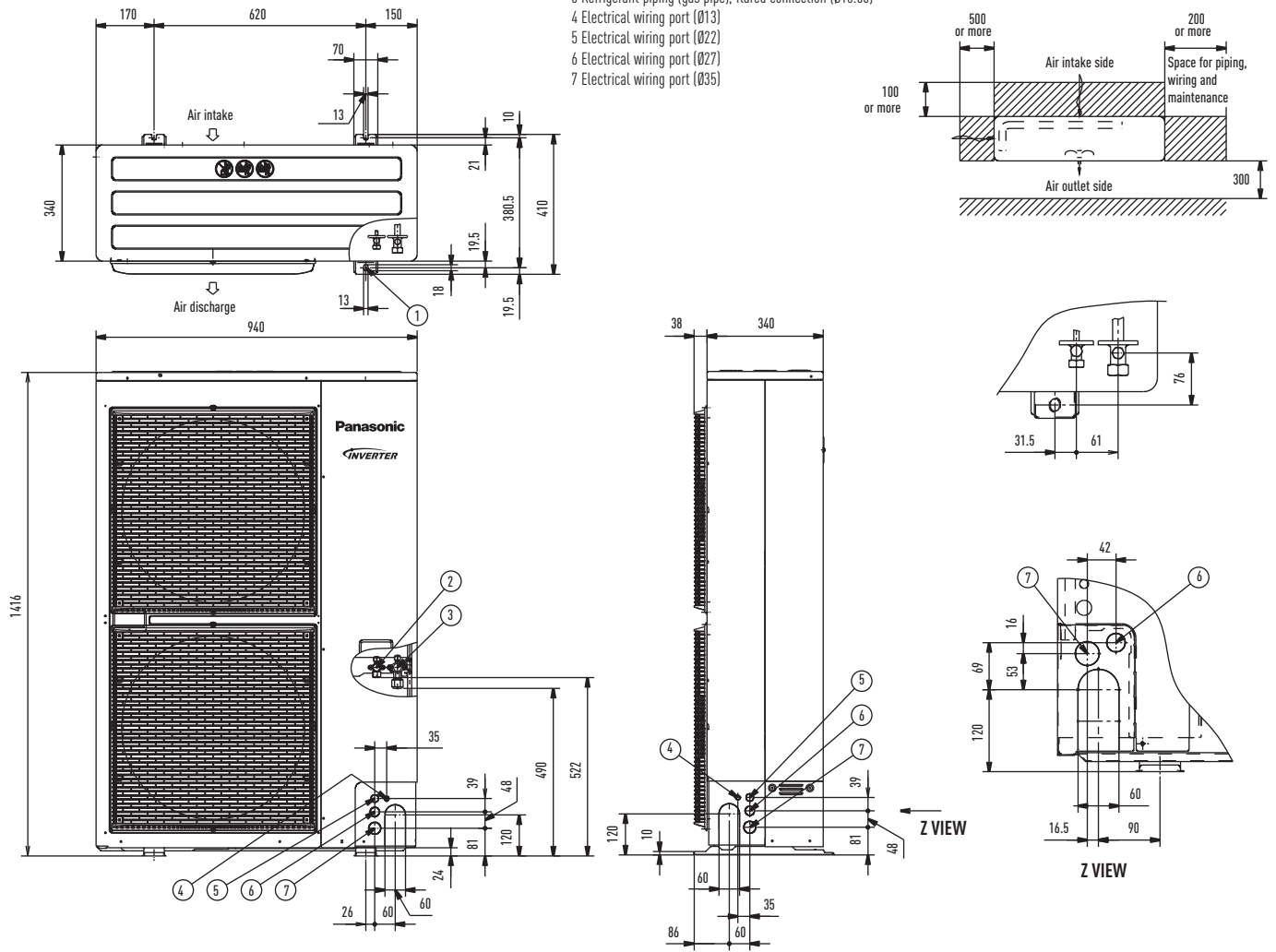


Unit: mm

PACi Standard and Elite dimensions

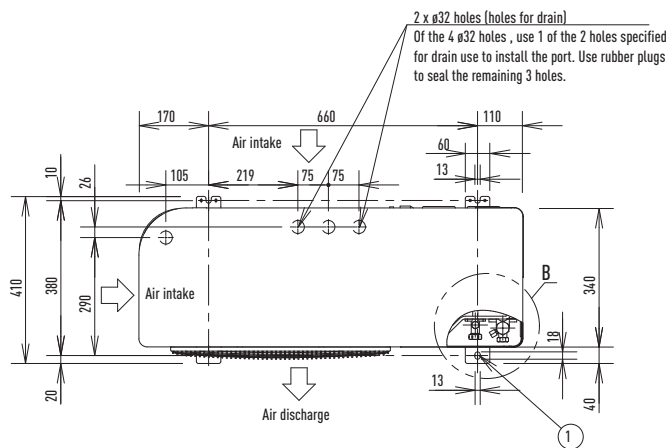
Outdoor unit PACi Standard 14.0 kW and PACi Elite from 10.0 to 14.0 kW

- 1 Mounting hole (4-R6.5), anchor bolt : M10
- 2 Refrigerant piping (liquid pipe), flared connection (Ø9.52)
- 3 Refrigerant piping (gas pipe), flared connection (Ø15.88)
- 4 Electrical wiring port (Ø13)
- 5 Electrical wiring port (Ø22)
- 6 Electrical wiring port (Ø27)
- 7 Electrical wiring port (Ø35)



Unit: mm

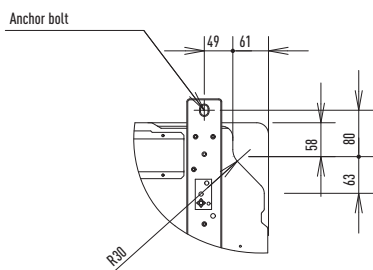
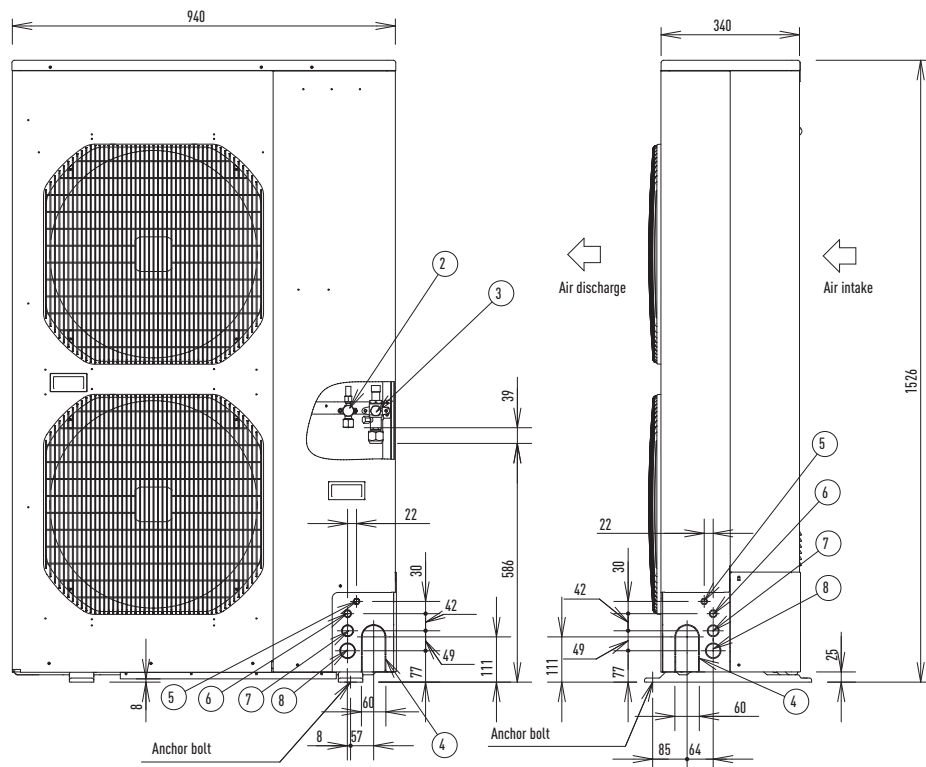
Outdoor unit PACi Elite 20.0 and 25.0 kW



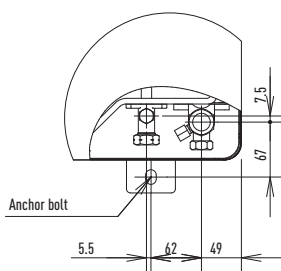
- 1 Mounting hole (4-R6.5), anchor bolt : M10
- 2 Refrigerant tubing (liquid tube), flared connection (20kW: $\phi 9.52$, 25kW: $\phi 12.7$)
- 3 Refrigerant tubing (gas tube), flared connection ($\phi 19.05$)
- 4 Refrigerant tubing port
- 5 Electrical wiring port ($\phi 16$)
- 6 Electrical wiring port ($\phi 19$)
- 7 Electrical wiring port ($\phi 29$)
- 8 Electrical wiring port ($\phi 38$)

Name	Figure	Q'ty
Reducing Joint Tube ($\phi 19.05 \rightarrow \phi 25.4$)		1
Joint Tube ($\phi 19.05$)		1

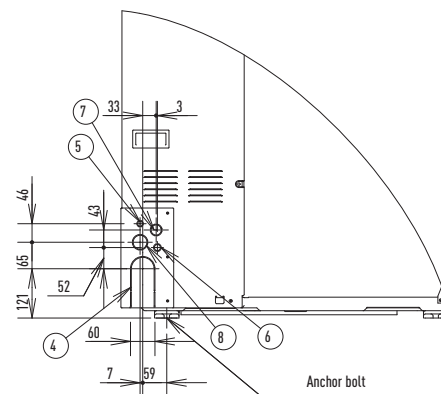
Remark:
There are two types of supplied tubings. The one tubing port $\phi 19.05$ (flare process) is connected to the flared connection of the gas port side's service valve. The other "L" shaped tubing port is brazed in connection after cutting the tube at the proper length. Then make a brazing connection to the main tubing ($\phi 25.4$).



VIEW A
Bottom removable connection port



VIEW B
Refrigerant tubing connection port



Unit: mm



NEW

THE NEW PANASONIC INDUSTRIAL VRF SYSTEMS

PROFESSIONAL SOLUTIONS FOR ALL TYPES OF PROJECTS

The new Panasonic VRF system 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.

A class energy saving

INVERTER+

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.

Energy saving

INVERTER+

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.

High savings

ECO G

GHP technology offer the best preliminary efficiency.

Maximum flexibility

VRF

VRF. The Inverter plus range provides greater efficiency.

Down to -25 °C in heating mode

OUTDOOR TEMPERATURE

The ECOi system works in heating mode at outdoor temperatures down to -25 °C (2-Pipe series) or -20 °C (3-Pipe series and Mini ECOi).

Easy control

CONNECTIVITY

The communication port is integrated into the indoor unit and provides easy connection to, and control of, your Panasonic heat pump to your home or building management system.

Environmentally friendly refrigerant

R410A

R410A. Environmentally friendly refrigerant.

5 year compressor warranty

5 YEARS WARRANTY. We guarantee the compressors in the entire range for five years.



FS MULTI

FS Multi VRF

The FS Multi VRF lineup is a full Electrical VRF line up specially designed for small to medium installations.

Benefits:

- Easy to install units
- No additional gas needed (for 4, 5 and 6 HP)
- Indoor units match Ethera wall mounted designs
- Self diagnostic function with 7-digit code for easy set up and repair

Example applications:

1. Apartments
2. Bungalows
3. Offices
4. Shops & Boutiques

ECO i

Mini ECOi

The Mini ECOi VRF lineup is a high efficiency electrical VRF.

Benefits:

- High efficiency outdoor units
- Compatible with all ECOi indoors units
- Compatible with all remote controls/interfaces from the ECOi range
- Flexible connection to ECOi projects

Example of ECOi and MiniECOi applications:

1. Complexes // 2. High Rise Buildings //
3. Commercial Buildings // 4. Hotels

ECOi

ECOi electrical VRF is specifically designed for the most demanding offices and big buildings.

Benefits:

- High efficiency system
- From 8 to 20 HP in only one chassis
- Extended operating range to provide heating at outdoor temperature as low as -25 °C
- Suitable for refurbishment projects

ECO G

ECO G

ECO G gas VRF is specially designed for buildings where the electricity is restricted or CO₂ emissions must be reduced.

Benefits:

- Very high preliminary efficiency ratio
- Very low electrical consumption
- Compatible with all ECOi indoor units and remote controls
- Sanitary hot water is produced freely in summer

Example applications:

1. Complexes
2. High Rise Buildings
3. Commercial Buildings
4. Hotels



FS MULTI VRF FROM PANASONIC



Easy to install VRF, specially designed for homes and small commercial buildings: large lineup of indoor units, Ethera wall mounted design, 5-6-8-10 HP outdoor units, single phase and three phase.

FS Multi VRF'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, home, 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 VRF air conditioning.

FS MULTI

U-5LA1E5 // U-6LA1E5

For homes and multi-storey apartments.
Enabling air conditioning in multiple rooms with a single outdoor unit.



U-8EA1E8 // U-10EA1E8

Offices, shops and boutiques.
As well as being ideal for new buildings.



FS Multi VRF from Panasonic

- Total freedom of choice. Up to 30 different indoor models. Gives you the freedom to choose the best option depending on architectural needs and interior decor criteria.
- Two single-phase outdoor unit ratings: 5 and 6 HP
- Two three-phase outdoor unit ratings: 8 and 10 HP
- 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 HP).
- 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.

Energy Saving Inverter

All the models of Panasonic FS Multi VRF series are equipped with DC inverter compressor for the higher EER operation. The new design, not only helps to achieve improved quiet and high-efficiency operation, but also reduces running costs.

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 VRF features Panasonic's original high-performance compressor to ensure outstanding performance and quality.

High-Efficiency Compressor

Panasonic has achieved a more compact motor by using a powerful neodymium (rare-metal) magnet. Higher efficiencies are possible thanks to the smaller magnetic field distortion of the winding rotor motor.

Pump-Down Mode (5 and 6 HP)

The 5 and 6 HP FS Multi VRF outdoor units incorporate a pump-down mode, making it possible to drain all of the refrigerant from the installation (not just from the external unit). This facilitates improved installation and maintenance routines.

Refrigerant Charge-free System On the 5 and 6 HP

The FS Multi VRF 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 90 m. 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.

System advantages. Installation and maintenance flexibility

The FS Multi VRF 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.

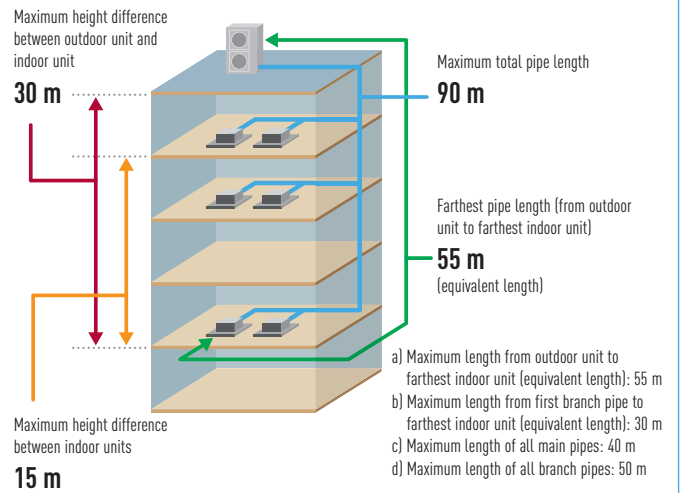
OUTDOOR UNITS

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-storey residences. And we offer a wide range of indoor unit designs to choose from to complement different interiors.

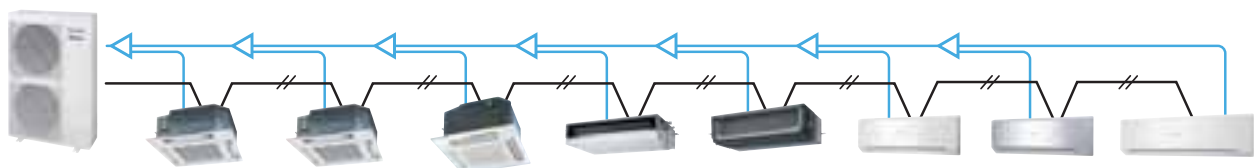
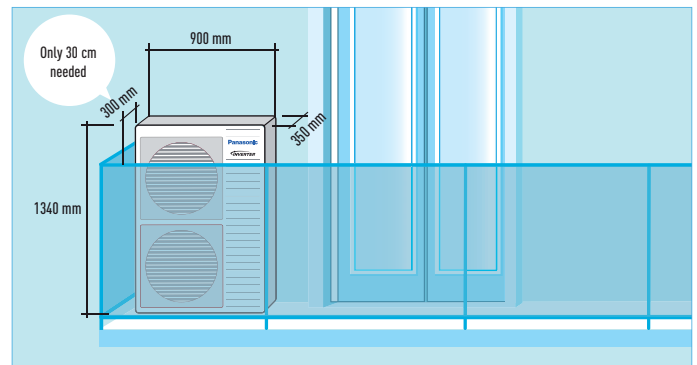


Multi-storey Apartments

Enabling air conditioning in multiple rooms with a single outdoor unit, the FS Multi VRF system offers an effective solution to today's demand for aesthetically pleasing buildings. The indoor units are also available in designs providing an ideal match for modern living environments.

Space-Saving Design

Improvements to the design of the outdoor unit's fan has reduced the size of the unit to enable installation in a smaller space. Without sacrificing quietness, higher efficiency is also attained. Easy piping facilitates freedom in installation, and reduction in installation costs.

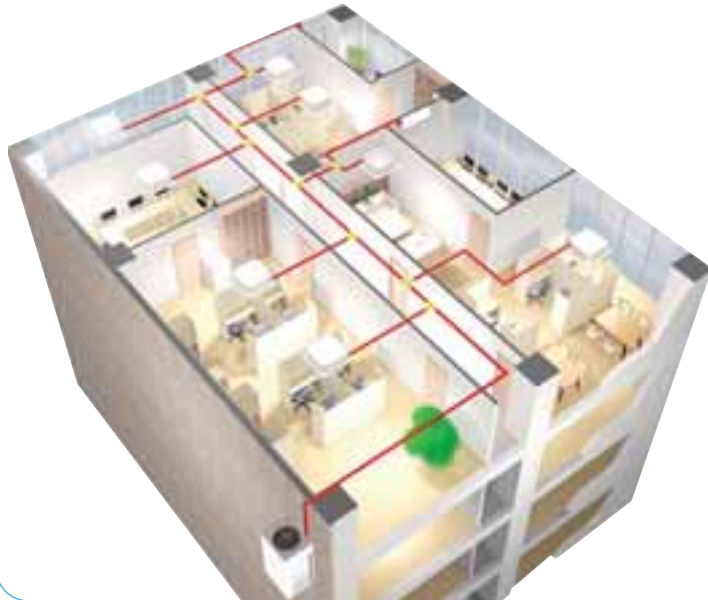


SYSTEM / HP	5HP	6HP
Connectable Indoor Unit	8	8

← Refrigerant pipe
 // URBAN net control line

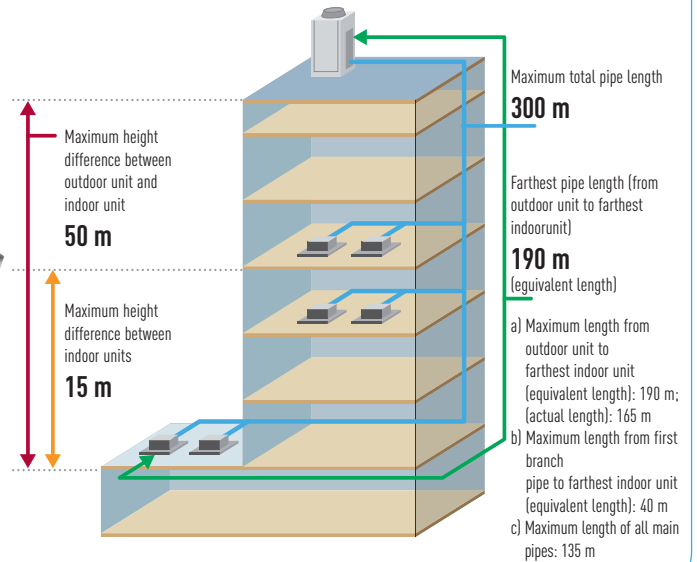
OUTDOOR UNITS

U-8EA1E8 // U-10EA1E8



Long pipe-runs possible

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.



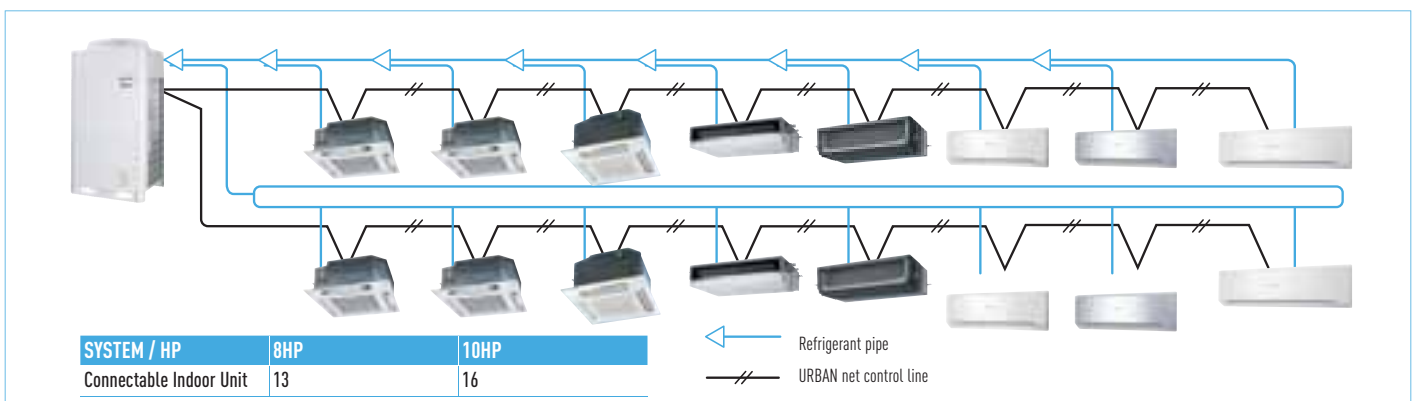
Offices, Shops and Boutiques

As well as being ideal for new buildings, the FS Multi VRF 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 features a high external static pressure mode (up to 60 Pa). Select via the outdoor unit's local setting mode.



Energy saving

1. Hyper Wave Inverter

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

2. DC Inverter Compressor

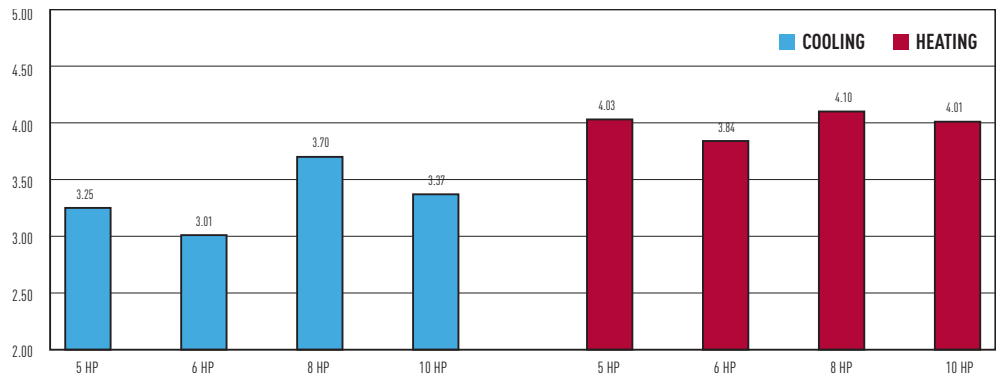
A powerful neodymium magnet helps make the motor more compact.

3. Large Diagonal Air Flow Fan



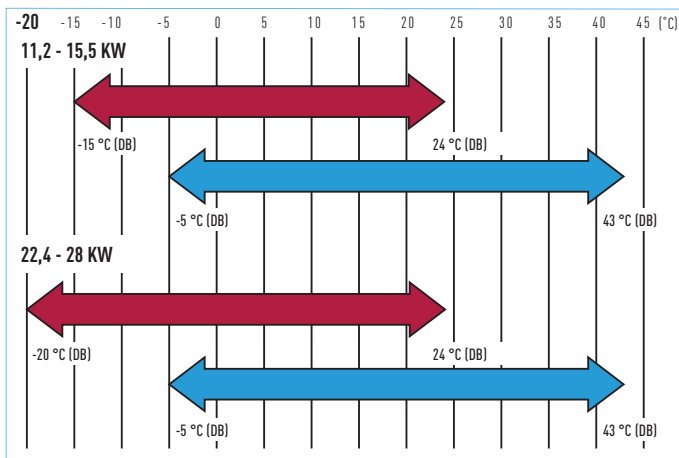
Energy Saving

High quality features translate into savings thanks to great 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.



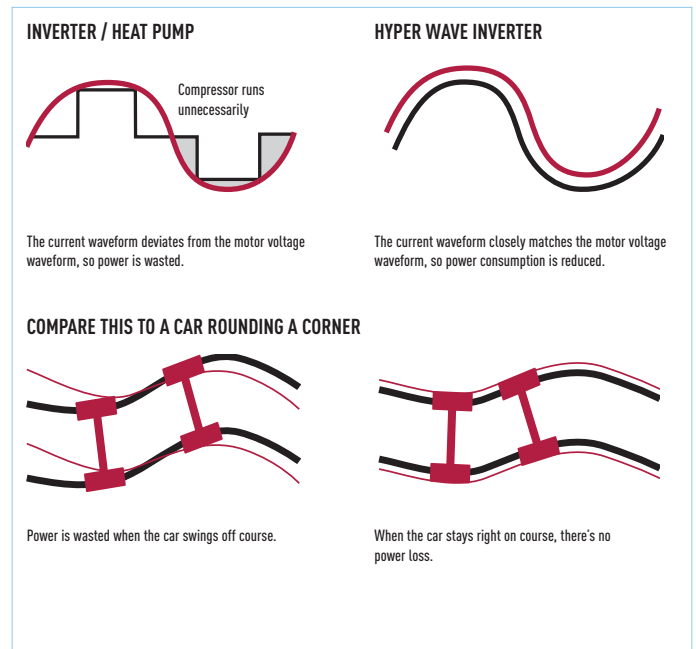
Quiet Operation

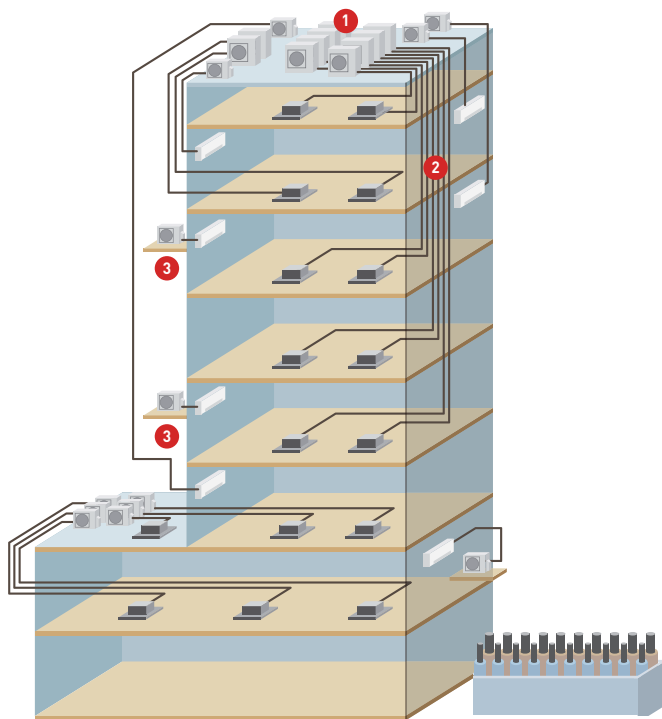
A host of silencing technologies achieve super-quiet operation. We've also improved operating efficiency and reduced energy consumption.



Hyper Wave Inverter

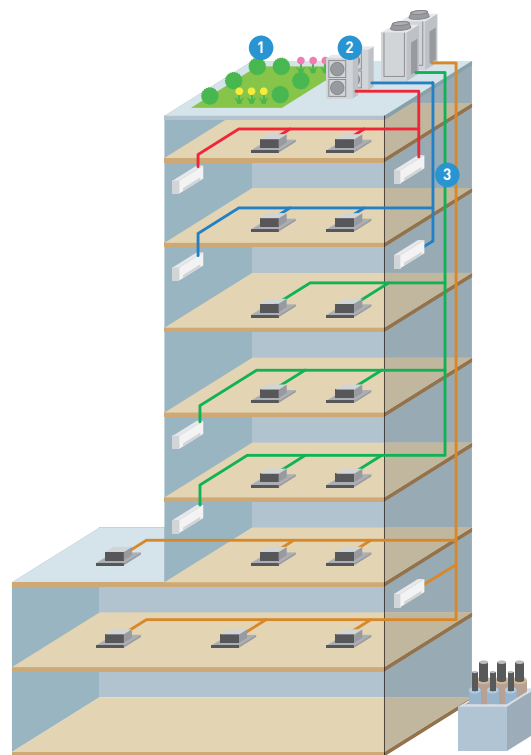
Panasonic's expertise from inverter development is realised in the Hyper Wave Inverter. The control of the inverter demonstrates optimum compressor torque. The FS Multi VRF series quickly heats up the room to the set temperature and maintains a comfortable condition, whilst ensuring energy efficiency and savings.





Frequent Single Split System Problems

1. Requires many outdoor units and large installation space. Thus, spoiling 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 VRF System Solution

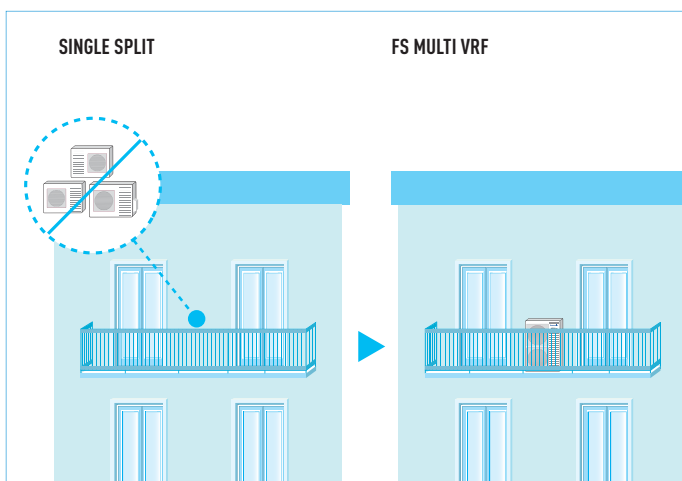
1. Minimized number of outdoor units thanks to multi system. Rooftop space can be used more effectively and the unit load on the roof is considerably reduced.
2. Outdoor units can be installed close to each other, maintaining the building's appearance and enhancing the installation flexibility.
3. The number of pipings is reduced, thus minimising the space required in pipe shafts.

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.

When installation space is limited

A single compact FS Multi VRF system outdoor unit enables air conditioning in multiple rooms, solving the problems of narrow or limited installation space.



Innovative and perfect control of loading for the 5 and 6 HP

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.

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 VRF 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 6 dB(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

INTERNET CONTROL. CONTROL YOUR AIR CONDITIONING SYSTEM WITH YOUR SMART DEVICE -SMARTPHONE & INTERNET FOR PACi



Control your comfort and efficiency with the lowest energy consumption

What's Internet Control?

Internet Control is a next generation system providing a user-friendly remote control of air conditioning or heat pump units from everywhere, using a simple Android or iOS smartphone, tablet or PC via internet.

Simple Installation

Just connect the Internet Control device to the air conditioner or heat pump with the supplied wire and then link it to your WIFI Access point.

Internet Control. Easy to install. Maximum benefit

Internet Control is underlined with the slogan "Your home in the cloud", meaning a simple and easy to handle solution has been considered for every user to manage the device, not requiring any communication or computer skills.

No servers. No adaptors. No wires. Just a small box to be connected and placed close to the air conditioning indoor unit is needed... and your smartphone, tablet or PC.

Start the App from your smartphone device, your tablet or your computer, and enjoy a new experience in comfort. An intuitive and user-friendly application on the screen of your smartphone or PC let you manage the air conditioning unit in the same way you do with the remote controller. Internet Control can be downloaded in Apple's AppStore and Android's PlayStore.

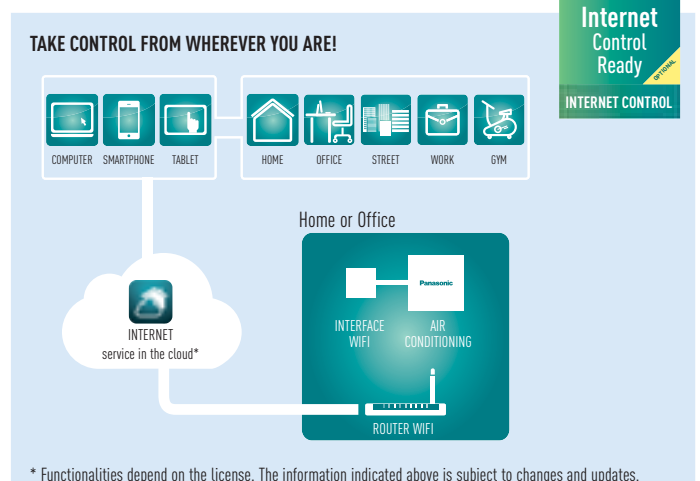
Control your air conditioning with the smart internet control device via smartphones, tablet, PC and smart desktop phone via internet

Offering the same functions as if you were at home or office: start/stop, Mode Operation, Set Temperature, Room Temperature etc as well as the new, advanced functionality provided by Internet Control to achieve the best comfort and efficiency with the lowest energy consumption.



Study Case. Alice, Shop Owner

"I want maximum comfort and the best savings for my shop. And I manage to get these in the easiest and most natural way possible. From my smartphone, something I always carry with me, I can control the temperature of my shop and in this way, as well as maintaining an ideal temperature I also save a small fortune in electricity at the end of the year."



* Functionalities depend on the license. The information indicated above is subject to changes and updates.

FS MULTI CONNECTIVITY. NEW INTERFACES FOR FS LINE UP. INCREASED FLEXIBILITY FOR INTEGRATION INTO YOUR PROJECTS



Easy control by BMS
CONNECTIVITY

Great flexibility for integration into your KNX / EnOcean / Modbus / LonWorks / BACnet projects allows fully bi-directional monitoring and control of all the functioning parameters
Panasonic Partners have designed solutions specifically for Panasonic air conditioners, and provide complete monitoring, control and full functionality of the entire Commercial line-up from KNX / EnOcean / Modbus / LonWorks / BACnet installations.
For more information, contact Panasonic.

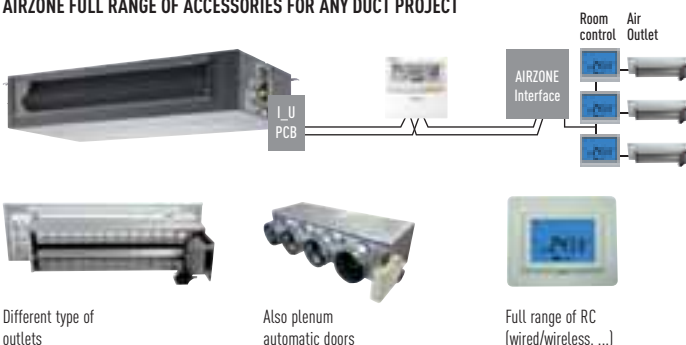


	PANASONIC MODEL NAME	INTERFACE	CONNECTED ON P-LINK OR IN THE INDOOR UNIT	MAX NUMBER OF INDOOR UNITS CONNECTED	POSSIBLE TO CONNECT MORE THAN 1 INDOOR UNIT (GROUP OF INDOORS)
FS Multi	PAW-RC-KNX-1i	KNX	Indoor unit	1 (1 Group of Indoor units)	No
	PAW-RC-MBS-1	Modbus RTU	Indoor unit	1 (1 Group of Indoor units)	No
	PAW-RC-ENO-1i	EnOcean	Indoor unit	1 (1 Group of Indoor units)	No
	PA-RC-WIFI-1	IntesisHome	Indoor unit	1 (1 Group of Indoor units.)	No

AIRZONE. CONTROL OF THE PACI HIDE AWAYS

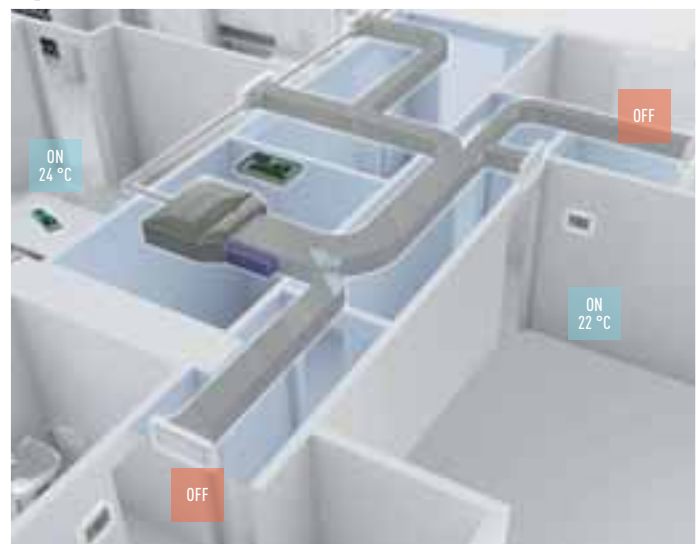
Airzone has developed interfaces to easily connect to Panasonic PACi Hide Away units. Ensuring optimum performance, comfort and energy savings, the new system is efficient and easy to install.

AIRZONE FULL RANGE OF ACCESSORIES FOR ANY DUCT PROJECT



Interface dimensions: 120 x 25 x 65 cm (W x H x D). Interfaces must be purchased direct from Airzone.

AIRZONE



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.

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

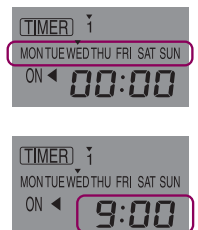
Example: To prevent forgetting to switch OFF weekdays

Mon-Fri
Off 20:00

The timer can be set for simple shut-off operation.

HOW TO SET

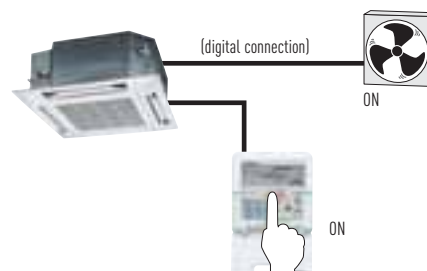
- 1 SELECT THE DAY
 - 2 ENTER THE TIME
- *Simple Timer Mode



2. Ventilation Interlink

When an 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.



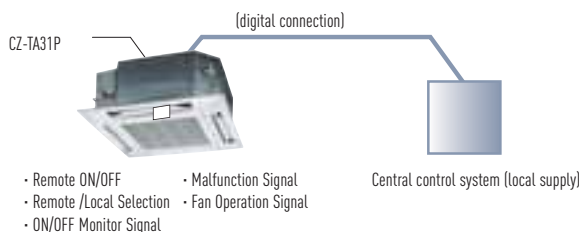
Interface Adapter for External Signals

CZ-TA31P*

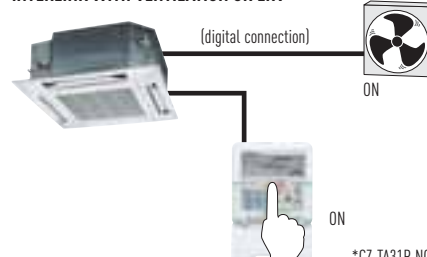
- By connecting to the indoor unit, a separately sold ventilator can be controlled.
- Remote control operation of the indoor unit is enabled (ON/OFF control).
- The operating condition of the indoor unit (malfunctions, operating status) can be externally output.
- Control in linkage with a Energy Recovery 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
CZ-RWS1 . Heat Pump Models

CZ-RWC1. Cooling Only Models

- 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

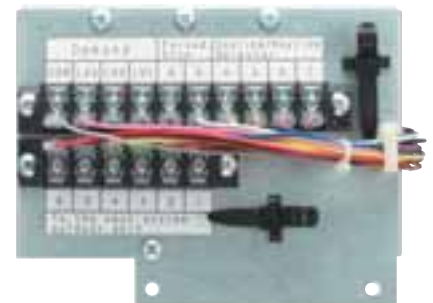
Enables the cooling, heating and ventilating operating mode for each outdoor unit. Allows the operating mode to be changed for several outdoor units at the same time by means of a single remote control.



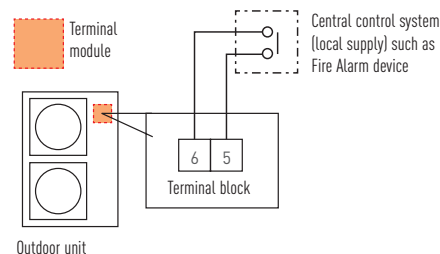
Terminal Module (Equipped as Standard on the Outdoor Unit)
CZ-CAP1

Control terminal to be connected with outside devices or CZ-RD1 controller.

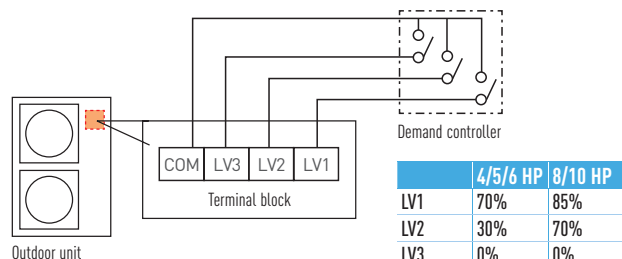
- Used to receive forced stop digital signal from local procured central control system.
- Used to receive demand control signal from local procured central control system. (Demand control for energy saving with 3-level selection)
- Required to connect with CZ-RD1 cooling/heating controller.
- Group control of several FS Multi VRF systems for forced stop and CZ-RD1 cooling/heating controller.



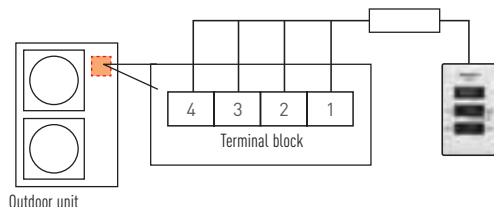
WHEN CONNECTING FORCED STOP INPUT



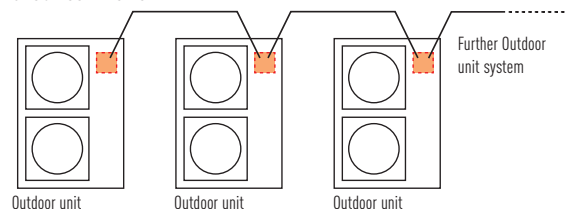
WHEN CONNECTING DEMAND CONTROLLER



WHEN USING CZ-RD1 (COOLING / HEATING SELECTOR)



GROUP CONNECTION



*Not applicable for demand controller



COMBINATION TABLE

The FS Multi VRF 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 6 HP outdoor unit (15.5 kW / 53,000 Btu/h), connection is possible with a maximum indoor unit range of 20.15 kW. So for a reasonable investment, the FS Multi VRF 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-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	(3.6x2)7.2 kW	-	-
	S-22NA1E5	1	2.2 kW	-	-
	S-28NA1E5	3	(2.8x3)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	(3.6x2)7.2 kW	-	-
	S-45KA1E5	1	4.5 kW	-	-
	S-22NA1E5	1	2.2 kW	-	-
	S-28NA1E5	3	(2.8x3)8.4 kW	-	-
Total indoor capacity		8	24.5 kW(158%)		

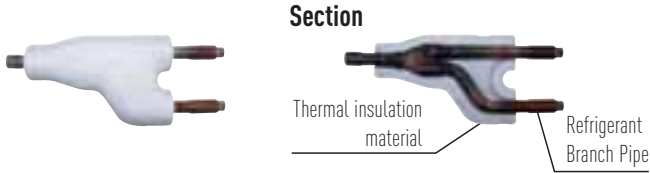
*Standard combination capacity is the system's maximum cooling capacity.

BRANCH PIPES

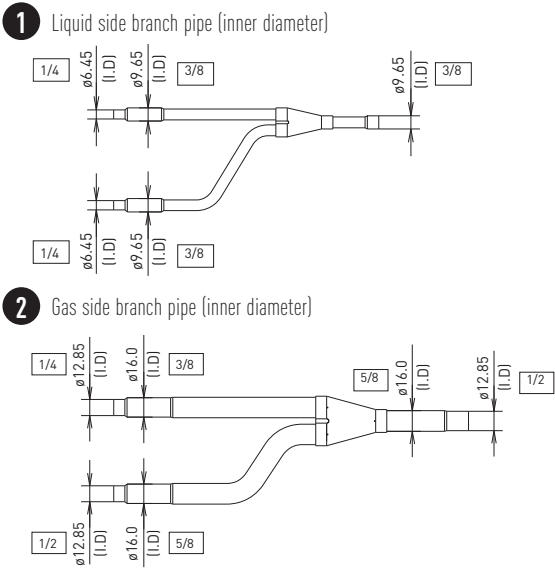
R410A Branch pipe kits

The use of branch piping combined with expansion valves mounted in VRF indoor units 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.

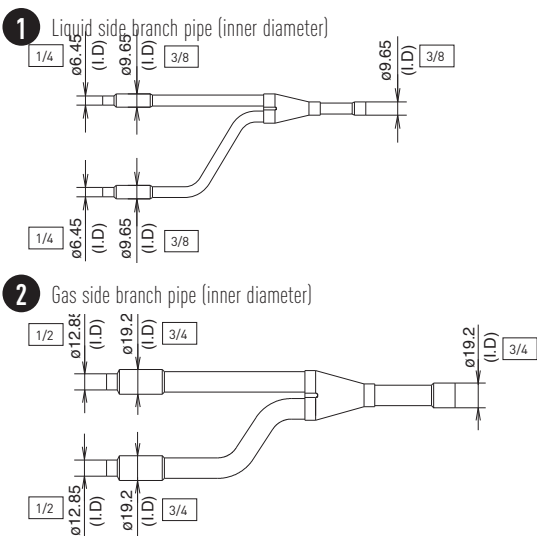
CZ-P155BK1 / CZ-P280BK1



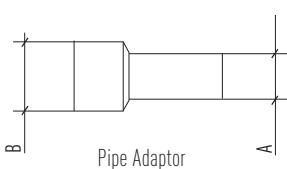
BRANCH PIPE KIT CZ-P155BK1 (FOR 4, 5 AND 6 HP SYSTEMS)



BRANCH PIPE KIT CZ-P280BK1 (FOR 8 AND 10 HP SYSTEMS)



PIPE ADAPTORS ARE SUPPLIED WITH THE PACKAGE.



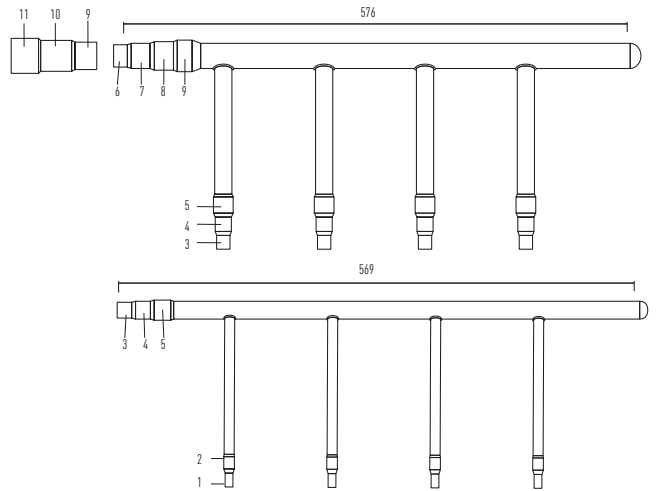
A	B	Quantity
∅19.05	∅ 15.88	1
∅ 12.70	∅ 15.88	2
∅ 19.05	∅ 25.40	1
∅ 19.05	22.2	3
∅ 9.52	12.7	1

ONLY FOR 8-10 HP

CZ-P3HPC2BM: 3-PIPE HEADER CZ-P4HP4C2BM



Header pipe models for 2-Pipe systems: CZ-P4HP4C2BM





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



INDOOR UNITS RANGE

	0.8 HP	1.0 HP	1.25 HP	1.5 HP
COOLING CAPACITY	2.2kW / 7,500 Btu/h	2.8kW / 9,600 Btu/h	3.2kW / 10,900 Btu/h	3.6kW / 12,300 Btu/h
HEATING CAPACITY	2.5kW / 8,500 Btu/h	3.2kW / 10,900 Btu/h	3.6kW / 12,300 Btu/h	4.2kW / 14,300 Btu/h
WALL-MOUNTED TYPE	 S-22KA1E5	 S-28KA1E5		 S-36KA1E5
	 S-22KA1E5S	 S-28KA1E5S		 S-36KA1E5S
CASSETTE TYPE				
60x60 CASSETTE TYPE	 S-22YA1E5	 S-28YA1E5		 S-36YA1E5
LOW-SILHOUETTE DUCT TYPE (LOW STATIC PRESSURE TYPE)	 S-22NA1E5	 S-28NA1E5	 S-32NA1E5	 S-36NA1E5
LOW-SILHOUETTE DUCT TYPE (MID STATIC PRESSURE TYPE)				


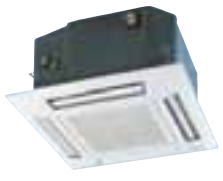
OUTDOOR UNITS RANGE



	5.0 HP	6.0 HP
COOLING CAPACITY	14.0 kW / 47,800 Btu/h	15.5 kW / 52,900 Btu/h
HEATING CAPACITY	16.0 kW / 54,600 Btu/h	18.0 kW / 61,400 Btu/h
OUTDOOR UNIT	 U-5LA1E5	 U-6LA1E5




1.75 HP	2.0 HP	2.5 HP	3.0 HP	3.5 HP	4 HP
4.5kW / 15,400 Btu/h	5.6kW / 19,100 Btu/h	6.3kW / 21,500 Btu/h	7.1kW / 24,200 Btu/h	9.0kW / 30,700 Btu/h	10.0kW
5.1kW / 17,400 Btu/h	6.4kW / 21,800 Btu/h	7.1kW / 24,200 Btu/h	8.0kW / 27,300 Btu/h	10.0kW / 34,100 Btu/h	11.2kW
					
S-45KA1E5	S-56KA1E5	S-63KA1E5	S-71KA1E5		
					
S-45KA1E5S					
					
		S-63UA1E5	S-71UA1E5	S-90UA1E5	S-100UA1E5
					
S-45YA1E5	S-56YA1E5				
					
S-45NA1E5	S-56NA1E5				
					
S-45MA1E5	S-56MA1E5	S-63MA1E5	S-71MA1E5	S-90MA1E5	S-100MA1E5

8.0 HP	10.0 HP
22.4 kW / 76,000 Btu/h	28.0 kW / 95,000 Btu/h
25.0kW	31.5kW
	
U-8EA1E8	U-10EA1E8

FEATURE COMPARISON

INDOOR UNIT		WALL MOUNTED		60X60 CASSETTE	
					
FEATURE	Remote controller	Wired remote controller	Infrared remote controller	Wired remote controller	Infrared remote controller
CONTROL FLEXIBILITY	24 h ON/OFF Real setting timer	✗	✗	✗	✗
	Weekly timer (6-Pattern/Max. 42-Pattern with temp setting)	✗		✗	
	Group control by single remote controller	✗	✗	✗	✗
	0_U Silent operation mode (3-Level)	✗	✗	✗	✗
	I_U Thermistor switching (I_U or RC)	✗		✗	
	Ventilation unit control	✗		✗	
	Digital input / Output contact				with CZ-TA31P
COMFORTABILITY	Filter sign	✗	✗	✗	✗
	Hot start control	✗	✗	✗	✗
	Filter	✗	✗	✗	✗
	Anti Bacterial 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 UNIT		5-6 HP	8-10 HP
			
CONTROL FLEXIBILITY	"Cooling Only" model setting (Locked)	✗	✗
	Power save mode	✗	✗
	0_U 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
X	X	X	X	X	X
X		X		X	
X	X	X	X	X	X
X	X	X	X	X	X
X		X		X	
X		X		X	
with CZ-TA31P	with CZ-TA31P	with CZ-TA31P	with CZ-TA31P	with CZ-TA31P	with CZ-TA31P
X	X	X	X	X	X
X	X	X	X	X	X
X	X	X	X		
X	X	X	X	X	X
X	X	X	X	X	X
X	X	X	X	X	X
X	X	X	X	X	X
X		X		X	

Maximum flexibility

VRF

ABE

5 AND 6 HP, OUTDOOR UNITS

THE MONOPHASE 5 AND 6 HP OUTDOOR UNITS ARE IDEAL FOR INSTALLATION IN RESTAURANTS, OFFICES AND HOMES.

All Panasonic FS Multi VRF series modules 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.

A class
energy saving
INVERTER+

Environmentally friendly refrigerant
R410A

Down to **-15 °C** in heating mode
OUTDOOR TEMPERATURE

5 year
compressor warranty

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

HP		5HP		6HP		
MODEL NUMBER		U-5LA1E5		U-6LA1E5		
Power Source		phase	1Ø	1Ø		
		V	220-230-240	220-230-240		
		Hz	50Hz	50Hz		
Cooling	Capacity	kW (Btu/h)	14.00 (47,800)	15.50 (52,900)		
	Power Input	W	4,310	5,150		
	EER	W/W (Btu/h)	3.25 (11.09)	3.01 (10.27)		
	Current ¹	A	19.80	23.50		
	Air Volume	m ³ /min (ft ³ /min)	95.0 (3,353)	98.0 (3,459)		
	Sound Pressure Level	Hi/Lo	dB (A)	53/-	55/-	
	Sound Power Level	Hi/Lo	dB	71/-	73/-	
Operating Range	Min. - Max.	°C	-5 - 43	-5 - 43		
Heating	Capacity	kW (Btu/h)	16.00 (54,600)	18.00 (61,400)		
	Power Input	W	3,970	4,690		
	COP	W/W (Btu/h)	4.03 (13.75)	3.84 (13.09)		
	Current ¹	A	18.10	21.40		
	Air Volume	m ³ /min (ft ³ /min)	95.0 (3,353)	98.0 (3,459)		
	Sound Pressure Level	Hi/Lo	dB (A)	55/-	57/-	
	Sound Power Level	Hi/Lo	dB	72/-	74/-	
Operating Range	Min. - Max.	°C	-15 - 24	-15 - 24		
Connectable Indoor Unit	Total Capacity	50 - 130% of Outdoor Unit Capacity				
	Model/Qty	unit	S-22 ~ S-90 /2 - 8	S-22 ~ S-90 /2 - 8		
Moisture Removal Volume		L/h (Pt/h)	9.0 (18.9)	10.3 (21.6)		
Dimensions	H x W x D	mm	1,340 x 900 x 350(+40) ²	1,340 x 900 x 350(+40) ²		
		inch	52-3/4 x 35-7/16 x 13-25/32(+1-9/16)	52-3/4 x 35-7/16 x 13-25/32(+1-9/16)		
Net Weight		kg (lb)	123 (271)	123 (271)		
Piping Connection	Liquid Side	mm (inch)	9.52 (3/8)	9.52 (3/8)		
	Gas Side	mm (inch)	15.88 (5/8)	15.88 (5/8)		
Maximum Total Piping Length	Min. - Max.	m (ft)	20 - 90 (65.6 - 295.2)	20 - 90 (65.6 - 295.2)		
Height Difference (Maximum)	Max	m (ft)	30 (98.4)	30 (98.4)		
Max Charge Less Length	Max	m (ft)	90 (295.2)	90 (295.2)		
Refrigerant			R410A / 8 kg	R410A / 8 kg		

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.

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

DB: Dry Bulb; WB: Wet Bulb

POWER	5HP	6HP
REFERENCE	U-5LA1E5	U-6LA1E5
Maximum combination of indoor unit	8	8
Power rates (kW)	7.0 - 14.0 - 18.2	7.8 - 15.5 - 20.2
Power supply (V/Hz)	220-240 / 50	220-240 / 50



U-5LA1E5 // U-6LA1E5

Control Flexibility

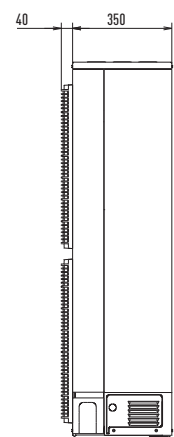
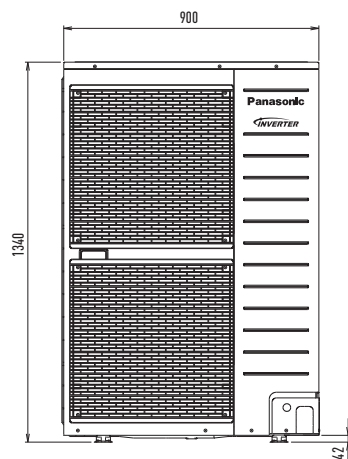
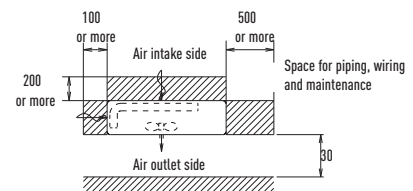
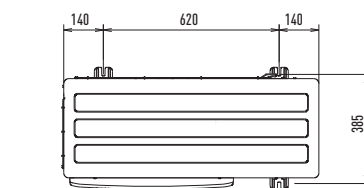
- Cooling Only Model Setting (by jumper line cut)
- Power Save Mode
- Outdoor Unit Silent Operation Mode
- Auto Restart

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



Maximum flexibility

VRF

ABE

8 AND 10 HP, OUTDOOR UNITS

NEW THREE PHASE 8 AND 10 HP OUTDOOR UNITS. EASY TO INSTALL, HIGH PERFORMANCES!
All the models of Panasonic FS Multi VRF 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.

A class
energy saving

INVERTER+

Environmentally
friendly
refrigerant

R410A

Down to
-15 °C in
heating mode

OUTDOOR
TEMPERATURE

5 year
compressor
warranty

TECHNICAL ZOOM

- VERY QUIET OUTDOOR UNITS
- FLEXIBLE INSTALLATION AND EASY SETUP
- EASY TROUBLE CHECK FUNCTION
- SPACE-SAVING DESIGN

HP		8HP		10HP		
MODEL NUMBER		U-8EA1E8		U-10EA1E8		
Power Source		phase	3Ø	3Ø		
		V	380-400-415	380-400-415		
		Hz	50Hz	50Hz		
Cooling	Capacity	kW (Btu/h)	22.40 (76,500)	28.00 (95,600)		
	Power Input	W	6,050	8,310		
	EER	W/W (Btu/h)	3.70 (12.64)	3.37		
	Current ¹	A	9.40	12.80		
	Air Volume	m ³ /min (ft ³ /min)	150 (5,297)	154 (5,438)		
	Sound Pressure Level	Hi/Lo	dB (A)	58/-	59/-	
	Sound Power Level	Hi/Lo	dB	78/-	79/-	
Operating Range	Min. - Max.	°C	-5 - 43	-5 - 43		
Heating	Capacity	kW (Btu/h)	25.00 (85,300)	31.50 (107,500)		
	Power Input	W	6,100	7,860		
	COP	W/W (Btu/h)	4.10 (13.98)	4.01		
	Current ¹	A	9.40	12.10		
	Air Volume	m ³ /min (ft ³ /min)	150 (5,297)	154 (5,438)		
	Sound Pressure Level	Hi/Lo	dB (A)	59/-	60/-	
	Sound Power Level	Hi/Lo	dB	79/-	80/-	
Operating Range	Min. - Max.	°C	-20 - 24	-20 - 24		
Connectable Indoor Unit	Total Capacity	50~130% of Outdoor Unit Capacity		50~130% of Outdoor Unit Capacity		
	Model/Qty	unit	S-22 ~ S-125 /2 - 13	S-22 ~ S-125 /2 - 16		
Dimensions	H x W x D	mm	1,745 x 920 x 760	1,745 x 920 x 760		
		inch	68-11/16 x 36-7/32 x 29-29/32	68-11/16 x 36-7/32 x 29-29/32		
Net Weight		kg (lb)	195 (430)	210 (463)		
Piping Connection	Liquid Side	mm (inch)	9.52 (3/8)	9.52 (3/8)		
	Gas Side	mm (inch)	19.05 (4/3)	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 / 8.5 kg	R410A / 11.0 kg		

¹ These values are at 400 V only. For 380 V and 415 V specifications, please refer to the technical data book.
² Add 40 mm for discharge grille.

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	7 °C DB / 6 °C WB

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



U-8EA1E8 // U-10EA1E8

Control Flexibility

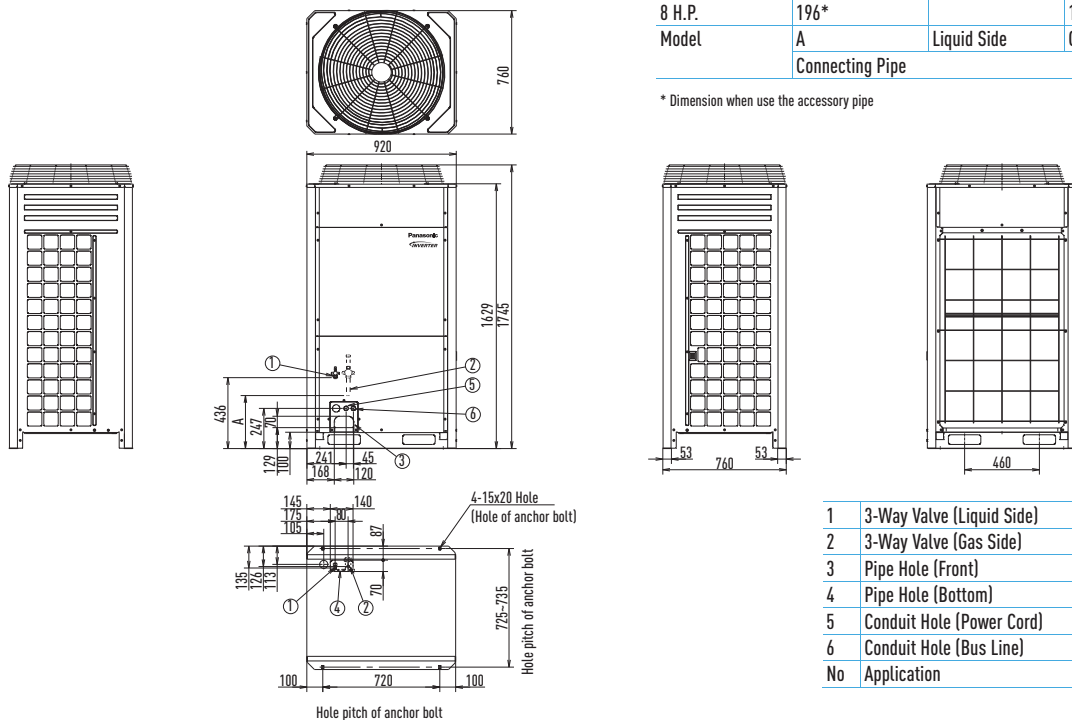
- . Cooling/Heating Selector
- . Demand Control Input (LV1/LV2/LV3)
- . Forced STOP Input
- . Cooling Only Model Setting (by jumper line cut)
- . Power Save Mode
- . Outdoor Unit Silent Operation Mode
- . Auto Restart

Field Service & Maintenance

- . Cooling Operation TESTRUN
- . Heating Operation TESTRUN
- . Automatic Address Resetting
- . Self Diagnosis Function (LED display)

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	3-Way Valve (Liquid Side)
2	3-Way Valve (Gas Side)
3	Pipe Hole (Front)
4	Pipe Hole (Bottom)
5	Conduit Hole (Power Cord)
6	Conduit Hole (Bus Line)
No	Application

Maximum flexibility

VRF

ABt

WALL-MOUNTED TYPE // SILVER COLOUR

FS MULTI VRF 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 harmonise with virtually any room interior.

A class energy saving
INVERTER+

Easy control
CONNECTIVITY

Environmentally friendly refrigerant
R410A

5 year compressor warranty

TECHNICAL ZOOM

- FLEXIBLE INSTALLATION
- EFFECTIVE LONG-LIFE FILTER
- SELF DIAGNOSIS FUNCTION WITH 7-SEG CODE DISPLAY

INDOOR			0.8HP	1.0HP	1.5HP	1.75HP	
			S-22KA1E5S	S-28KA1E5S	S-36KA1E5S	S-45KA1E5S	
Power Source		phase	1Ø	1Ø	1Ø	1Ø	
		V	220-230-240	220-230-240	220-230-240	220-230-240	
		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)	
	Power Input	W	25	27	30	35	
	Current	A	0.25	0.30	0.35	0.40	
	Air Volume	Hi	m ³ /min (ft ³ /min)	9.5 (335)	9.7 (342)	10.9 (385)	11.3 (399)
	Sound Pressure Level	Hi/Lo	dB (A)	38/33	39/33	42/34	43/35
	Sound Power Level	Hi/Lo	dB	53/48	54/48	57/49	58/50
Heating	Capacity	kW (Btu/h)	2.50 (8,500)	3.20 (10,900)	4.20 (14,300)	5.10 (17,400)	
	Power Input	W	25	27	30	35	
	Current	A	0.25	0.30	0.35	0.40	
	Air Volume	Hi	m ³ /min (ft ³ /min)	10.3 (364)	10.9 (385)	11.6 (409)	12.1 (427)
	Sound Pressure Level	Hi/Lo	dB (A)	38/33	39/33	42/34	43/35
	Sound Power Level	Hi/Lo	dB	53/48	54/48	57/49	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	290 x 870 x 204	290 x 870 x 204	290 x 870 x 204	290 x 870 x 204	
		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 34-9/32 x 8-1/16	
Net Weight		kg (lb)	9 (20)	9 (20)	9 (20)	9 (20)	
Piping Connection	Liquid Side	mm (inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	
	Gas Side	mm (inch)	Ø 12.7 (1/2)	Ø 12.7 (1/2)	Ø 12.7 (1/2)	Ø 12.7 (1/2)	

Before installing in quiet room such as a bedroom, please consult with an authorized distributor.

GLOBAL REMARKS	Rated conditions:	
	Cooling	Heating
	Indoor air temperature	27 °C DB / 19 °C WB
Outdoor air temperature	35 °C DB / 24 °C WB	7 °C DB / 6 °C WB

DB: Dry Bulb; WB: Wet Bulb

FLEXIBLE INSTALLATION

Thanks to its compact and stylish design, Panasonic's wall mounted air conditioner can be installed in very limited spaces, without detracting from your room's interior design.

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 re-fitted.



OPTIONAL ACCESSORIES

Anti Bacterial 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)

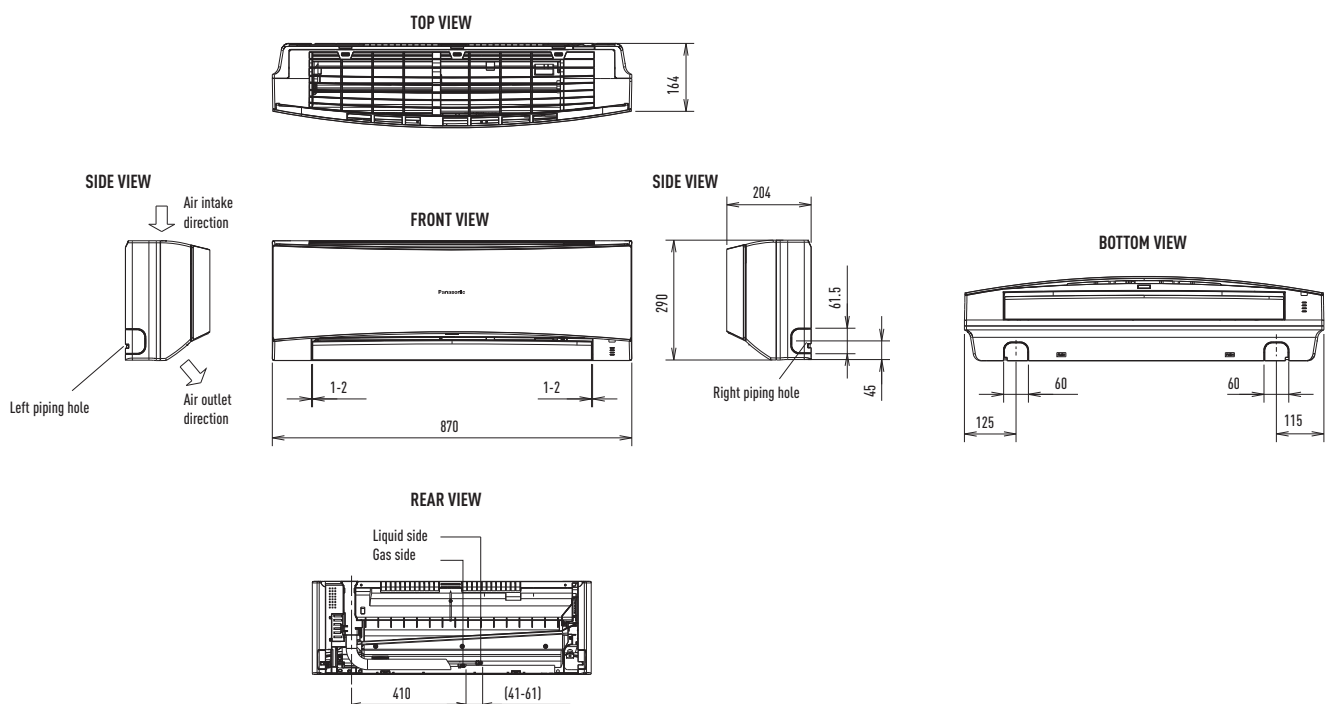
Comfortability

- Filter Sign
- Hot Start Control
- Filter
- Anti Bacterial 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.



Maximum flexibility

VRF

ABE

WALL-MOUNTED TYPE // WHITE COLOUR // WHITE COLOUR WIDE TYPE

FS MULTI VRF 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 harmonise with virtually any room interior.

A class energy saving
INVERTER+

Easy control

CONNECTIVITY

Environmentally friendly refrigerant

R410A

5 year compressor warranty

TECHNICAL ZOOM

- FLEXIBLE INSTALLATION
- EFFECTIVE LONG-LIFE FILTER
- SELF DIAGNOSIS FUNCTION WITH 7-SEG CODE DISPLAY

			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	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
		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)
Cooling	Power Input		W	25	27	30	35	45	55
	Current		A	0.25	0.30	0.35	0.40	0.40	0.45
	Air Volume	Hi	m ³ /min (ft ³ /min)	9.5 (335)	9.7 (342)	10.9 (385)	11.3 (399)	15.3 (540)	16.0 (565)
	Sound Pressure Level	Hi/Lo	dB (A)	38/33	39/33	42/34	43/35	44/38	46/39
	Sound Power Level	Hi/Lo	dB	53/48	54/48	57/49	58/50	59/53	61/54
	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)	8.00 (27,300)
Heating	Power Input		W	25	27	30	35	45	55
	Current		A	0.25	0.30	0.35	0.40	0.40	0.45
	Air Volume	Hi	m ³ /min (ft ³ /min)	10.3 (364)	10.9 (385)	11.6 (409)	12.1 (427)	16.7 (590)	17.1 (604)
	Sound Pressure Level	Hi/Lo	dB (A)	38/33	39/33	42/34	43/35	44/38	46/39
	Sound Power Level	Hi/Lo	dB	53/48	54/48	57/49	58/50	59/53	61/54
	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 870 x 204	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 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	
Net Weight	kg (lb)		9 (20)	9 (20)	9 (20)	9 (20)	11 (24)	12 (26)	
Piping Connection	Liquid Side	mm (inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	
	Gas Side	mm (inch)	Ø 12.7 (1/2)	Ø 12.7 (1/2)	Ø 12.7 (1/2)	Ø 12.7 (1/2)	Ø 12.7 (1/2)	Ø 12.7 (1/2)	

Before installing in quiet room such as a bedroom, please consult with an authorized distributor.

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	

DB: Dry Bulb; WB: Wet Bulb

FLEXIBLE INSTALLATION

Thanks to its compact and stylish design, Panasonic's wall mounted air conditioner can be installed in very limited spaces, without detracting from your room's interior design.

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 re-fitted.



OPTIONAL ACCESSORIES

Anti Bacterial 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

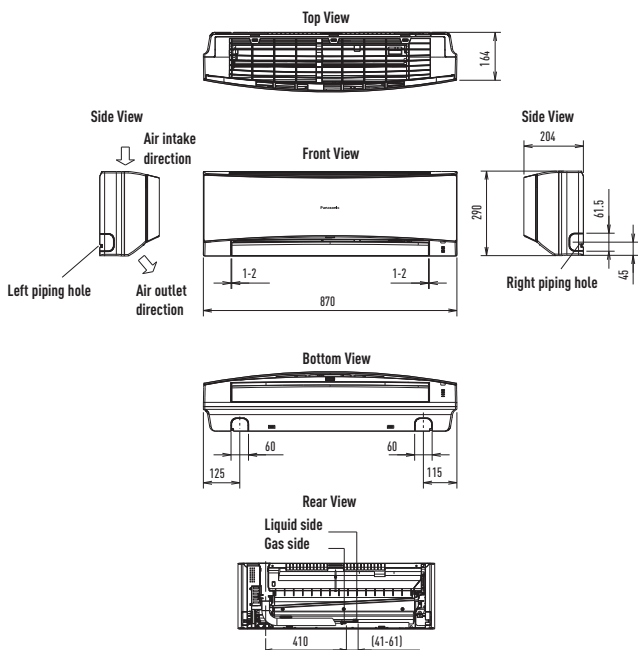
- Filter Sign
- Hot Start Control
- Filter
- Anti Bacterial Filter (optional/10-year lifetime)

Field Service & Maintenance

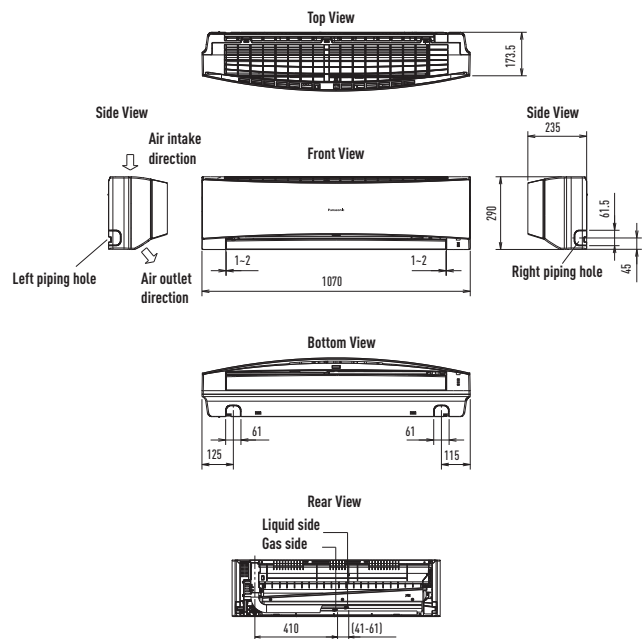
- Indoor Unit Address Setting
- Outdoor Unit Address Setting
- Automatic Address Resetting for Group Control (Wired Only)
- Indoor Unit Test Run Mode
- Emergency Operation (Infrared Only)
- Self Diagnosis Function
- Self Diagnosis Records (Wired Only)

* Wired: Wired Remote Controller / Infrared: Infrared Remote Controller.

0.8HP - 1.75HP MODELS



2HP - 3HP MODELS



Maximum flexibility

VRF

ABt

CASSETTE TYPE (60x60)

4-WAY AIRFLOW COMFORT WITH ELEGANT, COMPACT PANEL

A class energy saving
INVERTER+

Easy control
CONNECTIVITY

Environmentally friendly refrigerant
R410A

5 year compressor warranty

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

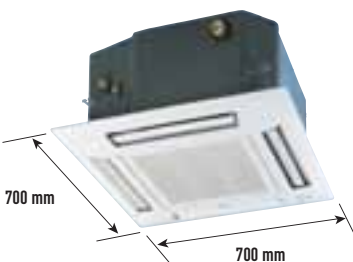
			0.8HP	1.0HP	1.5HP	1.75HP	2.0HP
INDOOR			S-22YA1E5	S-28YA1E5	S-36YA1E5	S-45YA1E5	S-56YA1E5
Panel			CZ-KPY1	CZ-KPY1	CZ-KPY1	CZ-KPY1	CZ-KPY1
Power Source	phase		1Ø	1Ø	1Ø	1Ø	1Ø
	V		220-230-240	220-230-240	220-230-240	220-230-240	220-230-240
	Hz		50Hz	50Hz	50Hz	50Hz	50Hz
Cooling	Capacity	kW (Btu/h)	2.20 (7,500)	2.80 (9,600)	3.60 (12,300)	4.50 (15,400)	5.60 (19,100)
	Power Input	W	35	35	40	40	45
	Current	A	0.30	0.30	0.35	0.35	0.35
	Air Volume	Hi m ³ /min (ft ³ /min)	8.3 (293)	8.6 (304)	9.0 (318)	9.3 (328)	9.9 (349)
	Sound Pressure Level	Hi/Lo dB (A)	36/33	37/33	38/34	39/35	40/36
	Sound Power Level	Hi/Lo dB	51/48	52/48	53/49	54/50	55/51
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)
	Power Input	W	35	35	40	40	45
	Current	A	0.30	0.30	0.35	0.35	0.35
	Air Volume	Hi m ³ /min (ft ³ /min)	9.3 (328)	9.6 (339)	9.9 (349)	10.3 (364)	10.6 (374)
	Sound Pressure Level	Hi/Lo dB (A)	36/33	37/33	38/34	39/35	40/36
	Sound Power Level	Hi/Lo dB	51/48	52/48	53/49	54/50	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	mm	260 x 575 x 575	260 x 575 x 575	260 x 575 x 575	260 x 575 x 575	260 x 575 x 575
		inch	10-1/4 x 22-21/32 x 22-21/32	10-1/4 x 22-21/32 x 22-21/32	10-1/4 x 22-21/32 x 22-21/32	10-1/4 x 22-21/32 x 22-21/32	101/4 x 22-21/32 x 22-21/32
	Panel	mm	51 x 700 x 700	51 x 700 x 700	51 x 700 x 700	51 x 700 x 700	51 x 700 x 700
Net Weight		kg (lb)	18 (40)	18 (40)	18 (40)	18 (40)	18 (40)
Piping Connection	Liquid Side	mm (inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
	Gas Side	mm (inch)	Ø 12.7 (1/2)	Ø 12.7 (1/2)	Ø 12.7 (1/2)	Ø 12.7 (1/2)	Ø 12.7 (1/2)

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	

DB: Dry Bulb; WB: Wet Bulb

COMPACT DESIGN ALLOWS SPACE SAVING!

The panel is a compact 70x70 cm so it can be installed even in a small room where space is limited. The ceiling space required is 65x65 cm.

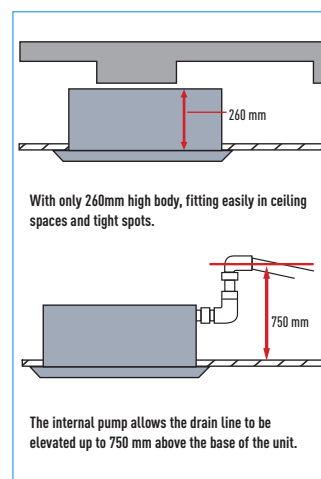


SELF DIAGNOSIS FUNCTION WITH 7-SEG CODE DISPLAY

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



ANTI-MOULD LONG-LIFE AIR FILTER



* For optimum comfort, we recommend cleaning the air filter every 1.5 months.

OPTIONAL ACCESSORIES



Anti Bacterial 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)

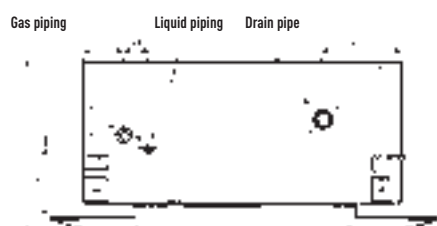
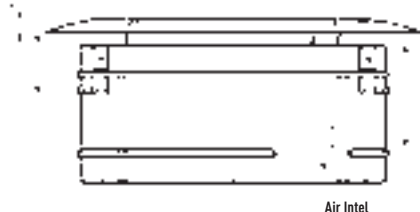
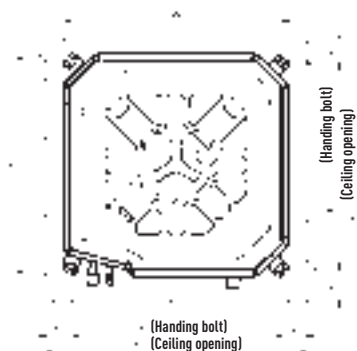
Comfortability

- Filter Sign
- Mildew-Proofing Drain pan
- Hot Start Control
- Filter
- Anti Bacterial 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.



Maximum flexibility

VRF

ABt

CASSETTE TYPE (90x90)

4-WAY AIRFLOW, POWERFUL, AND COMPACT (ONLY 246 cm HIGH)

A class energy saving
INVERTER+

Easy control
CONNECTIVITY

Environmentally friendly refrigerant
R410A

5 year compressor warranty

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
- INNOVATIVE DESIGN CREATES EXTRA QUIET OPERATION

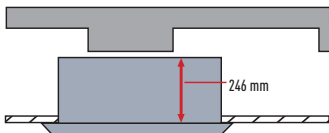
INDOOR			2.5HP	3.0HP	3.5HP	4.0HP
Panel			S-63UA1E5	S-71UA1E5	S-90UA1E5	S-100UA1E5
Power Source		phase	1Ø	1Ø	1Ø	1Ø
		V	220-230-240	220-230-240	220-230-240	220-230-240
		Hz	50Hz	50Hz	50Hz	50Hz
Cooling	Capacity	kW (Btu/h)	6.30 (21,500)	7.10 (24,200)	9.00 (30,700)	10.00 (34,100)
	Power Input ¹	W	110	115	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)	30 (1,059)
	Sound Pressure Level ¹	Hi/Lo dB (A)	41/35	42/36	42/36	48/43
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)	30 (1,059)
	Sound Pressure Level ¹	Hi/Lo dB (A)	41/35	42/36	42/36	48/43
	Sound Power Level ¹	Hi/Lo dB	56/50	57/51	57/51	63/58
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	288 x 840 x 840
		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	45 x 950 x 950	45 x 950 x 950	45 x 950 x 950	45 x 950 x 950
Net Weight		kg (lb)	26 (57)	26 (57)	26 (57)	30 (66)
Piping Connection	Liquid Side	mm (inch)	Ø 6.35 (1/4)	Ø 9.52 (3/8)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Gas Side	mm (inch)	Ø 12.7 (1/2)	Ø 15.88 (5/8)	Ø 15.88 (5/8)	Ø 15.88 (5/8)

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	

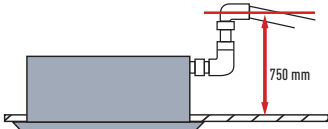
¹ These values are at 230V only. For 220V and 240V specifications, please refer to the technical data book.

DB: Dry Bulb; WB: Wet Bulb

ONLY 246 MM THIN AND 750 MM DRAIN-UP MECHANISM



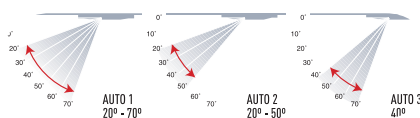
With only 246 mm high body, fitting easily in ceiling spaces and tight spots.



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 slim 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.



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.



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.



INNOVATIVE DESIGN CREATES EXTRA QUIET OPERATION



More de-noising Material Adopting de-noising material inside, improving the seal quality to isolate and reduce the operation noises.



S-63UA1E5 // S-71UA1E5 // S-90UA1E5 // S-100UA1E5

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

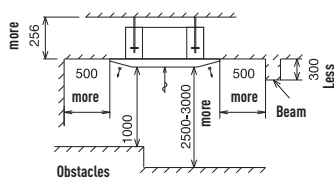
- Filter Sign
- Mildew-Proofing Drain pan
- Hot Start Control
- Filter

Field Service & Maintenance

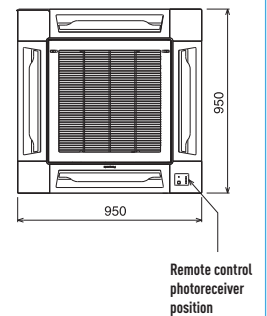
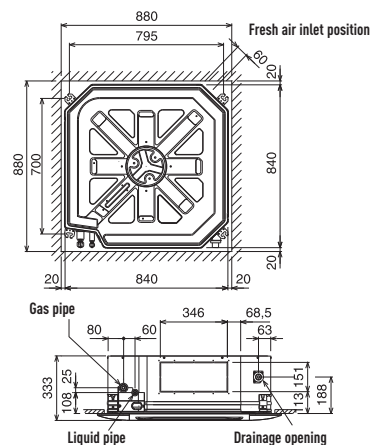
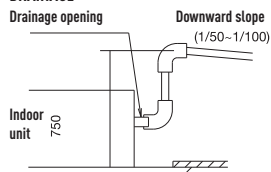
- Indoor Unit Address Setting
- Outdoor Unit Address Setting
- Automatic Address Resetting for Group Control (Wired Only)
- Indoor Unit Test Run Mode
- Emergency Operation (Infrared Only)
- Self Diagnosis Function
- Self Diagnosis Records (Wired Only)

* Wired: Wired Remote Controller / Infrared: Infrared Remote Controller.

SPACE NEEDED FOR INSTALLATION



DRAINAGE



Maximum flexibility

VRF

ABE

LOW-SILHOUETTE // DUCT TYPE // LOW STATIC PRESSURE

OFFERS MAXIMUM INSTALLATION FLEXIBILITY WITH SLIM, LIGHTWEIGHT DESIGN
Only 200 mm tall! Ideal for hotels and offices.

A class energy saving
INVERTER+

Easy control
CONNECTIVITY

Environmentally friendly refrigerant
R410A

5 year compressor warranty

TECHNICAL ZOOM

- ULTRA-THIN, DUCT-TYPE INDOOR UNIT
- ULTRA-THIN 200 mm DESIGN: FITS IN EVEN WHERE CEILING HEIGHT IS LIMITED
- BUILT-IN SELECTABLE STATIC PRESSURE SETTINGS
- THOROUGHLY CONSIDERED CONNECTING FLANGE DESIGN

			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		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	
	Hz		50Hz	50Hz	50Hz	50Hz	50Hz	50Hz	
Cooling	Capacity		2.20 (7,500)	2.80 (9,600)	3.20 (10,900)	3.60 (12,300)	4.50 (15,400)	5.60 (19,100)	
	Power Input ¹		75	80	85	85	95	105	
	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)	12.5 (441)
	Sound Pressure Level ¹	Hi/Lo	dB (A)	36/30	37/30	38/31	38/31	39/32	39/32
	Sound Power Level ¹	Hi/Lo	dB	51/45	52/45	53/46	53/46	54/47	54/47
Heating	Capacity		2.50 (8,500)	3.20 (10,900)	3.60 (12,300)	4.20 (14,300)	5.10 (17,400)	6.40 (21,800)	
	Power Input ¹		75	80	85	85	95	105	
	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)	12.5 (441)
	Sound Pressure Level ¹	Hi/Lo	dB (A)	36/30	37/30	38/31	38/31	39/32	39/32
	Sound Power Level ¹	Hi/Lo	dB	51/45	52/45	53/46	53/46	54/47	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	200 x 900 x 550	200 x 900 x 550	200 x 900 x 550	200 x 900 x 550	200 x 900 x 550	
		inch	7-7/8 x 35-7/16 x 21-21/32	7-7/8 x 35-7/16 x 21-21/32	7-7/8 x 35-7/16 x 21-21/32	7-7/8 x 35-7/16 x 21-21/32	7-7/8 x 35-7/16 x 21-21/32	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)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (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)	12.7 (1/2)	

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	

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

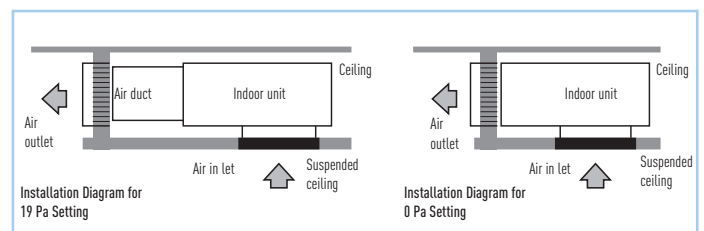
Even where ceiling height is limited, the indoor units effectively fit in and provide a more spacious feel in most suspended ceiling situations. Occupying only 20 cm of vertical space and projecting only 55 cm, the unit can be installed in semi-dropped ceiling situations, thus helping to create spacious and comfortable surroundings.



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.



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

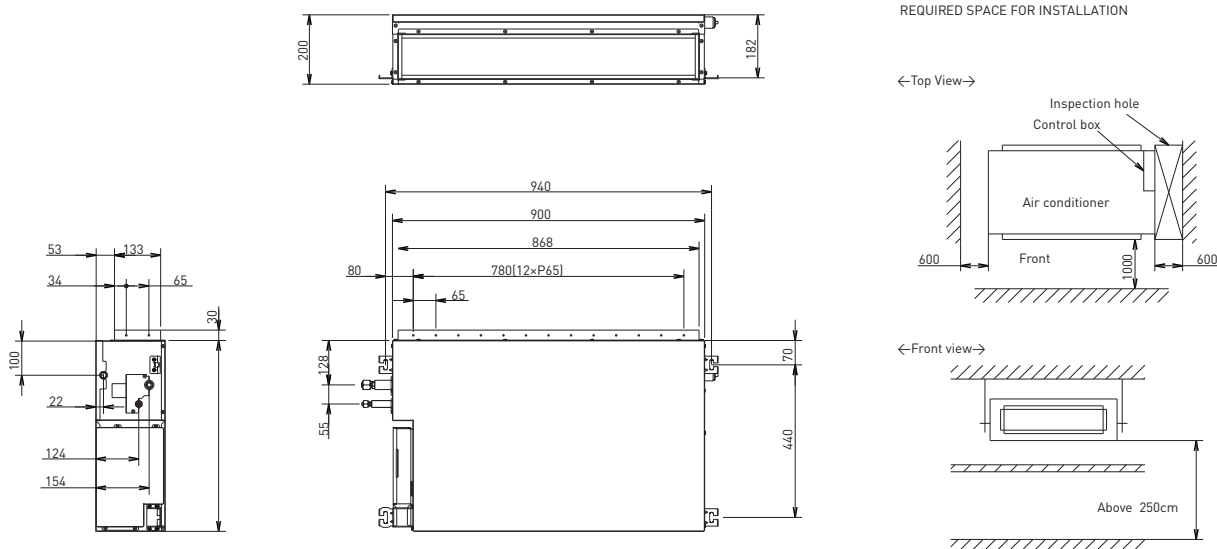
- Filter Sign
- Hot Start Control

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.

(UNIT:mm)



SCALE 1:10

Maximum flexibility

VRF

ABE

LOW-SILHOUETTE // DUCT TYPE // MID STATIC PRESSURE

DUCT TYPE WITH A MAXIMUM OF 7 mmAq OF STATIC PRESSURE WITH SLIM PROFILE OF ONLY 250 mm. COMPACT AND POWERFUL!

A class
energy saving

INVERTER+

Easy
control

CONNECTIVITY

Environmentally
friendly
refrigerant

R410A

5 year
compressor
warranty

TECHNICAL ZOOM

- COMPACT, LIGHTWEIGHT DESIGN FOR EASY INSTALLATION
- 3-WAY REMOVABLE AIR FILTER
- VERSATILE AIR INLET AND DRAIN INSTALLATION
- STATIC PRESSURE SELECTION

		1.75 HP	2.0 HP	2.5 HP	3.0 HP	3.5 HP	4.0HP
		S-45MA1E5	S-56MA1E5	S-63MA1E5	S-71MA1E5	S-90MA1E5	S-100MA1E5
INDOOR	Power Source	phase	1Ø	1Ø	1Ø	1Ø	1Ø
		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)	4.50 (15,400)	5.60 (19,100)	6.30 (21,500)	7.10 (24,200)	9.00 (30,700)
	Power Input ¹	W	135	135	135	135	175
	Current ¹	A	0.60	0.60	0.60	0.60	0.80
	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	44/37
	Sound Power Level ¹	Hi/Lo dB	57/50	57/50	58/51	58/51	59/52
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)
	Power Input ¹	W	135	135	135	135	175
	Current ¹	A	0.60	0.60	0.60	0.60	0.80
	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	44/37
	Sound Power Level ¹	Hi/Lo dB	57/50	57/50	58/51	58/51	59/52
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	250x780(+100) ³ x650	250x780(+100) ³ x650	250x1,000(+100) ³ x650	250x1,000(+100) ³ x650	250x1,200(+100) ³ x650
		inch	9-27/32x30-23/32(+3-15/16) x25-19/32	9-27/32x30-23/32(+3-15/16) x25-19/32	9-27/32x39-3/8(+3-15/16) x25-19/32	9-27/32x39-3/8(+3-15/16) x25-19/32	9-27/32x47-1/4(+3-15/16) x25-19/32
Net Weight		kg(lb)	28 (62)	28 (62)	32 (71)	32 (71)	41 (90)
Piping Connection	Liquid Side	mm (inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 9.52 (3/8)	Ø 9.52 (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)

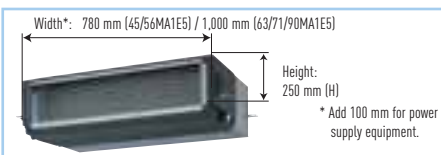
GLOBAL REMARKS	Rated conditions:	
	Cooling	Heating
	Indoor air temperature 27 °C DB / 19 °C WB	20 °C DB
Outdoor air temperature 35 °C DB / 24 °C WB	7 °C DB / 6 °C WB	

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

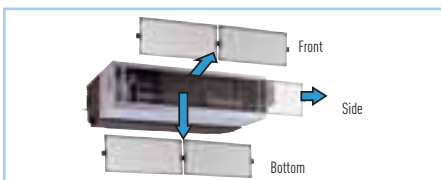
COMPACT, LIGHTWEIGHT DESIGN FOR EASY INSTALLATION

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.



3-WAY REMOVABLE AIR FILTER

The air filter can be slide in-out in three directions even after duct installation for easier maintenance.

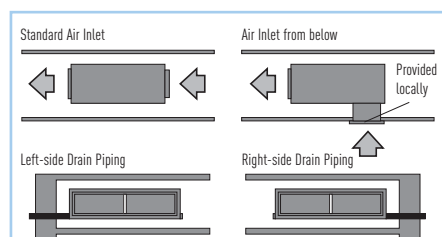


VERSATILE AIR INLET AND DRAIN INSTALLATION

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.



PLENUMS

MA1 E5 MEDIUM PRESSURE DUCTED		
	Air Outlet Plenum (without regulation adaptor)	
S- MA1E5	N. of exits with diameters	Model
45 & 56	3 x Ø 160	CZ-DUMPA45MAS3
63 , 71 & 90	4 x Ø 160	CZ-DUMPA63MAS4
100 & 125	5 x Ø 200	CZ-DUMPA100MAS5

MA1 E5 MEDIUM PRESSURE DUCTED		
	Air Inlet Plenum	
S- MA1E5	N. of exits with diameters	Model
45 & 56	2 x Ø 200	CZ-DUMPA45MAR2
63 , 71 & 90	2 x Ø 250	CZ-DUMPA63MAR2
100 & 125	4 x Ø 200	CZ-DUMPA100MAR4





**S-45MA1E5 // S-56MA1E5 // S-63MA1E5 // S-71MA1E5 // S-90MA1E5
S-100MA1E5**

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

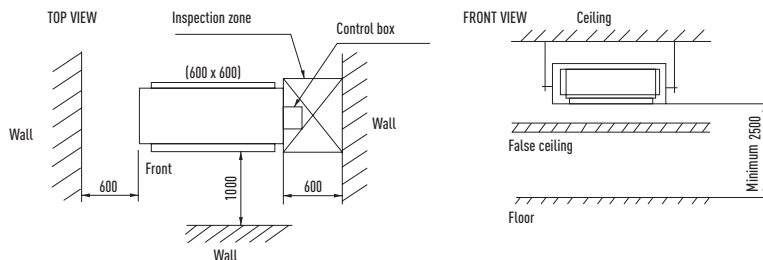
- Filter Sign
- Hot Start Control
- Filter

Field Service & Maintenance

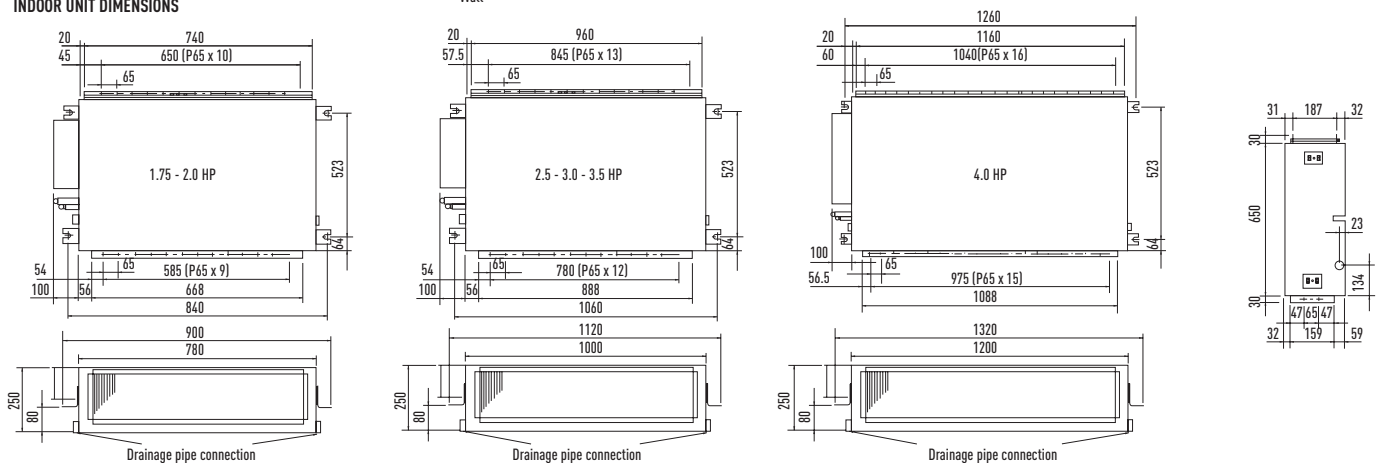
- Indoor Unit Address Setting
- Outdoor Unit Address Setting
- Automatic Address Resetting for Group Control (Wired Only)
- Indoor Unit Test Run Mode
- Emergency Operation (Infrared Only)
- Self Diagnosis Function
- Self Diagnosis Records (Wired Only)

* Wired: Wired Remote Controller / Infrared: Infrared Remote Controller.

SPACE NEEDED FOR INSTALLATION



INDOOR UNIT DIMENSIONS



PANASONIC INTRODUCING THE NEW 3 WAY BEST EFFICIENCY ECOi

ECOi SERIES

DC-inverter control technology for rapid and powerful cooling & heating.

The ever-evolving Panasonic ECOi 6N series

The ECOi 6N series is designed for energy savings, easy installation, and high efficiency. Always continuing to evolve, Panasonic uses advanced technologies to meet the requirements of diverse situations and contribute to the creation of comfortable living spaces.

Lower running and life cycle costs

Panasonic ECOi 6N systems are amongst the most efficient VRF systems on the market, offering COPs in excess of 4.0 at full load conditions. 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 costs by defrosting each outdoor coil in turn when conditions allow.

The range of outdoor unit modules consists of 7 models from 8 HP to 20 HP. The module sizes from 10 HP to 20 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 6N series to be used in very large buildings, with maximum design flexibility.

The ECOi 6N 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 interfaces.



MINI ECOi

Panasonic's policy of product development continues with the expansion of the Mini ECOi 6N, the 2-Pipe heat pump small VRF system specifically designed for the European market.



2-PIPE ECOi 6N SERIES

The 2-Pipe ECOi 6N series is specifically designed for energy saving, easy installation and high efficiency performance as its main focus.



3-PIPE ECOi MF2 SERIES

ECOi 3-Pipe 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.



* At full load

ECOi 6N SERIES 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.

ECOi 6N 2-PIPE WITH WATER HEAT EXCHANGER FOR CHILLED AND HOT WATER PRODUCTION

For hydronic applications.



Easy to control

A wide variety of control options are available to ensure that the ECOi 6N 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-Pipe 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 6N 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 control 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 6N 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 24 HP or greater for 3-Pipe ECOi MF2 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 6N 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 costs by defrosting each outdoor coil in turn when conditions allow.

2-PIPE MINI ECOi LE1 SERIES COOLING AND HEATING TYPE 1-PHASE COOLING AND HEATING TYPE 3-PHASE

FOR SMALL-SCALE COMMERCIAL AND RESIDENTIAL USE

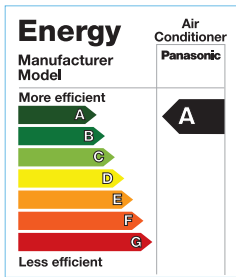


Panasonic 2-Pipe Mini ECOi, the 2-pipe heat pump is specifically designed for the most demanding applications. Mini ECOi is available in 3 sizes with cooling capacities ranging from 12.1 kW to 15.5 kW and connectable up to 9 indoor units (applicable for 15.5 kW).

An expansion from the Panasonic VRF line up, the Mini ECOi is compatible with the same indoor units and controls as the rest of the ECOi range.

Energy saving concept

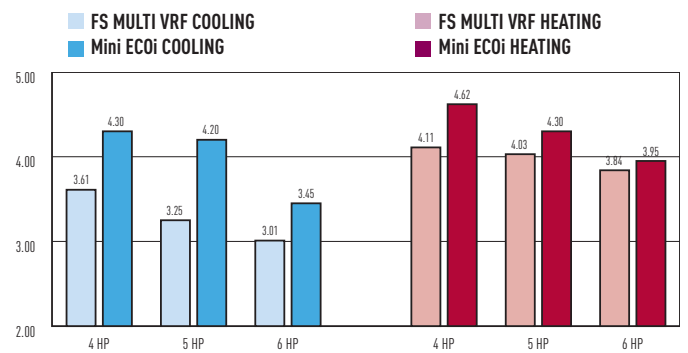
The energy saving designs for the structure of fans, fan motors, compressors and heat exchangers has resulted in high COP values, which rank as one of the top classed in the industry. In addition, use of highly efficient R410A refrigerant reduces CO₂ emission and lowers operating costs.



All Mini ECOi VRF systems are rated as EEL Category A, which confirms that they are amongst the most energy efficient systems available. Power consumption during operation is substantially less than that of lower rated units and consequently both the day to day running costs and full life cycle costs are significantly reduced.

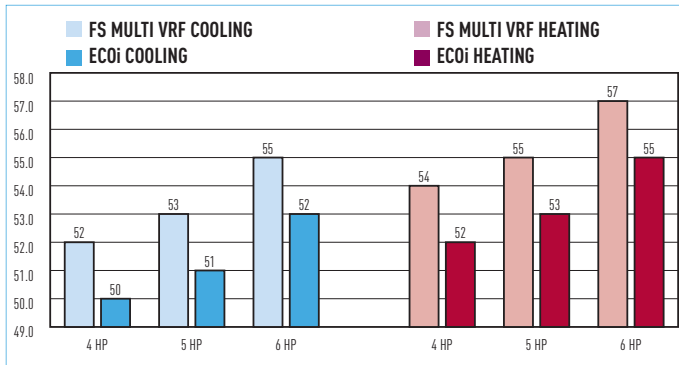
Improved energy saving

The operation efficiency has been improved using highly efficient R410A refrigerant, new DC inverter compressor, new DC motor and new design of heat exchanger.



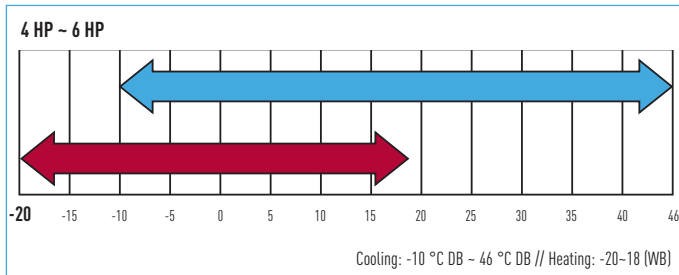
Drastically reduced sound level

The pressure sound level has been reduced drastically thanks to the new DC Inverter compressor, newly designed heat exchanger and Fan.



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.



Lightweight

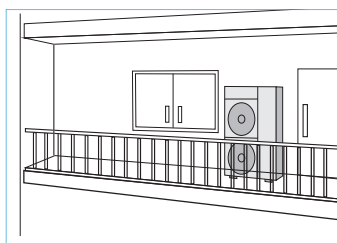
In case of 5/6 HP, the weight has been reduced from 123 kg into 104 kg.



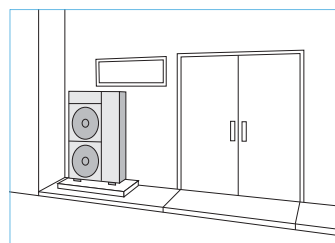
Compact & Flexibility-design

The slim and lightweight design can be installed in various places.

FOR BALCONIES



FOR NARROW SPACES

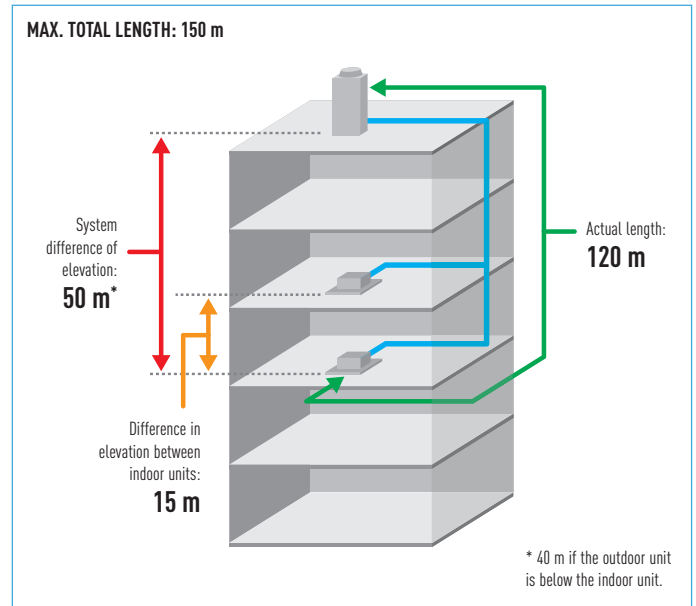


Increased piping length for Greater design flexibility

Adaptable to various building types and sizes.

Actual piping length: 120 m (equivalent piping length 140 m).

Max. piping length: 150 m.

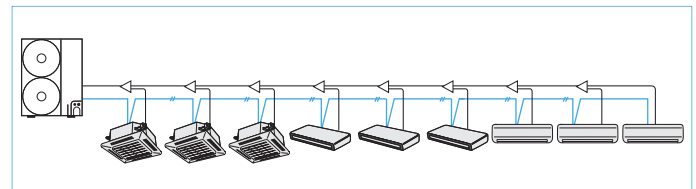


Silent mode

3 dB can be reduced by setting. External input signal is also available.

Up to 9 indoor units per system

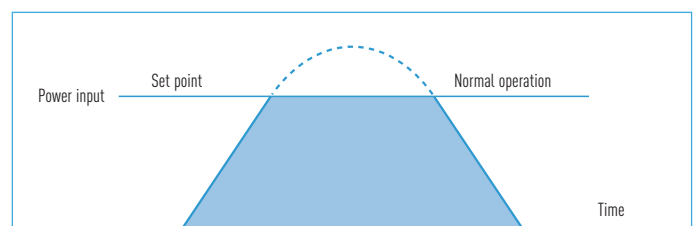
SYSTEM / HP	4 HP	5 HP	6 HP
Connectable Indoor Unit	6	8	9



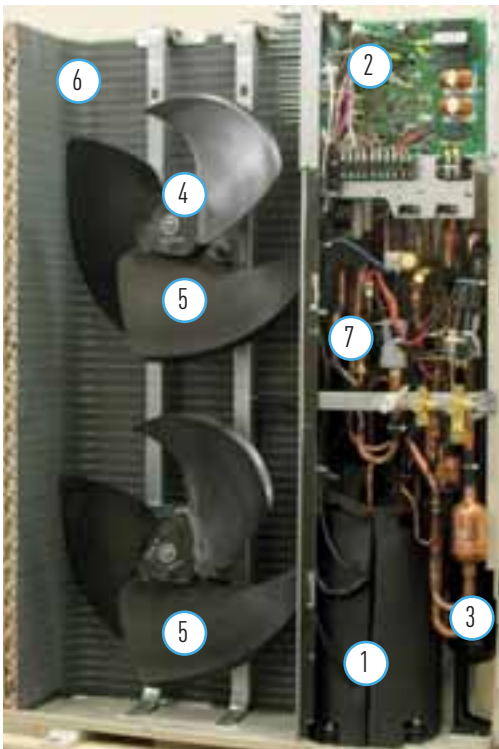
Power suppression control for energy saving (Demand control)*

ECOi systems have a demand control utilising inverter technology. With this control, power consumption can be set in three steps to deliver optimum performance. This helps to reduce annual power consumption and electricity costs while maintaining comfort.

* Demand control kit outdoor unit (CZ-CAPDC3) is required to input the signal. Setting is possible as 0% or in the range from 40 to 100% (in steps of 5%). At the time of shipping, setting has been done to the three steps of 0%, 70% and 100%.



	Power input	
Level 1	100% (Preset)	Possible to change 40-100%
Level 2	70% (Preset)	
Level 3	0% (Always in stop condition)	



Mini ECOi

- 1 Inverter compressor. Large-capacity inverter compressor has been adopted. The inverter compressor is superior in performance with improved partial-load capacity.
- 2 Printed Circuit Board. PCBs have been reduced to two, to improve maintenance.
- 3 Accumulator. Larger accumulator has been adopted to maintain compressor reliability and because of the increased refrigerant quantity, extended max piping length can be achieved. Furthermore, the refrigerant pressure loss was reduced, which contributes to an improved operating efficiency.
- 4 DC Fan motor. Checking load and outside temperature, the DC motor is controlled for optimum air volume.
- 5 Newly designed Big Edgy Fan. The newly designed Fan edge has been realized to inhibit air turbulent and to increase efficiency. As Fan diameter has been sized up to 490 mm, the air volume has been increased by 12% keeping low sound level.
- 6 Heat exchanger & copper tubes. The heat exchanger size and the copper tube sizes in the heat exchanger has been redesigned to increase efficiency.
- 7 Oil separator. New centrifugal separator has been adopted to improve oil separation efficiency and reduce refrigerant pressure loss.

Demand control Kit information

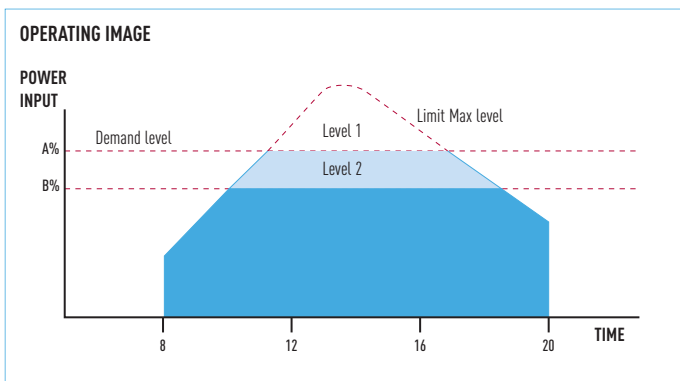
		PACi	MINI ECOi	ECOi 6N
CZ-CAPDC2	Seri-Para I/O unit for outdoor unit	Yes	Yes	Yes
CZ-CAPDC3	Demand Control Kit	Yes	Yes	-
CZ-CAPDC4	Demand Control Kit	-	-	Yes

Function of Demand control

This function limits the maximum operating input at peak time. 3 levels as 100%/70%/0% is set at the factory¹. The limit value setting for level 1 & 2 can be changed from 40% ~ 100% by 5% at the system commissioning.

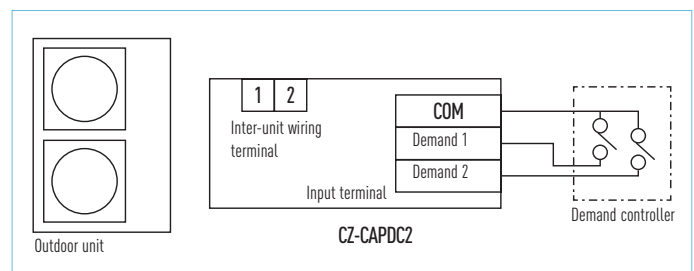
1. The 3rd level is available only for CZ-CAPDC3 & CZ-CAPDC4.)

	POWER INPUT LEVEL (VS. RATED CONDITION)	
Level 1	100% (at ship)	From 40%-100% setting can be changed (by 5% step)
Level 2	70% (at ship)	
Level 3	0% (Forcible thermo-OFF)	



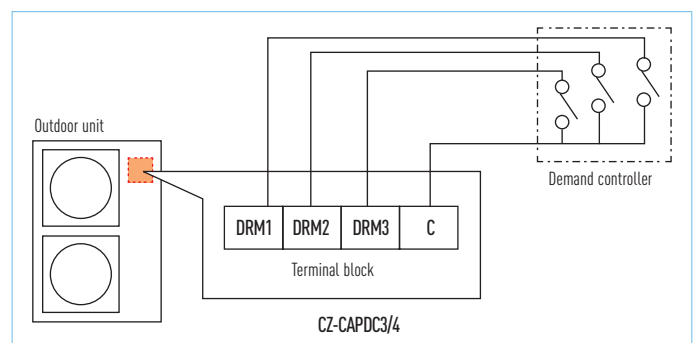
CZ-CAPDC2

Demand control input signals sent to this outdoor interface will be transferred to the system via inter-unit control wiring. Other controls (ex. Operation ON/OFF, Mode switch Cool/Heat) are also available. Demand level 1 & 2 are available.



CZ-CAPDC3 for PACi and Mini ECOi // CZ-CAPDC4 for ECOi 6N 2way

Optional terminal block kit for demand control to be mounted in the outdoor unit. Via this interface, the demand control signals go directly to the outdoor unit control PCB. 3 control levels are available.



* Only for 6N series ECO-i outdoor unit, "Regular Demand control" setting is available. (The system will be limited the maximum input level for all the time without any signal input.) (The setting to be done at the time of system start-up or service by maintenance remote controller.)



MINI ECOi HIGH EFFICIENCY

FOR LIGHT COMMERCIAL USE

Panasonic's Mini ECOi, 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 Mini ECOi 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 Mini ECOi is compatible with the same indoor units and controls as the rest of the ECOi range.

**Internet
Control
Ready**
INTERNET CONTROL

**Environmentally
friendly
refrigerant**
R410A

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

**5 year
compressor
warranty**

OPTIONAL

TECHNICAL FOCUS

- SINGLE PHASE OR THREE PHASE POWER SUPPLY
- ONE AMP START CURRENT
- DC INVERTER TECHNOLOGY COMBINED WITH R410A
- DIVERSITY RATIO 50-130%
- COOLING OPERATION TO -10 °C
- COMPACT OUTDOOR UNIT 1,330 x 940 x 410 mm

HP		4.0 HP		5.0 HP		6.0 HP	
Model name		U-4LE1E5	U-4LE1E8	U-5LE1E5	U-5LE1E8	U-6LE1E5	U-6LE1E8
Power supply		220/230/240 V, 50 Hz	380/400/415 V, 50 Hz	220/230/240 V, 50 Hz	380/400/415 V, 50 Hz	220/230/240 V, 50 Hz	380/400/415 V, 50 Hz
Cooling capacity	kW	12.1	12.1	14.0	14.0	15.5	15.5
	BTU/h	41,300	41,300	47,800	47,800	52,900	52,900
EER	W/W	4.30	4.30	4.20	4.20	3.45	3.45
Heating capacity	kW	12.5	12.5	16.0	16.0	18.0	18.0
	BTU/h	42,700	42,700	54,600	54,600	61,400	61,400
COP	W/W	4.62	4.62	4.30	4.30	3.95	3.95
Dimensions	H x W x D	mm 1,330 x 940 x 340 (410)	mm 1,330 x 940 x 340 (410)	mm 1,330 x 940 x 340 (410)	mm 1,330 x 940 x 340 (410)	mm 1,330 x 940 x 340 (410)	mm 1,330 x 940 x 340 (410)
Piping connection	Gas	mm 15.88	mm 15.88	mm 15.88	mm 15.88	mm 19.05	mm 19.05
	Liquid	mm 9.52	mm 9.52	mm 9.52	mm 9.52	mm 9.52	mm 9.52
Sound pressure level	Cooling	dB(A) 50	dB(A) 50	dB(A) 51	dB(A) 51	dB(A) 52	dB(A) 52
	Heating	dB(A) 52	dB(A) 52	dB(A) 53	dB(A) 53	dB(A) 55	dB(A) 55
Maximum number of indoor units		6	6	8	8	9	9

Preliminary specifications, subject to change without notice.

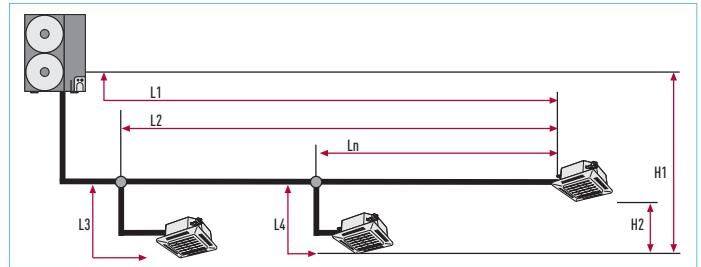
GLOBAL REMARKS	Rated conditions:	
	Cooling	Heating
	Indoor air temperature	27 °C DB / 19 °C WB
Outdoor air temperature	35 °C DB / 24 °C WB	7 °C DB / 6 °C WB

Specifications subject to change without notice.

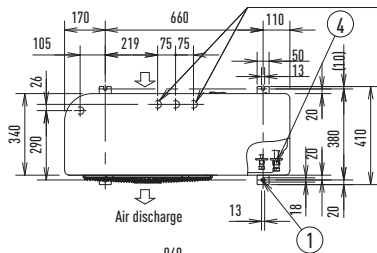


Flexible pipework

CATEGORY	ITEM	DESCRIPTION	MAX LENGTH (m)
Allowable pipework length	L1	Maximum pipe run	Actual length 120
			Equivalent length 140
	L2-L3	Difference between maximum length and minimum length from the first distribution joint	40
	L3 L4 Ln	Maximum length of each distribution joint	30
	L1+L3+L4	Maximum total pipe run length	150
Allowable height difference	H1	When outdoor unit installed higher	50
		When outdoor unit installed lower	40
	H2	Maximum difference between indoor units	15

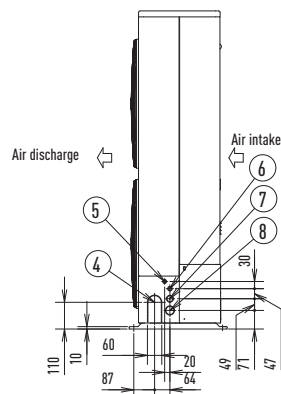
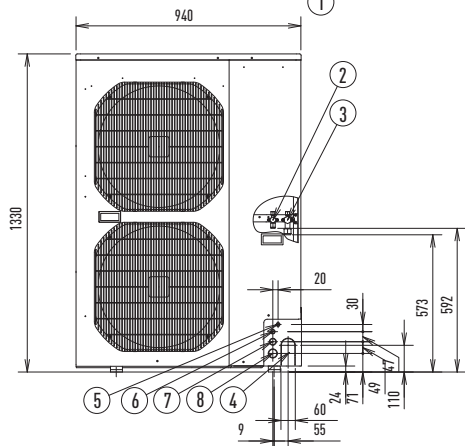


TOP VIEW

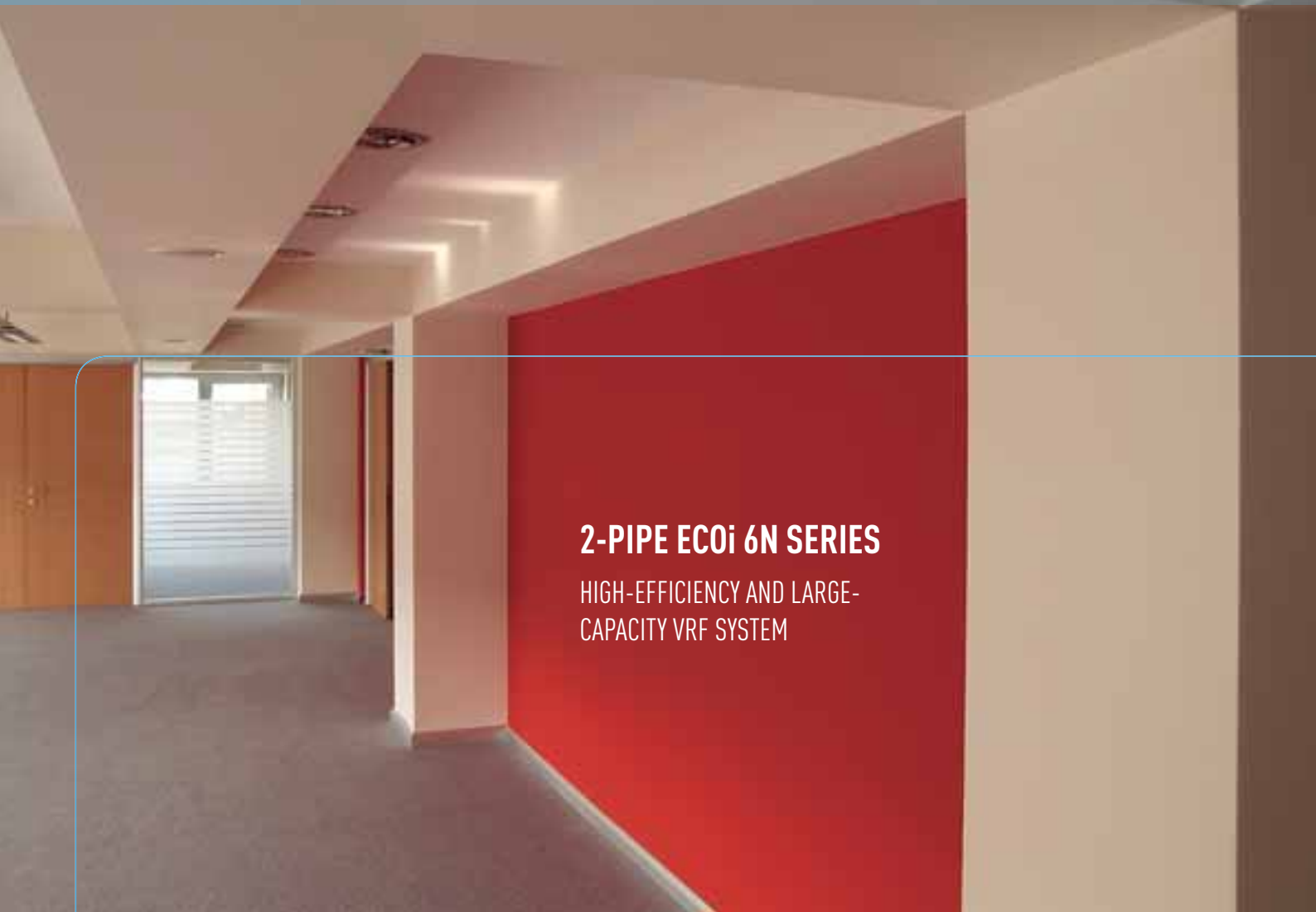


4 x Ø 32 holes (holes for drain)
Of the 4 Ø 32 holes, use 1 of the 2 holes specified for drain use to install the port.
Use rubber plugs to seal the remaining 3 holes.

FRONT VIEW



	Size (mm)
1 Mounting hole (4-R6.5), anchor bolt:	M10
2 Refrigerant tubing (liquid tube), flared connection	Ø 9.52
3 Refrigerant tubing (gas tube), flared connection	15.88 or 19.05
4 Refrigerant tubing port.	
5 Electrical wiring port	Ø 16
6 Electrical wiring port	Ø 19
7 Electrical wiring port	Ø 29
8 Electrical wiring port	Ø 38



2-PIPE ECOi 6N SERIES

HIGH-EFFICIENCY AND LARGE-CAPACITY VRF SYSTEM

Internet
Control
Ready

INTERNET CONTROL

Energy
saving

INVERTER +

Environmentally
friendly
refrigerant

R410A

Down to
-25 °C in
heating mode

OUTDOOR
TEMPERATURE

5 year
compressor
warranty

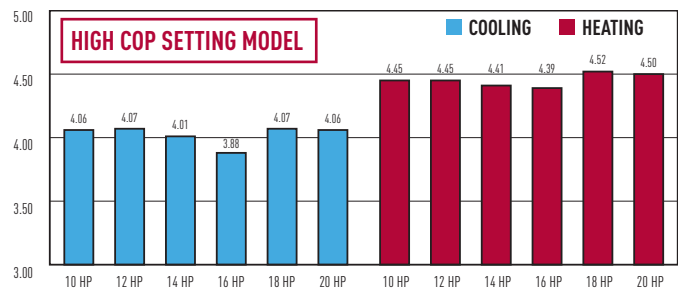
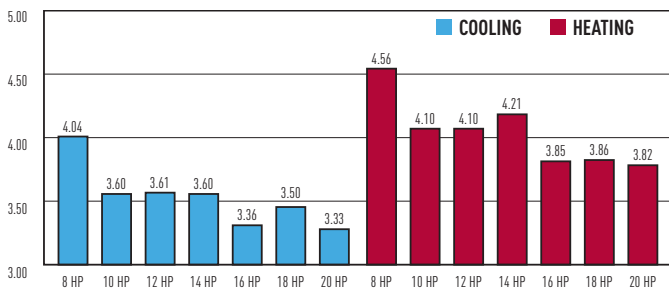
Large-capacity VRF systems using R410A with advanced technology.

Newly designed next generation VRF!



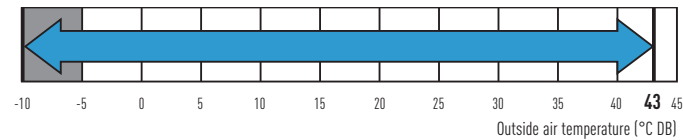
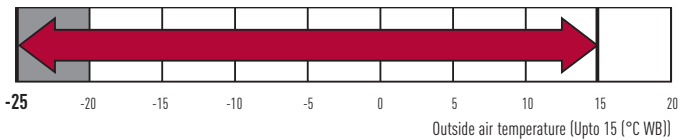
Energy savings

The operation efficiency has been improved using highly efficient R410A refrigerant, new DC inverter compressor, new DC motor and new design of heat exchanger.



Extended operating range

Heating operation range: Extended heating operation range enables heating even when outdoor temperature as low as -25 °C. Using a wired remote control, indoor heating temperature range can be set from 16 °C to 30 °C.



Wide temperature setting range.

Cooling operation range: -10 °C DB to +43 °C DB.



Connectable indoor/outdoor unit capacity ratio up to 200%

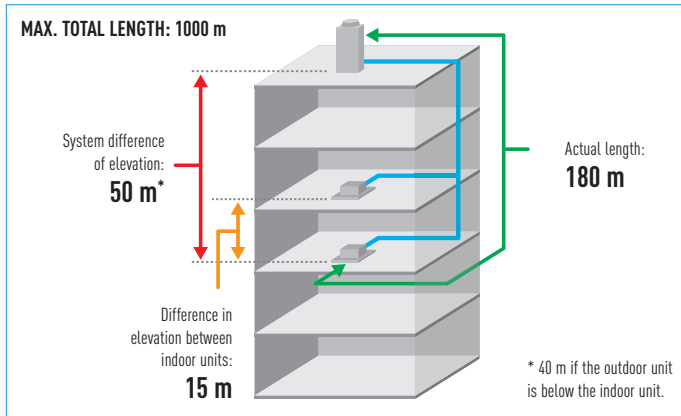
VRF systems attain maximum indoor unit connection capacity of up to 200 % of the unit's connection range, depending on the outdoor and indoor models selected. So for a reasonable investment, VRF systems provide an ideal air conditioning solution for locations where full cooling/heating are not always required.

SYSTEM (HP)	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	50	52	54	56	58	60
CONNECTABLE INDOOR UNITS: 130%	13	16	19	23	26	29	33	36	40	43	47	50	53	56	59											64	
CONNECTABLE INDOOR UNITS: 200%	20	25	30	35	40	45	50	55	60											64							

If more than 100% indoor units are operated with a high load, the units may not perform at the rated capacity. For the details, please consult with an authorized Panasonic dealer.

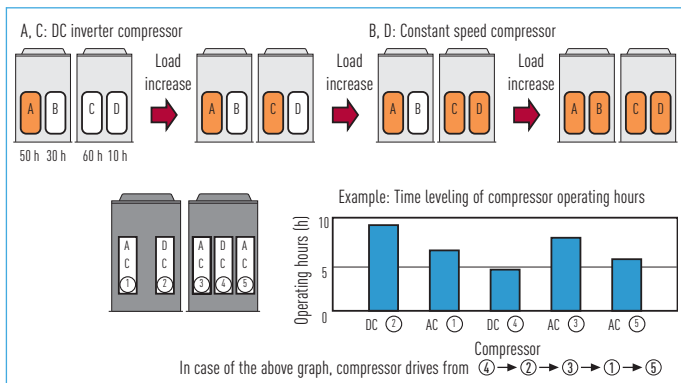
Increased piping lengths and design flexibility

Adaptable to various building types and sizes. Actual piping length: 180 m. Maximum piping length: 1000 m.



Extended compressor life by uniform compressor operation times

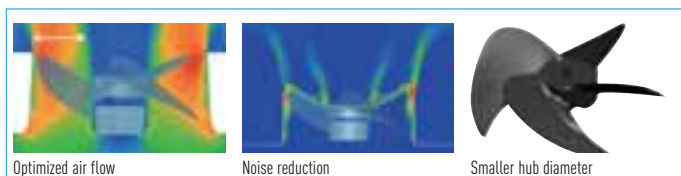
Total compressors run-time is monitored by a built-in microcomputer, which ensures that operation times of all compressors within the same refrigerant circuit are balanced. Compressors with histories showing shorter run times are selected first, ensuring equal wear and tear across all units and extended working life for the system.



Newly designed fan

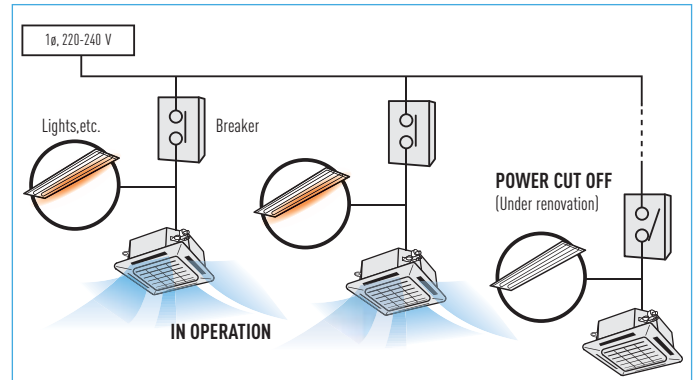
Optimized air flow and noise reduction

Newly designed fan and bell-mouth reduces stress to fan by dispersing fast wind speed. Thus, lower air resistance results in lower energy consumption. The turbulent flow (blue part) can be suppressed and the noise can be reduced. Even though the high speed circulation is utilized, the noise level is held at the same level as normal.



Non-stop operation during maintenance

In the event of an indoor unit malfunctioning, other indoor units can be set to continue operation even during maintenance.



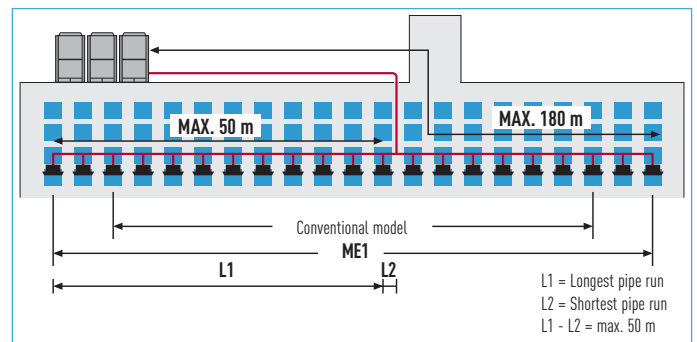
Automatic backup operation in the case of compressor and outdoor units malfunction

Backup operation is applied during in the case of emergencies. If error message is displayed, please contact your local service office. (Except for 8 HP single unit installation).



Easy to design solutions for schools, hotels, hospitals and other large buildings

Difference between Max. and Min. pipe runs after first branch can be a maximum of 50 m; larger pipe runs can be up to 180 m.

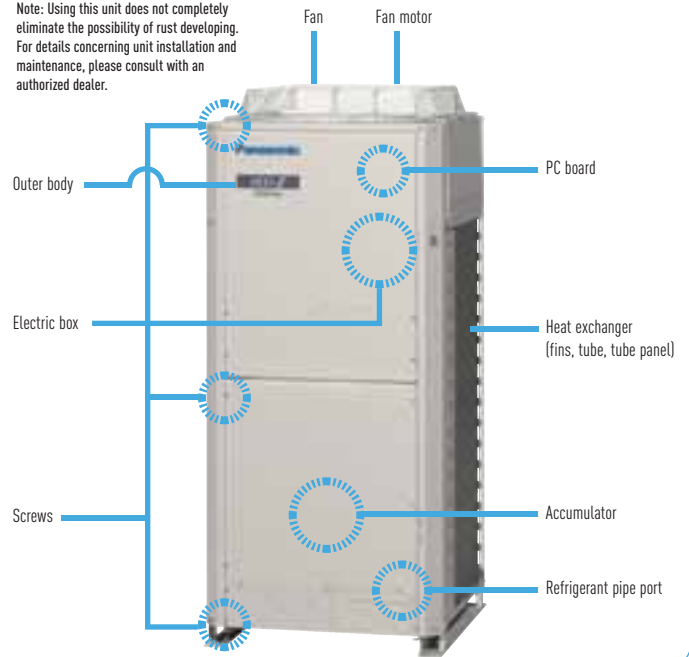




Anti-corrosion model available

For bespoke projects: for use in coastal areas and other locations where sea air can easily cause salt damage to units. As well as the heat exchanger, various other parts are specially treated to provide exceptional durability.

Note: Using this unit does not completely eliminate the possibility of rust developing. For details concerning unit installation and maintenance, please consult with an authorized dealer.



Demand control Kit information

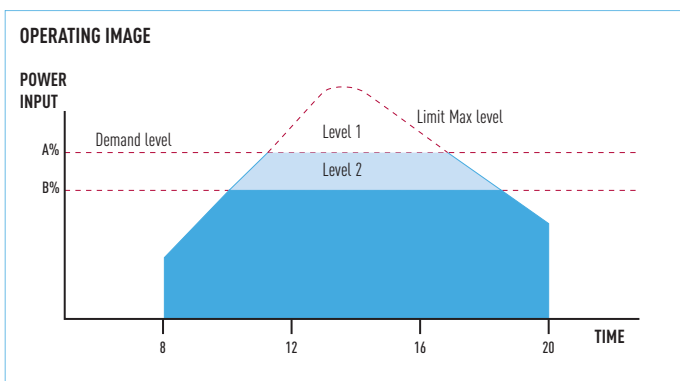
		PACi	MINI ECOi	ECOi 6N
CZ-CAPDC2	Seri-Para I/O unit for outdoor unit	Yes	Yes	Yes
CZ-CAPDC3	Demand Control Kit	Yes	Yes	-
CZ-CAPDC4	Demand Control Kit	-	-	Yes

Demand Control Functions

This function limits the maximum operating input at peak time. 3 levels as 100%/70%/0% is set at the factory¹. The limit value setting for level 1 & 2 can be changed from 40% ~ 100% by 5% when the system is commissioned.

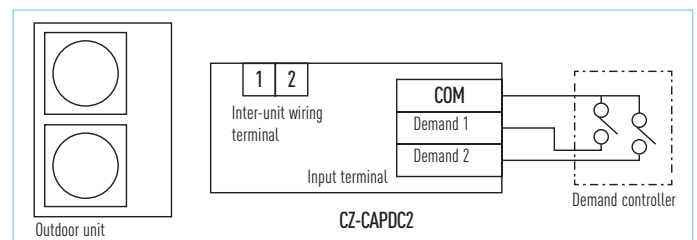
1. The 3rd level is available only for CZ-CAPDC3 & CZ-CAPDC4.)

	POWER INPUT LEVEL (VS. RATED CONDITION)	
Level 1	100% (at ship)	From 40%-100% setting can be changed (by 5% step)
Level 2	70% (at ship)	
Level 3	0% (Forcible thermo-OFF)	



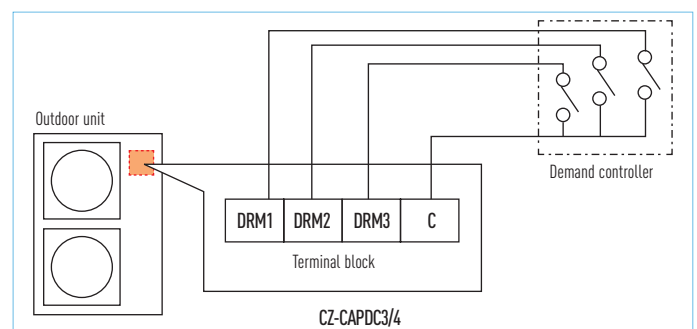
CZ-CAPDC2

Demand control input signals sent to this outdoor interface will be transferred to the system via inter-unit control wiring. Other controls (ex. Operation ON/OFF, Mode switch Cool/Heat) are also available. Demand level 1 & 2 are available.



CZ-CAPDC3 for PACi and Mini ECOi // CZ-CAPDC4 for ECOi 6N 2way

Optional terminal block kit for demand control to be mounted in the outdoor unit. Via this interface, the demand control signals go directly to the outdoor unit control PCB. Three control levels are available.



* Only for 6N series ECO-i outdoor unit, "Regular Demand control" setting is available. (The system will be limited the maximum input level for all the time without any signal input.) (The setting to be done at the time of system start-up or service by maintenance remote controller.)



8-12 HP // 2-PIPE ECOi 6N 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. It's your choice.

- Top class COP= 4.56 (In case of 8 HP heating).
- Heating operation at outdoor temperatures down to -25 °C.
- Extended pipe runs of up to 180 m.

Internet
Control
Ready

INTERNET CONTROL

Environmentally
friendly
refrigerant

R410A

Down to
-25 °C in
heating mode

OUTDOOR
TEMPERATURE

5 year
compressor
warranty

OPTIONAL

TECHNICAL FOCUS

- COMPACT CASING
- LONGER MAX PIPING LENGTH UP TO 1,000 m
- EXTENDED OPERATING RANGE TO PROVIDE HEATING AT OUTDOOR TEMPERATURE AS LOW AS -25 °C
- SUITABLE FOR REFURBISHMENT PROJECTS (REFER TO TECHNICAL DATA BOOK)

HP			8.0 HP	10.0 HP	12.0 HP
STANDARD MODEL			U-8ME1E81	U-10ME1E81	U-12ME1E81
Power supply			400 V / 3 phase / 50 Hz		
Cooling capacity		kW	22.4	28.0	33.5
EER		W/W	4.04	3.60	3.61
Electrical ratings	Operating current	A	8.5	12.2	14.6
	Power input	kW	5.54	7.78	9.29
Heating capacity		kW	25.0	31.5	37.5
COP		W/W	4.56	4.10	4.10
Electrical ratings	Operating current	A	8.4	12.1	14.4
	Power input	kW	5.48	7.68	9.15
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
Net weight		kg	234	234	281
Starting current		A	1	1	81
Air flow rate		m ³ /h	8,820	9,180	11,400
Refrigerant amount at shipment		kg	6.5	6.8	6.8
Demand control			13 steps (0 – 100 %)	13 steps (0 – 100 %)	13 steps (0 – 100 %)
External static pressure		Pa	80	80	80
Piping connections	Gas pipe	mm	19.05	22.22	25.4
	Liquid pipe	mm	9.52	9.52	12.7
	Balance pipe	mm	6.35	6.35	6.35
Ambient temperature operating range			Cooling: -10 °C DB ~ +43 °C DB, Heating: -25 °C WB ~ +15 °C WB		
Sound pressure level	Normal mode	dB(A)	56.5	59.0	61.0
	Silent mode	dB(A)	53.5	56.0	58.0
Sound power level	Normal mode	dB	71.0	73.5	75.5

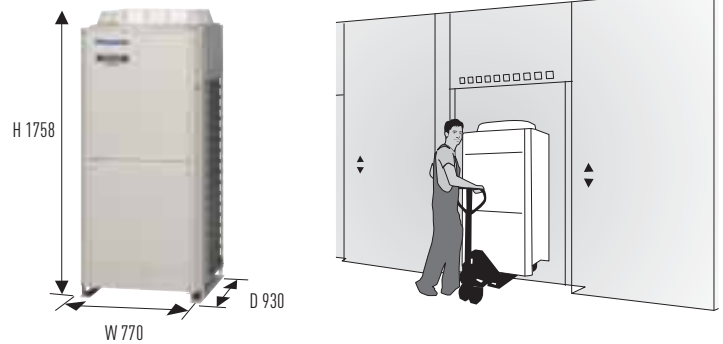
GLOBAL REMARKS	Rated conditions:	
	Cooling	Heating
	Indoor air temperature	27 °C DB / 19 °C WB
Outdoor air temperature	35 °C DB / 24 °C WB	7 °C DB / 6 °C WB

Specifications subject to change without notice.

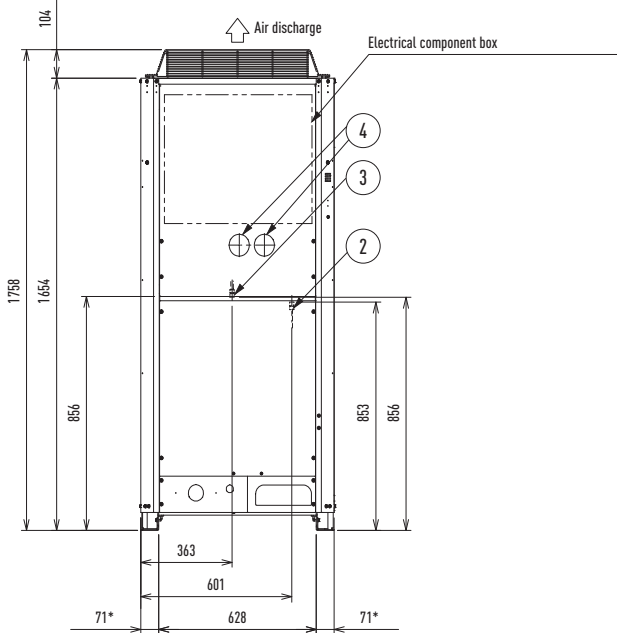


Compact design

8-12 HP fit inside a lift for easy handling at site.

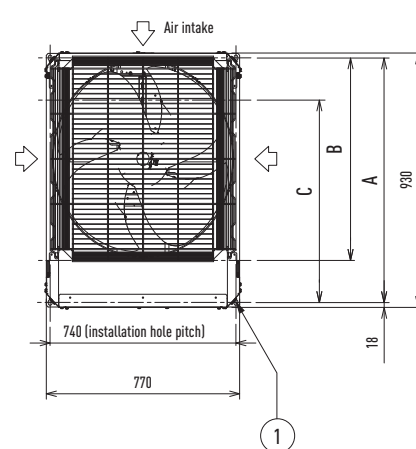


FRONT VIEW



* Installation fixing bracket, installation side.

TOP VIEW



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: Ø 7.94 Scradler-type connection).
- 3 Pressure outlet port (for low pressure: Ø 7.94 Scradler-type connection).
- 4 Knock-out hole for connecting pressure gauge (optional).
- 5 Terminal board.
- 6 Terminal board (for inter-outdoor-unit control wiring).

Energy
savingINVERTER +
INVERTER +

14-16 HP // 2-PIPE ECOi 6N 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. It's your choice.

- Heating operation at outdoor temperatures down to $-25\text{ }^{\circ}\text{C}$.
- Extended pipe runs of up to 180 m.

Internet
Control
Ready
INTERNET CONTROLEnvironmentally
friendly
refrigerant
R410ADown to
 $-25\text{ }^{\circ}\text{C}$ in
heating mode
OUTDOOR
TEMPERATURE5 year
compressor
warranty

OPTIONAL

TECHNICAL FOCUS

- LONGER MAX PIPING LENGTH UP TO 1,000 m
- EXTENDED OPERATING RANGE TO PROVIDE HEATING AT OUTDOOR TEMPERATURE AS LOW AS $-25\text{ }^{\circ}\text{C}$
- SUITABLE FOR REFURBISHMENT PROJECTS (REFER TO TECHNICAL DATA BOOK)

HP	14.0 HP		16.0 HP	
STANDARD MODEL	U-14ME1E81		U-16ME1E81	
Power supply	400 V / 3 phase / 50 Hz			
Cooling capacity	kW	40.0	45.0	
EER	W/W	3.60	3.36	
Electrical ratings	Operating current	A	17.1	20.7
	Power input	kW	11.1	13.4
Heating capacity	kW	45.0	50.0	
COP	W/W	4.21	3.85	
Electrical ratings	Operating current	A	16.5	20.1
	Power input	kW	10.7	13.0
Dimensions	H x W x D	mm	1,758 x 1,000 x 930	1,758 x 1,000 x 930
Net weight	kg	309	309	
Starting current	A	77	81	
Air flow rate	m ³ /h	12,720	12,720	
Refrigerant amount at shipment	kg	8.5	8.5	
Demand control	13 steps (0 – 100 %)		13 steps (0 – 100 %)	
External static pressure	Pa	80	80	
Piping connections	Gas pipe	mm	25.4	28.58
	Liquid pipe	mm	12.7	12.7
	Balance pipe	mm	6.35	6.35
Ambient temperature operating range	Cooling: $-10\text{ }^{\circ}\text{C DB} \sim +43\text{ }^{\circ}\text{C DB}$, Heating: $-25\text{ }^{\circ}\text{C WB} \sim +15\text{ }^{\circ}\text{C WB}$			
Sound pressure level	Normal mode	dB(A)	62.0	62.0
	Silent mode	dB(A)	59.0	59.0
Sound power level	Normal mode	dB	76.5	76.5

GLOBAL REMARKS	Rated conditions:	
	Cooling	Heating
	Indoor air temperature	27 °C DB / 19 °C WB
Outdoor air temperature	35 °C DB / 24 °C WB	7 °C DB / 6 °C WB

Specifications subject to change without notice.

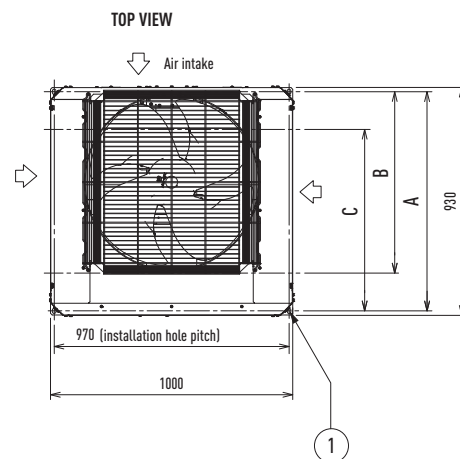
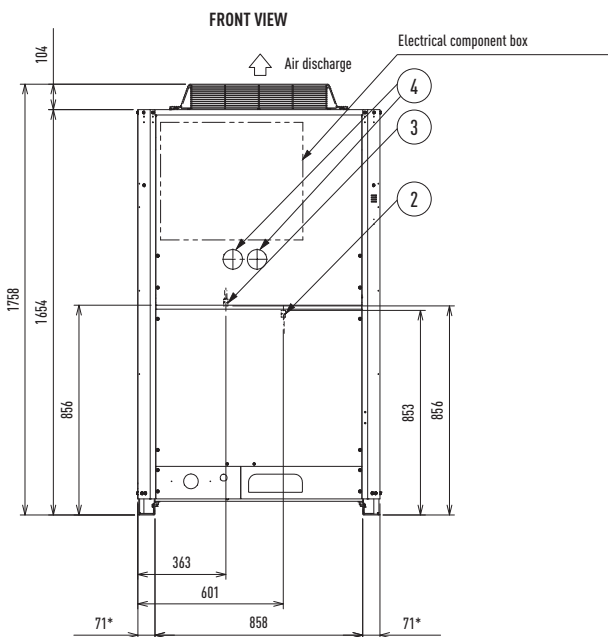


High external static pressure

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.



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: Ø 7.94 Scradler-type connection).
- 3 Pressure outlet port (for low pressure: Ø 7.94 Scradler-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.



18-20 HP // 2-PIPE ECOi 6N 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. It's your choice.

- Heating operation at outdoor temperatures down to -25 °C.
- Extended pipe runs of up to 180 m.

Internet Control Ready

INTERNET CONTROL

Environmentally friendly refrigerant

R410A

Down to -25 °C in heating mode

OUTDOOR TEMPERATURE

5 year compressor warranty

OPTIONAL

TECHNICAL FOCUS

- BIGGER CAPACITY IN ONE CASING
- LONGER MAX PIPING LENGTH UP TO 1,000 m
- EXTENDED OPERATING RANGE TO PROVIDE HEATING AT OUTDOOR TEMPERATURE AS LOW AS -25 °C
- SUITABLE FOR REFURBISHMENT PROJECTS (REFER TO TECHNICAL DATA BOOK)

HP			18.0 HP	20.0 HP
STANDARD MODEL			U-18ME1E81	U-20ME1E81
Power supply			400 V / 3 phase / 50 Hz	
Cooling capacity		kW	50.0	56.0
EER		W/W	3.50	3.33
Electrical ratings	Operating current	A	22.8	26.8
	Power input	kW	14.3	16.8
Heating capacity		kW	56.0	63.0
COP		W/W	3.86	3.82
Electrical ratings	Operating current	A	23.1	26.3
	Power input	kW	14.5	16.5
Dimensions	H x W x D	mm	1,758 x 1,540 x 930	1,758 x 1,540 x 930
Net weight		kg	421	421
Starting current		A	93	101
Air flow rate		m ³ /h	14,640	16,980
Refrigerant amount at shipment		kg	9.0	9.0
Demand control			13 steps (0 – 100 %)	13 steps (0 – 100 %)
External static pressure		Pa	80	80
Piping connections	Gas pipe	mm	28.58	28.58
	Liquid pipe	mm	15.88	15.88
	Balance pipe	mm	6.35	6.35
Ambient temperature operating range			Cooling: -10 °C DB ~ +43 °C DB, Heating: -25 °C WB ~ +15 °C WB	
Sound pressure level	Normal mode	dB(A)	60.0	63.0
	Silent mode	dB(A)	57.0	60.0
Sound power level	Normal mode	dB	74.5	77.5

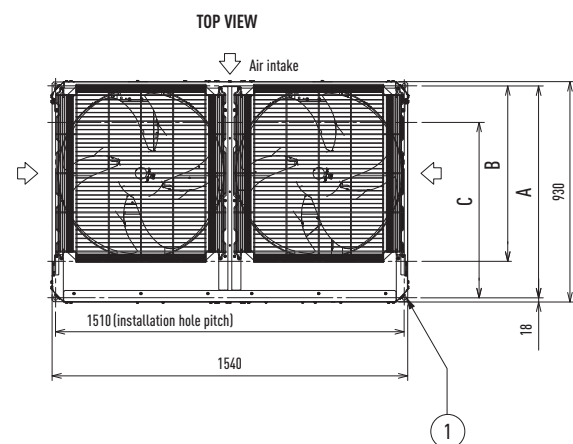
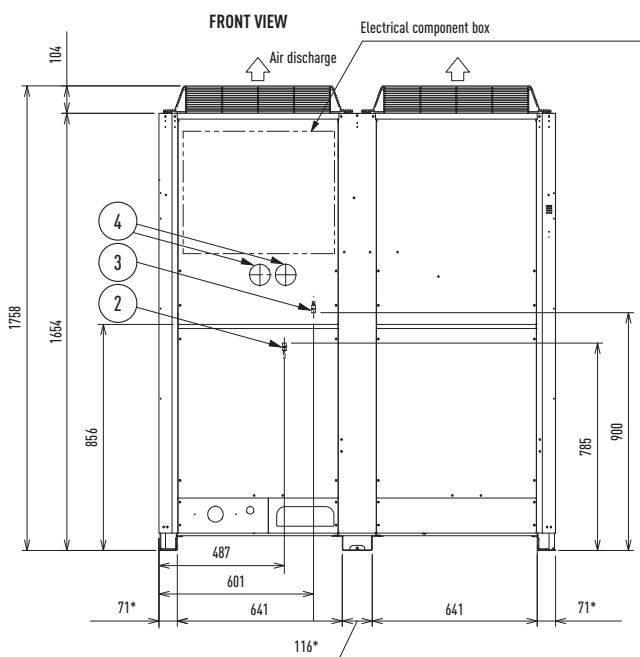
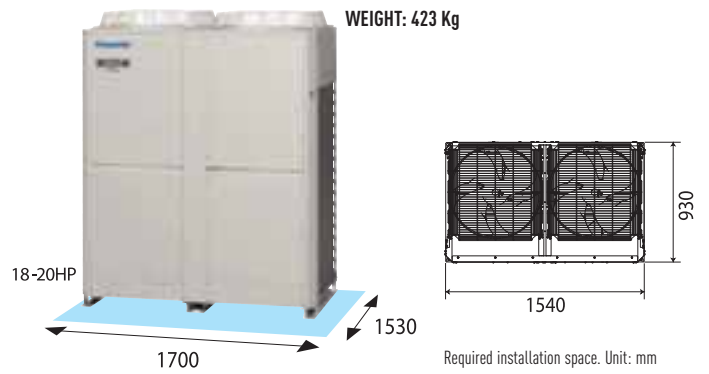
GLOBAL REMARKS	Rated conditions:	
	Cooling	Heating
	Indoor air temperature	27 °C DB / 19 °C WB
Outdoor air temperature	35 °C DB / 24 °C WB	7 °C DB / 6 °C WB

Specifications subject to change without notice.



Compact design

2-Pipe ECOi 6N series has reduced the installation space required by 1 chassis for sizes up to 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: Ø 7.94 Scradler-type connection).
- 3 Pressure outlet port (for low pressure: Ø 7.94 Scradler-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.

Energy saving



2-PIPE ECOi 6N SERIES // COMBINATION FROM 22 TO 60 HP

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. It's your choice.

- 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.



OPTIONAL



TECHNICAL FOCUS

- INCREASED CONNECTABLE I_U/O_U CAP. RATIO UP TO 200%
- INCREASED MAX NO. OF CONNECTABLE I_U UP TO 64 UNITS
- INCREASED HIGH EXTERNAL STATIC PRESSURE UP TO 80 Pa
- EXTENDED OPERATING RANGE TO PROVIDE HEATING AT OUTDOOR TEMPERATURE AS LOW AS -25 °C

HP		22	24	26	28	30	32	34	36	
STANDARD MODEL		U-14ME1E81 U-8ME1E81	U-14ME1E81 U-10ME1E81	U-14ME1E81 U-12ME1E81	U-16ME1E81 U-12ME1E81	U-16ME1E81 U-14ME1E81	U-16ME1E81 U-16ME1E81	U-18ME1E81 U-16ME1E81	U-20ME1E81 U-16ME1E81	
Power supply		400 V / 3 phase / 50 Hz								
Cooling capacity	kW	61.5	68.0	73.0	78.5	85.0	90.0	96.0	101.0	
EER	W/W	3.75	3.60	3.60	3.47	3.47	3.35	3.43	3.34	
Electrical ratings	Operating current	A	25.2	29.4	31.6	35.2	37.8	41.5	44.0	47.5
	Power input	kW	16.4	18.9	20.3	22.6	24.5	26.9	28.0	30.2
Heating capacity	kW	69.0	76.5	81.5	87.5	95.0	100.0	108.0	113.0	
COP	W/W	4.34	4.09	4.12	3.96	4.03	3.86	3.86	3.83	
Electrical ratings	Operating current	A	24.5	29.1	30.8	34.4	36.4	40.0	44.0	46.4
	Power input	kW	15.9	18.7	19.8	22.1	23.6	25.9	28.0	29.5
Dimensions	H x W x D	mm	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	1,758 x 2,060 x 930	1,758 x 2,060 x 930	1,758 x 2,600 x 930	1,758 x 2,600 x 930
Net weight	kg	543	543	590	590	618	618	730	730	
Starting current	A	86	94	98	102	98	102	114	122	
Air flow rate	m ³ /h	21,540	21,900	24,120	24,120	25,440	25,440	27,360	29,700	
Refrigerant amount at shipment	kg	15.0	15.3	15.3	15.3	17.0	17.0	17.5	17.5	
Demand control		13 steps (0 - 100 %)	13 steps (0 - 100 %)	13 steps (0 - 100 %)	13 steps (0 - 100 %)	13 steps (0 - 100 %)	13 steps (0 - 100 %)	13 steps (0 - 100 %)	13 steps (0 - 100 %)	
External static pressure	Pa	80	80	80	80	80	80	80	80	
Piping connections	Gas pipe	mm	28.58	28.58	31.75	31.75	31.75	31.75	31.75	38.10
	Liquid pipe	mm	15.88	15.88	19.05	19.05	19.05	19.05	19.05	19.05
	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 °C DB ~ +43 °C DB, Heating: -25 °C WB ~ +15 °C WB								
Sound pressure level	Normal mode	dB(A)	63.0	63.5	64.5	64.5	65.0	65.0	64.0	65.5
	Silent mode	dB(A)	60.0	60.5	61.5	61.5	62.0	62.0	61.0	62.5
Sound power level	Normal mode	dB	77.5	78.0	79.0	79.0	79.5	79.5	78.5	80.0

GLOBAL REMARKS	Rated conditions:	
	Cooling	Heating
	Indoor air temperature	27 °C DB / 19 °C WB
Outdoor air temperature	35 °C DB / 24 °C WB	7 °C DB / 6 °C WB

Specifications subject to change without notice.



38	40	42	44	46	48	50	52	54	56	58	60
U-20ME1E81 U-18ME1E81	U-20ME1E81 U-20ME1E81	U-16ME1E81 U-14ME1E81 U-12ME1E81	U-16ME1E81 U-16ME1E81 U-12ME1E81	U-16ME1E81 U-16ME1E81 U-14ME1E81	U-16ME1E81 U-16ME1E81 U-16ME1E81	U-18ME1E81 U-16ME1E81 U-16ME1E81	U-20ME1E81 U-16ME1E81 U-16ME1E81	U-20ME1E81 U-18ME1E81 U-16ME1E81	U-20ME1E81 U-18ME1E81 U-18ME1E81	U-20ME1E81 U-20ME1E81 U-18ME1E81	U-20ME1E81 U-20ME1E81 U-20ME1E81
400 V / 3 phase / 50 Hz											
107.0	113.0	118.0	124.0	130.0	135.0	140.0	145.0	151.0	156.0	162.0	168.0
3.44	3.36	3.51	3.43	3.43	3.35	3.41	3.35	3.39	3.44	3.38	3.33
49.6	53.6	52.1	56.2	58.5	62.2	64.2	67.7	70.3	72.4	76.4	80.4
31.1	33.6	33.6	36.2	37.9	40.3	41.1	43.3	44.5	45.4	47.9	50.4
119.0	127.0	132.0	138.0	145.0	150.0	155.0	160.0	169.0	175.0	182.0	189.0
3.84	3.85	4.04	3.92	3.96	3.86	3.86	3.84	3.85	3.85	3.83	3.81
49.4	52.6	50.8	54.6	56.5	60.1	62.8	65.2	69.3	72.4	75.8	79.1
31.0	33.0	32.7	35.2	36.6	38.9	40.2	41.7	43.9	45.4	47.5	49.6
1,758 x 3,140 x 930	1,758 x 3,140 x 930	1,758 x 2,890 x 930	1,758 x 2,890 x 930	1,758 x 3,120 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
842	842	899	899	927	927	1,039	1,039	1,151	1,263	1,263	1,263
123	127	119	122	119	122	134	142	144	146	149	153
31,620	33,960	36,840	36,840	38,160	38,160	40,080	42,420	44,340	46,260	48,600	50,940
18.0	18.0	23.8	23.8	25.5	25.5	26.0	26.0	26.5	27.0	27.0	27.0
13 steps (0 - 100 %)	13 steps (0 - 100 %)	13 steps (0 - 100 %)	13 steps (0 - 100 %)	13 steps (0 - 100 %)	13 steps (0 - 100 %)	13 steps (0 - 100 %)	13 steps (0 - 100 %)	13 steps (0 - 100 %)	13 steps (0 - 100 %)	13 steps (0 - 100 %)	13 steps (0 - 100 %)
80	80	80	80	80	80	80	80	80	80	80	80
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
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 ~ +15 °C WB											
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	63.0	63.5	63.5	64.0	64.0	63.0	64.0	63.5	63.0	64.0	65.0
79.5	80.5	81.0	81.0	81.5	81.5	80.5	81.5	81.0	80.5	81.5	82.5



10-12 HP // 2-PIPE ECOi 6N SERIES // HIGH COP SETTING MODEL

NEXT GENERATION VRF NEWLY-REDESIGNED!

- Heating operation at outdoor temperatures down to -25 °C.
- Extended pipe runs of up to 180 m.

Internet Control Ready

INTERNET CONTROL

Environmentally friendly refrigerant

R410A

Down to -25 °C in heating mode

OUTDOOR TEMPERATURE

5 year compressor warranty

OPTIONAL

TECHNICAL FOCUS

- LONGER MAX PIPING LENGTH UP TO 1,000 m
- EXTENDED OPERATING RANGE TO PROVIDE HEATING AT OUTDOOR TEMPERATURE AS LOW AS -25 °C
- SUITABLE FOR REFURBISHMENT PROJECTS (REFER TO TECHNICAL DATA BOOK)

HP			10.0 HP	12.0 HP
HIGH COP SETTING MODEL			U-14ME1E81	U-16ME1E81
Power supply			400 V / 3 phase / 50 Hz	
Cooling capacity		kW	28.0	33.5
EER		W/W	4.06	4.07
Electrical ratings	Operating current	A	10.7	12.7
	Power input	kW	6.90	8.23
Heating capacity		kW	31.5	37.5
COP		W/W	4.45	4.45
Electrical ratings	Operating current	A	10.9	13.0
	Power input	kW	7.08	8.43
Dimensions	H x W x D	mm	1,758 x 1,000 x 930	1,758 x 1,000 x 930
Net weight		kg	307	307
Starting current		A	77	81
Air flow rate		m ³ /h	12,720	12,720
Demand control			13 steps (0 - 100 %)	13 steps (0 - 100 %)
External static pressure		Pa	80	80
Refrigerant amount at shipment		kg	8.5	8.5
Piping connections	Gas pipe	mm	22.22	25.40
	Liquid pipe	mm	9.52	12.70
	Balance pipe	mm	6.35	6.35
Ambient temperature operating range			Cooling: -10 °C DB ~ +43 °C DB, Heating: -25 °C WB ~ +15 °C WB	
Sound pressure level	Normal mode	dB(A)	62.0	62.0
	Silent mode	dB(A)	59.0	59.0
Sound power level	Normal mode	dB	76.5	76.5

GLOBAL REMARKS	Rated conditions:	
	Cooling	Heating
	Indoor air temperature	27 °C DB / 19 °C WB
Outdoor air temperature	35 °C DB / 24 °C WB	7 °C DB / 6 °C WB

Specifications subject to change without notice.

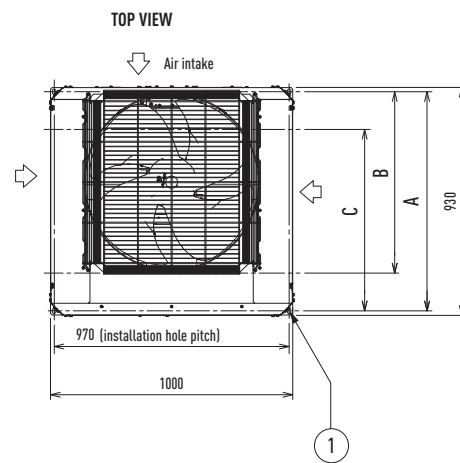
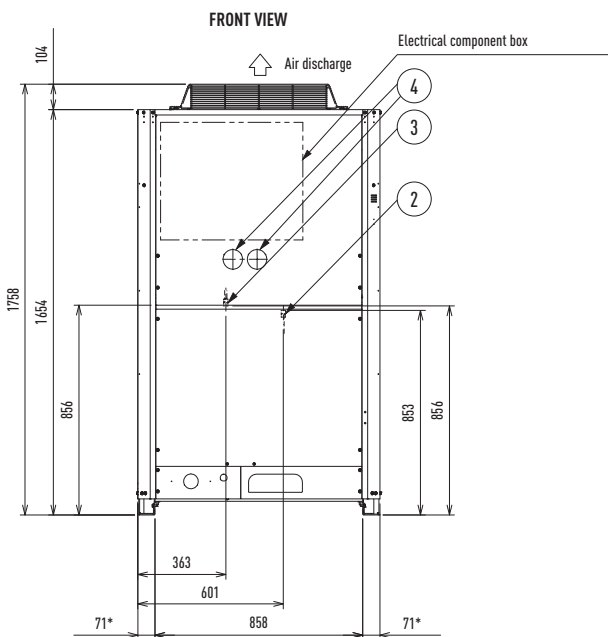


High external static pressure

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.



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: Ø 7.94 Scradler-type connection).
- 3 Pressure outlet port (for low pressure: Ø 7.94 Scradler-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.



14-16 HP // 2-PIPE ECOi 6N SERIES // HIGH COP SETTING MODEL

NEXT GENERATION VRF NEWLY-REDESIGNED!

- Heating operation at outdoor temperatures down to -25 °C.
- Extended pipe runs of up to 180 m.

Internet Control Ready

INTERNET CONTROL

Environmentally friendly refrigerant

R410A

Down to -25 °C in heating mode

OUTDOOR TEMPERATURE

5 year
compressor warranty

TECHNICAL FOCUS

- BIGGER CAPACITY IN ONE CASING
- LONGER MAX PIPING LENGTH UP TO 1,000 m
- EXTENDED OPERATING RANGE TO PROVIDE HEATING AT OUTDOOR TEMPERATURE AS LOW AS -25 °C
- SUITABLE FOR REFURBISHMENT PROJECTS (REFER TO TECHNICAL DATA BOOK)

HP			14.0 HP	16.0 HP
HIGH COP SETTING MODEL			U-18ME1E81	U-20ME1E81
Power supply			400 V / 3 phase / 50 Hz	
Cooling capacity		kW	40.0	45.0
EER		W/W	4.01	3.88
Electrical ratings	Operating current	A	15.4	17.9
	Power input	kW	9.98	11.6
Heating capacity		kW	45.0	50.0
COP		W/W	4.41	4.39
Electrical ratings	Operating current	A	15.8	17.6
	Power input	kW	10.2	11.4
Dimensions	H x W x D	mm	1,758 x 1,540 x 930	1,758 x 1,540 x 930
Net weight		kg	423	423
Starting current		A	92	98
Air flow rate		m ³ /h	14,640	16,980
Demand control			13 steps (0 - 100 %)	13 steps (0 - 100 %)
External static pressure		Pa	80	80
Refrigerant amount at shipment		kg	9.0	9.0
Piping connections	Gas pipe	mm	25.40	28.58
	Liquid pipe	mm	12.70	12.70
	Balance pipe	mm	6.35	6.35
Ambient temperature operating range			Cooling: -10 °C DB ~ +43 °C DB, Heating: -25 °C WB ~ +15 °C WB	
Sound pressure level	Normal mode	dB(A)	60.0	63.0
	Silent mode	dB(A)	57.0	60.0
Sound power level	Normal mode	dB	74.5	77.5

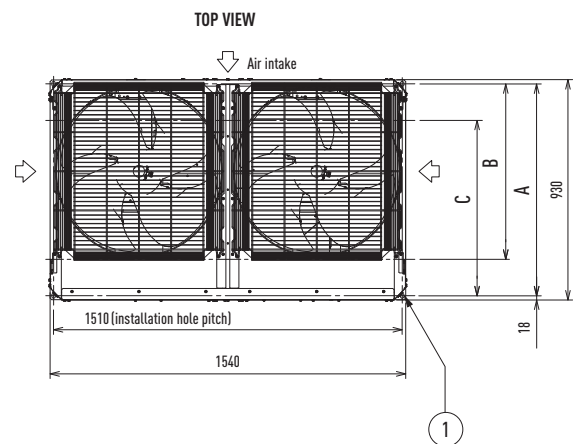
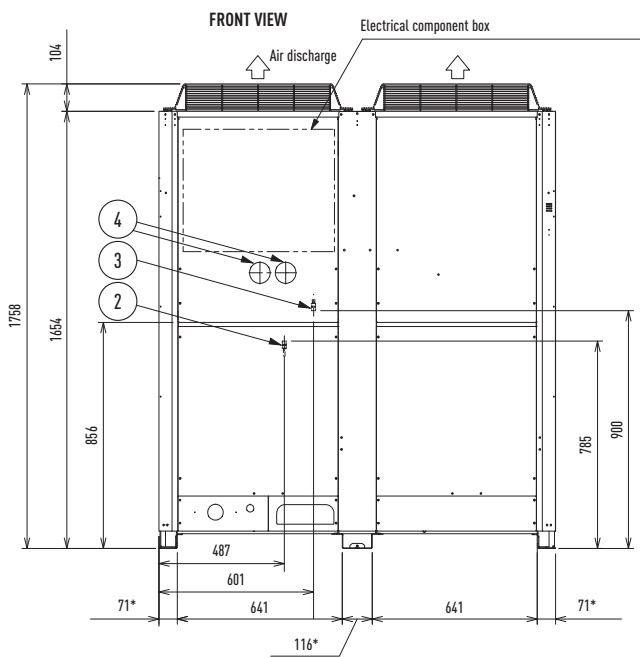
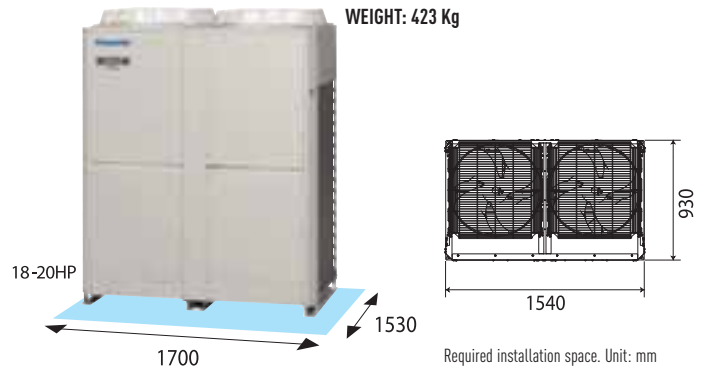
GLOBAL REMARKS	Rated conditions:	
	Cooling	Heating
	Indoor air temperature	27 °C DB / 19 °C WB
Outdoor air temperature	35 °C DB / 24 °C WB	7 °C DB / 6 °C WB

Specifications subject to change without notice.



Compact design

2-Pipe ECOi 6N series has reduced the installation space required by one chassis for sizes up to 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: Ø 7.94 Scradler-type connection).
- 3 Pressure outlet port (for low pressure: Ø 7.94 Scradler-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.

Energy saving



2-PIPE ECOi 6N SERIES // HIGH COP SETTING MODEL // COMBINATION FROM 18 TO 48 HP

NEXT GENERATION VRF NEWLY-REDESIGNED!

- Wide range of system up to 48 HP.
- Heating operation at outdoor temperatures down to -25 °C.
- Extended pipe runs of up to 180 m.



OPTIONAL



TECHNICAL FOCUS

- INCREASED CONNECTABLE I_U/O_U CAP. RATIO UP TO 200%
- INCREASED MAX NO. OF CONNECTABLE I_U UP TO 64 UNITS
- INCREASED HIGH EXTERNAL STATIC PRESSURE UP TO 80 Pa
- EXTENDED OPERATING RANGE TO PROVIDE HEATING AT OUTDOOR TEMPERATURE AS LOW AS -25 °C

HP		18	20	22	24	26	28	30	
HIGH COP SETTING MODEL		U-14ME1E81 U-8ME1E81	U-16ME1E81 U-8ME1E81	U-18ME1E81 U-8ME1E81	U-16ME1E81 U-16ME1E81	U-18ME1E81 U-16ME1E81	U-20ME1E81 U-16ME1E81	U-20ME1E81 U-18ME1E81	
Power supply		400 V / 3 phase / 50 Hz							
Cooling capacity	kW	50.0	56.0	61.5	68.0	73.0	78.5	85.0	
EER	W/W	4.07	4.06	3.97	4.07	4.01	3.96	3.94	
Electrical ratings	Operating current	A	18.9	21.2	23.9	25.8	28.1	30.6	33.4
	Power input	kW	12.3	13.8	15.5	16.7	18.2	19.8	21.6
Heating capacity	kW	56.0	63.0	69.0	76.5	81.5	87.5	95.0	
COP	W/W	4.52	4.50	4.39	4.45	4.38	4.42	4.40	
Electrical ratings	Operating current	A	19.1	21.5	24.2	26.6	28.7	30.6	33.4
	Power input	kW	12.4	14.0	15.7	17.2	18.6	19.8	21.6
Dimensions	H x W x D	mm	1,758 x 1,830 x 930	1,758 x 1,830 x 930	1,758 x 2,370 x 930	1,758 x 2,060 x 930	1,780 x 2,600 x 930	1,780 x 2,600 x 930	1,758 x 3,140 x 930
Net weight	kg	537	537	653	614	730	730	846	
Starting current	A	86	90	101	94	105	111	114	
Air flow rate	m ³ /h	21,540	21,540	23,460	25,440	27,360	29,700	31,620	
Demand control		13 steps (0 - 100 %)	13 steps (0 - 100 %)	13 steps (0 - 100 %)	13 steps (0 - 100 %)	13 steps (0 - 100 %)	13 steps (0 - 100 %)	13 steps (0 - 100 %)	
External static pressure	Pa	80	80	80	80	80	80	80	
Refrigerant amount at shipment	kg	15.0	15.0	15.5	17.0	17.5	17.5	18.0	
Piping connections	Gas pipe	mm	28.58	28.58	28.58	28.58	31.75	31.75	31.75
	Liquid pipe	mm	15.88	15.88	15.88	15.88	19.05	19.05	19.05
	Balance pipe	mm	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 ~ +15 °C WB							
Sound pressure level	Normal mode	dB(A)	63.0	63.0	61.5	65.0	64.0	65.5	65.0
	Silent mode	dB(A)	60.0	60.0	58.5	62.0	61.0	62.5	62.0
Sound power level	Normal mode	dB	77.5	77.5	76.0	79.5	78.5	80.0	79.5

GLOBAL REMARKS	Rated conditions:	
	Cooling	Heating
	Indoor air temperature	27 °C DB / 19 °C WB
Outdoor air temperature	35 °C DB / 24 °C WB	7 °C DB / 6 °C WB

Specifications subject to change without notice.



32	34	36	38	40	42	44	46	48
U-20ME1E81 U-20ME1E81	U-18ME1E81 U-16ME1E81 U-8ME1E81	U-16ME1E81 U-16ME1E81 U-16ME1E81	U-18ME1E81 U-16ME1E81 U-16ME1E81	U-20ME1E81 U-16ME1E81 U-16ME1E81	U-20ME1E81 U-18ME1E81 U-16ME1E81	U-20ME1E81 U-18ME1E81 U-18ME1E81	U-20ME1E81 U-20ME1E81 U-18ME1E81	U-20ME1E81 U-20ME1E81 U-20ME1E81
400 V / 3 phase / 50 Hz								
90.0	96.0	101.0	107.0	113.0	118.0	124.0	130.0	135.0
3.88	4.09	4.07	4.08	4.04	3.96	3.97	3.92	3.88
35.9	36.2	38.3	40.5	43.3	46.1	48.3	51.4	53.8
23.2	23.5	24.8	26.2	28.0	29.8	31.2	33.2	34.8
100.0	108.0	113.0	119.0	127.0	132.0	138.0	145.0	150.0
4.41	4.54	4.45	4.44	4.47	4.40	4.42	4.41	4.40
35.1	36.7	39.2	41.4	43.9	46.4	48.3	50.9	52.8
22.7	23.8	25.4	26.8	28.4	30.0	31.2	32.9	34.1
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
846	960	921	1,037	1,037	1,153	1,269	1,269	1,269
116	113	107	118	124	127	130	131	134
33,960	36,180	38,160	40,080	42,420	44,340	46,260	48,600	50,940
13 steps (0 - 100%)	13 steps (0 - 100%)	13 steps (0 - 100%)	13 steps (0 - 100%)	13 steps (0 - 100%)	13 steps (0 - 100%)	13 steps (0 - 100%)	13 steps (0 - 100%)	13 steps (0 - 100%)
80	80	80	80	80	80	80	80	80
18.0	24.0	25.5	26.0	26.0	26.5	27.0	27.0	27.0
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
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 ~ +15 °C WB								
66.0	64.5	66.5	66.0	67.0	66.5	66.0	67.0	67.5
63.0	61.5	63.5	63.0	64.0	63.5	63.0	64.0	64.5
80.5	79.0	81.0	80.5	81.5	81.0	80.5	81.5	82.0

NEW 3-PIPE ECOi MF2 SERIES

SIMULTANEOUS HEATING AND COOLING VRF SYSTEM

Internet
Control
Ready

INTERNET CONTROL

Energy
saving

INVERTER+

Environmentally
friendly
refrigerant

R410A

Down to
-20 °C in
heating mode

OUTDOOR
TEMPERATURE

5 year
compressor
warranty

NEW



The New Panasonic 3-Pipe MF2 series offers the best to the most demanding customers.

- The new 3-Pipe units have only one chassis size, with a very small footprint (only 0.93 m²)
- 1 body for all sizes: H1.758 x W1.000 x D930 mm, for 8, 10, 12, 14 and 16 HP
- Maximum capacity size as 48 HP by 3 unit combinations (16 HP x 3 = 48 HP)
- Up to 52 indoor units connectable
- Maximum capacity ratio of 150%



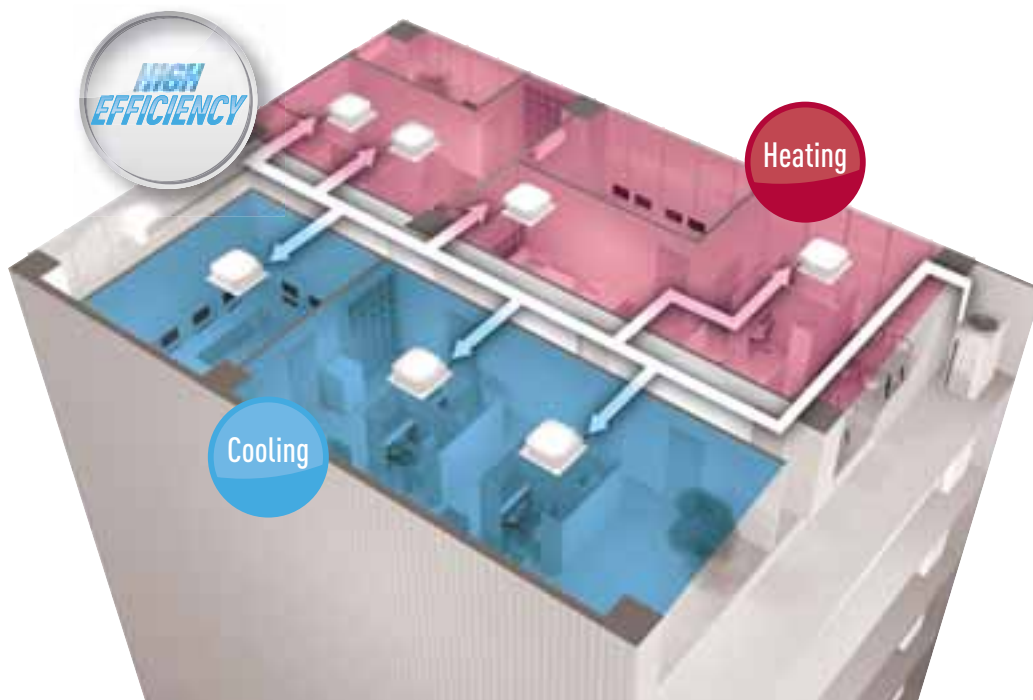
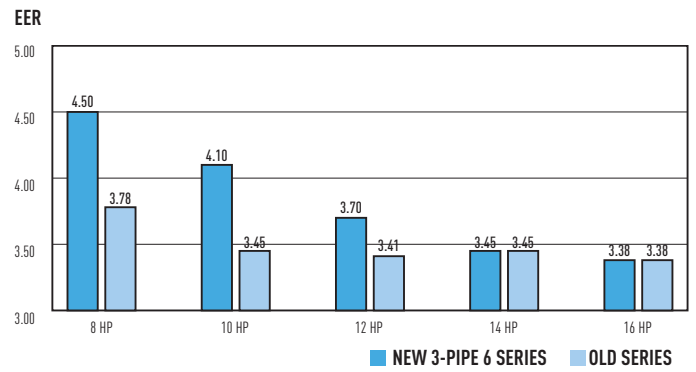
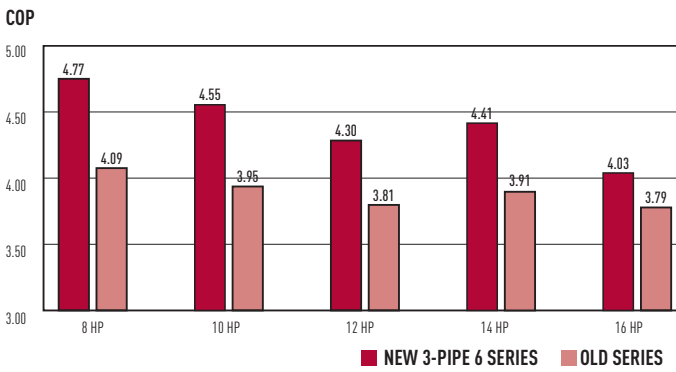
Large combination of outdoor units, up to 48 HP

Inverter unit	System (HP)																					
	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	
8	1					1	1	1	1					1	1	1	1					
10		1				1	1															
12			1							1				1								
14				1				1		1	2	1		1	2	1		3	2	1		
16					1				1			1	2			1	2		1	2	3	

High efficiency combination

Inverter unit	System (HP)					
	16	24	26	28	30	32
8	2	3	2	2	2	1
10			1			
12				1		2
14					1	
16						

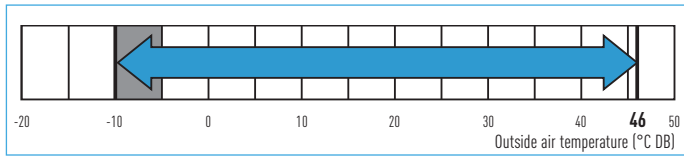
Top of de market COP (at full load), standard efficiency



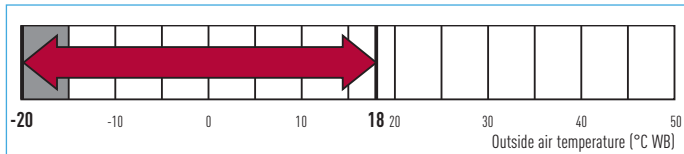
Connectable indoor/outdoor unit capacity ratio up to 150%

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.



Heating operation range: Stable heating operation even with an outside air temperature of -20 °C. The heating operation range has been extended to -20 °C by use of a compressor with a high-pressure vessel.

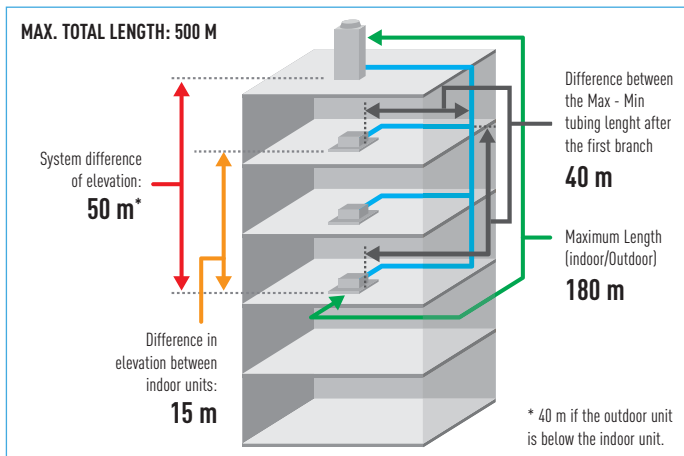


Wide temperature setting range

Wired remote control heating temperature setting range is 16 to 30 °C.

Increased piping lengths and design flexibility

Adaptable to various building types and sizes. Actual piping length: 180 m. Maximum piping length: 500 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)

Power suppression control for energy saving (Demand control)¹

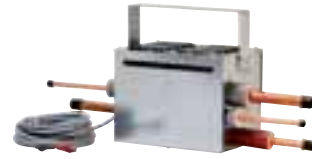
The 3-Pipe ECOi MF2 series has a built-in demand function which uses the inverter characteristics. With this demand function, the power consumption can be set in three steps, and operation² at optimum performance is performed according to the setting and the power consumption. This function is useful to reduce the annual power consumption and to save electricity costs while maintaining comfort.

¹ An outdoor Seri-Para I/O unit is required for demand input.
² Setting is possible as 0% or in the range from 40 to 100% (in steps of 5%). At the time of shipping, setting has been done to the three steps of 0%, 70%, and 100%.

New Solenoid valve kit

Oil-recovery operation to gives more stable comfort air-conditioning control.

3-PIPE CONTROL SOLENOID VALVE KIT



CZ-P56HR3
Up to 5.6 kW
CZ-P160HR3
From 5.7 to 16 kW

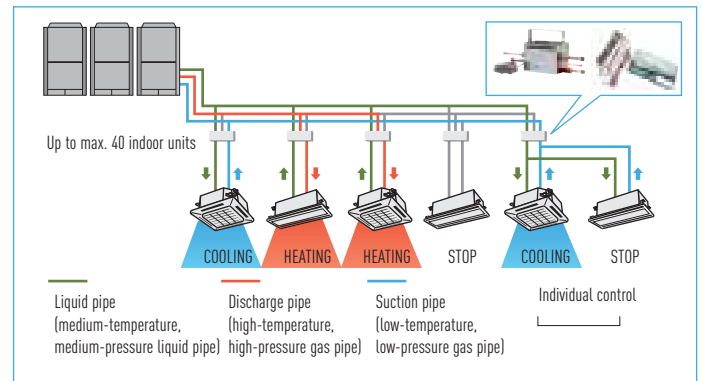
3-PIPE CONTROL PCB



3-Pipe control PCB **CZ-CAPE2***.
Must be added to the CZ-P56HR3 OR CZ-P160HR3.
* For wall mounted S-22MK2E5/S-28MK2E5/S-36MK2E5.
For S-45MK1E5/S-56MK1E5/S-73MK1E5/S-106MK1E5: CZ-CAPE2.

Individual control of multiple indoor units with solenoid valve kits

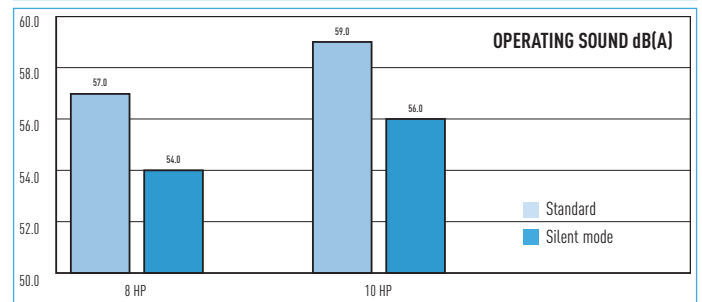
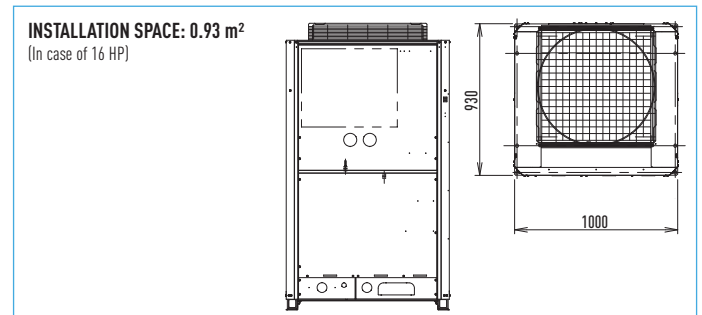
- Any design and layout can be used in a single system.
- Cooling operation is possible up to an outdoor temperature of -10 °C.



Compact design for superb space saving and low noise level

5 types of outdoor units with different capacities have been standardized to one compact casing.

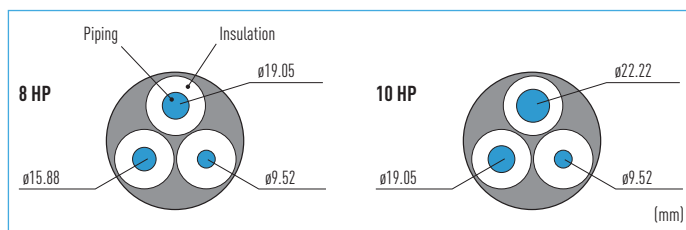
Uniquely constructed with two compartments, the upper chamber contains the heat exchange, with the lower chamber stores the compressors. The benefits are two-fold - superb space saving and low noise level.



Excellent cost saving and smaller piping size

By using R410a with low pressure loss, pipe sizes for discharge, suction and liquid are all reduced.

This makes it possible to aim for reduced piping space, improved workability at the site, and reduction of the piping material costs.

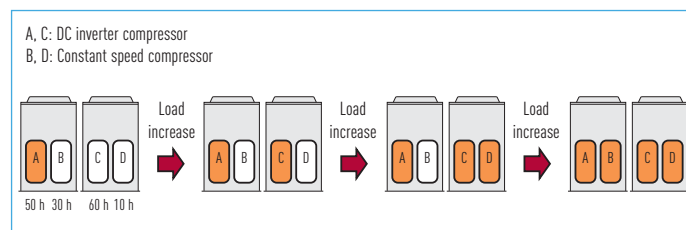


3-PIPE ECO*i* MF2

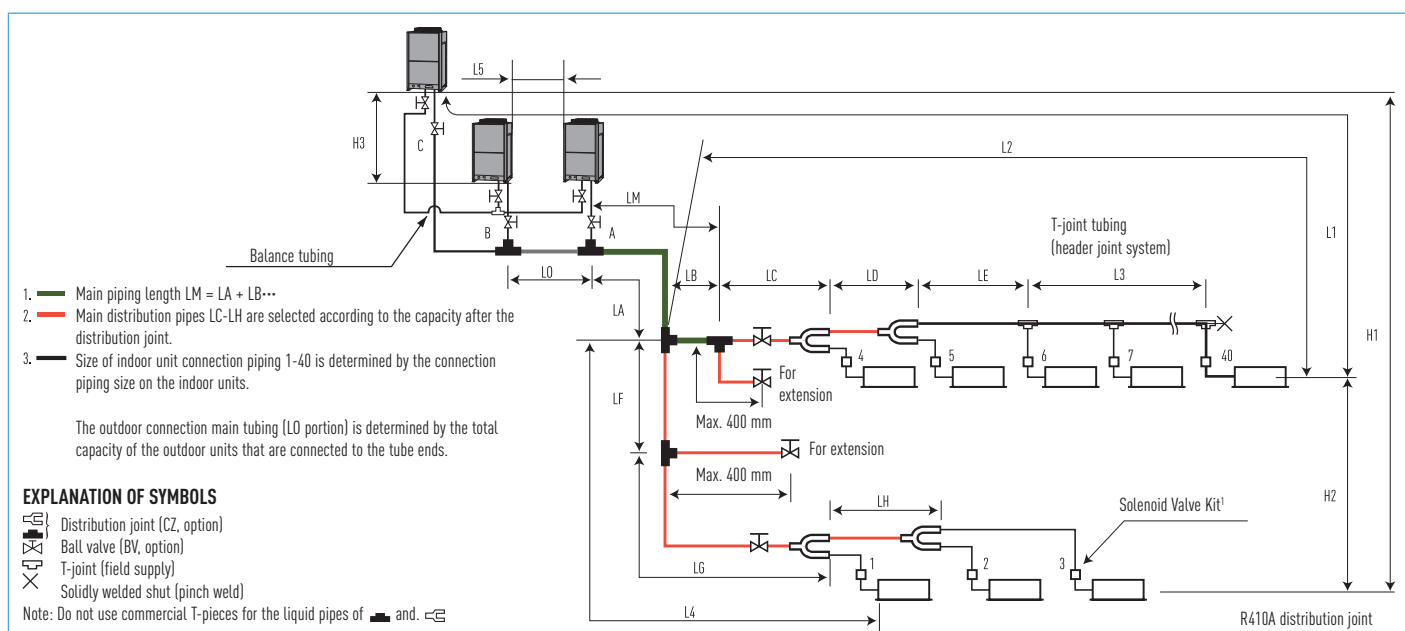
HP	SUCTION PIPE	DISCHARGE PIPE	LIQUID PIPE
8	Ø 19.05	Ø 15.88	Ø 9.52
10	Ø 22.22	Ø 19.05	Ø 9.52

Extended compressor life

The total operation time of the compressors is monitored by a microcomputer, so that there is no imbalance for the operation times of all compressors in the same refrigerant system, and compressors with a shorter operation time are operated with preference.



Piping design



EXPLANATION OF SYMBOLS

- Distribution joint (CZ, option)
- Ball valve (BV, option)
- T-joint (field supply)
- Solidly welded shut (pinch weld)

Note: Do not use commercial T-pieces for the liquid pipes of and .

- * Be sure to use R410A distribution joints for outdoor unit connections and piping branches.
- The connection between the indoor unit(s) and the solenoid valve kit(s) has three (3) types of methods. For further details, refer to the Section 2. 3-4. "Connecting Multiple Indoor Units to a Single Solenoid Valve Kit".

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 ≤180 ¹ Equivalent piping length ≤200
	$\Delta L (L2-L4)$	Difference between the max. length and the min. length from the No. 1 distribution	≤40
	LM	Max. length of main piping (at max. diameter)	— ²
	$\phi 1, \phi 2-\phi 40$	Max. length of each distribution	≤30
	$L1+\phi 1+\phi 2+\dots+\phi 39+\phi A+\phi B+LF+LG+LH$	Total max. piping length including length of each distribution (only liquid tubing)	≤500 ³
Allowable elevation difference	L5	Distance between outdoor units	≤10
	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
Allowable length of joint tubing	H3	Max. difference between outdoor units	≤4
	L3	T-joint tubing (field-supply); Max. tubing length between the first T-joint and solidly welded-shut end point	≤2

L = Length, H = Height

- If the longest tubing length (L1) exceeds 90 m (equivalent length), increase the sizes of the main tubes (LM) by 1 rank for the discharge tubes, suction tubes, and narrow tubes. (field supplied).
- If the longest main tube length (LM) exceeds 50 m, increase the main tube size at the portion before 50 m by 1 rank for the suction tubes and discharge tubes. (field supplied). (For the portion that exceeds 50 m, set based on the main tube sizes (LA) listed in the table on the following page).
- 24 HP - 30HP of high efficiency combination is 300 m.

Energy
savingINVERTER +
INVERTER +

8-16 HP // 3-PIPE ECOi MF2 SERIES

WITH SIMULTANEOUS HEATING AND COOLING OPERATION HEAT RECOVERY TYPE

ECOi 3-Pipe 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.

- Achieves COP 4.77 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 26 indoor units.
- Small installation space, top class in the industry.
- Rotation operation function and back-up operation function provided.

Internet
Control
Ready
INTERNET CONTROLEnvironmentally
friendly
refrigerant
R410ADown to
-20 °C in
heating mode
OUTDOOR
TEMPERATURE5 year
compressor
warranty

OPTIONAL

TECHNICAL FOCUS

- STANDARDIZATION OF O_U TO ONE COMPACT CASING SIZE
- IMPROVED OPERATION EFFICIENCY
- THE CONSTANT-SPEED COMPRESSOR ADOPTS A HIGH-PERFORMANCE INTERNAL HIGH-PRESSURE SCROLL
- IMPROVEMENT OF THE HEAT EXCHANGER
- REDESIGN OF STRUCTURAL PARTS
- CLOSE SIDE-BY-SIDE INSTALLATION IS POSSIBLE

HP			8	10	12	14	16
MODEL NAME			U-8MF2E8	U-10MF2E8	U-12MF2E8	U-14MF2E8	U-16MF2E8
Power supply			380 / 400 / 415 V - Three Phase / 50 Hz				
Cooling capacity	kW		22.4	28.0	33.5	40.0	45.0
	BTU/h		76,500	95,600	114,300	136,500	153,600
EER	W/W		4.50	4.10	3.70	3.45	3.38
Running current	380 / 400 / 415 V	A	8.60 / 8.20 / 8.00	11.3 / 10.8 / 10.6	15.1 / 14.5 / 14.1	19.2 / 18.4 / 17.9	22.0 / 21.1 / 20.6
Power input	kW		4.98	6.83	9.05	11.00	13.00
Heating capacity	kW		25.0	31.5	37.5	45.0	50.0
	BTU/h		85,300	107,500	128,000	153,600	170,600
COP	W/W		4.77	4.55	4.30	4.41	4.03
Running current	380 / 400 / 415 V	A	8.95 / 8.50 / 8.30	11.6 / 11.0 / 10.7	14.7 / 14.1 / 13.8	17.0 / 16.4 / 15.9	20.7 / 19.9 / 19.4
Power input	kW		5.24	6.92	8.72	10.2	12.4
Dimensions	H x W x D	mm	1758 x 1000 x 930	1758 x 1000 x 930	1758 x 1000 x 930	1758 x 1000 x 930	1758 x 1000 x 930
Net weight	kg		269	269	314	322	322
Air circulation	m ³ /min		158	178	212	212	212
Refrigerant amount at shipment	kg		8.3	8.5	8.8	9.3	9.3
Piping connections	Suction pipe	mm (Inch)	Ø 19.05 (3/4)	Ø 22.22 (7/8)	Ø 25.40 (1)	Ø 25.40 (1)	Ø 28.58 (1-1/8)
	Discharge pipe	mm (Inch)	Ø 15.88 (5/8)	Ø 19.05 (3/4)	Ø 19.05 (3/4)	Ø 22.22 (7/8)	Ø 22.22 (7/8)
	Liquid pipe	mm (Inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)	Ø 12.70 (1/2)	Ø 12.70 (1/2)	Ø 12.70 (1/2)
	Balance pipe	mm (Inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
Ambient temperature operating range	Cooling/Dry: -10 °C~+46 °C (DB). Heating: -20 °C~+18 °C (WB) Simultaneous operation: -10 °C~+24 °C (DB)						
Sound pressure level	High / Low	dBA	57.0 / 54.0	59.0 / 56.0	61.0 / 58.0	62.0 / 59.0	62.0 / 59.0
Sound power level	Normal mode	dB	71.5 / 68.5	73.5 / 70.5	75.5 / 72.5	76.5 / 73.5	76.5 / 73.5

GLOBAL REMARKS	Rated conditions:	
	Cooling	Heating
	Indoor air temperature	27 °C DB / 19 °C WB
Outdoor air temperature	35 °C DB / 24 °C WB	7 °C DB / 6 °C WB

Specifications subject to change without notice.

NEW



System limitations

Max. number of combined outdoor units	3
Max. HP of combined outdoor units	135 kW (48 HP)
Max. number of connectable indoor units	52
Indoor/outdoor unit capacity ratio	50 - 150%

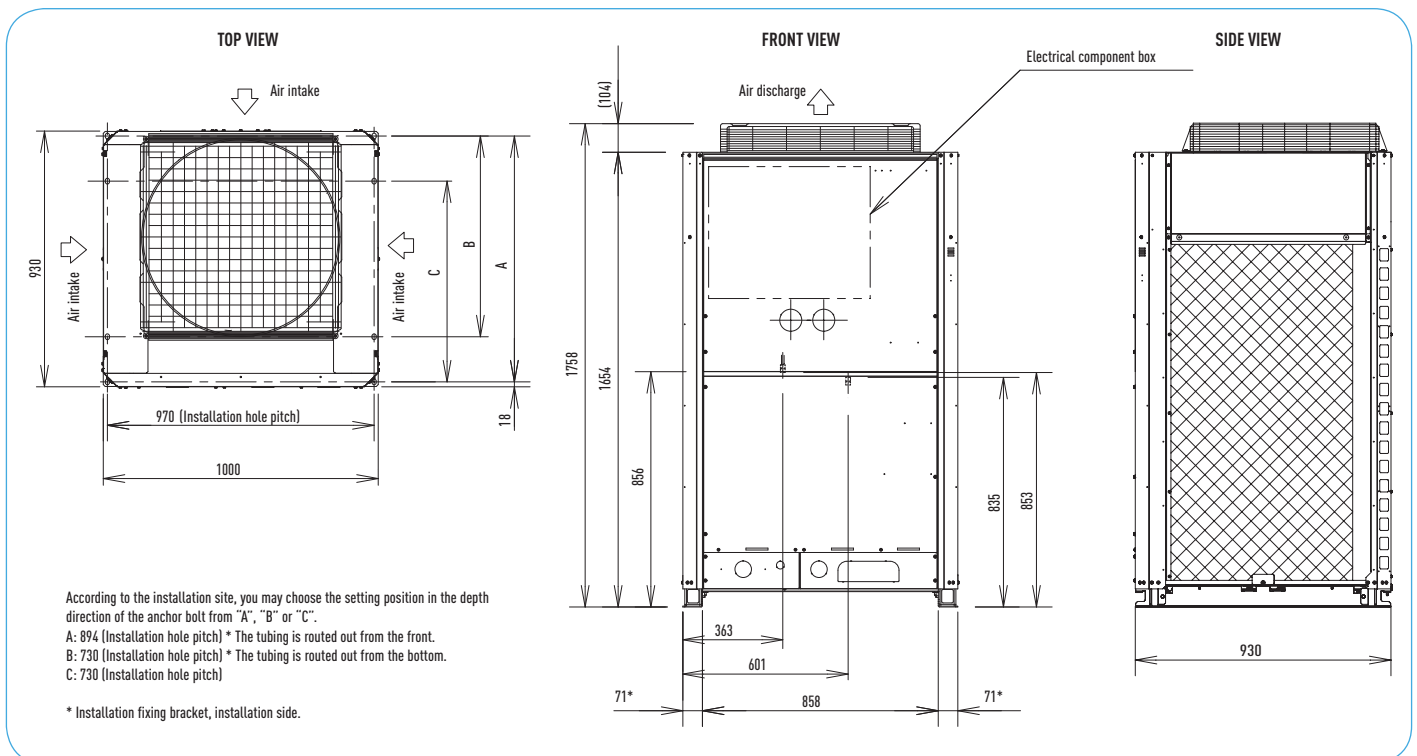
Additional refrigerant charge

LIQUID PIPING SIZE	AMOUNT OF REFRIGERANT CHARGE/m (g/m)	LIQUID PIPING SIZE	AMOUNT OF REFRIGERANT CHARGE/m (g/m)
Ø 6.35	26	Ø 19.05	259
Ø 9.52	56	Ø 22.22	366
Ø 12.7	128	Ø 25.40	490
Ø 15.88	185		

Refrigerant piping

PIPING SIZE (mm)		1/2 H, H MATERIAL	
Ø MATERIAL		Outer diameter	Wall thickness
Outer diameter	Wall thickness	Outer diameter	Wall thickness
Ø 6.35	0.8	Ø 25.4	1.0
Ø 9.52	0.8	Ø 28.58	1.0
Ø 12.7	0.8	Ø 31.75	1.1
Ø 15.88	1.0	Ø 38.1	over 1.35
Ø 19.05	1.0	Ø 41.28	over 1.45
Ø 22.22	1.15		

Note: When pipe bending is to be performed, the bending radius shall be at least 4 times the outer diameter. Also, take sufficient care to prevent pipe collapse and damage at the time of bending.





3-PIPE ECOi MF2 SERIES // COMBINATION FROM 18 TO 48 HP

WITH SIMULTANEOUS HEATING AND COOLING OPERATION HEAT RECOVERY TYPE

ECOi 3-Pipe 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.

- Achieves COP 4,63 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 52 indoor units.
- Small installation space, top class in the industry.
- Rotation operation function and back-up operation function provided.

Internet
Control
Ready

INTERNET CONTROL

Environmentally
friendly
refrigerant

R410A

Down to
-20 °C in
heating mode

OUTDOOR TEMPERATURE

5 year
compressor
warranty

OPTIONAL

TECHNICAL FOCUS

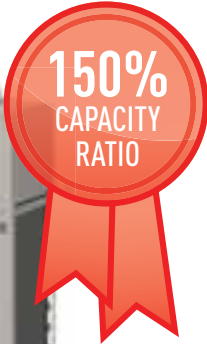
- STANDARDIZATION OF O_U TO ONE COMPACT CASING SIZE
- IMPROVED OPERATION EFFICIENCY
- THE CONSTANT-SPEED COMPRESSOR ADOPTS A HIGH-PERFORMANCE INTERNAL HIGH-PRESSURE SCROLL
- IMPROVEMENT OF THE HEAT EXCHANGER
- REDESIGN OF STRUCTURAL PARTS
- CLOSE SIDE-BY-SIDE INSTALLATION IS POSSIBLE

HP		18	20	22	24	26	28	30	
MODEL NAME		U-8MF2E8 U-10MF2E8	U-8MF2E8 U-12MF2E8	U-8MF2E8 U-14MF2E8	U-8MF2E8 U-16MF2E8	U-12MF2E8 U-14MF2E8	U-14MF2E8 U-14MF2E8	U-14MF2E8 U-16MF2E8	
Power supply		380 / 400 / 415 V - Three Phase / 50 Hz							
Cooling capacity	kW	50.4	56.0	61.5	68.0	73.0	78.5	85.0	
	BTU/h	172,000	191,100	209,900	232,100	249,100	267,900	290,100	
EER	W/W	4.27	3.97	3.80	3.68	3.58	3.49	3.41	
Running current	380 / 400 / 415 V A	19.7 / 18.9 / 18.4	23.8 / 22.9 / 22.3	27.0 / 26.0 / 25.3	30.9 / 29.7 / 28.9	33.7 / 32.4 / 31.5	37.2 / 35.7 / 34.8	41.1 / 39.5 / 38.5	
Power input	kW	11.8	14.1	16.2	18.5	20.4	22.5	24.90	
Heating capacity	kW	56.5	63.0	69.0	76.5	81.5	87.5	95.0	
	BTU/h	192,800	215,000	235,500	261,100	278,200	298,600	324,200	
COP	W/W	4.63	4.47	4.57	4.20	4.38	4.49	4.20	
Running current	380 / 400 / 415 V A	20.4 / 19.6 / 19.1	23.8 / 22.9 / 22.3	25.2 / 24.2 / 23.6	30.4 / 29.2 / 28.5	31.1 / 29.8 / 29.1	32.6 / 31.3 / 30.5	37.7 / 36.2 / 35.3	
Power input	kW	12.2	14.1	15.1	18.2	18.6	19.5	22.6	
Dimensions	H x W x D	mm	1758 x 2060 x 930	1758 x 2060 x 930	1758 x 2060 x 930	1758 x 2060 x 930	1758 x 2060 x 930	1758 x 2060 x 930	
Net weight	kg	538	538	591	591	636	644	644	
Air circulation	m ³ /min	336	370	370	370	424	424	424	
Refrigerant amount at shipment	kg	16.8	17.1	17.6	17.6	18.1	18.6	18.6	
Piping connections	Suction pipe	mm (Inch)	Ø 28.58 (1-1/8)	Ø 28.58	Ø 28.58	Ø 28.58	Ø 31.75 (1-1/4)	Ø 31.75	Ø 31.75
	Discharge pipe	mm (Inch)	Ø 22.22 (7/8)	Ø 22.22	Ø 25.40 (1)	Ø 25.40	Ø 25.40	Ø 28.58	Ø 28.58
	Liquid pipe	mm (Inch)	Ø 15.88 (5/8)	Ø 15.88	Ø 15.88	Ø 15.88	Ø 19.05 (3/4)	Ø 19.05	Ø 19.05
	Balance pipe	mm (Inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
Ambient temperature operating range		Cooling/Dry: -10 °C~+46 °C (DB). Heating: -20 °C~+18 °C (WB) Simultaneous operation: -10 °C~+24 °C (DB)							
Sound pressure level	High / Low	dBA	61.0 / 58.0	62.5 / 59.5	63.0 / 60.0	63.0 / 60.0	64.5 / 61.5	65.0 / 62.0	65.0 / 62.0
Sound power level	Normal mode	dB	75.5 / 72.5	77.0 / 74.0	77.5 / 74.5	77.5 / 74.5	79.0 / 76.0	79.5 / 76.5	79.5 / 76.5

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



32	34	36	38	40	42	44	46	48
U-16MF2E8 U-16MF2E8	U-8MF2E8 U-12MF2E8 U-14MF2E8	U-8MF2E8 U-14MF2E8 U-14MF2E8	U-8MF2E8 U-14MF2E8 U-16MF2E8	U-8MF2E8 U-16MF2E8 U-16MF2E8	U-14MF2E8 U-14MF2E8 U-14MF2E8	U-14MF2E8 U-14MF2E8 U-16MF2E8	U-14MF2E8 U-16MF2E8 U-16MF2E8	U-16MF2E8 U-16MF2E8 U-16MF2E8

380 / 400 / 415 V - Three Phase / 50 Hz

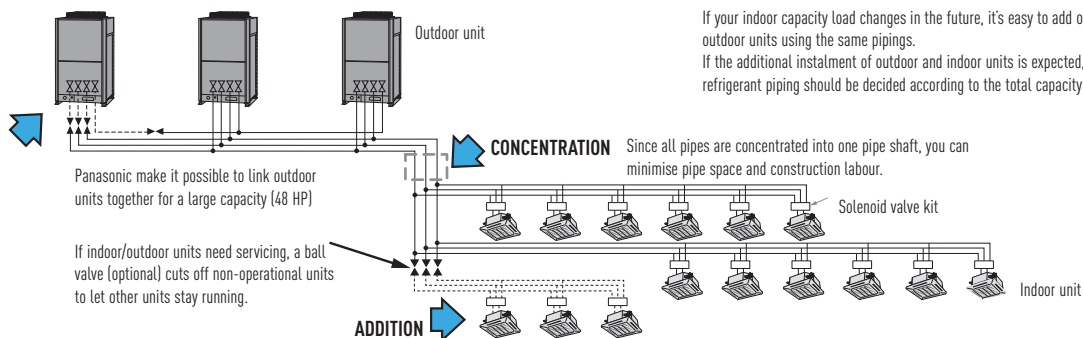
90.0	96.0	101.0	107.0	113.0	118.0	124.0	130.0	135.0
307,200	327,600	344,700	365,200	385,700	402,700	423,200	443,700	460,800
3.38	3.74	3.66	3.60	3.55	3.48	3.43	3.40	3.38
43.9 / 42.2 / 41.1	42.9 / 41.2 / 39.7	46.1 / 44.3 / 43.1	49.6 / 47.6 / 46.4	53.1 / 51.0 / 49.7	56.0 / 53.8 / 52.4	59.6 / 57.3 / 55.8	63.8 / 61.3 / 59.7	65.9 / 63.3 / 61.7
26.6	25.7	27.6	29.7	31.8	33.9	36.1	38.2	39.9
100.0	108.0	113.0	119.0	127.0	132.0	138.0	145.0	150.0
341,300	368,600	385,700	406,100	433,400	450,500	471,000	494,900	511,900
4.03	4.44	4.52	4.33	4.12	4.46	4.30	4.14	4.03
41.7 / 40.1 / 39.1	41.0 / 39.4 / 38.4	41.6 / 39.9 / 38.9	46.1 / 44.3 / 43.1	52.2 / 49.6 / 47.8	49.3 / 47.3 / 46.1	53.8 / 51.6 / 50.3	58.8 / 56.5 / 55.0	62.6 / 60.1 / 58.6
24.8	24.3	25.0	27.5	30.8	29.6	32.1	35.0	37.2
1758 x 2060 x 930	1758 x 3120 x 930	1758 x 3120 x 930	1758 x 3120 x 930	1758 x 3120 x 930	1758 x 3120 x 930	1758 x 3120 x 930	1758 x 3120 x 930	1758 x 3120 x 930
644	905	913	913	913	966	966	966	966
424	582	582	582	582	636	636	636	636
18.6	26.4	26.9	26.9	26.9	27.9	27.9	27.9	27.9
Ø 31.75	Ø 31.75	Ø 38.10 (1-1/2)	Ø 38.10	Ø 38.10	Ø 38.10	Ø 38.10	Ø 38.10	Ø 38.10
Ø 28.58	Ø 28.58	Ø 28.58	Ø 31.75	Ø 31.75	Ø 31.75	Ø 31.75	Ø 31.75	Ø 31.75
Ø 19.05	Ø 19.05	Ø 19.05	Ø 19.05	Ø 19.05	Ø 19.05	Ø 19.05	Ø 19.05	Ø 19.05
Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)

Cooling/Dry: -10 °C~+46 °C (DB). Heating: -20 °C~+18 °C (WB) Simultaneous operation: -10 °C~+24 °C (DB)

65.0 / 62.0	65.0 / 62.0	65.5 / 62.5	65.5 / 62.5	65.5 / 62.5	67.0 / 64.0	67.0 / 64.0	67.0 / 64.0	67.0 / 64.0
79.5 / 76.5	79.5 / 76.5	80.0 / 77.0	80.0 / 77.0	80.0 / 77.0	81.5 / 78.5	81.5 / 78.5	81.5 / 78.5	81.5 / 78.5

SYSTEM EXAMPLE

CONNECTION



Panasonic make it possible to link outdoor units together for a large capacity (48 HP)

If indoor/outdoor units need servicing, a ball valve (optional) cuts off non-operational units to let other units stay running.

CONCENTRATION Since all pipes are concentrated into one pipe shaft, you can minimise pipe space and construction labour.

If your indoor capacity load changes in the future, it's easy to add on both indoor and outdoor units using the same pipings.
If the additional instalment of outdoor and indoor units is expected, the size of refrigerant piping should be decided according to the total capacity after the addition.



3-PIPE ECOi MF2 SERIES // HIGH EFFICIENCY COMBINATION 16 TO 32 HP

WITH SIMULTANEOUS HEATING AND COOLING OPERATION HEAT RECOVERY TYPE

ECOi 3-Pipe 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.

- Achieves COP 4.76 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 52 indoor units.
- Small installation space, top class in the industry.
- Rotation operation function and back-up operation function provided.

Internet
Control
Ready

INTERNET CONTROL

Environmentally
friendly
refrigerant

R410A

Down to
-20 °C in
heating mode

OUTDOOR TEMPERATURE

5 year
compressor
warranty

OPTIONAL

TECHNICAL FOCUS

- STANDARDIZATION OF O_U TO ONE COMPACT CASING SIZE
- IMPROVED OPERATION EFFICIENCY
- THE CONSTANT-SPEED COMPRESSOR ADOPTS A HIGH-PERFORMANCE INTERNAL HIGH-PRESSURE SCROLL
- IMPROVEMENT OF THE HEAT EXCHANGER
- REDESIGN OF STRUCTURAL PARTS
- CLOSE SIDE-BY-SIDE INSTALLATION IS POSSIBLE

HP			16	24	26	28	30	32
MODEL NAME			U-8MF2E8 U-8MF2E8	U-8MF2E8 U-8MF2E8 U-8MF2E8	U-8MF2E8 U-8MF2E8 U-10MF2E8	U-8MF2E8 U-8MF2E8 U-12MF2E8	U-8MF2E8 U-8MF2E8 U-14MF2E8	U-8MF2E8 U-12MF2E8 U-12MF2E8
Power supply			380 / 400 / 415 V - Three Phase / 50 Hz					
Cooling capacity	kW		45.0	68.0	73.0	78.5	85.0	90.0
	BTU/h		153,600	232,100	249,100	267,900	290,100	307,200
EER	W/W		4.50	4.47	4.32	4.11	3.94	3.86
Running current	380 / 400 / 415 V	A	17.3 / 16.4 / 16.0	26.2 / 24.9 / 24.3	28.5 / 27.4 / 26.7	32.2 / 31.0 / 30.2	36.5 / 35.0 / 34.1	38.9 / 37.4 / 36.4
Power input	kW		10.0	15.2	16.9	19.1	21.6	23.3
Heating capacity	kW		50.0	76.5	81.5	87.5	95.0	100.0
	BTU/h		170,600	261,100	278,200	298,600	324,200	341,300
COP	W/W		4.76	4.72	4.68	4.56	4.59	4.41
Running current	380 / 400 / 415 V	A	17.9 / 17.0 / 16.6	27.7 / 26.3 / 25.6	29.4 / 27.9 / 27.5	32.4 / 31.1 / 30.4	35.0 / 33.6 / 32.7	38.3 / 36.8 / 35.9
Power input	kW		10.5	16.2	17.4	19.2	20.7	22.7
Dimensions (Combination)	H x W x D	mm	1758 x 2060 x 930	1758 x 3120 x 930	1758 x 3120 x 930	1758 x 3120 x 930	1758 x 3120 x 930	1758 x 3120 x 930
Net weight	kg		538	807	807	852	860	897
Air circulation	m ³ /min		316	474	494	528	528	582
Refrigerant amount at shipment	kg		16.6	24.9	25.1	25.4	25.9	25.9
Piping connections	Suction pipe	mm	Ø 28.58	Ø 28.58	Ø 31.75	Ø 31.75	Ø 31.75	Ø 31.75
	Discharge pipe	mm	Ø 22.22	Ø 25.40	Ø 25.40	Ø 28.58	Ø 28.58	Ø 28.58
	Liquid pipe	mm	Ø 12.70	Ø 15.88	Ø 19.05	Ø 19.05	Ø 19.05	Ø 19.05
	Balance pipe	mm	Ø 6.35	Ø 6.35	Ø 6.35	Ø 6.35	Ø 6.35	Ø 6.35
Ambient temperature operating range	Cooling/Dry: -10 °C~+46 °C (DBT). Heating: -20 °C~+18 °C (WBT) Simultaneous operation: -10 °C~+24 °C (DBT)							
Sound pressure level	High / Low	dB(A)	60.0 / 57.0	62.0 / 59.0	62.5 / 59.5	63.5 / 60.5	64.0 / 61.0	65.0 / 62.0
Sound power level	Normal mode	dB	74.5 / 71.5	76.5 / 73.5	77.0 / 74.0	78.0 / 75.0	78.5 / 75.5	79.5 / 76.5

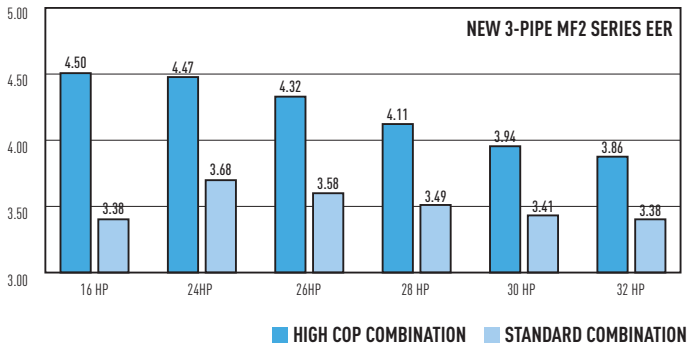
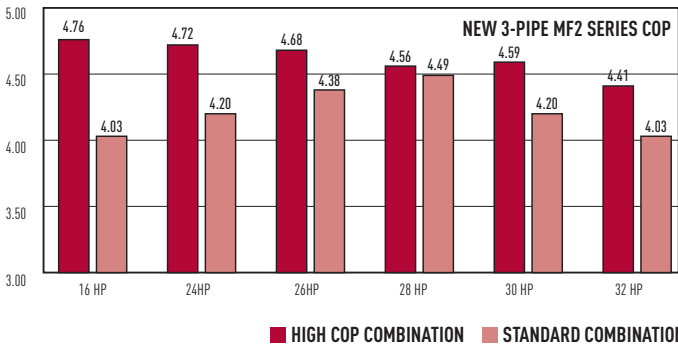
GLOBAL REMARKS	Rated conditions:	
	Cooling	Heating
	Indoor air temperature	27 °C DB / 19 °C WB
Outdoor air temperature	35 °C DB / 24 °C WB	7 °C DB / 6 °C WB

Specifications subject to change without notice.

NEW



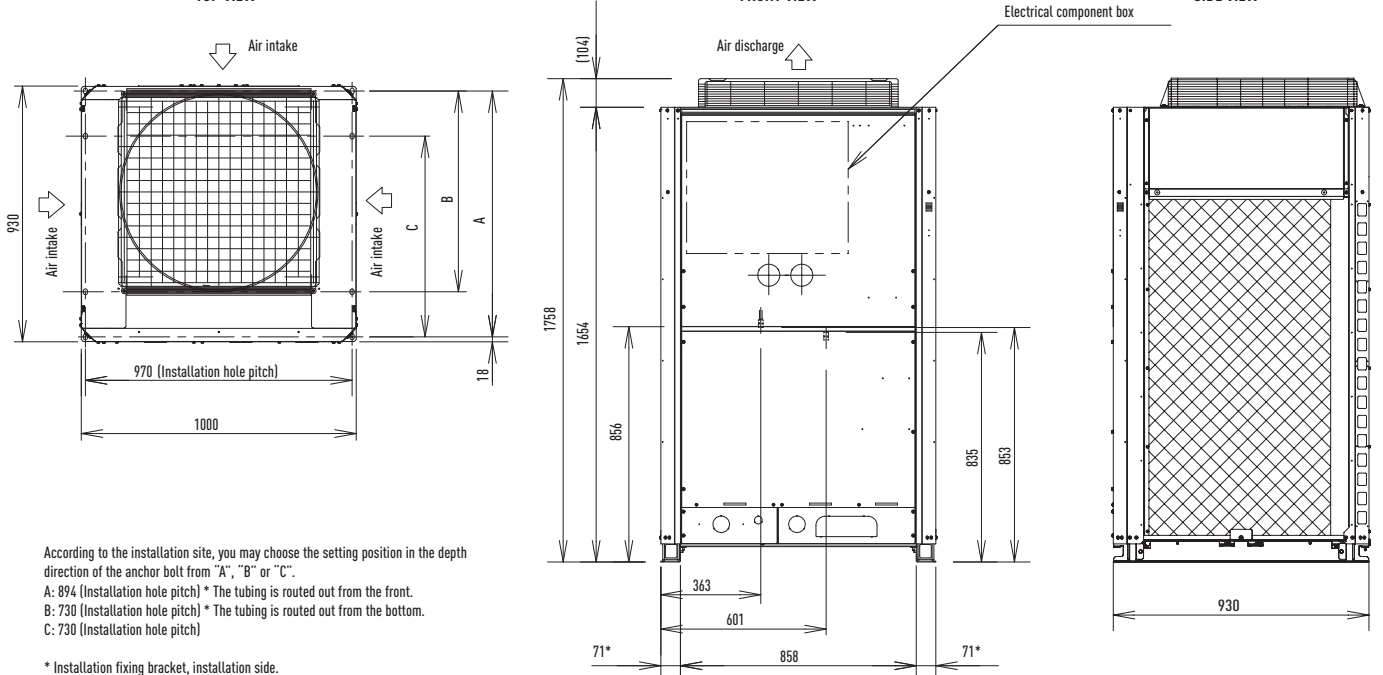
Market-leading COP (at full load), standard efficiency



TOP VIEW

FRONT VIEW

SIDE VIEW



PANASONIC INTRODUCING THE GAS DRIVEN VRF



ECO G AND ECO G MULTI, S SERIES

Panasonic's GHP range is extensive and covers the ECO G and ECO G Multi Series, and the S Series. Our GHP VRF range of commercial systems is leading the industry in the development of efficient and flexible systems, and is the natural choice for commercial projects, especially those where power restrictions apply. As you would expect, all our gas-driven VRF systems have the highest reliability rates in the industry and a leading customer service programme. The torque and rpm control functions of the GHP's motor are comparable with an inverter-type electric air conditioner. Thus, the GHP ensures individual, and efficient control and performance - just as you expect from an electric inverter controlled air conditioner.

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 71 kW 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



NEW ECO G HIGH POWER

1% this is what the new ECO G High Power is consuming versus your Electrical VRF. Your savings start now!
Ideal for locations with low electricity grid, for Chiller, Ventilation and Air conditioning application.

NEW



ECO G AND ECO G MULTI

The S Series 2-Pipe not only offers improved performance but also increased flexibility.



ECO G 3 WAY MULTI

3 Way heat recovery system with simultaneous heating & cooling.



ECO G AND ECO G MULTI 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.

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.

NEW ECO G WITH WATER HEAT EXCHANGER FOR CHILLED AND HOT WATER PRODUCTION

For hydronic applications.



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 a highly efficient plate heat 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 a DHW system and can supply up to 30 kW of hot water at 75 °C. The DHW is also available in heating when the outside air temp is above 7 °C.




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.

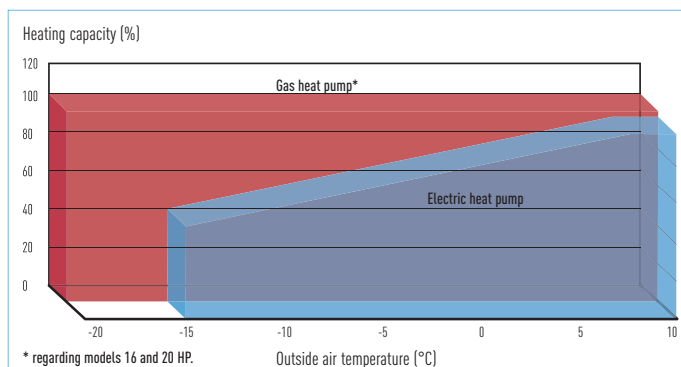
No defrost requirements

Below 7 °C ambient in heating mode, the outdoor fans switch off, saving further running costs and CO₂ emissions.

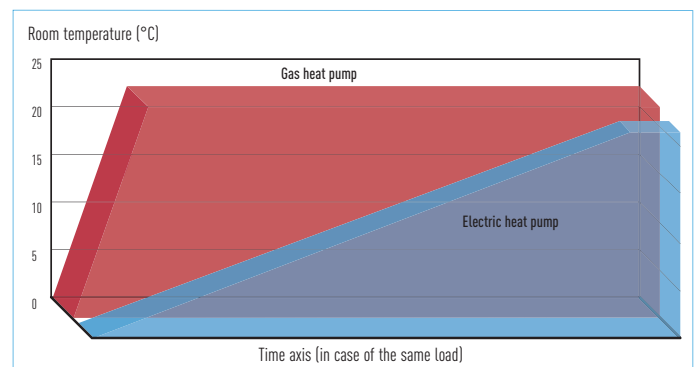
ECO G OUTDOOR UNITS RANGE

HP	16	20	25	30	32	36	40	45	50
CAPACITY (Cooling / Heating) kW	45.00 / 50.00	56.00 / 63.00	71.00 / 80.00	85.00 / 95.00	90.00 / 100.00	101.00 / 113.00	112.00 / 126.00	127.00 / 143.00	142.00 / 160.00
									
NEW ECO G HIGH POWER	U-16GEP2E5	U-20GEP2E5	U-25GEP2E5						
ECO G AND ECO G MULTI	U-16GE2E5	U-20GE2E5	U-25GE2E5	U-30GE2E5	U-16GE2E5 U-16GE2E5	U-16GE2E5 U-20GE2E5	U-20GE2E5 U-20GE2E5	U-20GE2E5 U-25GE2E5	U-25GE2E5 U-25GE2E5
ECO G 3 WAY MULTI	U-16GF2E5	U-20GF2E5	U-25GF2E5						

Comparison of heating capacity

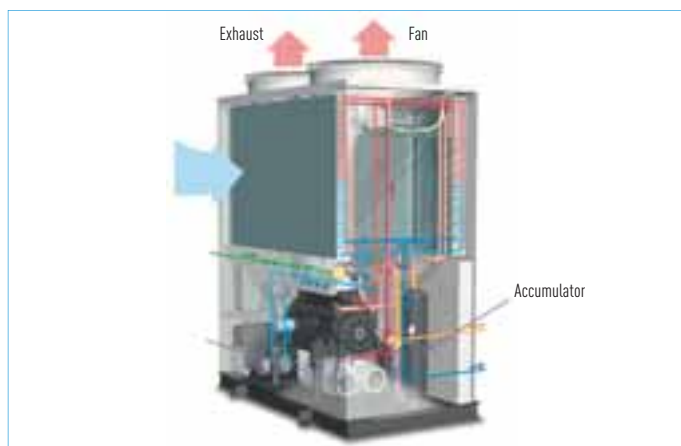


Comparison of the start times for heating operation



The Gas Heat Pump (GHP)

Panasonic Gas Heat Pump is the 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.



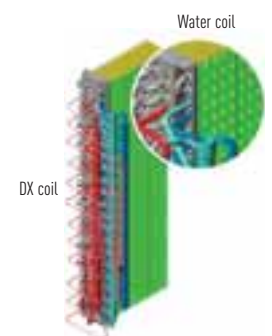
Power supply problems?

If you are short of electrical power, our 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.

GHP Outdoor Heat Exchanger

- Integrated DX and hot water coil
- No defrost required
- Faster reaction to demand for heating





ECO G 3 Way Multi

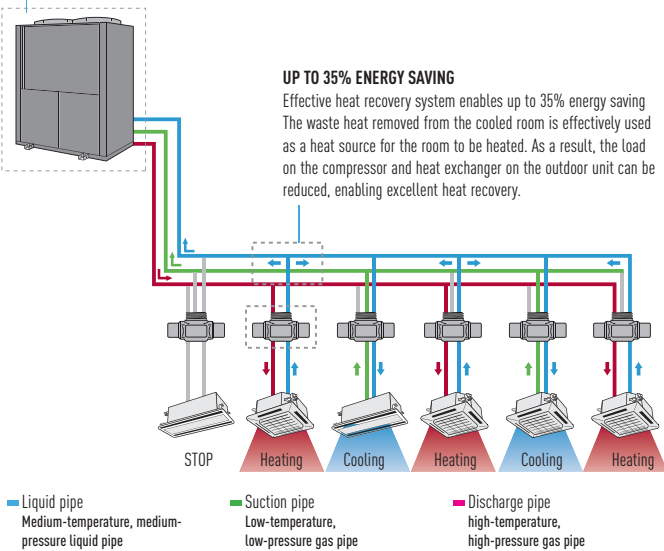
SYSTEM EXAMPLE

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.



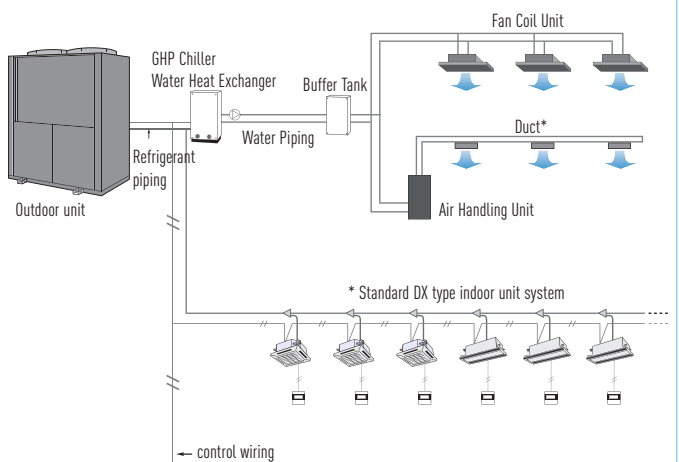
SOLENOID VALVE KIT CZ-P56HR3, CZ-P160HR3
KIT-P56HR3 (CZ-P56HR3+CZ-CAPE2), **KIT-P160HR3** (CZ-P160HR3+CZ-CAPE2)
 To be fitted on all 'zones' to allow simultaneous heating and cooling. Up to 36 indoor units are capable of simultaneous heating/cooling operation.
SOLENOID VALVE CONTROLLER CZ-CAPE2*
 Must be added to the CZ-P56HR3 OR CZ-P160HR3.
 * For wall mounted S-22MK2E5/S-28MK2E5/S-36MK2E5.
 For S-45MK1E5/S-56MK1E5/S-73MK1E5/S-106MK1E5: CZ-CAPE2.

ECO G Water Heat Exchanger

Mixed System Application

- 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.

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 contact Panasonic for details of this system design.

ECO G HIGH POWER

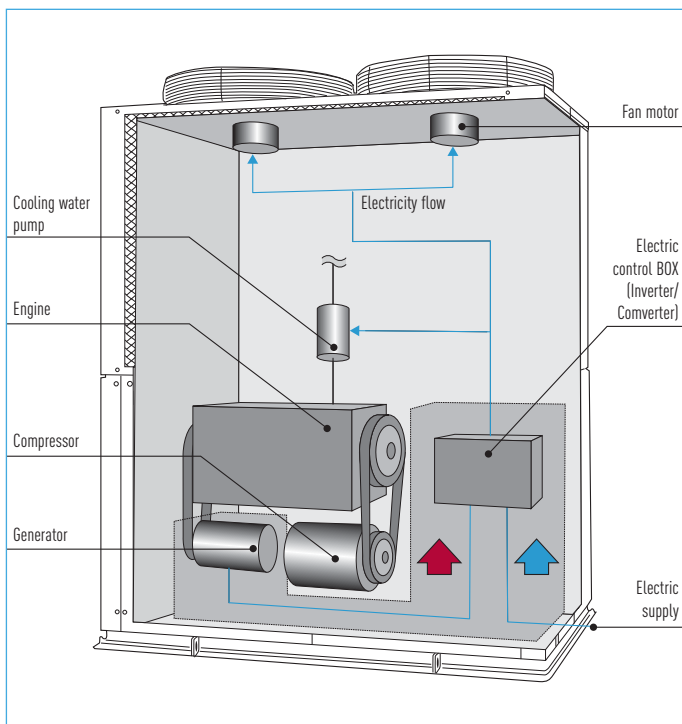
2-Pipe Heat Pump System with Electrical Power Generator

Production of electricity

Generates up to 2 kW depending on air conditioning load.

Panasonic innovates again introducing a new GHP producing his own electricity.

Equipped with a small generator of high-performance. Compressor and generator are driven by gas engine. The generated electricity is used for the fan motor and cooling water pump of its own unit. The generating efficiency is more than 40%.



ECO G HIGH POWER, ECO G AND ECO G MULTI

2-Pipe Heat Pump System

Easy to add additional units in the future

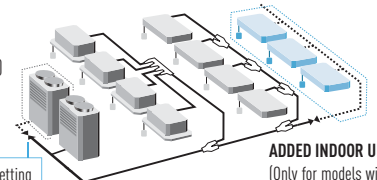
Load can easily be increased in the future by the addition of indoor and outdoor units without having to plumb pipe shafts.

* When specifying refrigerant pipe work, please choose the size according to the horsepower after the increase of units.

EXAMPLE OF A SYSTEM

ADDED OUTDOOR UNITS.
(Only for models with the same refrigerant.)

If there is a possibility for addition after setting up, please plan it so that the placement of a ball valve (sold separately) on a branch pipe on indoor/outdoor units is possible.



Main pipe: Maximum gas pipe diameter 38.1 (1 1/2)
Maximum fluid pipe diameter 19.05 (3/4)

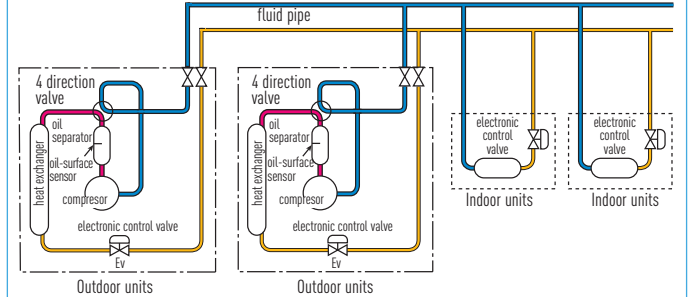
Maximum possible number of outdoor units to be combined: 2 units.
Maximum horsepower of combined outdoor units: 50 HP.
Maximum possible number of indoor units to be connected: 48 units¹.
Indoor/outdoor units capacity ratio: 50%~130%².

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.

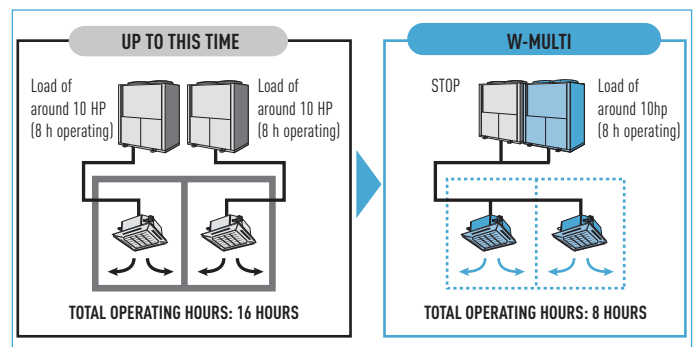
SYSTEM DIAGRAM



Saving Energy

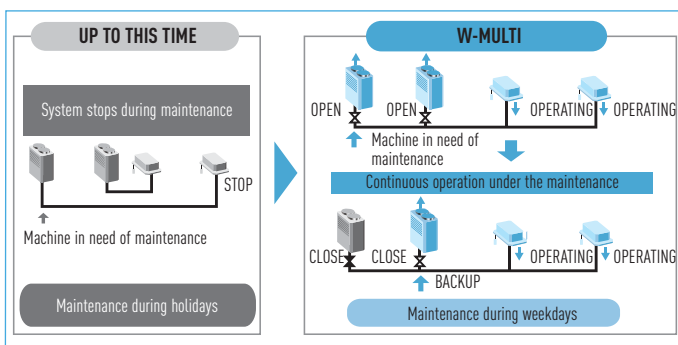
- Energy savings achieved by the Appropriate Capacity.
- Equational Program Function.

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 energy savings and thus reduces the running costs, especially in part-load seasons like spring and autumn.



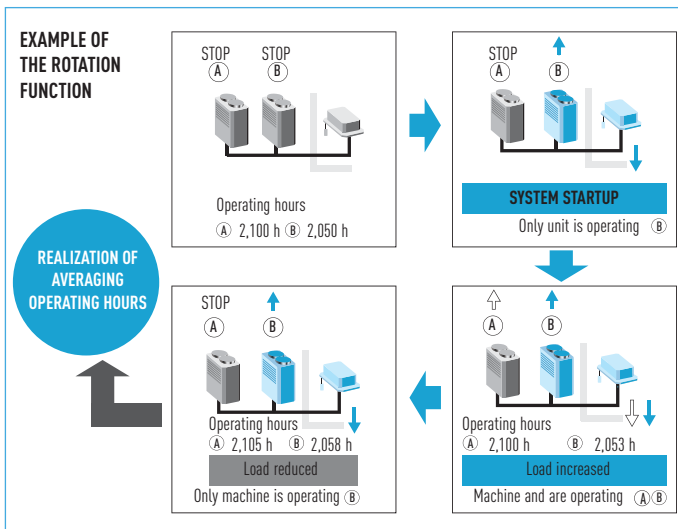
Non-stop operation, even during maintenance

- 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 extends the periods between maintenance or replacement.

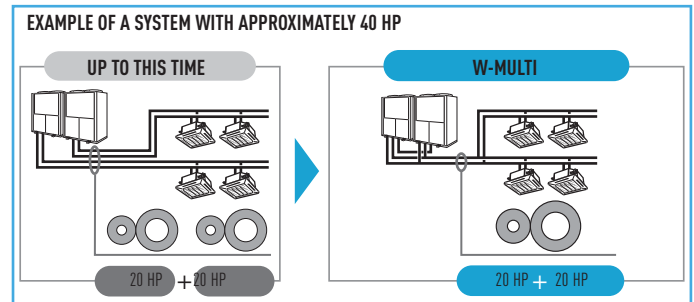


Ease of construction

- 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)

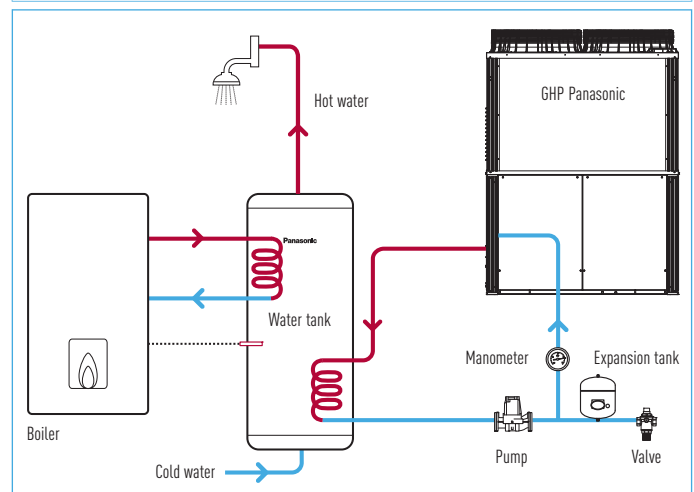
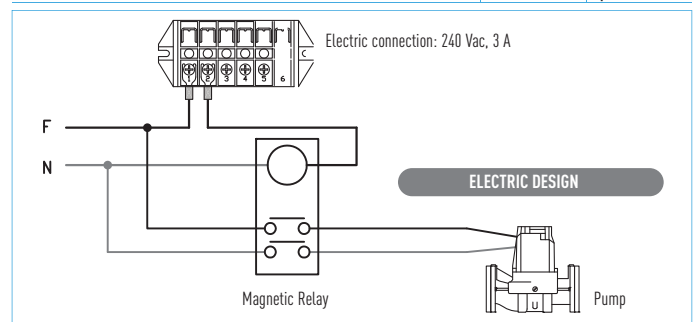
Combining all pipes, which were needed for each outdoor unit, into a pipe in each system. (Number of pipes is reduced by half).



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	kW	15.00
	U-20GE2E5		20.00
	U-25GE2E5		30.00
	U-30GE2E5		30.00
Hot water piping allowable pressure		MPa	0.7
Hot water circulation rate		m³/h	3.9
Hot water tube size			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 WATER HEAT EXCHANGER FOR HYDRONIC APPLICATIONS

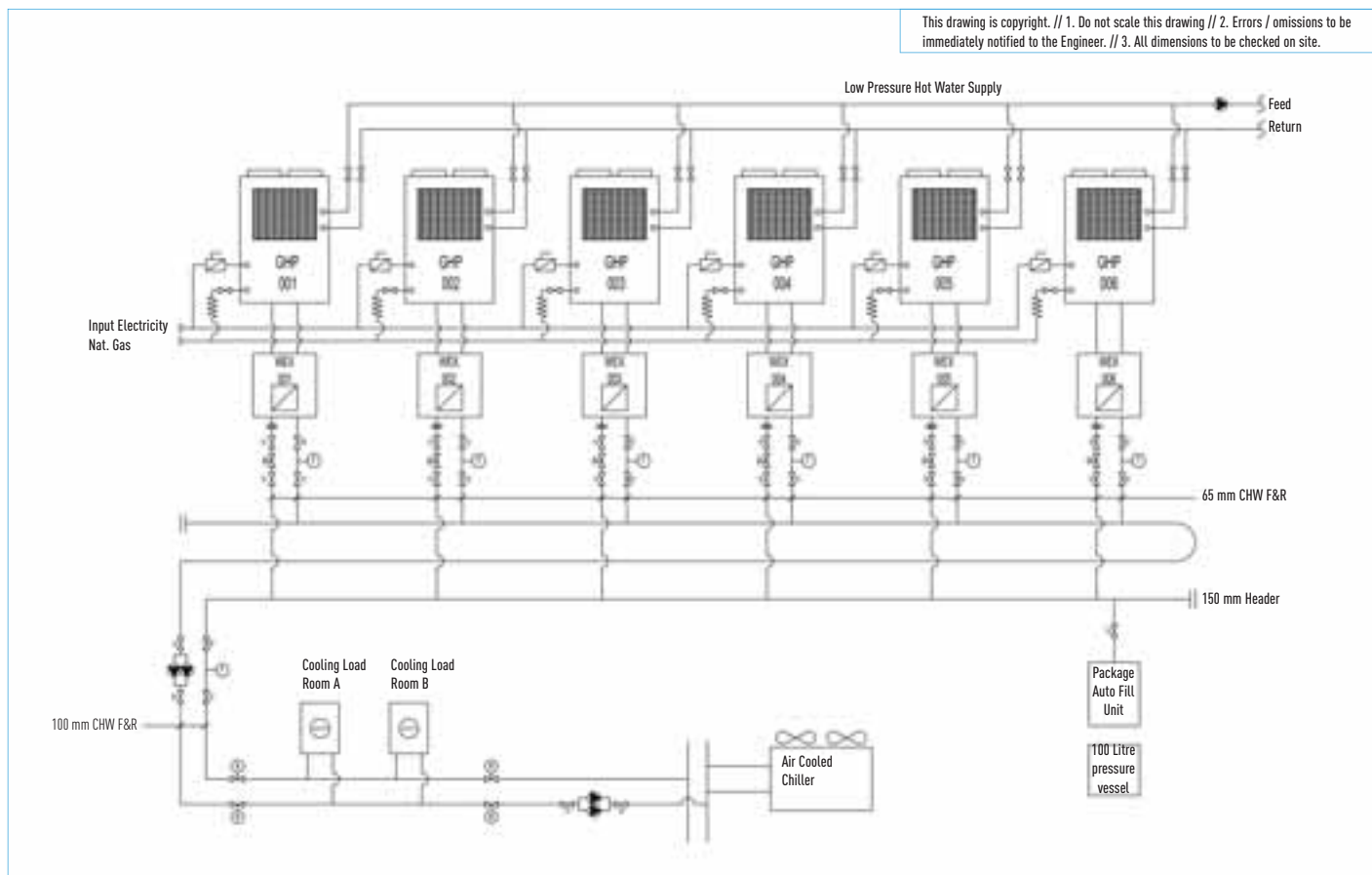
Application Examples



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 450 kW had 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 100 kW 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.
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.



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 some old chillers needed replacing at the end of their operational lifetime, 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.



NEW ECO G HIGH POWER

THE 2-PIPE GAS DRIVEN VRF WITH AN ELECTRICAL POWER GENERATOR

ECO G High 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 supply electrical power. Each ECO G High Power unit has a 2.0 kW generator, drastically reducing the outdoor unit's electricity consumption.



OPTIONAL

TECHNICAL ZOOM

- 2-PIPE AIR CONDITIONING SYSTEM PROVIDING COOLING OR HEATING
- UP TO 2 kW ELECTRICITY GENERATED (USED ON THE OUTDOOR UNIT)
- VERY EFFICIENT GENERATOR
- CAN CONNECT TO UP TO 24 INDOOR UNITS
- IU/OU CAPACITY RATIO 50–200%
- 15 TO 30 kW HOT WATER GENERATION CAPACITY

HP	16 HP		20 HP		25 HP	
MODEL NAME	U-16GEP2E5		U-20GEP2E5		U-25GEP2E5	
Cooling capacity	kW	45.00	56.00		71.00	
Hot water (cooling mode)	kW	15.0	20.0		30.0	
Power Input	kW	0.1 (220–230) 0.36 (240)	0.1 (220–230) 0.36 (240)		0.1 (220–230) 0.36 (240)	
EER						
Max COP (inc hot water)						
Gas consumption	kW	31.3	41.4		63.5	
Heating capacity	STD / Low temp ¹	kW 50.0 / 53.0	63.0 / 67.0		80.0 / 78.0	
Power Input	kW	0.1 (220–230) 0.36 (240)	0.1 (220–230) 0.36 (240)		0.1 (220–230) 0.36 (240)	
COP						
Gas consumption	STD / Low temp ¹	kW 33.8	43.9		55.1	
COP	Average					
Size	Height	mm	2,273		2,273	
	Width	mm	1,650		1,650	
	Depth	mm	1,000 (+80)		1,000 (+80)	
Weight	kg	770	795		825	
Starter amperes	A	30	30		30	
Pipe Connections	Gas	Inches (mm)	1 1/8 (Ø 28.58)		1 1/8 (Ø 28.58)	
	Liquid	Inches (mm)	1/2 (Ø 12.70)		5/8 (Ø 15.88)	
	Fuel gas		R3/4 (bolt thread)		R3/4 (bolt thread)	
	Exhaust drain port	mm	Ø 25		Ø 25	
Operation sound	dB(A)	57	58		62	
Indoor/outdoor capacity ratio		50-200% ¹	50-200% ¹		50-200% ¹	
Number of connections indoor ²		24	24		24	

1) Low temp condition: outdoor temperature 2 °C.

2) Indoor unit can be connected to up to 16 kW model (model size 60)

Specifications subject to change without notice.

GLOBAL REMARKS	Rated conditions:	Cooling	Heating (standard)	Heating (low temp.)
	Indoor air temperature	27 °C DB / 19 °C WB	20 °C DB	20 °C DB / 15 °C WB or less
	Outdoor air temperature	35 °C DB	7 °C DB / 4 °C WB	2 °C DB / 1 °C WB

Cooling and heating capacities in the tables are determined under the test conditions of JIS B 8627.

Effective heating requires that the outdoor air intake temperature be at least -20 °C DB or -21 °C WB.

DB: Dry Bulb; WB: Wet Bulb

- Gas consumption is the total (high) calorific value standard.

- Outdoor unit operating sound is measured 1 meter from the front and 1.5 meters above the floor (in an anechoic environment).

- Actual installations may have larger values due to ambient noise and reflections.

- Values in parentheses () for refrigerant gas and liquid types are those when the maximum piping length exceeds 90 meters (equivalent length). (Reducers are available locally.)

- Specifications are subject to change without notice.

- Hot water heating capacity is applicable during cooling operation as in Note 1.

- The maximum water temperature that can be obtained is 75 °C. Water heating performance and temperature vary with the air conditioning load. Because the hot water heating system uses waste heat from the engine, which runs the air conditioning, its ability to heat water is not guaranteed.

SERVICE KITS MODEL	KIT CZ-PSK560SP
Outdoor unit reference	U-16GEP2E5 / U-20GEP2E5 / U-25GEP2E5
MATERIAL INCLUDED	
Oil Filter	1
Air Cleaner Element	1
Plug	4
V BELT (for compressor)	1
V Belt (for generator)	1
Oil Strainer	1
Drain Filter Packing	1



More Technical Zoom

- Free Hot water provided when in cooling throughout temperature range and in heating when the ambient is above 7 °C
- 200 m maximum allowable piping length (L1)

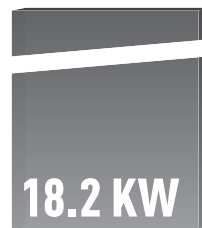
* Referring to outside temperature.

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 High Power can generate 2.0 kW electricity at a generation efficiency of more than 40%.

New ECO G High Power

GHP with electrical generator. Only consumes 1% of the electricity required by Standard VRF systems!



Standard VRF for 73 kW

COMPARISON OF ELECTRICAL CONSUMPTION ON A 71 KW OUTDOOR UNIT



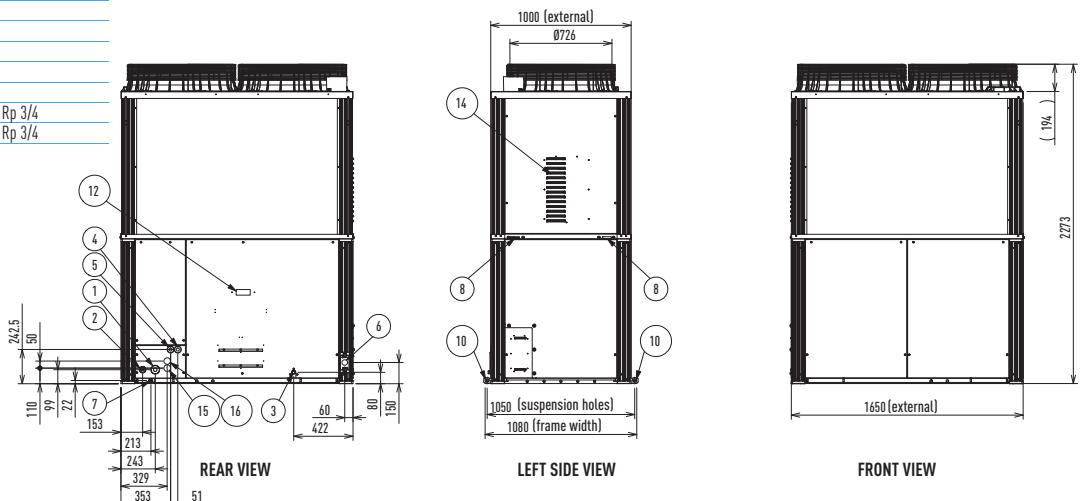
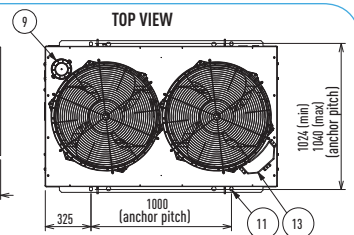
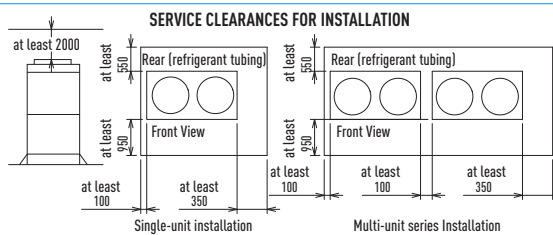
ECO G for 71 kW

Less than 1% of electrical consumption



ECO G High Power for 71 kW

	45.0 kW	56.0-71.0 kW
1 Suction refrigerant pipe	Ø 28.58	Ø 28.58
2 Liquid refrigerant pipe	Ø 12.7	Ø 15.88
3 Exhaust gas drain port	HOSE OD Ø 25 (accessory)	
4 Electrical power supply port	Ø 28	
5 Inter-unit cable port	Ø 28	
6 Fuel gas port	R3/4	
7 Condensation drain opening	Ø 20	
8 Rain and condensation outlet		
9 Engine exhaust outlet		
10 Suspension holes 4-Ø 20x30		
11 Anchor holes 4-Ø 22x30		
12 Segmented display		
13 Coolant intake (top)		
14 Vent		
15 Hot water inlet	Rp 3/4	
16 Hot water outlet	Rp 3/4	





ECO G AND ECO G MULTI

2-PIPE HEAT PUMP SYSTEM

ECO G and ECO G Multi 2-Pipe for Heat Pump Applications.

The S Series 2-Pipe not only offers improved performance but also increased flexibility. Now available as multi-systems, many combinations are possible, from 16 HP to 50 HP, 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.



OPTIONAL

TECHNICAL ZOOM

- REDUCED GAS CONSUMPTION BY MILLER-CYCLE ENGINE
- REDUCED ELECTRICAL POWER CONSUMPTION BY USING DC MOTORS
- NEW LIGHTWEIGHT DESIGN BY USE OF REDUCES WEIGHT
- DIVERSITY RATIO 50-200% (SINGLE MODELS ONLY)
- QUIET MODE OFFERS A FURTHER 2 dB(A) REDUCTION
- PART LOAD EFFICIENCIES INCREASED

HP		16 HP	20 HP	25 HP	30 HP	32 HP	36 HP*	40 HP*	45 HP*	50 HP
MODEL NAME		U-16GE2E5	U-20GE2E5	U-25GE2E5	U-30GE2E5	U-16GE2E5 U-16GE2E5	U-16GE2E5 U-20GE2E5	U-20GE2E5 U-20GE2E5	U-20GE2E5 U-25GE2E5	U-25GE2E5 U-25GE2E5
Cooling capacity	kW	45.00	56.00	71.00	85.00	90.00	101.00	112.00	127.00	142.00
Hot water (cooling mode)	kW	15.00	20.00	30.00	30.00	30.00	35.00	40.00	50.00	60.00
Power Input	kW	0.71	1.02	1.33	1.70	1.42	1.73	2.04	2.35	2.66
EER		1.48	1.40	1.15	1.22	1.48	1.43	1.40	1.25	1.15
Max COP (inc hot water)		1.97	1.89	1.64	1.65	1.97	1.93	1.89	1.74	1.64
Gas consumption	kW	29.70	39.10	60.40	67.9	59.40	68.80	78.20	99.50	120.80
Heating capacity	STD Low temp ¹ kW	50.00 / 53.00	63.00 / 67.00	80.00 / 78.00	95.00 / 90.00	100.00 / 106.00	113.00 / 120.00	126.00 / 134.00	143.00 / 145.00	160.00 / 156.00
Power Input	kW	0.60	0.64	0.83	1.45	1.20	1.24	1.28	1.47	1.66
COP		1.51	1.46	1.48	1.37	1.51	1.48	1.46	1.47	1.48
Gas consumption	STD Low temp ¹ kW	32.50 / 41.50	42.50 / 56.40	53.20 / 62.30	68.10 / 78.00	65.00 / 83.00	75.00 / 97.90	85.00 / 112.80	95.70 / 118.70	106.40 / 124.60
COP	Average	1.50	1.43	1.32	1.29	1.50	1.46	1.43	1.36	1.32
Size	Height	mm	2273	2273	2273	2273	2273	2273	2273	2273
	Width	mm	1650	1650	1650	2026	1650+100+1650	1650+100+1650	1650+100+1650	1650+100+1650
	Depth	mm	1000 (+80)	1000 (+80)	1000 (+80)	1000 (+80)	1000 (+80)	1000 (+80)	1000 (+80)	1000 (+80)
Weight	kg	755	780	810	840	755.775	755.780	780.780	780.810	810
Starter amperes	A	30	30	30	30	30	30	30	30	30
Pipe Connections	Gas	Inches (mm)	1 1/8 (Ø 28.58)	1 1/8 (Ø 28.58)	1 1/8 (28.58)	1 1/4 (Ø 31.75)	1 1/4 (Ø 31.75)	1 1/4 (Ø 31.75)	1 1/2 (Ø 38.10)	1 1/2 (Ø 38.10)
	Liquid	Inches (mm)	1/2 (Ø 12.70)	5/8 (Ø 15.88)	5/8 (Ø 15.88)	3/4 (Ø 19.05)	3/4 (Ø 19.05)	3/4 (Ø 19.05)	3/4 (Ø 19.05)	3/4 (Ø 19.05)
	Fuel gas		R3/4 (bolt thread)	R3/4 (bolt thread)	R3/4 (bolt thread)	R3/4 (bolt thread)	R3/4 (bolt thread)	R3/4 (bolt thread)	R3/4 (bolt thread)	R3/4 (bolt thread)
	Exhaust drain port	mm	Ø 25 rubber hose	Ø 25 rubber hose	Ø 25 rubber hose	Ø 25 rubber hose	Ø 25 rubber hose	Ø 25 rubber hose	Ø 25 rubber hose	Ø 25 rubber hose
Operation sound	dB(A)	57	58	62	63	60	61	61	63	65
Indoor/outdoor capacity ratio		50-200 %	50-200 %	50-200 %	50-170 %	50-130 %	50-130 %	50-130 %	50-130 %	50-130 %
Number of connections indoor*		24	24	24	32	48	48	48	48	48

* In these combinations, GEP2E5 is able to connect to a W-multi system Specifications subject to change without notice instead of a GE2E5.
1 Low temp condition: outdoor temperature 2 °C.

Specifications subject to change without notice.

GLOBAL REMARKS	Rated conditions:	Cooling	Heating (standard)	Heating (low temp.)
	Indoor air temperature	27 °C DB / 19°C WB	20 °C DB	20 °C DB / 15 °C WB or less
	Outdoor air temperature	35 °C DB	7 °C DB / 4 °C WB	2 °C DB / 1 °C WB

Cooling and heating capacities in the tables are determined under the test conditions of JIS B 8627. Effective heating requires that the outdoor air intake temperature be at least -20 °C DB or -21 °C WB.
DB: Dry Bulb; WB: Wet Bulb
- Gas consumption is the total (high) calorific value standard.
- Outdoor unit operating sound is measured 1 meter from the front and 1.5 meters above the floor (in an anechoic environment). Actual installations may have larger values due to ambient noise and reflections.
- Values in parentheses () for refrigerant gas and liquid types are those when the maximum piping length exceeds 90 meters (equivalent length). (Reducers are available locally.)
- Specifications are subject to change without notice.
- Hot water heating capacity is applicable during cooling operation as in Note 1.
- The maximum water temperature that can be obtained is 75 °C. Water heating performance and temperature vary with the air conditioning load. Because the hot water heating system uses waste heat from the engine, which runs the air conditioning, its ability to heat water is not guaranteed.

GHP SERVICE KITS MODEL NAMES	KIT CZ-PSK560S	KIT CZ-PSK850S
Outdoor unit reference	U-16GE2E5 / U-20GE2E5 / U-25GE2E5	U-30GE2E5
MATERIAL INCLUDED ON THE KIT		
Oil Filter	1	1
Air Cleaner Element (Air Filter)	1	1
Plug	4	4
V BELT (for compressor)	1	1
V Belt (for generator)	-	-
Oil Strainer	1	1
Drain Filter Packing	1	1



More Technical Zoom

- Connectivity increased - now up to 48 indoor units
- Multi-systems with combinations from 13 HP up to 50 HP
- 200 m maximum allowable piping length (L1)
- Extended pipe runs (total 780 m)
- 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 3,120 running hours per year - 12 h x 5 days x 52 weeks

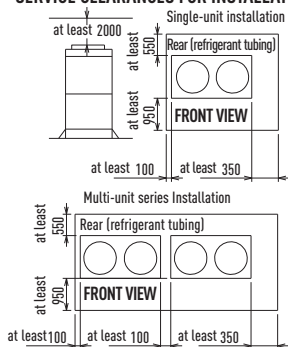


Sample installation

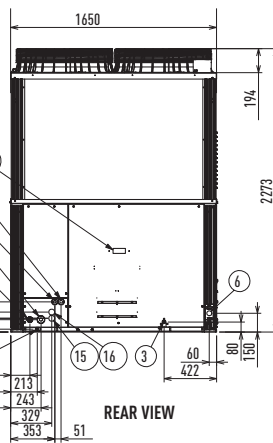
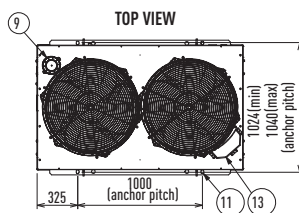
* Referring to outside temperature

	45 kW	56 - 71 kW	85 kW
1 Gas refrigerant pipe	Ø 28.58	Ø 31.75	Ø 31.75
2 Liquid refrigerant pipe	Ø 12.7	Ø 15.88	Ø 19.05
3 Exhaust gas drain port	HOSE OD Ø 25 (accessory)		
4 Electrical power supply port	Ø 28		
5 Inter-unit cable port	Ø 28		
6 Fuel gas port	R3/4		
7 Condensation drain opening	Ø 20		
8 Rain and condensation outlet			
9 Engine exhaust outlet			
10 Suspension holes 4-Ø 20x30			
11 Anchor holes 4-Ø 22x30			
12 Segmented display			
13 Coolant intake (top)			
14 Vent			
15 Hot water intake		Rp3/4	
16 Hot water outlet		Rp3/4	

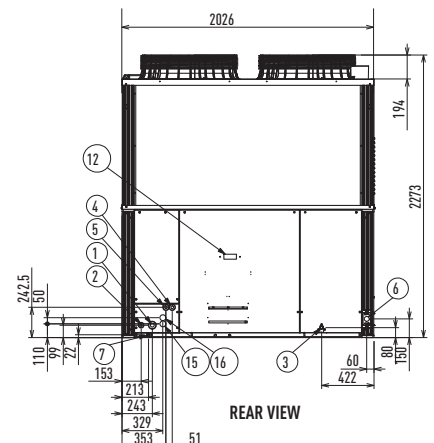
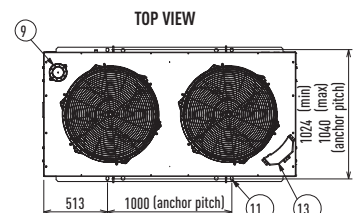
SERVICE CLEARANCES FOR INSTALLATION



U-16GE2E5 // U-20GE2E5 // U-25GE2E5



U-30GE2E5





ECO G 3 WAY MULTI

3 WAY HEAT RECOVERY SYSTEM WITH SIMULTANEOUS HEATING & COOLING

The only 3 Way GHP system in Europe, the S Series ECO G 3 Way offers even more performance and outstanding features when you need simultaneous heating and cooling. Now with capacities available from 16 HP to 25 HP, Panasonic offers the greatest choice and flexibility to solve any power problem or site requirement.



OPTIONAL

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 LIGHTWEIGHT DESIGN
- PART LOAD EFFICIENCIES INCREASED
- CONNECTABILITY INCREASED TO UP TO 24 INDOOR UNITS
- 145 m MAXIMUM ALLOWABLE PIPING LENGTH, L1

HP	16 HP		20 HP		25 HP	
MODEL NAME	U-16GF2E5		U-20GF2E5		U-25GF2E5	
Cooling capacity	kW	45.00	56.00		71.00	
Cooling power input	kW	0.71	1.02		1.33	
EER		1.48	1.40		1.15	
Cooling gas consumption	kW	29.7	39.1		60.4	
Heating capacity	STD	kW	50.00		63.00	
	Low temp*	kW	53.00		67.00	
Heating power input	kW	0.60	0.64		0.83	
COP		1.51	1.46		1.48	
Heating gas consumption	STD	kW	32.5		42.5	
	Low	kW	41.5		56.4	
COP	Average	1.50	1.43		1.32	
Size	H x W x D	mm	2273 x 1650 x 1000 (+80)		2273 x 1650 x 1000 (+80)	
Weight	kg	775	775		805	
Starter amperes	A	30	30		30	
Pipe	Gas	Inches (mm)	1 1/8 (Ø 28.58)		1 1/8 (Ø 28.58)	
	Liquid	Inches (mm)	3/4 (Ø 19.05)		3/4 (Ø 19.05)	
	Discharge	Inches (mm)	7/8 (Ø 22.22)		1 (Ø 25.40)	
	Fuel gas		R3/4		R3/4	
	Exhaust drain port	mm	Ø 25		Ø 25	
Operation sound	dB(A)	57	58		62	
Indoor/outdoor capacity ratio		50-200% ¹	50-200% ¹		50-200% ¹	
Number of connected indoor units*		24	24		24	

*Low temp condition: outdoor temperature 2 °C.
¹ Indoor unit can be connected to up to 16 kW model (model size 60)

Specifications subject to change without notice.

GLOBAL REMARKS	Rated conditions:	Cooling	Heating (standard)	Heating (low temp.)
	Indoor air temperature	27 °C DB / 19°C WB	20 °C DB	20 °C DB / 15 °C WB or less
	Outdoor air temperature	35 °C DB	7 °C DB / 4 °C WB	2 °C DB / 1 °C WB

Cooling and heating capacities in the tables are determined under the test conditions of JIS B 8627. Effective heating requires that the outdoor air intake temperature be at least -20 °C DB or -21 °C WB.
 DB: Dry Bulb; WB: Wet Bulb
 - Gas consumption is the total [high] calorific value standard.
 - Outdoor unit operating sound is measured 1 meter from the front and 1.5 meters above the floor (in an anechoic environment). Actual installations may have larger values due to ambient noise and reflections.
 - Values in parentheses () for refrigerant gas and liquid types are those when the maximum piping length exceeds 90 meters (equivalent length). (Reducers are available locally.)
 - Specifications are subject to change without notice.
 - Hot water heating capacity is applicable during cooling operation as in Note 1.
 - The maximum water temperature that can be obtained is 75 °C. Water heating performance and temperature vary with the air conditioning load. Because the hot water heating system uses waste heat from the engine, which runs the air conditioning, its ability to heat water is not guaranteed.

GHP SERVICE KITS MODEL NAME	KIT CZ-PSK560S
Outdoor unit reference	U-16GF2E5 / U-20GF2E5 / U-25GF2E5
MATERIAL INCLUDED ON THE KIT	
Oil Filter	1
Air Cleaner Element (Air Filter)	1
Plug	4
V BELT (for compressor)	1
V Belt (for generator)	-
Oil Strainer	1
Drain Filter Packing	1



More Technical Zoom

- Diversity ratio 50–200%
- Extended pipe runs (total 780 m)
- Quiet mode offers a further 2 dB(A) reduction
- Full heating capacity down to -21 °C
- No defrost cycle
- 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)
- 10,000 run hours between engine service intervals (equivalent to one maintenance every 3.2 years*)

- Assuming 3,120 running hours per year - 12 h x 5 days x 52 weeks

Additional parts



Solenoid valve controller

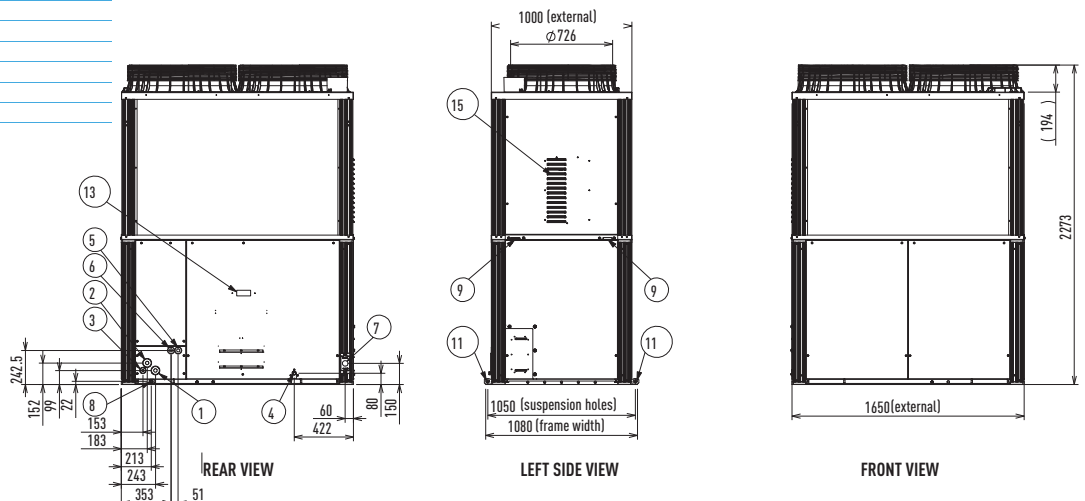
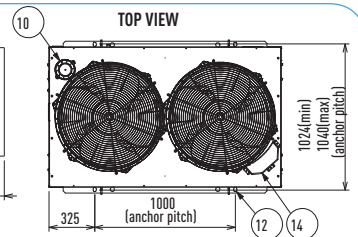
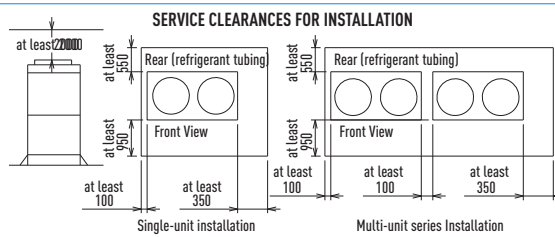
3-Pipe control PCB CZ-CAPE2*.
Must be added to the CZ-P56HR3 OR CZ-P160HR3.
KIT-P56HR3 (CZ-P56HR3+CZ-CAPE2), KIT-P160HR3 (CZ-P160HR3+CZ-CAPE2)
* For wall mounted S-22MK2E5/S-28MK2E5/S-36MK2E5.
For S-45MK1E5/S-56MK1E5/S-73MK1E5/S-106MK1E5: CZ-CAPE2.



Solenoid valve kit

CZ-P56HR3 (up to 5.6 kW) CZ-P160HR3 (from 5.7 to 16 kW)
KIT-P56HR3 (CZ-P56HR3+CZ-CAPE2), KIT-P160HR3 (CZ-P160HR3+CZ-CAPE2)
* For conference rooms and other locations where low noise is required, pay attention to the installation location and install in a corridor etc.

	45.0 kW	56.0-71.0 kW
1 Suction refrigerant pipe	Ø 28.58	Ø 28.58
2 Discharge refrigerant pipe	Ø 22.22	Ø 25.4
3 Liquid refrigerant pipe	19.05	
4 Exhaust gas drain port	HOSE OD Ø 25 (accessory)	
5 Electrical power supply port	Ø 28	
6 Inter-unit cable port	Ø 28	
7 Fuel gas port	R3/4	
8 Condensation drain opening	Ø 20	
9 Rain and condensation outlet		
10 Engine exhaust outlet		
11 Suspension holes 4-Ø 20x30		
12 Anchor holes 4-Ø 22x30		
13 Segmented display		
14 Coolant intake (top)		
15 Vent		





THE NEW PANASONIC SOLUTION FOR CHILLED AND HOT WATER PRODUCTION!

FROM 28 kW TO 80 kW

Key benefits:

- No cascade installation up to 80 kW with GHP outdoor unit and 51.3 kW with ECOi
- No Glycol needed when WHE is located on the heated part of the building
- Full line-up of outdoor units which can cover up to 80 kW heat demand
- Large choice of remote controls and interfaces
- 3.25 COP with water at 45 °C and outdoor temperature of +7 °C

Energy saving
INVERTER+

Environmentally friendly refrigerant
R410A

High savings
ECO G

Environmentally friendly refrigerant
R410A



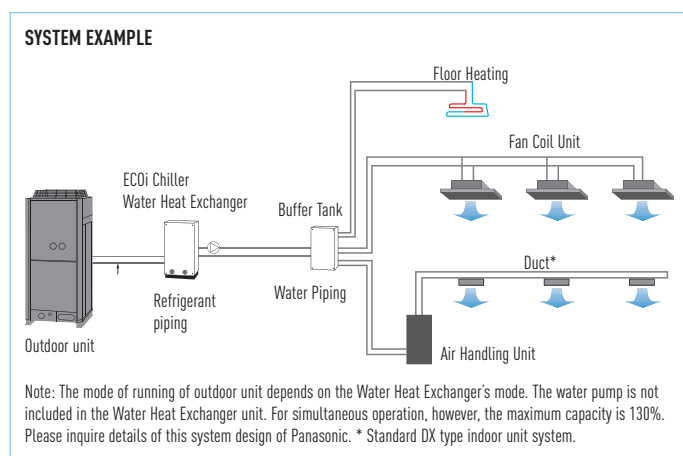
With ECOi outdoor units

- Maximum hot water outlet temperature: 45 °C
- Minimum chilled water outlet temperature: 7 °C
- Outdoor temperature range in cooling mode: +5 °C to +43 °C
- Outdoor temperature range in heating mode: -20 °C to +15 °C

ECOi Water Heat Exchanger

Electrical VRF with Water Heat Exchanger

- With this easy to install Water Heat Exchanger unit, you can now cover projects up to 51 kW hot water demand or 44 kW on chilled application on a efficient way and cost effective.

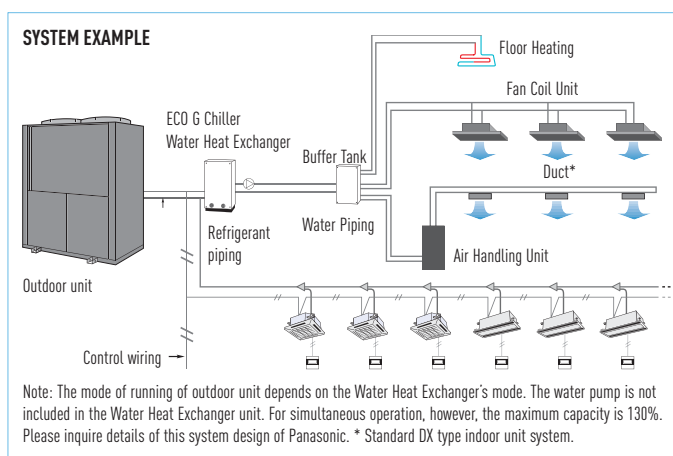


With GHP outdoor units:

- Hot water outlet temperatures from 35 °C to 55 °C
- Chilled water outlet temperatures from 5 °C to 15 °C
- Outdoor temperature range in cooling mode: -10 °C to +43 °C
- Minimum outdoor temperature in heating mode: -21 °C

ECO G Water Heat Exchanger. Mixed System Application

- 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.



MODEL			S-250WX2E5 ¹	S-500WX2E5	S-710WX2E5 ²
Rated capacity	Cooling/Heating	kW	25 / 30	50 / 60	71 / 80
Rated power input	Cooling/Heating	kW	0.01	0.01	0.01
Rated current		A	0.07	0.07	0.07
Power supply		V / Ph / Hz	220-240 / 1 / 50	220-240 / 1 / 50	220-240 / 1 / 50
Water volume flow		m ³ /h	4.3	8.6	12.2 ⁴
Pressure loss		kPa	6.6	9.6	11.7
Water volume in heat exchanger / in primary circuit (min)		m ³	0.008 / 0.28	0.012 / 0.5	0.017 / 0.73
Max. water pressure		MPa	0.686	0.686	0.686
Type of anti-freeze protection			Flow switch		
Dimensions / Weight	H x W x D	mm / kg	1,000 x 395 x 965 / 110	1,000 x 395 x 965 / 130	1,000 x 395 x 965 / 150
Pipe connections	Gas pipe / Liquid pipe	mm	22.22 / 9.52	28.58 / 15.88	31.75 / 19.05
Max. piping length		m	170 ³	170 ³	170 ³
Max. height difference IU above OU / OU above IU		m	35 ^{3 5} / 50 ³	35 ^{3 5} / 50 ³	35 ^{3 5} / 50 ³
Power supply wire diameter		mm ²	2 x 2.0	2 x 2.0	2 x 2.0
Communication wire (LIYCY)		mm ²	2 x 0.5-2.0 (total length up to 1,000 m)	2 x 0.5-2.0 (total length up to 1,000 m)	2 x 0.5-2.0 (total length up to 1,000 m)
Fuse size (slow-blow)		A	15	15	15

1. Only with indoors combination. Can not be used as 1 to 1.

2. Only connectable with GHP.

3. Not valid in case of mixed systems, combination ratio in case of mixed systems: 50 to 130 %, combination ratio in case of one-to-one-systems: 100 %.

4. Water circulating pump. Power supply: 230 V / 1 Ph / 50 Hz; power input: 0.75 kW; external pressure head: 6 m.

5. For cooling operation where the outdoor air temperature is 10 °C or less, this value should be 30 m.

Energy
saving

INVERTER +
INVERTER +

NEW ECOi 2-PIPE WITH WATER HEAT EXCHANGER FOR CHILLED AND HOT WATER PRODUCTION

FOR HYDRONIC APPLICATIONS

New Water Heat Exchanger for GHP and ECOi, dimensions reduced by 45 %. Operation and control by wired remote control CZ-RTC2. Energy-efficient capacity control.

Stainless steel plate heat exchanger with anti-freeze protection control. Change-over between heating and cooling operation

Environmentally
friendly
refrigerant

R410A

TECHNICAL ZOOM

- MAXIMUM DISTANCE BETWEEN OUTDOOR UNIT AND WATER HEAT EXCHANGER: 170 m
- MAXIMUM HOT WATER OUTLET TEMPERATURE: 45 °C
- MINIMUM CHILLED WATER OUTLET TEMPERATURE: 7 °C
- OUTDOOR TEMP. RANGE IN COOLING MODE: +5 °C TO +43 °C
- OUTDOOR TEMP. RANGE IN HEATING MODE: -20 °C TO +15 °C

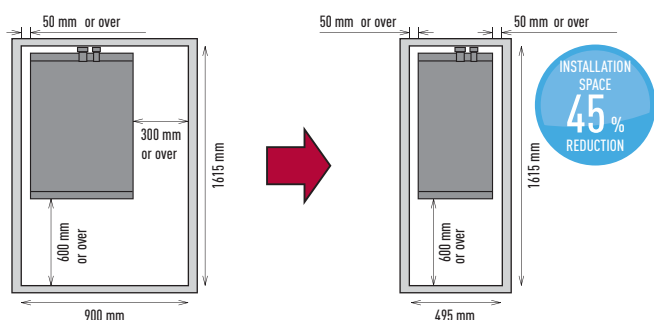
WATER HEAT EXCHANGER			S-250WX2E5*	S-500WX2E5
Nominal Cooling Capacity			25.0	50.0
Nominal Heating Capacity			28.0	51.3
Heating Capacity at +7°C, heating water temperature at 45 °C		kW	28.0	51.3
COP at +7°C with heating water temperature at 45 °C			3.25	3.10
Dimensions / Weight	H x W x D	mm / kg	1,000 x 395 x 965 / 165	1,000 x 395 x 965 / 190
Water pipe connector			Rp2 Nut thread (50A)	Rp2 Nut thread (50A)
Pump			(Field supply)	(Field supply)
Heating water flow (ΔT=5 K, 35 °C)		l/min	4.3	8.6
Capacity of integrated electric heater			(Not equipped)	(Not equipped)
Input Power			kW	0.01
Maximum Current			A	0.07
OUTDOOR UNIT			U-10ME1E81	U-20ME1E81
Sound pressure / Sound power level			dB(A) / dB	63 / 77.5
Dimensions Weight	H x W x D	mm / kg	1,758 x 770 x 930 / 283	1,758 x 1,540 x 930 / 423
Pipe Diameter	Liquid / Gas	mm (Inch)	22.22 / 9.52	28.58 / 15.88
Refrigerant (R410A)			kg	6.3 *Need Additional charge at site
Pipe Length Range			m	max. 170
Pipe Length for nominal capacity			m	7.5
Pipe Length for additional gas			m	0 <
Additional Gas Amount (R410A)			g/m	Refer to Manual
I/D&O/D Hight Difference			m	50 (OD above) 35 (OD below)
Operation Range	Outdoor Ambient	°C	-20 — 15	-20 — 15
	Water Outlet (at-2/-7/-15) 2	°C	35 — 45	35 — 45

All values shown as tentative data.
Performance calculation in agreement with Eurovent.
Sound pressure measured at 1 m from the outdoor unit and at 1.5-m height.
* Only with indoors combination. Can not be used as 1 to 1.

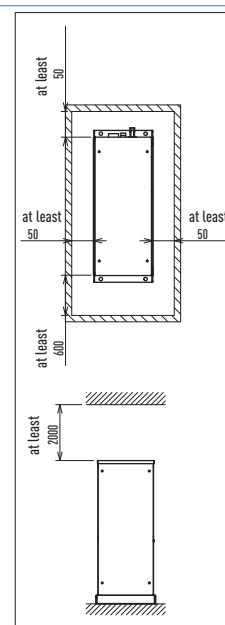
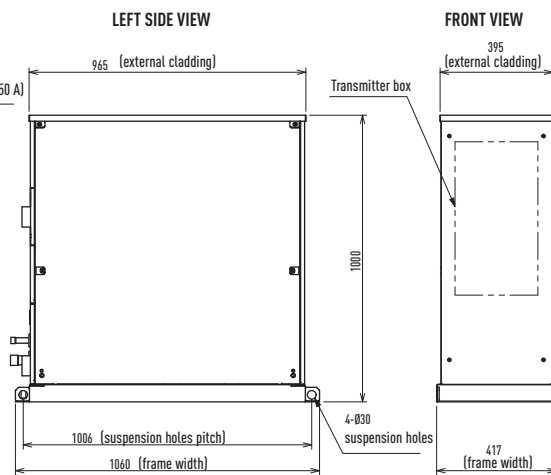
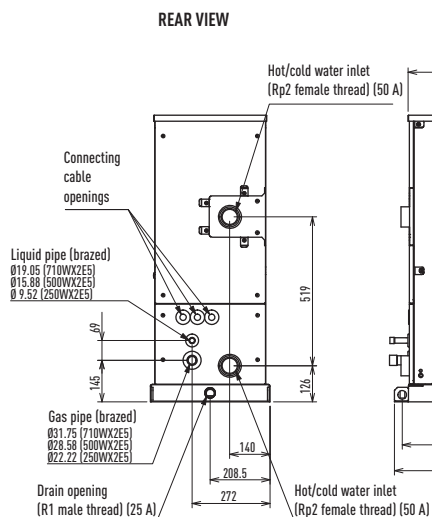
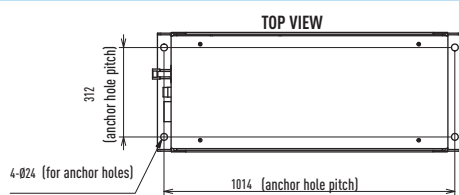
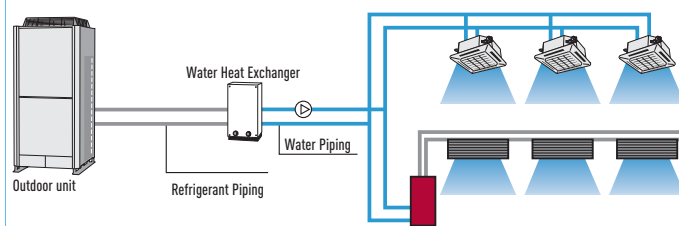


Newly Slim & Light design

Due to the unit's internal redesign, the width and weight are drastically reduced.



Standard system example



High
savings

ECO G

ECO E

NEW ECO G WITH WATER HEAT EXCHANGER FOR CHILLED AND HOT WATER PRODUCTION

FOR HYDRONIC APPLICATIONS

New Water Heat Exchanger, dimensions reduced by 45 % (250 W x 2 and 500 W x 2).

Operation and control by wired remote control CZ-RTC2. Energy-efficient capacity control. Stainless steel plate heat exchanger with anti-freeze protection control.

Change-over between heating and cooling operation.

Environmentally
friendly
refrigerant

R410A

TECHNICAL ZOOM

- MAXIMUM DISTANCE BETWEEN O_U AND WHE: 170 m
- POSSIBILITY TO MIX DX AND WATER HEAT EXCHANGER SYSTEMS
- NO COOLING TOWER NECESSARY
- HOT WATER OUTLET TEMPERATURES FROM 35 °C TO 55 °C
- CHILLED WATER OUTLET TEMPERATURES FROM 5 °C TO 15 °C
- OUTDOOR TEMP. RANGE IN COOLING MODE: -10 °C TO +43 °C
- MINIMUM OUTDOOR TEMPERATURE IN HEATING MODE: -21 °C

WATER HEAT EXCHANGER			S-250WX2E5*	S-500WX2E5	S-710WX2E5	
Nominal Heating Capacity			30	60	80	
Heating Capacity at +7 °C, heating water temperature at 35 °C				62	82.8	
COP at +7 °C with heating water temperature at 35 °C				1.49	1.34	
Heating Capacity at +7 °C, heating water temperature at 45 °C			30	60	80	
COP at +7 °C with heating water temperature at 45 °C				1.30	1.17	
Heating Capacity at -7 °C, heating water temperature at 35 °C				57.2	74.6	
COP at -7 °C, heating water temperature at 35 °C				0.76	0.77	
Heating Capacity at -15 °C, heating water temperature at 35 °C				59.2	77.4	
COP at -15 °C with heating water temperature at 35 °C				0.75	0.76	
Nominal Cooling Capacity			25	50	71	
Cooling capacity at +35 °C, outlet tp 7 °C, inlet tp 12 °C				50	71	
EER at +35 °C, outlet tp 7 °C, inlet tp 12 °C				1.15	1.05	
Dimensions / Weight		H x W x D	mm / kg	1,000 x 395 x 965 / 110	1,000 x 395 x 965 / 130	1,000 x 395 x 965 / 150
Water pipe connector			Rp2 Nut thread (50A)	Rp2 Nut thread (50A)	Rp2 Nut thread (50A)	
Pump			(Field supply)	(Field supply)	(Field supply)	
Heating water flow (ΔT=5 K, 35 °C)			l/min	4.3	8.6	12.2
Capacity of integrated electric heater			kW	(Not equipped)	(Not equipped)	(Not equipped)
Input Power			kW	0.01	0.01	0.01
Maximum Current			A	0.07	0.07	0.07
OUTDOOR UNIT			-	U-20GE2E5	U-30GE2E5	
Sound pressure / Sound power level			dB(A) / dB	58 / 83	63 / 86	
Dimensions / Weight		H x W x D	mm / kg	2,273 x 1,650 x 1,000 / 780	2,273 x 2,026 x 1,000 / 840	
Pipe Diameter		Liquid / Gas	mm (Inch)	28.58 / 15.88	31.75 / 19.05	
Refrigerant (R410A)			kg	11.5 *Need additional charge at site	11.5 *Need additional charge at site	
Pipe Length Range			m	max. 170	max. 170	
Pipe Length for nominal capacity			m	7	7	
Pipe Length for additional gas			m	0<	0<	
Additional Gas Amount (R410A)			g/m	Refer to Manual	Refer to Manual	
I/D&O/D High Difference			m	50 (OD above) 35 (OD below)	50 (OD above) 35 (OD below)	
Operation Range		Outdoor Ambient	°C	-21 — 15.5	-21 — 15.5	
		Water Outlet (at-2/-7/-15) ²⁾	°C	35 — 55	35 — 55	

All values shown as tentative data.

Performance calculation in agreement with Eurovent.

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

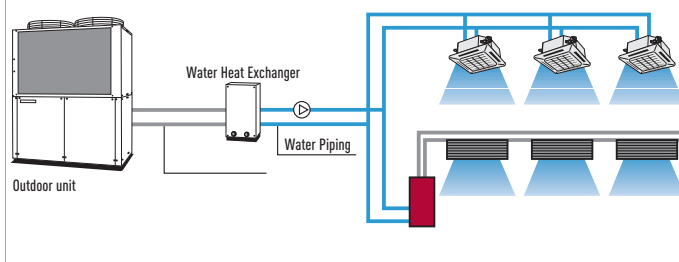
* Only with indoors combination. Can not be used as 1 to 1.



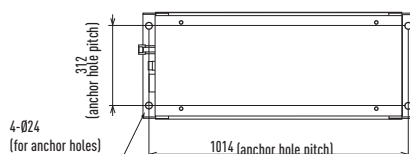
Combination system example

The GHP multi system can have indoor units with a GHP chiller. When the two systems are operated independently, an outdoor unit with 130% capacity can be connected.

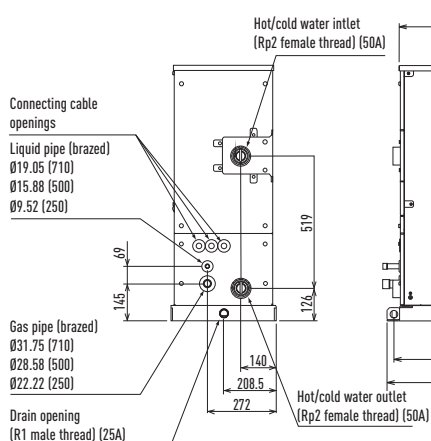
Standard system example



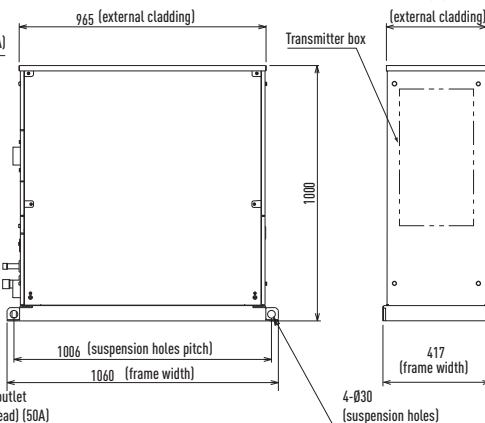
TOP VIEW



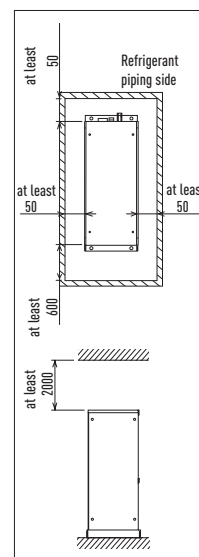
REAR VIEW



LEFT SIDE VIEW



FRONT VIEW



NEW AQUAREA AIR RADIATORS

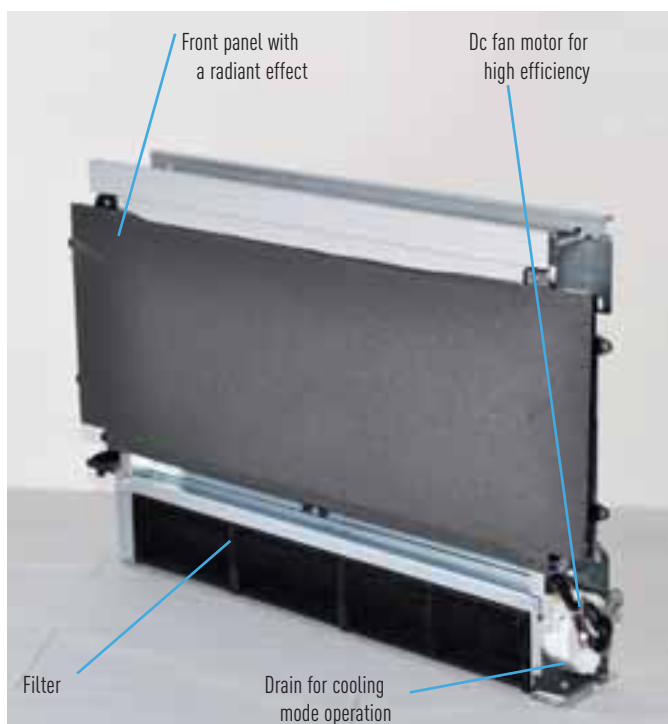
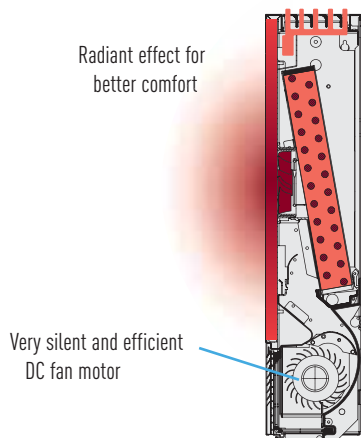
High efficiency climate control High Efficiency Radiators Aquarea Air radiators are extremely slim. With a depth of just under 13 cm they are at the cutting edge of the market. Blending easily into the home, Aquarea Air's elegant design, and product refinements are clear to see in every detail.

Its particular slimness has been obtained thanks to the innovative layout of the ventilation unit and the heat exchanger. The fan is tangential with asymmetric blades and the heat exchanger has large surface, enabling high airflows to be achieved with low pressure loss and low noise levels. Exceptional ventilation efficiency means the motor uses considerably less energy (low wattage). The fan speed is continuously modulated by the temperature controller with proportional integral logic, with undoubted advantages for regulating the temperature and humidity in summer mode.



Fan Coils for Heat Pump application		PAW-AAIR-200					PAW-AAIR-700					PAW-AAIR-900						
Total heating capacity	W	138	160	217	470	570	223	360	708	1032	1188	273	475	886	1420	1703		
Water flow	kg/h	23.7	27.5	37.3	80.8	98.0	38.4	61.9	121.8	177.5	204.3	47.0	81.7	152.4	244.2	292.9		
Water pressure drop	kPa	0.1	0.2	0.4	2.0	2.9	0.1	0.1	0.3	0.8	1.0	0.1	0.2	0.5	1.6	2.2		
Air flow	m³/h	28	37	55	113	162	44	84	155	252	320	54	110	248	367	461		
	Speed	Main	Fan Off	Super	Min	Med	Max	Main	Fan Off	Super	Min	Med	Max	Main	Fan Off	Super	Min	Med
Maximum input power	W	2	5	7	9	13	3	9	14	18	22	3	11	16	20	24		
Sound pressure level	dB(A)	17.6	18.8	24.7	33.2	39.4	18.4	19.6	25.8	34.1	40.2	18.4	22.3	26.2	34.4	42.2		
Inlet water temperature	°C	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35		
Outlet water temperature	°C	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30		
Inlet air temperature	°C	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19		
Outlet air temperature	°C	34.5	32.6	38.9	32.0	30.0	34.9	32.4	33.3	31.8	30.6	34.8	32.5	30.2	31.1	30.6		
Dimensions (H x W x D)	mm	735 x 576 x 129					935 x 579 x 129					1135 x 579 x 129						
Weight	kg	17					20					23						
3 ways valve included		Yes					Yes					Yes						
Touch screen thermostat		Yes					Yes					Yes						

During winter, the operating principle is based on micro fans of very low power consumption and minimum noise that send hot air, coming from the heat exchanger, to the inside of the front panel of the device and therefore heat it effectively. With this principle, the terminal also provides significant power while heating, without running the main fan. Comfort temperatures therefore maintained, without air movements and in silence. In summer mode, the airflow generated by the micro fans is stopped to avoid any dew formation on the terminal's front surface.





**AQUAREA
AIR**

New line up of Super low temperature radiators for Heat Pump application:

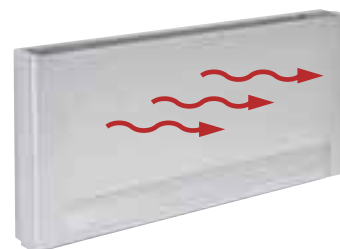
Aquarea Air 200/700/900 with radiating effect

Main features

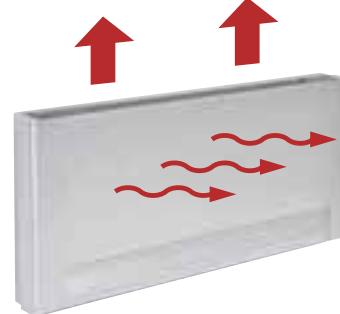
- Front panel heating with radiant effect
- High heating capacity (without main fan running)
- 4 fan speeds and capacities
- Exclusive design
- Extremely compact (only 12.9 cm deep)
- Cooling and dehumidification functions possible (drain is needed)
- 3-way valve included (no overflow valve needed on the installation if more than 3 radiators installed)
- Touch screen thermostat



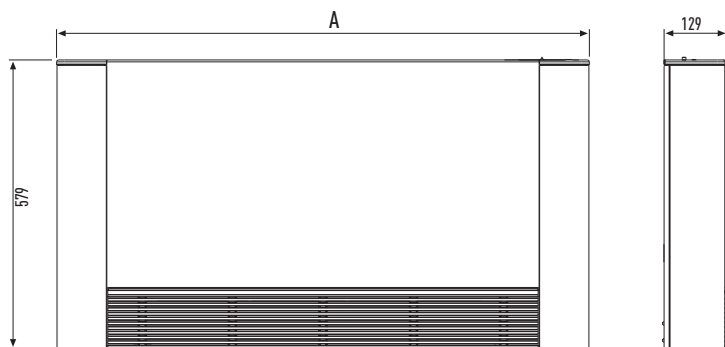
Operating on heating mode with radiator using only radiant effect



Operating on heating mode with radiant effect and fan mode



Operating on cooling mode with fan



	200R	700R	900R
A	735	935	1135

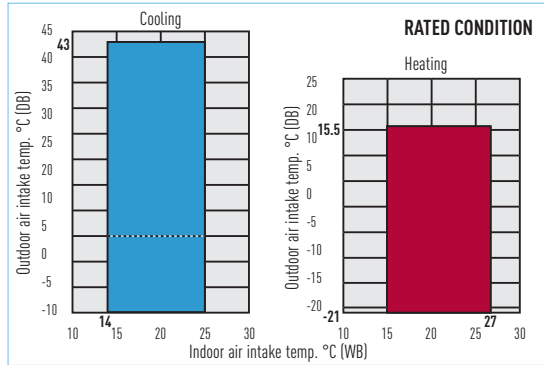
FEATURES

High technology features

Down to **-25 °C** in heating mode
OUTDOOR TEMPERATURE

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.



Practical operation
AUTOMATIC RESTART

Automatic restart function for power failure

Even when power failure occurs, preset programmed operation can be reactivated once power is resumed.

Easy maintenance
SELF-DIAGNOSING

Self-diagnosing function

By using electronic control valves past warnings are stored and can be verified on the liquid crystal display. This makes it easier to diagnose malfunctions, greatly reducing service labour and therefore costs.

Simple, convenient features (Indoor Units)

For more comfort
AUTOMATIC FAN

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.

Comfort everywhere
AIR SWEEP

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.

Perfect humidity control
MILD DRY

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.

Easy to install
BUILT-IN DRAIN PUMP

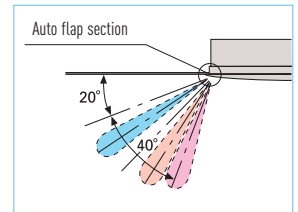
Built-in drain pump

Maximum head 50 cm (or 75 cm for U type) from the bottom of the unit.

Further comfort
AUTO-FLAP CONTROL

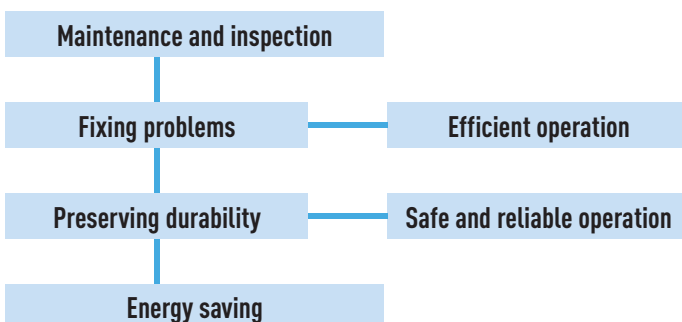
Comfortable auto-flap control

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.



Maintenance and inspection is a must for gas heat pump air-conditioning systems.

Just like an automobile, a heat pump air-conditioning system requires periodic servicing so that it can perform efficiently.



Main maintenance and inspection items

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.

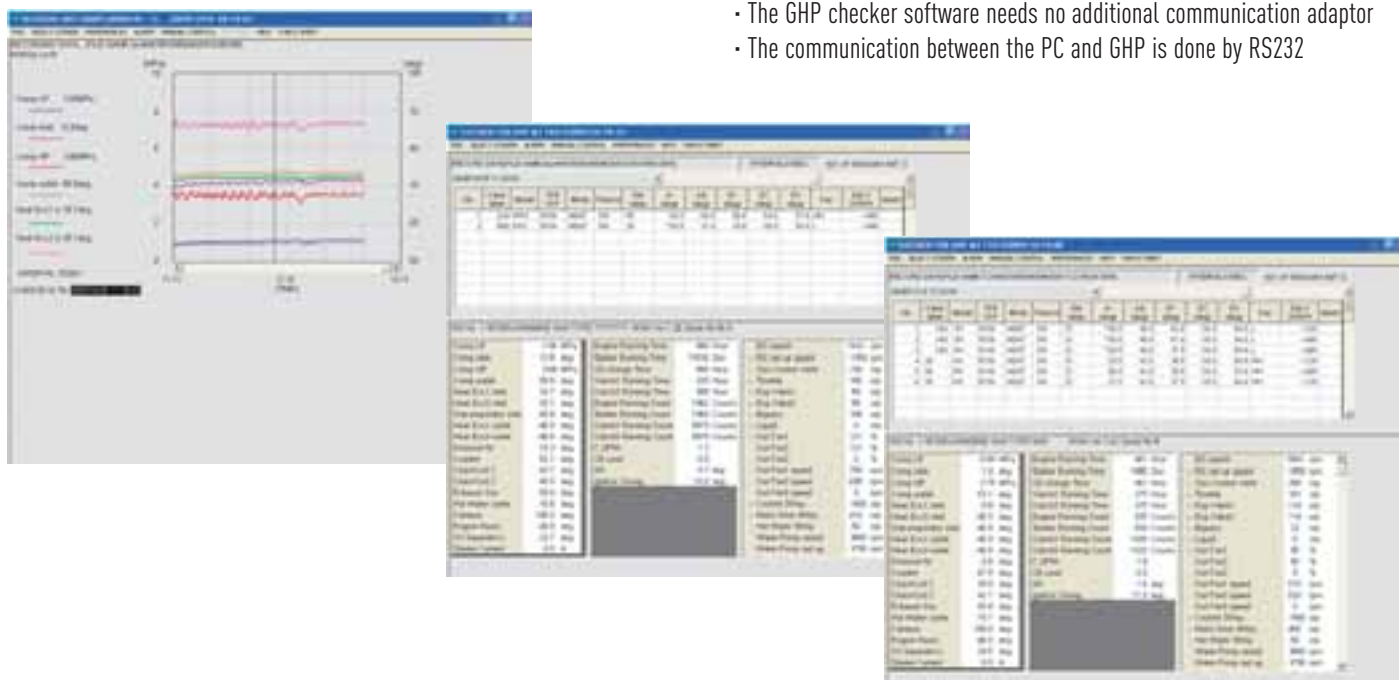
Since a heat pump air-conditioning system uses a gas engine as its power source, it should be periodically inspected to avoid trouble and keep it running efficiently. We recommend a maintenance contract for your Panasonic Gas Heat Pump, a great value because it not only ensures that problems will be fixed, but it helps reduce running costs and improve comfort and economical efficiency as well.

PANASONIC'S DIAGNOSIS SOFTWARE

GHP Checker 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

Panasonic VRF Service Checker

Panasonic will make available to installers and commissioning companies the VRF Service Checker as a communication interface to Panasonic VRF systems. This easy to manage tool checks all parameters of the system.

The VRF Service Checker allows:

- On ECOi and Mini ECOi connect anywhere on the P-Link.
- Search the P-Link to validate systems that are connected.
- Monitor of all indoor and outdoor units simultaneously on 1 screen.
- Monitor all Temperature data, Pressure data, Valve position, and alarm status on 1 screen
- Data can be viewed in Graph or number format.
- Controlling the indoor unit ON/OFF, MODE, SET POINT, FAN, and TEST mode.
- Switching between various systems on same communication P-Link (ECOi only).
- Monitor and record at a set interval time.
- Record and review the data at a later date.
- Update software as ROM flash writer.

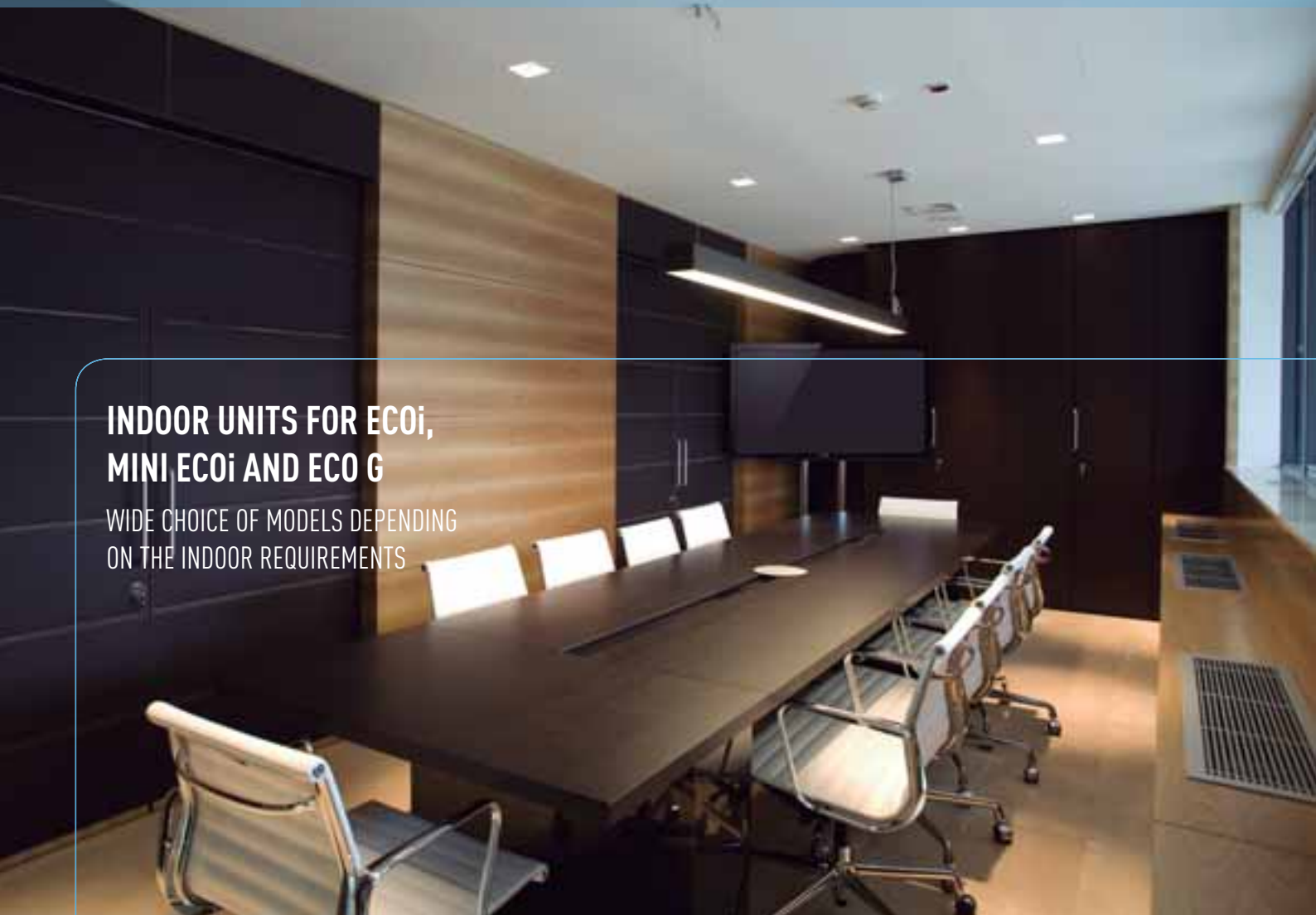
This Panasonic VRF Service Checker is available on your service partner.

INTERFACE BOX:



INDOOR UNITS FOR ECOi, MINI ECOi AND ECO G

WIDE CHOICE OF MODELS DEPENDING
ON THE INDOOR REQUIREMENTS



4 Way 90x90 Cassette

Wide & Comfortable Airflow

This proprietary design has wide-angle discharge outlets and flaps are larger in the middle, featuring a shape based on a combination of geometrics and the testing of prototype units. Air coming out of the center of the discharge outlets travels farther. From the sides of each outlet, where the openings are larger, airflow spreads out to reach the corners of the room. Air is discharged across a wide area from the four sides of the unit. The curves on the room temperature distribution graph expand gently out through 360° in a circle centered on the indoor unit.



HIGHER EFFICIENCY SPLIT FIN.
Improved heat-transfer coefficient due to adoption of high efficiently grooved heat exchanger tube.

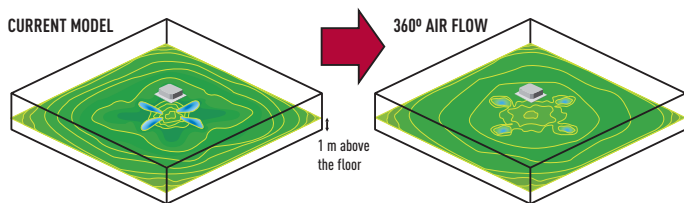
NEW DC-FAN MOTOR.
It is realized more optimum air-flow by a new DC-fan motor with independent control.

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. Several demands can be accommodated in one space.

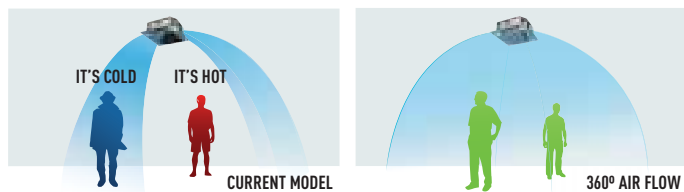
HIGH-EFFICIENT & SILENT TURBO FAN.
It is realized more air volume and more silent due to new development of a bigger fan chassis than previous one and optimization design of airflow path.

New 360° Air Flow for better comfort

By the new Design for the air-outlet and flap, Soft & 3D air flow circulates whole space and it keeps flat temperature distribution in the room.



Simulated condition: Floor area: 225 m². Ceiling height: 3 m, Unit 5 HP type.



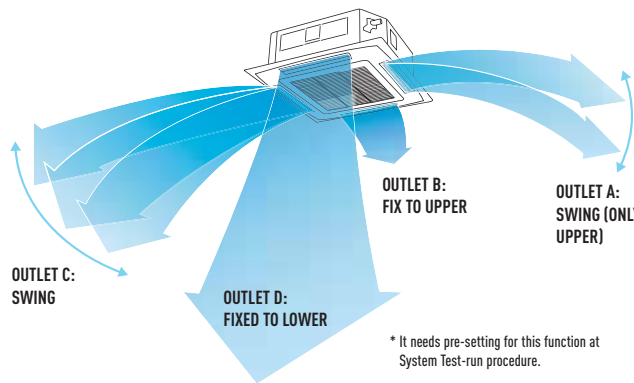
360°
air flow



Flexible 3D air-flow control

Comfort air flow control & proper energy use. Flexible Air flow direction control by individual flap control:

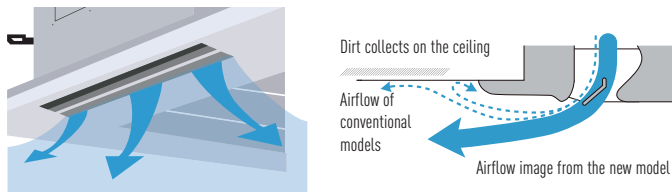
- 4 Flaps can be controlled individually (by standard wired remote controller*).
- It can make more flexible Air-flow control to be matched to several demands can be accommodated in one space.







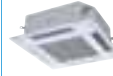

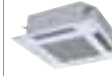























































* It needs pre-setting for this function at System Test-run procedure.

New design





















Wide direction air discharge by outlet design. The Circle Flow Flap and redesigned air outlet eliminate airflow along recessed parts on the ceiling to reduce contamination. If air flows only along these recessed parts, they will quickly become dirty. These new features greatly reduce accumulations of dirt.



VRF SYSTEMS INDOOR UNITS RANGE

	2.2 kW	2.8 kW	3.6 kW	4.5 kW	5.6 kW	6.0 kW	7.3 kW	8.4 kW	9.0 kW
U1 TYPE // 4-WAY 90x90 CASSETTE	 S-22MU1E51	 S-28MU1E51	 S-36MU1E51	 S-45MU1E51	 S-56MU1E51	 S-60MU1E51	 S-73MU1E51		 S-90MU1E51
Y1 TYPE // 4-WAY 60x60 CASSETTE	 S-22MY1E51	 S-28MY1E51	 S-36MY1E51	 S-45MY1E51	 S-56MY1E51				
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		
F2 TYPE // VARIABLE STATIC PRESSURE HIDE AWAY	 S-22MF2E5	 S-28MF2E5	 S-36MF2E5	 S-45MF2E5	 S-56MF2E5	 S-60MF2E5	 S-73MF2E5		 S-90MF2E5
M1 TYPE // SLIM VARIABLE STATIC PRESSURE HIDE AWAY	 S-22MM1E51	 S-28MM1E51	 S-36MM1E51	 S-45MM1E51	 S-56MM1E51				
E1 TYPE // HIGH STATIC PRESSURE HIDE AWAY									
T1 TYPE // CEILING			 S-36MT1E5	 S-45MT1E5	 S-56MT1E5		 S-73MT1E5		
K2/K1 TYPE // WALL MOUNTED	 S-22MK2E5 ¹ S-22MK1E5 ²	 S-28MK2E5 ¹ S-28MK1E5 ²	 S-36MK2E5 ¹ S-36MK1E5 ²	 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		
AHU CONNECTION KIT, 28 kW AND 56 kW FOR ECOi AND GHP		 CZ-280MAH1			 CZ-560MAH1			 CZ-280MAH1 + CZ-560MAH1	
AIR CURTAIN JET-FLOW									
AIR CURTAIN STANDARD									

Wide choice of models depending on the indoor requirements. 1 Available from June 2013. 2 Available until current stock ends.

10.6 kW	11.2 kW	12.5 kW	14.0 kW	16.0 kW	16.8 kW	20.0 kW	22.4 kW	25.0 kW	28.0 kW	30.0 kW
 S-106MU1E51				 S-160MU1E51						
 S-106MF2E5				 S-160MF2E5						
							 S-224ME1E5A		 S-280ME1E5	
 S-106MT1E5			 S-140MT1E5							
 S-106MK1E5										
	 CZ-560MAH1 x 2		 CZ-280MAH1 + CZ-560MAH1 x 2		 CZ-560MAH1 x 3					
		 PAW-10EAIRC-MJ				 PAW-15EAIRC-MJ		 PAW-20EAIRC-MJ		 PAW-25EAIRC-MJ
		 PAW-10EAIRC-MS				 PAW-20EAIRC-MS				

U1 TYPE
4-WAY 90X90 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.

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



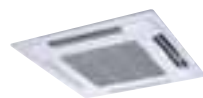
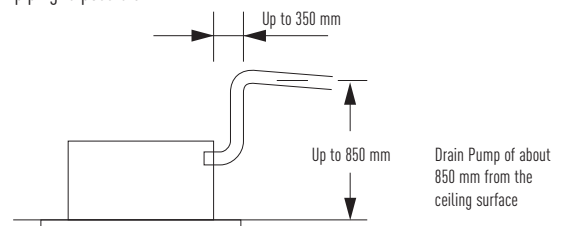
Air intake chamber

1. Air intake box CZ-BCU2 for main unit.
2. Air intake box CZ-ATU2* for Air intake plenum.

* When using Air intake box (CZ-ATU2), Air intake plenum (CZ-FDU2) is required.

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.



PANEL
CZ-KPU2



OPTIONAL CONTROLLER
Timer remote controller
CZ-RTC2



OPTIONAL CONTROLLER
Wireless remote controller
CZ-RWSU2
CZ-RWSC2



OPTIONAL CONTROLLER
Simplified remote controller
CZ-RE2C2

MODEL NAME		S-22MU1E51	S-28MU1E51	S-36MU1E51	S-45MU1E51	S-56MU1E51	S-60MU1E51	S-73MU1E51	S-90MU1E51	S-106MU1E51	S-140MU1E51	S-160MU1E51
Power source		230 V / 1 phase / 50 Hz										
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	6.0	7.3	9.0	10.6	14.0	16.0
Cooling power input	W	20	20	20	20	25	35	40	40	95	100	115
Cooling operating current	A	0.19	0.19	0.19	0.19	0.22	0.31	0.33	0.36	0.71	0.76	0.89
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3	7.1	8.0	10.0	11.4	16.0	18.0
Heating power input	W	20	20	20	20	25	35	40	40	85	100	105
Heating operating current	A	0.17	0.17	0.17	0.17	0.20	0.30	0.32	0.34	0.65	0.73	0.80
Fan	Type	Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan	Turbo fan
	Air flow rate (Hi)	m ³ /h	840	840	840	900	960	1,260	1,320	1,380	1,980	2,100
Sound pressure level (L/M/H)	dB(A)	28/29/30	28/29/30	28/29/30	28/29/31	28/30/33	29/32/36	29/32/37	32/35/38	34/38/44	35/39/45	38/40/46
Dimensions	H x W x D	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 (6.35)	1/4 (6.35)	1/4 (6.35)	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 inches (mm)	1/2 (12.7)	1/2 (12.7)	1/2 (12.7)	1/2 (12.7)	1/2 (12.7)	5/8 (15.88)	5/8 (15.88)	5/8 (15.88)	5/8 (15.88)	5/8 (15.88)	5/8 (15.88)
	Drain piping	VP-25	VP-25	VP-25	VP-25	VP-25	VP-25	VP-25	VP-25	VP-25	VP-25	VP-25
Net weight	kg	23	23	23	23	23	24	24	24	27	27	27

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Cooling Outdoor 7 °C DB / 6 °C WB.
DB: Dry Bulb; WB: Wet Bulb

Energy saving INVERTER+	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	Easy to install BUILT-IN DRAIN PUMP	Easy control CONNECTIVITY
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Y1 TYPE

4-WAY 60X60 CASSETTE

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.

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

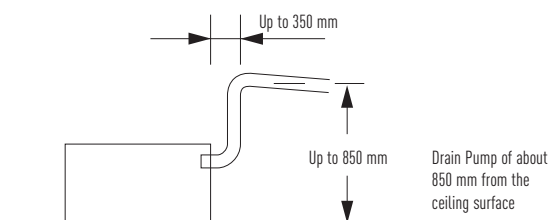
Special designed flap

The flap can be removed easily for washing with water.

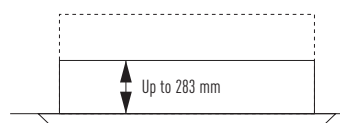


A drain height of approx. 850 mm from the ceiling surface

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.



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.



PANEL
CZ-KPY21



OPTIONAL CONTROLLER
Timer remote controller
CZ-RTC2



OPTIONAL CONTROLLER
Wireless remote controller
CZ-RWSU2
CZ-RWSC2



OPTIONAL CONTROLLER
Simplified remote controller
CZ-RE2C2

MODEL NAME		S-22MY1E51	S-28MY1E51	S-36MY1E51	S-45MY1E51	S-56MY1E51	
Power source		230 V / 1 phase / 50 Hz					
Cooling capacity	kW	2.2	2.8	3.6	4.7	5.6	
Cooling power input	W	25	25	27	31	38	
Cooling operating current	A	0.16	0.16	0.18	0.21	0.29	
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3	
Heating power input	W	15	15	17	21	29	
Heating operating current	A	0.13	0.13	0.15	0.18	0.26	
Fan	Type	Centrifugal fan	Centrifugal fan	Centrifugal fan	Centrifugal fan	Centrifugal fan	
	Air flow rate (H/M/L)	m³/h	480 / 420 / 360	480 / 420 / 360	540 / 480 / 420	640 / 510 / 450	750 / 630 / 540
Sound pressure level (L/M/H)	dB(A)	25 / 27 / 30	25 / 27 / 30	26 / 29 / 32	28 / 32 / 36	33 / 37 / 41	
Dimensions	H x W x D	mm	283+(30) x 575 (625) x 575 (625)	283+(30) x 575 (625) x 575 (625)	283+(30) x 575 (625) x 575 (625)	283+(30) x 575 (625) x 575 (625)	283+(30) x 575 (625) x 575 (625)
Pipe connections	Liquid	inches (mm)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)
	Gas	inches (mm)	1/2 (12.7)	1/2 (12.7)	1/2 (12.7)	1/2 (12.7)	1/2 (12.7)
	Drain piping		VP-20	VP-20	VP-20	VP-20	VP-20
Net weight	kg	18.4	18.4	18.4	18.4	18.4	

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Cooling Outdoor 7 °C DB / 6 °C WB.
DB: Dry Bulb; WB: Wet Bulb

Energy saving	Environmentally friendly refrigerant	Easy maintenance	For more comfort	Perfect humidity control	Further comfort	Practical operation	Comfort everywhere	Easy to install	Easy control
INVERTER+	R410A	SELF-DIAGNOSING	AUTOMATIC FAN	MILD DRY	AUTO-FLAP CONTROL	AUTOMATIC RESTART	AIR SWEEP	BUILT-IN DRAIN PUMP	CONNECTIVITY

L1 TYPE
2-WAY CASSETTE



Slim, compact and lightweight 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.

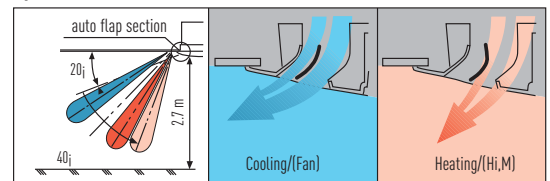
Technical focus

- 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

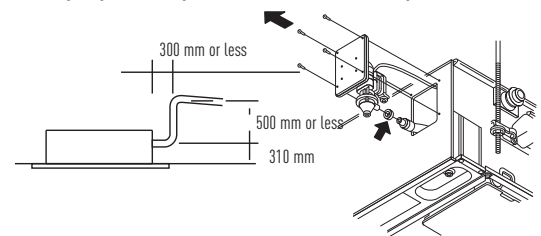
Simple maintenance

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.

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.



PANEL
CZ-02KPL2
Big size panel (for S-73ML1E5)
CZ-03KPL2



OPTIONAL CONTROLLER
Timer remote controller
CZ-RTC2



OPTIONAL CONTROLLER
Wireless remote controller
CZ-RWSL2
CZ-RWSC2



OPTIONAL CONTROLLER
Simplified remote controller
CZ-RE2C2

MODEL NAME		S-22ML1E5	S-28ML1E5	S-36ML1E5	S-45ML1E5	S-56ML1E5	S-73ML1E5
Power source		230 V / 1 phase / 50 Hz					
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.3
Cooling power input	W	90	92	93	97	97	145
Cooling operating current	A	0.45	0.45	0.45	0.45	0.45	0.65
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3	8.0
Heating power input	W	58	60	61	65	65	109
Heating operating current	A	0.29	0.29	0.29	0.29	0.29	0.48
Fan	Type	Sirocco fan					
	Air flow rate (H/M/L)	m ³ /h	480 / 420 / 360	540 / 480 / 420	580 / 520 / 460	660 / 540 / 480	660 / 540 / 480
Sound pressure level (L/M/H)	dB(A)	24 / 27 / 30		26 / 29 / 33	28 / 31 / 34	29 / 33 / 35	33 / 35 / 38
Dimensions	H x W x D	350+(8) x 840 (1,060) x 600 (680)		350+(8) x 840 (1,060) x 600 (680)	350+(8) x 840 (1,060) x 600 (680)	350+(8) x 840 (1,060) x 600 (680)	350+(8) x 1,140 (1,360) x 600 (680)
Pipe connections	Liquid	inches (mm)	1/4 (6.35)		1/4 (6.35)	1/4 (6.35)	3/8 (9.52)
	Gas	inches (mm)	1/2 (12.7)		1/2 (12.7)	1/2 (12.7)	5/8 (15.88)
	Drain piping		VP-25		VP-25	VP-25	VP-25
Net weight	kg	28.5	28.5	28.5	28.5	28.5	39

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Cooling Outdoor 7 °C DB / 6 °C WB.
DB: Dry Bulb; WB: Wet Bulb

Energy saving	Environmentally friendly refrigerant	Easy maintenance	For more comfort	Perfect humidity control	Further comfort	Practical operation	Comfort everywhere	Easy to install	Easy control
INVERTER+	R410A	SELF-DIAGNOSING	AUTOMATIC FAN	MILD DRY	AUTO-FLAP CONTROL	AUTOMATIC RESTART	AIR SWEEP	BUILT-IN DRAIN PUMP	CONNECTIVITY

D1 TYPE 1-WAY CASSETTE

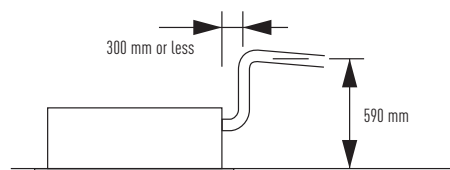


Designed for installation within the ceiling void, the D1 range of slimline 1 way blow cassettes feature powerful yet quiet fans for up to 4.2 m.

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



PANEL
CZ-KP02



OPTIONAL CONTROLLER
Timer remote controller
CZ-RTC2



OPTIONAL CONTROLLER
Wireless remote controller
CZ-RWST2
CZ-RWSC2



OPTIONAL CONTROLLER
Simplified remote controller
CZ-RE2C2

MODEL NAME		S-28MD1E5	S-36MD1E5	S-45MD1E5	S-56MD1E5	S-73MD1E5
Power source		230 V / 1 phase / 50 Hz				
Cooling capacity	kW	2.8	3.6	4.5	5.6	7.3
Cooling power input	W	51	51	51	58	87
Cooling operating current	A	0.39	0.39	0.39	0.46	0.7
Heating capacity	kW	3.2	4.2	5.0	6.3	8.0
Heating power input	W	40	40	40	48	76
Heating operating current	A	0.35	0.35	0.35	0.41	0.65
Fan	Type	Sirocco fan				
	Air flow rate (H/M/L)	m ³ /h	720 / 600 / 540	720 / 600 / 540	720 / 660 / 600	780 / 690 / 600
Sound pressure level (L/M/H)	dB(A)	33 / 34 / 36				
Dimensions	H x W x D	mm				
		200+(20) x 1,000 (1,230) x 710 (800)	200+(20) x 1,000 (1,230) x 710 (800)	200+(20) x 1,000 (1,230) x 710 (800)	200+(20) x 1,000 (1,230) x 710 (800)	200+(20) x 1,000 (1,230) x 710 (800)
Pipe connections	Liquid	inches (mm)	1/4 (6.35)		1/4 (6.35)	3/8 (9.52)
	Gas	inches (mm)	1/2 (12.7)		1/2 (12.7)	5/8 (15.88)
	Drain piping		VP-25		VP-25	VP-25
Net weight	kg	26.5	26.5	26.5	26.5	27.5

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Cooling Outdoor 7 °C DB / 6 °C WB.
DB: Dry Bulb; WB: Wet Bulb

Energy saving	Environmentally friendly refrigerant	Easy maintenance	For more comfort	Perfect humidity control	Further comfort	Practical operation	Comfort everywhere	Easy to install	Easy control
INVERTER+	R410A	SELF-DIAGNOSING	AUTOMATIC FAN	MILD DRY	AUTO-FLAP CONTROL	AUTOMATIC RESTART	AIR SWEEP	BUILT-IN DRAIN PUMP	CONNECTIVITY

F2 TYPE
VARIABLE
STATIC
PRESSURE
HIDE AWAY



S-22MF2E5 // S-28MF2E5 // S-36MF2E5 // S-45MF2E5 // S-56MF2E5



S-60MF2E5 // S-73MF2E5 // S-90MF2E5



S-106MF2E5 // S-140MF2E5 // S-160MF2E5

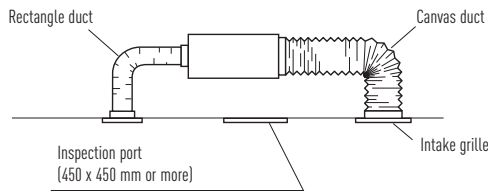
The new F2 type is designed specifically for applications requiring fixed square ducting. The internal filter is equipped as standard.

Technical focus

- Industry-leading low sound levels from 25 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
- Anti-mould washable filters included

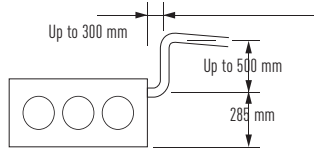
System example

An inspection port (450 x 450 mm or more) is required at the lower side of the indoor unit body.



More powerful drain pump

Using a high-lift drain pump, drain piping can be elevated up to 785 mm from the base of the unit.



OPTIONAL CONTROLLER
Timer remote controller
CZ-RTC2



OPTIONAL CONTROLLER
Wireless remote controller
CZ-RWSC2



OPTIONAL CONTROLLER
Simplified remote controller
CZ-RELC2

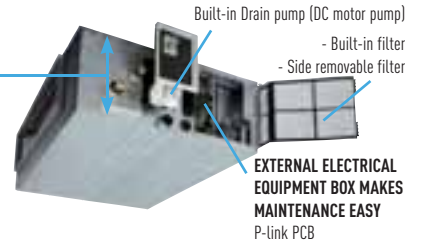


OPTIONAL CONTROLLER
Simplified remote controller
CZ-RE2C2

New Variable Static Pressure Hide Away MF2 series

STANDARDIZED HEIGHT OF 290 mm FOR ALL MODELS

Height standardization enables easy and uniform installation for models with different capacities.



Lowest noise levels in the industry.

The static pressure outside the unit can be increased. New DC fan motor is adopted to new unit. External static pressure is available up to 150 Pa.

*No booster cable is needed.

TYPE	22-90	106-160
Standard	70 Pa	100 Pa
Range	10-150 Pa	10-150 Pa

Air Outlet & Inlet Plenum

S-...MF2E5	Diameters	Air Outlet Plenum	Diameters	Air Inlet Plenum
22, 28, 36, 45 & 56	2 x ø 200	CZ-56DAF2	2 x ø 200	CZ-DUMPA56MF2
60, 73 & 90	3 x ø 200	CZ-90DAF2	2 x ø 250	CZ-DUMPA90MF2
106, 140 & 160	4 x ø 200	CZ-160DAF2	4 x ø 200	CZ-DUMPA160MF2



Air Outlet Plenum



Air Inlet Plenum

MODEL NAME		S-22MF2E5	S-28MF2E5	S-36MF2E5	S-45MF2E5	S-56MF2E5	S-60MF2E5	S-73MF2E5	S-90MF2E5	S-106MF2E5	S-140MF2E5	S-160MF2E5	
Power source		230 V / 1 phase / 50 Hz											
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	6.0	7.3	9.0	10.6	14.0	16.0	
Cooling power input	W	70	70	70	70	100	120	120	135	195	215	225	
Cooling operating current	A	0.57	0.57	0.57	0.57	0.74	0.89	0.89	0.97	1.30	1.44	1.50	
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3	7.1	8.0	10.0	11.4	16.0	18.0	
Heating power input	W	70	70	70	100	100	120	120	135	200	210	225	
Heating operating current	A	0.57	0.57	0.57	0.57	0.74	0.89	0.89	0.97	1.30	1.44	1.50	
Fan	Type	Sirocco fan											
	Air flow rate (Hi)	m ³ /h	840	840	840	840	960	1,260	1,260	1,500	1,920	2,040	2,160
	External static pressure	Pa	70 (10-150)	70 (10-150)	70 (10-150)	70 (10-150)	70 (10-150)	70 (10-150)	70 (10-150)	70 (10-150)	100 (10-150)	100 (10-150)	100 (10-150)
Sound power level (L/M/H)	dB	47/51/55	47/51/55	47/51/55	50/54/56	50/54/56	48/54/57	48/54/57	50/56/59	53/56/60	54/57/61	55/58/62	
Sound pressure level (L/M/H/(H-booster))	dB(A)	25/29/33	25/29/33	25/29/33	28/32/34	28/32/34	26/32/35	26/32/35	28/34/37	31/34/38	32/35/39	33/36/40	
Dimensions	H x W x D	290x800x700											
		290x800x700											
Pipe connections	Liquid	inches (mm) 1/4 (6.35)											
	Gas	inches (mm) 1/2 (12.7)											
	Drain piping	VP-25											
Net weight	kg	29	29	29	29	29	34	34	34	46	46	46	

Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Cooling Outdoor 7 °C DB / 6 °C WB. DB: Dry Bulb; WB: Wet Bulb

Energy saving INVERTER+	Environmentally friendly refrigerant R410A	Easy maintenance SELF-DIAGNOSING	For more comfort AUTOMATIC FAN	Perfect humidity control MILD DRY	Practical operation AUTOMATIC RESTART	Easy to install BUILT-IN DRAIN PUMP	Easy control CONNECTIVITY
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M1 TYPE

SLIM VARIABLE STATIC PRESSURE HIDE AWAY 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.

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

Air Outlet & Inlet Plenum

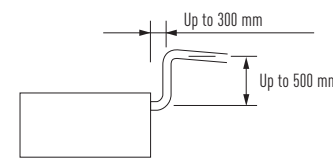
S-...MM1E51	Diameters	Air Outlet Plenum	Diameters	Air Inlet Plenum
22, 28 & 36	2 x ø 200	CZ-DUMPA22MMS2	2 x ø 200	CZ-DUMPA22MMR2
45 & 56	3 x ø 160	CZ-DUMPA45MMS3	2 x ø 200	CZ-DUMPA22MMR3

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.



PANEL
CZ-KPUZ



OPTIONAL CONTROLLER
Timer remote controller
CZ-RTC2



OPTIONAL CONTROLLER
Wireless remote controller
CZ-RWSC2



OPTIONAL CONTROLLER
Simplified remote controller
CZ-RE2C2

MODEL NAME		S-22MM1E51	S-28MM1E51	S-36MM1E51	S-45MM1E51	S-56MM1E51	
Power source		230 V / 1 phase / 50 Hz					
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	
Cooling power input	W	36	40	42	49	64	
Cooling operating current	A	0.26	0.30	0.31	0.37	0.48	
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3	
Heating power input	W	26	30	32	39	54	
Heating operating current	A	0.23	0.27	0.28	0.34	0.45	
Fan	Type	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	
	Air flow rate (H/M/L)	m ³ /h	480 / 420 / 360	510 / 450 / 390	540 / 480 / 420	630 / 570 / 480	750 / 690 / 600
	External static pressure	Pa	10 (30)	15 (30)	15 (40)	15 (40)	15 (40)
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	31 / 33 / 35 (32 / 35 / 37) ¹	
Dimensions	H x W x D	mm	200 x 750 x 640	200 x 750 x 640	200 x 750 x 640	200 x 750 x 640	
Pipe connections	Liquid	inches (mm)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)	
	Gas	inches (mm)	1/2 (12.7)	1/2 (12.7)	1/2 (12.7)	1/2 (12.7)	
	Drain piping		VP-20	VP-20	VP-20	VP-20	
Net weight	kg	19	19	19	19	19	

1. With booster cable using short circuit connection.

Energy saving INVERTER+	Environmentally friendly refrigerant R410A	Easy maintenance SELF-DIAGNOSING	For more comfort AUTOMATIC FAN	Perfect humidity control MILD DRY	Practical operation AUTOMATIC RESTART	Comfort everywhere AIR SWEEP	Easy to install BUILT-IN DRAIN PUMP	Easy control CONNECTIVITY
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Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Cooling Outdoor 7 °C DB / 6 °C WB.
DB: Dry Bulb; WB: Wet Bulb

E1 TYPE
HIGH STATIC PRESSURE
HIDE AWAY



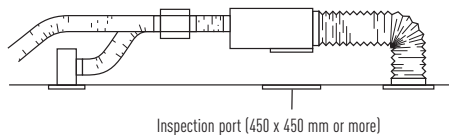
The E1 range of ducted units offers improved design flexibility for extended duct layouts as a result of their increased external static pressures.

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)



Plenums

AIR OUTLET PLENUM (SUITABLE FOR RIGID + FLEXIBLE DUCT)		
	N. of exits with diameters	Model
S-224ME1E5A / S-280ME1E5	1 x 500 mm	CZ-TREMIESPW706



OPTIONAL CONTROLLER
Timer remote controller
CZ-RTC2



OPTIONAL CONTROLLER
Wireless remote controller
CZ-RWSC2



OPTIONAL CONTROLLER
Simplified remote controller
CZ-RE2C2

MODEL NAME		S-224ME1E5A	S-280ME1E5
Power source		230 V / 1 phase / 50 Hz	
Cooling capacity	kW	22.4	28.0
Cooling power input	W	1310	1330
Cooling operating current	A	5.98	6.06
Heating capacity	kW	25.0	31.5
Heating power input	W	1310	1330
Heating operating current	A	5.98	6.06
Fan	Type	Sirocco fan	
	Air flow rate (H/M/L)	m ³ /h 4,320 / 4,200 / 3,960	
	External static pressure	Pa 216 (235) ¹	
Sound pressure level (L/M/H)	dB(A)	49 / 50 / 51 (50 / 51 / 52) ¹	
Dimensions	H x W x D	mm 479 x 1,428 x 1,230	
Pipe connections	Liquid	inches (mm) 3/8 (9.52)	
	Gas	inches (mm) 7/8 (22.22)	
	Drain piping	VP-25	
Net weight	kg	120	

¹ With booster cable.

Energy saving INVERTER+	Environmentally friendly refrigerant R410A	Easy maintenance SELF-DIAGNOSING	For more comfort AUTOMATIC FAN	Perfect humidity control MILD DRY	Practical operation AUTOMATIC RESTART	Easy control CONNECTIVITY
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Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Cooling Outdoor 7 °C DB / 6 °C WB. DB: Dry Bulb; WB: Wet Bulb

T1 TYPE CEILING



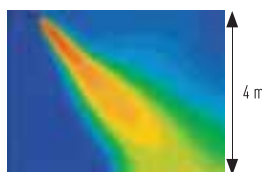
The T1 type ceiling mounted unit feature a DC fan motor for increased efficiency and reduced operating sound levels. All the units are the same height and depth for a uniform appearance in mixed installations and feature a fresh air knockout for improved air quality.

Technical focus

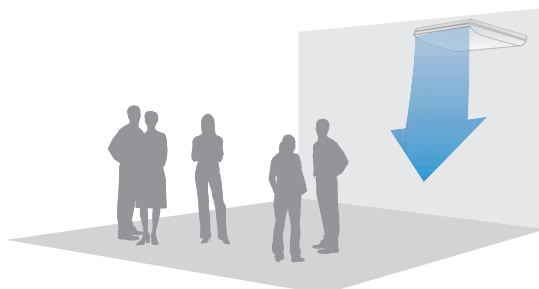
- Low sound levels
- New design, all units just 210 mm high
- Large and wide air distribution
- Easy to install and maintain
- Fresh air knockout

Further comfort improvement

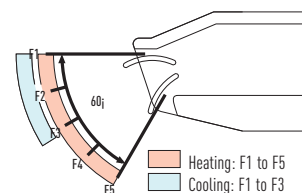
The wide air discharge opening widens the air flow to the left and the right, so that a comfortable temperature is obtained in the entire room. The unpleasant feeling caused when the air flow directly hits the human body is prevented by the "Draft prevention position", which changes the swing width, 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



OPTIONAL CONTROLLER
Timer remote controller
CZ-RTC2



OPTIONAL CONTROLLER
Wireless remote controller
CZ-RWST2
CZ-RWSC2



OPTIONAL CONTROLLER
Simplified remote controller
CZ-RE2C2

MODEL NAME		S-36MT1E5	S-45MT1E5	S-56MT1E5	S-73MT1E5	S-106MT1E5	S-140MT1E5
Power source		230 V / 1 phase / 50 Hz					
Cooling capacity	kW	3.6	4.5	5.6	7.3	10.6	14.0
Cooling power input	W	29	29	32	43	74	86
Cooling operating current	A	0.24	0.24	0.26	0.35	0.57	0.63
Heating capacity	kW	4.2	5.0	6.3	8.0	11.4	16.0
Heating power input	W	28	28	31	42	73	85
Heating operating current	A	0.24	0.24	0.26	0.35	0.57	0.63
Fan	Type	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
Sound pressure level (L/M/H)	dB(A)	30 / 32 / 35	30 / 33 / 36	30 / 33 / 36	33 / 36 / 38	35 / 38 / 41	37 / 40 / 43
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 (6.35)	1/4 (6.35)	1/4 (6.35)	3/8 (9.52)	3/8 (9.52)
	Gas	inches (mm)	1/2 (12.7)	1/2 (12.7)	1/2 (12.7)	5/8 (15.88)	5/8 (15.88)
	Drain piping		VP-20	VP-20	VP-20	VP-20	VP-20
Net weight	kg	21	21	21	25	33	33

Energy saving INVERTER+	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	Easy control CONNECTIVITY
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Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Cooling Outdoor 7 °C DB / 6 °C WB.
DB: Dry Bulb; WB: Wet Bulb

K2/K1 TYPE WALL MOUNTED



S-22MK2E5 / S-28MK2E5 / S-36MK2E5



S-22MK1E5 / S-28MK1E5 / S-36MK1E5



S-45MK1E5 / S-56MK1E5 / S-73MK1E5 / S-106MK1E5



EXTERNAL VALVE (OPTIONAL)
CZ-P56SVK2 (model sizes 22 to 56)
CZ-P160SVK2 (model sizes 73 to 106)



OPTIONAL CONTROLLER
Timer remote controller
CZ-RTC2



OPTIONAL CONTROLLER
Wireless remote controller
CZ-RWSK2



OPTIONAL CONTROLLER
Simplified remote controller
CZ-RE2C2

The K2/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.

Technical focus

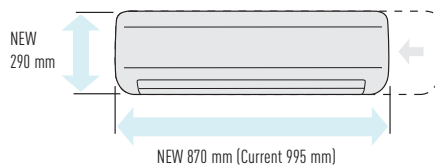
- Closed discharge port
- Lighter and smaller units make the installation easy
- Quiet operation
- Smooth and durable design
- Piping outlet in three directions
- Washable front panel
- Air distribution is automatically altered depending on the operational mode of the unit
- Anti-mould filters are standard

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

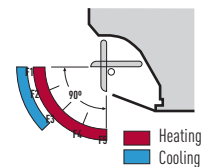
Piping outlet is possible in the three directions of rear, right, and left, making the installation work easier.

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



MODEL NAME		S-22MK2E5 ¹	S-28MK2E5 ¹	S-36MK2E5 ¹	S-22MK1E5 ²	S-28MK1E5 ²	S-36MK1E5 ²	S-45MK1E5	S-56MK1E5	S-73MK1E5	S-106MK1E5	
Power source		230 V / 1 phase / 50 Hz										
Cooling capacity	kW	2.2	2.8	3.6	2.20	2.80	3.60	4.5	5.6	7.3	10.6	
Cooling power input	W	25	25	30	19	19	22	20	30	57	60	
Cooling operating current	A	0.21	0.23	0.25	0.16	0.16	0.19	0.26	0.35	0.58	0.62	
Heating capacity	kW	2.5	3.2	4.2	2.50	3.20	4.20	5.0	6.3	8.0	11.4	
Heating power input	W	25	25	30	19	19	23	20	30	57	68	
Heating operating current	A	0.21	0.23	0.25	0.17	0.17	0.20	0.26	0.35	0.58	0.70	
Fan	Type	Cross flow	Cross flow	Cross flow	Sirocco fan	Sirocco fan	Sirocco fan	Cross flow	Cross flow	Cross flow	Cross flow	
	Air flow rate (H/M/L)	m ³ /h	540/450/390	570/500/390	655/540/390	540/450/360	540/450/360	600/510/390	720/630/510	840/720/630	1,080/870/690	1,140/990/780
Sound pressure level (L/M/H)	dB(A)	29/33/36	29/34/37	29/36/40	28/32/35	28/32/35	29/33/37	30/34/38	32/36/40	40/44/47	42/45/49	
Dimensions	H x W x D	mm	290x870x214	290x870x214	290x870x214	285x825x217	285x825x217	285x825x217	300x1,065x230	300x1,065x230	300x1,065x230	300x1,065x230
Pipe connections	Liquid	inches (mm)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)	3/8 (9.52)	3/8 (9.52)
	Gas	inches (mm)	1/2 (12.7)	1/2 (12.7)	1/2 (12.7)	1/2 (12.7)	1/2 (12.7)	1/2 (12.7)	1/2 (12.7)	1/2 (12.7)	5/8 (15.88)	5/8 (15.88)
	Drain piping (O.D.)	φ	φ 16	φ 16	φ 16	VP-13	VP-13	VP-13	φ 18	φ 18	φ 18	φ 18
Net weight	kg	9	9	9	10	10	10	13	13	14.5	14.5	

1. Available from June 2013.
2. Available until current stock ends.

Energy saving INVERTER+	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	Easy control CONNECTIVITY
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Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Cooling Outdoor 7 °C DB / 6 °C WB.
DB: Dry Bulb; WB: Wet Bulb

P1 TYPE FLOOR STANDING

R1 TYPE CONCEALED FLOOR STANDING



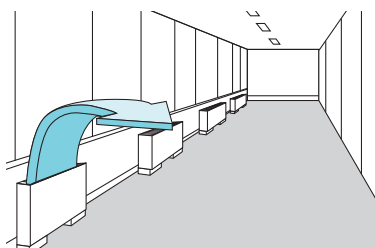
P1 Type

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.

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



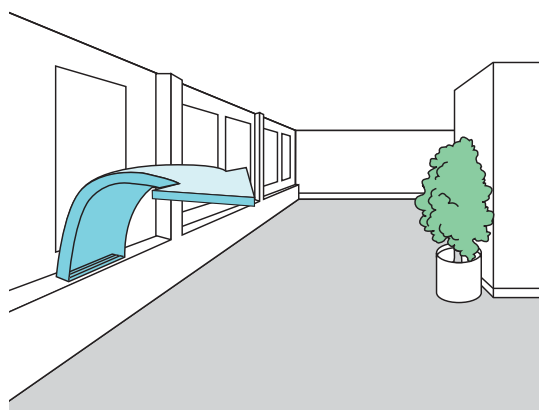
R1 Type

At just 229 mm deep, the R1 unit can be easily concealed in perimeter areas to provide powerful and effective air conditioning.

Technical focus

- Chassis unit for discreet 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



OPTIONAL CONTROLLER
Timer remote controller
CZ-RTC2



OPTIONAL CONTROLLER
Wireless remote controller
CZ-RWSC2



OPTIONAL CONTROLLER
Simplified remote controller
CZ-RE2C2

MODEL NAME	P1 TYPE	S-22MP1E5	S-28MP1E5	S-36MP1E5	S-45MP1E5	S-56MP1E5	S-71MP1E5
	R1 TYPE	S-22MR1E5	S-28MR1E5	S-36MR1E5	S-45MR1E5	S-56MR1E5	S-71MR1E5
Power source		230 V / 1 phase / 50 Hz					
Cooling capacity	kW	2.2	2.8	3.6	4.5	5.6	7.1
Cooling power input	W	56	56	85	126	126	160
Cooling operating current	A	0.25	0.25	0.38	0.56	0.56	0.72
Heating capacity	kW	2.5	3.2	4.2	5.0	6.3	8.0
Heating power input	W	40	40	70	91	91	120
Heating operating current	A	0.18	0.18	0.31	0.41	0.41	0.54
Fan	Type	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan	Sirocco fan
	Air flow rate (H/M/L) m ³ /h	420 / 360 / 300	420 / 360 / 300	540 / 420 / 360	720 / 540 / 480	900 / 780 / 660	1,020 / 840 / 720
Sound pressure level (L/M/H)	dB(A)	28 / 30 / 33	28 / 30 / 33	29 / 35 / 39	31 / 35 / 38	31 / 36 / 39	35 / 38 / 41
Dimensions P1 Type	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
Dimensions R1 Type	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 (6.35)	1/4 (6.35)	1/4 (6.35)	1/4 (6.35)	3/8 (9.52)
	Gas	inches (mm)	1/2 (12.7)	1/2 (12.7)	1/2 (12.7)	1/2 (12.7)	5/8 (15.88)
	Drain piping		VP-20	VP-20	VP-20	VP-20	VP-20
Net weight P1 Type	kg	29	29	29	39	39	39
Net weight R1 Type	kg	21	21	21	28	28	28

Energy saving INVERTER+	Environmentally friendly refrigerant R410A	Easy maintenance SELF-DIAGNOSING	For more comfort AUTOMATIC FAN	Perfect humidity control MILD DRY	Practical operation AUTOMATIC RESTART	Easy control CONNECTIVITY
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Rating Conditions: Cooling Indoor 27 °C DB / 19 °C WB. Cooling Outdoor 35 °C DB / 24 °C WB. Heating Indoor 20 °C DB. Cooling Outdoor 7 °C DB / 6 °C WB. DB: Dry Bulb; WB: Wet Bulb



PANASONIC VENTILATION
SOLUTIONS. FOR MAXIMUM
SAVINGS AND EASY INTEGRATION

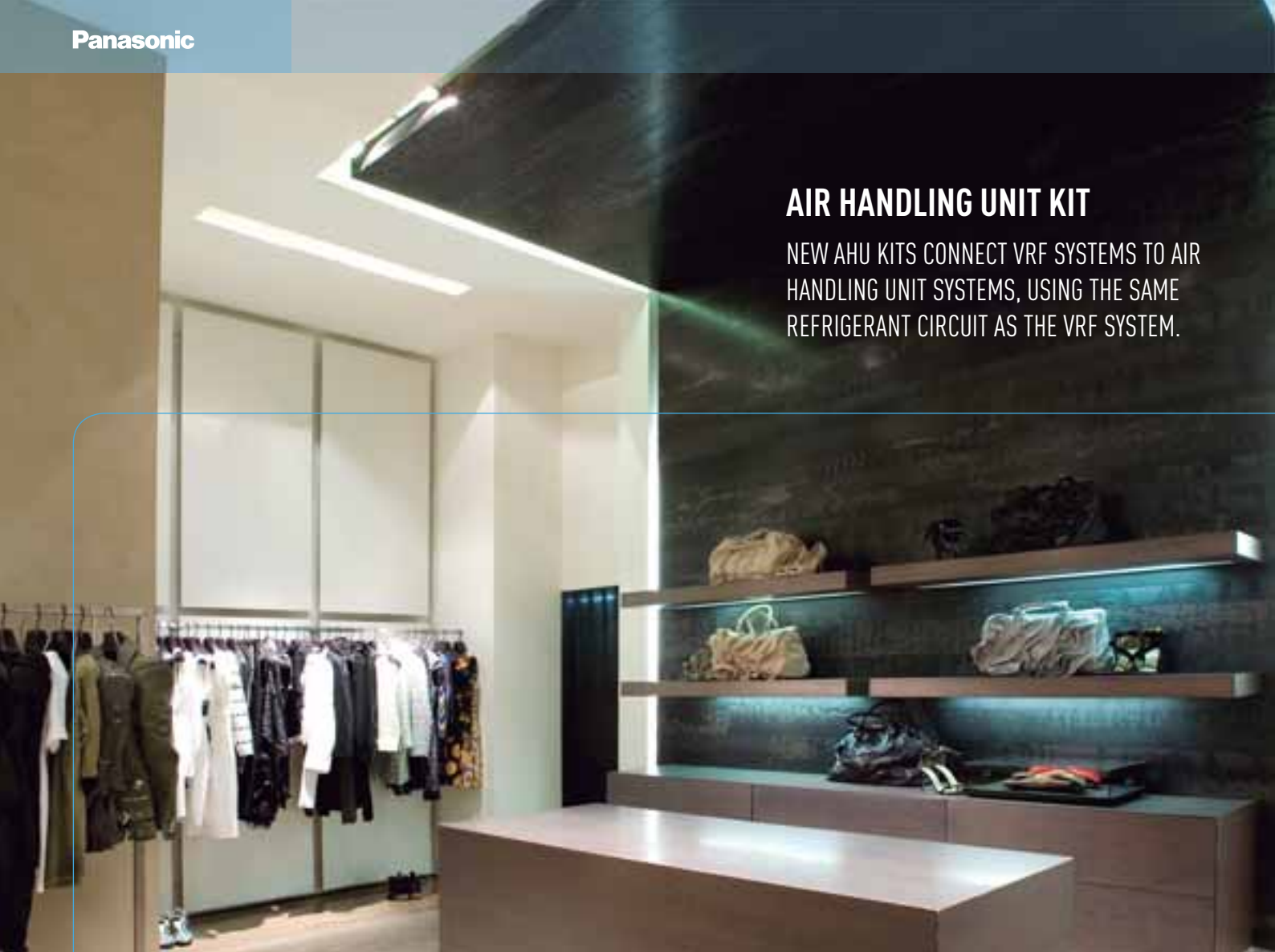


AIR HANDLING UNIT KIT

Connects easily to your ECOi and GHP systems.

ENERGY RECOVERY VENTILATOR

Energy recovery ventilators offer ventilation which increases comfort and saves energy. They efficiently recover the heat lost in ventilation during the heat recovery process.



AIR HANDLING UNIT KIT

NEW AHU KITS CONNECT VRF SYSTEMS TO AIR HANDLING UNIT SYSTEMS, USING THE SAME REFRIGERANT CIRCUIT AS THE VRF SYSTEM.



Large connectivity possibilities mean the Panasonic AHU Kit can be easily integrated.

Application: Hotels, offices, server rooms or all large buildings where air quality control such as humidity control and fresh air and is needed.

AHU CONNECTION KIT



PCB, Power trans, Terminal block



Remote control can be easily installed on the AHU Kit box. Remote control must be purchase separately.



Expansion valve



Thermistor x2 (Refrigerant: E1, E3)



Thermistor x2 (Air: Tf, Tb)

REMOTE CONTROLLER

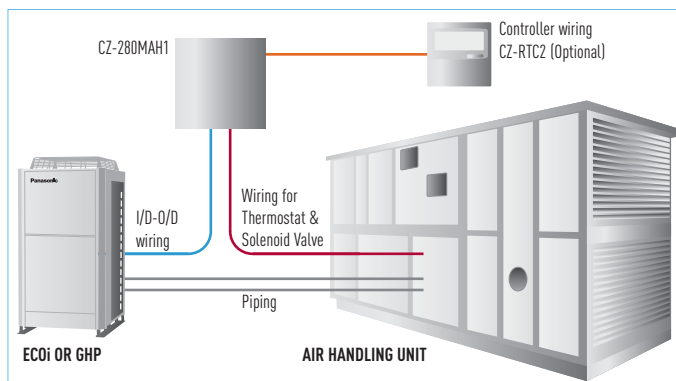


Standard wired remote controller. Optional

Possible Solution 1 by 1

Panasonic AHU Kit, 28 / 56 kW

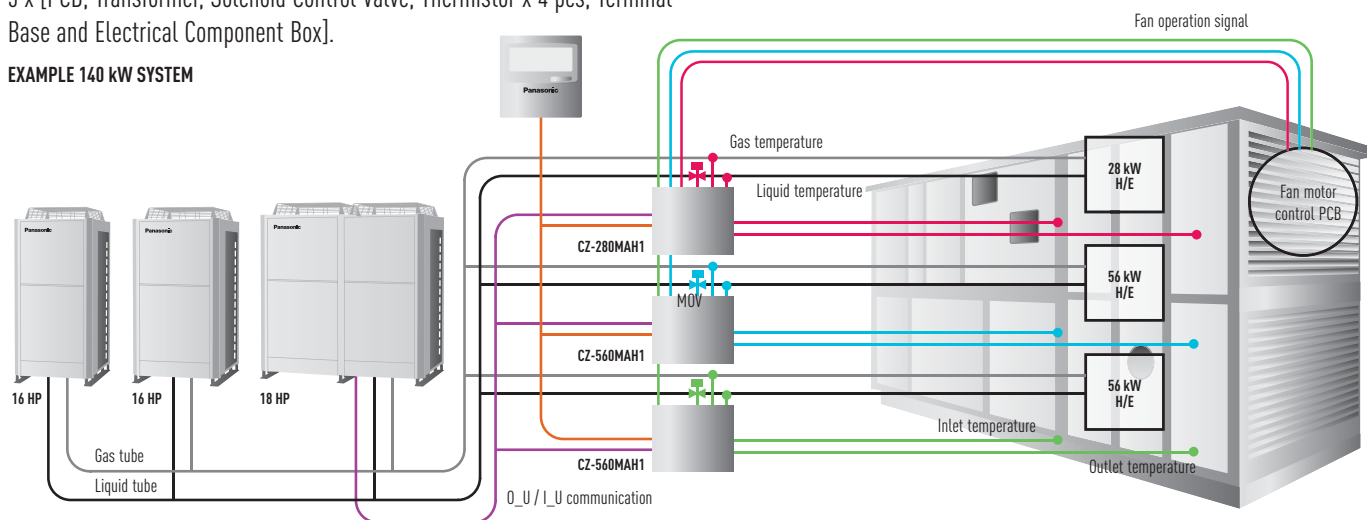
PCB, Transformer, Solenoid Control Valve, Thermistor x 4 pcs, Terminal Base and Electrical Component Box.



System example for large capacity (more than 56 kW)

3 x [PCB, Transformer, Solenoid Control Valve, Thermistor x 4 pcs, Terminal Base and Electrical Component Box].

EXAMPLE 140 kW SYSTEM



Optional parts: Following functions are available by using different control accessories:

CZ-RTC2 Wired remote controller

- Operation-ON/OFF
- Mode select
- Temperature setting

* Fan operation signal can be taken from the PCB.

CZ-T10 terminal

- Input signal= Operation ON/OFF
- Remote controller prohibition
- Output signal= Operating-ON status
- Alarm output (by DC12V)

PAW-OCT, DC12 V outlet. OPTION terminal

- Output signal= Cooling/Heating/Fan status
- Defrost
- Thermostat-ON

CZ-CAPBC2 Mini seri-para I/O unit

- Temperature setting by 0-10 V or 0-140 Ω input signal
- Room (inlet air) temp outlet by 4-20 mA
- Mode select or/and ON/OFF control
- Fan operation control
- Operation status output/ Alarm output

AHU CONNECTION KIT, 28 kW AND 56 kW FOR ECOi AND GHP

Heat exchanger, Fan & Fan motor to be mounted in AHU Kit shall be provided in the field.

AHU connection Kit can be connected this (field supplied) AHU Kit system. (Contents of kit:

Control PCB, expansion valve, sensors)

Application: Hotels, offices, server rooms or all large buildings where air quality control such as humidity control and fresh air and is needed.

AHU Kit combine air conditioning and fresh air in only one solution.

6N SERIES 2-PIPE ECOi OUTDOOR UNIT SHALL BE USED FOR AHU CONNECTION KIT.

2 models for VRF system: 10 HP (CZ-280MAH1) and 20 HP (CZ-560MAH1)

WITH GHP OUTDOOR UNITS:

- One AHU kit may be used for one GHP unit (2 way, 56 kW). Multiple AHU kits cannot be used.
- Mix connection with standard indoor units is not allowed.
- Power specifications are single-phase 220 V to 240 V.

MODEL		CZ-280MAH1	CZ-560MAH1	CZ-280MAH1 + CZ-560MAH1	CZ-560MAH1 + CZ-560MAH1	CZ-560MAH1 + CZ-560MAH1 + CZ-280MAH1	CZ-560MAH1 + CZ-560MAH1 + CZ-560MAH1
Nominal Cooling capacity @ 50hz	kW	28.0	56.0	84.0	112.0	140.0	168.0
Nominal Heating @ 50hz	kW	31.5	63.0	95.0	127.0	155.0	189.0
Horsepower	HP	10	20	30	40	50	60
Cooling Airflow High	m ³ /min	5,000	10,000	15,000	20,000	25,000	30,000
Cooling Airflow Low	m ³ /min	3,500	7,000	10,500	14,000	17,500	21,000
Heating Airflow High	m ³ /min						
Heating Airflow Low	m ³ /min						
Bypass Factor		0.9 (recommended)					
Fan Input Power		—	—	—	—	—	—
Total Cooling (incl. T-Heat exch.)	Nom (Min - Max)	—	—	—	—	—	—
Total Heating (incl. T-Heat exch.)	Nom (Min - Max)	—	—	—	—	—	—
Fuse Size	A	—	—	—	—	—	—
Running Current @ 230v		—	—	—	—	—	—
Input Power @ 230v							
Dimensions of the box (H x W x D)	mm	420 x 280 x 160					
Weight	kg						
Sound pressure level on cooling mode (nominal)	dB(A)	—	—	—	—	—	—
Sound power level on cooling mode (nominal)		—	—	—	—	—	—
Piping length (min/max)	m	10/100	10/100	10/100	10/100	10/100	10/100
Installation height difference (max)	m	10	10	10	10	10	10
Pipe Diameters	Inch (mm)	3/8 (9.52)	5/8 (15.88)	3/4 (19.05)	3/4 (19.05)	3/4 (19.05)	3/4 (19.05)
	Inch (mm)	7/8 (22.22)	1 1/8 (28.58)	1 1/4 (31.75)	1 1/2 (38.15)	1 1/2 (38.15)	1 1/2 (38.15)
Intake temperature of AHU Kit (Min / Max)	°C	Cooling: 18 - 32DB (13 - 23 WB) / Heating: 16 - 30 DB					
Ambient temperature of outdoor unit (min / Max)	°C	Cooling: -5 - 43 DB / Heating: -15 - 15.5 WB					

AHU CONNECTION KIT / SYSTEM COMBINATION

CAPACITY (HP)	OUTDOOR UNIT COMBINATION			AHU KIT COMBINATION		
28 kW (10 HP)	U-10ME1E81			CZ-280MAH1		
56 kW (20 HP)	U-20ME1E81			CZ-560MAH1		
84 kW (30 HP)	U-16ME1E81	U-14ME1E81		CZ-560MAH1	CZ-280MAH1	
112 kW (40 HP)	U-20ME1E81	U-20ME1E81		CZ-560MAH1	CZ-560MAH1	
140 kW (50 HP)	U-18ME1E81	U-16ME1E81	U-16ME1E81	CZ-560MAH1	CZ-560MAH1	CZ-280MAH1
168 kW (60 HP)	U-20ME1E81	U-20ME1E81	U-20ME1E81	CZ-560MAH1	CZ-560MAH1	CZ-560MAH1
56 kW (20 HP)	U-20GE2E5			CZ-560MAH1		

OPTIONAL

Standard wired remote controller
CZ-RTC2



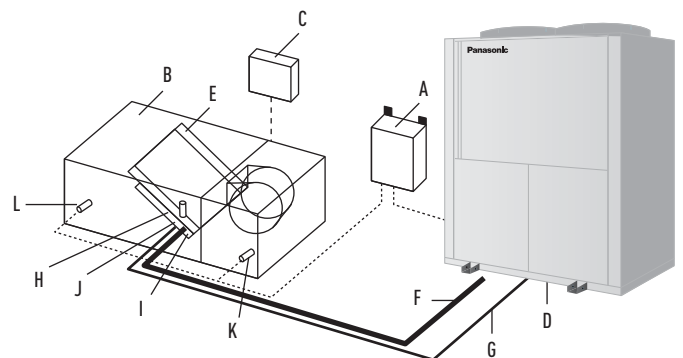
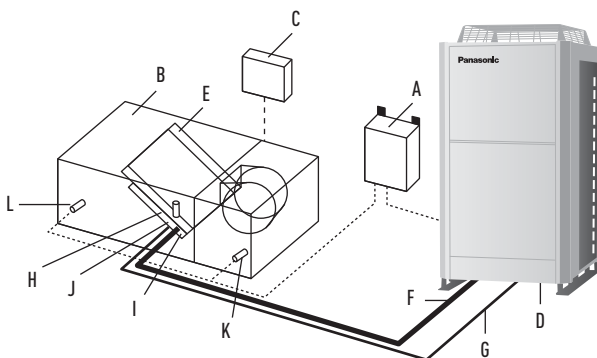
TECHNICAL ZOOM

- MAX. CAPACITY: 60HP (168 kW)
- MAX. PIPING LENGTH: 180 m
- MAX. TOTAL PIPING: 210 m
- ELEV. DIFF. (O_U-I_U): 50 m (O_U ABOVE)
- ELEV. DIFF. (I_U-I_U): 4 m
- IN/OUT CAPACITY RATIO: 50~100%
- MAX. I_U NUMBER: 2 UNITS*
- AVAILABLE TEMPERATURE RANGE IN HEATING: -15~15.5 °C
- AVAILABLE TEMPERATURE RANGE FOR THE SUCTION AIR AT AHU KIT: COOL: 15~24 °C / HEAT: 10~30 °C

* To be simultaneous operation controlled by one remote controller sensor.

CZ-280MAH1 // CZ-560MAH1

- The system controlled by the suction air (or return air from room) temperature as same as standard indoor unit. (Selectable mode: Automatic / Cooling / Heating / Fan / Dry (but same as Cool))
- The discharge air temperature is also controlled to prevent too-low air discharge in Cooling or too-high air discharge in Heating. (in case of VRF system)
- Demand control (Forcible thermostat-OFF control by operating current)
- Defrost operation signal, Thermo-ON/OFF states output
- Drain pump control (Drain-pump and the float switch to be supplied in local)
- External target temperature setting via Indoor/Outdoor signal interface is available with CZ-CAPBC2. (Ex. 0 - 10 V)
- Connectable with P-LINK system
Special care for the electrical noise may necessary depending on the system at site.
- Fan control signal from the PCB can be used for control the air volume (High/Mid/Low and LL for Th-off)
Need to change the fan control circuit wiring at field.



SYSTEM & REGULATIONS. SYSTEM OVERVIEW

- A: AHU Kit controller box (with control PCB)
- B: AHU Kit equipment (Field supplied)
- C: AHU Kit system controller (Field supplied)

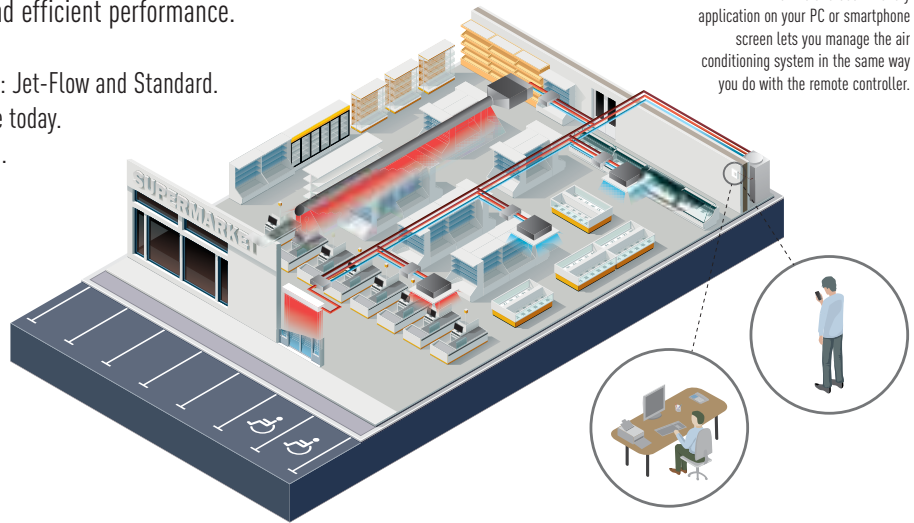
- D: Outdoor unit
- F: Gas piping (Field supplied)
- G: Liquid piping (Field supplied)
- H: Electronic expansion valve

- I: Thermistor for Gas pipe
- J: Thermistor for Liquid pipe
- K: Thermistor for Suction air
- L: Thermistor for Discharge air

AIR CURTAIN

High efficiency Air curtain connected to your VRF installation. EC Fan motor for a smooth operation and efficient performance.
 Plug & Play Installation
 2 types of Air flow available: Jet-Flow and Standard.
 2015 Fan Standard available today.
 Easy Cleaning and Servicing.

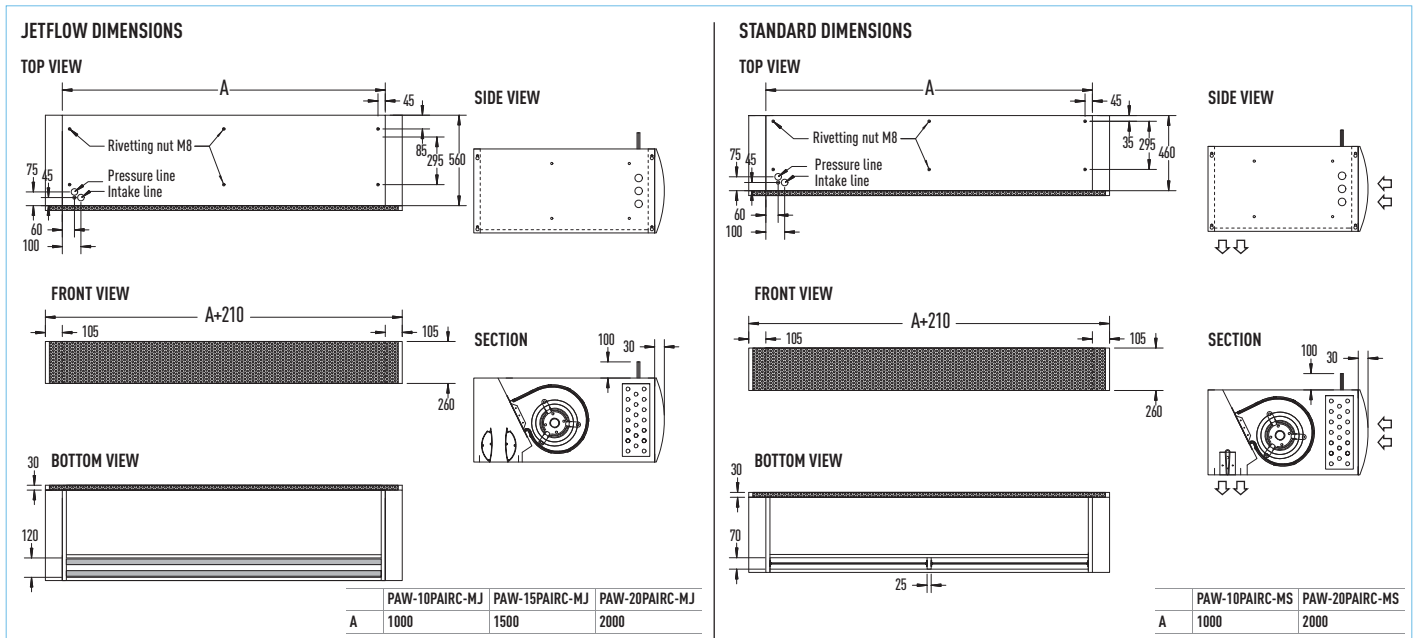
INTERNET CONTROL
 An intuitive and user-friendly application on your PC or smartphone screen lets you manage the air conditioning system in the same way you do with the remote controller.



HP	4		8		10		14		4		10	
AIR CURTAIN*	PAW-10EAIRC-MJ		PAW-15EAIRC-MJ ¹		PAW-20EAIRC-MJ ²		PAW-25EAIRC-MJ ²		PAW-10EAIRC-MS		PAW-20EAIRC-MS ¹	
Air flow type	Jetflow						Standard					
Air Volume	High / Med / Low	m ² /h	2700 / 1900 / 1200	3600 / 2500 / 1600	5400 / 3800 / 2400	6300 / 4400 / 2800	2700 / 1900 / 1200	5400 / 3800 / 2400	2700 / 1900 / 1200	5400 / 3800 / 2400	2700 / 1900 / 1200	5400 / 3800 / 2400
Air Flow Length (A)		m	1.0	1.5	2.0	2.5	1.0	2.0	1.0	2.0	1.0	2.0
Heating capacity nominal		kW	11.4	25.0	31.5	37.5	11.4	31.5	11.4	31.5	11.4	31.5
Heating capacity max (at air in 20 °C)		kW	12.47	19.55	29.99	37.53	12.47	29.99	12.47	29.99	12.47	29.99
Max Installation high		m	2.7	2.7	2.7	2.7	2.4	2.4	2.4	2.4	2.4	2.4
Refrigerant			R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Pressure		bar	45	45	45	45	45	45	45	45	45	45
Tubing Gas		mm	16	18	22	22	16	22	16	22	16	22
Tubing Liquid		mm	10	10	10	10	10	10	10	10	10	10
Fan			230 V / 50 Hz / 1 / N / PE	230 V / 50 Hz / 1 / N / PE	230 V / 50 Hz / 1 / N / PE	230 V / 50 Hz / 1 / N / PE	230 V / 50 Hz / 1 / N / PE	230 V / 50 Hz / 1 / N / PE	230 V / 50 Hz / 1 / N / PE	230 V / 50 Hz / 1 / N / PE	230 V / 50 Hz / 1 / N / PE	230 V / 50 Hz / 1 / N / PE
Fan type			EC	EC	EC	EC	EC	EC	EC	EC	EC	EC
Currency	High / Med / Low	A	2.1 / 0.8 / 0.3	2.8 / 1.1 / 0.4	4.2 / 1.6 / 0.6	4.9 / 1.9 / 0.7	2.1 / 0.8 / 0.3	4.2 / 1.6 / 0.6	2.1 / 0.8 / 0.3	4.2 / 1.6 / 0.6	2.1 / 0.8 / 0.3	4.2 / 1.6 / 0.6
Electrical Consumption	High / Med / Low	kW	0.44 / 0.17 / 0.06	0.59 / 0.23 / 0.08	0.89 / 0.34 / 0.12	1.03 / 0.4 / 0.14	0.44 / 0.17 / 0.06	0.89 / 0.34 / 0.12	0.44 / 0.17 / 0.06	0.89 / 0.34 / 0.12	0.44 / 0.17 / 0.06	0.89 / 0.34 / 0.12
Protecting Fuse		A	M16A	M16A	M16A	M16A	M16A	M16A	M16A	M16A	M16A	M16A
Noise		dB(A)	40-55	40-56	40-57	40-58	40-55	40-57	40-55	40-57	40-55	40-57
Dimensions / Weight	L x H x D	mm / kg	1210 x 260 x 590 / 70	1710 x 260 x 590 / 100	2210 x 260 x 590 / 138	2710 x 260 x 590 / 160	1210 x 260 x 490 / 60	2210 x 260 x 490 / 128	1210 x 260 x 490 / 60	2210 x 260 x 490 / 128	1210 x 260 x 490 / 60	2210 x 260 x 490 / 128

Outdoor combination with Mini ECOi	U-4LE1E5/8						U-4LE1E5/8					
Outdoor combination with ECOi	All models		All models		All model without 8HP		All model without 8/10HP		All models		All model without 8HP	
Outdoor combination with GHP	All models		All models		All models		All models		All models		All models	

* Available from April 2013. 1) Needs 2 RAP Valve CZ-160RVK2. 2) Needs 3 RAP Valve CZ-160RVK2.





JET-FLOW: PAW-10PAIRC-MJ // PAW-15PAIRC-MJ // PAW-20PAIRC-MJ

Technical Focus

- PLUG & PLAY INSTALLATION
- SAVE UP TO 40% ENERGY COSTS BY USE OF THE INTEGRATED EC FAN TECHNOLOGY
 - HIGHER EFFICIENCY CONVENTIONAL AC FAN
 - SOFTSTART
 - LONGER MOTOR DURATION
- 3 LENGTHS OF AIR CURTAINS, FROM 1.0 TO 2.0 m
- INSTALLATION HEIGHT UP TO 2.7 m
- OUTLET GRILLES CAN BE ADJUSTED IN FIVE POSITIONS, TO SUITE DIFFERENT INDOOR AND INSTALLATION REQUIREMENTS
- CONTROL WITH PANASONIC REMOTE CONTROL SYSTEMS (OPTIONAL)
- DIRECT INTEGRATION TO BMS BY OPTIONAL PANASONIC INTERFACES
- DRAIN INCLUDED FOR COOLING OPERATION

STANDARD: PAW-10PAIRC-MS // PAW-20PAIRC-MS

Technical Focus

- PLUG & PLAY INSTALLATION
- SAVE UP TO 40% ENERGY COSTS BY USE OF THE INTEGRATED EC FAN TECHNOLOGY
 - HIGHER EFFICIENCY CONVENTIONAL AC FAN
 - SOFTSTART
 - LONGER MOTOR DURATION
- 2 LENGTHS OF AIR CURTAINS, 1.0 AND 2.0 m
- INSTALLATION HEIGHT UP TO 2.4 m
- CONTROL WITH PANASONIC REMOTE CONTROL SYSTEMS (OPTIONAL)
- DIRECT INTEGRATION TO BMS BY OPTIONAL PANASONIC INTERFACES
- DRAIN INCLUDED FOR COOLING OPERATION

Features

COMFORT

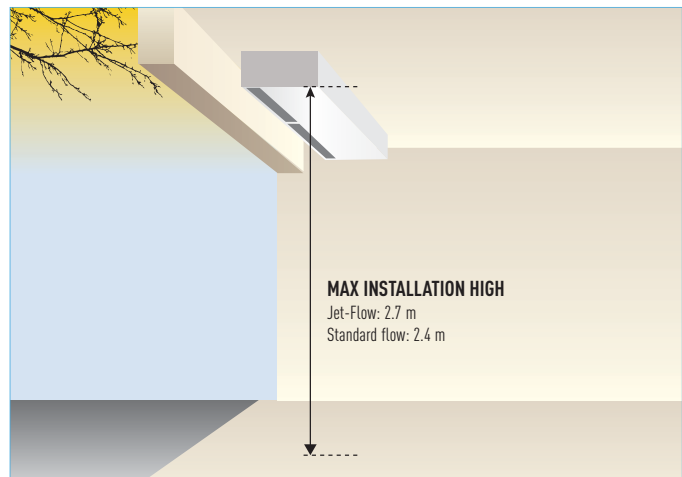
- Easy redirection of Air-Flow by means of manual deflector (Jet-Flow)

EASE OF USE

- Speed selector (high and low) on the unit itself

EASY INSTALLATION AND MAINTENANCE

- Easy installation
- Compact dimensions improve installation and positioning (Jet-Flow)
- Easy cleaning of grid without opening of the unit





ENERGY RECOVERY VENTILATOR

SUPPRESSES INDOOR TEMPERATURE CHANGES WHILE PROVIDING FRESH AIR

Heat exchange ventilation and normal ventilation

Heat exchange ventilation

When a room is cooled or heated, the exhausted cooling / heating energy is recovered by heat-exchange ventilation.

Normal ventilation

This is used in the spring and autumn, when rooms are not cooled or heated, that is, when there is little difference between the indoor and outdoor air conditions. In addition, at night during the hot season, when the outside air temperature drops the outside air is drawn inside without heat exchange, alleviating the load on the air conditioning equipment.

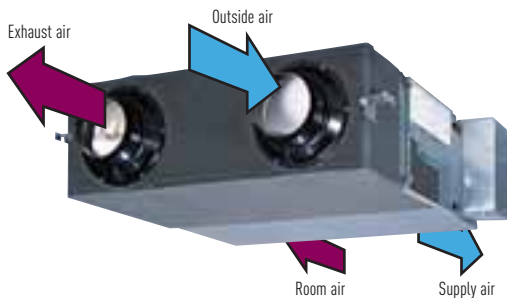
The heat exchanger is made up of a membrane manufactured from a special material covered in resin for optimal heat transmission. The nylon/polyester fibre filter offers high dust retention capacity. We have also redesigned the air ducts to obtain a long-lasting heat exchange system which does not need periodic cleaning.

Energy efficiency and ecology

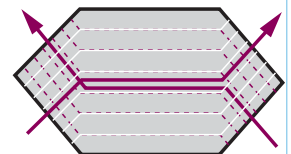
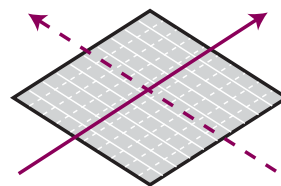
Energy consumption is dramatically reduced by using a counter-flow heat-exchange element. Air conditioning load is reduced by approximately 20%, resulting in significant energy savings.

20%
energy savings

ADOPTS A HIGHLY EFFICIENT COUNTER-FLOW HEAT EXCHANGE ELEMENT



HEAT EXCHANGER CHARACTERISTICS



Heat exchanger

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).

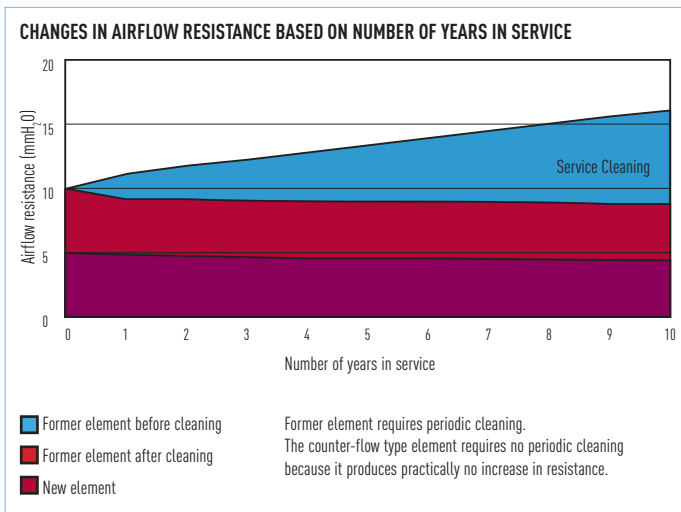
More Comfort

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

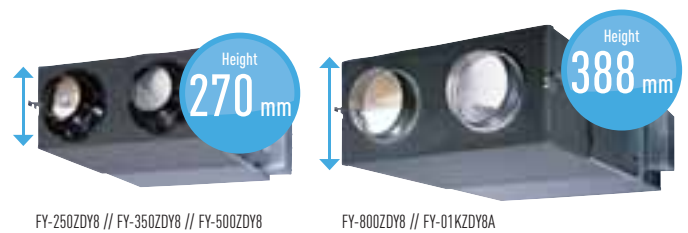
Cleaning reduced due to the special material heat exchanger. The nylon/polyester fibre filter offers high dust retention capacity.



Easy Installation and Maintenance

Slim shape and easier installation

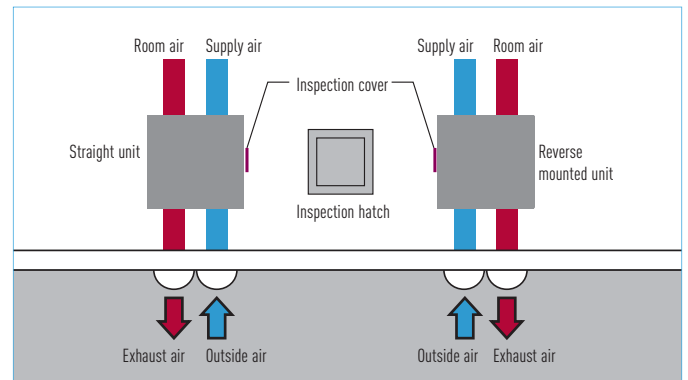
Counter-flow heat exchange element used for reduced noise and slimmer, more compact body shape.



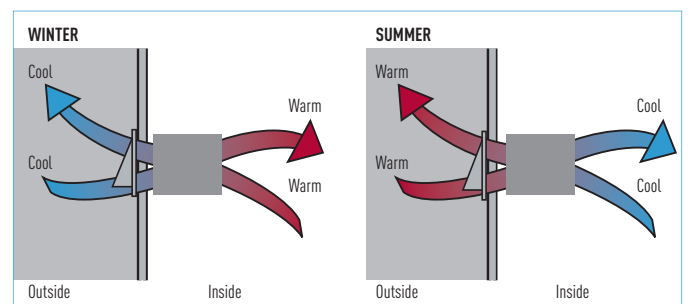
Reverse mountable direct air supply / exhaust system

Adoption of straight air supply / exhaust system: Duct design is simplified because the air supply / exhaust ducts are straight.

Since each unit can be mounted in reverse position, only one inspection hole is needed for two units: Two units can share one inspection hole so duct work is easier and more flexible.



Balanced Ventilation



ENERGY RECOVERY VENTILATION SYSTEM

Recovers up to 77% of the heat in the outgoing air, for an ecological and energy efficient building.



FY-250ZDY8



FY-350ZDY8



FY-500ZDY8



FY-800ZDY8

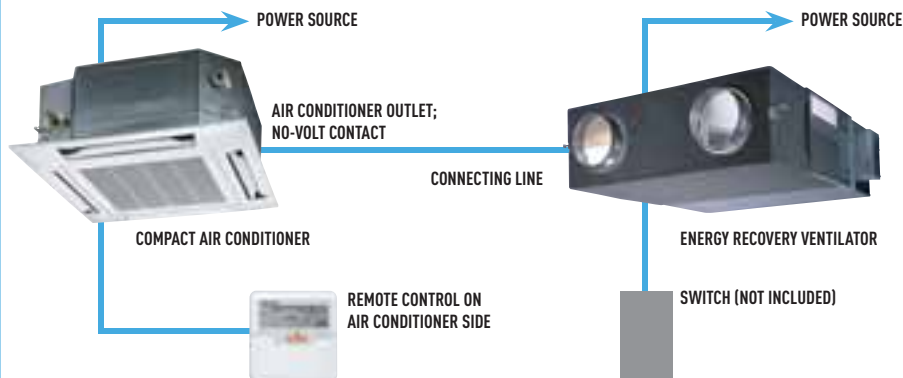


FY-01KZDY8A

RATED FLOW RATE	150 m³/h			250 m³/h			350 m³/h			500 m³/h			650 m³/h			800 m³/h			1000 m³/h			
MODELS	FY-150ZDY8			FY-250ZDY8			FY-350ZDY8			FY-500ZDY8			FY-650ZDY8			FY-800ZDY8			FY-01KZDY8A			
Power Source	220-240 V - 50 Hz																					
HEAT EXCHANGE VENTILATION	E-High	High	Low	E-High	High	Low	E-High	High	Low	E-High	High	Low	E-High	High	Low	E-High	High	Low	E-High	High	Low	
Input	W	97-114	92-107	69-77	112-128	108-123	87-96	182-190	178-185	175-168	263-289	204-225	165-185	326-347	269-295	200-210	387-418	360-378	293-295	437-464	416-432	301-311
Air Volume	m³/h	150	150	120	250	250	190	350	350	240	500	500	440	650	650	460	800	800	630	1000	1000	700
External Static Pressure	Pa	80	70	25	105	95	45	140	60	45	120	60	35	65	40	40	140	110	55	105	80	75
Noise	dB	28.5-29.0	28.0-29.0	19.5-21.5	30.0-31.5	29.5-30.5	23.5-26.5	32.5-33.0	30.5-31.0	22.5-25.5	36.5-37.5	34.5-35.5	31.0-32.5	36.5-37.5	34.5-35.5	30.0-32.0	37.0-37.5	36.5-37.0	33.5-34.5	37.5-38.5	37.0-37.5	33.5-34.5
Temp. Exchange Efficiency	%	75	75	77	75	75	77	75	75	78	75	75	76	75	75	79	75	75	76	75	75	79
NORMAL VENTILATION	E-High	High	Low	E-High	High	Low	E-High	High	Low	E-High	High	Low	E-High	High	Low	E-High	High	Low	E-High	High	Low	
Input	W	97-114	92-107	69-77	112-128	108-123	87-96	182-190	178-185	175-168	263-289	204-225	165-185	326-347	269-295	200-210	387-418	360-378	293-295	437-464	416-432	301-311
Air Volume	m³/h	150	150	120	250	250	190	350	350	240	500	500	440	650	650	460	800	800	630	1000	1000	700
External Static Pressure	Pa	80	70	25	105	95	45	140	60	45	120	60	35	65	40	40	140	110	55	105	80	75
Noise	dB	28.5-29.0	28.0-29.0	19.5-21.5	30.0-31.5	29.5-30.5	23.5-26.5	32.5-33.0	30.5-31.0	22.5-25.5	37.5-38.5	37.0-38.0	31.0-32.5	36.5-37.5	35.0-35.5	30.0-32.0	37.0-37.5	36.5-37.0	33.5-34.5	39.5-40.5	39.0-39.5	35.5-36.5
Temp. Exchange Efficiency	%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dimensions (W x D x H)	mm	970 x 467 x 270			882 x 599 x 270			1050 x 804 x 317			1090 x 904 x 317			1204 x 884 x 388			1322 x 884 x 388			1322 x 1134 x 388		
Weight	kg	25			29			49			57			68			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

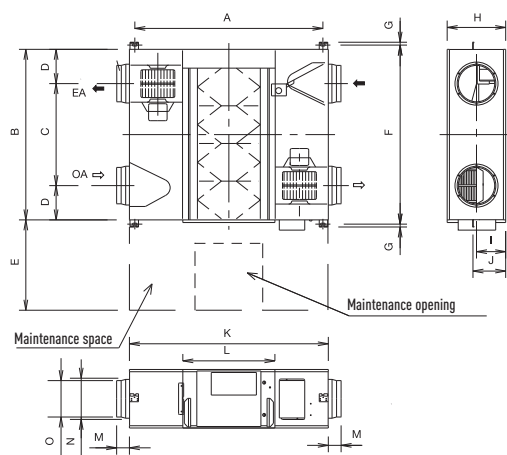
INDOOR AIR CONDITIONS
 TEMPERATURE RANGE: -10 °C – 40 °C
 RELATIVE HUMIDITY: 85% OR LESS

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.



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



FY-250ZDY8 // FY-350ZDY8 // FY-500ZDY8 // FY-800ZDY8 // FY-01KZDY8A

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-250ZDY8)
- 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 - 240 V
- High static pressure for easier installation

	FY-250ZDY8	FY-350ZDY8	FY-500ZDY8	FY-800ZDY8	FY-01KZDY8A
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













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) CZ-RTC2	Wireless Remote Controller CZ-RWSU2 CZ-RWSY2 CZ-RWSL2 CZ-RWSC2 CZ-RWST2 CZ-RWSK2	Simplified Remote Controller CZ-RE2C2	Backlight remote controller CZ-RELC2	Schedule Timer CZ-ESWC2
Built-in Thermostat	✗	✗	✗		
N. of I/O 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.
Function ON/OFF	✗	✗	✗		—
Mode setting	✗	✗	✗		—
Fan speed setting	✗	✗	✗		—
Temperature setting	✗	✗	✗		—
Air flow direction	✗	✗ ¹	✗ ¹		—
Permit/Prohibit switching	—	—	—		—
Weekly program	✗	—	—		✗

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.

CONTROL SYSTEMS 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	BMS System. PC Base	Connection with 3rd Party Controller
				
System Controller	ON/OFF Controller	Intelligent Controller (Touch screen panel)	P-AIMS. Basic Software	Seri-Para I/O unit for outdoor unit CZ-CSWKC2
CZ-64ESMC2	CZ-ANC2	CZ-256ESMC2 (CZ-CFUNC2)	CZ-CSWKC2	
—	—	—	Optional software	
64 groups, max. 64 units	16 groups, max. 64 units	64 units x 4 systems, max. 256 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. 	<ul style="list-style-type: none"> CZ-CSWAC2 for Load distribution. CZ-CSWWW2 for Web application. CZ-CSWGC2 for Object layout display. CZ-CSWBC2 for BAC net software interface. *PC required (field supply) 	
X	X	X	Web Interface Systems	
X	—	X	CZ-CWEBC2	
X	—	X	*PC required (field supply)	
X	—	X		
X ¹	—	X ¹		
X	X	X		
—	—	X		

INDIVIDUAL CONTROL SYSTEMS

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

- Week day 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.

Possible to connect to the outdoor unit using PAW-MRC cable for servicing purposes

Wireless remote controller



Y1 TYPE
CZ-RWSY2

U1 TYPE
CZ-RWSU2

L1 TYPE
CZ-RWSL2

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.



K1 TYPE
CZ-RWSK2

D1 AND T1 TYPE
CZ-RWST2

WIRELESS REMOTE CONTROL
FOR ALL INDOOR UNITS
CZ-RWSC2

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).

Simplified remote controller (CZ-RE2C2)



Dimensions
H 120 x W 70 x D 16 mm

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, air speed switching, air flow 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).

Backlight remote controller (CZ-RELC2)



Dimensions
H 120 x W 70 x D 16 mm

Backlight remote controller with simple and friendly operation

- ON/OFF, operation mode switching, temperature setting, air speed switching, air flow direction setting, alarm display can be performed. LCD backlight display.
- Built-in temperature sensor and batch group control for up to 8 indoor units.

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.
- Batch group control for up to 8 indoor units.

CONTROL CONTENTS	PART NAME, MODEL NO.	QUANTITY
Standard Control <ul style="list-style-type: none"> • 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 // CZ-RE2C2 // CZ-RELC2 Wireless remote controller CZ-RWSY2 // CZ-RWSU2 // CZ-RWSL2 // CZ-RWSG2 CZ-RWSK2 // CZ-RE2C2	1 unit each
(1) Group control <ul style="list-style-type: none"> • 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 Wireless remote controller CZ-RWSY2 // CZ-RWSU2 // CZ-RWSL2 // CZ-RWSG2 CZ-RWSK2 // CZ-RE2C2	1 unit
(2) Main/sub remote control <ul style="list-style-type: none"> • 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

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 200 m 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 CZ-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.

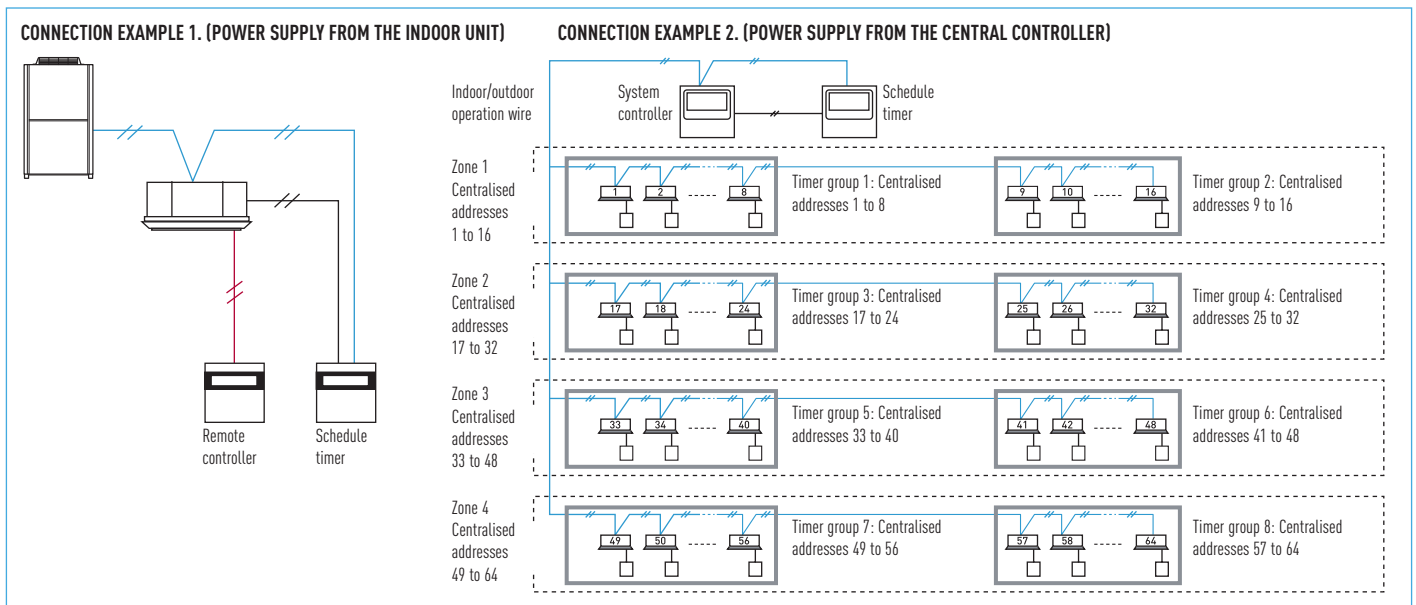
Up to 64 groups (max. 64 indoor units) can be controlled divided into 8 timer groups

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.)



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 24 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.

System controller (CZ-64ESMC2)



Dimensions
H 120 x W 120 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 from the remote controller. However, the contents will be changed to the last settings used on the controller.

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.)

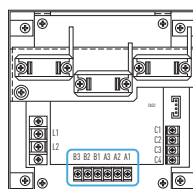
(In case of joint use with a wireless remote controller, there are limitations for the control mode. Please use only with "Individual" and "Central 1".)

Control of systems without a remote controller and of main/sub systems (a total of up to 2 units) is possible

External Contacts On Central Controllers

Terminals for remote monitoring:

- A1) Input for turning ON air conditioners concurrently
- A2) Input for turning OFF air conditioners concurrently
- A3) Common input for turning air conditioners ON or OFF
- B1) On operation state indicator output
- B2) Alarm indicator output
- B3) Common indicator output



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.)

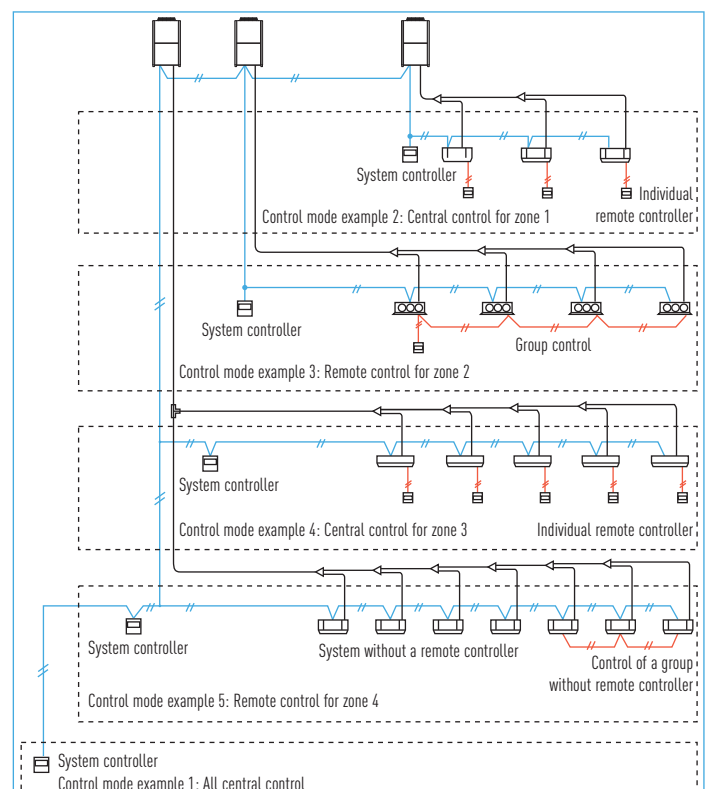
B. Controlled unit number mode: All mode or zone 1, 2, 3, 4 mode can be selected

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), 30 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

Limitation contents for prohibited operation

Prohibition means limiting the operations possible from the remote controller. It is also possible to change the prohibition items.

Limitation contents (Limitations can be user defined)

- Individual No limits are set for the remote controller operation. However, the contents will be changed to the controller's last settings. (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 adaptor CZ-CFUNC2 must be installed on the outside

Operation is possible as batch, in zone units, in tenant and in group units

ON/OFF, operation mode setting, temperature setting, fan speed setting, air flow direction setting (when used without a remote controller), and remote controller local operation prohibition (prohibition 1, 2, 3, 4)

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

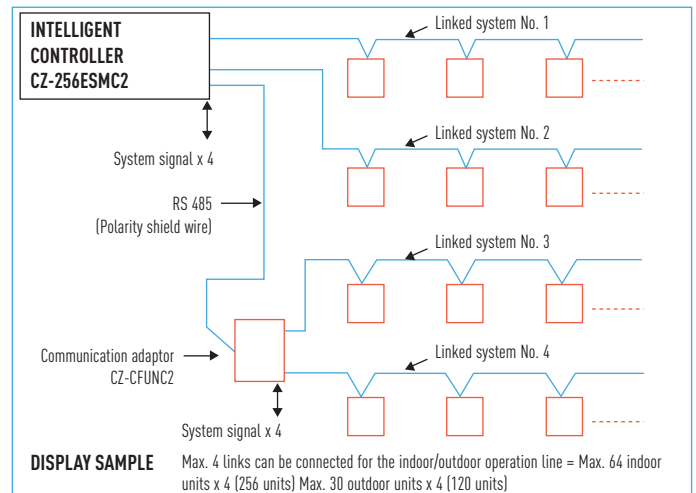
Proportional distribution of the air conditioning energy is possible. Including csv-file export via CF-card (supplementary accessory)

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



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 settings.
- IP ADDRESS could be changed via Internet.



(HxWxD): 248x185x80 mm
AC 100 to 240 V (50/60Hz), 17 W
(separate power supply)

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.

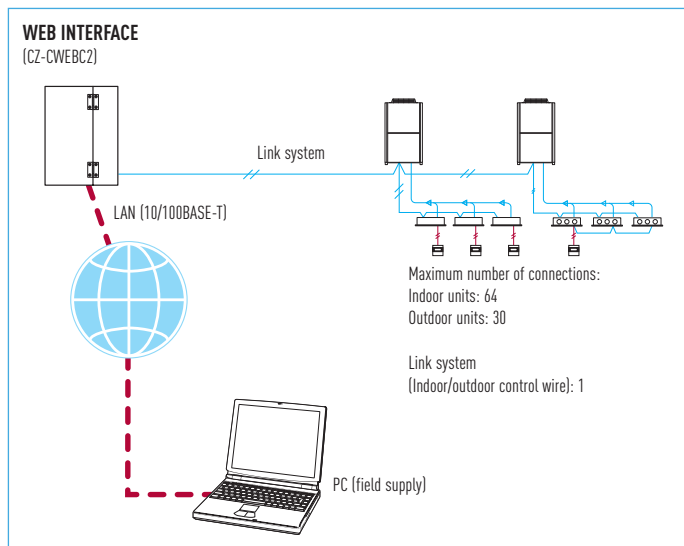
Easy to manage and monitor each tenant use*

- Each floor or tenant, otherwise each zone can be displayed and controlled.
- All unit statuses can also be displayed on one screen.

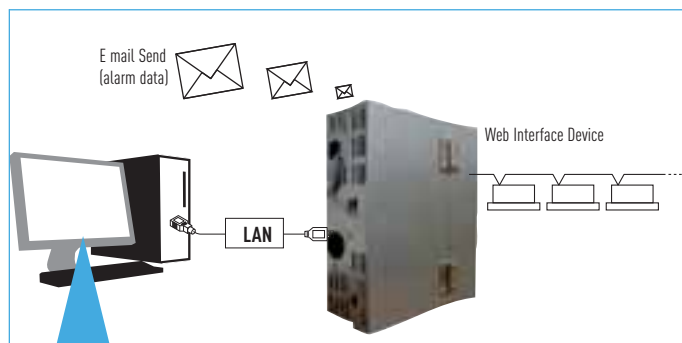
Program Timer set

- 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.



Web Interface Device (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.
- 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 settings.
- IP ADDRESS could be changed via Internet.

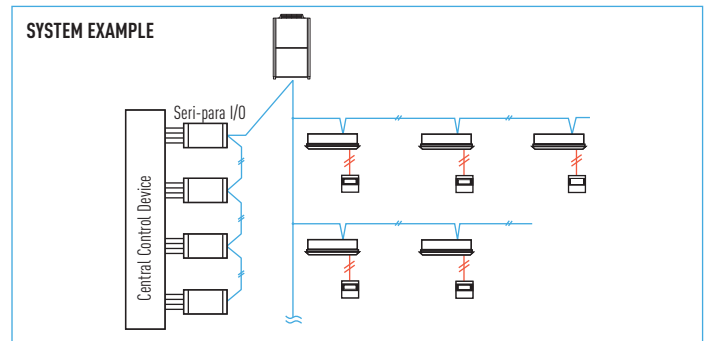
Note: it is recommended to install a remote controller or a system controller on site to enable local control if IT network experience a problem.

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

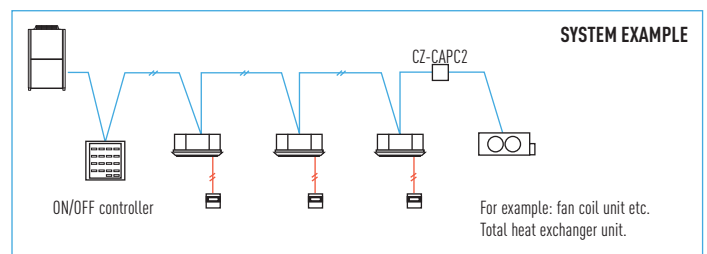
- This unit can control up to 4 outdoor units.
- From the central control device, mode changing and batch operation/batch stop are possible.
- Required for demand control.



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.

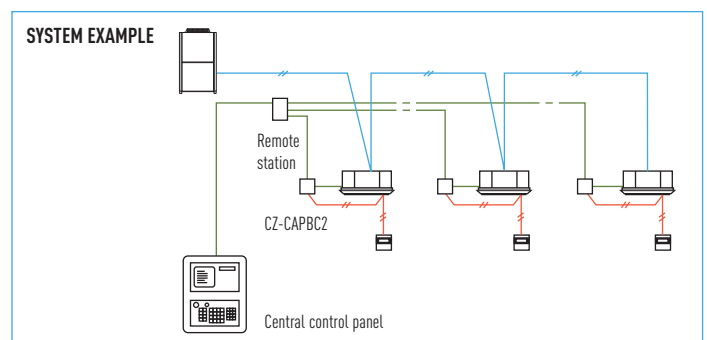


CZ-CAPBC2 Parallel interface 0 -10 V



- 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 CZ-T10 terminal of the indoor units.
- Separate power supply also is possible (in case of suction temperature measuring).



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 ~

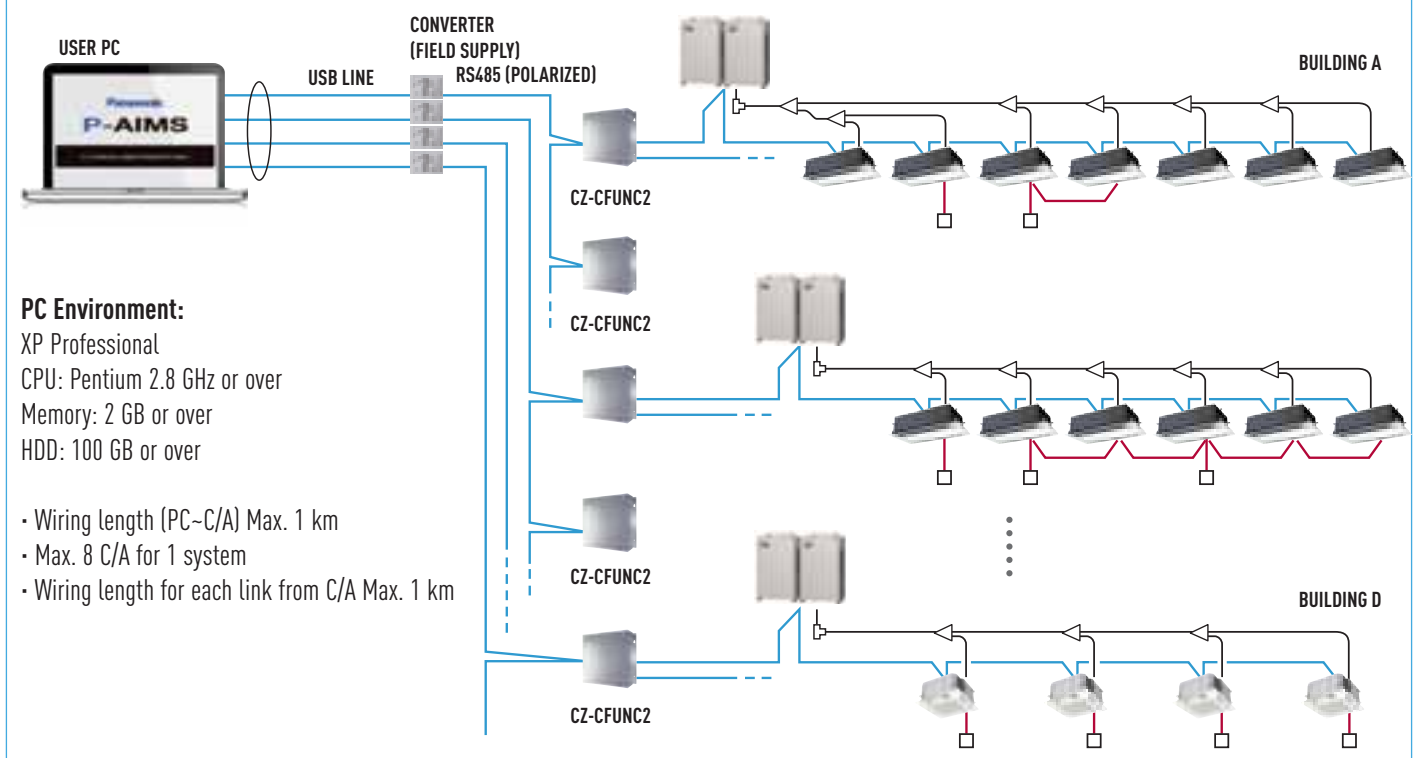
Functions of basic software

- 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 (m³, kWh).
- Calculated data is stored as a CSV type file.
- Data from the 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 6N 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 6N 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).

INTERNET CONTROL. CONTROL YOUR AIR CONDITIONING SYSTEM WITH YOUR SMART DEVICE -SMARTPHONE & INTERNET FOR VRF SYSTEMS



Reference PA-RC2-WIFI-1



KX-UT670 Smart Desktop Phone from Panasonic.

Control your comfort and efficiency with the lowest energy consumption

What's Internet Control?

Internet Control is a next generation system providing a user-friendly remote control of air conditioning or heat pump units from everywhere, using a simple Android or iOS smartphone, tablet or PC via internet.

Simple Installation

Just connect the Internet Control device to the air conditioner or heat pump with the supplied wire and then link it to your WIFI Access point.

Internet Control. Easy to install. Maximum benefit

Internet Control is underlined with the slogan "Your home in the cloud", meaning a simple and easy to handle solution has been considered for every user to manage the device, not requiring any communication or computer skills.

No servers. No adaptors. No wires. Just a small box is needed to be connected and placed close to the air conditioning indoor unit... and your smartphone, tablet or PC.

Start the App from your smartphone device, your tablet or your computer, and enjoy a new experience in comfort. An intuitive and user-friendly application on the screen of your smartphone or PC that lets you manage the air conditioning unit in the same way you do with the remote controller. Internet Control can be downloaded in Apple's AppStore and Android's PlayStore.

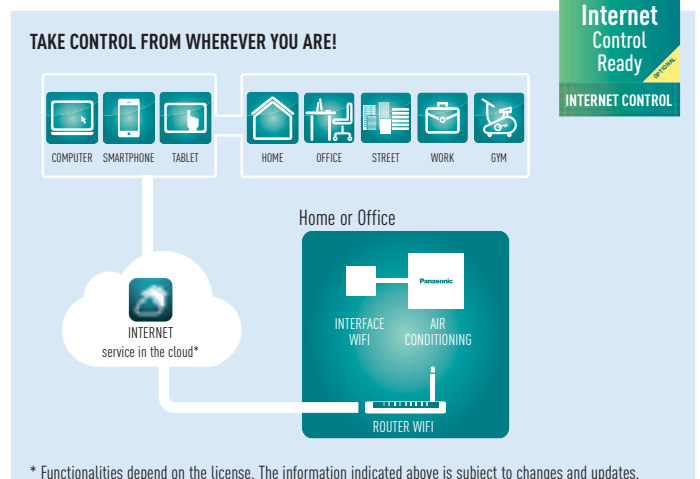
Control your air conditioning with the smart internet control device via smartphones, tablet, PC and smart desktop phone via internet

Offering the same functions as if you were at home or office: start/stop, Mode Operation, Set Temperature, Room Temperature etc as well as the new, advanced functionality provided by Internet Control to achieve the best comfort and efficiency with the lowest energy consumption.



Study Case. Paul, Business Man

"My business is growing but I still want to feel like I'm in control. So I carry out all the arrangements, transactions and operations I can from my mobile. From bank transactions, processing orders, to controlling the temperature at the company's different plants; I do everything from my smartphone thanks to IntesisHome and Panasonic."



* Functionalities depend on the license. The information indicated above is subject to changes and updates.

ECOi ANG GHP CONNECTIVITY. NEW PLUG AND PLAY INTERFACE CONNECTED DIRECTLY TO THE P-LINK



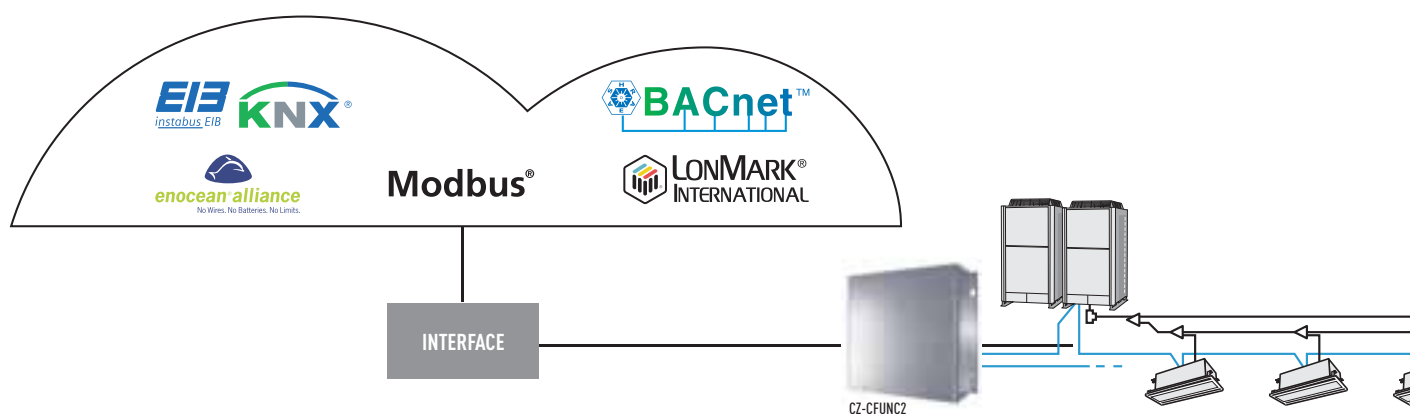
Easy
control
by BMS

CONNECTIVITY

Great flexibility for integration into your KNX / EnOcean / Modbus / LonWorks / BACnet projects allows fully bi-directional monitoring and control of all the functioning parameters

Panasonic Partners have designed solutions specifically for Panasonic air conditioners, and provide complete monitoring, control and full functionality of the entire Commercial line-up from KNX / EnOcean / Modbus / LonWorks / BACnet installations.

For more information, contact Panasonic.



Communication adaptor (CZ-CFUNC2)

This communication interface is required to connect a ECOi and GHP systems to a BMS. An additional interface is needed to convert the information into KNX/ Modbus/Bacnet language. CZ-CFUNC2 is very easy to operate and to connect to the Panasonic P-link, which is the ECOi bus. From the CZ-CFUNC2, all the indoor and outdoor units of the installation can be easily control. Two linked wiring systems can be connected to one CZ-CFUNC2.

Dimensions: H 260 x W 200 x D 68 mm

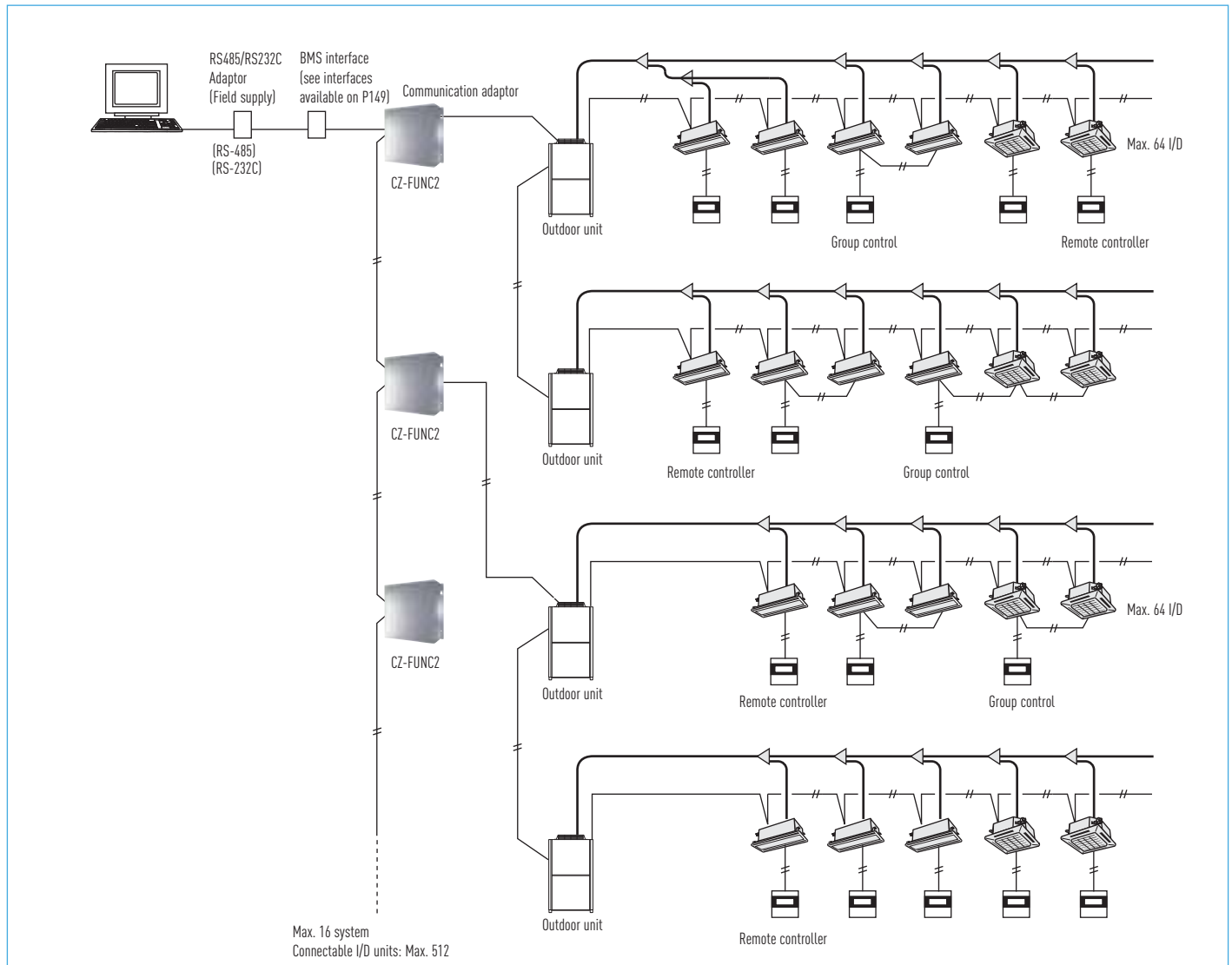
* As this is not a splash-proof design, it must be installed indoors or in the control panel, etc.

	PANASONIC MODEL NAME	INTERFACE	CONNECTED ON P-LINK OR IN THE INDOOR UNIT	MAX NUMBER OF INDOOR UNITS CONNECTED
ECOi / PACi Indoor Units	PAW-RC2-KNX-1i	KNX	Indoor unit	1 (1 Group of Indoor units)
	PAW-RC2-MBS-1	Modbus RTU*	Indoor unit	1 (1 Group of Indoor units)
	PAW-RC2-ENO-1i	EnOcean	Indoor unit	1 (1 Group of Indoor units)
	PA-RC2-WIFI-1	IntesisHome	Indoor unit	1 (1 Group of Indoor units)
ECOi P-Link	PAW-AC-KNX-64	KNX**	P-link	64
	PAW-AC-KNX-128	KNX**	P-link	128
	PAW-TM-MBS-RTU-64	Modbus RTU**	P-link	64
	PAW-TM-MBS-TCP-128	Modbus TCP**	P-link	128
	PAW-AC-BAC-64	Bacnet**	P-link	64
	PAW-AC-BAC-128	Bacnet**	P-link	128
	CZ-CLNC2	Lonworks	P-link	16 groupes of max. 8 indoor units, in total max. 64 indoor units
	PAW-AC-FIDELIO	Fidelio**	P-link	128

* Interface Modbus RTU/TCP is needed in case if Modbus TCP connection.

** Interface CZ-CFUNC2 needed.

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	

ECOi CONNECTIVITY INDOOR UNITS

PCB'S AND CABLES FOR PACi/VRF INDOOR UNITS		
NAME OF THE CABLES	FUNCTION	COMMENT
CZ-T10	All T10 functions	Requires field supplied accessory
PAW-FDC	Operate external fan	Requires field supplied accessory
PAW-OCT	All option monitoring signals	Requires field supplied accessory
CZ-CAPE2	Option monitoring signals wo. fan	Requires additional wires from spare part supply
PAW-EXCT	Forced Thermo OFF/Leakage D.	Requires field supplied accessory
NAME OF THE PBC	FUNCTION	COMMENT
PAW-T10	All T10 functions	Allows easy connection "Plug & Play"
PAW-T10V	All T10 functions + powermonitoring	Same like PAW-T10 + monitoring the power supply of indoor unit
PAW-T10H	ON/OFF; Prohibit 5VDC & 230VAC	Specials for single hotel card or window contact
PAW-T10HW	ON/OFF; Prohibit 5VDC	For hotel card + window contact at same time
PAW-PACR2	Redundancy of 2 systems; T monitor	Redundancy of 2 PACi systems including temperature monitoring an equal operating time
PAW-PACR3	Redundancy of 3 systems; T monitor	Redundancy of 3 PACi systems including temperature monitoring an equal operating time
PAW-ECF	Fan speed control external EC fan	For external production Air Curtain units allow the EC fan control by standard VRF IU PCB

T10 connector (CN015)

CZ-T10: Panasonic has developed an optional accessory (consisting of plug + wires) called CZ-T10 to enable an easy connection to this T10 connector.



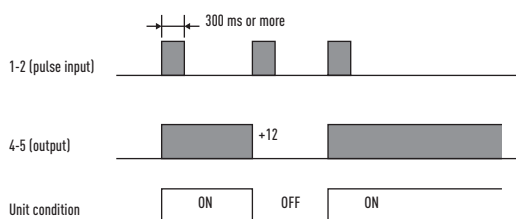
Connecting an ECOi indoor unit to an external device is easy. The T10 terminal featured in the electronic circuit board of all indoor units enables digital connection to external devices.

EXAMPLE OF APPLICATIONS



T10 terminal Specification (T10: CN015 at indoor unit PCB)

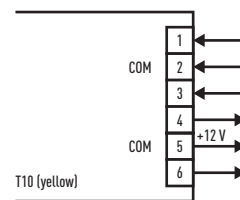
- Control items:
 1. Start/stop input
 2. Remote controller prohibit input
 3. Start signal output
 4. Alarm signal output



NOTE: The wire length from indoor unit to the Relay must be within 2.0 m. Pulse signal changeable to static with JP cutting. (Refer to JP001)

- Condition
 - 1-2 (Pulse input): Unit ON/OFF condition switching with a pulse signal. (1 pulse signal: shortage status more than 300 msec. or more)
 - 2-3 (Static input): Open / Operation with Remote is permitted. (Normal condition) Close / Remote controller is prohibited.
 - 4-5 (Static output): 12 V output during the unit ON. / No output at OFF.
 - 5-6 (Static output): 12 V output when some errors occur / No output at normal.

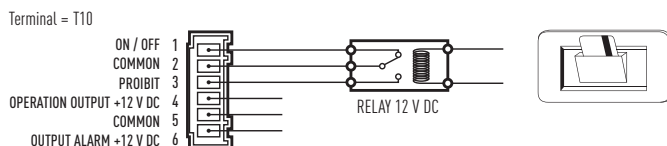
Example of wiring



Usage Example Forced OFF control

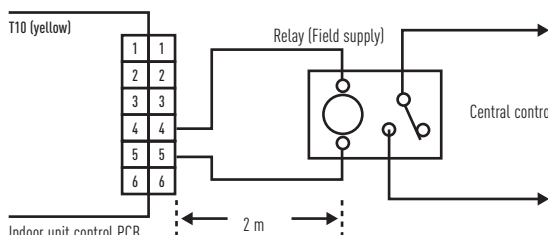
Term 1 & 2: Free contact for ON/OFF signal (cut *JP1* for static signal) when the hotel card is it connected the contact must be close (the unit can be used).

Term 2 & 3: Free contact to prohibit all function in the remote controller install in the room when the hotel card is it removed the contact must be closed (the unit can not work).



Operation ON/OFF signal output

- Condition:
 - 4-5 (Static output): 12 V output during the unit ON / No output at OFF
- Example of wiring



NOTE: The wire length from indoor unit to the Relay must be within 2.0 m. Pulse signal changeable to static with JP cutting. (Refer to JP001)

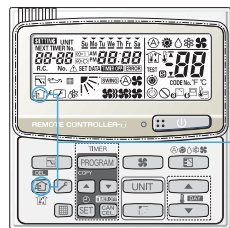
Fan Drive Connector (CN017)

PAW-FDC: Panasonic has developed an optional accessory (consisting of plug + wires) called PAW-FDC to enable an easy connection to this Fan Drive Connector (CN017).



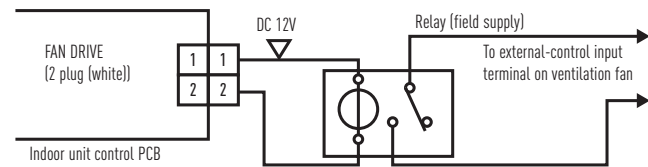
Operating the ventilation fan from the remote controller

- Start / stop of external ventilation and total heat exchanger fans
- Works even if indoor unit is stopped
- In case of group control → all fans will operate; no individual control



EXTERNAL FAN ON / OFF

Ventilation button



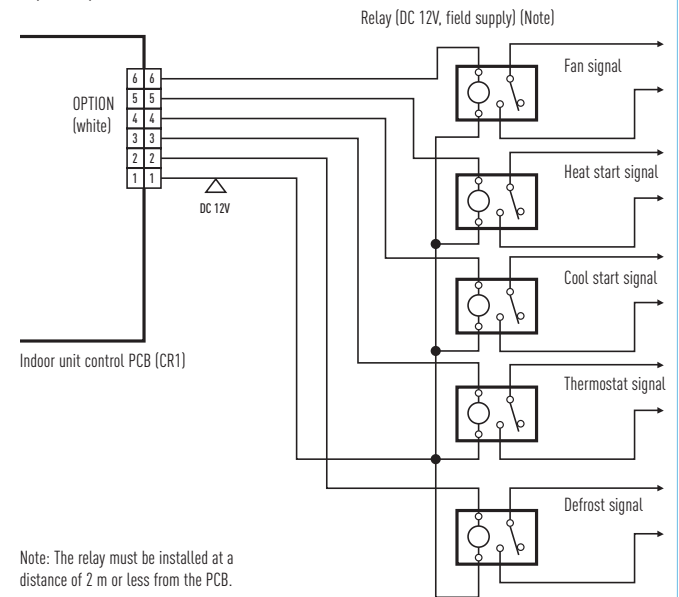
Option Connector (CN060) Output external signals



PAW-OCT: Panasonic has developed an optional accessory (consisting of plug + wires) called PAW-OCT to enable an easy connection to this Option Connector (CN060).

With the combination of the T10 and the option CN060 an external control of the I_U is possible!

6P (WHITE): OUTPUTS EXTERNAL SIGNALS AS SHOWN IN THE FIGURE BELOW.



EXCT Connector (CN009)

PAW-EXCT: Panasonic has developed an optional accessory (consisting of plug + wires) called PAW-EXCT to enable an easy connection to this EXCT Connector (CN009).

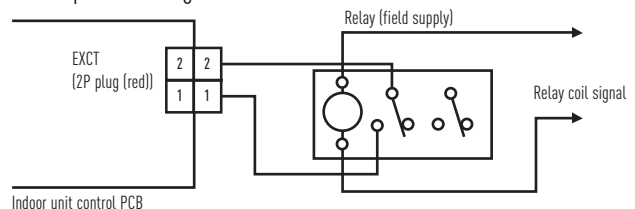
A) With static input

→ STATIC INPUT → THERMO OFF → ENERGY SAVING

2P plug (red): Can be used for demand control. When input is present, forces the unit to operate with the thermostat OFF.

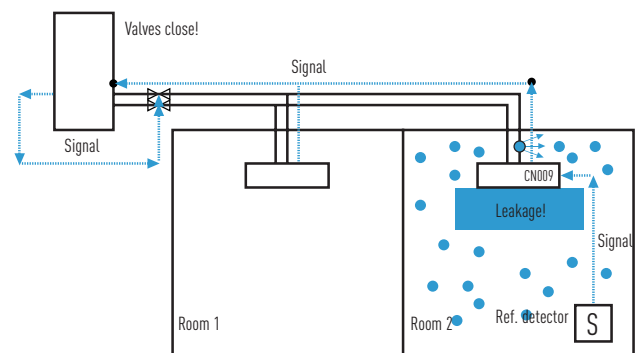
Note: The length of the wiring from the indoor unit control PCB to the relay must be 2m or less.
* Lead wire with 2P plug (special—order part: WIRE K/854 05280 75300)

- Examples of wiring:



B) Example: In connection with a refrigerant sensor

- Signal from leakage detector: non voltage, static.
- Indoor unit setting: Code 0b → 1
- Connector for leak detector: EXCT
- Outdoor unit setting:
 - Code C1 → 1 power output if alarm from O2 connector 230 V
 - Code C1 → 2 power output if alarm from O2 connector 0 V
- Displayed alarm message P14



R22 RENEWAL

AN IMPORTANT DRIVE TO FURTHER REDUCE
THE POTENTIAL DAMAGE TO OUR OZONE

Possible
to use on
R22 pipings

R22 RENEWAL

WHY RENEWAL?

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 from Jan 1st 2010 the use of Virgin (new) R22 refrigerant was 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 manufactures 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.

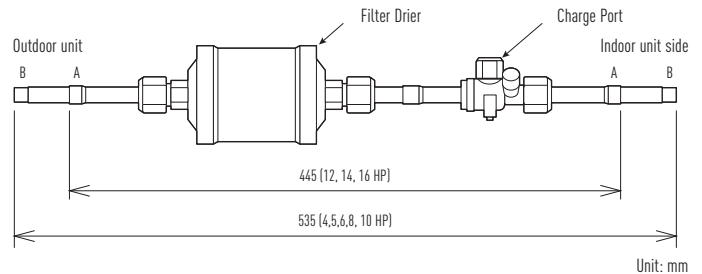
Secondly an oil test has to be carried out to ensure that the system has not been subject to a compressor burnout during its lifetime, Lastly a VRF Renewal Kit (CZ-SLK2) has to be installed within the pipe work to ensure that the system is cleaned of any remnants of oil.



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)

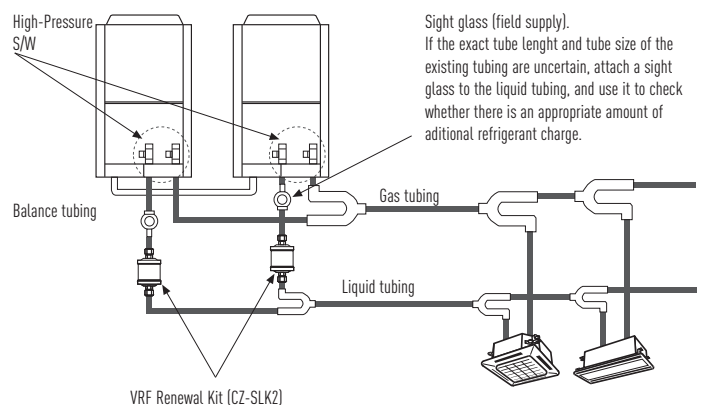
Note: If the tube size does not match that of the existing tubing, use a reducer (field supply) to adjust the tube diameter.

Sight glass (field supply)

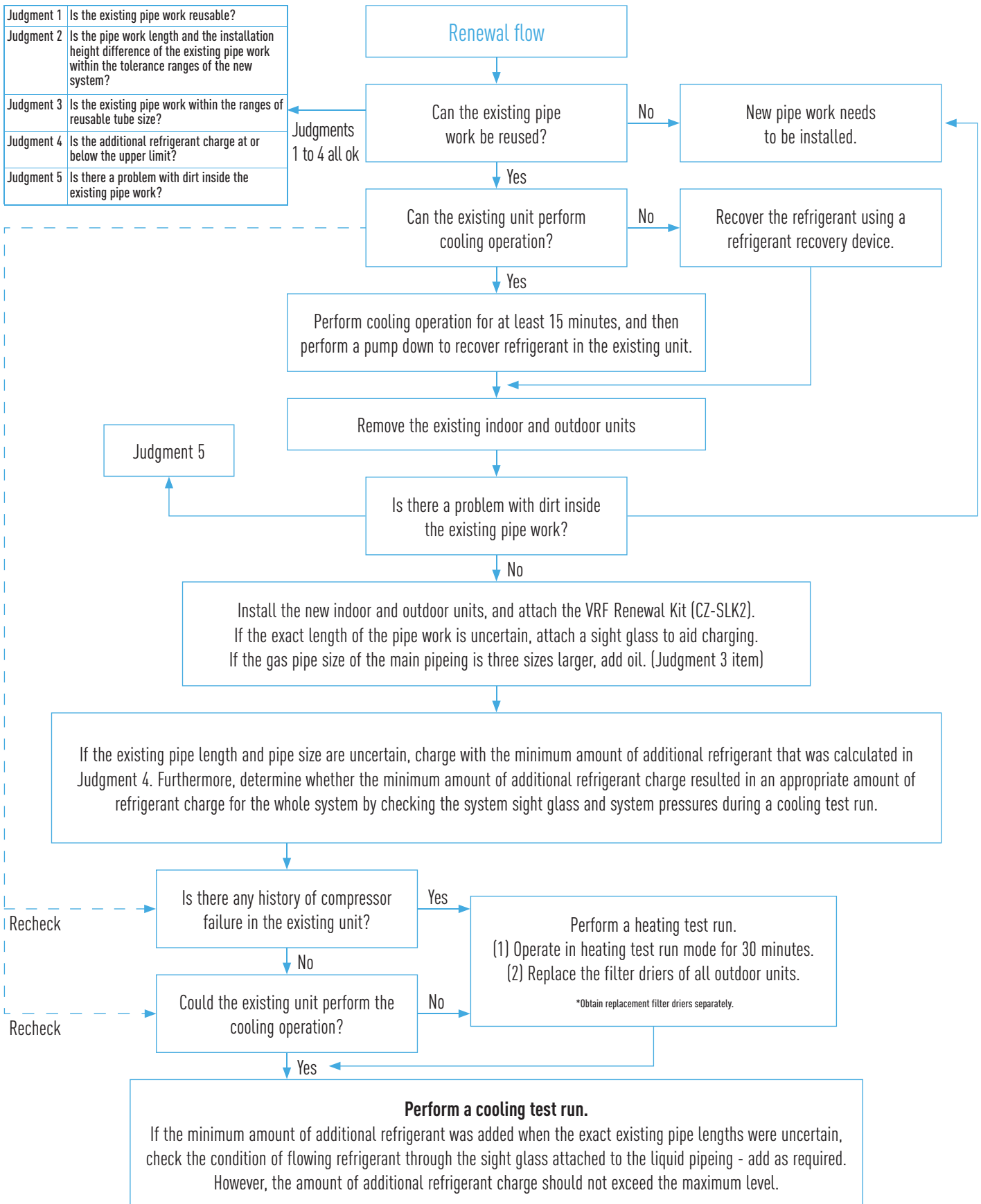
If the exact tube length and tube size of the existing tubing are uncertain, attach a sight glass to the liquid tubing, and use it to check whether there is an appropriate amount of additional refrigerant charge.

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. (High pressure switch kit: CZ-PSWK2 (for 2-way and 3-way)).
- 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 in 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-Pipe ECOi 6N Systems

Optional Distribution Joint Kits

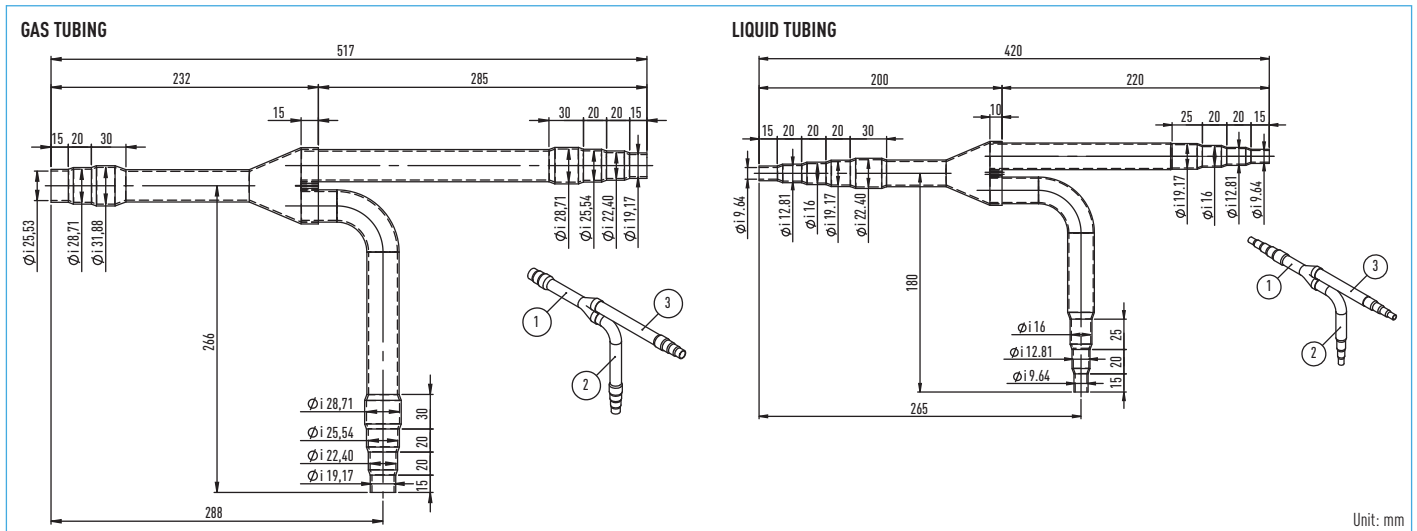
See the installation instructions packaged with the distribution joint kit for the installation procedure.

	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

Tube size (with thermal insulation)

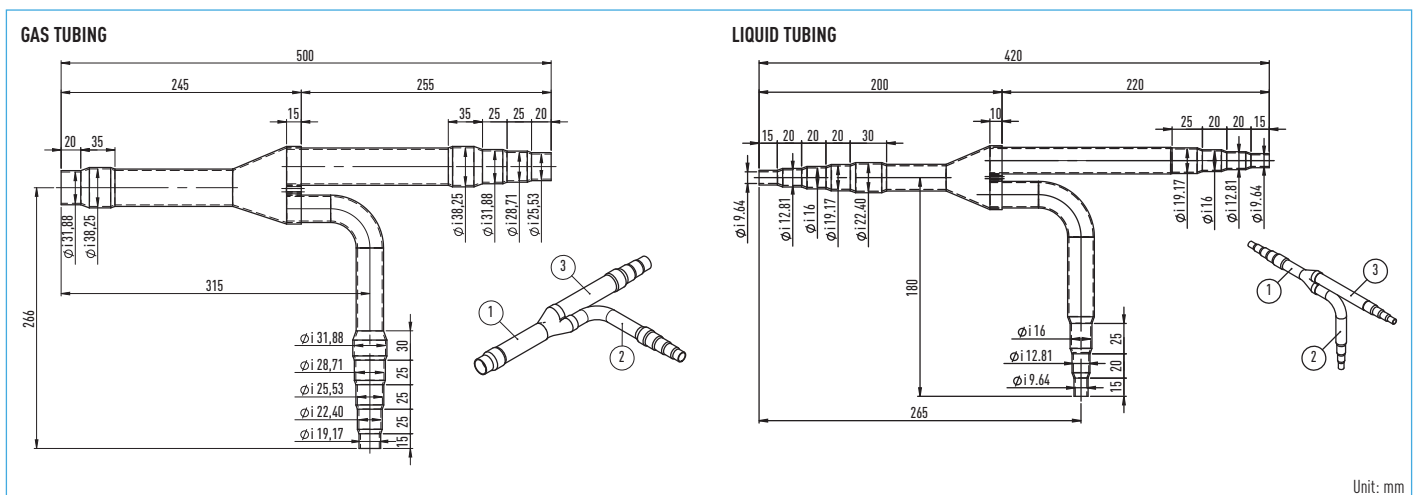
1. CZ-P680PH2BM

For outdoor unit side (Capacity after distribution joint is 68.0 kW or less.)



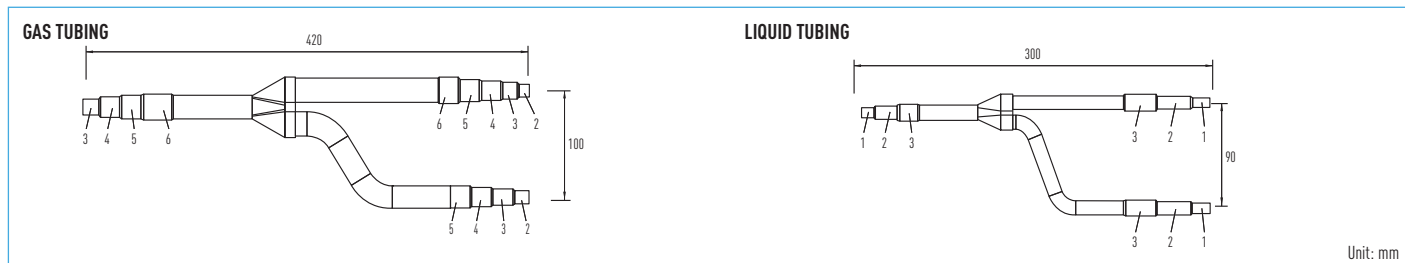
2. CZ-P1350PH2BM

For outdoor unit side (Capacity after distribution joint is greater than 68.0 kW and no more than 168.0 kW.)



3. CZ-P224BK2BM

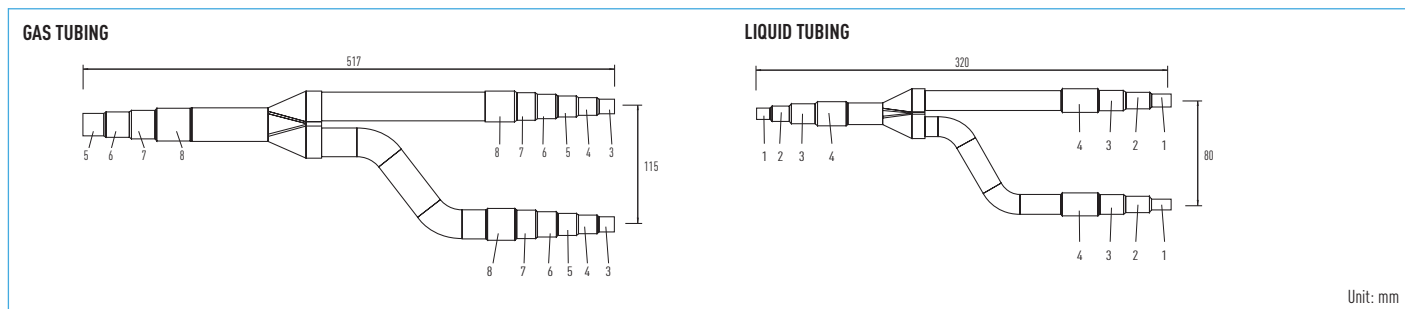
For indoor unit side (Capacity after distribution joint is 22.4 kW or less.)



Unit: mm

4. CZ-P680BK2BM

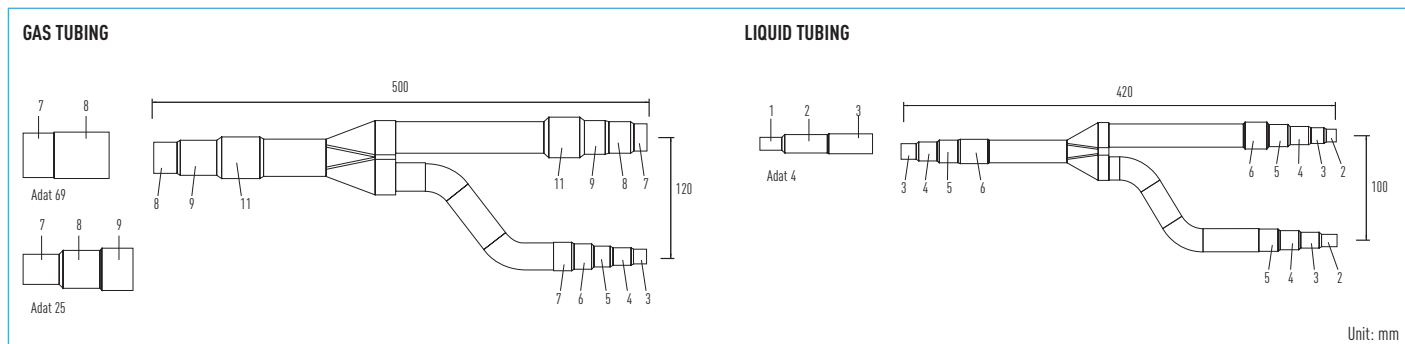
For indoor unit side (Capacity after distribution joint is greater than 22.4 kW and no more than 68.0 kW.)



Unit: mm

5. CZ-P1350BK2BM

For indoor unit side (Capacity after distribution joint is greater than 68.0 kW and no more than 168.0 kW.)



Unit: mm

DIAMETERS		DIAMETERS		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-Pipe ECOi 6N Systems (MF2)

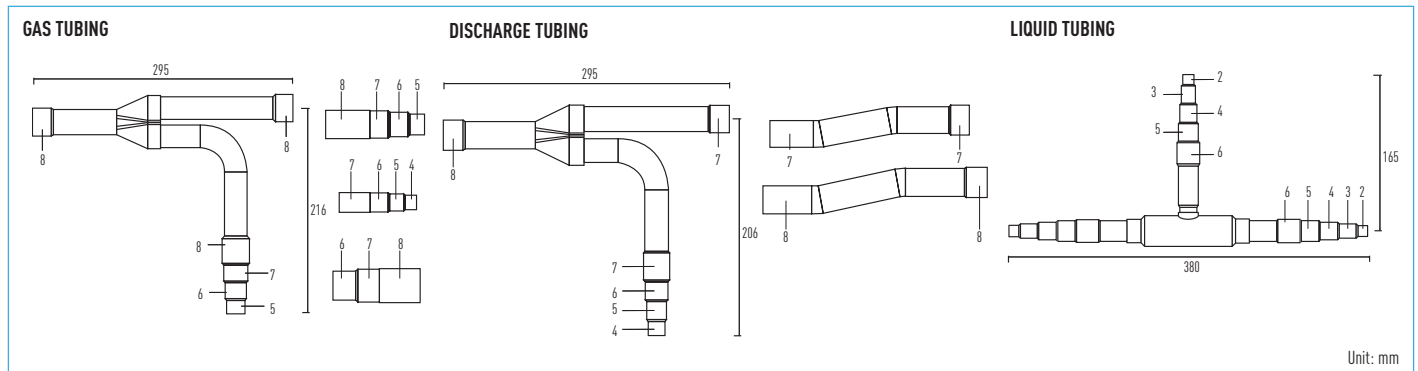
Optional Distribution Joint Kits

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

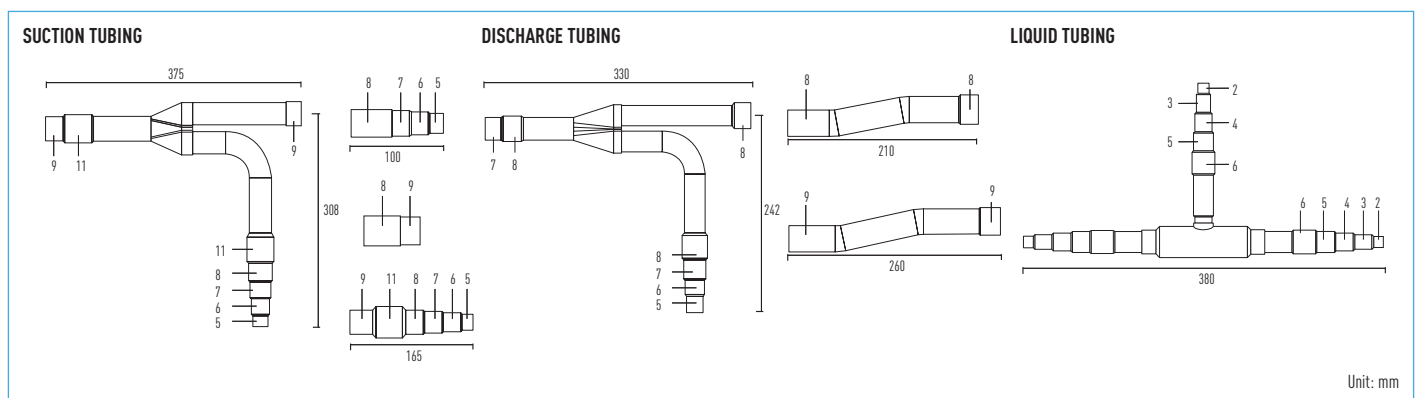
1. CZ-P680PJ2BM

For outdoor unit side (Capacity after distribution joint is 68.0 kW or less.)



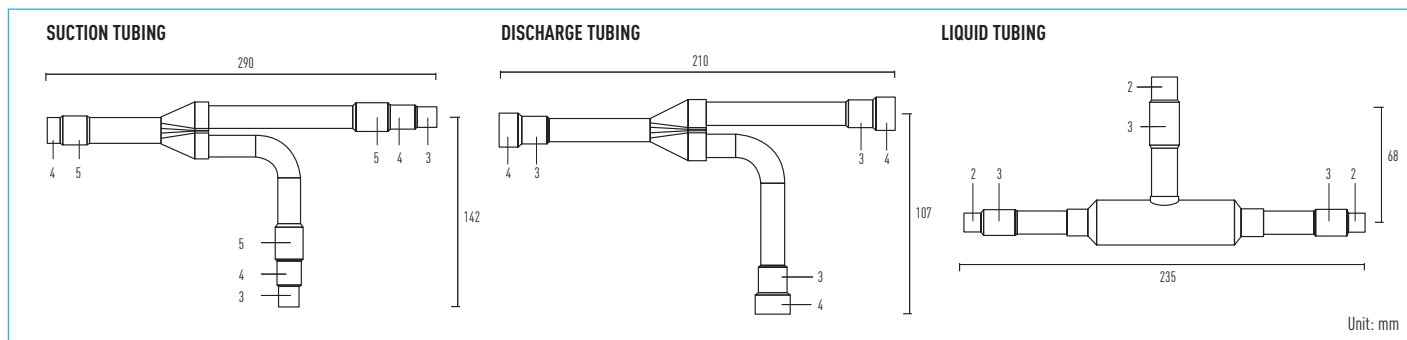
2. CZ-P1350PJ2BM

For outdoor unit side (Capacity after distribution joint is greater than 68.0 kW and no more than 135.0 kW.)



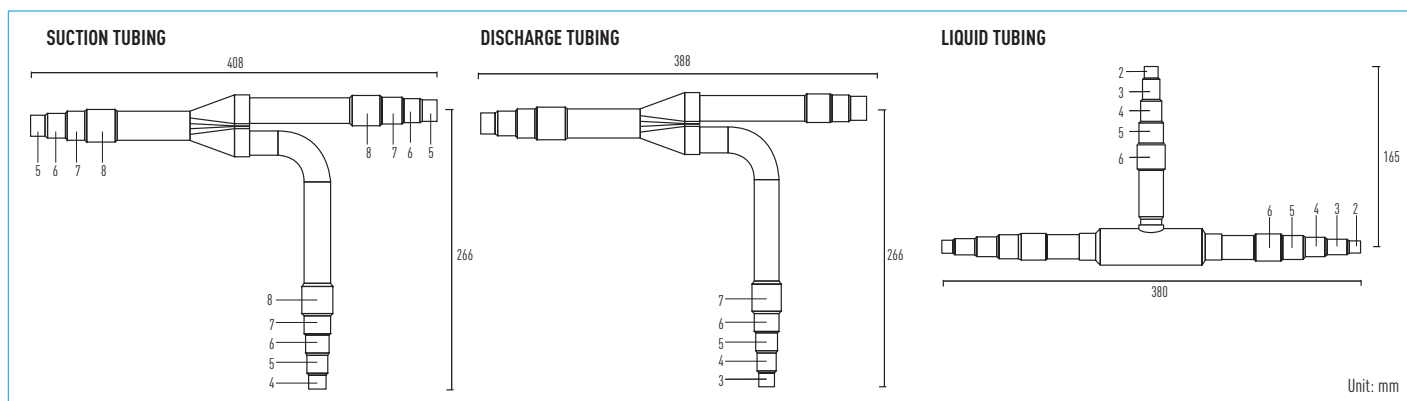
3. CZ-P224BH2BM.

For outdoor unit side (Capacity after distribution joint is 22.4 kW or less.)



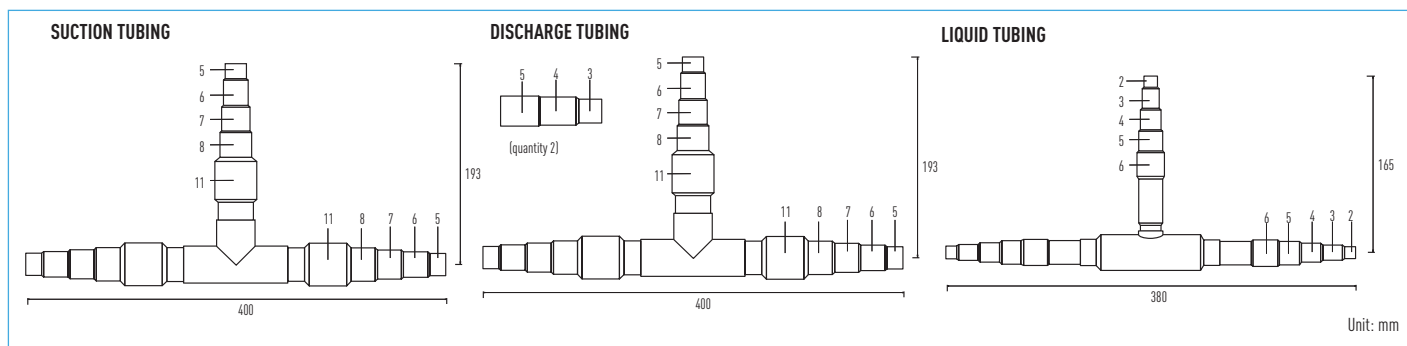
4. CZ-P680BH2BM.

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.)

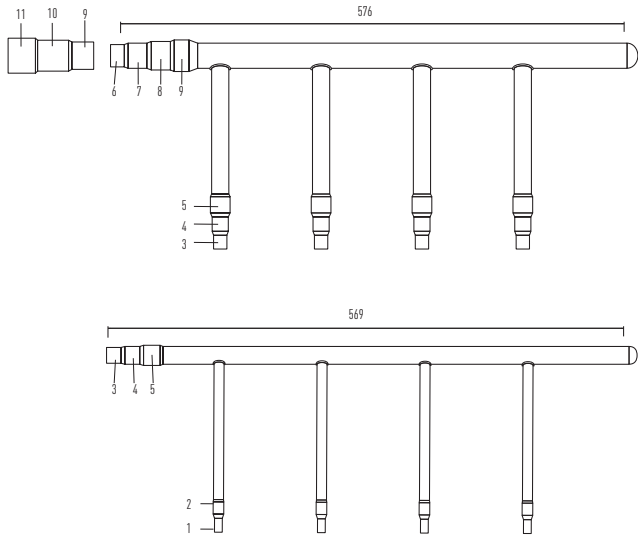


DIAMETERS		DIAMETERS		DIAMETERS	
1	6.35 mm 1/4"	6	22.40 mm 7/8"	11	38.10 mm 1 1/2"
2	9.52 mm 3/8"	7	25.40 mm 1"	12	41.28 mm 1 5/8"
3	12.70 mm 1/2"	8	28.57 mm 1 1/8"	13	44.45 mm 1 3/4"
4	15.88 mm 5/8"	9	31.75 mm 1 1/4"	14	50.80 mm 2"
5	19.05 mm 3/4"	10	34.92 mm 1 3/8"		

Header pipe set for ECOi 6N 2-Pipe system

Header pipe models for 2-Pipe systems:

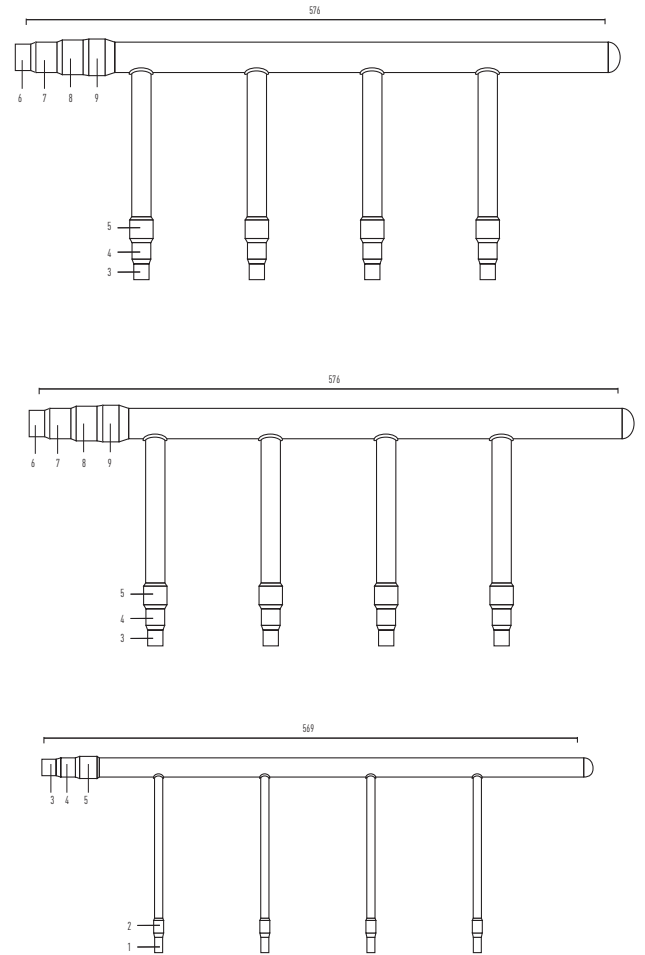
CZ-P4HP4C2BM



Header pipe set for ECOi 6N 3-Pipe system

Header pipe model for 3-Pipe systems:

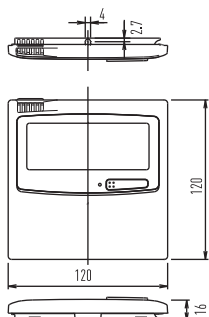
CZ-P4HP3C2BM



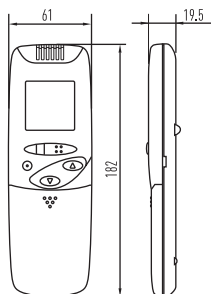
DIAMETERS		
1	6.35 mm	1/4"
2	9.52 mm	3/8"
3	12.70 mm	1/2"
4	15.88 mm	5/8"
5	19.05 mm	3/4"
6	22.40 mm	7/8"
7	25.40 mm	1"
8	28.57 mm	1" 1/8
9	31.75 mm	1" 1/4
10	34.92 mm	1" 3/8
11	38.10 mm	1" 1/2

CONTROL EQUIPMENT EXTERNAL DIMENSIONS

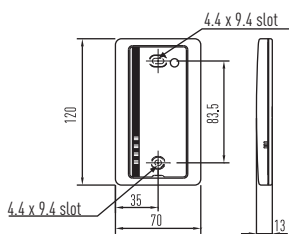
TIMER REMOTE CONTROLLER
(CZ-RTC2)



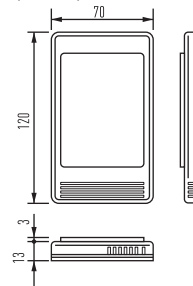
WIRELESS REMOTE CONTROLLER



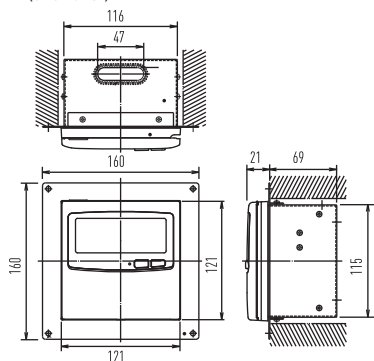
SEPARATE RECEIVER FOR WIRELESS REMOTE CONTROLLER



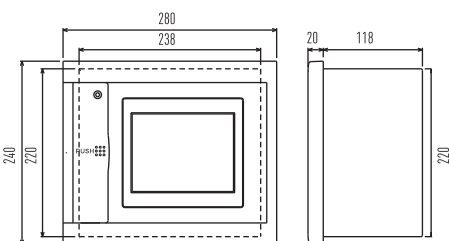
SIMPLIFIED REMOTE CONTROLLER
(CZ-REZC2)
REMOTE SENSOR
(CZ-CSRC2)



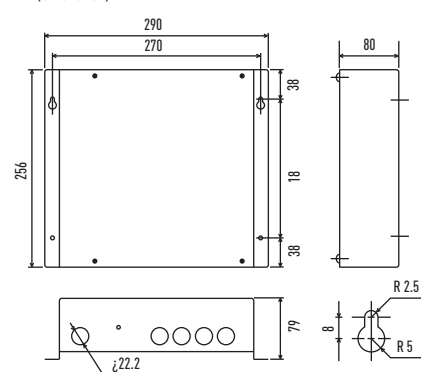
SYSTEM CONTROLLER
(CZ-64ESMC2)



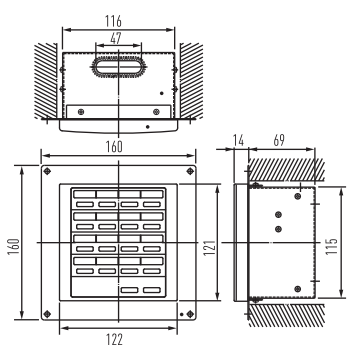
INTELLIGENT CONTROLLER
(CZ-256ESMC2)



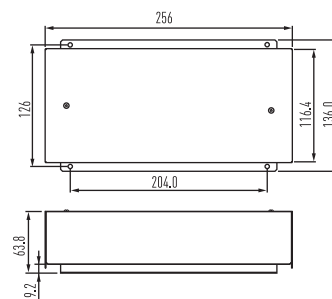
COMMUNICATION ADAPTER
(CZ-CFUNC2)



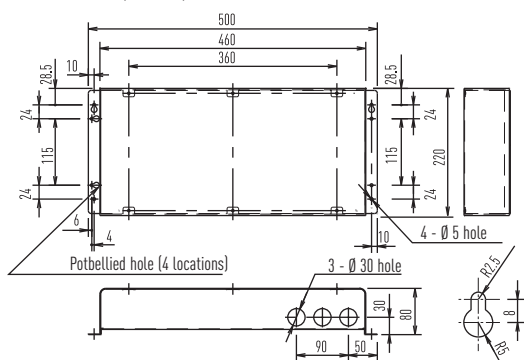
ON/OFF CONTROLLER
(CZ-ANC2)



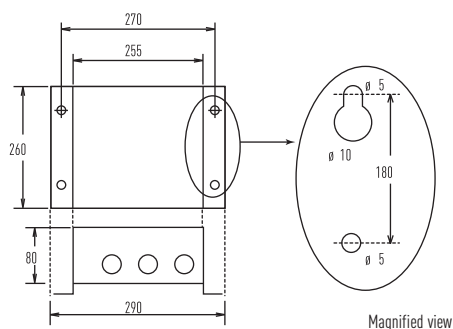
SERI-PARA I/O UNIT FOR EACH INDOOR UNIT
(CZ-CAPBC2)



LONWORKS INTERFACE
(CZ-CLNC2)



SERI-PARA I/O UNIT FOR OUTDOOR UNIT
(CZ-CAPDC2)



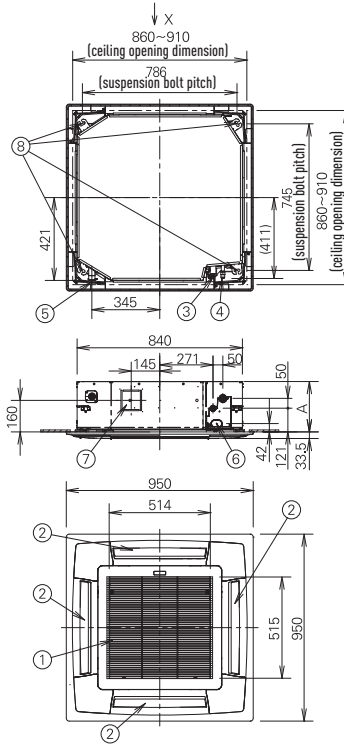
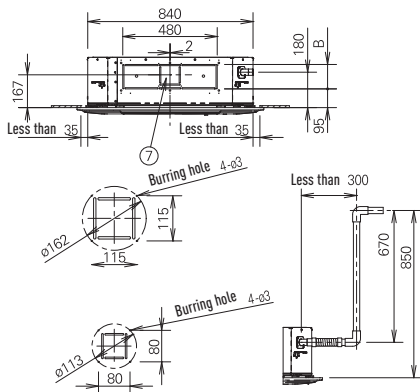
Detail of the potbellied hole

VRF INDOOR UNITS DIMENSIONS

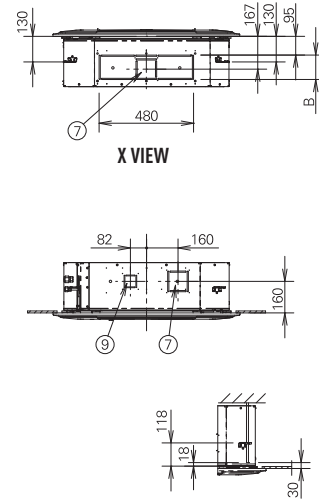
U1 TYPE // 4-WAY 90x90 CASSETTE

Type	36-50	60-140
1 Air intake grill		
2 Air discharge outlet		
3 Refrigerant piping (liquid pipes)	Ø6.35 (flared)	Ø9.52 (flared)
4 Refrigerant piping (gas pipes)	Ø12.7 (flared)	Ø15.88 (flared)
5 Drain outlet VP50	outer Ø32	
6 Power supply port		
7 Discharge duct	Ø150	
8 Suspension bolt hole	4-12x30 slot	
9 Fresh air intake duct connection port	Ø100 ¹	

1 Air inlet kit is necessary.
Filter size: 520 x 520 x 16



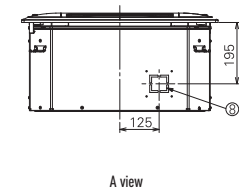
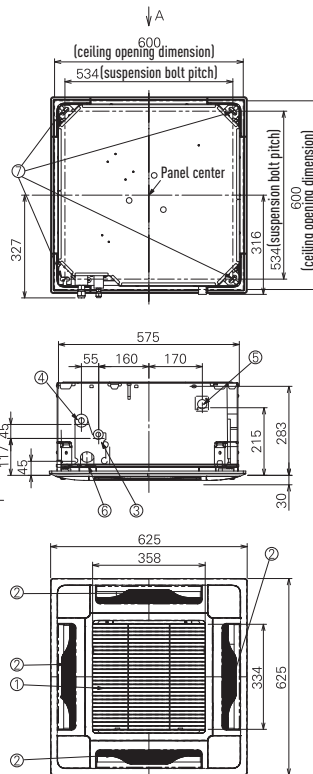
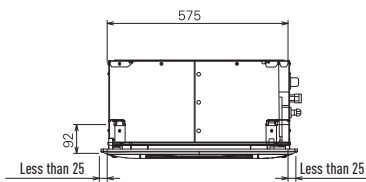
Type	36-71	100-140
A	256	319
B	124	187



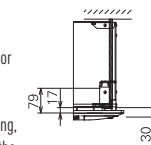
Adjust the suspension bolt length so that the gap from the lower ceiling surface becomes 30 mm or more (18 mm or more from the lower surface of the body) as shown in the figure. When the suspension bolt length is long, it hits the ceiling panel and installation is not possible.

Y1 TYPE // 4-WAY 60x60 CASSETTE

- 1 Air intake
- 2 Discharge outlet
- 3 Refrigerant piping (liquid pipes)
Size 22 to 56: Ø 6.35 (flared)
- 4 Refrigerant piping (gas pipes)
Size 22 to 56: Ø 12.7 (flared)
- 5 Drain tube connection port VP20 (outer Ø 26)
- 6 Power supply port
- 7 Suspension bolt hole (4-12 x 30 hole)
- 8 Fresh air intake duct connection port (Ø 100)



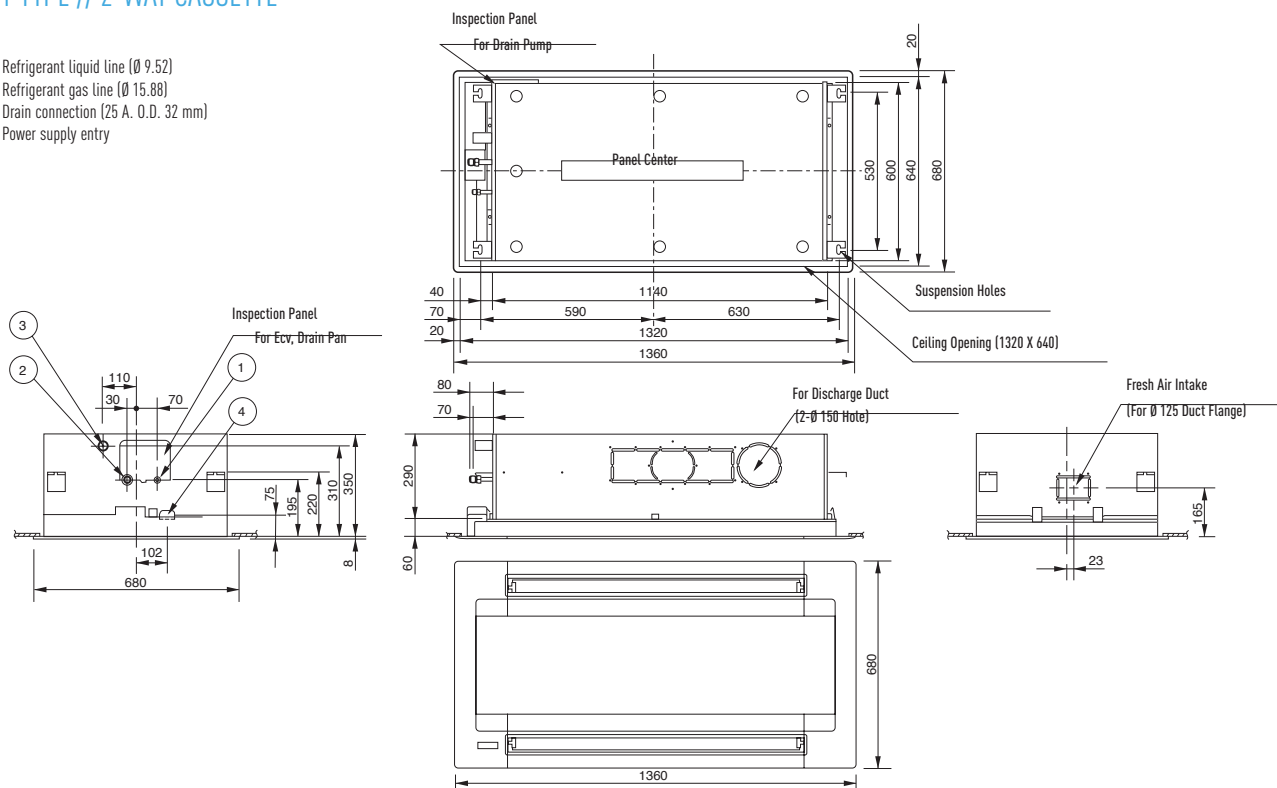
The length of the suspension bolts should be selected so that there is a gap of 30 mm or the ceiling (17 mm or more below the lower surface of the main unit), as shown in the figure at right. If the suspension bolt is too long, it will contact the ceiling panel and the unit cannot be installed.



Dimensions: mm

L1 TYPE // 2-WAY CASSETTE

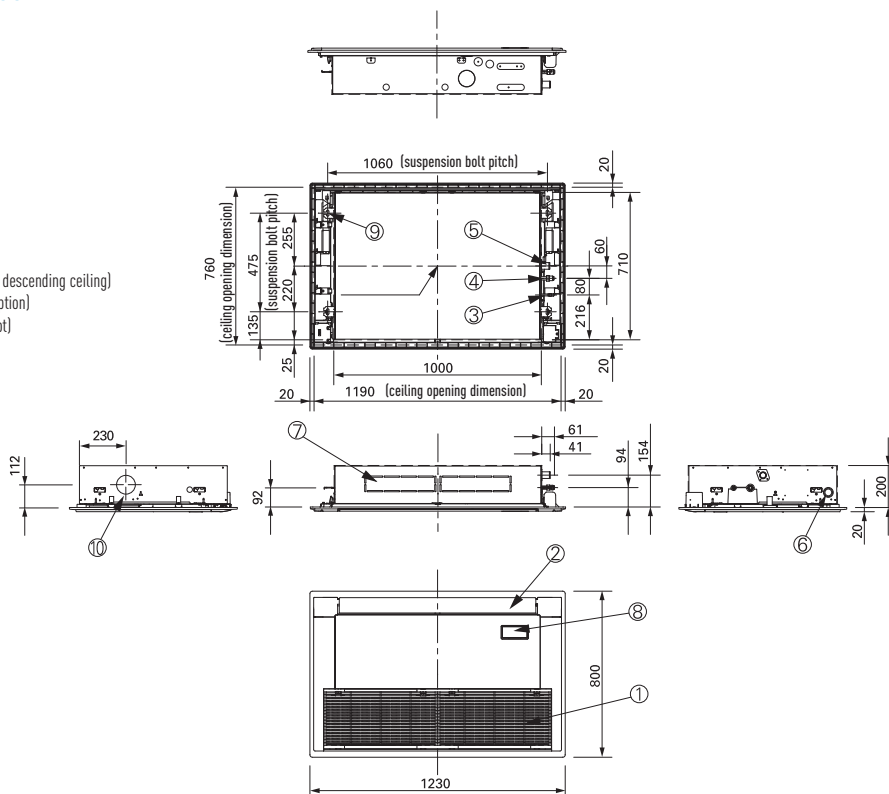
- 1 Refrigerant liquid line (Ø 9.52)
- 2 Refrigerant gas line (Ø 15.88)
- 3 Drain connection (25 A. O.D. 32 mm)
- 4 Power supply entry



Dimensions: mm

D1 TYPE // 1-WAY CASSETTE

- 1 Air intake grille
- 2 Air outlet
- 3 Refrigerant piping (liquid pipes)
Sizes 28 to 56: Ø 6.35 (flared)
Size 73: Ø 9.52 (flared)
- 4 Refrigerant piping (gas pipes)
Type 28 to 56: Ø 12.7 (flared)
Type 73: Ø 15.88 (flared)
- 5 Drain connection VP25 (outer Ø 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 (Ø 100)

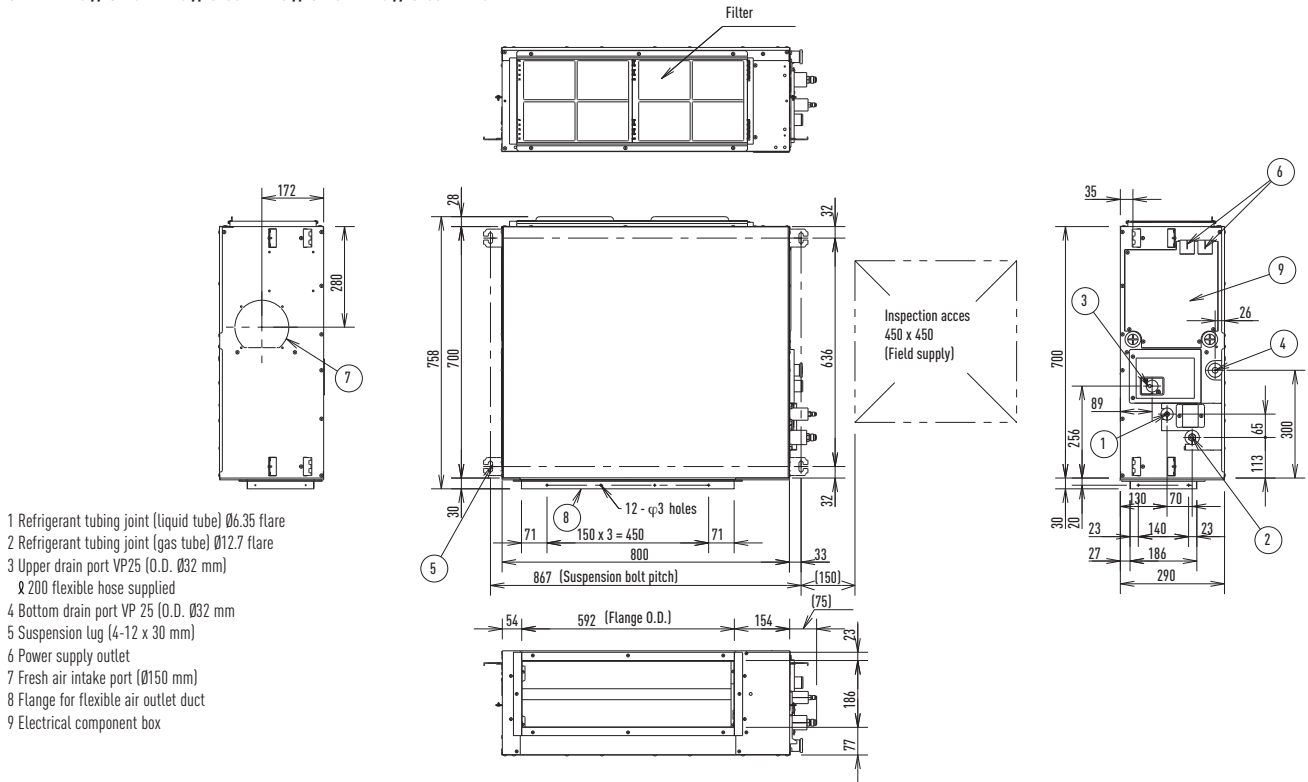


Dimensions: mm

VRF INDOOR UNITS DIMENSIONS

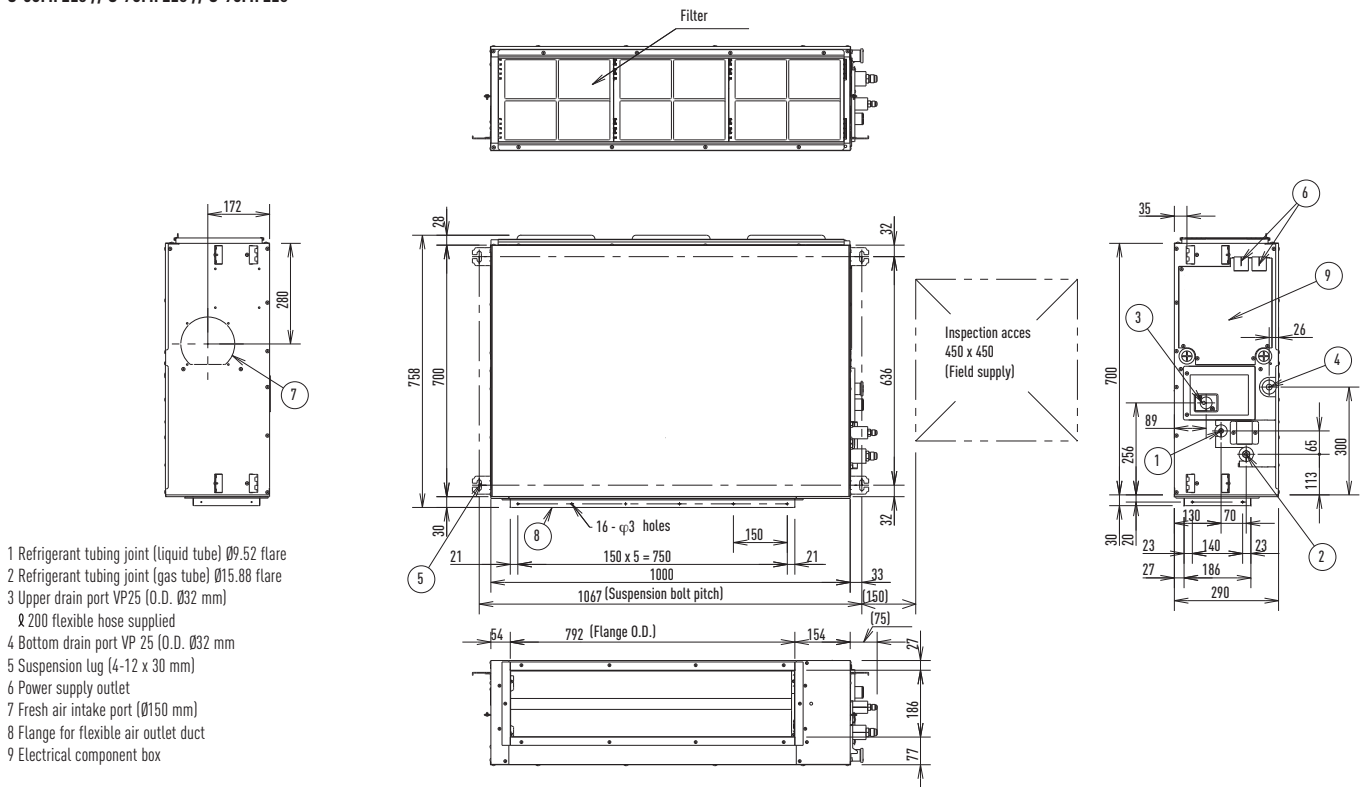
F2 TYPE // VARIABLE STATIC PRESSURE HIDE AWAY

S-22MF2E5 // S-28MF2E5 // S-36MF2E5 // S-45MF2E5 // S-56MF2E5



- 1 Refrigerant tubing joint (liquid tube) Ø6.35 flare
- 2 Refrigerant tubing joint (gas tube) Ø12.7 flare
- 3 Upper drain port VP25 (O.D. Ø32 mm)
 & 200 flexible hose supplied
- 4 Bottom drain port VP 25 (O.D. Ø32 mm)
- 5 Suspension lug (4-12 x 30 mm)
- 6 Power supply outlet
- 7 Fresh air intake port (Ø150 mm)
- 8 Flange for flexible air outlet duct
- 9 Electrical component box

S-60MF2E5 // S-73MF2E5 // S-90MF2E5

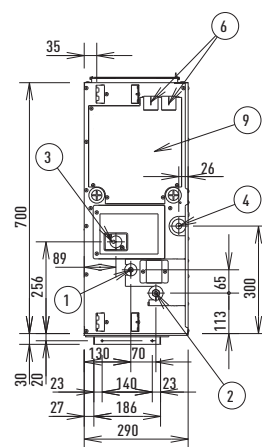
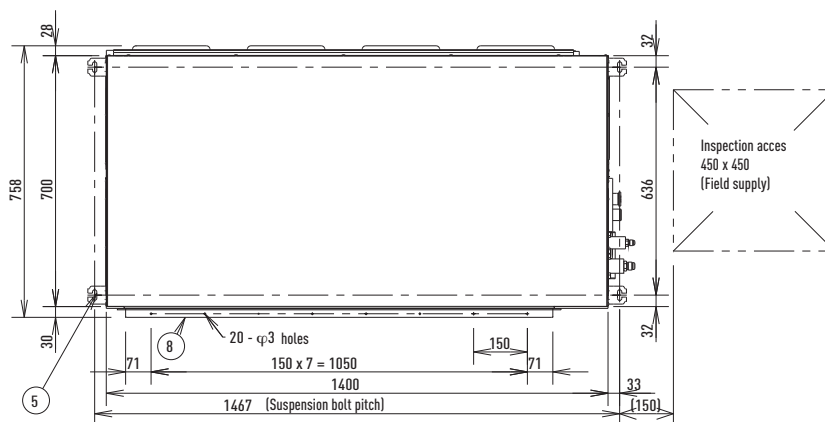
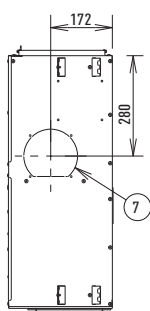
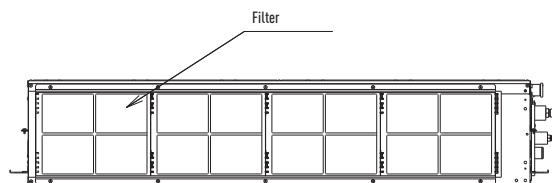


- 1 Refrigerant tubing joint (liquid tube) Ø9.52 flare
- 2 Refrigerant tubing joint (gas tube) Ø15.88 flare
- 3 Upper drain port VP25 (O.D. Ø32 mm)
 & 200 flexible hose supplied
- 4 Bottom drain port VP 25 (O.D. Ø32 mm)
- 5 Suspension lug (4-12 x 30 mm)
- 6 Power supply outlet
- 7 Fresh air intake port (Ø150 mm)
- 8 Flange for flexible air outlet duct
- 9 Electrical component box

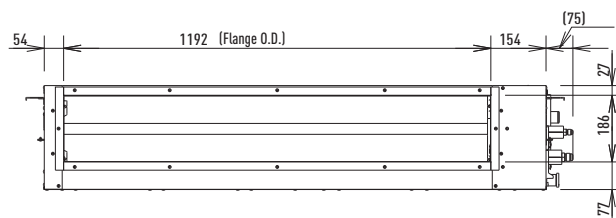
Dimensions: mm

F2 TYPE // VARIABLE STATIC PRESSURE HIDE AWAY

S-106MF2E5 // S-140MF2E5 // S-160MF2E5



- 1 Refrigerant tubing joint (liquid tube) Ø9.52 flare
- 2 Refrigerant tubing joint (gas tube) Ø15.88 flare
- 3 Upper drain port VP25 (O.D. Ø32 mm)
∅ 200 flexible hose supplied
- 4 Bottom drain port VP 25 (O.D. Ø32 mm)
- 5 Suspension lug (4-12 x 30 mm)
- 6 Power supply outlet
- 7 Fresh air intake port (Ø150 mm)
- 8 Flange for flexible air outlet duct
- 9 Electrical component box

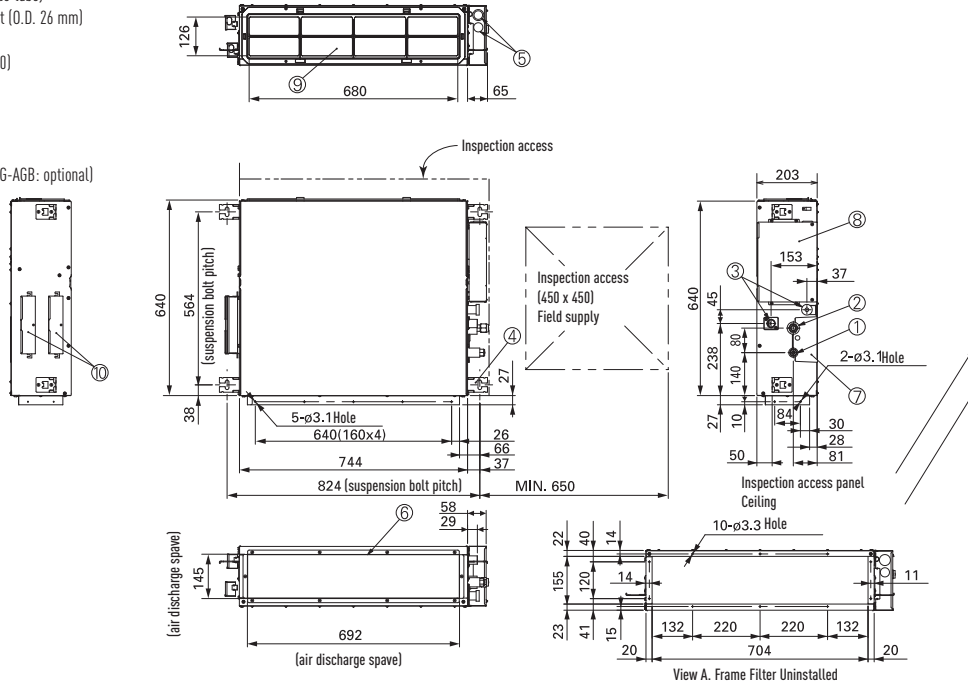


Dimensions: mm

VRF INDOOR UNITS DIMENSIONS

M1 TYPE // SLIM VARIABLE STATIC PRESSURE HIDE AWAY

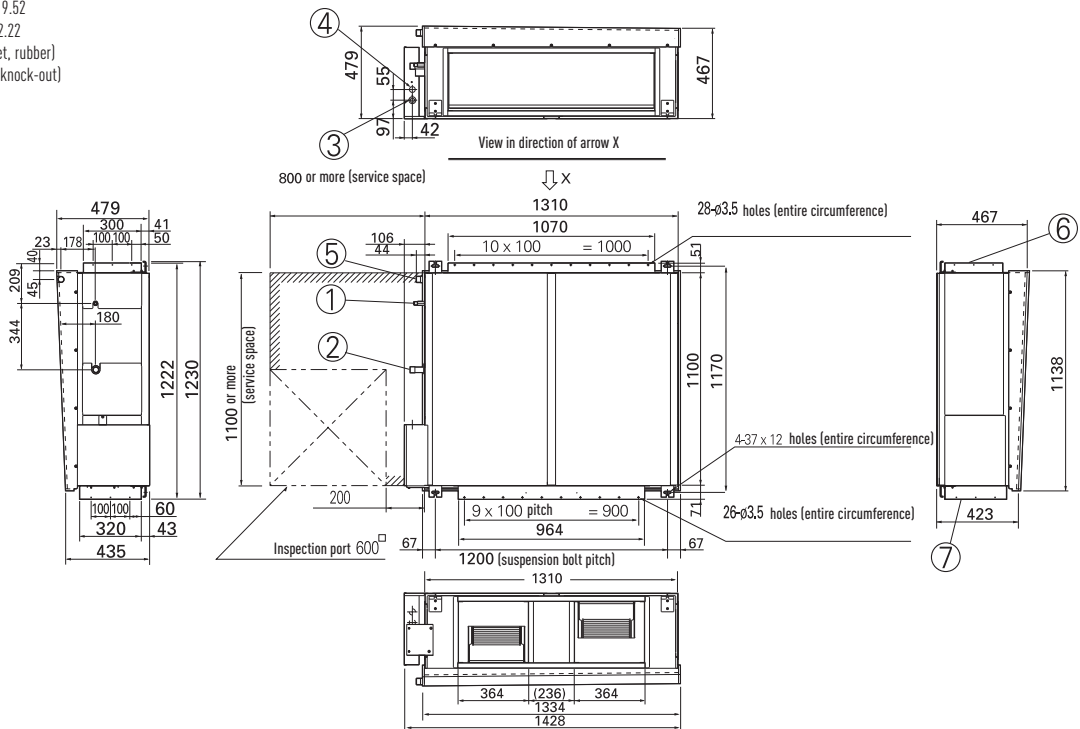
- 1 Refrigerant tubing joint (narrow tube)
- 2 Refrigerant tubing joint (wide tube)
- 3 Upper and bottom drain port (O.D. 26 mm)
- 4 Suspension lug
- 5 Power supply outlet (2- Ø 30)
- 6 Flange for air intake duct
- 7 Pl cover
- 8 Electrical component box
- 9 Frame filter
- 10 Signal output board (ACC-SG-AGB: optional)



Dimensions: mm

E1 TYPE // HIGH STATIC PRESSURE HIDE AWAY

- 1 Refrigerant piping (liquid pipes) Ø 9.52
- 2 Refrigerant piping (gas pipes) Ø 22.22
- 3 Power supply outlet (Ø 25 grommet, rubber)
- 4 Power supply outlet (spare) (Ø 30 knock-out)
- 5 Drain port 25 A, male thread
- 6 Duct connection for suction
- 7 Duct connection for discharge

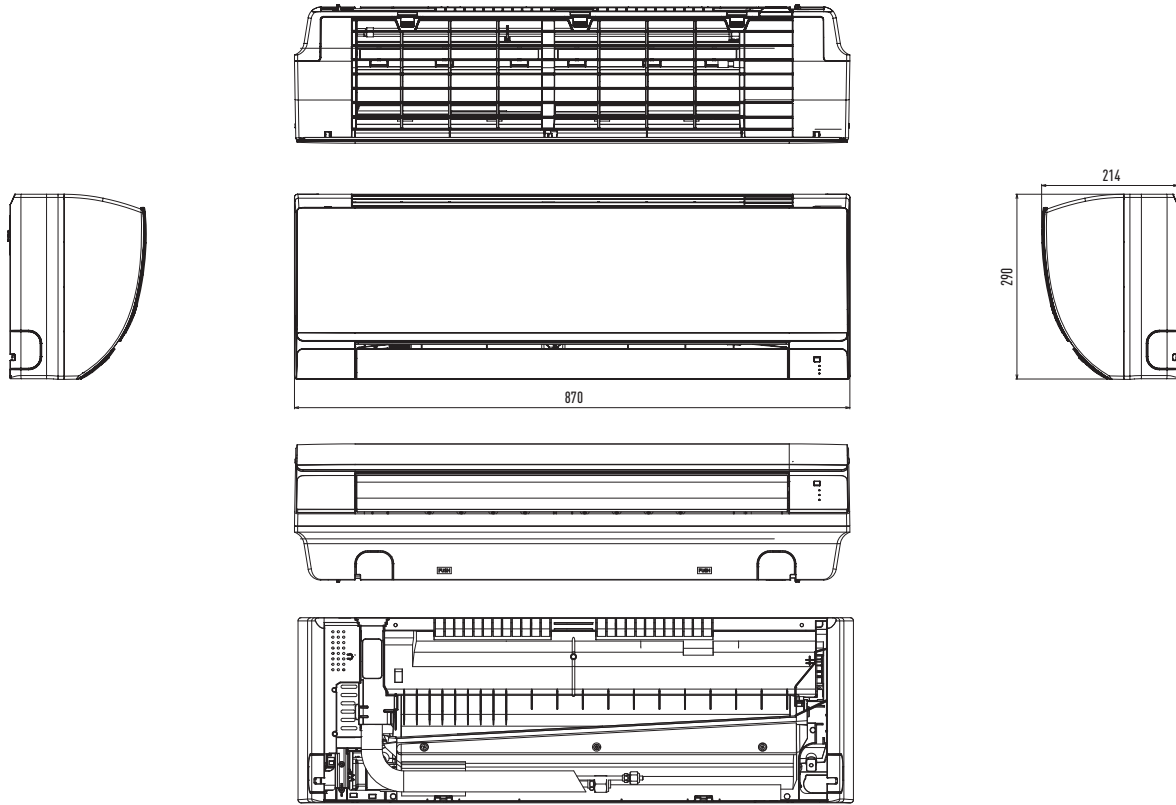


Dimensions: mm

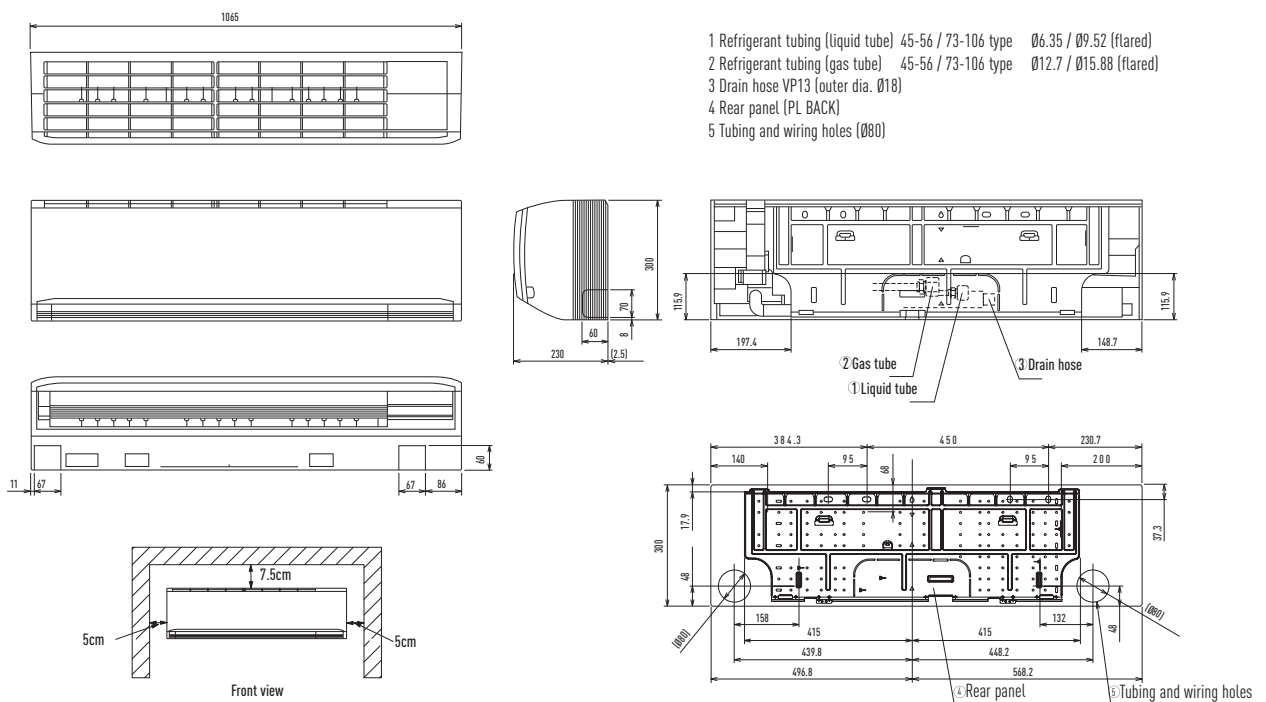
VRF INDOOR UNITS DIMENSIONS

K2/K1 TYPE // WALL MOUNTED

Indoor unit:
S-22MK2E5 / S-28MK2E5 / S-36MK2E5



Indoor unit:
S-45MK1E5 / 56MK1E5 / 73MK1E5 / 106MK1E5

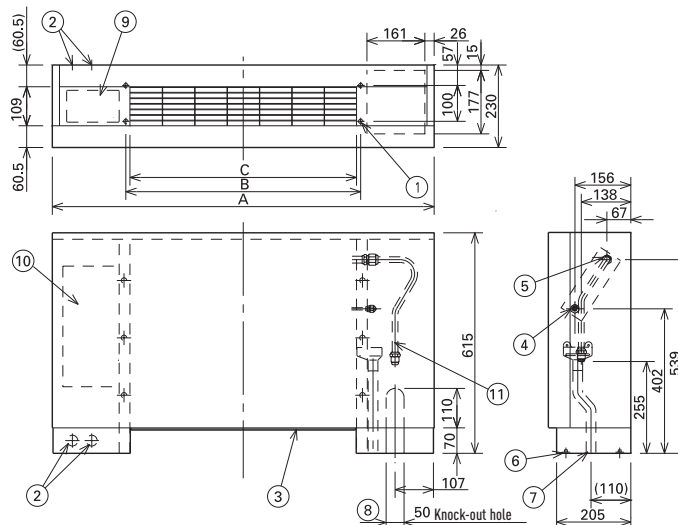


Dimensions: mm

P1 TYPE // FLOOR STANDING

- 1 4 x Ø 12 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				Ø 6.35	Ø 12.7
56 type	1,380	980	947		
71 type				Ø 9.52	Ø 15.88

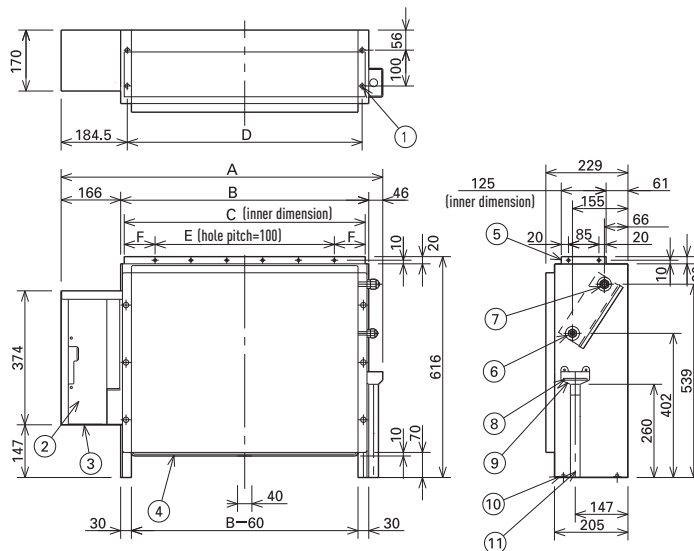


Dimensions: mm

R1 TYPE // CONCEALED FLOOR STANDING

- 1 4 x Ø 12 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							Ø 6.35	Ø 12.7
56 type	1,219	1,007	1,002	980	900	51		
71 type							Ø 9.52	Ø 15.88



Dimensions: mm

Panasonic

www.aircon.panasonic.eu

**UK / Ireland
Panasonic House**

Panasonic Heating & Cooling Systems
Willoughby Road
Bracknell, Berkshire
RG12 8FP

01344 85 3182
uk-aircon@eu.panasonic.com
www.aircon.panasonic.eu

**France
Panasonic France**

Division Chauffage et Climatisation
1 à 7 Rue du 19 Mars 1962
92238, Gennevilliers Cedex

0 892 183 184 (0.34 €/min)
www.aircon.panasonic.eu

**Germany / Austria / Switzerland
Panasonic Deutschland**

Hagenauer Str. 43
65203 Wiesbaden

0611 / 235 - 191
klimaanlagen@eu.panasonic.com
heizung@eu.panasonic.com
www.aircon.panasonic.eu

**Turkey
Panasonic Elektronik Satis A.S.**

Maslak Mah. Bilim Sok. Sun Plaza No: 5
Kat:16 Sisli
34398, Istanbul

444 72 62
contact.ptf@eu.panasonic.com
www.aircon.panasonic.eu

**Czech Republic / Slovakia
Panasonic Marketing Europe GmbH,
organizační složka Česká republika**

Palac Kartin, Thamova 289/13
186 00 Prague 8, Czech Republic

+420 236 032 511
panasonic.prahaf@eu.panasonic.com
www.aircon.panasonic.eu

**Spain / Portugal
Panasonic España**

WTC Almeda Park, Plaza de la Pau s/n,
Edificio 8, Planta baja
8940, Cornellá de Llobregat / Barcelona

902 15 30 60
www.aircon.panasonic.eu

**Italy / Malta
Panasonic Italia**

Viale dell'Innovazione, 3
20126, Milano

02-67072556
www.aircon.panasonic.eu

**Sweden
Panasonic Nordic**

Box 6060
141 06, Kungens Kurva

+46 8 680 26 00
www.aircon.panasonic.eu

**Poland
Panasonic Marketing Europe GmbH
Oddział w Polsce Sp. z o.o.**

Włotowska 9A
02-583, Warszawa

+48 801 801 887
AirCon_Warsaw@eu.panasonic.com
www.aircon.panasonic.eu

**Netherlands / Belgium / Luxembourg
Panasonic Benelux**

Europalaan 30
5332 BC, 's-Hertogenbosch

+31 76 6402 538
airconditioning.nl@eu.panasonic.com
www.aircon.panasonic.eu

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