NEW COMMERCIAL RANGE
EXTREMELY EFFICIENT
2015 — 2016

heating & cooling solutions
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Commercial Range Highlights

Big PACi Hide Away 20-25 kW
New big capacity ducts with DC fans. High efficiency and only from 38dB(A) operation.

Econavi
Econavi for PACi is more than just a sensor. It also analyse occupancy and activity level adjusting operation for improve comfort and reduce energy. Compatible with any PACi and ECOi.

Elite TOP features
Outstanding performance at low temperatures, high energy efficiency, power consumption in remocon display.

Server room solutions
Choose the best solution to ensure any server room needs. Designed for high durability and adverse weather conditions its server room ad hoc control ensure permanent operation and failure alarms communications.

Complete AHU Solution
Demand control 0-10V, box IP65 case, cold draft prevention, monitoring status digital output, remote control built-in.

Control and connectivity
Control your units from anywhere with the Wifi adapter or Integrate to any BMS protocol: KNX, Modbus or BACnet.

R22 replacement
R22 Renewal. All Panasonic units can be install on existing R22 pipings.
Panasonic Air Conditioners have been with us since 1958. In many homes they are part of the family and are, in part, responsible for the air that each member breathes. Many things happen in your home, and Panasonic makes sure that those moments have the best climate. Panasonic Air Conditioners were the first to produce Healthy Air, and also worry about being super-efficient and quiet. Which is why they have been among us for so long.

1958
First room air conditioner launched for domestic installation.

1973
Panasonic launches the first highly efficient air-to-water heat pump in Japan.

1975
Panasonic becomes the first Japanese air conditioner manufacturer in Europe.

2008
Etherea new concept of air conditioning systems: high efficiency and high performances with a great design.

Panasonic, the Air of your Life
Since 1958
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.

2010
New Aquarea. Panasonic has created Aquarea, an innovative new, low-energy system.

2011
The new Panasonic ECDi VRF solution for big buildings is the most efficient in the industry in more than 74% of combinations.

2012
New GHP units. Panasonic’s gas-driven VRF systems are ideal for projects where power restrictions apply.

Looking ahead
By creating, storing, managing and saving energy, Panasonic aims to realize a lifestyle with virtually zero CO₂ emissions throughout the entire home.

Heating and Cooling Solutions designed and produced by Panasonic since 1958. See more information on www.aircon.panasonic.eu
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.

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.
No Breaking. When Dropped onto Sides or Corners.

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.

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.

Silence. That Does Not Disturb You.

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.

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.

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.

Quality. Is at the Core of All Our Manufacturing.

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.

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.

RoHS/REACH Compliant Parts
All parts and materials comply with RoHS/REACH, Europe’s world-leading environmental regulations. Shipment 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.
Panasonic No. 1

Interbrand Ranks Panasonic No. 1 in the Electronics Sector for the “Best Global Green Brands 2014”

Interbrand, the US brand consulting company, announced on June 24, 2014, that Panasonic ranks No. 5 in its Best Global Green Brands 2014. Although a rank lower than last year, the company has come out top in the electronics sector.

2014 marks the fourth year for this global ranking of “green brands.” An Excellent Green Brand is defined as achieving a good balance between Green Perception (consumers’ image of an eco-brand) and Green Performance (a company’s environmental management practices). The top 50 companies are ranked based on these two elements.

Evaluation Points
Panasonic’s Green Performance was evaluated as being especially high, with excellent marks going to “Products and Services,” “Governance,” and “Transportation and Logistics.”

Interbrand also noted the following points in its evaluation
Energy Star Award Recognitions: Panasonic has received more Energy Star awards than any other consumer electronics manufacturer.
Achieved a Recycling Rate of 99.3%: Taking steps toward zero waste, Panasonic achieved a factory waste recycling rate of 99.3% in 2013.
Improved Water Usage: In 2013, water usage at factories per basic unit of production improved by 0.7% compared with 2012.
Econavi Function: In 2009, Panasonic launched home appliances with the Econavi function, which automatically controls power and water consumption to cut losses by using sensor and other energy efficient technologies.
We aim to realize a lifestyle with virtually zero CO₂ emissions throughout the entire home

By creating, storing, managing and saving energy, Panasonic aims to realize a lifestyle with virtually zero CO₂ emissions throughout the entire home.

Exemplary sustainable projects

What is Smart Electric Lyon?

Smart Electric Lyon is a project that looks at electricity consumption as a key part of the building energy solutions of tomorrow. This experiment, will be conducted for four years in more than 25,000 homes, businesses and communities of Grand Lyon. Panasonic will provide the project with a variety of its energy efficient heating and cooling products, including the Aquarea Air Source Heat Pump. These heat pumps are especially equipped with connectivity solutions from Panasonic to ensure the systems are easy to use, and collect the vital, accurate data. This project is particularly apt for Panasonic, as heating and hot water occupy a prominent place in household energy consumption. The company has involved for the project a dedicated and experienced R&D team from Panasonic’s European technical centre in Frankfurt.

Fujisawa Sustainable Smart Town Goes Into Full-Scale Operation Near Tokyo

Fujisawa SST Council, a consortium led by Panasonic Corporation spearheading the development of the Fujisawa Sustainable Smart Town (Fujisawa SST). With its core facility supporting sustainable development of the town and its community now coming into operation, the Fujisawa SST is moving from the construction stage into a new stage where the town is nurtured to grow in full-scale into an eco and smart town that puts a high priority on the residents’ lifestyles.

The Fujisawa SST Management Company is the town management company located in the SQUARE. Together with partner companies, the company provides five essential services in the town: energy, security, mobility, healthcare and community. The company will also collect and manage information pertaining to the town’s overall environment, energy, security and safety to support an eco and smart life in the town. As a fresh development in the town, the Fujisawa SST has set a detached housing zone for non car owners for the second phase of sales. By using the town’s eco-car sharing and rent-a-car services, residents in the zone can enjoy their lifestyles without the need to own a car while reducing economic burden and making effective use of the lot. Preparations are also underway for a new base to provide environmentally-friendly logistic services to the residents.
Panasonic – leading the way in Heating and 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.

100% Panasonic: 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. These offer maximum effectiveness, comply with the strictest environmental standards and meet the most avant-garde construction requirements of our time.
Projects & Case Studies of Panasonic Heating and Cooling Solutions

Call centre retrofit. Woodhouse Environmental Services Ltd. Bournemouth, UK. VRF

New residential building. 84 apartments. Barcelona, Spain. Aquarea

New condominium. Bergå Terasse complex. Drammen, Norway. ECOi / Aquarea

Hotel refurbishment. Hotel Claris 5*. Barcelona, Spain. ECOi

New residential building. 176 flats. Xàtiva, Spain. ECO gi

French Winery. Boutiers-Saint-Trojan, France. ECO gi

Le Centrique Centro Commerciale. 40,000 m² with 40 commercial spaces. Padua, Italy. ECOi

Europa-Park is the second most popular theme park resort. 300 rooms. Germany. ECOi

The National Grid’s. Call Center refurbishment. Hinkley, UK. ECO gi

The exclusive Sunprime Atlantic View resort, owned by Thomas Cook. 220 rooms. Canary Islands. Spain. ECO gi

Montceurs Nursing Home. Over 6100 m² and 85 rooms. Saône et Loire, France. ECOGi

Smart House. Ariake, Tokyo. HVAC and the combination of solar power generation, fuel cells and storage batteries.

Technopark of Nobosibirsk Academgorodok, Novosibirsk, Russia. ECOi

Shippensburg University. Pennsylvania, United States. ECOi

Urban residential Mosaic Panama Pacifico. Republic of Panama. Mini ECOi

Patra Jasa Bandung Hotel. Bandung, Indonesia. ECOi

To find out more: www.aircon.panasonic.eu
PRO Club
the professional website of Panasonic

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

Panasonic PRO Club (www.panasonicproclub.com) is the online tool which makes your life easier! You just have to register and a lot of functionalities are freely available to you, where ever you are, from your computer or smart phone!

- Print catalogues with your logo and your address
- Download the latest Aquarea designer to define your system and select the good Aquarea Heat pump.
- Calculate the specs of the Aquarea Air fan coil based on the parameters of your system
- Get Documents of conformity and all other documents you may need
- Download all the service manuals, end user manuals and installation manuals
- Know what to do with error codes
- Find out about the latest news first
- Register for training

Highlighted Features
- Extensive library of resources
- Tools & Apps for end users. Check availability in your country:
  - My Home: sizing wizard for domestic and A2W range
  - My Project: Contact form to Panasonic team
  - iFinder: Lists of installers displayed by postcode
- Special offers & promotions
- Training PRO Academy
- Catalogues (Commercial documentation)
- Marketing (Images in high resolution, advertisements, deco guidelines)
- Tools (Professional software, sizing tools...)

NEW Highlighted Features
- NEW! Installers customize leaflets in PDF format with their logo & contact details
- NEW! Energy label generator. Download energy labels of any device in PDF format
- NEW! Heating calculator demand
- NEW! Noise calculator for outdoor unit
- NEW! Aquarea Radiator calculator
- NEW! Error Code Search by error code or unit ref. Compatible with smartphone and tablet computer
- NEW! Revit / CAD Images / Spec texts
- NEW! Access to Pananet, online library of technical documentation
- NEW! Download Documents of Conformity and other Certifications
- NEW! Commissioning online
Panasonic PRO Academy
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.

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.

NEW! Error Code on your smartphone and your PC: Search by error code or model reference. Online version + downloadable version for offline use

NEW! Customize leaflets with your logo & contact details. Save and print the PDF

NEW! Energy label generator. Download Energy labels of any device in PDF format

NEW! Easy download Panasonic service documentation and brochures

Panasonic PRO Club is fully compatible with tablet computer and smartphone

www.panasonicproclub.com

or connect simply with your smartphone to the PRO Club using this QR
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.
Highlighted Features

**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 of commercial air conditioning**
Energy-saving concept. The use of energy saving design for the structure of fans, fan motors, compressors and heat exchangers resulted in high COP value which ranked as one the top class in the industry. In addition, use of highly efficient R410A refrigerant reduces CO₂ emission and lowers operating costs.
ENERGY SAVING

The new Cloud system from Panasonic allows you to have complete control of all your installations. In a simple click, all your units from several locations, receive status updates in real-time of all your installations, preventing breakdowns and optimizing costs.

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.

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.

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.

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

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

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

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

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.

R410A. Environmentally friendly refrigerant.

The Panasonic renewal system allows good quality existing R22 pipe work to be re-used whilst installing new high efficiency R410A systems.

5 Years Warranty. We guarantee the compressors in the entire range for five years.
PACi Standard and Elite

**PACi Standard**
- Good balance, system cost vs energy efficiency
- Top class SEER/SCOP as a Standard Inverter category
  - SEER: A++ / SCOP: A+ at 10.0 kW (in Cassette 90x90)
- Interchangeable controller with ECOi
- Compact outdoor units
- Twin connection possible
- Cooling operation up to -15°C
- Heating operation up to -10°C

**PACi Elite**
- Meeting all necessary safety approvals to ensure quality and safety
- Top-class SEER: A++ / SCOP: A+ at 10.0 kW (in Cassette 90x90 and Ceiling)
- 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 units
- Auto restart from outdoor unit
- Twin, Triple and Double-Twin connection possible
PACi Standard: outdoor unit

More compact

The 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-100PEY1E5, U-125PEY1E5, U-100PEY1E8 and U-125PEY1E8.

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.

Quiet mode

2, 4 or 6 dB can be reduced by different setting on your choice. External input signal is also available.
PACi Elite outdoor units

**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.

**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 18°C to 30°C.
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.

Excellent SEER and SCOP values

Panasonic have a extremely high SEER and SCOP values following the SBEM method (some other manufacturers may use another non official calculation method). Developed by BRE, SBEM (Simplified Building Energy Model) is the basis of non-domestic building energy calculations. Based on the National calculation method (NCM), it is used to determine compliance with Part L of the Building Regulations and is also used to provide Energy Performance Certification.

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SEER - Seasonal Energy Efficiency Rating

<table>
<thead>
<tr>
<th>Part Load CĐP</th>
<th>25%</th>
<th>50%</th>
<th>75%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient conditions</td>
<td>15°C</td>
<td>7°C</td>
<td>1°C</td>
<td>-5°C</td>
</tr>
<tr>
<td>Weighting factor</td>
<td>0,20 (a)</td>
<td>0,36 (b)</td>
<td>0,32 (c)</td>
<td>0,12 (d)</td>
</tr>
</tbody>
</table>

UK winter -5°C DB (outdoor temperature), 7°C WB (indoor temperature)

SEER calculation corresponds with below conditions and power input of indoor units is not included.

- Indoor temperature: 21°C DB / 16°C WB
- Outdoor temperature conditions

<table>
<thead>
<tr>
<th>Part load ratio</th>
<th>25%</th>
<th>50%</th>
<th>75%</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outdoor air temperature (°C DB)</td>
<td>20</td>
<td>25</td>
<td>30</td>
<td>35</td>
</tr>
<tr>
<td>Weighting coefficients</td>
<td>0,23</td>
<td>0,41</td>
<td>0,33</td>
<td>0,03</td>
</tr>
</tbody>
</table>

SEER calculation corresponds with below conditions and power input of indoor units is not included.

- Indoor temperature: 21°C DB / 16°C WB
- Outdoor temperature conditions

SEER - Seasonal Coefficient of Performance

<table>
<thead>
<tr>
<th>Part Load CĐP</th>
<th>25%</th>
<th>50%</th>
<th>75%</th>
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</tbody>
</table>

UK winter -5°C DB (outdoor temperature), 7°C WB (indoor temperature)

Increased Piping Length for Greater Design Flexibility

Adaptable to various building types and sizes.
Maximum piping length: 75m (10,0, 12,5, 14,0kW). 50m (6,0, 7,1kW).

Maximum total length: 75 m

Compact & Flexible-design

The slim and lightweight design means the PACi outdoor unit can be installed in a number of compact situations.
As the unit only weighs 98 kg, it is easy to carry and easy to install.

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%)

Outdoor unit
Solutions for server rooms

High efficiency products for 24/7 applications
Panasonic has developed a complete range of solutions for server rooms which efficiently protect your servers, keeping them at an appropriate temperature even when the outdoor temperature is below -20°C.
Key points

- From 2.5 kW to 5 kW with PKEA units
- From 5 kW to 25 kW with PACi units
- Backup function
- Redundancy function
- Alternative run function
- Error information by dry contact
- Operation even at -20°C outdoor temperature
- Excellent performance with excellent SEER
- Product design for 24/7 operation

High efficiency all the year

On 24/7 operation, the performance of the air conditioning is a key factor. When the efficiency is high, the return on investment of such units is quickly reached.

High durability for 24/7 operation

Indoor Fan. Cross-Flow-Fan

- High durability rolling bearings, large size (φ105mm) fan
- High efficiency blade
- Random pitch blade (low sound)

Compressor

DC2P Panasonic original compressor, with high efficiency and reliability.

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.

Interfaces to run 2 (for PKEA) or up to 3 (for PACi) units on Backup and alternative run

PAW-SERVER-PKEA for PKEA

The PAW-SERVER-PKEA server room interface manages redundancy and backup of two PKEA units with two different selectable modes:

- Plug and play by embedded redundancy and backup algorithm (no external signal needed. Further details please refer to operation manual)
- External (third party PLC) redundancy and backup management by dry contact

All settings are possible without the need for a computer connection. A special Energy Saving Mode is selectable by deep switch (available only in plug and play mode). The level of remote control input prohibition can be set when external management is by dry contact.

PAW-PACR3 for PACi and ECOi Range

PAW-PACR3, in combination with one PAW-T10V on each indoor unit, allows the redundant operation of 2 (or 3) PAC-i or VRF indoor units. All units will be operated by programmable turns in order to achieve the same operating time (example turn every 8 hours with 24 hours). If the room temperature exceeds a freely set value, the 2nd (or 3rd) unit will be switched ON and an alarm will be activated.

In combination with 1x PAW-T10V on each indoor unit, 2 or 3 PACi of ECOi can be programmed to run redundant.

Cable maximum length 3 meters each CN-CNT

Output Alarm Signal
- A unit
- B unit
  (2 x dry contact maximum 12V)

Output Run Signal
- A unit
- B unit
  (2 x dry contact maximum 12V)

Input ON/OFF Signal
- A unit
- B unit
  (2 x dry contact maximum 12V)

Input PCB Special Settings
- 1 x Connection port to PC

Jumper 1)
- Energy Saving Function

Jumper 2)
- Enable ON/OFF dry contact (maximum 12V)

Standard remote control.

Display and Settings:
- Possible to select next unit manually
- Possible to reset operation
- LED display shows operation status of the 2 or 3 units
- Operation status output
- Alarm LED and alarm output
- Temperature limit can be set
- Temperature hysteresis can be set
- Room temperature is displayed
- Time counter displayed
PACi Standard and Elite: indoor units

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.

- **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.

360° Air Flow for improved comfort

By redesigning the air-outlet and flap, Soft & 3D air flow circulates whole space and provides even temperature distribution in the room.

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

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.

Ceiling height guidelines
Settings¹ 4-way discharge 3-way discharge (optional air-blocking materials) 2-way discharge (optional air-blocking materials)²
Factory settings¹ High ceiling setting¹ High ceiling setting²
Indoor unit: 60PU-71PU
 Indoor unit: 100PU, 125PU, 140PU
3.0 3.3 3.6 3.9 4.2 4.5 4.7 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.

Drain Pump of about 850 mm from the ceiling surface
* For 6.0kW / 7.1kW

Dust Prevention
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

**New 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.

**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**

**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.
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 E2 sensor to reduce cold drafts at heating.

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.

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.

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

Circle duct flange (option)

<table>
<thead>
<tr>
<th>Number of exits with diameters</th>
<th>Model Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 x Ø 200</td>
<td>CZ-SA0AF2 (2 SA outlet)</td>
</tr>
<tr>
<td>3 x Ø 200</td>
<td>CZ-MA0AF2 (3 SA outlet)</td>
</tr>
<tr>
<td>4 x Ø 200</td>
<td>CZ-SA0AF4 (4 SA outlet)</td>
</tr>
</tbody>
</table>
## Range of Commercial units

### Wall Mounted for professional applications

<table>
<thead>
<tr>
<th>Indoor Units PACi Standard And Elite</th>
<th>Wall PACi Inverter+</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wall Mounted PKEA</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Wall Mounted</strong></td>
<td><strong>2,8 kW</strong></td>
</tr>
<tr>
<td><strong>3,2 kW</strong></td>
<td><strong>4,5 kW</strong></td>
</tr>
<tr>
<td><strong>5,0 kW</strong></td>
<td><strong>6,0 kW</strong></td>
</tr>
<tr>
<td><strong>Wall Mounted PKEA</strong></td>
<td>CS-E9PKEA</td>
</tr>
<tr>
<td><strong>S-36PK1E5A</strong></td>
<td>CS-E12PKEA</td>
</tr>
<tr>
<td><strong>S-45PK1E5A</strong></td>
<td>CS-E15PKEA</td>
</tr>
<tr>
<td><strong>S-60PK1E5A</strong></td>
<td>CS-E18PKEA</td>
</tr>
</tbody>
</table>

*The indoor units from 3.6 to 5.0 kW are only available only for Twin, Triple and Double-Twin combinations.

### Indoor Units PACi Standard And Elite

<table>
<thead>
<tr>
<th><strong>Wall PACi Inverter+</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3,6 kW</strong></td>
</tr>
<tr>
<td><strong>4,5 kW</strong></td>
</tr>
<tr>
<td><strong>5,0 kW</strong></td>
</tr>
<tr>
<td><strong>6,0 kW</strong></td>
</tr>
<tr>
<td><strong>4 Way 60x60 Cassette</strong></td>
</tr>
<tr>
<td><strong>S-36PY2E5A</strong></td>
</tr>
<tr>
<td><strong>S-45PY2E5A</strong></td>
</tr>
<tr>
<td><strong>S-50PY2E5A</strong></td>
</tr>
<tr>
<td><strong>S-60PY2E5A</strong></td>
</tr>
</tbody>
</table>

### Indoor Units PACi Standard And Elite

<table>
<thead>
<tr>
<th><strong>4 Way 90x90 Cassette</strong></th>
<th><strong>PACi Inverter+</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>S-36PU1E5A</strong></td>
<td></td>
</tr>
<tr>
<td><strong>S-45PU1E5A</strong></td>
<td></td>
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<tr>
<td><strong>S-50PU1E5A</strong></td>
<td></td>
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<tr>
<td><strong>S-60PU1E5A</strong></td>
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</table>

<table>
<thead>
<tr>
<th><strong>Low Static Pressure Hide Away</strong></th>
<th><strong>PACi Inverter+</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>S-36PN1E5A</strong></td>
<td></td>
</tr>
<tr>
<td><strong>S-45PN1E5A</strong></td>
<td></td>
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<tr>
<td><strong>S-50PN1E5A</strong></td>
<td></td>
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<tr>
<td><strong>S-60PN1E5A</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>High Static Pressure Hide Away</strong></th>
<th><strong>PACi Inverter+</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>S-36PF1E5A</strong></td>
<td></td>
</tr>
<tr>
<td><strong>S-45PF1E5A</strong></td>
<td></td>
</tr>
<tr>
<td><strong>S-50PF1E5A</strong></td>
<td></td>
</tr>
<tr>
<td><strong>S-60PF1E5A</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Ceiling PACi Inverter+</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>S-36PT2E5A</strong></td>
</tr>
<tr>
<td><strong>S-45PT2E5A</strong></td>
</tr>
<tr>
<td><strong>S-50PT2E5A</strong></td>
</tr>
<tr>
<td><strong>S-60PT2E5A</strong></td>
</tr>
</tbody>
</table>

| **High Static Pressure Hide Away** | **20,0 - 25,0 kW** | **PACi Inverter+** |
|------------------------------------|---------------------|
| **S-36PF2E5A**                     |
| **S-45PF2E5A**                     |
| **S-50PF2E5A**                     |
| **S-60PF2E5A**                     |

### Outdoor Units PACi Standard and Elite

<table>
<thead>
<tr>
<th><strong>Outdoor Units PACi Standard and Elite</strong></th>
<th><strong>PACi Standard</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5,0 kW</strong></td>
<td><strong>6,0 kW</strong></td>
</tr>
<tr>
<td><strong>PACi Standard</strong></td>
<td><strong>U-60PE1E5</strong></td>
</tr>
<tr>
<td><strong>PACi Elite</strong></td>
<td><strong>U-50PE1E5</strong></td>
</tr>
</tbody>
</table>

*Single Phase  **Three Phase*
### Air Handling Unit

<table>
<thead>
<tr>
<th>Power (kW)</th>
<th>S-71PK1E5A</th>
<th>S-100PK1E5A (9.5 kW)</th>
<th>S-71PU1E5A</th>
<th>S-100PU1E5A</th>
<th>S-125PU1E5A</th>
<th>S-140PU1E5A</th>
<th>S-71PF1E5A</th>
<th>S-100PF1E5A</th>
<th>S-125PF1E5A</th>
<th>S-140PF1E5A</th>
<th>S-71PT2E5A</th>
<th>S-100PT2E5A</th>
<th>S-125PT2E5A</th>
<th>S-140PT2E5A</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1 kW</td>
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<tr>
<td>10.0 kW</td>
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<tr>
<td>12.5 kW</td>
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<tr>
<td>14.0 kW</td>
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<tr>
<td>20.0 kW</td>
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<tr>
<td>25.0 kW</td>
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</tbody>
</table>

**PAW-280PAH2**
**PAW-230PAH2L**

---

**NEW — COMMERCIAL**

**Air Handling Unit 28.0 kW**

2 types of AHU Kit: Advanced and Standard.
Up to 28 kW

---

**Air Conditioning System**

- **U-71PEY1E5 ** / **U-71PEY1E8**
- **U-100PEY1E5** / **U-100PEY1E8**
- **U-125PEY1E5** / **U-125PEY1E8**
- **U-140PEY1E8**
- **U-200PEY1E8**
- **U-250PEY1E8**

**Common use for all outdoor units. Only 1 x 1 connection is allowed.**

---

**Air Handling Unit 28,0 kW**

2 types of AHU Kit: Advanced and Standard.
Up to 28 kW

---

**PAW-280PAH2**
**PAW-280PAH2L**

(Common use for all outdoor units. Only 1 x 1 connection is allowed.)
### 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.

### Rating Conditions

**Indoor**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling Indoor</td>
<td>27°C / 19°C</td>
</tr>
<tr>
<td>Cooling Outdoor</td>
<td>35°C / 24°C</td>
</tr>
<tr>
<td>Heating Indoor</td>
<td>20°C</td>
</tr>
<tr>
<td>Heating Outdoor</td>
<td>7°C / 6°C</td>
</tr>
</tbody>
</table>

**Outdoor**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling Indoor</td>
<td>27°C / 19°C</td>
</tr>
<tr>
<td>Cooling Outdoor</td>
<td>35°C / 24°C</td>
</tr>
<tr>
<td>Heating Indoor</td>
<td>20°C</td>
</tr>
<tr>
<td>Heating Outdoor</td>
<td>7°C / 6°C</td>
</tr>
</tbody>
</table>

**SEER and SCOP**

For KIT-E9-PKEA.

### 7,10 A++ SEASONAL ENERGY EFFICIENCY RATIO

- **SEER**
  - Nominal: 7,1
- **SCOP**
  - Nominal: 5,0

### Power Input Cooling

<table>
<thead>
<tr>
<th>Unit</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal</td>
<td>0,517 (0,170-1,710) kW</td>
</tr>
<tr>
<td>Minimum</td>
<td>0,170 kW</td>
</tr>
</tbody>
</table>

### Heating Capacity

<table>
<thead>
<tr>
<th>Unit</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal</td>
<td>3,400 (0,85-5,40) kW</td>
</tr>
<tr>
<td>Minimum</td>
<td>0,85 kW</td>
</tr>
</tbody>
</table>

### Heating Capacity at -7°C

<table>
<thead>
<tr>
<th>Unit</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal</td>
<td>2,920 (0,730-4,640) kW</td>
</tr>
<tr>
<td>Minimum</td>
<td>0,730 kW</td>
</tr>
</tbody>
</table>

### COP (Cooling)

<table>
<thead>
<tr>
<th>Unit</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal</td>
<td>5,768 (1,03-6,32) A</td>
</tr>
<tr>
<td>Minimum</td>
<td>1,03 A</td>
</tr>
</tbody>
</table>

### COP (Heating)

<table>
<thead>
<tr>
<th>Unit</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal</td>
<td>2,700 (0,83-3,24) A</td>
</tr>
<tr>
<td>Minimum</td>
<td>0,83 A</td>
</tr>
</tbody>
</table>

### Power Input Heating

<table>
<thead>
<tr>
<th>Unit</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal</td>
<td>0,708 (0,165-1,020) kW</td>
</tr>
<tr>
<td>Minimum</td>
<td>0,165 kW</td>
</tr>
</tbody>
</table>

### Annual electricity consumption

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating (cooling)</td>
<td>891 kWh/a</td>
</tr>
<tr>
<td>Heating (heating)</td>
<td>1,229 kWh/a</td>
</tr>
</tbody>
</table>

### Additional Specifications

- **EER at -20°C (Nominal)**: 6,71 W/W
- **Cooling capacity at -20°C (Nominal)**: 2,61 kW
- **EER at -10°C (Nominal)**: 7,19 W/W
- **Cooling capacity at -10°C (Nominal)**: 2,63 kW
- **EER at 0°C (Nominal)**: 7,51 W/W
- **Cooling capacity at 0°C (Nominal)**: 1,57 kW

### Outdoor Unit

**Dimensions / Net weight**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>295 mm</td>
</tr>
<tr>
<td>Width</td>
<td>870 mm</td>
</tr>
<tr>
<td>Depth / Net weight</td>
<td>255 kg</td>
</tr>
</tbody>
</table>

**Precharge length**

- Max: 7,5 m

**Piping connections**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid pipe / Gas pipe</td>
<td>1/4&quot; (6,35) / 3/8&quot; (9,52)</td>
</tr>
</tbody>
</table>

**Power source**

- 230 V

**Recommended fuse**

- 16 A

**Power input cooling**

<table>
<thead>
<tr>
<th>Unit</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal</td>
<td>0,517 (0,170-1,710) kW</td>
</tr>
<tr>
<td>Minimum</td>
<td>0,170 kW</td>
</tr>
</tbody>
</table>

**Annual electricity consumption (cooling)**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heating (cooling)</td>
<td>891 kWh/a</td>
</tr>
<tr>
<td>Heating (heating)</td>
<td>1,229 kWh/a</td>
</tr>
</tbody>
</table>

### Single Phase

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indoor</td>
<td>2,8 kW</td>
</tr>
<tr>
<td>Outdoor</td>
<td>4,5 kW</td>
</tr>
</tbody>
</table>

### Indoor Unit

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling</td>
<td>2,8 kW</td>
</tr>
<tr>
<td>Heating</td>
<td>2,5 kW</td>
</tr>
</tbody>
</table>

### Outdoor Unit

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling</td>
<td>2,8 kW</td>
</tr>
<tr>
<td>Heating</td>
<td>2,5 kW</td>
</tr>
</tbody>
</table>

### Operating range

<table>
<thead>
<tr>
<th>Condition</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indoor</td>
<td>15°C</td>
</tr>
<tr>
<td>Outdoor</td>
<td>24°C</td>
</tr>
</tbody>
</table>

---

[1] **EER** and **COP**: Energy Saving Classifications, is at 230 / 240 V [R] / 50 / 60 Hz with 1/5 design in accordance with EU directive 2002/21/EC. [2] **SEER** is calculated in base Eurovent IP14 for SBEM for 01 indoor unit, SEER=SEER(SBEM)-SEER(IP14)-SEER(108) whereas SEER(SBEM), SEER(IP14), and SEER(108) are the EER measured value at 20%, 50%, 70% and 100% part load for temperatures 30, 25, 20 and 15°C. [3] The consumption (EHP) is calculated by formula determined by EHP regulation. [4] Heating capacity is calculated including defrost factor correction. [5] SCOP is calculated in base Eurovent IPLV for SBEM with 01 indoor unit including defrost correction factor. [6] 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/0 06-97 specification. [7] Add 70 mm for piping port. [8] When installing the outdoor unit at a higher position than the indoor unit. [9] For detailed information about ErP, please visit our websites www.aircon.panasonic.eu or www.ptc.panasonic.eu
Technical focus

- This units can be installed on R22 pipings
- Designed for 24h/7d a week operation
- Highly efficient even at -15°C
- High durability rolling bearings
- Additional piping sensors to prevent freezing

Features

Outdoor

- Cooling even when ambient temperature is as low as -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)

Interface option to manage server room operation

The PAW-SERVER-PKEA server room interface manages redundancy and backup of two PKEA units with two different selectable modes:

- Plug and play by embedded redundancy and backup algorithm (no external signal needed. Further details please refer to operation manual)
- External (third party PLC) redundancy and backup management by dry contact

All settings are possible without the need for a computer connection. A special Energy Saving Mode is selectable by deep switch (available only in plug and play mode).

The level of remote control input prohibition can be set when external management is by dry contact.

Optional accessory: PAW-SERVER-PKEA

Dry contacts

Included on the kit

Timer remote controller
### Standard

#### Single Phase

<table>
<thead>
<tr>
<th>Kit</th>
<th>Indoor</th>
<th>Outdoor</th>
</tr>
</thead>
<tbody>
<tr>
<td>KIT-60PKY1E5A</td>
<td>S-60PK1E5A</td>
<td>U-60PEY1E5</td>
</tr>
<tr>
<td>KIT-71PKY1E5A</td>
<td>S-71PK1E5A</td>
<td>U-71PEY1E5</td>
</tr>
<tr>
<td>KIT-100PKY1E5A</td>
<td>S-100PK1E5A</td>
<td>U-100PEY1E8</td>
</tr>
</tbody>
</table>

#### Three Phase

<table>
<thead>
<tr>
<th>Kit</th>
<th>Indoor</th>
<th>Outdoor</th>
</tr>
</thead>
<tbody>
<tr>
<td>KIT-60PKY1E5A</td>
<td>S-60PK1E5A</td>
<td>U-60PEY1E5</td>
</tr>
<tr>
<td>KIT-71PKY1E5A</td>
<td>S-71PK1E5A</td>
<td>U-71PEY1E5</td>
</tr>
<tr>
<td>KIT-100PKY1E5A</td>
<td>S-100PK1E5A</td>
<td>U-100PEY1E8</td>
</tr>
</tbody>
</table>

#### Technical Focus
- 10,0 kW capacity unit
- Flat face design for modern appearance
- Compact design offers over 15% reduction in overall size
- Washable front panel
- DC FAN for better efficiency and control
- Three directional piping outlet
- Easy connection and control of external fan or ERV using the connector PAW-FDC on the indoor unit PCB. The external device can be control by the remote control of the Panasonic indoor unit

### Standard

#### Single Phase

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>EER 1)</td>
<td>Nominal (Min - Max) W/W</td>
</tr>
<tr>
<td>COP 2)</td>
<td>Nominal (Min - Max) a</td>
</tr>
<tr>
<td>SEER 2)</td>
<td>Nominal (Min - Max) W/W</td>
</tr>
<tr>
<td>Cooling capacity</td>
<td>Nominal (Min - Max) kW</td>
</tr>
<tr>
<td>Heating capacity at -7°C 4)</td>
<td>Nominal kW</td>
</tr>
<tr>
<td>Heating capacity at -15°C 4)</td>
<td>Nominal kW</td>
</tr>
<tr>
<td>Total consumption</td>
<td>Nominal kW</td>
</tr>
<tr>
<td>Power input cooling</td>
<td>Nominal (Min - Max) kW</td>
</tr>
<tr>
<td>Power input heating</td>
<td>Nominal (Min - Max) kW</td>
</tr>
<tr>
<td>Air volume</td>
<td>Heating (Hi / Med / Lo) m³/h</td>
</tr>
<tr>
<td>Power source</td>
<td>V</td>
</tr>
<tr>
<td>Connection</td>
<td>mm²</td>
</tr>
<tr>
<td>Recommended fuse</td>
<td>A</td>
</tr>
<tr>
<td>Rechargeable fuse</td>
<td>A</td>
</tr>
<tr>
<td>Elevation difference</td>
<td>Max m</td>
</tr>
<tr>
<td>Refrigerant loading</td>
<td>R134A kg</td>
</tr>
<tr>
<td>Gas pipe</td>
<td>Inch (mm)</td>
</tr>
<tr>
<td>Precharge length</td>
<td>m</td>
</tr>
<tr>
<td>Piping length</td>
<td>Min / Max</td>
</tr>
<tr>
<td>Additional charge</td>
<td>g/m</td>
</tr>
<tr>
<td>Operating range</td>
<td>Cooling Min / Max °C</td>
</tr>
<tr>
<td></td>
<td>Heating Min / Max °C</td>
</tr>
</tbody>
</table>

#### Three Phase

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>EER 1)</td>
<td>Nominal (Min - Max) W/W</td>
</tr>
<tr>
<td>COP 2)</td>
<td>Nominal (Min - Max) a</td>
</tr>
<tr>
<td>SEER 2)</td>
<td>Nominal (Min - Max) W/W</td>
</tr>
<tr>
<td>Cooling capacity</td>
<td>Nominal (Min - Max) kW</td>
</tr>
<tr>
<td>Heating capacity at -7°C 4)</td>
<td>Nominal kW</td>
</tr>
<tr>
<td>Heating capacity at -15°C 4)</td>
<td>Nominal kW</td>
</tr>
<tr>
<td>Total consumption</td>
<td>Nominal kW</td>
</tr>
<tr>
<td>Power input cooling</td>
<td>Nominal (Min - Max) kW</td>
</tr>
<tr>
<td>Power input heating</td>
<td>Nominal (Min - Max) kW</td>
</tr>
<tr>
<td>Air volume</td>
<td>Heating (Hi / Med / Lo) m³/h</td>
</tr>
<tr>
<td>Power source</td>
<td>V</td>
</tr>
<tr>
<td>Connection</td>
<td>mm²</td>
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<td>Recommended fuse</td>
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<tr>
<td>Rechargeable fuse</td>
<td>A</td>
</tr>
<tr>
<td>Elevation difference</td>
<td>Max m</td>
</tr>
<tr>
<td>Refrigerant loading</td>
<td>R134A kg</td>
</tr>
<tr>
<td>Gas pipe</td>
<td>Inch (mm)</td>
</tr>
<tr>
<td>Precharge length</td>
<td>m</td>
</tr>
<tr>
<td>Piping length</td>
<td>Min / Max</td>
</tr>
<tr>
<td>Additional charge</td>
<td>g/m</td>
</tr>
<tr>
<td>Operating range</td>
<td>Cooling Min / Max °C</td>
</tr>
<tr>
<td></td>
<td>Heating Min / Max °C</td>
</tr>
</tbody>
</table>

### Outdoor Unit

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>A</td>
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<tr>
<td>Air volume</td>
<td>Heating (Hi / Med / Lo) m³/h</td>
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<tr>
<td>Power input cooling</td>
<td>Nominal (Min - Max) kW</td>
</tr>
<tr>
<td>Power input heating</td>
<td>Nominal (Min - Max) kW</td>
</tr>
<tr>
<td>Air volume</td>
<td>Heating (Hi / Med / Lo) m³/h</td>
</tr>
<tr>
<td>Power input cooling</td>
<td>Nominal (Min - Max) kW</td>
</tr>
<tr>
<td>Power input heating</td>
<td>Nominal (Min - Max) kW</td>
</tr>
<tr>
<td>Air volume</td>
<td>Heating (Hi / Med / Lo) m³/h</td>
</tr>
<tr>
<td>Power input cooling</td>
<td>Nominal (Min - Max) kW</td>
</tr>
<tr>
<td>Power input heating</td>
<td>Nominal (Min - Max) kW</td>
</tr>
</tbody>
</table>

### Technical Focus

- **Internet Connectivity**
- **Energy Saving**
- **3.90 A SCOP**
- **Down to -15°C in cooling mode**
- **Down to -10°C in heating mode**
- **Easy Control by BMS**
- **Possible Solution R22 Piping**

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**Note:**
- Technical Focus includes features and specifications that enhance the performance and functionality of the product.
- Specifics may vary depending on the model and regional regulations.
- For detailed installation and operation instructions, please refer to the official Panasonic website or contact customer support.

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**Panasonic**
<table>
<thead>
<tr>
<th>Elevation difference (in/out)</th>
<th>Max</th>
<th>150</th>
<th>30</th>
<th>30</th>
<th>150</th>
<th>30</th>
<th>30</th>
<th>150</th>
<th>30</th>
<th>30</th>
<th>30</th>
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<tbody>
<tr>
<td>Piping length</td>
<td>Min / Max</td>
<td>5 / 70</td>
<td>5 / 50</td>
<td>5 / 50</td>
<td>7 / 75</td>
<td>5 / 70</td>
<td>5 / 50</td>
<td>7 / 75</td>
<td>5 / 70</td>
<td>5 / 50</td>
<td>7 / 75</td>
</tr>
<tr>
<td>Precharge length</td>
<td>Max</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
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<td>30</td>
<td>30</td>
<td>30</td>
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<tr>
<td>Additional charge</td>
<td>g/m</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
</tbody>
</table>

**Ratings and Specifications**

- **Cooling Capacity**
  - 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

- **Energy Efficiency**
  - SEER: For KIT-60PK1E5A and KIT-71PK1E5A.
  - SCOP: For KIT-60PK1E5A and KIT-71PK1E5A.

- **Dimensions & Net Weight**
  - Indoor unit:
    - H x W x D (mm): 569 x 790 x 285 for U-50PE1E5A and U-60PE1E5A.
    - Weight (kg): 42
  - Outdoor unit:
    - H x W x D (mm): 996 x 940 x 340 for U-71PK1E5A and U-100PK1E5A.
    - Weight (kg): 68

- **Sound Power Level**
  - Cooling (Hi) dB: 65 / 69 for U-50PE1E5A and U-60PE1E5A.
  - Heating (Hi) dB: 57 / 64 for U-71PK1E5A and U-100PK1E5A.

- **Power Input Heating**
  - Nominal (Min - Max) kW: 5,0 (1,5 - 5,6) for U-50PE1E5A and U-60PE1E5A.
  - Nominal (Min - Max) kW: 7,1 (2,5 - 8,0) for U-71PK1E5A and U-100PK1E5A.

- **Recommended Fuse**
  - 16 A for U-50PE1E5A and U-60PE1E5A.
  - 20 A for U-71PK1E5A and U-100PK1E5A.

- **Precharge Length**
  - Nominal (Min / Max): 5 / 30 m for U-50PE1E5A and U-60PE1E5A.
  - Nominal (Min / Max): 5 / 40 m for U-71PK1E5A and U-100PK1E5A.

- **Piping Length**
  - Nominal (Min / Max): 5 / 40 m for U-50PE1E5A and U-60PE1E5A.
  - Nominal (Min / Max): 5 / 50 m for U-71PK1E5A and U-100PK1E5A.

- **Refrigerant Loading**
  - R410A kg: 1,65 for U-50PE1E5A and U-60PE1E5A.
  - R410A kg: 2,25 for U-71PK1E5A and U-100PK1E5A.

- **Wired Remote Controller**
  - Optional: CZ-RTC4

- **Optional Controller**
  - CZ-RTC5
  - CZ-RWSK2
  - CZ-TW21C

- **COMPATIBILITY**
  - Panasonic connectivity solutions

- **Warranty**
  - 5 year compressor warranty

- **Control Options**
  - Internet Control
  - BMS
  - Easy Control

- **EER**

- **SCOP**

- **Precharge Length**
  - Max: 30 m for U-50PE1E5A and U-60PE1E5A.
  - Max: 50 m for U-71PK1E5A and U-100PK1E5A.
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
- DC FAN for better efficiency and control
- Easy connection and control of external fan or ERV using the connector PAW-FDC on the indoor unit PCB. The external device can be control by the remote control of the Panasonic indoor unit

<table>
<thead>
<tr>
<th></th>
<th>3.6 kW</th>
<th>4.5 kW</th>
<th>5.0 kW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indoor</td>
<td>S-3APY2E5A±1</td>
<td>S-4SPY2E5A±1</td>
<td>S-5SPY2E5A±1</td>
</tr>
<tr>
<td>Panel</td>
<td>CZ-KP31A / CZ-KP3B</td>
<td>CZ-KP31A / CZ-KP3B</td>
<td>CZ-KP31A / CZ-KP3B</td>
</tr>
<tr>
<td>Cooling capacity</td>
<td>Nominal kW</td>
<td>3.6</td>
<td>4.5</td>
</tr>
<tr>
<td>Heating capacity</td>
<td>Nominal kW</td>
<td>4.2</td>
<td>4.2</td>
</tr>
<tr>
<td>Air volume</td>
<td>Cubic m³/h</td>
<td>582 / 594</td>
<td>650 / 618</td>
</tr>
<tr>
<td>Moisture removal</td>
<td>Volume l/h</td>
<td>2.1</td>
<td>2.5</td>
</tr>
<tr>
<td>Sound pressure level Cooling (Hi / Med / Lo) dB(A)</td>
<td>36 / 32 / 26</td>
<td>30 / 34 / 28</td>
<td>40 / 37 / 33</td>
</tr>
<tr>
<td>Sound pressure level Heating (Hi / Med / Lo) dB(A)</td>
<td>36 / 32 / 26</td>
<td>30 / 34 / 28</td>
<td>40 / 37 / 33</td>
</tr>
<tr>
<td>Sound power level Cooling (Hi) dB</td>
<td>51 / 47 / 43</td>
<td>53 / 49 / 43</td>
<td>55 / 52 / 48</td>
</tr>
<tr>
<td>Sound power level Heating (Hi) dB</td>
<td>51 / 47 / 43</td>
<td>53 / 49 / 43</td>
<td>55 / 52 / 48</td>
</tr>
<tr>
<td>Dimensions (H x W x D) Indoor mm</td>
<td>288 x 580 x 583</td>
<td>288 x 580 x 583</td>
<td>288 x 580 x 583</td>
</tr>
<tr>
<td>Panel CZ-KP31A / CZ-KP3B mm</td>
<td>31 x 700 x 700 / 31 x 625 x 625</td>
<td>31 x 700 x 700 / 31 x 625 x 625</td>
<td>31 x 700 x 700 / 31 x 625 x 625</td>
</tr>
<tr>
<td>Net weight Indoor (Panel) kg</td>
<td>16 (2.4)</td>
<td>18 (2.4)</td>
<td>20 (2.4)</td>
</tr>
</tbody>
</table>

Rating Conditions: Cooling Indoor 37°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). // Specifications subject to change without notice.

1) Only for multi combinations. Recommended fuse for the indoor 3A.
### ELITE

**High Heating Capacity at -7°C**

| Panel | CZ-KPY3A (size 700 x 700mm) | CZ-KPY3B (size 625 x 625mm) |

**Rating Conditions:**
- Cooling Indoor 27°C DB / 19°C WB.
- Heating Indoor 20°C DB.
- Heating Outdoor 35°C DB / 24°C WB.
- Heating 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 2010/30/EC and EN 14511-2.

2) SEER = a(EER25) + b(EER50) + c(EER75) + d(EER100), where EER25, EER50, EER75 and EER100 are the EER measured values at 25%, 50%, 75% and 100% part load for temperatures 20, 25, 30 and 35°C DB, respectively. a, b, c and d are coefficients assigned for an office type. These values are given as a=0.2, b=0.36, c=0.32 and d=0.03.

3) s internal temperatures are taken at 27°C DB and 19°C WB.

4) Annual energy consumption (ErP) is calculated by formula determined by ErP regulation. Heating capacity is calculated including de-icing correction factor.

5) COP is calculated in base Eurovent IPLV for SBEM with U1 indoor unit.

6) The Sound pressure level of the units shows the value measured at a distance of 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.

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

---

### ELITE

<table>
<thead>
<tr>
<th>Model</th>
<th>Input Voltage</th>
<th>Fuse, A</th>
</tr>
</thead>
<tbody>
<tr>
<td>KIT</td>
<td>220 - 240</td>
<td>16</td>
</tr>
<tr>
<td>Indoor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power source</td>
<td>V</td>
<td>220 - 240</td>
</tr>
<tr>
<td>Recommended fuse</td>
<td>A</td>
<td>16</td>
</tr>
<tr>
<td>Connection</td>
<td>mm²</td>
<td>2.5</td>
</tr>
<tr>
<td>Air volume Cooling/Heating</td>
<td>m³/h</td>
<td>666 / 666</td>
</tr>
<tr>
<td>Moisture removal volume</td>
<td>l/h</td>
<td>2.8</td>
</tr>
<tr>
<td>Sound pressure level</td>
<td>dB(A)</td>
<td>40 / 37 / 33</td>
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<tr>
<td>Dimensions (W x H x D)</td>
<td>mm</td>
<td>288 x 583 x 583</td>
</tr>
<tr>
<td>Net weight Indoor (Panel)</td>
<td>kg</td>
<td>18 (2.4)</td>
</tr>
<tr>
<td>Outdoor unit</td>
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<td>Power source</td>
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<tr>
<td>Connection</td>
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<tr>
<td>Air volume Cooling/Heating</td>
<td>m³/h</td>
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<td>Dimensions H x W x D</td>
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<td>Piping connections</td>
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<tr>
<td>Liquid pipe / gas pipe</td>
<td>Inch (mm)</td>
<td>1/4 (6.35) / 1/2 (12.7)</td>
</tr>
<tr>
<td>Refrigerant Loading R410A</td>
<td>kg</td>
<td>1.45</td>
</tr>
<tr>
<td>Elevation difference (in/out)</td>
<td>Max</td>
<td>30</td>
</tr>
<tr>
<td>Piping length Max</td>
<td>m</td>
<td>5 - 40</td>
</tr>
<tr>
<td>Additional gas</td>
<td>g/m</td>
<td>20</td>
</tr>
<tr>
<td>Operating range</td>
<td>°C</td>
<td>-15 / +46</td>
</tr>
<tr>
<td>Heating Min / Max</td>
<td>°C</td>
<td>-20 / +74</td>
</tr>
</tbody>
</table>

**Note:**
- Compatibility with all Panasonic connectivity solutions. For detailed information go to the Control Systems section.
- For detailed information about ErP, please visit our websites www.aircon.panasonic.eu or www.ptc.panasonic.eu
### Standard

<table>
<thead>
<tr>
<th>Single Phase</th>
<th>Three Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.0 kW</td>
<td>6.0 kW</td>
</tr>
<tr>
<td>7.1 kW</td>
<td>10.0 kW</td>
</tr>
<tr>
<td>10.0 kW</td>
<td>12.5 kW</td>
</tr>
<tr>
<td>12.5 kW</td>
<td>14.0 kW</td>
</tr>
</tbody>
</table>

**KIT**
- KIT-60PU1E8A
- KIT-71PU1E8A
- KIT-100PU1E8A
- KIT-125PU1E8A
- KIT-150PU1E8A
- KIT-180PU1E8A
- KIT-180PU1E8A

**Indoor**
- S-60PU1EA
- S-71PU1EA
- S-100PU1EA
- S-125PU1EA
- S-150PU1EA
- S-180PU1EA
- S-180PU1EA

**Outdoor**
- U-60PEY1EA
- U-71PEY1EA
- U-100PEY1EA
- U-125PEY1EA
- U-100PEY1E8
- U-125PEY1E8
- U-125PEY1E8

**Panel**
- C2-KP01
- C2-KP02
- C2-KP03
- C2-KP04
- C2-KP05
- C2-KP06
- C2-KP06

**Timer controller remote**
- C2-RTC4
- C2-RTC4
- C2-RTC4
- C2-RTC4
- C2-RTC4
- C2-RTC4
- C2-RTC4

**Cooling capacity**
- Nominal (Min - Max) kW
- 6.0 (2.0 - 7.0)
- 7.1 (2.0 - 7.1)
- 10.0 (2.0 - 11.0)
- 12.5 (2.0 - 11.5)
- 12.5 (2.0 - 11.5)
- 12.5 (2.0 - 11.5)
- 14.0 (2.0 - 13.5)

**Outdoor unit**
- Net weight Indoor Panel kg
- 24 (4)
- 42
- 42

- Dimensions (H x W x D) Indoor mm
- 256 x 840 x 840
- 256 x 840 x 840

- Dimensions (H x W x D) Outdoor mm
- 569 x 790 x 285
- 569 x 790 x 285

- Power input heating
- Nominal (Min - Max) kW
- 1.280 (0.275 - 2.150)
- 3.280 (0.730 - 4.400)

- Annual energy consumption (EPI) kWh/a
- 2.100
- 2.100

- Sound power level Cooling (Hi / Med / Lo) dB
- 53 / 48 / 45
- 54 / 48 / 45

- Moisture removal volume m³/h
- 1.260 / 1.020 / 840
- 1.320 / 1.020 / 840

- Air volume Cooling (Hi / Med / Lo) m³/h
- 1.260 / 1.020 / 840
- 1.320 / 1.020 / 840

- Heating capacity Nominal (Min - Max) kW
- 6.0 (2.0 - 7.0)
- 7.1 (2.0 - 7.1)

### Technical Focus
- **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**
- **Easy connection and control of external fan or ERV using the connector PAW-FDC on the indoor unit PCB. The external device can be control by the remote control of the Panasonic indoor unit.**

---

**INTERNET CONTROL**
- Optional. SEER and SCOP: For KIT-60PUY1E5A.

**Energy saving Classification**
- EER and COP, Energy Saving Classification, is at 220 / 240 V (380 / 415 V) only in accordance with EU directive 2012/24/EU. **SEER** is calculated in base current ERP for SBEM for UI unit indoor unit SEER=a(EER25)+b(EER50)+c(EER75)+d(EER100) where EER25, EER50, EER75, and EER100 are the EER measured values at 25%, 50%, 75% and 100% part load for temperatures 25, 35, 50 and 80°C, respectively. a, b, c, and d are values assigned for an effect type. These values are given as a=0.2, b=0.34, c=0.32 and d=0.83. The internal temperatures are taken at 27°C DB and 19°C WB. **The annual consumption (ErP)** is calculated by formula determined by ErP regulation. **Heating capacity is calculated including defrost factor correction.**

**COP** is calculated in base current ERP for SBEM with UI

---

**STD**

**RATING CONDITIONS**

**Cooling**
- Indoor 27°C DB / 19°C WB
- Outdoor 35°C DB / 24°C WB

**Heating**
- Indoor 20°C DB
- Outdoor -15°C DB / -3°C WB

**Chiller Precharge**
- Max m
- 20

**Chiller Connection**
- mm²
- 2,5

**Power source**
- Voltage
- 220 / 230 / 240

**Current**
- A
- 1.7

**Pressure drop**
- In / Out
- 1.6

**Elevation difference (in / out)**
- Max m
- 30

**Power input heating**
- Nominal (Min - Max) kW
- 1.280 (0.275 - 2.150)
- 3.280 (0.730 - 4.400)

**Annual energy consumption (EPI)**
- kWh/a
- 2.100
- 2.100

**Sound pressure level**
- Cooling (Hi / Med / Lo) dB(A)
- 36 / 31 / 28
- 37 / 31 / 28

---

**INTERNET CONTROL**
- Optional. SEER and SCOP: For KIT-60PUY1E5A.
<table>
<thead>
<tr>
<th>Optional Controller</th>
<th>Type</th>
<th>Description</th>
<th>Control Systems Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optional Controller</td>
<td>CZ-RTC4</td>
<td>Timer remote controller</td>
<td></td>
</tr>
<tr>
<td>Optional Controller</td>
<td>CZ-RWSU2</td>
<td>Wireless remote controller</td>
<td></td>
</tr>
<tr>
<td>Optional Controller</td>
<td>CZ-RE2C2</td>
<td>Simplified remote controller</td>
<td></td>
</tr>
<tr>
<td>Optional Controller</td>
<td>CZ-KPU21</td>
<td>Wired remote controller</td>
<td></td>
</tr>
</tbody>
</table>

**COMPATIBILITY:** Compatible with all Panasonic connectivity solutions. For detailed information go to the Control Systems section.

**ELITE Models:**

<table>
<thead>
<tr>
<th>Single Phase</th>
<th>Three Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0 kW</td>
<td>6.0 kW</td>
</tr>
<tr>
<td>7.1 kW</td>
<td>7.1 kW</td>
</tr>
<tr>
<td>12.5 kW</td>
<td>12.9 kW</td>
</tr>
<tr>
<td>14.0 kW</td>
<td>14.9 kW</td>
</tr>
</tbody>
</table>

**SEER and SCOP Models:**

- SEER 6.6 for KIT-60PU1E5A and KIT-71PU1E5A
- SCOP 4.10 for KIT-60PU1E5A and KIT-71PU1E5A

**ENERGY SAVING:**

<table>
<thead>
<tr>
<th>Capacity</th>
<th>SEER</th>
<th>SCOP</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0 kW</td>
<td>6.6</td>
<td>4.10</td>
</tr>
<tr>
<td>6.0 kW</td>
<td>7.1</td>
<td>4.90</td>
</tr>
<tr>
<td>7.1 kW</td>
<td>7.1</td>
<td>5.79</td>
</tr>
<tr>
<td>12.5 kW</td>
<td>6.6</td>
<td>5.79</td>
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<tr>
<td>12.9 kW</td>
<td>7.1</td>
<td>6.61</td>
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<tr>
<td>14.0 kW</td>
<td>7.1</td>
<td>7.10</td>
</tr>
<tr>
<td>14.9 kW</td>
<td>7.1</td>
<td>7.10</td>
</tr>
</tbody>
</table>

**EASY CONTROL:**

<table>
<thead>
<tr>
<th>Remote Controller Type</th>
<th>Description</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>CZ-RTC5</td>
<td>Wired remote controller</td>
<td>High heating capacity at -7°C</td>
</tr>
<tr>
<td>CZ-RWSU2</td>
<td>Wireless remote controller</td>
<td>-15°C to +46°C</td>
</tr>
<tr>
<td>CZ-RE2C2</td>
<td>Simplified remote controller</td>
<td>Easy access to R22 piping</td>
</tr>
</tbody>
</table>

**CONNECTIVITY:**

- Possible to use on multiple connectivity solutions
- Compatible with all Panasonic connectivity solutions

**WARRANTY:**

- 5 year compressor warranty

**SPECIFICATIONS:**

- 7) When installing the outdoor unit at a higher position than the indoor unit, recommended fuse for the indoor unit 3A.
- 6) The Sound pressure level of the units shows the value measured 1,5 m from the main body and 1,5 m from the ground. The sound pressure is measured in accordance with Eurovent 6/C/006-97.
**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
- Easy connection and control of external fan or ERV using the connector PAW-FDC on the indoor unit PCB. The external device can be controlled by the remote control of the Panasonic indoor unit

**STANDARD**

<table>
<thead>
<tr>
<th>Single Phase</th>
<th>6.0 kW</th>
<th>7.1 kW</th>
<th>9.0 kW</th>
<th>12.5 kW</th>
<th>15.0 kW</th>
<th>14.0 kW</th>
</tr>
</thead>
<tbody>
<tr>
<td>KIT</td>
<td>KIT-60PVEY1E5A</td>
<td>KIT-71PVEY1E5A</td>
<td>KIT-100PVEY1E5A</td>
<td>KIT-125PVEY1E5A</td>
<td>KIT-150PVEY1E5A</td>
<td>KIT-180PVEY1E5A</td>
</tr>
<tr>
<td>Indoor</td>
<td>S-60PVEY1E5A</td>
<td>S-71PVEY1E5A</td>
<td>S-100PVEY1E5A</td>
<td>S-125PVEY1E5A</td>
<td>S-150PVEY1E5A</td>
<td>S-180PVEY1E5A</td>
</tr>
<tr>
<td>Outdoor</td>
<td>U-60PVEY1E5A</td>
<td>U-71PVEY1E5A</td>
<td>U-100PVEY1E5A</td>
<td>U-125PVEY1E5A</td>
<td>U-150PVEY1E5A</td>
<td>U-180PVEY1E5A</td>
</tr>
<tr>
<td>Timer remote controller</td>
<td>C2-RT1C</td>
<td>C2-RT1C</td>
<td>C2-RT1C</td>
<td>C2-RT1C</td>
<td>C2-RT1C</td>
<td>C2-RT1C</td>
</tr>
<tr>
<td>Cooling capacity</td>
<td>Nominal (Min - Max) kW</td>
<td>6.8 (12.0 - 7.0)</td>
<td>9.0 (12.0 - 7.1)</td>
<td>12.5 (13.8 - 13.5)</td>
<td>12.5 (13.8 - 13.5)</td>
<td>14.0 (13.3 - 15.5)</td>
</tr>
<tr>
<td>EER 1)</td>
<td>Nominal (Min - Max) W/W</td>
<td>3.81</td>
<td>3.81</td>
<td>3.81</td>
<td>3.81</td>
<td>3.81</td>
</tr>
<tr>
<td>PS</td>
<td>4.8</td>
<td>4.8</td>
<td>4.8</td>
<td>4.8</td>
<td>4.8</td>
<td>4.8</td>
</tr>
<tr>
<td>Pdpsign</td>
<td>19.0</td>
<td>19.0</td>
<td>19.0</td>
<td>19.0</td>
<td>19.0</td>
<td>19.0</td>
</tr>
<tr>
<td>Power input cooling</td>
<td>Nominal (Min - Max) kW</td>
<td>1.99</td>
<td>2.01</td>
<td>2.85</td>
<td>3.69</td>
<td>5.30</td>
</tr>
<tr>
<td>Heating capacity</td>
<td>Nominal (Min - Max) kW</td>
<td>6.8 (12.0 - 7.0)</td>
<td>9.0 (12.0 - 7.1)</td>
<td>12.5 (13.8 - 13.5)</td>
<td>12.5 (13.8 - 13.5)</td>
<td>14.0 (13.3 - 15.5)</td>
</tr>
<tr>
<td>COP 2)</td>
<td>Nominal (Min - Max) W/W</td>
<td>3.91</td>
<td>3.91</td>
<td>3.91</td>
<td>3.91</td>
<td>3.91</td>
</tr>
<tr>
<td>Pdpsign</td>
<td>19.0</td>
<td>19.0</td>
<td>19.0</td>
<td>19.0</td>
<td>19.0</td>
<td>19.0</td>
</tr>
<tr>
<td>Power input heating</td>
<td>Nominal (Min - Max) kW</td>
<td>1.99</td>
<td>2.01</td>
<td>2.85</td>
<td>3.69</td>
<td>5.30</td>
</tr>
<tr>
<td>Annual energy consumption (ErP) 3) kWh/a</td>
<td>1.757</td>
<td>1.952</td>
<td>2.080</td>
<td>2.685</td>
<td>3.505</td>
<td>3.505</td>
</tr>
</tbody>
</table>

**Indoor unit**

| External static pressure 4) | Nominal (Min - Max) Pa | 50 | 50 | 50 | 50 | 50 | 50 |
| Air volume | Cooling / Heating m³/h | 1.209 | 1.320 | 2.168 | 2.268 | 2.268 | 2.490 |
| Moisture removal volume | l/h | 246 | 246 | 246 | 246 | 246 | 246 |
| Sound power level 5) | Cooling / Heating (Hi) dB | 60 / 58 / 53 | 65 / 63 / 58 | 65 / 63 / 58 | 65 / 63 / 58 | 65 / 63 / 58 | 65 / 63 / 58 |
| Connection | mm² | 2.5 | 2.5 | 4 | 6 | 2.5 | 2.5 |
| Recommended fuse | A | 20 | 20 | 25 | 30 | 16 | 16 |
| Weight | kg | 32 | 32 | 41 | 41 | 41 | 41 |

**Outdoor unit**

| Power source | V | 220 | 220 | 220 | 220 | 220 | 380 |
| Recommended fuse | A | 20 | 20 | 25 | 30 | 16 | 16 |
| Connection | mm² | 2.5 | 2.5 | 4 | 6 | 2.5 | 2.5 |
| Weight | kg | 32 | 32 | 41 | 41 | 41 | 41 |

**Recommended sealed R22 pipings**

- 3.8 A
- 5.0 A
- 7.1 A
- 9.0 A
- 12.5 A
- 15.0 A
- 14.0 A

**Recommended sealed R22 connections**

- Liquid pipes
- Gas pipes

**Retrofit**

- Easy connection and control of external fan or ERV using the connector PAW-FDC on the indoor unit PCB. The external device can be controlled by the remote control of the Panasonic indoor unit.
<table>
<thead>
<tr>
<th>Single Phase</th>
<th>Three Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0 kW</td>
<td>7.1 kW</td>
</tr>
<tr>
<td>KIT-5P15E5A</td>
<td>KIT-5P15E5A</td>
</tr>
<tr>
<td>6.0 kW</td>
<td>9.0 kW</td>
</tr>
<tr>
<td>KIT-6P20E5A</td>
<td>KIT-6P20E5A</td>
</tr>
<tr>
<td>7.1 kW</td>
<td>12.5 kW</td>
</tr>
<tr>
<td>S-6P20E5A</td>
<td>S-6P20E5A</td>
</tr>
<tr>
<td>8.0 kW</td>
<td>14.8 kW</td>
</tr>
<tr>
<td>S-7P10E5A</td>
<td>S-7P10E5A</td>
</tr>
<tr>
<td>10.0 kW</td>
<td>14.0 kW</td>
</tr>
<tr>
<td>S-10P15E5A</td>
<td>S-10P15E5A</td>
</tr>
<tr>
<td>12.5 kW</td>
<td>14.0 kW</td>
</tr>
<tr>
<td>S-12P15E5A</td>
<td>S-12P15E5A</td>
</tr>
<tr>
<td>14.0 kW</td>
<td>14.0 kW</td>
</tr>
<tr>
<td>S-14P15E5A</td>
<td>S-14P15E5A</td>
</tr>
</tbody>
</table>

Optional Controller: Wind remote controller CZ-RTC4
Optional Controller: Timer remote controller CZ-RTC4
Optional Controller: Wireless remote controller CZ-RWSK2 – CZ-RWSC3
Optional Controller: Simplified remote controller CZ-RSC2C

Compatible with all Panasonic connectivity solutions. For detailed information go to the Control Systems section.

For detailed information about ErP, please visit our websites [www.aircon.panasonic.eu](http://www.aircon.panasonic.eu) or [www.ptc.panasonic.eu](http://www.ptc.panasonic.eu).
The ducted systems are the ideal solution for flexible, concealed air conditioning and the optional 200mm spigots ensure simple, hassle-free connection to spiral ductwork.

**Technical Focus**
- **Extremely quiet operation from 26 dBA**
- **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**
- **Easy connection and control of external fan or ERV using the connector PAW-FDC on the indoor unit PCB. The external device can be controlled by the remote control of the Panasonic indoor unit**

---

**STANDARD**

**Single Phase**

<table>
<thead>
<tr>
<th>KIT</th>
<th>U-60PEY1E5</th>
<th>U-71PEY1E5</th>
<th>U-100PEY1E5</th>
<th>U-125PEY1E5</th>
<th>U-100PEY1E8</th>
<th>U-125PEY1E8</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>KIT</strong></td>
<td>U-60PEY1E5</td>
<td>U-71PEY1E5</td>
<td>U-100PEY1E5</td>
<td>U-125PEY1E5</td>
<td>U-100PEY1E8</td>
<td>U-125PEY1E8</td>
</tr>
<tr>
<td><strong>Power input cooling</strong></td>
<td>Nominal (Min - Max) kW</td>
<td>1,930 (0,325 - 2,850)</td>
<td>2,570 (0,325 - 2,270)</td>
<td>3,200 (0,530 - 2,460)</td>
<td>4,100 (0,900 - 5,000)</td>
<td>4,100 (0,900 - 5,000)</td>
</tr>
<tr>
<td><strong>Annual energy consumption (ErP)</strong> kWh/a</td>
<td>1,842</td>
<td>2,026</td>
<td>3,500</td>
<td>—</td>
<td>3,500</td>
<td>—</td>
</tr>
<tr>
<td><strong>Power input cooling</strong></td>
<td>Nominal (Min - Max) kW</td>
<td>5,0</td>
<td>5,5</td>
<td>9,5</td>
<td>—</td>
<td>10,0</td>
</tr>
<tr>
<td><strong>Annual energy consumption (ErP)</strong> kWh/a</td>
<td>389</td>
<td>469</td>
<td>648</td>
<td>—</td>
<td>673</td>
<td>—</td>
</tr>
<tr>
<td><strong>Power input cooling</strong></td>
<td>Nominal (Min - Max) kW</td>
<td>1,930 (0,325 - 2,850)</td>
<td>2,570 (0,325 - 2,270)</td>
<td>3,200 (0,530 - 2,460)</td>
<td>4,100 (0,900 - 5,000)</td>
<td>4,100 (0,900 - 5,000)</td>
</tr>
<tr>
<td><strong>Annual energy consumption (ErP)</strong> kWh/a</td>
<td>1,842</td>
<td>2,026</td>
<td>3,500</td>
<td>—</td>
<td>3,500</td>
<td>—</td>
</tr>
</tbody>
</table>

**Three Phase**

<table>
<thead>
<tr>
<th>KIT</th>
<th>U-60PEY1E5</th>
<th>U-71PEY1E5</th>
<th>U-100PEY1E5</th>
<th>U-125PEY1E5</th>
<th>U-100PEY1E8</th>
<th>U-125PEY1E8</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>KIT</strong></td>
<td>U-60PEY1E5</td>
<td>U-71PEY1E5</td>
<td>U-100PEY1E5</td>
<td>U-125PEY1E5</td>
<td>U-100PEY1E8</td>
<td>U-125PEY1E8</td>
</tr>
<tr>
<td><strong>Power input cooling</strong></td>
<td>Nominal (Min - Max) kW</td>
<td>6,8</td>
<td>7,1</td>
<td>10,0</td>
<td>12,5</td>
<td>14,0</td>
</tr>
<tr>
<td><strong>Annual energy consumption (ErP)</strong> kWh/a</td>
<td>3,4</td>
<td>3,8</td>
<td>4,2</td>
<td>4,3</td>
<td>4,3</td>
<td>3,8</td>
</tr>
<tr>
<td><strong>Power input cooling</strong></td>
<td>Nominal (Min - Max) kW</td>
<td>6,8</td>
<td>7,1</td>
<td>10,0</td>
<td>12,5</td>
<td>14,0</td>
</tr>
<tr>
<td><strong>Annual energy consumption (ErP)</strong> kWh/a</td>
<td>3,4</td>
<td>3,8</td>
<td>4,2</td>
<td>4,3</td>
<td>4,3</td>
<td>3,8</td>
</tr>
<tr>
<td><strong>Power input cooling</strong></td>
<td>Nominal (Min - Max) kW</td>
<td>6,8</td>
<td>7,1</td>
<td>10,0</td>
<td>12,5</td>
<td>14,0</td>
</tr>
<tr>
<td><strong>Annual energy consumption (ErP)</strong> kWh/a</td>
<td>3,4</td>
<td>3,8</td>
<td>4,2</td>
<td>4,3</td>
<td>4,3</td>
<td>3,8</td>
</tr>
</tbody>
</table>

---

**INTERNET CONTROL**

- **Easy connection and control of external fan or ERV using the connector PAW-FDC on the indoor unit PCB. The external device can be controlled by the remote control of the Panasonic indoor unit**

---

**STANDARD**

**Indoor unit**

<table>
<thead>
<tr>
<th>KIT</th>
<th>U-60PEY1E5</th>
<th>U-71PEY1E5</th>
<th>U-100PEY1E5</th>
<th>U-125PEY1E5</th>
<th>U-100PEY1E8</th>
<th>U-125PEY1E8</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indoor</strong></td>
<td>U-60PEY1E5</td>
<td>U-71PEY1E5</td>
<td>U-100PEY1E5</td>
<td>U-125PEY1E5</td>
<td>U-100PEY1E8</td>
<td>U-125PEY1E8</td>
</tr>
<tr>
<td><strong>Air volume (Hi / Med / Lo)</strong> m³/h</td>
<td>1,260 / 1.140 / 900</td>
<td>1,260 / 1.140 / 900</td>
<td>1,920 / 1.560 / 1.260</td>
<td>2,040 / 1.740 / 1.380</td>
<td>1,920 / 1.560 / 1.260</td>
<td>2,040 / 1.740 / 1.380</td>
</tr>
<tr>
<td><strong>Net weight</strong> kg</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td><strong>Dimensions H x W x D</strong> mm</td>
<td>290 x 1,000 x 700</td>
<td>290 x 1,000 x 700</td>
<td>290 x 1,400 x 700</td>
<td>290 x 1,400 x 700</td>
<td>290 x 1,400 x 700</td>
<td>290 x 1,400 x 700</td>
</tr>
<tr>
<td><strong>Connection</strong></td>
<td>2,5</td>
<td>2,5</td>
<td>4</td>
<td>6</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td><strong>Power inrush cooling</strong></td>
<td>Nominal (Min - Max) kW</td>
<td>1,930 (0,325 - 2,850)</td>
<td>2,570 (0,325 - 2,270)</td>
<td>3,200 (0,530 - 2,460)</td>
<td>4,100 (0,900 - 5,000)</td>
<td>4,100 (0,900 - 5,000)</td>
</tr>
<tr>
<td><strong>Annual energy consumption (ErP)</strong> kWh/a</td>
<td>1,842</td>
<td>2,026</td>
<td>3,500</td>
<td>—</td>
<td>3,500</td>
<td>—</td>
</tr>
</tbody>
</table>

---

**Outdoor unit**

<table>
<thead>
<tr>
<th>KIT</th>
<th>U-60PEY1E5</th>
<th>U-71PEY1E5</th>
<th>U-100PEY1E5</th>
<th>U-125PEY1E5</th>
<th>U-100PEY1E8</th>
<th>U-125PEY1E8</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outdoor</strong></td>
<td>U-60PEY1E5</td>
<td>U-71PEY1E5</td>
<td>U-100PEY1E5</td>
<td>U-125PEY1E5</td>
<td>U-100PEY1E8</td>
<td>U-125PEY1E8</td>
</tr>
<tr>
<td><strong>Air volume (Hi / Med / Lo)</strong> m³/h</td>
<td>1,260 / 1.140 / 900</td>
<td>1,260 / 1.140 / 900</td>
<td>1,920 / 1.560 / 1.260</td>
<td>2,040 / 1.740 / 1.380</td>
<td>1,920 / 1.560 / 1.260</td>
<td>2,040 / 1.740 / 1.380</td>
</tr>
<tr>
<td><strong>Net weight</strong> kg</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td><strong>Dimensions H x W x D</strong> mm</td>
<td>290 x 1,000 x 700</td>
<td>290 x 1,000 x 700</td>
<td>290 x 1,400 x 700</td>
<td>290 x 1,400 x 700</td>
<td>290 x 1,400 x 700</td>
<td>290 x 1,400 x 700</td>
</tr>
<tr>
<td><strong>Connection</strong></td>
<td>2,5</td>
<td>2,5</td>
<td>2,5</td>
<td>2,5</td>
<td>2,5</td>
<td>2,5</td>
</tr>
<tr>
<td><strong>Power inrush cooling</strong></td>
<td>Nominal (Min - Max) kW</td>
<td>1,930 (0,325 - 2,850)</td>
<td>2,570 (0,325 - 2,270)</td>
<td>3,200 (0,530 - 2,460)</td>
<td>4,100 (0,900 - 5,000)</td>
<td>4,100 (0,900 - 5,000)</td>
</tr>
<tr>
<td><strong>Annual energy consumption (ErP)</strong> kWh/a</td>
<td>1,842</td>
<td>2,026</td>
<td>3,500</td>
<td>—</td>
<td>3,500</td>
<td>—</td>
</tr>
</tbody>
</table>

---

**Ductless systems**

- **Panasonic indoor unit**
  - **Easy connection and control of external fan or ERV using the connector PAW-FDC on the indoor unit PCB. The external device can be controlled by the remote control of the Panasonic indoor unit**
Optional Controller
Wind remote controller
CZ-RTC5

Optional Controller
Timer remote controller
CZ-RTC4

Optional Controller
Wireless remote controller
CZ-RWSK2 / CZ-RWSC3

Optional Controller
Simplified remote controller
CZ-REC1C

Compatible with all Panasonic connectivity solutions. For detailed information go to the Controls System section.
### Technical Focus

- Fresh air connection possible (Outside intake duct connection port of 100mm diameter is available on the unit)
- All units just 235 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
- Easy connection and control of external fan or ERV using the connector PAW-FDC on the indoor unit PCB. The external device can be controlled by the remote control of the Panasonic indoor unit

### Standard

#### 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. A knock out is provided to allow for supplementary fresh air for improved air quality.

### Indoor unit

- **ACR** (Cooling Indoor 27°C DB / 19°C WB, Heating Indoor 20°C DB)
- **COP**
- **SEER**
- **EER**
- **IPLV**
- **IPLV** for U1 indoor unit
- **SCOP**

### Cooling capacity

<table>
<thead>
<tr>
<th>Model</th>
<th>Indoor unit</th>
<th>Outdoor unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal (Min - Max) kW</td>
<td>6,0 (1,8 - 7,0)</td>
<td>10,0 (2,0 - 13,8)</td>
</tr>
<tr>
<td>7,1 (1,8 - 8,1)</td>
<td>12,5 (3,4 - 15,0)</td>
<td></td>
</tr>
<tr>
<td>10,0 (2,7 - 13,8)</td>
<td>14,0 (4,1 - 16,0)</td>
<td></td>
</tr>
</tbody>
</table>

### Power input

- **Cooling**
- **Heating**

### Annual energy consumption (EfP)

<table>
<thead>
<tr>
<th>Model</th>
<th>Indoor unit</th>
<th>Outdoor unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal (Min - Max) kWh/a</td>
<td>2,100</td>
<td>2,100</td>
</tr>
</tbody>
</table>

### Dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>Indoor unit</th>
<th>Outdoor unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>H x W x D mm</td>
<td>235 x 1,275 x 690</td>
<td>235 x 1,275 x 690</td>
</tr>
</tbody>
</table>

### Sound power level

<table>
<thead>
<tr>
<th>Model</th>
<th>Indoor unit</th>
<th>Outdoor unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling (Hi / Med / Lo) dB(A)</td>
<td>56 / 52 / 48</td>
<td>57 / 53 / 50</td>
</tr>
<tr>
<td>Heating (Hi / Med / Lo) dB(A)</td>
<td>47 / 41 / 37</td>
<td></td>
</tr>
</tbody>
</table>

### Energy saving classification (by BMS)

<table>
<thead>
<tr>
<th>Model</th>
<th>Indoor unit</th>
<th>Outdoor unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEER (3)</td>
<td>6,10</td>
<td>6,10</td>
</tr>
<tr>
<td>SCOP (4)</td>
<td>6,0</td>
<td>6,0</td>
</tr>
</tbody>
</table>

### Motor for increased efficiency and reduced operating sound levels

- Twin rotary compressor
- Industry-leading low sound levels
- Large and wide air distribution
- DC inverter control
- Easy connection of external fan or ERV using the connector PAW-FDC on the indoor unit PCB.

### Additional Features

- Twin, Triple and Double-twin split options
- Easy connection and control of external fan or ERV using the connector PAW-FDC on the indoor unit PCB.

### Technical Focus

- Easy connection and control of external fan or ERV using the connector PAW-FDC on the indoor unit PCB.
- The external device can be controlled by the remote control of the Panasonic indoor unit.

---

**Rating Conditions:** 

*Specifications subject to change without notice.*

1. EER and COP: Energy Saving Classifications, in accordance with ISO and Standard (ISO 12103-3, 2005) only in accordance with EU directive 2012/27/EU. 2. SEER is calculated in base current (FIV) for SBEM with 140 mm indoor unit SEER=a(EER25)+b(EER50)+c(EER75)+d(EER100) where a, b, c, d and e are values assigned for each type. These values are given as a=0.2, b=0.5, c=0.3 and d=0.3. The internal temperatures are taken at 27°C DB and 19°C WB. 3. The annual consumption (EfP) is calculated by formula determined by EfP regulation. 4. Heating capacity is calculated including defrost factor correction.

### Net weight

<table>
<thead>
<tr>
<th>Model</th>
<th>Indoor unit</th>
<th>Outdoor unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>kg</td>
<td>35</td>
<td>16</td>
</tr>
</tbody>
</table>

### Power source

<table>
<thead>
<tr>
<th>Model</th>
<th>Indoor unit</th>
<th>Outdoor unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>V</td>
<td>220 / 230 / 240</td>
<td></td>
</tr>
</tbody>
</table>

### Dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>Indoor unit</th>
<th>Outdoor unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>H x W x D mm</td>
<td>235 x 1,275 x 690</td>
<td>235 x 1,275 x 690</td>
</tr>
</tbody>
</table>

### Power input

- **Cooling**
- **Heating**

### Annual energy consumption (EfP)

<table>
<thead>
<tr>
<th>Model</th>
<th>Indoor unit</th>
<th>Outdoor unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal (Min - Max) kWh/a</td>
<td>2,100</td>
<td>2,100</td>
</tr>
</tbody>
</table>

### Dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>Indoor unit</th>
<th>Outdoor unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>H x W x D mm</td>
<td>235 x 1,275 x 690</td>
<td>235 x 1,275 x 690</td>
</tr>
</tbody>
</table>

### Sound power level

<table>
<thead>
<tr>
<th>Model</th>
<th>Indoor unit</th>
<th>Outdoor unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling (Hi / Med / Lo) dB(A)</td>
<td>56 / 52 / 48</td>
<td>57 / 53 / 50</td>
</tr>
<tr>
<td>Heating (Hi / Med / Lo) dB(A)</td>
<td>47 / 41 / 37</td>
<td></td>
</tr>
</tbody>
</table>

### Energy saving classification (by BMS)

<table>
<thead>
<tr>
<th>Model</th>
<th>Indoor unit</th>
<th>Outdoor unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEER (3)</td>
<td>6,10</td>
<td>6,10</td>
</tr>
<tr>
<td>SCOP (4)</td>
<td>6,0</td>
<td>6,0</td>
</tr>
</tbody>
</table>

### Motor for increased efficiency and reduced operating sound levels

- Twin rotary compressor
- Industry-leading low sound levels
- Large and wide air distribution
- DC inverter control
- Easy connection of external fan or ERV using the connector PAW-FDC on the indoor unit PCB.

### Additional Features

- Twin, Triple and Double-twin split options
- Easy connection and control of external fan or ERV using the connector PAW-FDC on the indoor unit PCB.

### Technical Focus

- Easy connection and control of external fan or ERV using the connector PAW-FDC on the indoor unit PCB.
- The external device can be controlled by the remote control of the Panasonic indoor unit.
### ELITE

#### Single Phase

<table>
<thead>
<tr>
<th>Voltage (V)</th>
<th>Current (A)</th>
<th>SEER</th>
<th>COP</th>
<th>EER</th>
</tr>
</thead>
<tbody>
<tr>
<td>115/230/240</td>
<td>16/20/20</td>
<td>11.0/9.5/8.0</td>
<td>11.0/9.5/8.0</td>
<td>10.5/8.5/7.5</td>
</tr>
<tr>
<td>120/208/208</td>
<td>16/20/20</td>
<td>11.0/9.5/8.0</td>
<td>11.0/9.5/8.0</td>
<td>10.5/8.5/7.5</td>
</tr>
</tbody>
</table>

#### Three Phase

<table>
<thead>
<tr>
<th>Voltage (V)</th>
<th>Current (A)</th>
<th>SEER</th>
<th>COP</th>
<th>EER</th>
</tr>
</thead>
<tbody>
<tr>
<td>208/230/240</td>
<td>16/20/20</td>
<td>11.0/9.5/8.0</td>
<td>11.0/9.5/8.0</td>
<td>10.5/8.5/7.5</td>
</tr>
</tbody>
</table>

#### Modular Units

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Current (A)</th>
<th>SEER</th>
<th>COP</th>
<th>EER</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 x 115/230/240</td>
<td>16/20/20</td>
<td>11.0/9.5/8.0</td>
<td>11.0/9.5/8.0</td>
<td>10.5/8.5/7.5</td>
</tr>
<tr>
<td>1 x 120/208/208</td>
<td>16/20/20</td>
<td>11.0/9.5/8.0</td>
<td>11.0/9.5/8.0</td>
<td>10.5/8.5/7.5</td>
</tr>
</tbody>
</table>

---

**Internet Control Ready**

- **Ready for Integration**: Optional. See the installation manual for details.
- **Energy Savings**: Up to 20%.
- **Simplified Remote Control**: Possible for use on R22 piping.
- **5 Year Compressor Warranty**

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**NEW — COMMERCIAL**

---

**Optional Controller**

- **Wireless Remote Controller**: Optional.
- **Timer Remote Controller**: Optional.
- **Simplified Remote Controller**: Optional.

---

**Compatible with all Panasonic connectivity solutions.** For detailed information, please visit our website: www.panasonic.com or www.vwr.panasonic.eu.
Panasonic breaks new ground in offering high performance and power in a small space. The 20-25 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 20-25kW systems which are larger and therefore require more space.

### Specification Table

<table>
<thead>
<tr>
<th>Indoor Unit</th>
<th>Outdoor Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
<td>KIT-200PE2ES</td>
</tr>
<tr>
<td><strong>Cooling Capacity</strong></td>
<td>Nominal (Min - Max) kW</td>
</tr>
<tr>
<td><strong>EER</strong></td>
<td>Nominal</td>
</tr>
<tr>
<td><strong>Power Input Cooling</strong></td>
<td>Nominal kW</td>
</tr>
<tr>
<td><strong>Running Amperes</strong></td>
<td>—</td>
</tr>
<tr>
<td><strong>Heating Capacity</strong></td>
<td>Nominal (Min - Max) kW</td>
</tr>
<tr>
<td><strong>COP</strong></td>
<td>Nominal</td>
</tr>
<tr>
<td><strong>Power Input Heating</strong></td>
<td>Nominal kW</td>
</tr>
<tr>
<td><strong>Running Amperes</strong></td>
<td>—</td>
</tr>
</tbody>
</table>

#### Indoor Unit

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>External Static Pressure at Shipement</td>
<td>Pa</td>
<td>60</td>
<td>72</td>
</tr>
<tr>
<td>Air Volume</td>
<td>Hi / Med / Lo m³/h</td>
<td>3.360 / 3.060 / 2.640</td>
<td>4.320 / 3.780 / 3.180</td>
</tr>
<tr>
<td>Moisture Removal Volume</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Sound Pressure Level</td>
<td>Hi / Med / Lo dB(A)</td>
<td>67 / 65 / 62</td>
<td>79 / 77 / 74</td>
</tr>
<tr>
<td>Sound Power Level</td>
<td>Hi / Med / Lo dB</td>
<td>72</td>
<td>72</td>
</tr>
<tr>
<td>Dimensions</td>
<td>H x W x D mm</td>
<td>479 x 1.453 x 1.205</td>
<td>479 x 1.453 x 1.205</td>
</tr>
<tr>
<td>Net Weight</td>
<td>kg</td>
<td>100</td>
<td>104</td>
</tr>
</tbody>
</table>

#### Outdoor Unit

<table>
<thead>
<tr>
<th>Power Source</th>
<th>V / ph / Hz</th>
<th>380 / 400 / 415 / 3+N / 50</th>
<th>380 / 400 / 415 / 3+N / 50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended Fuse</td>
<td>A</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>Air Volume</td>
<td>Cooling / Heating m³/h</td>
<td>7.740</td>
<td>7.740</td>
</tr>
<tr>
<td>Sound Pressure Level</td>
<td>Cooling / Heating dB(A)</td>
<td>67 / 69</td>
<td>71 / 73</td>
</tr>
<tr>
<td>Sound Power Level</td>
<td>DB</td>
<td>72</td>
<td>72</td>
</tr>
<tr>
<td>Dimensions</td>
<td>H x W x D mm</td>
<td>1.526 x 940 x 340</td>
<td>1.526 x 940 x 340</td>
</tr>
<tr>
<td>Net Weight</td>
<td>kg</td>
<td>118</td>
<td>118</td>
</tr>
<tr>
<td>Piping Connections</td>
<td>Liquid pipe mm (inch)</td>
<td>9.52 (3/8)</td>
<td>12.7 (1/2)</td>
</tr>
<tr>
<td></td>
<td>Gas pipe mm (inch)</td>
<td>25.4 (1)</td>
<td>25.4 (1)</td>
</tr>
<tr>
<td>Refrigerant Loading</td>
<td>kg</td>
<td>5.3</td>
<td>5.3</td>
</tr>
<tr>
<td>Elevation Difference</td>
<td>Max m</td>
<td>30 / 30</td>
<td>30 / 30</td>
</tr>
<tr>
<td>Piping Length</td>
<td>Max m</td>
<td>1.180</td>
<td>1.180</td>
</tr>
<tr>
<td>Precharge Length</td>
<td>Max m</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Additional Charge</td>
<td>g/m</td>
<td>40</td>
<td>40</td>
</tr>
</tbody>
</table>

#### Operating Range

- **Cooling Min / Max °C**
  - Min: -15 / +46
  - Max: -15 / +46

- **Heating Min / Max °C**
  - Min: -20 / +24
  - Max: -20 / +24

**Energy Saving**

**Easy Control by BMS**

**Possible to use on** R22 Piping

**R22 General**

---

**Notes:**

1. EER and COP, Energy Saving Classification, is at 230 / 240 / 220 / 200 / 180 V only in accordance with EU directive 2002/49/EC. EER is calculated in base Eurovent EPV for SBEM for U1 indoor unit. COP is calculated in base Eurovent EPV for SBEM with U1 Indoor unit including defrost correction factor. 3) Heating capacity is calculated including defrost factor correction. 4) Heating capacity is calculated including defrost factor correction. 5) The sound pressure level of the units shows the value measured at a position 1 meter in front of the main body and 1,5 m from the ground. The sound pressure level of the units shows the value measured at a position 1 meter in front of the main body and 1,5 m from the ground. The sound pressure level of the units shows the value measured at a position 1 meter in front of the main body and 1,5 m from the ground. The sound pressure level of the units shows the value measured at a position 1 meter in front of the main body and 1,5 m from the ground.

For detailed information about ErP, please visit our websites www.aircon.panasonic.eu or www.ptc.panasonic.eu
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

Features

ENERGY EFFICIENCY AND ECOLOGY
- Maximum efficiency Inverter system
- R410A environmentally friendly refrigerant gas

COMFORT
- Cooling with low outdoor temperatures (down to -15°C)
- Heating with low outdoor temperatures (down to -20°C)
- Selection of temperature sensor at indoor unit or wired remote control

EASY 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

<table>
<thead>
<tr>
<th>Air Outlet Plenum (suitable for rigid + flexible duct)</th>
<th>N. of exits with diameters</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-250PE1E8</td>
<td>1 x 500 mm</td>
<td>CZ-TREMIESPW706</td>
</tr>
<tr>
<td>S-200PE1E8A</td>
<td>1 x 450 mm</td>
<td>CZ-TREMIESPW705</td>
</tr>
</tbody>
</table>
PACi Twin, Triple and Double-Twin System

With this system, a single outdoor unit can split capacity for up to 4 indoor areas simultaneously. This makes the system particularly apt for common areas. It reduces noise concentration and enables the same temperature to be reached around the room. A mix of indoor units can be installed (wall, cassette, duct, ceiling) in one system.

PACi Standard Single and Twin System from 10,0 to 12,5 kW

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.

PACi Elite Twin, Triple and Double-Twin System from 7,1 to 14,0 kW

Up to 4 indoor units can be connected to the same outdoor unit. Panasonic’s PACi units 71, 100, 125 and 140 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.

Big PACi Elite Twin, Triple and Double-Twin System from 20,0 to 25,0 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.
### Indoor unit capacities

<table>
<thead>
<tr>
<th>Capacity</th>
<th>Wall 4 Way 60x60</th>
<th>4 Way 90x90 Cassette</th>
<th>4 Way Wall/90 Cassette</th>
<th>Low Static Pressure Hide Away</th>
<th>High Static Pressure Hide Away</th>
<th>Ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.6 kW</td>
<td>S-36PK1E5A</td>
<td>S-36PY2E5A</td>
<td>S-36PU1E5A</td>
<td>S-36PF1E5A</td>
<td>S-36PT2E5A</td>
<td></td>
</tr>
<tr>
<td>4.5 kW</td>
<td>S-45PK1E5A</td>
<td>S-45PY2E5A</td>
<td>S-45PU1E5A</td>
<td>S-45PF1E5A</td>
<td>S-45PT2E5A</td>
<td></td>
</tr>
<tr>
<td>5.0 kW</td>
<td>S-50PK1E5A</td>
<td>S-50PY2E5A</td>
<td>S-50PU1E5A</td>
<td>S-50PF1E5A</td>
<td>S-50PT2E5A</td>
<td></td>
</tr>
<tr>
<td>6.0 kW</td>
<td>S-50PF1E5A</td>
<td>S-60PK1E5A</td>
<td>S-60PF1E5A</td>
<td>S-60PT2E5A</td>
<td>S-60PT2E5A</td>
<td></td>
</tr>
<tr>
<td>7.1 kW</td>
<td>S-71PK1E5A</td>
<td>S-71PY2E5A</td>
<td>S-71PU1E5A</td>
<td>S-71PF1E5A</td>
<td>S-71PT2E5A</td>
<td></td>
</tr>
<tr>
<td>10.0 kW</td>
<td>S-100PK1E5A</td>
<td>S-100PY2E5A</td>
<td>S-100PU1E5A</td>
<td>S-100PF1E5A</td>
<td>S-100PT2E5A</td>
<td></td>
</tr>
<tr>
<td>12.5 kW</td>
<td>S-125PH1E5A</td>
<td>S-125PH1E5A</td>
<td>S-125PM1E5A</td>
<td>S-125PM1E5A</td>
<td>S-125PM1E5A</td>
<td></td>
</tr>
</tbody>
</table>

### Outdoor unit capacities

<table>
<thead>
<tr>
<th>Capacity</th>
<th>PACi Standard Single and Twin System</th>
<th>PACi Elite Twin, Triple and Double-Twin System from 7.1 to 14.0 kW</th>
<th>PACi Elite Twin, Triple and Double-Twin System from 20.0 to 25.0 kW</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1 kW</td>
<td>U-71PEY1E5A</td>
<td>U-71PE1E5A // U-71PE1E8</td>
<td></td>
</tr>
<tr>
<td>10.0 kW</td>
<td>U-100PEY1E5A // U-100PEY1E8</td>
<td>U-100PE1E5A // U-100PE1E8</td>
<td></td>
</tr>
<tr>
<td>12.5 kW</td>
<td>U-125PEY1E5A // U-125PEY1E8</td>
<td>U-125PE1E5A // U-125PE1E8</td>
<td></td>
</tr>
<tr>
<td>14.0 kW</td>
<td>U-140PEY1E5A</td>
<td>U-140PE1E5A // U-140PE1E8</td>
<td></td>
</tr>
<tr>
<td>20.0 kW</td>
<td></td>
<td></td>
<td>U-200PE1E8</td>
</tr>
<tr>
<td>25.0 kW</td>
<td></td>
<td></td>
<td>U-250PE1E8</td>
</tr>
</tbody>
</table>

1. PACi 1x1 Kit solution.

---

### PACI Standard Single/Simultaneous operation system combinations

<table>
<thead>
<tr>
<th>kW</th>
<th>Indoor 7.1</th>
<th>10.0</th>
<th>12.5</th>
<th>14.0</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Twin</td>
<td>Twin</td>
<td>Twin</td>
<td>Twin</td>
</tr>
<tr>
<td>3.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.1</td>
<td>Single¹</td>
<td>Twin</td>
<td>Twin</td>
<td>Twin</td>
</tr>
<tr>
<td>10.0</td>
<td>Single¹</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.5</td>
<td>Single¹</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14.0</td>
<td>Single¹</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

¹. PACi 1x1 Kit solution.

### PACI Elite from 7.1 to 14.0 kW Single/Simultaneous operation system combinations

<table>
<thead>
<tr>
<th>kW</th>
<th>Outdoor 7.1</th>
<th>10.0</th>
<th>12.5</th>
<th>14.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.6</td>
<td>Twin</td>
<td>Twin</td>
<td>Twin</td>
<td>Twin</td>
</tr>
<tr>
<td>4.5</td>
<td>Twin</td>
<td>Triple</td>
<td>Triple</td>
<td>Triple</td>
</tr>
<tr>
<td>5.0</td>
<td>Twin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.0</td>
<td>Twin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.1</td>
<td>Single¹</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.0</td>
<td>Single¹</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.5</td>
<td>Single¹</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### PACI Elite from 20.0 to 25.0 kW Single/Simultaneous operation system combinations

<table>
<thead>
<tr>
<th>kW</th>
<th>Outdoor 20.0</th>
<th>25.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0</td>
<td>Double-Twin</td>
<td></td>
</tr>
<tr>
<td>6.0</td>
<td>Double-Twin</td>
<td></td>
</tr>
<tr>
<td>7.1</td>
<td>Triple</td>
<td></td>
</tr>
<tr>
<td>10.0</td>
<td>Twin</td>
<td></td>
</tr>
<tr>
<td>12.5</td>
<td>Twin</td>
<td></td>
</tr>
<tr>
<td>20.0</td>
<td>Single¹</td>
<td></td>
</tr>
<tr>
<td>25.0</td>
<td>Single¹</td>
<td></td>
</tr>
</tbody>
</table>

¹. PACi 1x1 Kit solution.
### Twin System

**PACi Standard Single and Twin System**
- Indoor unit combinations (see examples above)
- Equivalent lengths and height differences (m) for outdoor unit sizes...

<table>
<thead>
<tr>
<th>Single</th>
<th>Twin</th>
<th>Triple</th>
<th>Double-Twin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total pipe length</td>
<td>L</td>
<td>L + L1 + L2</td>
<td>≤ 50 m</td>
</tr>
<tr>
<td>Maximum pipe length from outdoor unit to most distant indoor unit</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Maximum branch pipe length</td>
<td>L1, L2</td>
<td>L1 or L2</td>
<td>≤ 15 m</td>
</tr>
<tr>
<td>Maximum branch pipe length differences</td>
<td>L1 &gt; L2: L1 - L2</td>
<td>≤ 10 m</td>
<td>L1 &gt; L2: L1 - L2</td>
</tr>
<tr>
<td>Maximum pipe length differences after first branch (Double-Twin)</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Maximum pipe length differences after second branch (Double-Twin)</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Height difference (outdoor unit located higher)</td>
<td>H1</td>
<td>H1</td>
<td>≤ 30 m</td>
</tr>
<tr>
<td>Height difference (outdoor unit located lower)</td>
<td>H1</td>
<td>H1</td>
<td>≤ 15 m</td>
</tr>
<tr>
<td>Height difference between indoor units</td>
<td>–</td>
<td>H2</td>
<td>≤ 0.5 m</td>
</tr>
</tbody>
</table>

**PACi Elite Twin, Triple and Double-Twin System from 7.1 to 14 kW**
- Indoor unit combinations (see examples above)
- Equivalent lengths and height differences (m) for outdoor unit sizes from 7.1 to 14 kW

<table>
<thead>
<tr>
<th>Single</th>
<th>Twin</th>
<th>Triple</th>
<th>Double-Twin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total pipe length</td>
<td>L</td>
<td>L + L1 + L2</td>
<td>≤ 50 m</td>
</tr>
<tr>
<td>Maximum pipe length from outdoor unit to most distant indoor unit</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Maximum branch pipe length</td>
<td>L1, L2</td>
<td>L1 or L2</td>
<td>≤ 15 m</td>
</tr>
<tr>
<td>Maximum branch pipe length differences</td>
<td>L1 &gt; L2: L1 - L2</td>
<td>≤ 10 m</td>
<td>L1 &gt; L2: L1 - L2</td>
</tr>
<tr>
<td>Maximum pipe length differences after first branch (Double-Twin)</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Maximum pipe length differences after second branch (Double-Twin)</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Height difference (outdoor unit located higher)</td>
<td>H1</td>
<td>H1</td>
<td>≤ 30 m</td>
</tr>
<tr>
<td>Height difference (outdoor unit located lower)</td>
<td>H1</td>
<td>H1</td>
<td>≤ 15 m</td>
</tr>
<tr>
<td>Height difference between indoor units</td>
<td>–</td>
<td>H2</td>
<td>≤ 0.5 m</td>
</tr>
</tbody>
</table>

### Triple System

**PACi Standard Single and Twin System**
- Joint distribution (sold separately)
  - A = CZ-P224BK2BM

**PACi Elite Twin, Triple and Double-Twin System from 7.1 to 14 kW**
- Joint distribution (sold separately)
  - A = CZ-P224BK2BM
  - B = CZ-P3HPC2BM
  - C = CZ-P224BK2BM

**PACi Elite Twin, Triple and Double-Twin System from 20.0 to 25.0 kW**
- Joint distribution (sold separately)
  - A = CZ-P680BK2BM
  - B = CZ-P10HP2BM
  - C = CZ-P224BK2BM

### 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 lengths 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.

### Table

<table>
<thead>
<tr>
<th>Unit type capacity</th>
<th>100</th>
<th>125</th>
<th>50</th>
<th>60</th>
<th>71 - 140</th>
<th>36</th>
<th>45</th>
<th>50</th>
<th>60</th>
<th>71</th>
<th>200</th>
<th>250</th>
<th>100 - 125</th>
<th>50</th>
<th>60 - 125</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid pipe (mm)</td>
<td>Ø 9.52</td>
<td>Ø 12.7</td>
<td>Ø 6.35</td>
<td>Ø 9.52</td>
<td>Ø 6.35</td>
<td>Ø 9.52</td>
<td>Ø 6.35</td>
<td>Ø 9.52</td>
<td>Ø 6.35</td>
<td>Ø 6.35</td>
<td>Ø 9.52</td>
<td>Ø 6.35</td>
<td>Ø 9.52</td>
<td>Ø 6.35</td>
<td>Ø 9.52</td>
</tr>
<tr>
<td>Gas pipe (mm)</td>
<td>Ø 16.00</td>
<td>Ø 15.88</td>
<td>Ø 12.7</td>
<td>Ø 15.88</td>
<td>Ø 12.7</td>
<td>Ø 12.7</td>
<td>Ø 12.7</td>
<td>Ø 12.7</td>
<td>Ø 12.7</td>
<td>Ø 12.7</td>
<td>Ø 12.7</td>
<td>Ø 12.7</td>
<td>Ø 12.7</td>
<td>Ø 12.7</td>
<td>Ø 12.7</td>
</tr>
<tr>
<td>Additional charge (g/m)</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
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<td>80</td>
<td>40</td>
<td>80</td>
<td>40</td>
<td>80</td>
</tr>
</tbody>
</table>

1. Total capacity of indoor unit connected after the branch.
### 4 Way 60x60 Cassette

<table>
<thead>
<tr>
<th>Panel</th>
<th>C2-KP2U1 / C2-KP1B</th>
<th>C2-KP3S / C2-KP3B</th>
<th>C2-KP9 / C2-KP1B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (H x W x D)</td>
<td>250 x 780 x 100</td>
<td>250 x 780 x 100</td>
<td>250 x 1000 x 650</td>
</tr>
<tr>
<td>Sound pressure level</td>
<td>250 x 900 x 350</td>
<td>250 x 1100 x 650</td>
<td>300 x 1000 x 650</td>
</tr>
<tr>
<td>Outdoor Three Phase</td>
<td>U-100PEY1E5</td>
<td>U-125PEY1E5</td>
<td>U-140PEY1E5</td>
</tr>
<tr>
<td>Refrigerant Loading R410A</td>
<td>1,7</td>
<td>2,60</td>
<td>3,20</td>
</tr>
<tr>
<td>Elevation difference (in/out)</td>
<td>Max m 30</td>
<td>Max m 30</td>
<td>Max m 30</td>
</tr>
<tr>
<td>Capacity for all indoor</td>
<td>kW</td>
<td>kW</td>
<td>kW</td>
</tr>
<tr>
<td>Power source</td>
<td>Single Phase</td>
<td>Single Phase</td>
<td>Single Phase</td>
</tr>
<tr>
<td>Heating (Hi / Med / Lo)</td>
<td>dB(A)</td>
<td>dB(A)</td>
<td>dB(A)</td>
</tr>
<tr>
<td>Cooling / Heating</td>
<td>m³ / h</td>
<td>m³ / h</td>
<td>m³ / h</td>
</tr>
</tbody>
</table>

### 4 Way 96x90 Cassette

<table>
<thead>
<tr>
<th>Panel</th>
<th>C2-KP2U1 / C2-KP1B</th>
<th>C2-KP3S / C2-KP3B</th>
<th>C2-KP9 / C2-KP1B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (H x W x D)</td>
<td>250 x 780 x 100</td>
<td>250 x 780 x 100</td>
<td>250 x 1000 x 650</td>
</tr>
<tr>
<td>Sound pressure level</td>
<td>250 x 900 x 350</td>
<td>250 x 1100 x 650</td>
<td>300 x 1000 x 650</td>
</tr>
<tr>
<td>Outdoor Three Phase</td>
<td>U-100PEY1E5</td>
<td>U-125PEY1E5</td>
<td>U-140PEY1E5</td>
</tr>
<tr>
<td>Refrigerant Loading R410A</td>
<td>1,7</td>
<td>2,60</td>
<td>3,20</td>
</tr>
<tr>
<td>Elevation difference (in/out)</td>
<td>Max m 30</td>
<td>Max m 30</td>
<td>Max m 30</td>
</tr>
<tr>
<td>Capacity for all indoor</td>
<td>kW</td>
<td>kW</td>
<td>kW</td>
</tr>
<tr>
<td>Power source</td>
<td>Single Phase</td>
<td>Single Phase</td>
<td>Single Phase</td>
</tr>
<tr>
<td>Heating (Hi / Med / Lo)</td>
<td>dB(A)</td>
<td>dB(A)</td>
<td>dB(A)</td>
</tr>
<tr>
<td>Cooling / Heating</td>
<td>m³ / h</td>
<td>m³ / h</td>
<td>m³ / h</td>
</tr>
</tbody>
</table>

### 5 Way Low Static Pressure Hide Away

<table>
<thead>
<tr>
<th>Panel</th>
<th>C2-KP2U1 / C2-KP1B</th>
<th>C2-KP3S / C2-KP3B</th>
<th>C2-KP9 / C2-KP1B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (H x W x D)</td>
<td>250 x 780 x 100</td>
<td>250 x 780 x 100</td>
<td>250 x 1000 x 650</td>
</tr>
<tr>
<td>Sound pressure level</td>
<td>250 x 900 x 350</td>
<td>250 x 1100 x 650</td>
<td>300 x 1000 x 650</td>
</tr>
<tr>
<td>Outdoor Three Phase</td>
<td>U-100PEY1E5</td>
<td>U-125PEY1E5</td>
<td>U-140PEY1E5</td>
</tr>
<tr>
<td>Refrigerant Loading R410A</td>
<td>1,7</td>
<td>2,60</td>
<td>3,20</td>
</tr>
<tr>
<td>Elevation difference (in/out)</td>
<td>Max m 30</td>
<td>Max m 30</td>
<td>Max m 30</td>
</tr>
<tr>
<td>Capacity for all indoor</td>
<td>kW</td>
<td>kW</td>
<td>kW</td>
</tr>
<tr>
<td>Power source</td>
<td>Single Phase</td>
<td>Single Phase</td>
<td>Single Phase</td>
</tr>
<tr>
<td>Heating (Hi / Med / Lo)</td>
<td>dB(A)</td>
<td>dB(A)</td>
<td>dB(A)</td>
</tr>
<tr>
<td>Cooling / Heating</td>
<td>m³ / h</td>
<td>m³ / h</td>
<td>m³ / h</td>
</tr>
</tbody>
</table>

### Hide Away High Static Pressure

<table>
<thead>
<tr>
<th>Panel</th>
<th>C2-KP2U1 / C2-KP1B</th>
<th>C2-KP3S / C2-KP3B</th>
<th>C2-KP9 / C2-KP1B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (H x W x D)</td>
<td>250 x 780 x 100</td>
<td>250 x 780 x 100</td>
<td>250 x 1000 x 650</td>
</tr>
<tr>
<td>Sound pressure level</td>
<td>250 x 900 x 350</td>
<td>250 x 1100 x 650</td>
<td>300 x 1000 x 650</td>
</tr>
<tr>
<td>Outdoor Three Phase</td>
<td>U-100PEY1E5</td>
<td>U-125PEY1E5</td>
<td>U-140PEY1E5</td>
</tr>
<tr>
<td>Refrigerant Loading R410A</td>
<td>1,7</td>
<td>2,60</td>
<td>3,20</td>
</tr>
<tr>
<td>Elevation difference (in/out)</td>
<td>Max m 30</td>
<td>Max m 30</td>
<td>Max m 30</td>
</tr>
<tr>
<td>Capacity for all indoor</td>
<td>kW</td>
<td>kW</td>
<td>kW</td>
</tr>
<tr>
<td>Power source</td>
<td>Single Phase</td>
<td>Single Phase</td>
<td>Single Phase</td>
</tr>
<tr>
<td>Heating (Hi / Med / Lo)</td>
<td>dB(A)</td>
<td>dB(A)</td>
<td>dB(A)</td>
</tr>
<tr>
<td>Cooling / Heating</td>
<td>m³ / h</td>
<td>m³ / h</td>
<td>m³ / h</td>
</tr>
</tbody>
</table>

### 6 Way Ceiling

<table>
<thead>
<tr>
<th>Panel</th>
<th>C2-KP2U1 / C2-KP1B</th>
<th>C2-KP3S / C2-KP3B</th>
<th>C2-KP9 / C2-KP1B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (H x W x D)</td>
<td>250 x 780 x 100</td>
<td>250 x 780 x 100</td>
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</tr>
<tr>
<td>Sound pressure level</td>
<td>250 x 900 x 350</td>
<td>250 x 1100 x 650</td>
<td>300 x 1000 x 650</td>
</tr>
<tr>
<td>Outdoor Three Phase</td>
<td>U-100PEY1E5</td>
<td>U-125PEY1E5</td>
<td>U-140PEY1E5</td>
</tr>
<tr>
<td>Refrigerant Loading R410A</td>
<td>1,7</td>
<td>2,60</td>
<td>3,20</td>
</tr>
<tr>
<td>Elevation difference (in/out)</td>
<td>Max m 30</td>
<td>Max m 30</td>
<td>Max m 30</td>
</tr>
<tr>
<td>Capacity for all indoor</td>
<td>kW</td>
<td>kW</td>
<td>kW</td>
</tr>
<tr>
<td>Power source</td>
<td>Single Phase</td>
<td>Single Phase</td>
<td>Single Phase</td>
</tr>
<tr>
<td>Heating (Hi / Med / Lo)</td>
<td>dB(A)</td>
<td>dB(A)</td>
<td>dB(A)</td>
</tr>
<tr>
<td>Cooling / Heating</td>
<td>m³ / h</td>
<td>m³ / h</td>
<td>m³ / h</td>
</tr>
</tbody>
</table>

### Compatible Outdoor Units

<table>
<thead>
<tr>
<th>Outdoor Single Phase</th>
<th>U-100PEY1E5</th>
<th>U-125PEY1E5</th>
<th>U-140PEY1E5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (H x W x D)</td>
<td>250 x 780 x 100</td>
<td>250 x 780 x 100</td>
<td>250 x 1000 x 650</td>
</tr>
<tr>
<td>Sound pressure level</td>
<td>250 x 900 x 350</td>
<td>250 x 1100 x 650</td>
<td>300 x 1000 x 650</td>
</tr>
<tr>
<td>Outdoor Three Phase</td>
<td>U-100PEY1E5</td>
<td>U-125PEY1E5</td>
<td>U-140PEY1E5</td>
</tr>
<tr>
<td>Refrigerant Loading R410A</td>
<td>1,7</td>
<td>2,60</td>
<td>3,20</td>
</tr>
<tr>
<td>Elevation difference (in/out)</td>
<td>Max m 30</td>
<td>Max m 30</td>
<td>Max m 30</td>
</tr>
<tr>
<td>Capacity for all indoor</td>
<td>kW</td>
<td>kW</td>
<td>kW</td>
</tr>
<tr>
<td>Power source</td>
<td>Single Phase</td>
<td>Single Phase</td>
<td>Single Phase</td>
</tr>
<tr>
<td>Heating (Hi / Med / Lo)</td>
<td>dB(A)</td>
<td>dB(A)</td>
<td>dB(A)</td>
</tr>
<tr>
<td>Cooling / Heating</td>
<td>m³ / h</td>
<td>m³ / h</td>
<td>m³ / h</td>
</tr>
</tbody>
</table>

### Customizable Options

- **Wired remote controller**: C2-RTC5
- **Timer remote controller**: C2-RTC4
- **Wireless remote controller**: Various type
- **Simplified remote controller**: C2-RE2C2
**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 two sizes - 900mm and 1200mm electric air curtains. Ideal for separating areas and energy saving.

<table>
<thead>
<tr>
<th></th>
<th>FY-10ESPNAH</th>
<th>FY-10ELPNAH</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Width</strong></td>
<td>900</td>
<td>1,200</td>
</tr>
<tr>
<td><strong>Watts</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hi W</td>
<td>71,5</td>
<td>96</td>
</tr>
<tr>
<td>Lo W</td>
<td>61,5</td>
<td>74</td>
</tr>
<tr>
<td><strong>Current</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hi A</td>
<td>0,40</td>
<td>0,34</td>
</tr>
<tr>
<td>Lo A</td>
<td>0,29</td>
<td>0,35</td>
</tr>
<tr>
<td><strong>Air speed</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hi m/s</td>
<td>13,0</td>
<td>13,1</td>
</tr>
<tr>
<td>Lo m/s</td>
<td>11,1</td>
<td>11,0</td>
</tr>
<tr>
<td><strong>Air volume</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hi m³/h</td>
<td>750</td>
<td>1,000</td>
</tr>
<tr>
<td>Lo m³/h</td>
<td>630</td>
<td>830</td>
</tr>
<tr>
<td><strong>Noise level</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hi dB(A)</td>
<td>46</td>
<td>44</td>
</tr>
<tr>
<td>Lo dB(A)</td>
<td>42</td>
<td>41</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>11 kg</td>
<td>14 kg</td>
</tr>
</tbody>
</table>

Indoor unit dimensions FY-10ESPNAH

**FRONT VIEW**

**BACK VIEW**

Indoor unit dimensions FY-10ELPNAH

**FRONT VIEW**

**BACK VIEW**
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 with DX Coil

Connected to the PACi or VRF Systems

The Panasonic range of air curtains is designed for smooth operation and efficient performance. Air curtains produce a continuous stream of air blown from the top to the bottom of an open doorway and create a barrier that people and products can flow across, but air can’t. Designed to improve energy efficiency, minimise heat loss from a building, and to allow retailers to keep doors open to encourage customers, our Air Curtains are suitable for connection to both PACi and VRF Systems.

- Super-efficient with new EC fan motor (40% lower running costs compared to a standard AC fan motor)
- Easy Cleaning and Servicing
- Can be connected to either Panasonic PACi or VRF systems
- Built-in drain for cooling operation
- Standard and Jet Flow air curtains can be controlled via Panasonic’s range of remote internet controls

The new standard and jet-flow models are ideal for connection to a PACi or ECOi system. With simple ‘plug and play’ installation, both are fitted with an EC fan motor for a smooth operation and efficient performance. This new fan guarantees 40% lower running cost than with a standard AC fan motor. With air curtains often running for 12 hours a day as a minimum, this can lead to considerable savings.

Highly efficient heating effect

The combined air stream, which has a desirable low air current induction factor (mixing factor), can carry the selected initial temperature effect over long distances, and will reach the floor area while still at room temperature. This is necessary to avoid cooling down the interior spaces.

Available in different lengths to suit requirements between 1 and 2.5m, both air curtains have outlet grilles that can be adjusted to five different positions. The jet flow model can be installed up to a height of 3.5m with the standard model up to 3.0m. The outlet grilles can be easily adjusted into five positions to suit different installations requirements and the air filter can be accessed without the need for specialist tools.
**Intelligent Operation**

Our air curtains combine air flow and heating / cooling technology to ensure optimum comfort and energy efficiency whilst also creating an effective barrier between indoor and outdoor environments. Design and installation is key to achieving the correct height / temperature settings to achieve optimum performance. Our air curtains are designed to answer the demands of the retail, commercial and industrial markets.

**How does it work?**

Stale air from the room is taken in and ejected near the door. This creates a ‘roll of air’ that shields the door area, mixing with the colder incoming air. It then turns away from the door, back into the room and toward the intake screen, where it is partly drawn in again. This flow of air helps to create a barrier for heat loss yet at the same time refreshes room air.

**Internet Control**

An app added to your tablet or smartphone or via the Internet allows you to control and manage the system remotely. There is also the option to integrate into existing BMS systems by using other Panasonic interfaces.

**Optimised air flow velocity**

1. Energy losses, no air curtain installed
2. Too low velocity air curtain – Air Curtain not efficient
3. Optimum results with the Tekadoor Air Curtain connected to Panasonic PACi
4. Too high velocity air curtain – considerable turbulence, energy lost to the outside, Air Curtain not efficient

**Ideal air flow:**

1.5-2 m/s at 15cm from the floor
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.

<table>
<thead>
<tr>
<th>HP</th>
<th>6 HP</th>
<th>6 HP</th>
<th>8 HP</th>
<th>8 HP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Curtain</td>
<td>PAW-10PAIRC-MJ</td>
<td>PAW-10PAIRC-MJ</td>
<td>PAW-20PAIRC-MJ</td>
<td>PAW-10PAIRC-MS</td>
</tr>
<tr>
<td>Air flow type</td>
<td>Jet-flow</td>
<td>Standard</td>
<td>Jet-flow</td>
<td>Standard</td>
</tr>
<tr>
<td>Air Flow Length (A)</td>
<td>m</td>
<td>1.0</td>
<td>1.5</td>
<td>2.0</td>
</tr>
<tr>
<td>Air volume</td>
<td>m³/h</td>
<td>1.800</td>
<td>2.700</td>
<td>3.600</td>
</tr>
<tr>
<td>High</td>
<td>1.800</td>
<td>2.700</td>
<td>3.600</td>
<td>2.800</td>
</tr>
<tr>
<td>Medium</td>
<td>1.500</td>
<td>2.300</td>
<td>3.000</td>
<td>2.300</td>
</tr>
<tr>
<td>Low</td>
<td>1.200</td>
<td>1.900</td>
<td>2.200</td>
<td>1.900</td>
</tr>
<tr>
<td>Cooling capacity nominal¹</td>
<td>kW</td>
<td>9.2</td>
<td>17.6</td>
<td>23.1</td>
</tr>
<tr>
<td>Heating capacity with air in 20°C, air out 40°C</td>
<td>kW</td>
<td>11.0</td>
<td>17.9</td>
<td>23.9</td>
</tr>
<tr>
<td>Heating capacity with air in 20°C, air out 35°C</td>
<td>kW</td>
<td>8.9</td>
<td>13.4</td>
<td>17.9</td>
</tr>
<tr>
<td>Heating capacity with air in 20°C, air out 30°C</td>
<td>kW</td>
<td>5.9</td>
<td>8.9</td>
<td>11.9</td>
</tr>
<tr>
<td>Max installation height</td>
<td>m</td>
<td>3.5</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Good condition</td>
<td>3.5</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Normal condition</td>
<td>3.5</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Bad condition</td>
<td>2.7</td>
<td>2.7</td>
<td>2.7</td>
<td>2.7</td>
</tr>
<tr>
<td>Refrigerant</td>
<td>R410A</td>
<td>R410A</td>
<td>R410A</td>
<td>R410A</td>
</tr>
<tr>
<td>Liquid pipe</td>
<td>inch (mm)</td>
<td>3/8 (9.52)</td>
<td>3/8 (9.52)</td>
<td>3/8 (9.52)</td>
</tr>
<tr>
<td>Gas pipe</td>
<td>inch (mm)</td>
<td>5/8 (15.88)</td>
<td>3/4 (19.05)</td>
<td>7/8 (22.22)</td>
</tr>
<tr>
<td>Fan</td>
<td>230V / 50Hz / 1 / N / PE</td>
<td>230V / 50Hz / 1 / N / PE</td>
<td>230V / 50Hz / 1 / N / PE</td>
<td>230V / 50Hz / 1 / N / PE</td>
</tr>
<tr>
<td>Fan type</td>
<td>EC</td>
<td>EC</td>
<td>EC</td>
<td>EC</td>
</tr>
<tr>
<td>Currency</td>
<td>High A</td>
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<td>2.7</td>
<td>2.7</td>
</tr>
<tr>
<td>Medium A</td>
<td>0.8</td>
<td>1.5</td>
<td>0.8</td>
<td>1.5</td>
</tr>
<tr>
<td>Low A</td>
<td>0.3</td>
<td>0.6</td>
<td>0.3</td>
<td>0.6</td>
</tr>
<tr>
<td>Electrical Consumption</td>
<td>High kW</td>
<td>0.4</td>
<td>0.99</td>
<td>0.89</td>
</tr>
<tr>
<td>Medium kW</td>
<td>0.17</td>
<td>0.33</td>
<td>0.24</td>
<td>0.24</td>
</tr>
<tr>
<td>Low kW</td>
<td>0.06</td>
<td>0.12</td>
<td>0.06</td>
<td>0.12</td>
</tr>
<tr>
<td>Protecting Fuse</td>
<td>A</td>
<td>M16A</td>
<td>M16A</td>
<td>M16A</td>
</tr>
<tr>
<td>Noise</td>
<td>dB(A)</td>
<td>40-55</td>
<td>40-55</td>
<td>40-57</td>
</tr>
<tr>
<td>Dimensions</td>
<td>mm</td>
<td>1,210 x 260 x 590</td>
<td>1,710 x 260 x 590</td>
<td>2,210 x 260 x 590</td>
</tr>
<tr>
<td>Weight</td>
<td>kg</td>
<td>70</td>
<td>100</td>
<td>130</td>
</tr>
</tbody>
</table>

1) Rated Conditions Cooling Outdoor +35°C DB/+27°C WB, Discharge temperature ≥ 16°C.

All combinations under rated conditions: Heating Outdoor +7°C DB/+6°C WB Indoor +20°C DB. In case of lower outdoor temperatures a higher capacity outdoor unit model may be necessary.
Technical focus
- Save up to 40% Energy Costs by use of the integrated EC Fan Technology (Higher efficiency than conventional AC fan, softstart and longer motor duration)
- 3 Lengths of Air Curtains Jet-Flow, from 1 to 2 m and 2 Lengths of Air Curtains Standard, 1 and 2 m
- Installation Height up to 3.5 m (Jet-Flow) and 3.0 m (Standard)
- Outlet Grilles can be adjusted in five positions, to suite different Indoor and installation requirements (Jet-Flow)
- Control with Panasonic Remote Control systems (optional)
- Direct integration to BMS by optional Panasonic Interfaces
- Drain included for cooling operation
- Drain pump and float switch available for forced drainage

Features
COMFORT
- Easy redirection of Air-Flow by means of manual deflector (Jet-Flow)

EASE OF USE
- Speed selectable on remote controller with 3 speeds

EASY INSTALLATION AND MAINTENANCE
- Easy installation
- Compact dimensions improve installation and positioning (Jet-Flow)
- Easy cleaning of grid without opening of the unit
- Continuous operation even in case of 1 fan motor failure without stopping air curtain function or stopping the complete system
- Warning indication on remote controller display

Jet-flow dimensions

Standard dimensions

Technical focus

Features
Air Handling Unit Kit 10-25 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.

2 types of AHU Kit: Advanced and Standard

<table>
<thead>
<tr>
<th>Model Code</th>
<th>IP 65</th>
<th>0-10V demand control</th>
<th>Outdoor temperature shift compensation. Cold draft prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>CZ-280PAH1</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>PANW-280PAH2</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>PANW-280PAH2L</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

1. Remote control CZ-RTC4
2. New plastic IP 65 Box
3. PANW-T10 PCB for dry contact
4. 0-10V demand control PCB
5. Intelligent thermostat for:
   - Cold draft prevention
   - Outdoor temperature shift compensation
6. Terminal base for sensors and power supply

AHU Connection Kit

- PCB, Power trans, Terminal block
- Thermistor x2
  - Refrigerant: E1, E3
- Thermistor
  - Air: TA; 1 sensor

Remote controller

Standard wired remote controller. Can be installed inside the box.
Panasonic AHU Kit, 10-25 kW connected to PACi outdoor unit

The new Air Handling Unit Kit has been developed to better meet customer demand:

- IP 65 Box in order to be installed outside
- 0-10V demand control* (Only available with Elite PACi, up to from 6kW to 14kW.)
- Easy control by BMS

* Only available with Elite PACi, up to from 6kW to 14kW.

---

Optional parts: Following functions are available by using different control accessories

**CZ-RTC4 Timer 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= Cooling / Heating/Fan status
- Defrost
- Thermostat-ON

**PAW-T10, PCB to connect to T10 connector**
- A Dry contact PCB has been developed to easily control the unit
- Input signal operation ON/OFF
- Remote control prohibition
- Output signal operation ON status maximum 230 V 5 A (NO/NC)
- Output signal alarm status maximum 230 V 5 A (NO/NC)

**Additional available contacts:**
- External humidifier control (ON/OFF) 230 VAC 3 A
- External fan control (ON/OFF) 12V DC
- External filter status signal potential free
- External float switch signal potential free
- External leakage detection sensor or TH. OFF contact potential free
  (possible usage for external blow out temperature control)

---

**0-10V control**

With the 0-10 v demand control the capacity of the outdoor unit can be controlled by 20 steps

<table>
<thead>
<tr>
<th>Analog input (V)</th>
<th>Demand (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 (not connect)</td>
<td>Free</td>
</tr>
<tr>
<td>0.5</td>
<td>Shop</td>
</tr>
<tr>
<td>1.0</td>
<td>40</td>
</tr>
<tr>
<td>1.5</td>
<td>45</td>
</tr>
<tr>
<td>2.0</td>
<td>50</td>
</tr>
<tr>
<td>2.5</td>
<td>55</td>
</tr>
<tr>
<td>3.0</td>
<td>60</td>
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<tr>
<td>3.5</td>
<td>65</td>
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<td>4.0</td>
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<td>85</td>
</tr>
<tr>
<td>6.0</td>
<td>90</td>
</tr>
<tr>
<td>6.5</td>
<td>95</td>
</tr>
<tr>
<td>7.0</td>
<td>100</td>
</tr>
<tr>
<td>7.5</td>
<td>105</td>
</tr>
<tr>
<td>8.0</td>
<td>110</td>
</tr>
<tr>
<td>8.5</td>
<td>115</td>
</tr>
<tr>
<td>9.0</td>
<td>120</td>
</tr>
<tr>
<td>9.5</td>
<td>Free</td>
</tr>
<tr>
<td>10.0</td>
<td>0 (TH. OFF)</td>
</tr>
</tbody>
</table>

---

**Combination table for PACi single outdoor unit**

<table>
<thead>
<tr>
<th>Power</th>
<th>Size (kW)</th>
<th>PACi Standard</th>
<th>PACi Elite</th>
<th>AHU kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Phase</td>
<td>5.0</td>
<td>U-50PEY1E5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>6.0</td>
<td>U-60PEY1E5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7.1</td>
<td>U-71PEY1E5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10.0</td>
<td>U-100PEY1E5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12.5</td>
<td>U-125PEY1E5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>14.0</td>
<td>U-140PEY1E5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Three Phase</td>
<td>10.0</td>
<td>U-100PETEBA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12.5</td>
<td>U-125PETEBA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>14.0</td>
<td>U-140PETEBA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>20.0</td>
<td>U-200PETEBA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>25.0</td>
<td>U-250PETEBA</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Additional notice/instruction for system design, installation work will be defined for PACi connection.
R22 Renewal

Why renewal?

Unique R22 Renewal from Panasonic: Fast, easy to install and Cost effective
- Panasonic refrigerant oil doesn’t react to the most common oil types used in air-conditioning systems. This ensures the mix of oil does not damage the units. Therefore installations are easier.
- All Panasonic PACi units can be installed in R22 pipings, no specific models are available.
- Up to 33 Bar! When there is any doubt about the strength of the piping, the maximum working pressure can be reduced to 33 Bar with a setting in the software of the outdoor unit.

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.

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 under certain conditions. 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.

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 discoloured 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 chargeless 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

<table>
<thead>
<tr>
<th>Capacity class</th>
<th>Standard liquid pipe size</th>
<th>Standard gas pipe size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type 50</td>
<td>Ø 6,35</td>
<td>Ø 12,7</td>
</tr>
<tr>
<td>Type from 60 to 140</td>
<td>Ø 9,52</td>
<td>Ø 15,8</td>
</tr>
<tr>
<td>Type 250</td>
<td>Ø 12,7</td>
<td></td>
</tr>
</tbody>
</table>

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

- Use our genuine branch piping for refrigerant R410A.
- Re-process the flare of existing piping for R410A and use the flare nut attached to the service valve of the outdoor unit (for R410A).

Opposite side dimension of flare nut (mm)

<table>
<thead>
<tr>
<th>Piping size</th>
<th>Ø 6,35</th>
<th>Ø 9,52</th>
<th>Ø 12,7</th>
<th>Ø 15,8</th>
<th>Ø 19,05</th>
</tr>
</thead>
<tbody>
<tr>
<td>For R410A</td>
<td>17</td>
<td>22</td>
<td>26</td>
<td>29</td>
<td>36</td>
</tr>
<tr>
<td>For R22/R407C</td>
<td>17</td>
<td>24</td>
<td>27</td>
<td>30</td>
<td>36</td>
</tr>
</tbody>
</table>

NEW — COMMERCIAL
R22 Renewal

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)

<table>
<thead>
<tr>
<th>Material</th>
<th>Ø 4,35</th>
<th>Ø 5,52</th>
<th>Ø 6,35</th>
<th>Ø 7,94</th>
<th>Ø 10,16</th>
<th>Ø 12,7</th>
<th>Ø 15,88</th>
<th>Ø 20,58</th>
</tr>
</thead>
<tbody>
<tr>
<td>External diameter</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thickness</td>
<td>0,80</td>
<td>0,80</td>
<td>0,80</td>
<td>1,00</td>
<td>1,00</td>
<td>1,00</td>
<td>1,00</td>
<td>1,00</td>
</tr>
</tbody>
</table>

* It is impossible to reuse the size of Ø 19.05, Ø 22.22, Ø 25.4 and Ø 28.58 for material O. Change to material 1/2H or material H.

### Table 2 - 1 Refrigerant piping size: 3.6 - 14.0 kW type (mm)

<table>
<thead>
<tr>
<th>Liquid pipe</th>
<th>Ø 9,52</th>
<th>Ø 12,7</th>
<th>Ø 15,88</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE</td>
<td>Type 60</td>
<td>×</td>
<td>Standard 40 m (30 m)</td>
</tr>
<tr>
<td></td>
<td>Type 71</td>
<td>×</td>
<td>10 m (10 m)</td>
</tr>
<tr>
<td>PEY</td>
<td>Type 60</td>
<td>×</td>
<td>10 m (10 m)</td>
</tr>
<tr>
<td></td>
<td>Type 71</td>
<td>×</td>
<td>10 m (10 m)</td>
</tr>
<tr>
<td></td>
<td>Type 100</td>
<td>×</td>
<td>30 m (10 m)</td>
</tr>
<tr>
<td></td>
<td>Type 125</td>
<td>×</td>
<td>30 m (10 m)</td>
</tr>
<tr>
<td></td>
<td>Type 140</td>
<td>×</td>
<td>30 m (10 m)</td>
</tr>
</tbody>
</table>

### Table 2 - 2 Refrigerant piping size: 20.0 - 25.0 kW type (mm)

<table>
<thead>
<tr>
<th>Liquid pipe</th>
<th>Ø 9,52</th>
<th>Ø 12,7</th>
<th>Ø 15,88</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE</td>
<td>Type 200</td>
<td>×</td>
<td>Standard 100 m (30 m)</td>
</tr>
<tr>
<td></td>
<td>Type 250</td>
<td>×</td>
<td>80 m (30 m)</td>
</tr>
</tbody>
</table>

### Table 3 Deterioration Criteria for Refrigerant Oil

| R22 Renewal | 0 | 0.5 | 1.0 | 1.5 | 2.0 | 2.5 | 3.0 | 3.5 | 4.0 | 4.5 | 5.0 | 5.5 | 6.0 | 6.5 | 7.0 | 7.5 | 8.0 |
|-------------|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|

How to see table definition (example):

In case of type 71, standard size is liquid pipe Ø 9.52 / gas pipe Ø 15.88,
There is a limitation to liquid pipe Ø 9.52 / gas pipe Ø 12.7 and to liquid pipe Ø 12.7 / gas pipe Ø 15.88.
However, they are applicable for different diameter’s pipes.
Control Systems

Control equipment external dimensions

Timer remote controller (CZ-RTC4)

Wireless remote controller

Separate receiver for wireless remote controller

Simplified remote controller (CZ-RSC2)
Remote sensor (CZ-CSR2)

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)
PKEA dimensions

Wall Mounted PKEA

CS-E9PKEA // CS-E12PKEA

TOP view

CS-E15PKEA // CS-E18PKEA

TOP view

CU-E9PKEA // CU-E12PKEA

TOP view

CU-E15PKEA // CU-E18PKEA

TOP view

Dimensions: mm

Air outlet direction

Air intake direction

Right piping hole

Left piping hole

3-way valve at gas side (Low Pressure)

2-way valve at liquid side (High Pressure)

2-way valve at liquid side (High Pressure)

3-way valve at gas side (Low Pressure)
PACi Standard and Elite dimensions

Wall

4-Way 60x60 Cassette

Adjust the suspension bolt length so that the gap from the lower ceiling surface becomes 45mm or more, as shown in the figure at right. If the suspension bolts is too long, it will contact the ceiling panel and the unit cannot be installed.

1. Air intake
2. Discharge outlet
3. Refrigerant tubing (liquid tube) Ø 6.35 (flared)
4. Refrigerant tubing (gas tube) Ø 12.7 (flared)
5. Drain tube connection port VP25 Outer dia. Ø 32
6. Power supply port
7. Suspension bolt hole 4-11 x 26 hole
8. Fresh air intake duct connection port Ø 80
Low Static Pressure Hide Away

S-36PN1E5A // S-45PN1E5A // S-50PN1E5A

S-60PN1E5A // S-71PN1E5A

S-100PN1E5A // S-125PN1E5A // S-140PN1E5A

Adjust the suspension bolt length so that the gap from the lower ceiling surface becomes 30mm or more (18mm or more from the lower surface of the body) as shown in the figure. When the suspension bolt length is long, it hits the ceiling panel and installation is not possible.

Dimensions: mm

### PACi Standard and Elite dimensions

#### 4 Way 90x90 Cassette

<table>
<thead>
<tr>
<th>Type</th>
<th>36 - 71</th>
<th>100 - 140</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Air intake grill</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Air discharge outlet</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Refrigerant piping (liquid pipes)</td>
<td>Ø 6.35 (flared)</td>
</tr>
<tr>
<td>4</td>
<td>Refrigerant piping (gas pipes)</td>
<td>Ø 12.7 (flared)</td>
</tr>
<tr>
<td>5</td>
<td>Drain outlet VP90</td>
<td>Outer diameter 32mm</td>
</tr>
<tr>
<td>6</td>
<td>Power supply port</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Refrigerant piping (gas pipes)</td>
<td>Ø 162</td>
</tr>
<tr>
<td>8</td>
<td>Refrigerant piping (gas pipes)</td>
<td>Ø 113</td>
</tr>
<tr>
<td>9</td>
<td>Fresh air intake duct connection port</td>
<td>Ø 100¹</td>
</tr>
</tbody>
</table>

1 Air inlet kit is necessary. Filter size: 520 x 520 x 16
High Static Pressure Hide Away

S-36PF1ESA // S-45PF1ESA // S-50PF1ESA

1. Refrigerant tubing joint (liquid tube) Ø 6.35 flare
2. Refrigerant tubing joint (gas tube) Ø 12.7 flare
3. Upper drain port VP25 Outer diameter 32mm Ø 70 flexible hose supplied
4. Bottom drain port VP 25 Outer diameter Ø 32mm
5. Suspension lug 4-12 x 30mm
6. Power supply outlet
7. Fresh air intake port Ø 150mm
8. Flange for flexible air outlet duct
9. Electrical component box

S-60PF1ESA // S-71PF1ESA

1. Refrigerant tubing joint (liquid tube) Ø 9.52 flare
2. Refrigerant tubing joint (gas tube) Ø 15.88 flare
3. Upper drain port VP25 Outer diameter Ø 32mm Ø 200 flexible hose supplied
4. Bottom drain port VP 25 Outer diameter 32mm
5. Suspension lug 4-12 x 30mm
6. Power supply outlet
7. Fresh air intake port Ø 150mm
8. Flange for flexible air outlet duct
9. Electrical component box

Dimensions: mm
PACi Standard and Elite dimensions

High Static Pressure Hide Away (Cont.)

S-100PF1E5A // S-125PF1E5A // S-140PF1E5A

Dimensions: mm

1 Refrigerant tubing joint Ø 9.52 flare (liquid)
2 Refrigerant tubing joint Ø 15.88 flare (gas)
3 Upper drain port VP25 O.D. Ø 32mm & 200 flexible hose supplied
4 Bottom drain port VP 25 (Outer diameter 32mm)
5 Suspension lug 4-12 x 30mm
6 Power supply outlet
7 Fresh air intake port Ø 150mm
8 Flange for flexible air outlet duct
9 Electrical component box
Ceiling

S-60PT2E5A // S-71PT2E5A

1. Drain port VP20 (Inside diameter Ø 26mm, drain hose supplied)
2. Left drain position
3. Refrigerant liquid tubing Ø 9.52mm, flare connection
4. Refrigerant gas tubing Ø 15.88mm, flare connection
5. Left side drain hose outlet port (cutout)
6. Tubing hole on wall surface Ø 18mm
7. Upper side tubing port
8. Right side drain hose outlet port (cutout)
9. Wireless remote controller receiver installation location

Tubing hole position on wall surface (Figure shows view from front)

S-100PT2E5A // S-125PT2E5A // S-140PT2E5A

1. Drain port VP20 (Inside diameter Ø 26mm, drain hose supplied)
2. Left drain position
3. Refrigerant liquid tubing Ø 9.52mm, flare connection
4. Refrigerant gas tubing Ø 15.88mm, flare connection
5. Left side drain hose outlet port (cutout)
6. Tubing hole on wall surface Ø 100mm
7. Upper side tubing port
8. Right side drain hose outlet port (cutout)
9. Wireless remote controller receiver installation location

Tubing hole position on wall surface (Figure shows view from front)

Dimensions: mm
PACi Standard and Elite dimensions

High Static Pressure Hide Away 20,0-25,0 kW

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) Ø 9.52 (flared)
3. Refrigerant piping (gas pipe) Ø 15.88 (flared)
4. Electrical wiring port Ø 13
5. Electrical wiring port Ø 22
6. Electrical wiring port Ø 27
7. Electrical wiring port Ø 35
Outdoor unit PACi Standard 14,0 kW and PACi Elite from 10,0 to 14,0 kW

1. Mounting hole (4-R4.5), anchor bolt M10
2. Refrigerant piping (liquid pipe) Ø 9.52 (flared)
3. Refrigerant piping (gas pipe) Ø 15.88 (flared)
4. Electrical wiring port Ø 13
5. Electrical wiring port Ø 22
6. Electrical wiring port Ø 27
7. Electrical wiring port Ø 32

Dimensions: mm
Outdoor unit Big PACi Elite 20,0 and 25,0 kW

2 x Ø 32 holes (Holes for drain)
Of the 4 Ø 32 holes, use 3 of the 2 holes specified for drain use to install the port. Use rubber plugs to seal the remaining 2 holes.

<table>
<thead>
<tr>
<th>Name</th>
<th>Figure</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reducing Joint Tube (Ø 19.05 ➡ Ø 25.4)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Joint Tube (Ø 19.05)</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Remark: There are two types of supplied tubings. The one tubing port Ø 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 (Ø 25.4).
Panasonic has developed the largest range of control systems to offer the best option to each need. From the individual remote control for the residential single units up to the newest technology to control each your buildings around the world from an easy to use software in the cloud by your portable device.
Panasonic Smart Cloud

Take control of all your shops around the world from a single device.

Centralize control of your business premises, from wherever you are, 24/7

It doesn’t matter how many sites you have, or where they are! The new Cloud system from Panasonic allows you to have complete control of all your installations, from your smartphone or from your computer. In a simple click, all your units from several locations, receive status updates in real-time of all your installations, preventing breakdowns and optimizing costs.

With Panasonic Smart Cloud, have your business under control, and start saving!

- Monitor temperature in your shops, optimize temperatures, reduce energy costs!
- Monitor running time, anticipate maintenance and optimise costs consumption
- Monitor breakdowns in order to take quick action to maintain the comfort in the shops
- Monitor energy consumption and running time of the units
- Compare the performance of your shops easily and develop best practices plan
- Alarms
- 2 connections possible:
  - by internet, using the shop internet connection
  - by 3G module. In this case, the system does not need internet connection, but a SIM Card and the 3G contract should be supply on the field.

Main Advantages

- Control of all installations from a single internet connection, in the cloud
- All the parameters automatically updated from the GHP/ECOi/PACi in real time
- Remote maintenance advice
- Alarms
Security
Panasonic has developed both physical and software protection with a high level of encryption to secure your data on our servers which are located in Germany.

Scalable solution according to the needs
Panasonic Smart Cloud is fully scalable to the needs of your shops, franchises, facility companies.

Panasonic Smart Cloud is giving value not only for your business but also for your partners

3 steps to setup the Smart Cloud
Panasonic Smart Cloud is very easy to install on existing and new installations. The communication adaptor (CZ-CFUNC2 + PAW-CCA-1) is connected to the Panasonic bus and the Ethernet. Then in only 3 steps, the cloud system is running.

### Availability of the solution

<table>
<thead>
<tr>
<th>Phase</th>
<th>Feature</th>
<th>May 2014</th>
<th>September 2014</th>
<th>December 2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>On/Off of units/groups/sites</td>
<td>✔</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
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<tr>
<td>1</td>
<td>Set mode per units/groups/sites</td>
<td>✔</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>1</td>
<td>Set temperature per units/groups/sites</td>
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<td>✗</td>
<td>✗</td>
<td>✔</td>
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<td>Running time per units</td>
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<tr>
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<td>Advanced statistics (working hours, performance etc.)</td>
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<td>✔</td>
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<td>Energy consumption calculation</td>
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<td>✔</td>
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<td>2</td>
<td>Systems ranking mode based on definite parameters</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>2</td>
<td>Error logs</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>2</td>
<td>Status on map</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>2</td>
<td>Email notifications</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>3</td>
<td>3-G module</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>3</td>
<td>Maintenance module</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>3</td>
<td>Energy Management module</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>

1) This service is available on a 2 year base contract, with automatic renewal every year. The parties can cancel the contract at the end of the year with 3 month notice. 2) This cost only covers the activation of the system on the cloud. The 3G card and the 3G monthly fee from the telecommunication company is not included and must be supply locally.
Remote controller with Econavi

Easy to use, attractive, clear design, with new demand control functions and energy consumption display! This useful feature makes this remote control unique!

Design
The new CZ-RTC5 wired remote control is ideal for integration into the most demanding interior architectures.
The touch panel features a very sleek and easy to use display, which with its compact display is only 120mm x 120mm x 16mm.

Display of information
The information is mainly based on pictograms to ensure easy understanding.
The minimal amount of text is available in 4 languages (English / German / French / Spanish / Italian).
The screen is back lit to enable reading even during the night.

Easy Access to the menus
With the new pictograms, the navigation, the selection and the settings are simple and easy to follow.

Key Functions
- Easy setup of the timer and settings of the indoor unit
- Energy consumption display (only available with PACi units with the reference ending with A)
- Limitation of the energy consumption (Demand control) by timer.
Basic function (Operation display & indication)

All functions are easily available on the remote controller.
- OFF/ON timer
- Weekly timer
- Quiet operation
- Remote control sensor
- Operation prohibit
- Filter sign
- Energy saving
- Centralized control indication
- Mode change prohibit
- Automatic temperature return
- Temperature range limitation
- OFF remind
- Schedule demand control
- Ventilation
- Out Function

Example of easy access to the functions: Air direction setting
2. Select the unit No. by up/down key.
3. Select the flap position by up/down key.
4. Press “Return” key to go back the Menu display.

Example of easy access to the functions: Weekly timer setting
8 actions available per day. Total 56 actions per week can be set.
1. Weekly timer menu display
2. Setting for each day of the week
3. Timer program setting of the day

Example of easy access to the functions: Energy consumption monitoring display per day, week, month and year (only available with PACi units)

Functions available on the CZ-RTC5

<table>
<thead>
<tr>
<th>Control item</th>
<th>Controllability</th>
<th>Indoor Units</th>
<th>All PACi</th>
<th>Only PACi ending on A</th>
<th>All VRF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Operation</td>
<td>Operation, Mode, Temperature setting, Airflow volume, Airflow direction</td>
<td>✔✔✔</td>
<td>✔✔✔</td>
<td>✔✔✔</td>
<td>✔✔✔</td>
</tr>
<tr>
<td>Timer function</td>
<td>Time display</td>
<td>✔✔✔</td>
<td>✔✔✔</td>
<td>✔✔✔</td>
<td>✔✔✔</td>
</tr>
<tr>
<td>Energy saving</td>
<td>Outing function</td>
<td>✔✔</td>
<td>✔✔</td>
<td>✔✔</td>
<td>✔✔</td>
</tr>
<tr>
<td>Maintenance</td>
<td>System failure information</td>
<td>✔✔</td>
<td>✔✔</td>
<td>✔✔</td>
<td>✔✔</td>
</tr>
<tr>
<td>Others</td>
<td>Key lock</td>
<td>✔✔</td>
<td>✔✔</td>
<td>✔✔</td>
<td>✔✔</td>
</tr>
</tbody>
</table>
Econavi Sensor

The all new Econavi Sensor detects presence in the room, and quietly adapts the PACi or VRF air conditioning system in order to improve comfort and maximise energy savings.

- Detects human activity and adjusts temperature by 2 degrees (up or down) to optimize comfort and efficiency
- If there is no activity detected for a set time, the Econavi will stop the unit or move to a new temperature previously set
- The Econavi device is installed independently of the indoor unit, and is located in the area best suited for detection

Applications

- Saving Energy for Offices: if the air conditioning is left on after the last employee leaves the office, Econavi will automatically react, reducing or stopping the system.
- Increased comfort in hotel rooms: when presence is detected in the room, the temperature is automatically adjusted to achieve best comfort.

Econavi function

- Analyses room activity: Human activities and human heat
- Modifies the capacity to adapt in real-time to the needs of the room

Key points

- Compatible with Cassette, Wall Mounted, Hide Away and Ceiling · Sensor · Improves efficiency · Better Comfort · Can be installed in the best place of the room for detection purposes.
Human activity and presence detection

<table>
<thead>
<tr>
<th>Activity detection</th>
<th>Presence detection</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HIGHER ACTIVITY</strong></td>
<td><strong>LOWER ACTIVITY</strong></td>
</tr>
<tr>
<td>Cooling Set Temp. +/-0°C</td>
<td>Cooling Set Temp. +/-1°C</td>
</tr>
<tr>
<td>Heating Set Temp. -1°C</td>
<td>Heating Set Temp. +/-0 °C</td>
</tr>
<tr>
<td><strong>After 20 mins absence</strong></td>
<td><strong>After 3 hours absence</strong></td>
</tr>
<tr>
<td>Cooling Set Temp. +2°C</td>
<td>Heating Thermo OFF</td>
</tr>
<tr>
<td>Heating Set Temp. -2°C</td>
<td>Heating Thermo OFF</td>
</tr>
<tr>
<td>Each 2 min</td>
<td>After 3 hours set up can be change to stop or temp shift</td>
</tr>
</tbody>
</table>

Sensor location image

Model evaluation only for PACi (Laboratory Testing/Cooling Operation)

**Test Method**
To establish conditions for our field tests, because human movements and door open/close are random, we did not test on set conditions. To replicate typical conditions, we have fixed variable numbers (see below) and tested how Econavi’s temperature control function contributes to energy efficiency level.

For each temperature setting, we have tested and compared power consumption at three-hourly intervals.

**Integral Power Consumption Cooling Operation**

Test Condition
- **Test location:** New 6,0HP testing room / 29m²
- **Test sample remote controller setting:** Setting temperature: Cooling 24 ~28°C / Fan Speed: Hi
- **Measured integral power consumption every 30 minutes and compare (including thermo OFF period)**
- **Room temperatures / 19°C, outdoor temperature 35/24°C (cooling nominal capacity) cool down the room for 1 hour and keep the room temperature stable. After the room temperature become stable, turn OFF indoor unit refrigerator and heater and only operate circulator and continue cooling down the room by the unit (operating circulator to avoid temperature variation)**

**Test Sample Testing Location:** Building 1.440 NEW 6,0HP TESTING ROOM

**28% ENERGY SAVING**

<table>
<thead>
<tr>
<th>Operating Time (hours)</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Integral power consumption (kWh)</strong></td>
<td>0.0</td>
<td>1.0</td>
<td>2.0</td>
<td>3.0</td>
</tr>
<tr>
<td><strong>Increasing setting temperature +2°C during cooling operation, maximum 28% Energy Saving can achieved.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Operation System

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Individual Control Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control for hotel application (for VRF)</td>
<td>Wired remote controller</td>
</tr>
</tbody>
</table>

### External appearance

- **Intelligent Controller**: Normal operation
- **Normal operation with Econavi**: Design wired remote controller
- **Wireless remote controller**: Simplified remote controller

### Type, model name

- **PAW-RE2C3-MOD-WH**
- **PAW-RE2C3-MOD-GR**
- **PAW-RE2C3-2SN-DC**
- **PAW-RE2C3-LON-GR**

#### Stand-Alone White
- **Stand-Alone White**: Modbus White
- **Modbus Grey**: LonWorks White
- **LonWorks Grey**: LonWorks Grey

- **CZ-RTC2**: Will be replaced in June by **CZ-RTC4**
- **CZ-RTC3**: Will be replaced in October by **CZ-RTC5**
- **CZ-RE2C2**

### Econavi Control

- **Econavi Control**

### Power consumption monitor

- **Power consumption monitor**

### Built-in Thermostat

- **Built-in Thermostat**

### I/O which can be controlled

- **I/O which can be controlled**: 1 indoor unit

### 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**
- **CZ-RE2C2**: up to 2 controllers can be connected per group
- **CZ-RELC2**: cannot operate other (SUB) remote controller

### Function ON/OFF

- **Function ON/OFF**

### Mode setting

- **Mode setting**: AUTO

### Fan speed setting

- **Fan speed setting**

### Temperature setting

- **Temperature setting**

### Air flow direction

- **Air flow direction**

### Permit/Prohibit switching

- **Permit/Prohibit switching**

### Weekly program

- **Weekly program**

---

1. Setting is not possible when a remote control unit is present (use the remote control for setting).
2. Only for PAC Elite except 50 type.

*All specifications subject to change without notice.*
# Control systems for PACi, ECOi and ECO G

A wide variety of control options to meet the requirements of different applications.

<table>
<thead>
<tr>
<th>Timer Operation</th>
<th>Centralized Control Systems</th>
<th>Connection with 3rd Party Controller</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily and weekly program</td>
<td>Operation with various function from center station</td>
<td>P-AIMS. Basic Software</td>
</tr>
<tr>
<td></td>
<td>Only ON/OFF operation from center station</td>
<td>Optional software</td>
</tr>
<tr>
<td></td>
<td>Simplified load distribution ratio (LDR) for each tenant</td>
<td>Web Interface Systems</td>
</tr>
<tr>
<td>Schedule timer</td>
<td>BMS System. PC Base</td>
<td>CZ-ESWC2 CZ-ANC2 CZ-CFUNC2 CZ-CAPBC2</td>
</tr>
<tr>
<td>System controller</td>
<td>System controller</td>
<td>CZ-64ESMC2 CZ-CWBBC2 CZ-CAPDC2</td>
</tr>
<tr>
<td>New System Controller with Schedule timer</td>
<td>ON/OFF Controller</td>
<td>CZ-64ESMC2 (Available in December 2015. Tentative data)</td>
</tr>
<tr>
<td>ON/OFF Controller</td>
<td>Intelligent Controller (Touch screen panel)</td>
<td>CZ-ANC2 CZ-256ESMC2 (CZ-CFUNC2)</td>
</tr>
</tbody>
</table>

- **CZ-ESWC2**
  - 64 groups, max. 64 units
  - 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

- **CZ-ANC2**
  - 64 groups, max. 64 units
  - 16 groups, max. 64 units

- **CZ-256ESMC2** (CZ-CFUNC2)
  - 64 units x 4 systems, max. 256 units
  - A communication adaptor (CZ-CFUNC2) must be installed for three or more systems

- **New System Controller**
  - 64 units, max. 64 units
  - Use without remote controller is impossible

- **Required power supply from the system controller**
  - When there is no system controller, connection is possible to the terminal of an indoor unit

- **When there is no system controller, connection is possible to the terminal of an indoor unit**
  - Use without remote controller is possible

- **Web Interface Systems**
  - CZ-CWBBC2
  - *PC required (field supply)*

*PC required (field supply)*
Control for hotel application

Nice, easy and cost effective!
Panasonic has developed an innovative line up of remote controls specially designed for applications:

- Easy to install
- Cost effective installation as all electrical cable are centralized on this remote
- Architect inspired attractive design
- Direct connection to the Indoor unit with most of the functions of the indoor unit
- 3 options available: Stand-Alone, Modbus or LonWorks communication
- 2 frame colours: White and aluminium

From this remote control:
- The lighting, card contact, motion detector, window contact and the air conditioning are controlled.

Energy saving functions included on the device:
- Turns Off air conditioning and lighting when room is unoccupied
- Disables air conditioning when window is open
- Maximum/minimum setpoint temperature configurable

Easy remote control:
- The hotel customer will have access to limited functions to control the air conditioning:
  - ON/OFF, Temperature (under a certain limit fixed during the start up) and Fan speed

Easy set up:
- Stand-Alone model with easy configuration menu to access all parameters. The installation is simplified as all the cables should arrive to the remote control. A pre-define scenario can be uploaded on the remote control connected to a computer to make installation on site plug and play (only on the Modbus and LonWorks models).
Control to integrate all room hotel needs in one device:
Card switch. Heating and cooling control.
Light control. Window control. Possible to connect to Modbus

Four preconfigured systems (option 1 to 4)
The remote control have a 4 preconfigured systems in order to easily integrate it.

4 options available I/O configurations: Inputs

<table>
<thead>
<tr>
<th>Configurations</th>
<th>Digital</th>
<th>Digital</th>
<th>Digital</th>
<th>Analog</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>Card</td>
<td>Window</td>
<td>Lighting</td>
<td>Temperature</td>
</tr>
<tr>
<td>Option 2</td>
<td>Card</td>
<td>Window</td>
<td>Blinds Up</td>
<td>Blinds Down</td>
</tr>
<tr>
<td>Option 3</td>
<td>Motion Sensor</td>
<td>Window</td>
<td>Door Contact</td>
<td>Temperature</td>
</tr>
<tr>
<td>Option 4</td>
<td>Lighting</td>
<td>Window</td>
<td>Blinds Up</td>
<td>Blinds Down</td>
</tr>
</tbody>
</table>

I/O Definitions: Inputs

<table>
<thead>
<tr>
<th>Description</th>
<th>Functionality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Card</td>
<td>Occupancy room status. Enable HVAC Control and automatically switches ON Courtesy and Lighting outputs</td>
</tr>
<tr>
<td>Window</td>
<td>Temporary disables HVAC System</td>
</tr>
<tr>
<td>Lighting</td>
<td>Pushbutton to turn ON/OFF Lighting Output when room occupp.</td>
</tr>
<tr>
<td>Temperature</td>
<td>Analog input for Valve Actuator output control on 2nd zone</td>
</tr>
<tr>
<td>Blinds Up</td>
<td>Pushbutton for Blind Up motor output control</td>
</tr>
<tr>
<td>Blinds Down</td>
<td>Pushbutton for Blind Down motor output control</td>
</tr>
<tr>
<td>Motion Sensor</td>
<td>In combination with Door Contact, enables HVAC Control and automatically switches ON Courtesy and Lighting outputs</td>
</tr>
<tr>
<td>Door Contact</td>
<td>In combination with Motion Sensor, enables HVAC Control and automatically switches ON Courtesy and Lighting outputs</td>
</tr>
</tbody>
</table>

I/O Definitions: Outputs

<table>
<thead>
<tr>
<th>Description</th>
<th>Functionality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Courtesy</td>
<td>Automatically turns ON when room changes to occupied or unoccupied mode. It turns to OFF after a configurable time-out</td>
</tr>
<tr>
<td>Lighting</td>
<td>Automatically turns ON/OFF when room changes to occupied/unoccupied. Manual override with Lighting input</td>
</tr>
<tr>
<td>Valve Actuator</td>
<td>HVAC Control for a 2nd zone</td>
</tr>
<tr>
<td>Blinds Up</td>
<td>Output for Blind Up motor control</td>
</tr>
<tr>
<td>Blinds Down</td>
<td>Output for Blind Down motor control</td>
</tr>
</tbody>
</table>

Example I/O: Wiring configuration for Option 2

Example I/O: Option 2

<table>
<thead>
<tr>
<th>Terminals</th>
<th>Description</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>A, B</td>
<td>Modbus RS-485</td>
<td>Bi-directional</td>
</tr>
<tr>
<td>R1, R2</td>
<td>Indoor Unit</td>
<td>Bi-directional</td>
</tr>
<tr>
<td>1, 2</td>
<td>Card contact</td>
<td>Digital Input</td>
</tr>
<tr>
<td>3, 4</td>
<td>Window Contact</td>
<td>Digital Input</td>
</tr>
<tr>
<td>5, 6</td>
<td>Blinds Up</td>
<td>Digital Input</td>
</tr>
<tr>
<td>7, 8</td>
<td>Blinds Down</td>
<td>Analog Input</td>
</tr>
<tr>
<td>9, 10</td>
<td>Blinds Down</td>
<td>Relay Output</td>
</tr>
<tr>
<td>11, 12</td>
<td>Blinds Up</td>
<td>Relay Output</td>
</tr>
<tr>
<td>13, 14</td>
<td>Lighting Room</td>
<td>Relay Output</td>
</tr>
<tr>
<td>15, 16</td>
<td>Lighting Courtesy</td>
<td>Relay Output</td>
</tr>
</tbody>
</table>

Panasonic Reference

- PAW-RE2C3-WH Stand-Alone with I/O White frame
- PAW-RE2C3-GR Stand-Alone with I/O Grey frame
- PAW-RE2C3-MOD-WH Modbus RS-485 with I/O White frame
- PAW-RE2C3-MOD-GR Modbus RS-485 with I/O Grey frame
- PAW-RE2C3-LON-WH LonWorks TP/FT-10 with I/O White frame
- PAW-RE2C3-LON-GR LonWorks TP/FT-10 with I/O Grey frame
Individual Control Systems


- Time Function 24 hours real time clock (week day indicator)
- Weekly programme function (a maximum of 6 actions can be programmed for each day)
- Sleeping function (this function controls the room temperature for comfortable sleeping)
- Maximum 8 indoor units can be controlled from one remote controller
- Remote control by main remote controller and sub controller is possible (maximum 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
- Outing function (this function can prevent the room temperature from dropping or rising when the occupants are out for a long time)
- Dimensions (H x W x D): 120 x 120 x 20 mm
- Weight: 160 g

Basic remote controller ON/OFF
- Econavi compatible
- Operation mode changeover (Cooling, Heating, Dry, Auto, Fan)
- Temperature setting (Cooling / Dry: 18-30 °C Heating: 16-30 °C)
- Fan speed setting High / Medium / Low and Auto
- Air flow direction adjustment

High-spec wired remote controller (CZ-RTC5) (Available in October 2015)

- Power consumption monitor (only for PACi)
- Flat face design & Touch sensor switch for stylish design and operating usability
- New functions such as for Energy saving & monitoring and for Service use are available on the Full dot LCD (3,5” display)
- Improved illumination
- White LED backlit
- Blink when alarm occurs

Timer remote controller (CZ-RTC2)

- Time Function 24 hours real time clock (week day indicator)
- Weekly programme function (a maximum of 6 actions can be programmed for each day)
- Sleeping function (this function controls the room temperature for comfortable sleeping)
- Maximum 8 indoor units can be controlled from one remote controller
- Remote control by main remote controller and sub controller is possible (maximum 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
- Outing function (this function can prevent the room temperature from dropping or rising when the occupants are out for a long time)

Basic remote controller ON/OFF
- Operation mode changeover (Cooling, Heating, Dry, Auto, Fan)
- Temperature setting (Cooling / Dry: 18-30 °C Heating: 16-30 °C)
- Fan speed setting High / Medium / Low and Auto
- Air flow direction adjustment

Dimensions (H x W x D): 120 x 120 x 16mm

* Several functions can not use on some outdoor unit. Ex. Power consumption monitor is not available for PACi Standard, Big PAC and PACi Elite 50 type.
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

Remote sensor (CZ-CSRC3) (Available in July 2015)

- New appearance design based on simplified remote controller chassis

Wireless remote controller

- 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-RWSC3 is used, wireless control becomes possible for all indoor units (1: when a separate receiver is set up in a different room, control from that room also becomes possible. 2: automatic operation by means of the emergency operation button is possible even when the remote controller has been lost or the batteries have been exhausted)
- Operation of separate energy recovery ventilators (When commercial ventilation fans or heat-exchange ventilation fans have been installed, they can be operated with this remote control (interlocked operation with the indoor unit or independent ventilation ON/OFF)

Simplified remote controller (CZ-RE2C2)

- 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)
- Dimensions (H x W x D): 120 x 70 x 16mm
Centralised Control Systems

Schedule timer (CZ-ESWC2)

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 (maximum 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.)

Dimensions (H x W x D): 120 x 120 x 16mm.

ON/OFF controller (CZ-ANC2)

- 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.

Dimensions (H x W x D): 121 x 122 x 14 + 52mm (embedding dimension).

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.
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.

Central 1
The remote controller cannot be used for ON/OFF. (All other operations are possible from the remote controller.)
Central 3
The remote controller cannot be used for mode change or temperature setting change. (All other operations are possible from the remote controller.)
Central 4
The remote controller cannot be used for operation mode change. (All other operations are possible from the remote controller.)

Joint use with a remote controller, an intelligent controller, a schedule timer, etc. is possible
(The maximum number of connectable system controllers is 10, including other central controllers on the same circuit.)
(In case of joint use with a wireless remote controller, there are limitations for the control mode. Please use only with "Individual" and "Central 1".)

Control of systems without a remote controller and of main/sub systems (a total of up to 2 units) is possible

A control mode corresponding to the use condition can be selected from 10 patterns
A. Operation mode: Central control mode or remote control mode can be selected
Central control mode: The system controller is used as centralised control device. (Setting from a remote controller can be prohibited by prohibiting local operation from the system controller.)
Remote control mode: The system controller is used as a remote controller. (Setting from the system controller can be prohibited by prohibiting local operation from another central control unit.)
B. Controlled unit number mode: All mode or zone 1, 2, 3, 4 mode can be selected
All mode: All, zone, or group unit can be selected.
Zone 1, 2, 3, 4 mode: Setting is possible only for the indoor units of zone 1, 2, 3, or 4.

Connection example

<table>
<thead>
<tr>
<th>Controlled unit number mode</th>
<th>A Operation mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>All mode</td>
<td>Central control mode</td>
</tr>
<tr>
<td>Zone 1 mode</td>
<td>Zone 1 control. Example 1</td>
</tr>
<tr>
<td>Zone 2 mode</td>
<td>Zone 2 control. Example 2</td>
</tr>
<tr>
<td>Zone 3 mode</td>
<td>Zone 3 control. Example 4</td>
</tr>
<tr>
<td>Zone 4 mode</td>
<td>Zone 4 control. Example 5</td>
</tr>
</tbody>
</table>

Dimensions (H x W x D): 120 x 120 x 21 + 69 mm (embedding dimension).
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, maximum 1 A).
Total wiring length: 1 km.

New System Controller with scheduled timer (CZ-64ESMC3) (available in December 2015)

**NEW -- CONTROL AND CONNECTIVITY**
Intelligent controller (CZ-256ESMC2)

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)
- 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”.

Dimensions (H x W x D): 240 x 280 x 138mm.
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/All 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.

CZ-CBPCC2: Additional back up memory for CZ-256ESMC2.
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, 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.

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.

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, 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.
Centralised Control Systems

Seri-Para I/O unit for outdoor unit (CZ-CAPDC2 for ECOi / CZ-CAPDC3 for Mini ECOi and PACi)

- 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.

Dimensions (H x W x D): 80 x 290 x 260mm.
Power supply: Single Phase 100/200V (50/60Hz), 18W.
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

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.

Demand Control 0 -10 V (CZ-CAPBC2)

- Control and status monitoring is possible for individual indoor unit (1 group).
- In addition to operation and stop, there is a digital input function for air speed and operation mode.
- Temperature setting and measuring of the indoor suction temperature can be performed from central monitoring.
- The analog input for demand of the outdoor capacity by 20 steps (from 40% to 120%) by 0-10V.
- 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).

* Ask to your distributor.
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.

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.

**PC Environment:**
- XP Professional
- CPU: Pentium 2.8 GHz or over
- Memory: 2 GB or over
- HDD: 100 GB or over
- Wiring length (PC~C/A) Max. 1 km
- Max. 8 C/A for 1 system
- Wiring length for each link from C/A Max. 1 km

**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).
Centralised Control Systems

A custom web application to manage the centralized operation of A2W and GHP systems.

Operation and monitoring of devices connected to the new Management System can be realized both remotely/locally from any device with connection to the internet (Laptop, Tablet, Mobile)

The new system will make the interaction with air conditioning systems easier, improving the operation set as well as the global control of installations.

The application will act with various units, regardless of whether they are available in the same intranet or in different locations, transparently to users at any time. In this way, our solution allows to overcome main restrictions like onsite maintenance or the lack of centralization.

In addition, the application offers significant improvements in terms of control:
- Aircon units can be grouped in a totally custom way
- Possibility to realize group commands and batch commands (in succession)
- Alarms and events can be controlled more efficiently and a lot more...

Features of current system

**Operation Functions**
- Start & Stop
- Temperature settings
- Operation mode selection
- Fan speed, Fan direction settings
- Prohibition of use of remote controller

**Operation Monitoring**
- Monitoring of operation status and alarms
- Monitoring of filter cleaning signs
- Display of alarm logs

**Program Timers**
- Up to 50 types of weekly timer
- Holiday and Special Days

**Current installation**

Main restrictions: Decentralization: need to connect to every CZ-WEB one by one to manage installation.
On-site maintenance: Access limited to local network.

**Benefits**

The new solution for the centralized control of air conditioning systems offers significant benefits for the different actors involved in its management:

**For the building Ownership:**
- Maximum equipment performance
- Energy saving
- Increased lifetime of equipment
- Savings in maintenance costs

**For Maintenance companies:**
- Instant knowledge of any incident
- Possibility of preventive alarms
- Reduction of systematic visits (warning and remote control)
- More effective maintenance support

Offer reliable solution to improve existing functionalities

- Running timer
- Remote control through Web Cloud Application or local. Accessible anytime, anywhere, via a device with internet connection
- Centralized Control: Manage several installations in one single interface. Ideal for multi-site organizations
- Easy monitoring and maintenance thanks to group commands, and batch commands. Easy supervision of complex installations
- Secure Remote Access. Powerful identity protection and convenient access control
PACi and VRF Control

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 air conditioning systems deliver maximum performance. You can properly manage the air conditioning and perform comprehensive monitoring and control, with all of the features the remote control provides, from anywhere in the world thanks to the internet applications Panasonic has created for you.

Internet Control

Control your air conditioning system with your smart device - smartphone & internet for PACi and VRF Systems

What’s Internet Control?

Internet Control is a next generation system providing user-friendly remote control of air conditioning or heat pump units, 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.
PACi and VRF 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 / Modbus / LonWorks / BACnet installations.

PACi Connectivity

Easy connection to KNX, Modbus, LonWorks and BACnet

Great flexibility for integration into your KNX / Modbus / LonWorks / BACnet projects allows fully bi-directional monitoring and control of all the functioning parameters.

For more information, contact Panasonic.

Communication adaptor for VRF Connectivity (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 68mm

* 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
ECOi and GHP Connectivity

New Plug and play interface connected directly to the P-Link

The interface has been designed specifically for Panasonic and provides complete monitoring, control and full functionality of the Etherea, 4-Way 60x60 cassette and Low static pressure hide away line-up from IntesisHome, KNX, EnOcean, Modbus and BacNet installations. This connectivity solution is made by a third party company, please contact Panasonic for more information.

<table>
<thead>
<tr>
<th>Panasonic model name</th>
<th>Interface Connected on P-link or in the indoor unit</th>
<th>Maximum number of indoor units connected</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECOi / PACi Indoor Units</td>
<td>PAW-RC2-KNX-1i KNX Indoor unit</td>
<td>1 (1 Group of Indoor units)</td>
</tr>
<tr>
<td></td>
<td>PAW-RC2-MBS-1 Modbus RTU* Indoor unit</td>
<td>1 (1 Group of Indoor units)</td>
</tr>
<tr>
<td></td>
<td>PAW-RC2-ENO-1i EnOcean Indoor unit</td>
<td>1 (1 Group of Indoor units)</td>
</tr>
<tr>
<td></td>
<td>PA-RC2-WIFI-1 IntesisHome Indoor unit</td>
<td>1 (1 Group of Indoor units)</td>
</tr>
<tr>
<td>ECOi P-Link</td>
<td>PAW-AC-KNX-64 KNX** P-link</td>
<td>64</td>
</tr>
<tr>
<td></td>
<td>PAW-AC-KNX-128 KNX** P-link</td>
<td>128</td>
</tr>
<tr>
<td></td>
<td>PAW-TH-MBS-RTU-64 Modbus RTU** P-link</td>
<td>64</td>
</tr>
<tr>
<td></td>
<td>PAW-TH-MBS-TCP-128 Modbus TCP** P-link</td>
<td>128</td>
</tr>
<tr>
<td></td>
<td>PAW-AC-BAC-64 Bacnet** P-link</td>
<td>64</td>
</tr>
<tr>
<td></td>
<td>PAW-AC-BAC-128 Bacnet** P-link</td>
<td>128</td>
</tr>
<tr>
<td></td>
<td>CZ-CFUNC2 Lonworks P-link</td>
<td>16 groups of max. 8 indoor units, in total max. 64 indoor units</td>
</tr>
</tbody>
</table>

* Interface Modbus RTU/TCP is needed in case if Modbus TCP connection. PAW-MBS-TCP2RTU (Modbus RTU Slave devices).
** Interface CZ-CFUNC2 needed.

Example of BMS connection for air conditioner central control system
ECOi, ECO G and PACi Connectivity indoor units

<table>
<thead>
<tr>
<th>PCB’s and cables for ECOi, ECO G and PACi indoor units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of the cables</td>
</tr>
<tr>
<td>---------------------</td>
</tr>
<tr>
<td>CZ-T10</td>
</tr>
<tr>
<td>PAW-FDC</td>
</tr>
<tr>
<td>PAW-OCT</td>
</tr>
<tr>
<td>CZ-CAPE3</td>
</tr>
<tr>
<td>PAW-ECT</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of the PBC</th>
<th>Function</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAW-T10</td>
<td>All T10 functions</td>
<td>Allows easy connection “Plug &amp; Play”</td>
</tr>
<tr>
<td>PAW-T10F</td>
<td>All T10 functions + powermonitoring</td>
<td>Same like PAW-T10 + monitoring the power supply of indoor unit</td>
</tr>
<tr>
<td>PAW-T10H</td>
<td>ON/OFF; Prohibit 5VDC &amp; 230VAC</td>
<td>Specials for single hotel card or window contact</td>
</tr>
<tr>
<td>PAW-T10HW</td>
<td>ON/OFF; Prohibit 5VDC</td>
<td>For hotel card + window contact at same time</td>
</tr>
<tr>
<td>PAW-PACR3</td>
<td>Redundancy of 2 or 3 systems; for ECOi and PACi</td>
<td>Redundancy of 2 or 3 ECOi or PACi systems including temperature monitoring, error indication, backup, alternative run</td>
</tr>
<tr>
<td>PAW-SERVER-PKEA</td>
<td>Redundancy of 2 units PKEA</td>
<td>Redundancy of 2 units PKEA including temperature monitoring, error indication, backup, alternative run</td>
</tr>
</tbody>
</table>

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.

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

- Condition:
  1. 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. 2-3 (Static input): Open / Operation with Remote is permitted. (Normal condition) Close / Remote controller is prohibited.
  3. 4-5 (Static output): 12 V output during the unit ON. / No output at OFF.
  4. 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

Example of applications

<table>
<thead>
<tr>
<th>T10 connector (CN015)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>8</td>
</tr>
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</table>

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

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<td>8</td>
</tr>
</tbody>
</table>

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 (CN032)**

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 (CN032).

- 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

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 3m or less.

* Lead wire with 2P plug (special-order part: WIRE K/854 05280 75300)

**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

**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.

- Relay (DC 12V, field supply) (Note)
- Indoor unit control PCB (CR1)
- OPTION
- Fan signal
- Heat start signal
- Cool start signal
- Thermostat signal
- Defrost signal

Note: The relay must be installed at a distance of 2 m or less from the PCB.

**Examples of wiring:**

**NEW — CONTROL AND CONNECTIVITY**
Do not add or replace refrigerant other than the specified type. Manufacturer is not responsible for the damage and deterioration in safety due to usage of the other refrigerant.

The outdoor units in this catalogue contains fluorinated greenhouse gases with a GWP higher than 150.

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