Panasonic

NEW AQUAREA RANGE HIGH-EFFICIENCY HEAT PUMP TECHNOLOGY

2014 - 2015

NEW AQUAREA AIR TO WATER HEAT PUMP 2014 - 2015

heatingandcoolingsystems

AQUAREA

Panasonic

NEW 2014 / 2015

AQUAREA AIR TO WATER HEAT PUMP

Summary

CE

Quality Management System Certificate

Certified to ISO 9001: 2008
Panasonic Appliances Air-Conditioning Malaysia. Sdn.Bhd.
Cert. No.: MY-AR 1010

Certified to ISO 9001: 2008
Panasonic Appliances Air-Conditioning (GuangZhou) Co., Ltd.
Registration Number: 01209Q20645R5L

Environmental Management System Certificate

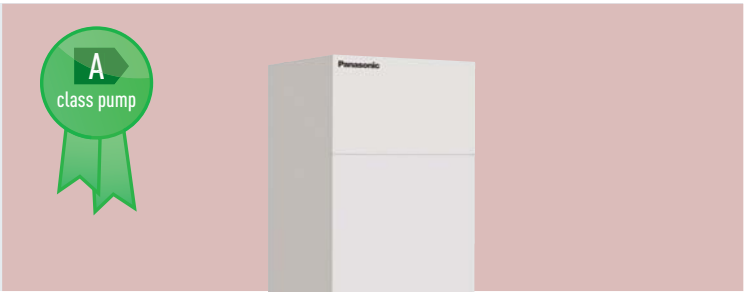
Certified to ISO 14001: 2004
Panasonic Appliances Air-Conditioning Malaysia Sdn.Bhd.
Cert. No.: MY-ER0112

Certified to ISO 14001: 2004
Panasonic Appliances Air-Conditioning (GuangZhou) Co., Ltd.
Registration Number: 02110E10562R4L

NEW

New All in One solution from 3 to 16kW with 200l tank, A class pump and small foot print. Ideal for new and retrofit homes.

PG 30



NEW

New 5kW Monobloc, the most efficient solution of the market with a COP of 5.08! Ideal for low consumption homes.

PG 22

NEW

New 16kW T-Cap Bi-Bloc, ideal for retrofit and commercial applications.

PG 28

NEW

New T-Cap Bi-Bloc, with A class pump, higher efficiency, and energy consumption.

PG 24

NEW

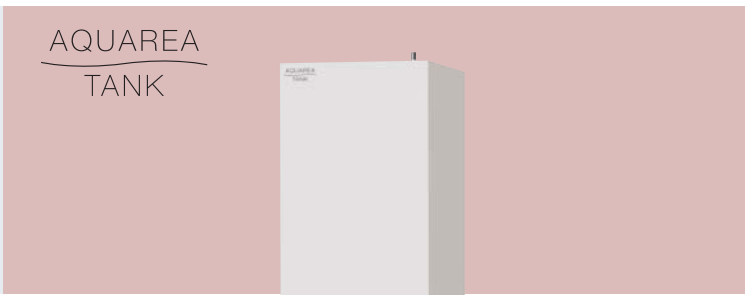
New remote control to improve performance, comfort and to deliver maximum energy savings.

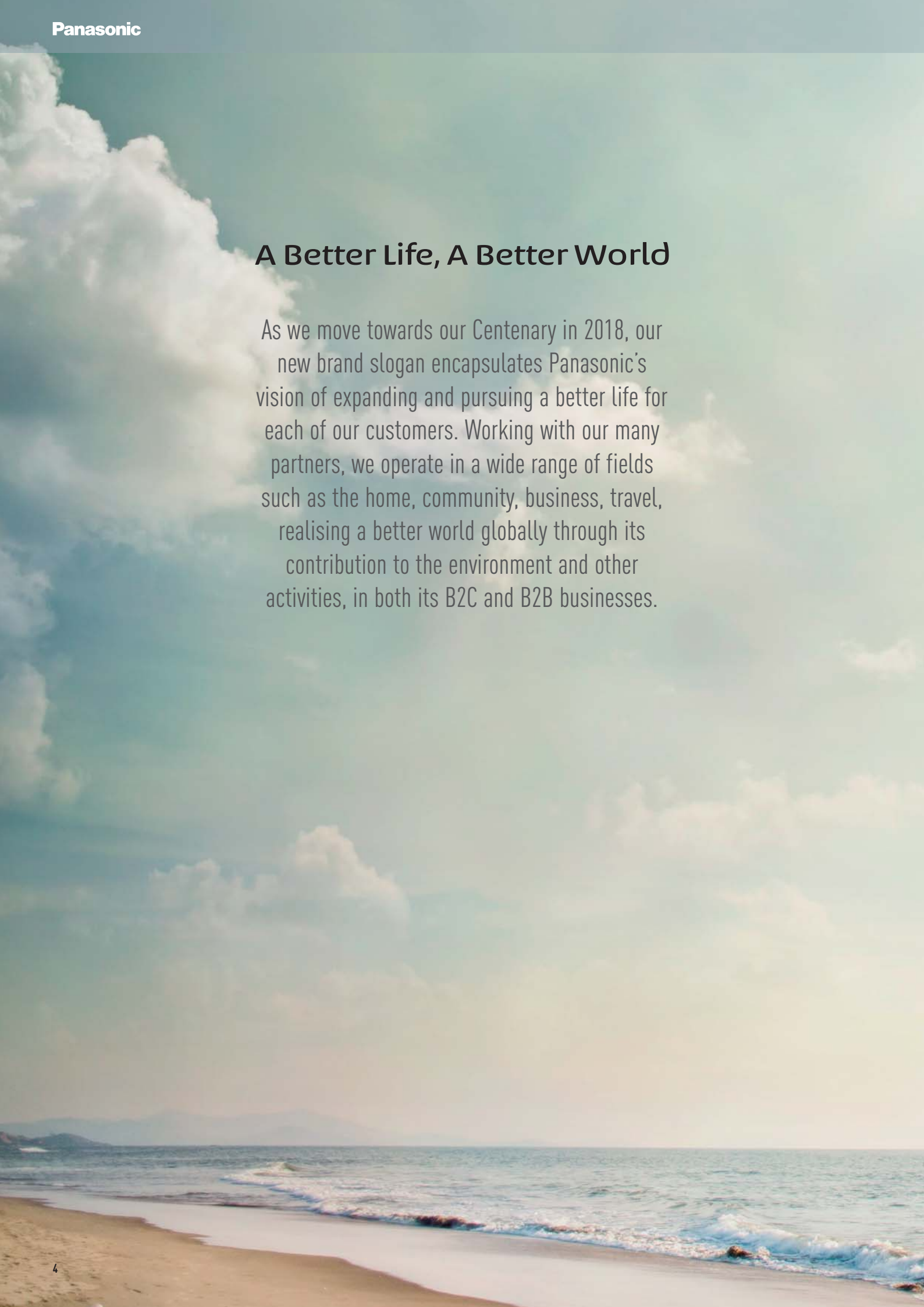
PG 32

NEW

New, square-chassis hot water tank, with integral 80-litre buffer tank.

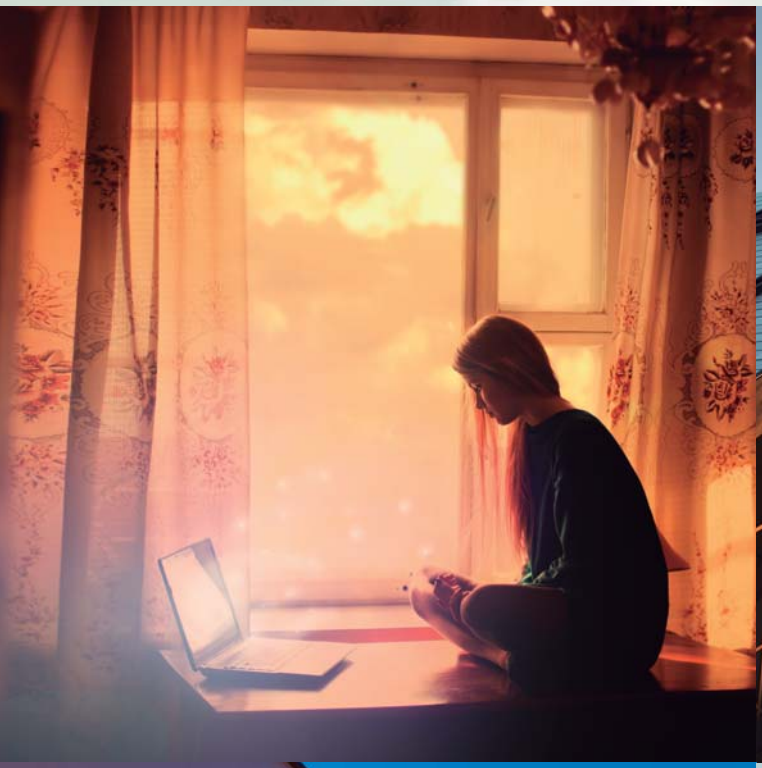
PG 30

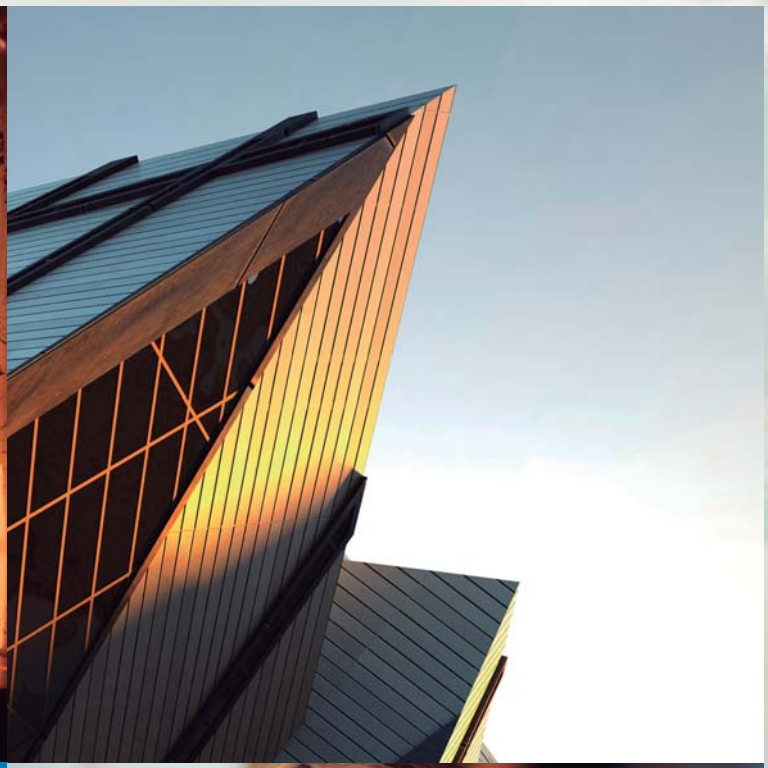




A Better Life, A Better World

As we move towards our Centenary in 2018, our new brand slogan encapsulates Panasonic's vision of expanding and pursuing a better life for each of our customers. Working with our many partners, we operate in a wide range of fields such as the home, community, business, travel, realising a better world globally through its contribution to the environment and other activities, in both its B2C and B2B businesses.





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.

1936
First electric Fan with Automatic Oscillation (36 cm table top model).

1958
First room air conditioner launched for domestic installation.
Prior to this date, air conditioners were large and only for commercial use.
Panasonic developed the first compact air conditioner for windows; it was lightweight and easy to install, improving the quality of life in Japanese homes.
1,100 units were sold in Japan in the first year, and just two years later, in 1960, this figure rose to 230,000.

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. Etherea also includes a very innovative air quality sensor and air purifier in order to enjoy healthy air at home at all times.

2010
New Aquarea.
Panasonic has created Aquarea, an innovative new, low-energy system, designed to help you enjoy ideal temperatures and hot water in your home, even with extreme outdoor temperatures. Aquarea cools or heats to ensure maximum comfort. Aquarea is far cleaner, safer, cheaper and environmentally friendly than alternatives using gas, oil and other electrical systems.

2011
New Eco i VRF solution.
The new Panasonic VRF solution for big buildings is the most efficient in the industry in more than 74% of combinations. ECO i satisfies the most demanding standards required by design offices, architects, owners and installers.

2012
New GHP units.
Pansonic's gas-driven VRF systems are ideal for projects where power restrictions apply. In 2012, Panasonic extends the Gas Heat Pump range with a new GHP line-up, new GHP G Power (electricity production) and the new Chiller Units.

2013
New ECOi 3-pipes.
The best efficiency for your building.
Our New 6 Series 3-pipes is achieving a COP of 4.77 at full load, and even more when recovering heat from the building.
There is no doubt, Panasonic is reducing environmental impact!

2014
New Aquarea 16kW T-CAP. Improvements deliver impressive, high efficiencies at low ambient temperatures. T-CAP stands for Total Capacity and is capable of maintaining the same nominal capacity even at -15°C without the help of an electric booster heater. Ideal for retrofit and commercial applications.

Panasonic – leading the way in Heating & Cooling

With more than 30 years of experience, selling to more than 120 countries around the world, Panasonic is unquestionably one of the leaders in the heating and cooling sector.
With a diverse network of production and R&D facilities, Panasonic delivers innovative products incorporating cutting-edge technologies that set the standard for air conditioners worldwide.
Expanding globally, Panasonic provides superior international products transcending borders.

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 for homes, medium-sized buildings such as offices and restaurants, and large-scale buildings. These offer maximum effectiveness, comply with the strictest environmental standards and meet the most avant-garde construction requirements of our time.
At Panasonic we know what a great responsibility it is to install heating and cooling systems. Because offering you the best solutions in heating and cooling matters

RELIABILITY FACTS

Reliable comfort comes from reliable technologies

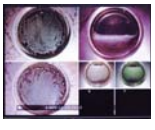
Today, Panasonic air conditioners have earned widespread acclaim throughout the world.
A rugged design ensures that the air conditioner will continue to keep the room comfortable, and operate trouble-free for many years. Panasonic believes this is the true value of an air conditioner. And this is why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

Durability. Long Time Continuous Operation Simulation.

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

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

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



Checking the oil inside the compressor under extremely cold conditions.

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.

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.

Sunshine simulation.

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

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

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

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.

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

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

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

Eco Activities
Panasonic has set up eco ideas factories around the globe. While developing and manufacturing energy-saving products based on original environmental technologies, these factories reduce CO_2 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 Europe announces Sustainability Declaration

Panasonic establishes new targets for the business' environmental performance and CSR initiatives

Best Global Green Brand 2013

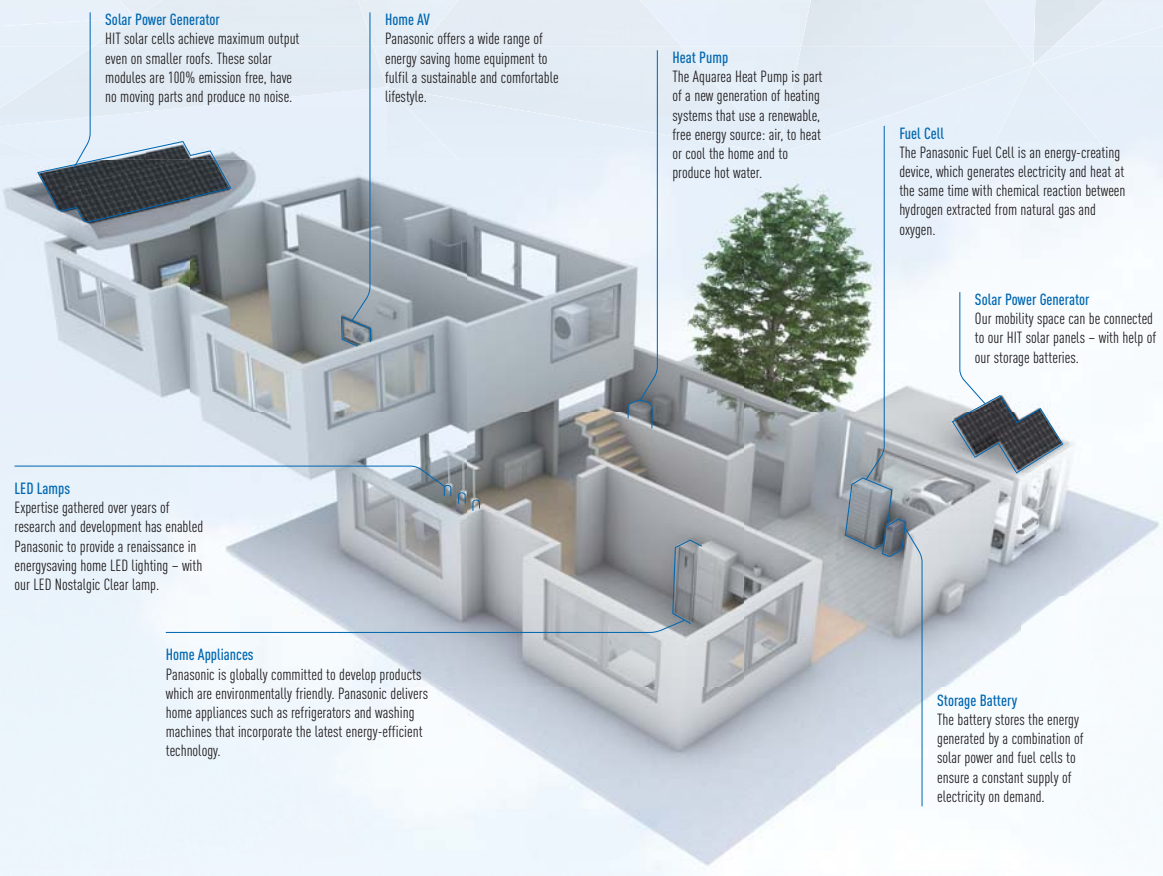
We were recently awarded Interbrand's 4th Best Global Green Brand 2013 – the highest of any consumer electronics brands. This is the result of our commitment to energy efficient products, reduction in CO_2 emissions, kids school 'eco learning' programme and much more.

Sustainability Declaration. Berlin, Germany, 4th September 2013

Panasonic Europe announces today its new Sustainability Declaration for Europe and CIS, extending its current initiatives to ensure all business activities lead to a more sustainable society.

The Sustainability Declaration unites Panasonic's new brand direction towards 'A Better Life, A Better World' with a series of environment and CSR initiatives contributing to the progress and development of society. Recognising the impact on the environment and society through its products and practices, Panasonic aims to deliver on specified targets by March 2016. The European Sustainability Declaration is in accordance with Panasonic's Global Sustainability Policy, which has been rolled out globally in recent weeks.

We aim to realize a lifestyle with virtually zero CO_2 emissions throughout the entire home



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

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

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

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

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

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

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

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

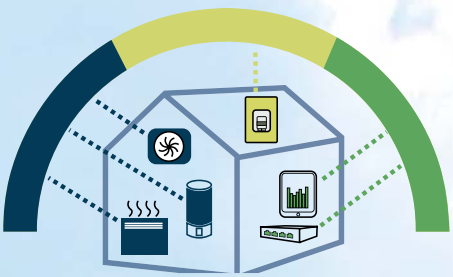
Exemplary sustainable projects

Fujisawa Sustainable Smart Town
Homes will employ the full range of Panasonic's most advanced systems for energy production, storage and management.
In this project, a new concept and process will be adopted to build the town by designing spaces first with a primary focus on services based on people's lifestyles and creating an optimal smart infrastructure. In Fujisawa SST, Panasonic will offer its unique solutions from an Eco & Smart perspective. With bringing energy to life for residents as the town concept, we will provide services that enhance people's lives with photovoltaic power, security, mobility, community, and healthcare.
The unparalleled town building, where as many as 1,000 families will live, will serve as a new business model both within Japan and overseas.

SMART ELECTRIC LYON

Panasonic joins Smart Electric Lyon consortium
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. The project aims to develop a wide range of innovative facilities and services through real-life experiments to test energy saving technologies and to measure how consumers can control energy consumption.
This experiment, unprecedented in scale in Europe, will be conducted for four years in more than 25,000 homes, businesses and communities of Grand Lyon. It is intended to test innovative solutions that will consume less and better.

Panasonic will provide the project with a variety of its energy efficient heating and cooling products, including the Aquarea Air Source Heat Pump – a super-efficient system for providing heating and / or cooling facilities, as well as the production of domestic hot water. 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. The company will also integrate other home equipment solutions such as LED white lighting products to optimize the overall energy management of the project's properties.
This project is particularly apt for Panasonic, as heating and hot water occupy a prominent place in household energy consumption. Panasonic plans to make its European and French resources available for Smart Electric Lyon. The company has involved for the project a dedicated and experienced R&D team from Panasonic's European technical centre in Frankfurt.



The connected home of the future

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 announces a new initiative for all professionals involved in the heating and cooling business - the Panasonic PRO Club (www.panasonicproclub.com). Panasonic PRO Club 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 and take part in online training**

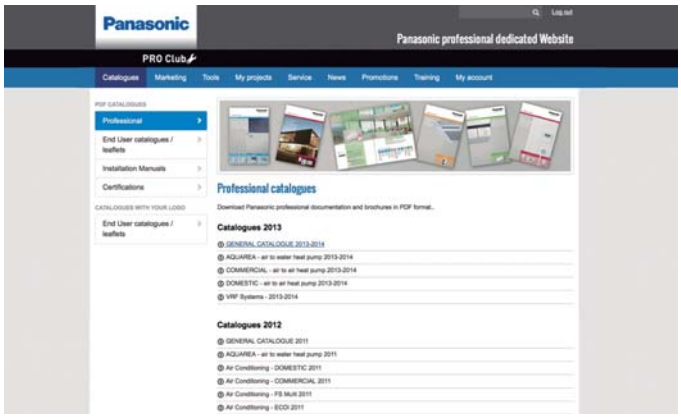
www.panasonicproclub.com
or connect simply with your smartphone to the proclub using this QR:

Highlighted Features

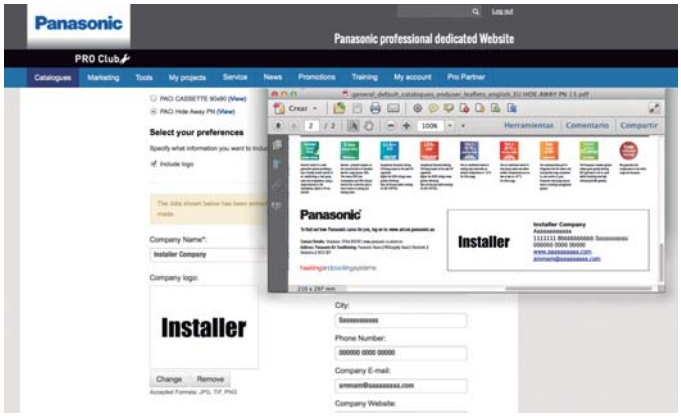
- Extensive library of resources
- Tools & Apps for end users. Check availability in your country:
  - My Home: sizing wizard for domestic and A2W range
  - My Project: Contact form to Panasonic team
  - iFinder: Lists of installers displayed by postcode
- Special offers & promotions
- Training PRO Academy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

NEW Highlighted Features

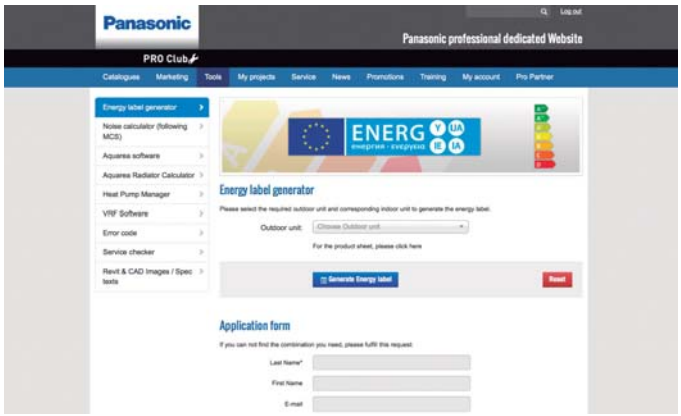
- NEW! Installers customize leaflets in PDF format with their logo & contact details
- NEW! Energy label generator. Download energy labels of any device in PDF format
- NEW! Heating calculator demand
- NEW! Noise calculator for outdoor unit
- NEW! Aquarea Radiator calculator
- NEW! Error Code Search 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



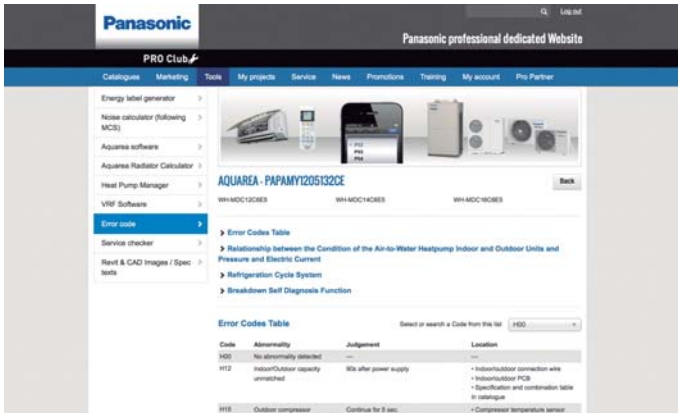
NEW! Easy download Panasonic service documentation and brochures



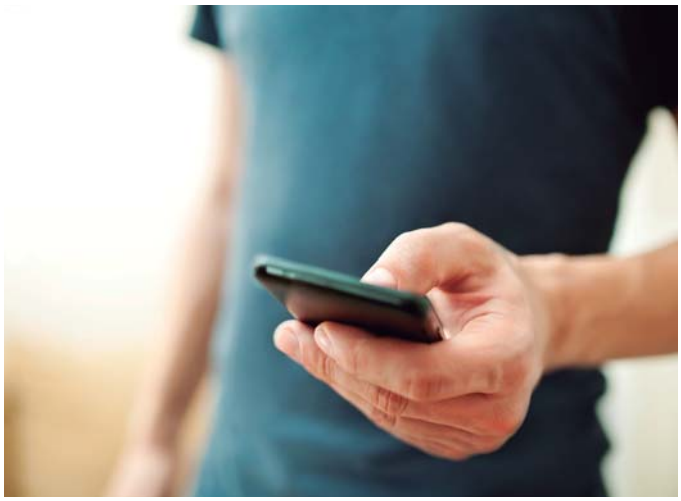
NEW! Customize leaflets with your logo & contact details. Save and print the PDF



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



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



Panasonic PRO Club is fully compatible with Tablet computer and smartphone

The Panasonic PRO Academy opens its doors

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

New training courses cover three levels. Design, installation, and commissioning & trouble-shooting. Training courses include:

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

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

Aquarea Designer

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

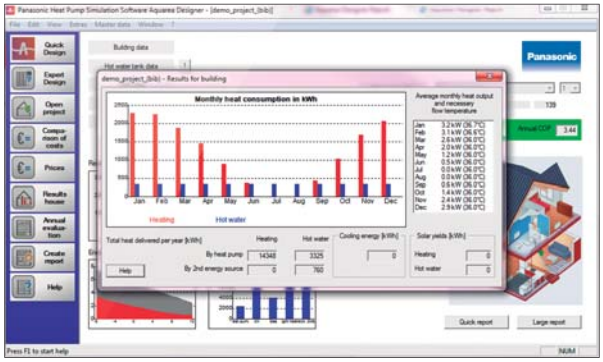
This program allows HVAC designers, installers and distributors to identify the correct heat pump for a particular application from Panasonic's Aquarea range, calculate the savings compared to other heat sources and very quickly calculate CO_2 emissions.

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

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

Aquarea Designer also means saving

Aquarea Designer will calculate the project's energy costs in terms of hot water, heating and pumping. It will show the equipment running times and calculate the COP (coefficient of performance). It then allows the designer to show clients a comparison with other equipment options such as heating by conventional gas-fired boilers, oil systems, wood, standard electric heating and electric night storage heaters. This compares running costs, initial investment costs and maintenance costs. The comparison can also be made for CO_2 emissions and savings.



PRO Club: the professional website of Panasonic

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

Donwload on www.panasonicproclub.com
or connect simply with your smartphone to the proclub using this QR:

ENERGY SAVING

High efficiency heating INVERTER+

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

Environmentally friendly refrigerant R410A / R407C

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

Down to -20 °C in heating mode OUTDOOR TEMPERATURE

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

HIGH CONNECTIVITY

Boiler connection RETROFIT

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

Solar panels connection SOLAR KIT

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

Domestic hot water DHW

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

Easy control by BMS CONNECTIVITY

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

Internet Control Ready INTERNET CONTROL

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

5 year compressor warranty

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

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

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

NF Pompe à chaleur

APPROVED PRODUCT MCS

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

SEASONAL
EFFICIENCY

AQUAREA

NEW AQUAREA AIR TO WATER HEAT PUMP

Panasonic's new Aquarea Air To Water system can work in outdoor temperature even at -20°C
Panasonic's new Aquarea system, based on high-efficiency heat pump technology, not only heats your home and hot water, but also cools your home in summer with incredible operating performance. This creates perfect comfort whatever the weather conditions, even at outdoor temperatures as low as -20°C.
Panasonic new heat pumps are designed in response to the new demand for low consumption housing, with high efficiency and low running costs.

SEASONAL
EFFICIENCY

Aquarea the best seasonal efficiency

Panasonic's new Aquarea air to water system can work in outdoor temperature even at -20°C

Panasonic's new Aquarea system, based on high-efficiency heat pump technology, not only heats your home and hot water, but also cools your home in summer with incredible operating performance. This creates perfect comfort whatever the weather conditions, even at outdoor temperatures as low as -20°C. Panasonic new heat pumps are designed in response to the new demand for low consumption housing, with high efficiency and low running costs.

A
class pump

Impressive Energy Savings

Panasonic's Aquarea Heat Pump provides savings of up to 80% on heating expenses compared to electrical heaters.

The Panasonic Aquarea Heat Pumps are designed and produced by Panasonic and not by other companies.

Up to 80% energy savings*

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

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

Aquarea Customer, Surrey[1]

1) Information provided by Aquarea customer, August 2012.

Why air source heat pumps?

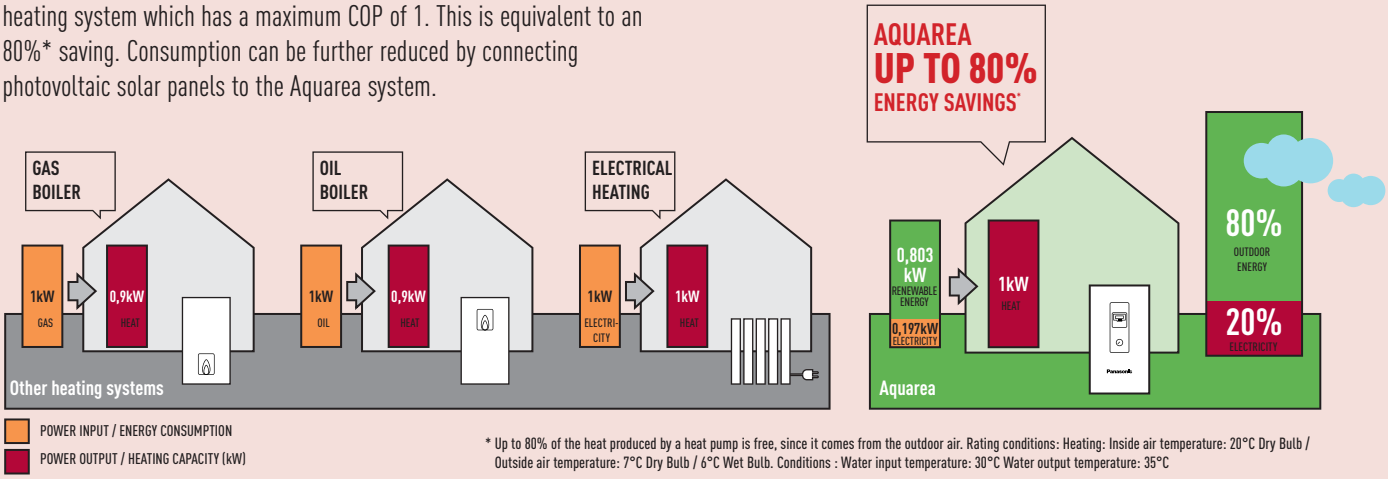
- Reduced heating bills and maintenance costs
- Savings of up to Euro 1,000 a year are possible
- Reduce your carbon footprint
- Simple to integrate into most heating systems
- Energy efficient alternative to oil, LPG and electric systems
- Highly compatible with other energy efficient energy sources eg solar panels

Air source heat pumps – Quick facts

- Provides sustainable heating, cooling and hot water for your home
- 30%-40% reduction in annual energy bills
- Ideal for properties without access to mains gas
- Operates even in freezing temperatures (-20°C).
- Externally positioned saving valuable internal living space
- Proven technology from Panasonic and already well established in other EU countries

"Green" High-efficiency heating with Panasonic's new Air to Water Heat Pump Systems

Panasonic's Aquarea Heat Pump provides savings of up to 80% on heating expenses compared to electrical heaters. For example, the Aquarea 5kW system has a COP of 5,08. This is 4,08 more than a conventional electrical heating system which has a maximum COP of 1. This is equivalent to an 80%* saving. Consumption can be further reduced by connecting photovoltaic solar panels to the Aquarea system.



* Up to 80% of the heat produced by a heat pump is free, since it comes from the outdoor air. Rating conditions: Heating: Inside air temperature: 20°C Dry Bulb / Outside air temperature: 7°C Dry Bulb / 6°C Wet Bulb. Conditions : Water input temperature: 30°C Water output temperature: 35°C

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

There are several types of heat pump available:

- The Mono-Bloc system: This only has an outdoor unit. The installation doesn't require a refrigerated connection and is only connected to the heating and/or hot water.
- The Bi-Bloc system: The system, separate indoor and outdoor units, connects to the heating and/or hot water system.

A wide range from 3 to 16kW, Single and Three Phase, Mono-Bloc and Bi-Bloc. 3 Versions:

- Aquarea High Performance: From 3 to 16kW
- Aquarea T-CAP: From 9 to 16kW
- Aquarea HT: From 9 to 12kW

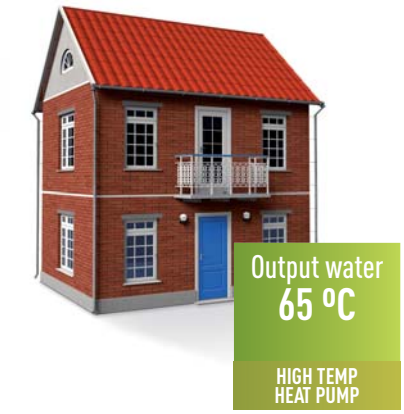
Aquarea outdoor
Bi-Bloc option

Three Aquarea solutions

Aquarea High Performance for low consumption houses. From 3 to 16kW
For a house with low temperature radiators or under-floor heating, our high performance Aquarea HP is a good solution. This solution can work as a stand-alone unit or can be combined with an existing gas- or oil-fired heating system depending on requirements. This new solution is ideal for low consumption homes.

1) For WH-MDC05F3E5.

Aquarea T-CAP. From 9 to 16kW
If the most important aspect is to maintain nominal heating capacities even at temperatures as low as -7°C or -15°C, select the Aquarea T-CAP. This ensures that there is always enough capacity to heat the house without help from an external boiler – even at extremely low temperatures.
Aquarea T-CAP always has high efficiency and high heating capacity even at extremely low temperatures. With Aquarea T-CAP, you can always enjoy high savings.



Aquarea HT. From 9 to 12kW
For a house with traditional high-temperature radiators (such as cast iron radiators), the Aquarea HT Solution is the most appropriate as the Aquarea HT can work in output water temperatures of 65°C even at outdoor temperatures as low as -20°C.
Aquarea HT is able to deliver hot water to 65°C with the Heat Pump alone.

Aquarea outdoor air source heat pumps
Panasonic has developed an extensive range of air-to-water heat pumps designed to efficiently convert free air into sustainable heating and hot water. Fitted externally to your home and designed to operate in all year round weather conditions (-20°C), it's the smart alternative to oil, LPG and electric heating systems.

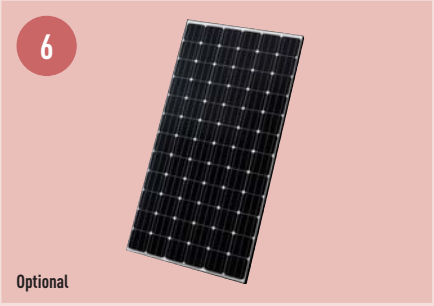
Aquarea Heat Pump Manager
This new generation of smart controllers for eco-efficient heating, features our versatile stand-alone controller not only for our heat pump systems, but also your gas, oil boiler and all other devices installed on your heating system.

Heating control App for smart phone, tablet or computer
The heating control App allows you to control the heating and hot water system via your smart phone, tablet or computer with ease, whether at home or away.
The heat pump can be also connected to house management system using KNX, Modbus or Zig Bee interfaces.

Super High Efficiency: PAW-TE20/30/50E3HI
- High efficient tank solution: specially designed to improve the efficiency of the sanitary hot water production.
- HI lineup:
- low energy losses
- high exchange surface for high efficiency and short time to heat up the water

High efficient radiators for heating and cooling
- High efficient radiators working with water at 35°C.
- No need for two kits if both floor heating and radiators are required.
- As the product is efficient, it opens the possibility to also provide cooling while still meeting construction requirements.

Panasonic offers a cooling mode within its heat pump range for low consumption homes



Heat Pump + HIT Photovoltaic solar panel
Photovoltaic solar panels: the best solution for big savings.
Combining photovoltaic solar panels with your heat pump can help to further reduce your electrical consumption and CO_2 emissions.
Additionally, with the unique HIT photovoltaic solar panel technology from Panasonic, you can produce more electricity per square metre, helping you to increase your energy savings still further.

NEW AQUAREA 5KW MONO-BLOC

New High Performance for low consumption homes.

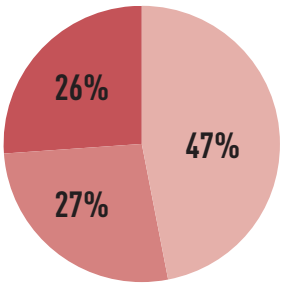
Maximum savings, maximum efficiency, minimum CO_2 emissions, minimum of space.
Panasonic has designed the new Aquarea Bi-Bloc and Mono-Bloc heat pumps for homes which have high performance requirements.
Whatever the weather, Aquarea can work even at -20 °C! The New Aquarea is easy to install on new or existing installations, in all types of properties.

New High Performance helps you to meet strict building requirements and reduce building costs

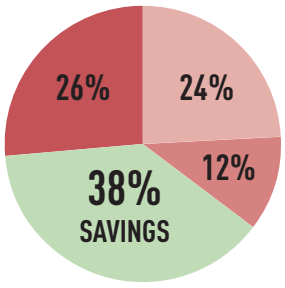
The heating and production of hot water have a very important impact on the energy consumption of a house. Efficient Panasonic heat pumps can help to significantly reduce the energy consumption of the house.

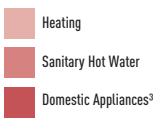
Total energy consumption of a conventional house, compared to the energy consumption with Panasonic heat pumps

TOTAL ENERGY CONSUMPTION OF A CONVENTIONAL HOUSE[1]



ENERGY CONSUMPTION WITH PANASONIC HEAT PUMPS[2]

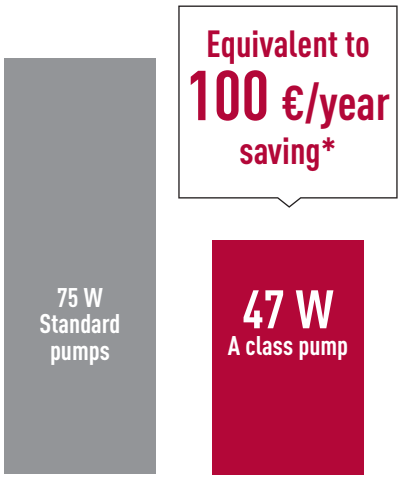




1. Source: IDEA, European values 2010. Consumption of a conventional house of 80 kWh/(m².year).
2. Source: Panasonic, RT2012 simulation, house of 50 kWh/(m².year) per year, equipped by Panasonic heat pump. 3. Eg. Fridge telephone, oven,...

Key points of the line-up

- A-Class pump significantly reduces the energy consumption



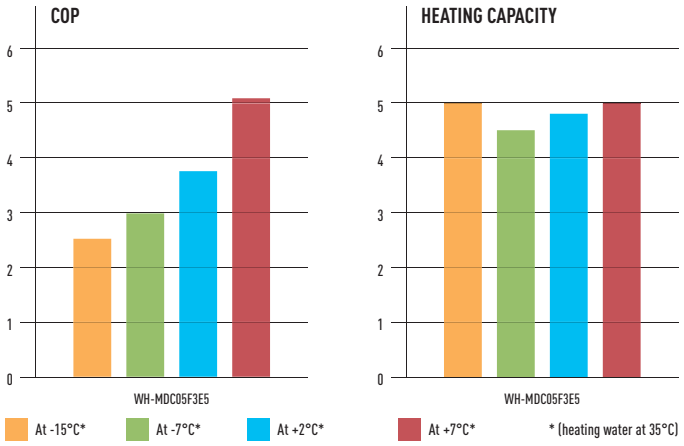
New A class pump with Constant water flow (Dynamic pump control) for 5kW Mono-Bloc

Comparison of energy consumption - Standard pumps vs A class pump

* Based on German market: Assuming Standard pump may vary depending on consumption and energy cost.

- A Class pump adapts water pressure according to demand, reducing energy consumption, noise on the valves, and makes installation easy.
- No Backup heater needed to maintain the capacity at -15°C, high efficiency guaranteed even at -15°C
- Many new remote control functions added:
  Auto mode, holiday mode, show power consumption

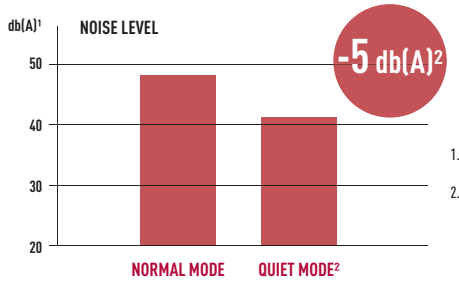
HIGH PERFORMANCE PUMPS ARE ALSO HIGHLY EFFICIENT



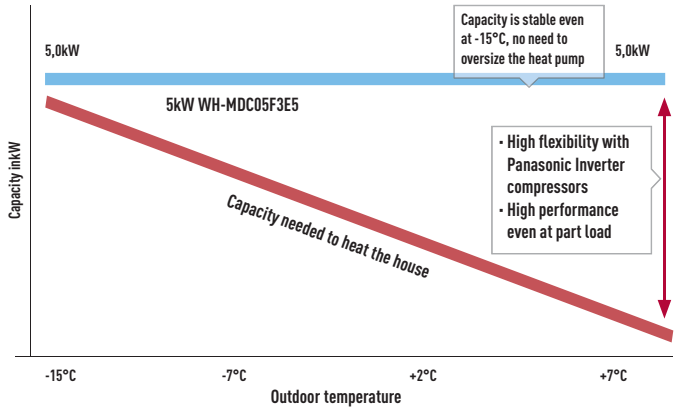
With a Panasonic heat pump, there is no need to oversize the heat pump to reach the required capacity at low temperatures.

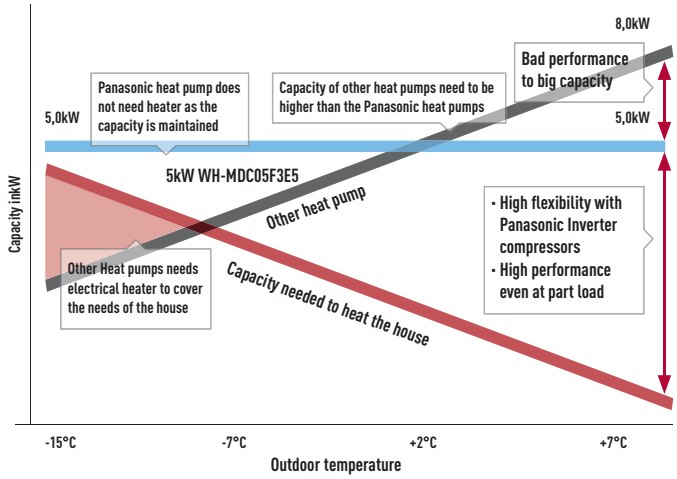
- Dedicated software for low consumption houses which allows the heat pump to produce hot water at 20°C. This is needed during the seasons, when a little heating is required
- No need for an additional expansion vessel, as the unit already has a 6l expansion vessel
- No buffer tank required as the Panasonic heat pump has an inverter compressor which can regulate the capacity. (Please check on the service manual the minimum volume of water needed on the circuit)
- 3kW electrical heater is included on the heat pump
- Panasonic heat pumps can work in outdoor temperatures as low as -20°C and guarantee the capacity without backup heating down to -15°C
- Panasonic heat pumps are very quiet and have a night mode program for even lower noise. See noise calculator on www.panasonicproclub.com

Special attention has been given to noise levels - Panasonic created a night mode to reduce the noise when it's needed.



1. Sound pressure measured at 1 m from the outdoor unit and at 1.5 m height.
2. At standard condition working at heating capacity at +7°C (heating water at 35°C) for two fans outdoor units. For one fan outdoor units, night mode reduction is 3dB(A).





NEW AQUAREA
16KW BI-BLOC

New T-CAP for extremely low temperatures. Install A Class pump: Industry top class energy-saving!

The whole T-CAP line-up can replace old gas or oil boilers, and in a new application with under floor heating, low temperature radiators or even fan-coil heaters. This range can also be connected to a solar kit in order to increase efficiency and minimize the impact on the ecosystem. Finally, it is possible to connect a thermostat for even better heating or cooling control and management.

- T-CAP stands for Total Capacity. This line-up is able to maintain the same nominal capacity even at -15°C without the help of an electrical booster heater.
- High heating capacity even at low ambient temperatures.
- Maintains capacity of 16 kW until -15°C outdoor temperature. Adding many new functions: Auto mode, Holiday mode, power consumption display.

The New T-CAP range has extended with the addition of the 16kW pump

The new 16kW maintains full capacity of 16kW even at outdoor temperatures down to -15°C.

The 16kW fits perfectly to retrofit houses, as well as to commercial applications to heat and cool the applications and also to provide sanitary hot water.

New Aquarea T-CAP. High capacity improvement at low ambient & high efficiency

Enhance larger capacity (16kW)

More Energy saving with A Class pump.

Adding new functions

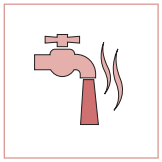
Auto mode, Holiday mode, Displays power consumption, New de-ice control, Concrete Dry mode, Lock cooling mode and Pump speed control.

Applications

For retrofit houses
Replace easily expensive gas or oil boilers for high efficient 16kW T-CAP or manage bivalent installations (heat pump and existing gas or oil boiler) with the Heat Pump Manager.
Further information on: www.panasonicproclub.com

For commercial applications
Wide range of capacities now covered - from 9kW to 45kW with the Heat Pump Manager. Also you are able to connect up to five heat pumps on cascade with the Heat Pump Manager.

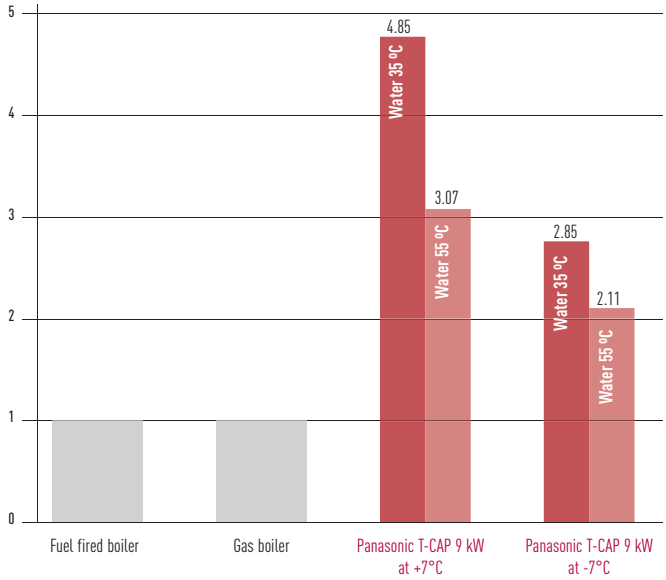
For heating and cooling mode
The 16kW model is able to heat the water at 55°C and can work even when the temperature is as low as -20°C. Cooling operation can be activated on the remote control to cool water up to +5°C.



For heating and sanitary hot water
Efficient domestic hot water tanks allow large storage for high consumption of hot water (for example Jacuzzi or bathtub). All our tanks have an anti-legionella protection with a backup heater of 3kW.

Best efficiency compared to other heating Efficiency systems

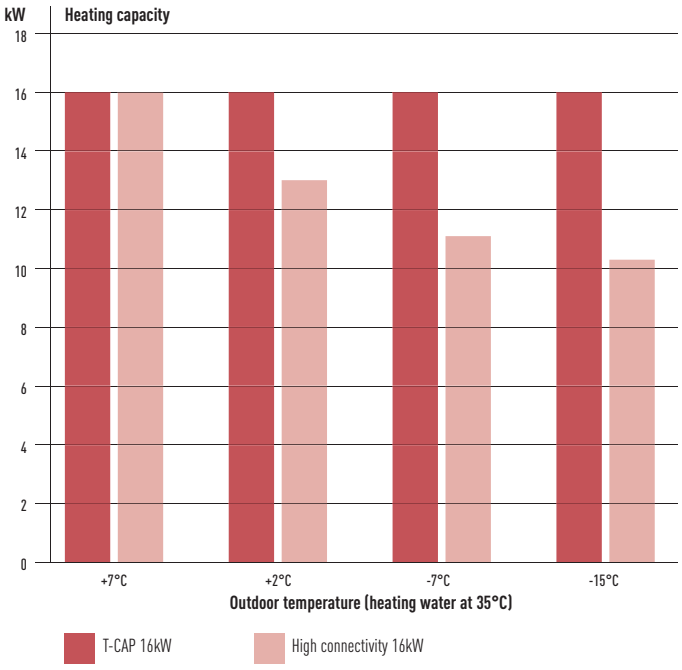
Panasonic heat pumps have a maximum COP of 4.85 at + 7 °C which makes them much more efficient than fossil fuel fired boilers, gas boilers and electrical heaters.



A Class pump. More Energy saving

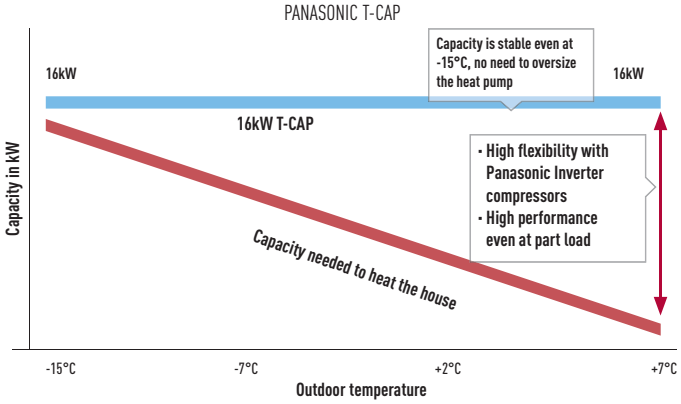
Aquarea T-CAP maintains the nominal capacity until -15°C

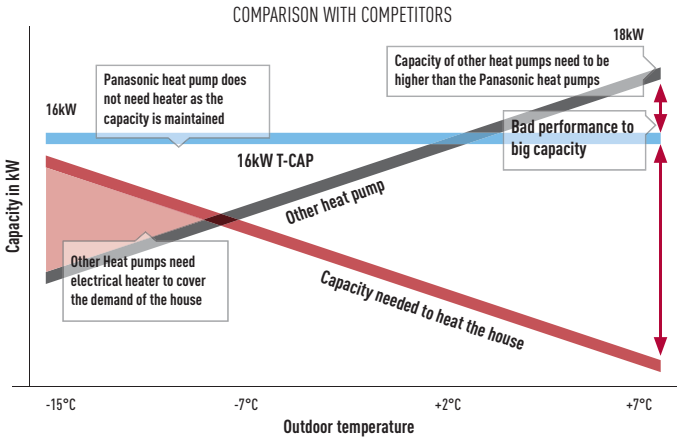
The T-CAP line-up is able to maintain the same nominal capacity even at -15°C without the help of an electrical booster heater. T-CAP is also able to provide extremely high efficiencies, whatever the outside or the water temperature. Panasonic has now extended the range with the new three phase 16kW.



- Backup heater capacity can be selected (3/6/9kW)
- Cooling mode activation possible by software*

* This activation can only be done by service partner or installer





AQUAREA HT SOLUTION FOR RETROFIT 65°C

Output water 65 °C

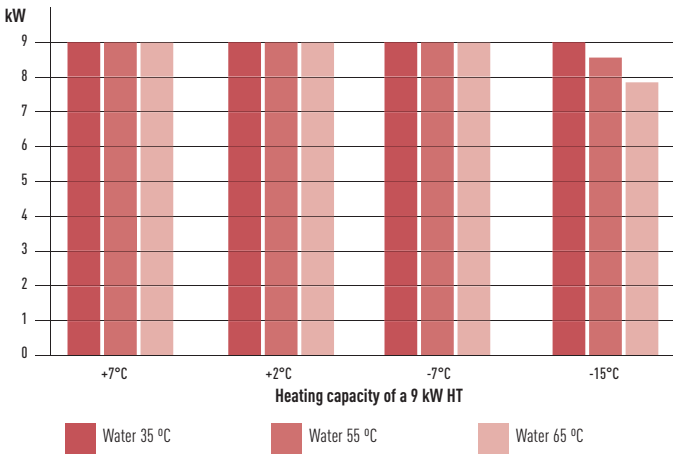
HIGH TEMP HEAT PUMP

Aquarea HT ideal for retrofit: green energy source works with existing radiators

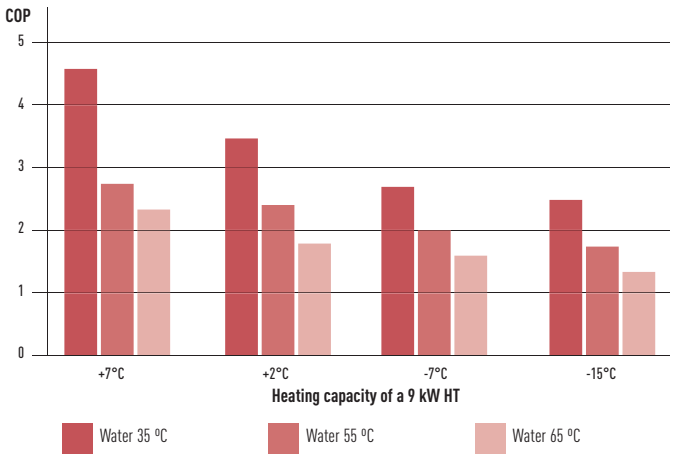
Replace a traditional heating source (such as oil or gas) with Aquarea HT, but keep existing old style radiators for minimum disruption to the home. From 9 to 12kW. For a house with traditional high-temperature radiators (such as cast iron radiators), the Aquarea HT Solution is the most appropriate as the Aquarea HT provides output water temperatures of 65°C even at outdoor temperatures as low as -15°C. Aquarea HT is able to deliver hot water to 65°C with the Heat Pump alone.

Panasonic Aquarea HT is super efficient even at low temperature.

Heating Capacity of a 9 kW HT (WH-SHF09F3E5)



COP Coefficient of Performance

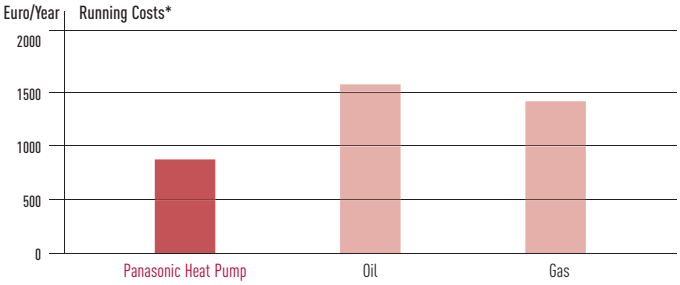


Panasonic Aquarea HT is super efficient even at low temperature

Aquarea HT: High savings and low CO_2

The results of replacing traditional heating systems with Aquarea HT are clear: lowest running cost and lowest CO_2 emissions. Panasonic heat pumps are much more efficient than gas boilers and help you to reach your house energy targets easier.

Yearly savings with Aquarea HT



* For a 170 m² house and 40 W/m² energy losses in central Europe Conditions, outside minimum conditions -10°C.

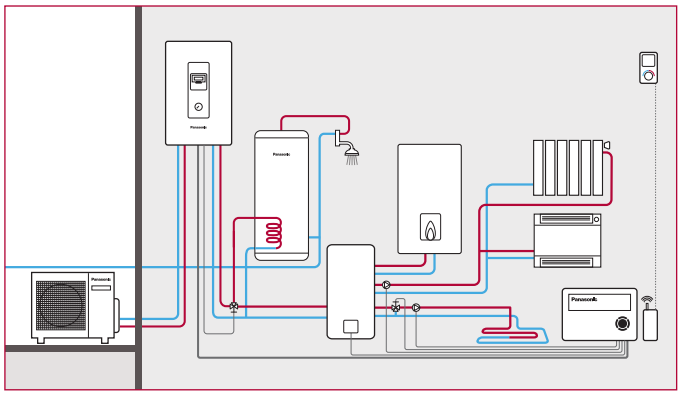
Easy installation

Air source heat pumps are simple to install. They do not require a chimney, gas connection nor oil tank. All that is required is a standard power supply connection. Aquarea heat pumps are also quick to start up.

Smart Bivalent operation

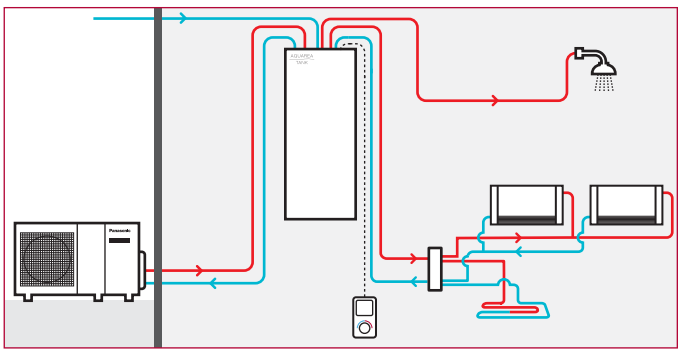
Thanks to Aquarea HPM (Heat Pump Manager), it is possible to combine different heat sources and use the most appropriate source, depending on user's preferences. This smart control will decide which is the best source to use anytime.
Thus, if it is necessary to combine gas heater, oil with heat pump, Aquarea HPM is simply the best solution.

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



New DHW Tank with buffer Tank PAW-TD20B8E3-NDS

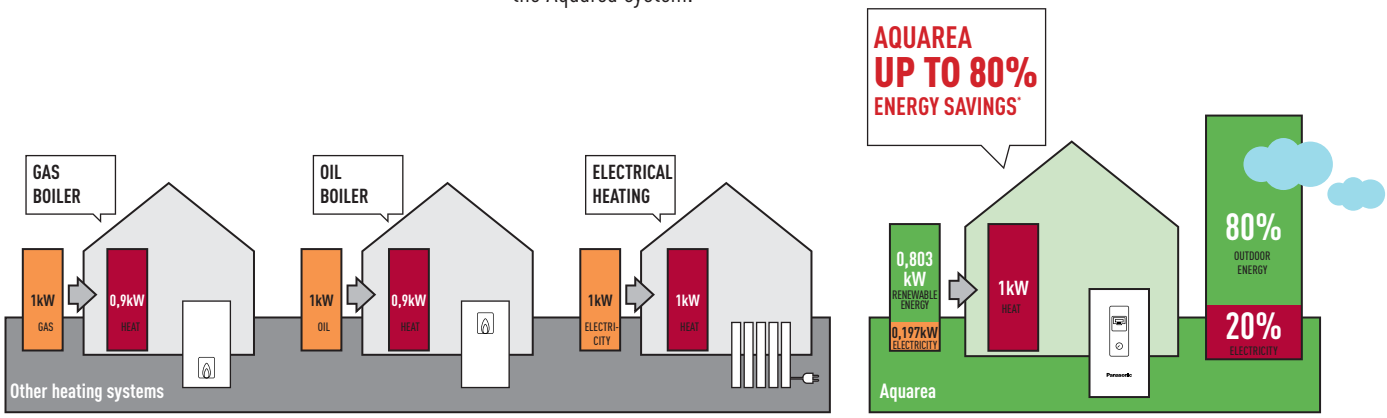
Designed for retrofit applications, the new DHW 200l tank with a 80l buffer tank is particularly suitable for fast integration on an existing installation. Panasonic has developed a New tank with 80l Buffer tank and 200l Sanitary hot water cylinder. This tank includes a 3-way valve and an A Class pump. Easy to install, nice looking, high efficiency for DHW production and for heating.



Aquarea commercial solutions for best savings

Efficient Panasonic heat pumps can help to significantly reduce the energy consumption of your business.
Recent improvements to air source heat pump technology, including compact single unit systems, can provide an ideal housing and commercial solution. They offer space saving, energy-efficient heating and can be easily adapted for installation in flats, houses and commercial premises.
And for businesses producing heat, such as restaurants, installing an Aquarea heat pump system can also use this wasted heat to improve energy efficiency further.

"Green" High-efficiency heating with Panasonic's new Air to Water Heat Pump Systems
Panasonic's Aquarea Heat Pump provides savings of up to 80% on heating expenses compared to electrical heaters. For example, the Aquarea 5kW system has a COP of 5,08. This is 4,08 more than a conventional electrical heating system which has a maximum COP of 1. This is equivalent to a 80%* saving. Consumption can be further reduced by connecting photovoltaic solar panels to the Aquarea system.



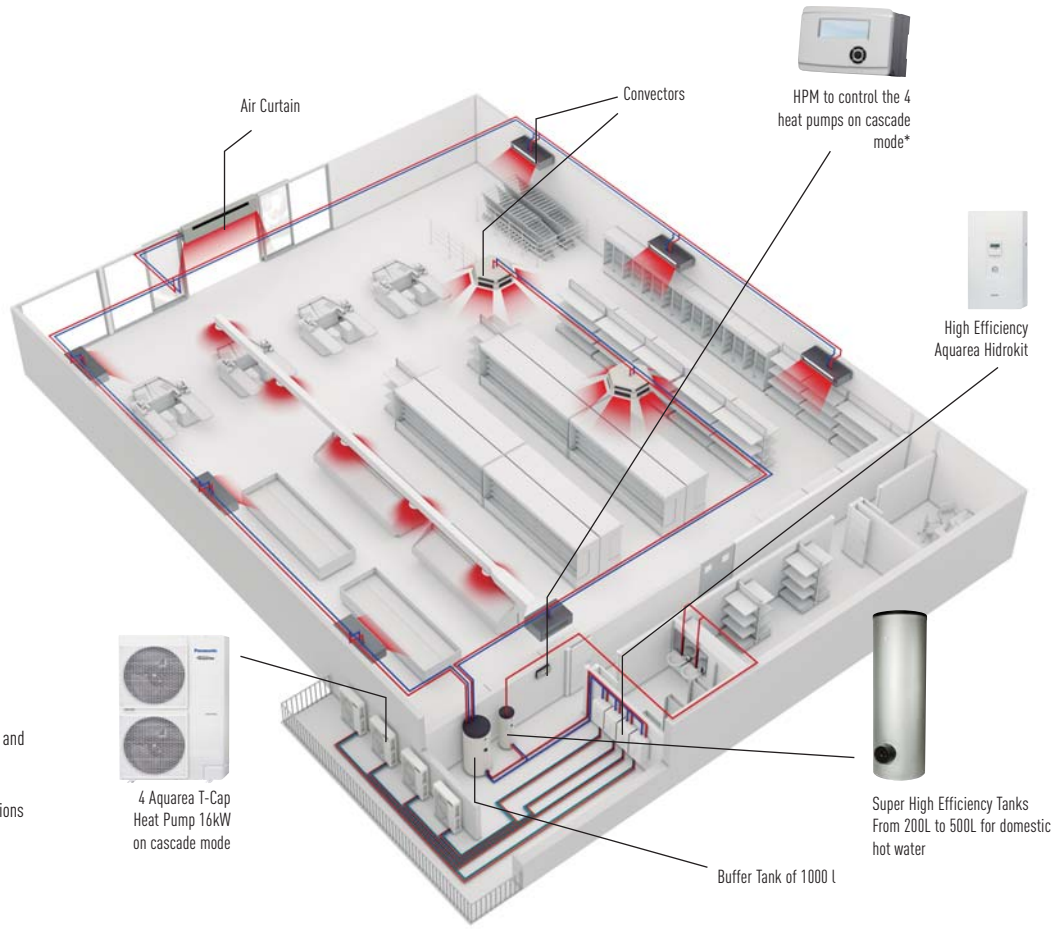
POWER INPUT / ENERGY CONSUMPTION
POWER OUTPUT / HEATING CAPACITY (kW)

* Up to 80% of the heat produced by a heat pump is free, since it comes from the outdoor air. Rating conditions: Heating: Inside air temperature: 20°C Dry Bulb / Outside air temperature: 7°C Dry Bulb / 6°C Wet Bulb. Conditions : Water input temperature: 30°C Water output temperature: 35°C

By flexible with your water system

Easy connection to existing system
- Fan Coils
- Floor Heating
- 4 way and 2 way convectors
- Domestic hot water tanks

Key points:
- High efficiency
- Very good part load management
- Cascade management for higher durability of the system

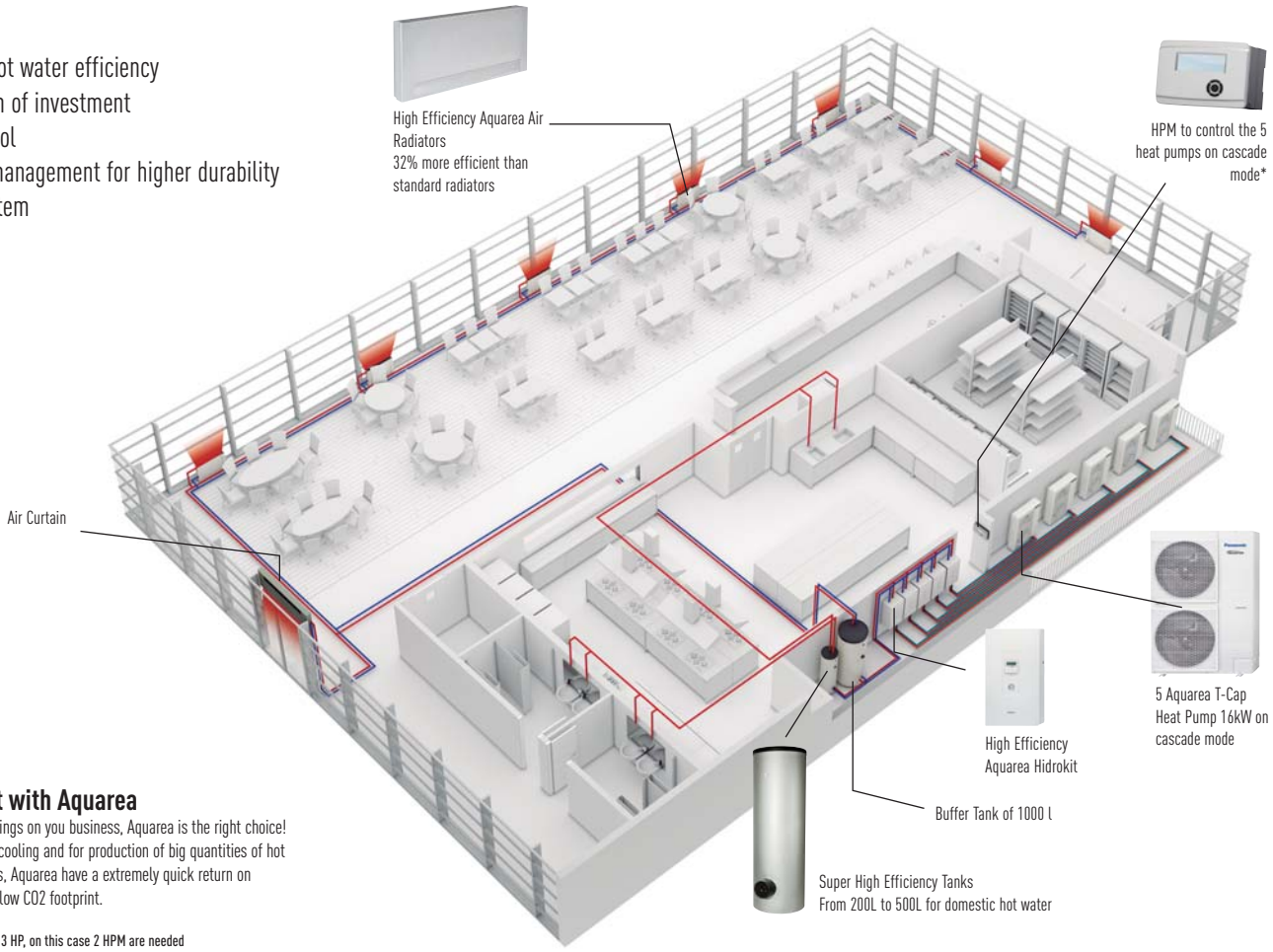


Supermarket with Aquarea

Heat pump technology is scalable, meaning that it can be installed in buildings of varying sizes, offering both small- and large-scale heating solutions. The technology is also environmentally friendly when compared to existing technologies, offering demonstrable energy-use and emissions savings and in most cases; will deliver operational cost savings when compared with fossil fuel alternatives.

* 1 HPM can control 3 HP, on this case 2 HPM are needed

Key points:
- Produce hot water efficiency
- Fast return of investment
- Easy control
- Cascade management for higher durability of the system

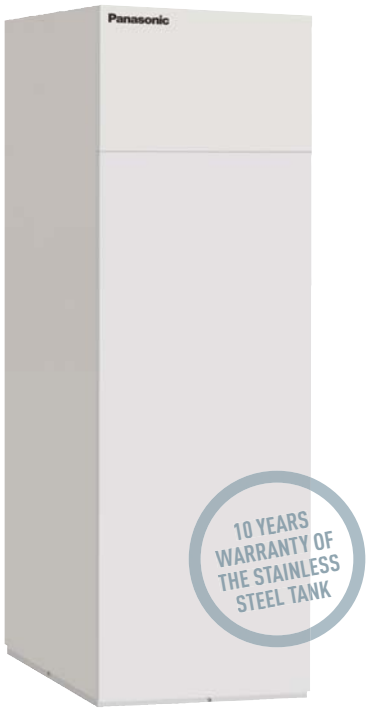


Restaurant with Aquarea

If you look for savings on you business, Aquarea is the right choice! Ideal for heating, cooling and for production of big quantities of hot water at 65 degres, Aquarea have a extremely quick return on investment and a low CO2 footprint.

* 1 HPM can control 3 HP, on this case 2 HPM are needed

1. Highly efficient solution
2. Easy installation
3. A class pump
4. 200l Tank included
5. Easy integration of the HPM remote control



New All in one*

New All in One hydromodule + 200l tank

Panasonic has developed a highly efficient solution, easy to install.

Furthermore, Panasonic has developed a range of controllers which allows the control of 2 heating zones, bivalent and cascade systems.

Line up

3, 5, 7, 9kW with 12, 14, 16 kW Single Phase and 9, 12, 14, 16kW Three Phase.

*Preliminary design. Significant changes may occur.

High efficiency solution

The best of Panasonic:

- Best stainless steel tank with high insulation to reduce energy losses
- High exchange surface to increase efficiency
- Best performing Aquarea hydraulic module to heat the water.

Connectivity Possibilities

3 Remote controls can be installed:

- New Remote control. New function for customer:
  - Auto Mode for Heating and Cooling mode
  - How to show Energy Consumption
  - How to set Holiday Mode
- Heat pump Manager for more then 600 installations possible (as 2 zone control, Bivalent, etc.)
- Heat pump Manager with touch screen LCD.

All In One Tank+indoor unit	Outdoor unit connection
WH-ADC0309G3E5	WH-UD03EE5
	WH-UD05EE5
	WH-UD07FE5
	WH-UD09FE5
WH-ADC1216G6E5	WH-UD12FE5
	WH-UD14FE5
	WH-UD16FE5
	WH-UX09FE5
	WH-UX12FE5
WH-ADC0916G9E8	WH-UD09FE8
	WH-UD12FE8
	WH-UD14FE8
	WH-UD16FE8
	WH-UX09FE8
	WH-UX12FE8
	WH-UX16FE8

Aquarea All in One Bi-Bloc (Inverter)

HIGH PERFORMANCE	3kW	5kW	7kW	9kW	12kW	14kW	16kW
T-CAP				9kW	12kW		16kW

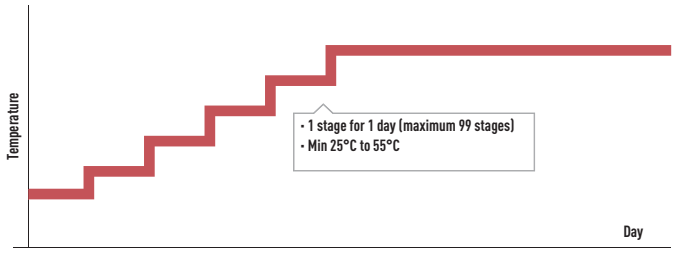
New remote control. New features

For 2014, Panasonic has introduced a new remote controller to improve performance, enhance comfort and deliver maximum savings.

New function for installer

- Floor heating concrete dry mode
- How to Lock Cool Mode
- Class A Pump management with 7 speeds

Floor heating concrete dry mode: Allows slow increase in temperature of floor heating via software.



Heating and Cooling Mode: Authorized service partner or Authorized installer can enable the cooling mode through a special operation via the remote controller on site.

Pump with 7 speeds: Pump speed can be selected on the remote control.

New Remocon changing point

Better user interface:

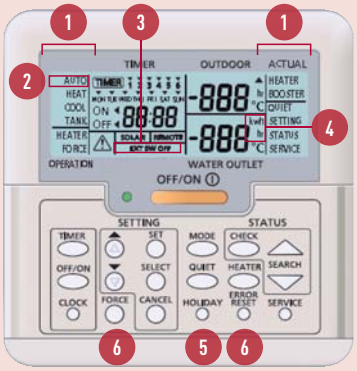
1. Adding Holiday Mode
2. Adding Power Consumption

LCD display:

1. Expand LCD display to show mode on left and right side
2. Adding AUTO mode and remove defrost display (using heat blink)
3. Change not available into EXT SW OFF
4. Adding kWh and Hr

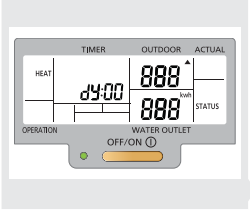
Button:

5. Adding holiday button
6. Change force and error reset position



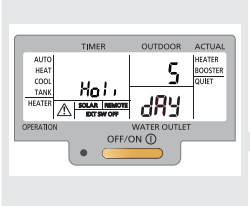
New function for end user

- Auto Mode for Heating and Cooling mode
- Show Energy Consumption
- Set Holiday Mode



Auto Mode: Automatically changes from heating to cooling depending on outdoor temperature.

Energy Consumption: Displays the heat pump's energy consumption, split by heating, cooling and domestic hot water, and shows total consumption figure.

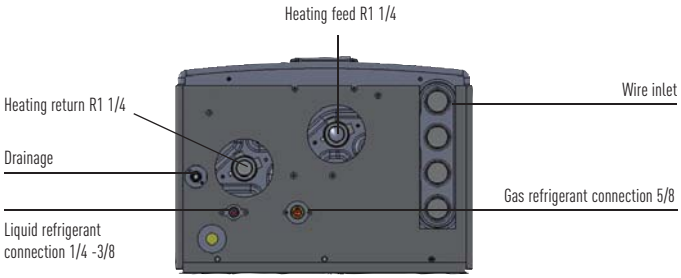


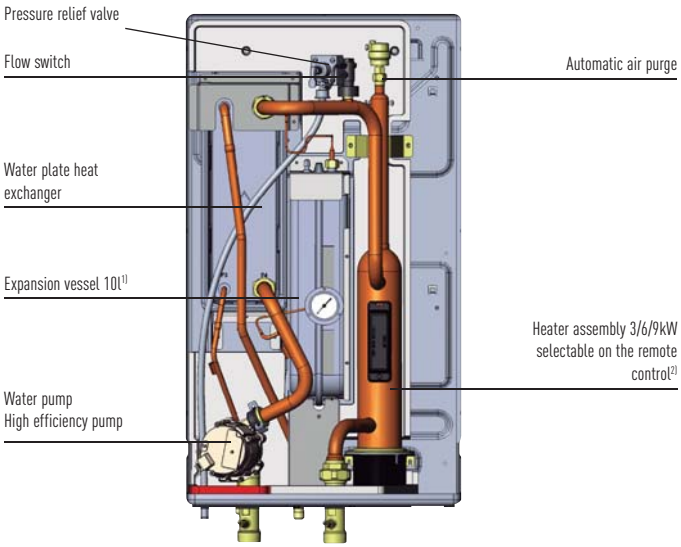
Holiday Mode: Enables the system to resume at the preset temperature after your holiday.

New indoor unit design

- New A-class pump with 7 speeds
- Expansion vessel of 10L
- Selectable back-up heater (3/6/9kW)

- 10l EXPANSION VESSEL
- 3/6/9KW ELECTRIC ELEMENT
- A CLASS PUMP



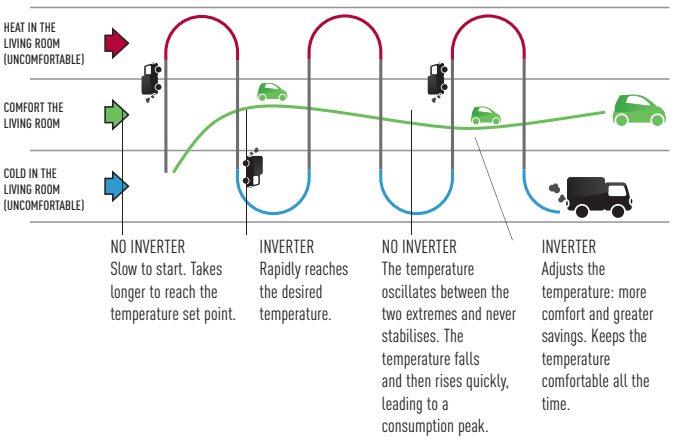


1) 6 l for the 3kW, 5kW and 6kW.
2) 3kW for 7 and 9kW, 6kW for 12, 14, 16kW Single Phase, 9kW for 12, 14, 16kW Three Phase.

Inverter+ compressor for even greater efficiency

Panasonic has clearly demonstrated it status as leaders in this field with over 200 million compressors supplied and the excellent quality and reliability of its heat pumps. With a Panasonic Inverter+ compressor, you can save up to 30% energy compared to a traditional system with no inverter. With a Panasonic Inverter compressor, the heat pump is always producing heat with the maximum of efficiency and adapting the capacity to the element.

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



HPM

Heat and produce Domestic Hot Water for free

Panasonic has developed an innovative algorithm for its HPM (Heat Pump Manager) which drastically improves the Heat Pump's use of self-generated electricity from connected Photovoltaic panels. The Heat Pump will take the electricity generation by the solar system into consideration for the heating system and the domestic hot water production, without reducing confort in the house.

The HPM (Heat Pump Manager) activates the heat pump based on:

- Energy produced by the photovoltaic system.
- The consumption requirement of the house, eg if a washing machine is working, the heat pump will not draw electricity from the photovoltaic system to avoid net increases on overall energy consumption and hence maximise efficiency.
- Heating demand of the house (in case of high electricity production, the house can be overheated by 1 or 2 degrees, or reduced by 1 or 2 degrees if low production of electricity).

As the production of domestic hot water is linked to the level of electricity generated by the solar system, if this was too low, the heat pump would start a normal process to maintain maximum comfort in the house for a given set time (defined by the user).

Key points

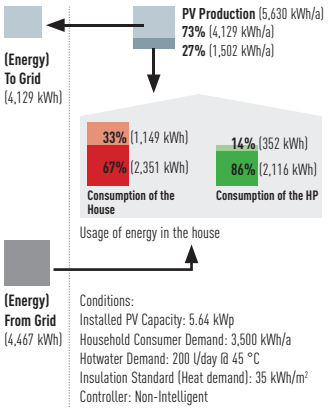
- Increases the amount of self-consumed electricity from the solar system up to 120%.
- Control the heat pump's energy consumption according to the output of electricity from the PV considering the electric energy consumtion requirement of the house.
- Innovative algorithm balancing the consumption of the heat pump and the comfort in the house based on the outside temperature and the energy demand of the building.
- Easy configuration of the Heat Pump manager system with the PV system.

*Results of simulations for new housing (see next page)

Comparison on New housing
Increase usage of self production by: 120%

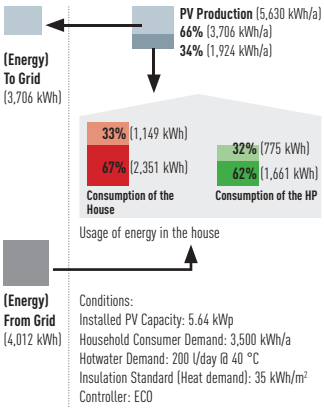
The HPM could increase the energy consumption of the heat pump coming from the Photovoltaic from 352 kWh to 775 kWh a year. Results of simulations:

New building Frankfurt (non-optimized)



Conditions:
Installed PV Capacity: 5.64 kWp
Household Consumer Demand: 3,500 kWh/a
Hotwater Demand: 200 l/day @ 45 °C
Insulation Standard (Heat demand): 35 kWh/m²
Controller: Non-Intelligent

New building Frankfurt (optimized-eco)

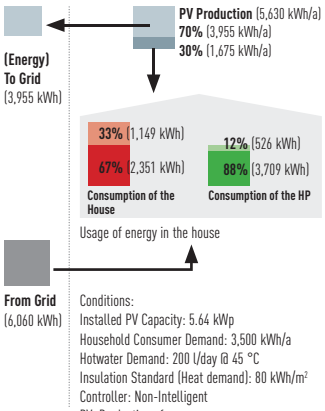


Conditions:
Installed PV Capacity: 5.64 kWp
Household Consumer Demand: 3,500 kWh/a
Hotwater Demand: 200 l/day @ 40 °C
Insulation Standard (Heat demand): 35 kWh/m²
Controller: ECO

Comparison on Old housing
Increase usage of self production by: 71%

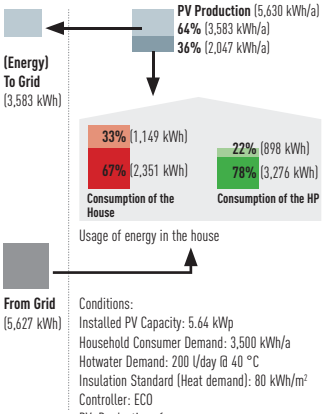
The HPM could increase the energy consumption of the heat pump coming from the Photovoltaic from 526 kWh to 898 kWh a year. Results of simulations:

Old building Frankfurt (non-optimized)

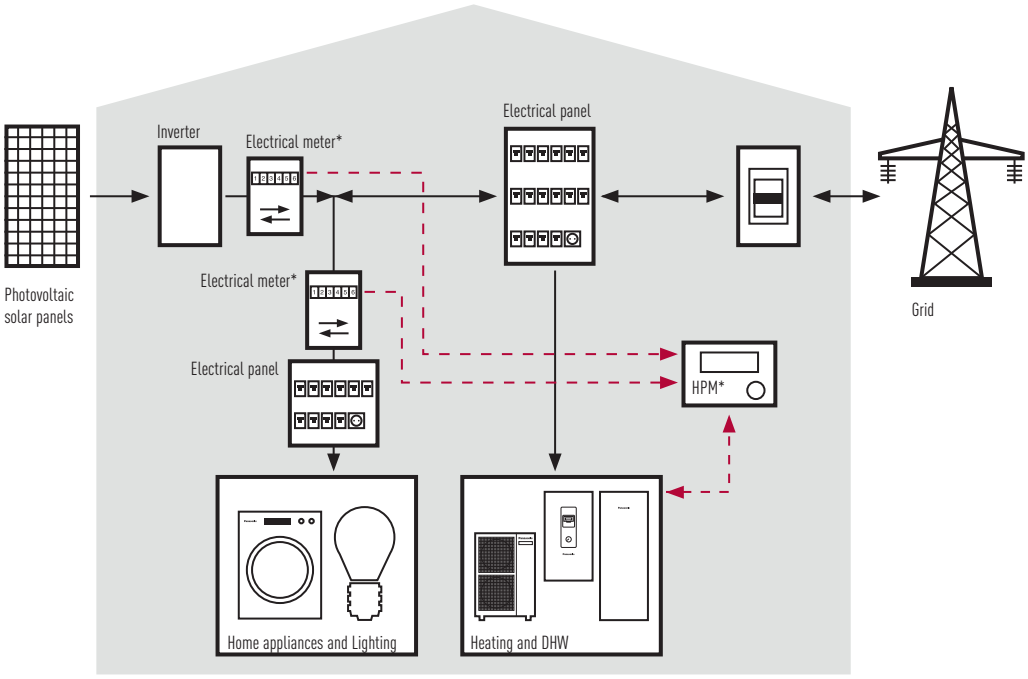


Conditions:
Installed PV Capacity: 5.64 kWp
Household Consumer Demand: 3,500 kWh/a
Hotwater Demand: 200 l/day @ 45 °C
Insulation Standard (Heat demand): 80 kWh/m²
Controller: Non-Intelligent
PV: Production of energy

Old building Frankfurt (optimized-eco)



Conditions:
Installed PV Capacity: 5.64 kWp
Household Consumer Demand: 3,500 kWh/a
Hotwater Demand: 200 l/day @ 40 °C
Insulation Standard (Heat demand): 80 kWh/m²
Controller: ECO
PV: Production of energy



PV + HP control

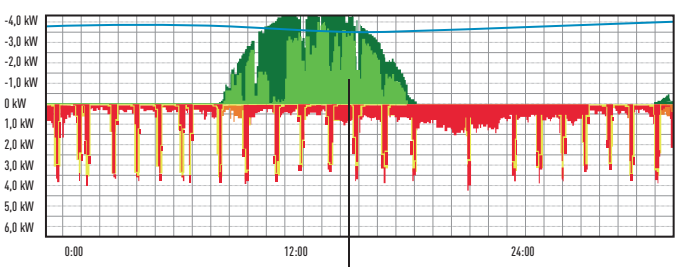
How to create added value of the combination PV+HP?

- Optimize the HP considering the PV production
- When the PV is producing enough to cover the HP consumption, then Tank mode will be forced to heat up the DHW to 55 or 65 degrees
- If buffer tank on the installation, temperature on the buffer tank will increase 1-to 5 degrees or up to 55°C.

*Device supply by Panasonic-PAW-HPM-Solar (HPM + 2 Electrical Retors)

Standard combination PV+HP. Why the Panasonic HPM can increase by 120% the performance of the combination PV+HP

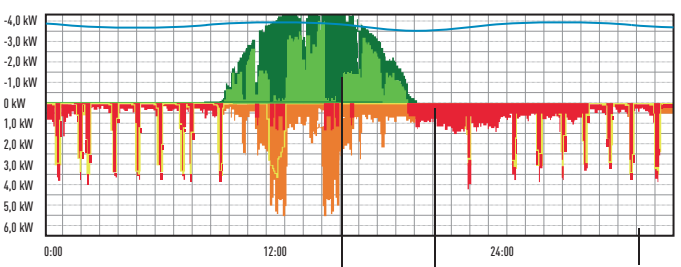
Typical Electricity consumption and production profile WITHOUT Panasonic HPM



Total electricity used in the house and by the HP
PV production used in the house and by the HP
PV production send to the grid
Electricity used by the HP

No optimization of the consumption of the HP, production and consumption only match on 13%

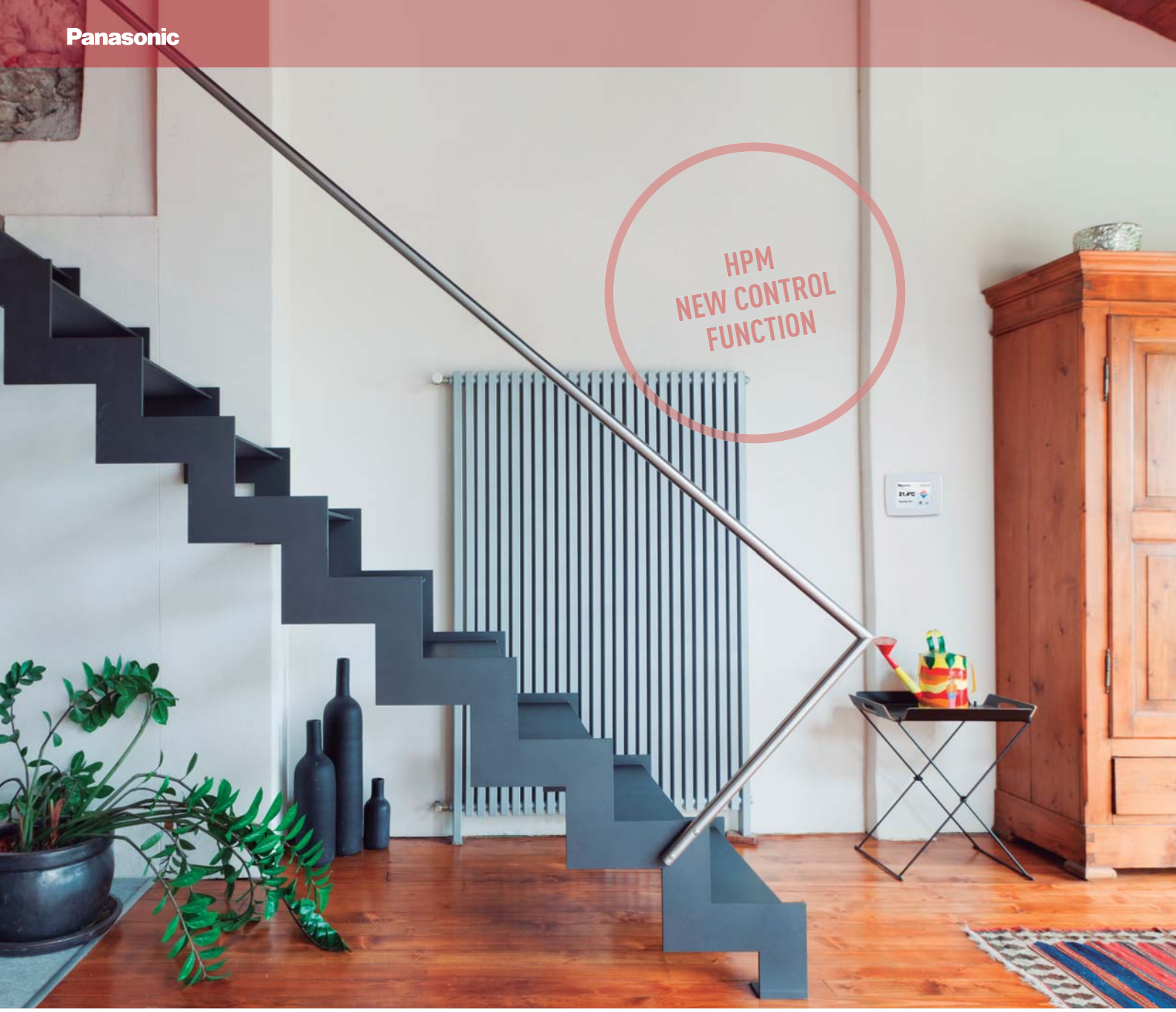
Typical Electricity consumption and production profile optimize by the Panasonic HPM



By forcing the HP to run when there is production. The Panasonic HPM increases the consumption of free electricity coming from the PV by 56%

The HP does not have to work when there is high demand of electricity during the evening for example

The house temperature is maintained, to ensure comfort. A variation of 1 to 2 degrees can be programmed in order to increase the performance of the system



Control & connectivity

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

New

Connected to a router, all information of the heating system controlled by the HPM is available from internet. Installers, service companies and end user can monitor the installation remotely.
Panasonic has developed a new easy start up mode for the HPM.
Start your bivalent system in just 10 minutes!

OPTIONAL

With or without built-in display

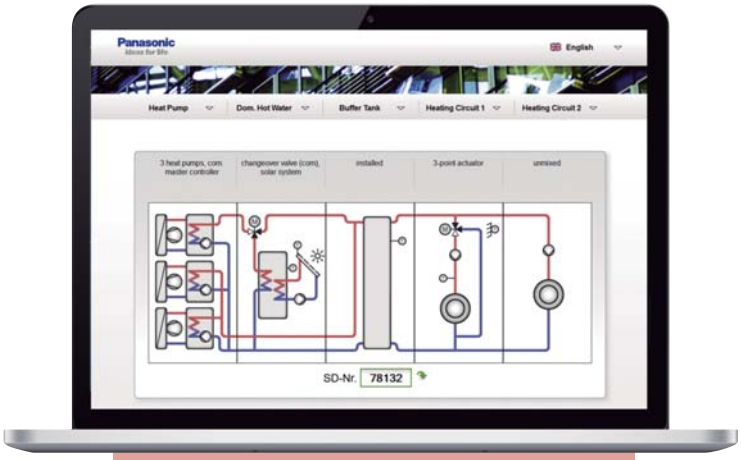
External touch display with the Heat Pump Manager

The next generation of Aquarea Manager

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

Panasonic offers:

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



READY STEADY GO

Easy Installation & Easy Configuration

Ready: Pre-programmed with up to 610 applications/system diagrams

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

Go: The controller starts working according to selected diagram

Key points

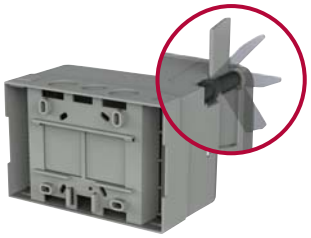
- Easy selection with the "ready to go" system
- Up to 610 preconfiguration installations available on **www.panasonicproclub.com**
- Cascade system possible for big installations.
- Bivalent control in order to also manage gas boilers
- Able to control 2 mixed heated zones
- Smart grid ready
- Solar panel mode in order to produce heat when the PV is generating electricity
- Online access with control of all parameters.
- Easy installation and needs less than 3 minutes to configure a complex system

Technical Specification

- New function: Smart Setup
- Control of 2 x Mixed Heating Circuits
- Floor screed dry program
- Cascade/bivalent controller
- Automatic switch from heating to cooling mode
- Night shift: - Internal Energy Manager
- Solar collector control
- Domestic hot water priority
- Easy to startup – easy to operate
- 7 output relays
- 0-10 V In/Output Signal
- 8 Sensor inputs (PT1000)
- USB interface (upload, service, remote control, trend)
- RS485 interface (com. with additional heat pump)
- RS485 interface (for external display)
- Built-in backlit text display

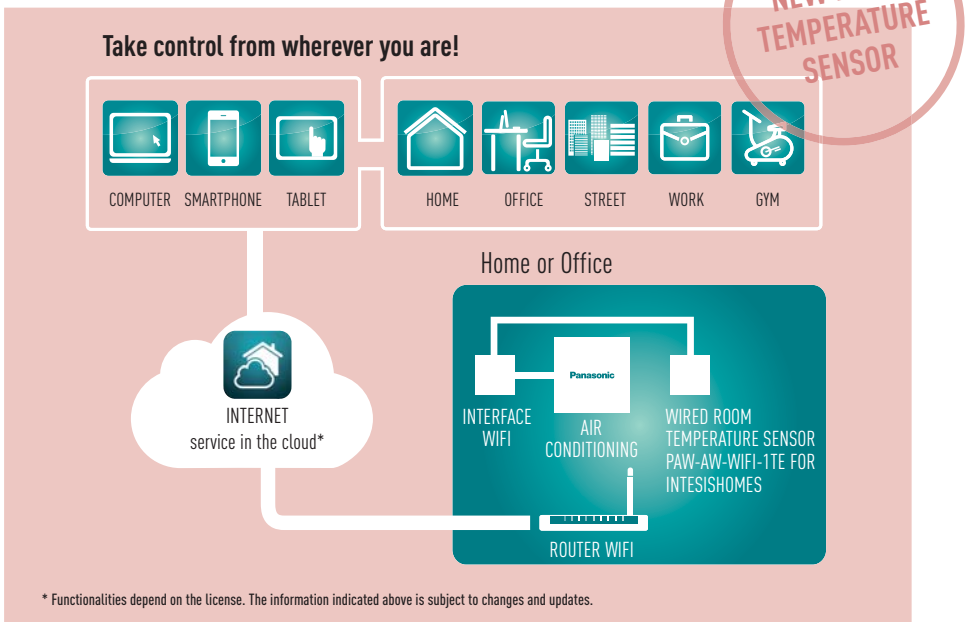
Easy mounting

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



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

PAW-AW-WIFI-1 IntesisHome for web control
PAW-AW-WIFI-1TE IntesisHome for web control with Wired room temperature sensor to display the temperature of the room



* Functionalities depend on the license. The information indicated above is subject to changes and updates.

What's Internet Control?

Internet Control is a next generation system providing user-friendly remote control of air conditioning or heat pump units from anywhere, using a simple Android or iOS smartphone, tablet or PC via internet with the optional Wired Room temperature sensor, the temperature be display (only with PAW-AW-WIFI-1).

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.

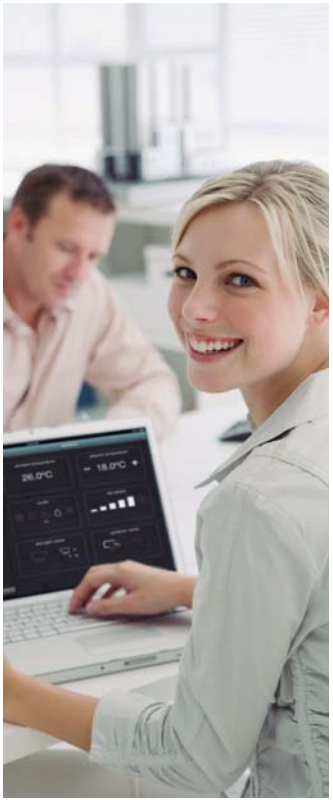
No servers. No adaptors. No wires. Just a small box needs to be connected and placed close to the air conditioning indoor unit... and your smartphone, tablet or PC.

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

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

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

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



Case Study: Helen, Panasonic customer

"I was sick of heating my house in the mountains on the weekends when I couldn't go. It was a pointless and annoying expense.

But now, with Internet Control, I've managed to put the rigidity of weekly programming behind me. If I go then I just put my Panasonic Aquarea heating system on. And if I don't go then I go to the cinema or the theatre with the money I've saved."

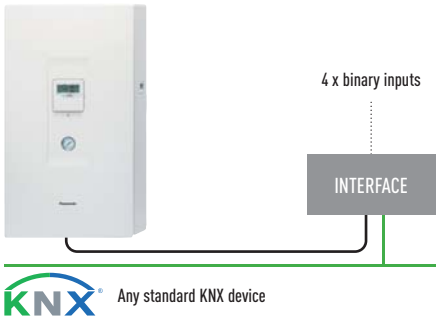
Connectivity: Great flexibility for integration into your KNX / Zig Bee / Modbus projects allows fully bi-directional monitoring and control of all the functioning parameters

Panasonic works with partners to ensure the optimum solutions for our clients. Our partner has designed a range of interfaces specifically for Panasonic to provide complete monitoring, control and full functionality of the entire Aquarea line-up from KNX, Zig Bee and Modbus installations.
This connectivity solution is made by a third party company, please contact Panasonic for more information.

Easy control by BMS
CONNECTIVITY

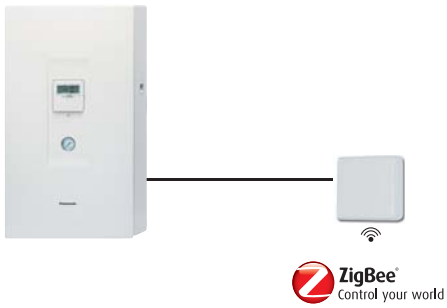
KNX

Interface to connect Aquarea to KNX
Reference: PAW-AW-KNX-1i
This new Aquarea-KNX interface allows full monitoring and control, bi-directionally, of all the functioning parameters of Aquarea control from KNX installations.
- Small dimensions. / Quick installation and possibility of hidden installation.
- External power not required.
- Direct connection to the unit.
- Fully KNX interoperable. Control and monitoring, from sensors or gateways, of the internal variables of the indoor unit and error codes and indication.
- Aquarea unit can be controlled simultaneously by the remote control of the Aquarea unit and by KNX devices.



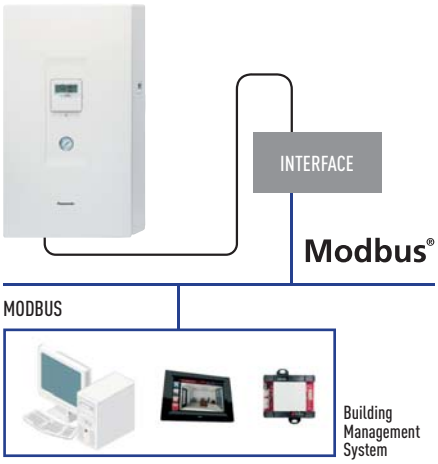
ZigBee Control your world

Interface to connect Aquarea to Zig Bee
Reference: PAW-ZIG-A2W
This new Aquarea-Zig Bee home automation interface allows full monitoring and control, bi-directionally, of all the functioning parameters of the Aquarea control from Zig Bee installations.
- Small dimensions. / Quick installation.
- External power not required.
- Direct connection to the Aquarea unit using the same parameters as on the control.
- Fully Zig Bee interoperable. Control and monitoring, from sensors or gateways, of the internal variables of the indoor unit and error codes and indication.
- Aquarea unit can be controlled simultaneously by the remote control of the Aquarea unit and by Zig Bee devices.



Modbus®

Interface to connect Aquarea to Modbus
Reference: PAW-AW-MBS-1
This new Aquarea-Modbus RTU Slave interface allows monitoring and control, fully bi-directionally, all the functioning parameters of Aquarea control from Modbus installations.
- Small dimensions. / Quick installation and possibility of hidden installation.
- External power not required.
- Direct connection to the unit.
- Fully Modbus interoperable. Control and monitoring, from any BMS or PLC Modbus Master, of internal variables of the indoor unit and error codes and indication.
- Aquarea unit can be controlled simultaneously by the remote control of the Aquarea unit and by Modbus Master device.



Model name	Interface
PAW-AW-KNX-1i	KNX Interface
PAW-ZIG-A2W	Interface to connect to Zig Bee
PAW-AW-MBS-1	Modbus Interface
PAW-AW-WIFI-1	Interface for Intesishome for Aquarea models
PAW-AW-WIFI-1TE	Wired room temperature sensor (only for PAW-AW-WIFI-1)

Aquarea Line-Up!

FIGURE 1 (F1)

FIGURE 2 (F2)

FIGURE 3 (F3)

FIGURE 4 (F4)

FIGURE 5 (F5)

FIGURE 6 (F6)

				3kW	5kW	6kW	7kW	9kW	12kW	14kW	16kW
All in One	Bi-Bloc High performance	Single Phase	Heating and cooling	WH-ADC0309G3E5 WH-UD03EE5 (F1)	WH-ADC0309G3E5 WH-UD05EE5 (F1)		WH-ADC0309G3E5 WH-UD07FE5 (F1)	WH-ADC0309G3E5 WH-UD09FE5 (F1)	WH-ADC1216G6E5 WH-UD12FE5 (F1)	WH-ADC1216G6E5 WH-UD14FE5 (F1)	WH-ADC1216G6E5 WH-UD16FE5 (F1)
		Three Phase	Heating and cooling					WH-ADC0916G9E8 WH-UD09FE8 (F1)	WH-ADC0916G9E8 WH-UD12FE8 (F1)	WH-ADC0916G9E8 WH-UD14FE8 (F1)	WH-ADC0916G9E8 WH-UD16FE8 (F1)
	Bi-Bloc T-CAP	Single Phase	Heating and cooling					WH-ADC1216G6E5 WH-UX09FE5 (F1)	WH-ADC1216G6E5 WH-UX12FE5 (F1)		
		Three Phase	Heating and cooling					WH-ADC0916G9E8 WH-UX09FE8 (F1)	WH-ADC0916G9E8 WH-UX12FE8 (F1)		WH-ADC0916G9E8 WH-UX16FE8 (F1)
Aquarea High Performance for well insulated houses	Bi-Bloc	Single Phase	Heating only	WH-SDF03E3E5 WH-UD03EE5 (F2)	WH-SDF05E3E5 WH-UD05EE5 (F2)						
			Heating and cooling	WH-SDC03E3E5 WH-UD03EE5 (F2)	WH-SDC05E3E5 WH-UD05EE5 (F2)		WH-SDC07F3E5 WH-UD07FE5 (F4)	WH-SDC09F3E5 WH-UD09FE5 (F4)	WH-SDC12F6E5 WH-UD12FE5 (F5)	WH-SDC14F6E5 WH-UD14FE5 (F5)	WH-SDC16F6E5 WH-UD16CE5 (F5)
		Three Phase	Heating and cooling					WH-SDC09F3E8 WH-UD09FE8 (F5)	WH-SDC12F9E8 WH-UD12FE8 (F5)	WH-SDC14F9E8 WH-UD14FE8 (F5)	WH-SDC16F9E8 WH-UD16FE8 (F5)
	Mono-Bloc	Single Phase	Heating only			WH-MDF06E3E5 (F3)		WH-MDF09E3E5 (F3)	WH-MDF12C6E5 (F6)	WH-MDF14C6E5 (F6)	WH-MDF16C6E5 (F6)
			Heating and cooling		WH-MDC05F3E5 (F3)	WH-MDC06E3E5 (F3)		WH-MDC09E3E5 (F3)	WH-MDC12C6E5 (F6)	WH-MDC14C6E5 (F6)	WH-MDC16C6E5 (F6)
		Three Phase	Heating only					WH-MDF09C3E8 (F6)	WH-MDF12C9E8 (F6)	WH-MDF14C9E8 (F6)	WH-MDF16C9E8 (F6)
			Heating and cooling					WH-MDC09C3E8 (F6)	WH-MDC12C9E8 (F6)	WH-MDC14C9E8 (F6)	WH-MDC16C9E8 (F6)
Aquarea T-CAP for cold areas	Bi-Bloc	Single Phase	Heating and cooling					WH-SXC09F3E5 WH-UX09FE5 (F5)	WH-SXC12F6E5 WH-UX12FE5 (F5)		
		Three Phase	Heating and cooling					WH-SXC09F3E8 WH-UX09FE8 (F5)	WH-SXC12F9E8 WH-UX12FE8 (F5)		WH-SXC16F9E8 WH-UX16FE8 (F5)
	Mono-Bloc	Single Phase	Heating only					WH-MXF09D3E5 (F6)	WH-MXF12D6E5 (F6)		
			Heating and cooling					WH-MXC09D3E5 (F6)	WH-MXC12D6E5 (F6)		
		Three Phase	Heating only					WH-MXF09D3E8 (F6)	WH-MXF12D9E8 (F6)		
			Heating and cooling					WH-MXC09D3E8 (F6)	WH-MXC12D9E8 (F6)		
Aquarea HT for retrofit	Bi-Bloc	Single Phase	Heating only					WH-SHF09F3E5 WH-UH09FE5 (F5)	WH-SHF12F6E5 WH-UH12FE5 (F5)		
		Three Phase	Heating only					WH-SHF09F3E8 WH-UH09FE8 (F5)	WH-SHF12F9E8 WH-UH12FE8 (F5)		
	Mono-Bloc	Single Phase	Heating only					WH-MHF09D3E5 (F6)	WH-MHF12D6E5 (F6)		
		Three Phase	Heating only					WH-MHF09D3E8 (F6)	WH-MHF12D9E8 (F6)		

Low connectivity : control of 3 way valve, tank heater On/Off signal, tank thermostat signal reception, On/Off from external control, weekly timer. High connectivity : Low connectivity + solar panels connection, room thermostat connection.
* Cooling mode activation possible by software. This activation can only be done by service partner.

A class pump

SEASONAL EFFICIENCY

Aquarea All in One Bi-Bloc (Inverter)

HIGH PERFORMANCE	3kW	5kW	7kW	9kW	12kW	14kW	16kW
T-CAP (HIGH CAPACITY FOR COLD AREAS)				9kW	12kW		16kW

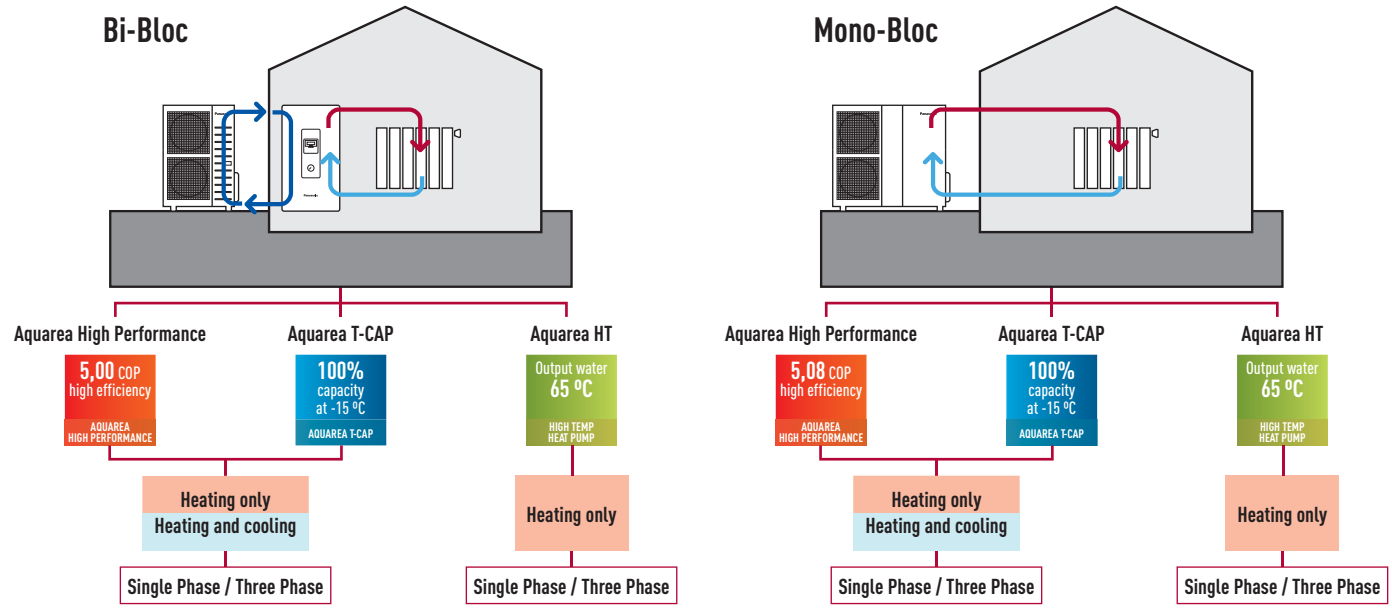
Aquarea Bi-Bloc (Inverter)

HIGH PERFORMANCE	3kW	5kW	7kW	9kW	12kW	14kW	16kW
T-CAP (HIGH CAPACITY FOR COLD AREAS)				9kW	12kW		16kW
AQUAREA HT				9kW	12kW		

Aquarea Mono-Bloc (Inverter)

HIGH PERFORMANCE	5kW	6kW	9kW	12kW	14kW	16kW
T-CAP (HIGH CAPACITY FOR COLD AREAS)			9kW	12kW		
AQUAREA HT			9kW	12kW		

* Not all products have A class pump.



AQUAREA
ALL IN ONE HIGH PERFORMANCE
BI-BLOC SINGLE PHASE HEATING AND COOLING

WH-UD03EE5
WH-UD05EE5

WH-UD07FE5
WH-UD09FE5

WH-UD12FE5
WH-UD14FE5
WH-UD16FE5

WH-UD09FE8
WH-UD12FE8
WH-UD14FE8
WH-UD16FE8

Panasonic has developed a highly efficient solution, easy to install.

Technical focus

- Space saving: 1827 x 600 x 720 (H x W x D)
- Reduce installation costs
- Piping on the bottom of the All in One (easy to install)
- Reduce timing and minimize installation errors
- Easy remote control to set up
- Electrical connections on the front
- Reduce installation spaces
- All piping connections at bottom of the indoor unit
- Easier installation and maintenance
- New remote control functions

* Cooling mode activation possible by software. This activation can only be done by service partner.

Optional Controllers

Aquarea Manager with LCD.
PAW-HPM1

Aquarea Manager touch screen.
PAW-HPMED for HPM

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

			Single Phase (Power to indoor)							Three Phase (Power to indoor)			
Kit			KIT-ADC3GE5	KIT-ADC5GE5	KIT-ADC7GE5	KIT-ADC9GE5	KIT-ADC12GE5	KIT-ADC14GE5	KIT-ADC16GE5	KIT-ADC9GE8	KIT-ADC12GE8	KIT-ADC14GE8	KIT-ADC16GE8
Indoor unit			WH-ADC0309G3E5				WH-ADC1216G6E5			WH-ADC0916G9E8			
Outdoor unit			WH-UD03EE5	WH-UD05EE5	WH-UD07FE5	WH-UD09FE5	WH-UD12FE5	WH-UD14FE5	WH-UD16FE5	WH-UD09FE8	WH-UD12FE8	WH-UD14FE8	WH-UD16FE8
Heating capacity at +7°C		kW	3,20	5,00	7,00	9,00	12,00	14,00	16,00	9,00	12,00	14,00	16,00
COP at +7°C (heating water at 35°C)			5,00	4,63	4,46	4,13	4,75	4,57	4,28	4,85	4,75	4,57	4,28
Heating capacity at +2°C (heating water at 35°C)		kW	3,20	4,20	6,55	6,70	11,40	12,40	13,00	9,00	11,40	12,40	13,00
COP at +2°C (heating water at 35°C)			3,56	3,11	3,34	3,13	3,45	3,36	3,29	3,59	3,45	3,36	3,29
Heating capacity at -7°C		kW	3,20	4,20	5,15	5,90	10,00	10,70	11,40	9,00	10,00	10,70	11,40
COP at -7°C			2,69	2,59	2,68	2,52	2,74	2,71	2,68	2,85	2,74	2,71	2,68
Cooling capacity at 35°C		kW	3,20	4,50	6,00	7,00	10,00	11,50	12,20	7,00	10,00	11,50	12,20
EER at 35°C (cooling water at 7/12°C)			3,08	2,69	2,63	2,43	2,81	2,64	2,57	3,17	2,81	2,64	2,57
Indoor unit													
Dimensions	H x W x D	mm	1.827x600x720	1.827x600x720	1.827x600x720	1.827x600x720	1.827x600x720	1.827x600x720	1.827x600x720	1.827x600x720	1.827x600x720	1.827x600x720	1.827x600x720
Weight		kg											
Hidrokit in the indoor unit	Water pipe connector	mm	R1 1/4	R1 1/4	R1 1/4	R1 1/4	R1 1/4	R1 1/4	R1 1/4	R1 1/4	R1 1/4	R1 1/4	R1 1/4
	A class Pump — No. of Speed		7	7	7	7	7	7	7	7	7	7	7
	A class Pump — Input power (Min/Max.)	W	Min: 21 W at 10l/min / Max: 135 W at 53.8l/min										
	Heating water flow (ΔT=5 K. 35°C)	l/min	9,2	14,3	20,1	25,8	34,4	40,1	45,9	25,8	34,4	40,1	45,9
	Capacity of integrated electric heater	kW	3	3	3	3	6	6	6	3	9	9	9
	Input Power — Heating / Cooling	kW	0,64 / 1,04	1,08 / 1,67	1,59 / 2,30	2,20 / 2,90	2,57 / 3,60	3,11 / 4,40	3,78 / 4,80	1,90 / 2,25	2,57 / 3,55	3,11 / 4,40	3,78 / 4,80
	Running current — Heating / Cooling	A	3,00 / 4,8	5,00 / 7,6	7,30 / 10,40	10,10 / 13,10	11,70 / 16,10	14,10 / 19,70	17,10 / 21,50	2,90 / 3,40	3,90 / 5,30	4,70 / 6,60	5,70 / 7,20
	Current 1 / Current 2	A			21,0 / 26,0	22,9 / 26,0	24,0 / 26,0	25,0 / 26,0	26,0 / 26,0	11,8 / 13,0	8,8 / 13,0	9,4 / 13,0	9,9 / 13,0
	Recommended Fuse	A	30 / 15	30 / 15	30 / 30	30 / 30	30 / 30	30 / 30	30 / 30	16 / 16	16 / 16	16 / 16	16 / 16
	Recommended power cable section	mm²	4,0 / 2,5	4,0 / 2,5	4,0 / 4,0	4,0 / 4,0	4,0 / 4,0	4,0 / 4,0	4,0 / 4,0	2,5 / 2,5	2,5 / 2,5	2,5 / 2,5	2,5 / 2,5
Tank in the indoor unit	Water volume	L	200	200	200	200	200	200	200	200	200	200	200
	Maximum water temperature	°C	65	65	65	65	65	65	65	65	65	65	65
	Material inside tank		Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel
	Exchange surface	m²	2,1	2,1	2,1	2,1	2,1	2,1	2,1	2,1	2,1	2,1	2,1
	Warranty of the stainless steel tank		10 years	10 years	10 years	10 years	10 years	10 years	10 years	10 years	10 years	10 years	10 years
	Maintenance required on the tank		No	No	No	No	No	No	No	No	No	No	No
Outdoor unit													
Sound pressure level / Sound power level		dB(A) / dB	47 / 65	48 / 66	48 / 66	49 / 67	50 / 67	51 / 68	53 / 70	49 / 65	50 / 66	51 / 71	53 / 68
Dimensions / Weight	H x W x D	mm / kg	622 x 824 x 298 / 39		795 x 900 x 320 / 66		1.340 x 900 x 320 / 106						
Pipe diameter	Liquid / Gas	mm (Inch)	6,35 (1/4) / 12,7 (1/2)		6,35 (1/4) / 15,88 (5/8)		9,52 (3/8) / 15,88 (5/8)						
Refrigerant / Additional gas amount (R410A)		kg / g/m	1,20 / 20	1,20 / 20	1,45 / 30	1,45 / 30	2,75 / 50	2,75 / 50	2,75 / 50	2,75 / 50	2,75 / 50	2,75 / 50	2,75 / 50
Pipe length range		m	3-15	3-15	3 – 30	3 – 30	3 – 30	3 – 30	3 – 30	3 – 30	3 – 30	3 – 30	3 – 30
Pipe length for nominal capacity / additional gas		m	7 / 10	7 / 10	7 / 10	7 / 10	7 / 10	7 / 10	7 / 10	7 / 10	7 / 10	7 / 10	7 / 10
Elevation dif. (in/out)		m	5	5	20	20	20	20	20	20	20	20	20
Operation range	Outdoor ambient	°C	-20 to 35	-20 to 35	-20 to 35	-20 to 35	-20 to 35	-20 to 35	-20 to 35	-20 to 35	-20 to 35	-20 to 35	-20 to 35
Water outlet at -2/-7/-15		°C	20 - 55 / 5 – 20	20 - 55 / 5 – 20	20 – 55 / 5 – 20	20 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20

Internet Control Ready — INTERNET CONTROL
5,00 COP high efficiency — AQUAREA HIGH PERFORMANCE
High efficiency heating — INVERTER+
Environmentally friendly refrigerant — R410A
Down to -20 °C in heating mode — OUTDOOR TEMPERATURE
Boiler connection — RETROFIT
Solar panels connection — SOLAR KIT
Domestic hot water — DHW
Easy control by BMS — CONNECTIVITY
5 year compressor warranty

INTERNET CONTROL READY: Optional.

COP classification is at 230 V only in accordance with EU directive 2003/32/EC. Sound pressure measured at 1 m from the outdoor unit and at 1.5 m height. Performance in agreement with EN14511. 1) Insulated tested under EN12897.
* Preliminary design. Significant changes may occur.

AQUAREA
ALL IN ONE T-CAP
BI-BLOC SINGLE PHASE / THREE PHASE
HEATING AND COOLING

All the benefits of the T-CAP All in ONE unit!
Panasonic has developed a highly efficient solution, easy to install.

Technical focus
- Space saving: 1827 x 600 x 720 (H x W x D)
- Reduce installation costs
- Piping on the bottom of the All in One (easy to install)
- Reduce timing and minimize installation errors
- Easy remote control to set up
- Electrical connections on the front
- Reduce installation spaces
- All piping connections at bottom of the indoor unit
- Easier installation and maintenance
- 1 phase and 3 phase
- New remote control functions

WH-UX09FE5 WH-UX16FE8
WH-UX12FE5 WH-UX09FE8
WH-UX12FE8

Optional Controllers

Aquarea Manager with LCD.
PAW-HPM1

Aquarea Manager touch screen.
PAW-HPMED for HPM

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

				Single Phase (Power to indoor)		Three Phase (Power to indoor)		
Kit				**KIT-AXC9GE5**	**KIT-AXC12GE5**	**KIT-AXC9GE8**	**KIT-AXC12GE8**	**KIT-AXC16GE8**
Indoor unit				**WH-ADC1216G6E5**	**WH-ADC1216G6E5**	**WH-ADC0916G9E8**	**WH-ADC0916G9E8**	**WH-ADC0916G9E8**
Outdoor unit				**WH-UX09FE5**	**WH-UX12FE5**	**WH-UX09FE8**	**WH-UX12FE8**	**WH-UX16FE8**
Heating capacity at +7°C			kW	9,00	12,00	9,00	12,00	16,00
COP at +7°C (heating water at 35°C)				4,85	4,75	4,85	4,75	4,28
Heating capacity at +2°C (heating water at 35°C)			kW	9,00	12,00	9,00	12,00	16,00
COP at +2°C (heating water at 35°C)				3,59	3,44	3,59	3,44	3,10
Heating capacity at -7°C			kW	9,00	12,00	9,00	12,00	16,00
COP at -7°C				2,85	2,72	2,85	2,72	2,49
Cooling capacity at 35°C			kW	7,00	10,00	7,00	10,00	12,20
EER at 35°C (cooling water at 7/12°C)				3,17	2,81	3,17	2,81	2,57
Indoor unit								
Dimensions	H x W x D		mm	1.827 x 600 x 720	1.827 x 600 x 720	1.827 x 600 x 720	1.827 x 600 x 720	1.827 x 600 x 720
Weight			kg					
Hidrokit in the indoor unit	Water pipe connector			R 1 ¼	R 1 ¼	R 1 ¼	R 1 ¼	R 1 ¼
	A class Pump	No. of Speed		7	7	7	7	7
		Input power (Min/Max.)	W	Min: 21 W at 10l/min / Max: 135 W at 53.8l/min				
	Heating water flow (ΔT=5 K. 35°C)		l/min	25,8	34,4	25,8	34,4	45,9
	Capacity of integrated electric heater		kW	6	6	9	9	9
	Input Power	Heating / Cooling	kW	1,90	2,57	1,90	2,57	2,57
	Running current	Heating / Cooling	A	8,8 (10,4)	11,9 (16,7)	2,9 (3,4)	3,9 (5,4)	7,2
	Current 1 / Current 2		A	25,0 / 26,0	29,0 / 26,0	14,7 / 13,0	11,9 / 13,0	15,5 / 13,0
	Recommended Fuse		A	30 / 30	30 / 30	16 / 16	16 / 16 / 16	16 / 16
	Recommended power cable section		mm²	4,0 / 4,0	4,0 / 4,0	2,5 / 2,5	2,5 / 2,5	2,5 / 2,5
Tank in the indoor unit	Water volume		L	200	200	200	200	200
	Maximum water temperature		°C	65	65	65	65	65
	Material inside tank			Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel
	Exchange surface		m²	2,1	2,1	2,1	2,1	2,1
	Warranty of the Stainless steel tank			10 years	10 years	10 years	10 years	10 years
	Maintenance required on the tank			No	No	No	No	No
Outdoor unit								
Sound pressure level / Sound power level			dB(A) / dB	49 / 66	50 / 67	49 / 66	50 / 67	50 / 67
Dimensions / Weight	H x W x D		mm / kg	1.340 x 900 x 320 / 107	1.340 x 900 x 320 / 107	1.340 x 900 x 320 / 110	1.340 x 900 x 320 / 110	1.340 x 900 x 320 / 110
Pipe diameter	Liquid / Gas		mm (Inch)	9,52 (3/8) / 15,88 (5/8)	9,52 (3/8) / 15,88 (5/8)	9,52 (3/8) / 15,88 (5/8)	9,52 (3/8) / 15,88 (5/8)	9,52 (3/8) / 15,88 (5/8)
Refrigerant / Additional gas amount (R410A)			kg / g/m	3,10 / 50	3,10 / 50	3,10 / 50	3,10 / 50	2,90 / 50
Pipe length range			m	3 – 30	3 – 30	3 – 30	3 – 30	3 – 30
Pipe length for nominal capacity / additional gas			m	7 / 10	7 / 10	7 / 10	7 / 10	7 / 10
Elevation dif. (in/out)			m	20	20	20	20	20
Operation range	Outdoor ambient		°C	-20 to 35	-20 to 35	-20 to 35	-20 to 35	-20 to 35
Water outlet at -2/-7/-15			°C	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20

Internet Control Ready (INTERNET CONTROL) · 4.85 COP high efficiency (AQUAREA HIGH PERFORMANCE) · High efficiency heating (INVERTER+) · Environmentally friendly refrigerant (R410A) · Down to -20 °C in heating mode (OUTDOOR TEMPERATURE) · Boiler connection (RETROFIT) · Solar panels connection (SOLAR KIT) · Domestic hot water (DHW) · Easy control by BMS (CONNECTIVITY) · 5 year compressor warranty

INTERNET CONTROL READY: Optional.

COP classification is at 230 V only in accordance with EU directive 2003/32/EC. Sound pressure measured at 1 m from the outdoor unit and at 1.5 m height. Performance in agreement with EN14511. 1) Insulated tested under EN12897.
* Preliminary design. Significant changes may occur.

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

DESIGNED FOR LOW CONSUMPTION HOMES

A class pump

The 3 and 5kW is specially designed for low energy homes and achieves an impressive COP of 5 (on the 3.2kW).
Thanks to the system's high degree of technology and advanced control, it is able to maintain a high capacity and efficiency even at -7°C and -15°C. The Aquarea's software is optimised to the requirements of low consumption homes in order to maximise energy efficiency. Whatever the weather, Aquarea can work even at -20°C. The compact design of the outdoor unit makes installation very easy.

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

WH-UD03EE5
WH-UD05EE5

Optional Controllers

Aquarea Manager with LCD.
PAW-HPM1

Aquarea Manager touch screen.
PAW-HPMED for HPM

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

			Single Phase Heating Only		Single Phase Heating and Cooling	
Kit			**KIT-WF03C3E5**	**KIT-WF05C3E5**	**KIT-WC03C3E5**	**KIT-WC05C3E5**
Indoor unit			**WH-SDF03E3E5**	**WH-SDF05E3E5**	**WH-SDC03E3E5**	**WH-SDC05E3E5**
Outdoor unit			**WH-UD03EE5**	**WH-UD05EE5**	**WH-UD03EE5**	**WH-UD05EE5**
Heating capacity at +7°C		kW	3,20	5,00	3,20	5,00
COP at +7°C (heating water at 35°C)			5,00	4,63	5,00	4,63
Heating capacity at +2°C (heating water at 35°C)		kW	3,20	4,20	3,20	4,20
COP at +2°C (heating water at 35°C)			3,56	3,11	3,56	3,11
Heating capacity at -7°C		kW	3,20	4,20	3,20	4,20
COP at -7°C			2,69	2,59	2,69	2,59
Cooling capacity at 35°C		kW	-	-	3,20	4,50
EER at 35°C (cooling water at 7/12°C)			-	-	3,08	2,69
Indoor unit						
Dimensions	H x W x D	mm	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353
Weight		kg	43	43	44	44
Water pipe connector		mm	28	28	28	28
A class Pump	No. of Speed		Variable Speed	Variable Speed	Variable Speed	Variable Speed
	Input power (Min/Max.)	W	Min: 21 W at 10l/min / Max: 135 W at 53.8l/min			
Heating water flow (ΔT=5 K. 35°C)		l/min	9,2	14,3	9,2	14,3
Capacity of integrated electric heater		kW	3	3	3	3
Input Power	H / C	kW	0,64 / 1,04	1,08 / 1,67	0,64 / 1,04	1,08 / 1,67
Running and Starting current	H / C	A	3 / 4,8	5 / 7,6	3 / 4,8	5 / 7,6
Current 1 / Current 2		A	11,0 / 26,0	12,0 / 26,0	11,0 / 26,0	12,0 / 26,0
Recommended Fuse		A	15 / 30	15 / 30	15 / 30	15 / 30
Recommended power cable section		mm²	2,5 / 4,0	2,5 / 4,0	2,5 / 4,0	2,5 / 4,0
Outdoor unit						
Sound pressure level		dB(A)	47	48	47	48
Sound power level		dB	65	66	65	66
Dimensions	H x W x D	mm	622 x 824 x 298	622 x 824 x 298	622 x 824 x 298	622 x 824 x 298
Weight		kg	39	39	39	39
Pipe diameter	Liquid	mm (Inch)	6,35 (1/4)	6,35 (1/4)	6,35 (1/4)	6,35 (1/4)
	Gas	mm (Inch)	12,7 (1/2)	12,7 (1/2)	12,7 (1/2)	12,7 (1/2)
Refrigerant (R410A)		kg	1,20	1,20	1,20	1,20
Pipe length range		m	3-15	3-15	3-15	3-15
Pipe length for nominal capacity		m	7	7	7	7
Pipe length for additional gas		m	10	10	10	10
Additional gas amount (R410A)		g/m	20	20	20	20
Elevation difference (in/out)		m	5	5	5	5
Operation range	Outdoor ambient	°C	-20 to 35	-20 to 35	-20 to 35	-20 to 35
Water outlet at -2/-7/-15		°C	20 - 55	20 - 55	20 - 55	20 - 55

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

Internet Control Ready — INTERNET CONTROL
5,00 COP high efficiency — AQUAREA HIGH PERFORMANCE
High efficiency heating — INVERTER+
Environmentally friendly refrigerant — R410A
Down to -20 °C in heating mode — OUTDOOR TEMPERATURE
Boiler connection — RETROFIT
Solar panels connection — SOLAR KIT
Domestic hot water — DHW
Easy control by BMS — CONNECTIVITY
5 year compressor warranty

INTERNET CONTROL READY: Optional.

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

WH-UD07FE5
WH-UD09FE5

WH-UD12FE5
WH-UD14FE5
WH-UD16FE5

WH-UD09FE8
WH-UD12FE8
WH-UD14FE8
WH-UD16FE8

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

Technical focus
- **NEW!** New remote control functions
- Efficient control of room temperature based on the outdoor temperature, indoor temperature using the Aquarea Manager.
- Optional Smartphone control
- Range from 7 to 16kW, Single and Three Phase
- Maximum hydraulic module output temperature: 55°C
- Works down to -20°C
- Maximum 30 m rise between the outdoor unit and the hydraulic module
- Cooling temperature range 5–20°C

Optional Controllers


Aquarea Manager with LCD.
PAW-HPM1

Aquarea Manager touch screen.
PAW-HPMED for HPM


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

			Single Phase (Power to indoor)					Three Phase (Power to indoor)			
Kit			KIT-WC07F3E5[1]	KIT-WC09F3E5[1]	KIT-WC12F6E5[2]	KIT-WC14F6E5[2]	KIT-WC16F6E5[2]	KIT-WC09F3E8[3]	KIT-WC12F9E8[3]	KIT-WC14F9E8[3]	KIT-WC16F9E8[3]
Indoor unit			WH-SDC07F3E5	WH-SDC09F3E5	WH-SDC12F6E5	WH-SDC14F6E5	WH-SDC16F6E5	WH-SDC09F3E8	WH-SDC12F9E8	WH-SDC14F9E8	WH-SDC16F9E8
Outdoor unit			WH-UD07FE5	WH-UD09FE5	WH-UD12FE5	WH-UD14FE5	WH-UD16FE5	WH-UD09FE8	WH-UD12FE8	WH-UD14FE8	WH-UD16FE8
Heating capacity at +7°C		kW	7,00	9,00	12,0	14,00	16,00	9,00	12,00	14,00	16,00
COP at +7°C (heating water at 35°C)			4,46	4,13	4,74	4,56	4,28	4,84	4,14	4,56	4,28
Heating capacity at +2°C		kW	6,55	6,70	11,40	12,40	13,00	9,00	11,40	12,40	16,00
COP at +2°C (heating water at 35°C)			3,34	3,13	3,44	3,36	3,28	3,59	3,44	3,36	3,28
Heating capacity at -7°C		kW	5,15	5,90	10,00	10,70	11,40	9,00	10,00	10,70	11,40
COP at -7°C (heating water at 35°C)			2,68	5,52	2,73	2,70	2,68	2,85	2,23	2,70	2,68
Cooling capacity at 35°C (cooling water at 7°C)		kW	6,00	7,00	10,00	11,50	12,20	7,00	10,00	11,50	12,20
EER at 35°C (cooling water at 7°C)			2,61	2,41	2,81	2,64	2,56	3,17	2,81	2,64	2,56
Indoor unit											
Dimensions	H x W x D	mm	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353
Weight		kg	43	43	45	46	46	46	46	47	47
Water pipe connector			R1 1/4	R1 1/4	R1 1/4	R1 1/4	R1 1/4	R1 1/4	R1 1/4	R1 1/4	R1 1/4
Pump	No. of Speed		7	7	7	7	7	7	7	7	7
	Input power (Min/Max.)	W	Min: 21 W at 10l/min / Max: 135 W at 53.8l/min								
Heating water flow (ΔT=5 K. 35°C)		l/min	20,1	25,8	34,4	40,1	45,9	25,8	34,4	40,1	45,9
Capacity of integrated electric heater		kW	3	3	6	6	6	3	9	9	9
Input Power	Heating / Cooling	kW	1,59 / 2,30	2,20 / 2,90	2,53 / 3,56	3,07 / 4,36	3,74 / 4,76	1,86 / 2,21	2,53 / 3,56	3,07 / 4,36	3,74 / 4,76
Running and Starting current	Heating / Cooling	A	7,30 / 10,40	10,10 / 13,10	11,50 / 16,00	13,90 / 19,50	16,90 / 21,30	2,90 / 3,40	3,90 / 5,30	4,70 / 6,60	5,70 / 7,20
Current 1 / Current 2		A	21,0 / 26,0	22,9 / 26,0	24,0 / 26,0	25,0 / 26,0	26,0 / 26,0	11,8 / 13,0	8,8 / 13,0	9,4 / 13,0	9,9 / 13,0 / -
Recommended Fuse		A	30 / 30	30 / 30	30 / 30	30 / 30	30 / 30	16 / 16	16 / 16	16 / 16	16 / 16
Recommended power cable section		mm²	4,0 / 4,0	4,0 / 4,0	4,0 / 4,0	4,0 / 4,0	4,0 / 4,0	2,5 / 2,5	2,5 / 2,5	2,5 / 2,5	2,5 / 2,5
Outdoor unit											
Sound pressure level		dB(A)	48	49	50	51	53	49	50	51	53
Sound power level		dB	66	67	67	68	70	66	67	68	70
Dimensions / Weight	H x W x D	mm / kg	795 x 900 x 320 / 66		1.340 x 900 x 320 / 101						
Pipe diameter	Liquid / Gas	mm (Inch)	6,35 (1/4) / 15,88 (5/8)		9,52 (3/8) / 15,88 (5/8)						
Refrigerant (R410A)		kg	1,45	1,45	2,55	2,55	2,55	2,55	2,55	2,55	2,55
Pipe length range		m	3 – 30	3 – 30	3 – 30	3 – 30	3 – 30	3 – 30	3 – 30	3 – 30	3 – 30
Pipe length for nominal capacity		m	7	7	7	7	7	7	7	7	7
Pipe length for additional gas		m	10	10	10	10	10	10	10	10	10
Additional gas amount (R410A)		g/m	30	30	50	50	50	50	50	50	50
Elevation difference (in/out)		m	20	20	20	20	20	20	20	20	20
Operation range	Outdoor ambient	°C	-20 to 35	-20 to 35	-20 to 35	-20 to 35	-20 to 35	-20 to 35	-20 to 35	-20 to 35	-20 to 35
Water outlet at -2/-7/-15	Heating / Cooling	°C	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20

COP classification is at 230 V only in accordance with EU directive 2003/32/EC. Sound pressure measured at 1 m from the outdoor unit and at 1.5 m height. Performance in agreement with EN14511.
1) Available from September 2014. 2) Available from May 2014. 3) Available from June 2014.

Internet Control Ready (optional) — INTERNET CONTROL
4.84 COP high efficiency — AQUAREA HIGH PERFORMANCE
High efficiency heating — INVERTER+
Environmentally friendly refrigerant — R410A
Down to -20 °C in heating mode — OUTDOOR TEMPERATURE
Boiler connection — RETROFIT
Solar panels connection — SOLAR KIT
Domestic hot water — DHW
Easy control by BMS — CONNECTIVITY
5 year compressor warranty

INTERNET CONTROL READY: Optional.

AQUAREA T-CAP

BI-BLOC SINGLE PHASE / THREE PHASE HEATING AND COOLING - SXC

WH-UX09FE5 WH-UX09FE8
WH-UX12FE5 WH-UX12FE8
WH-UX16FE8

The new SXC is ideal for residential properties which don't have an external boiler and require a maintained capacity level.
T-CAP stands for Total Capacity. This new line-up is able to maintain the same nominal capacity even at -15°C without the help of an electrical booster heater. T-CAP is also able to provide extremely high efficiency, whatever the outside temperature or the water temperature. The SXC adapts well in an existing install with a boiler backup, and in a new application with underfloor heating, low temperature radiators or even fan-coil heaters. This Range can also be connected to a solar kit in order to increase efficiency and minimize the impact on the ecosystem. Finally, it is possible to connect a thermostat for even better heating or cooling control and management.

Technical focus
- **NEW!** 16kW Model: Maintains 16kW capacity at outdoor temperatures down to -15°C
- **NEW!** New remote control functions
- Efficient control of room temperature based on the outdoor temperature, indoor temperature using the Aquarea Manager.
- Optional Smartphone control
- Range from 9 to 16kW, Single and Three Phase
- Maximum hydraulic module output temperature: 55°C
- Works down to -20°C (Cooling temperature range 5–20°C)
- Constant capacity at outdoor temperatures down to -15°C
- Maximum 20 m rise between the outdoor unit and the hydraulic module

Optional Controllers


Aquarea Manager with LCD.
PAW-HPM1

Aquarea Manager touch screen.
PAW-HPMED for HPM


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

			Single Phase (Power to indoor)		Three Phase (Power to indoor)		
Kit			**KIT-WXC09F3E5**	**KIT-WXC12F6E5**	**KIT-WXC09F3E8**	**KIT-WXC12F9E8**	**KIT-WXC16F9E8**
Indoor unit			**WH-SXC09F3E5**	**WH-SXC12F6E5**	**WH-SXC09F3E8**	**WH-SXC12F9E8**	**WH-SXC16F9E8**
Outdoor unit			**WH-UX09FE5**	**WH-UX12FE5**	**WH-UX09FE8**	**WH-UX12FE8**	**WH-UX16FE8**
Heating capacity at +7°C (heating water at 35°C)		kW	9,00	12,00	9,00	12,00	16,00
COP at +7°C (heating water at 35°C)			4,84	4,74	4,84	4,74	4,28
Heating capacity at +2°C (heating water at 35°C)		kW	9,00	12,00	9,00	12,00	16,00
COP at +2°C (heating water at 35°C)			3,59	3,44	3,59	3,44	3,10
Heating capacity at -7°C (heating water at 35°C)		kW	9,00	12,00	9,00	12,00	16,00
COP at -7°C (heating water at 35°C)			2,85	2,72	2,85	2,72	2,49
Cooling capacity at 35°C (cooling water at 7°C)		kW	7,00	10,00	7,00	10,00	12,20
EER at 35°C (cooling water at 7°C)			3,17	2,81	3,17	2,81	2,57
Indoor unit							
Dimensions	H x W x D	mm	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353
Weight		kg	44	45	45	46	52
Water pipe connector			R 1 ¼	R 1 ¼	R 1 ¼	R 1 ¼	R 1 ¼
Pump	No. of Speed		7	7	7	7	7
	Input power (Min/Max.)	W	Min: 21 W at 10l/min / Max: 135 W at 53.8l/min				
Heating water flow (ΔT=5 K. 35°C)		l/min	25,8	34,4	25,8	34,4	45,9
Capacity of integrated electric heater		kW	3	6	3	9	9
Input Power		kW	1,86	2,53	1,86	2,53	3,74
Starting Current		A	10,2	16,5	3,4	5,4	7,2
Current 1 / Current 2		A	25,0 / 26,0	29,0 / 26,0	14,7 / 13,0	11,9 / 13,0	15,5 / 13,0
Recommended Fuse		A	30 / 30	30 / 30	16 / 16	16 / 16	16 / 16
Recommended power cable section		mm²	4,0 / 4,0	4,0 / 4,0	2,5 / 2,5	2,5 / 2,5	2,5 / 2,5
Outdoor unit							
Sound pressure level		dB(A)	49	50	49	50	53
Sound power level		dB	66	67	66	67	70
Dimensions / Weight	H x W x D	mm / kg	1.340 x 900 x 320 / 107	1.340 x 900 x 320 / 107	1.340 x 900 x 320 / 109	1.340 x 900 x 320 / 109	1.340 x 900 x 320 / 110
Pipe diameter	Liquid / Gas	mm (Inch)	9,52 (3/8) / 15,88 (5/8)	9,52 (3/8) / 15,88 (5/8)	9,52 (3/8) / 15,88 (5/8)	9,52 (3/8) / 15,88 (5/8)	9,52 (3/8) / 15,88 (5/8)
Refrigerant (R410A)		kg	2,85	2,85	2,85	2,85	2,90
Pipe length range		m	3 – 30	3 – 30	3 – 30	3 – 30	3 – 30
Pipe length for nominal capacity		m	7	7	7	7	7
Pipe length for additional gas		m	10	10	10	10	10
Additional gas amount (R410A)		g/m	50	50	50	50	50
Elevation difference (in/out)		m	20	20	20	20	20
Operation range	Outdoor ambient	°C	-20 to 35	-20 to 35	-20 to 35	-20 to 35	-20 to 35
Water outlet at -2/-7/-15	Heating / Cooling	°C	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20

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

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

INTERNET CONTROL READY: Optional.

AQUAREA HT

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

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

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

Technical focus

- **NEW!** New remote control functions
- Efficient control of room temperature based on the outdoor temperature, indoor temperature using the Aquarea Manager.
- Optional Smartphone control
- Range from 9 to 12kW, Single and Three Phase
- Maximum hydraulic module output temperature: 65°C
- Works down to -20°C
- Maximum 20 m rise between the outdoor unit and the hydraulic module

WH-UH09FE5 WH-UH09FE8
WH-UH12FE5 WH-UH12FE8

Optional Controllers

Aquarea Manager with LCD.
PAW-HPM1

Aquarea Manager touch screen.
PAW-HPMED for HPM

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

			Single Phase (Power to indoor)		Three Phase (Power to indoor)	
Kit			**KIT-WHF09F3E5[1]**	**KIT-WHF12F6E5[1]**	**KIT-WHF09F3E8[2]**	**KIT-WHF12F9E8[2]**
Indoor unit			**WH-SHF09F3E5**	**WH-SHF12F6E5**	**WH-SHF09F3E8**	**WH-SHF12F9E8**
Outdoor unit			**WH-UH09FE5**	**WH-UH12FE5**	**WH-UH09FE8**	**WH-UH12FE8**
Heating capacity at +7°C (heating water at 35°C)		kW	9,00	12,00	9,00	12,00
COP at +7°C (heating water at 35°C)			4,64	4,46	4,64	4,46
Heating capacity at +2°C (heating water at 35°C)		kW	9,00	12,00	9,00	12,00
COP at +2°C (heating water at 35°C)			3,45	3,26	3,45	3,26
Heating capacity at -7°C (heating water at 35°C)		kW	9,00	12,00	9,00	12,00
COP at -7°C (heating water at 35°C)			2,74	2,52	2,74	2,52
Heating capacity at +7°C (heating water at 65°C)		kW	9,00	12,00	9,00	12,00
COP at +7°C (heating water at 65°C)			2,25	2,20	2,25	2,20
Heating capacity at +2°C (heating water at 65°C)		kW	9,00	10,30	9,00	10,30
COP at +2°C (heating water at 65°C)			1,88	1,83	1,88	1,83
Heating capacity at -7°C (heating water at 65°C)		kW	8,90	9,60	8,90	9,60
COP at -7°C (heating water at 65°C)			1,64	1,61	1,64	1,61
Indoor unit						
Dimensions / Weight	H x W x D	mm / kg	892 x 502 x 353 / 46	892 x 502 x 353 / 47	892 x 502 x 353 / 47	892 x 502 x 353 / 48
Water pipe connector			R 1 ¼	R 1 ¼	R 1 ¼	R 1 ¼
Pump	No. of Speed		7	7	7	7
	Input Power (Max.)	W	Min: 21 W at 10l/min / Max: 135 W at 53.8l/min			
Heating water flow (ΔT=5 K. 35°C)		l/min	25,8	34,4	25,8	34,4
Capacity of integrated electric heater		kW	3	6	3	9
Input Power		kW	1,94	2,69	1,94	2,69
Running and Starting current		A	9,3	12,9	3,0	4,2
Current 1 / Current 2		A	28,5 / 26,0	29,0 / 26,0	14,7 / 13,0	10,9 / 13,0
Recommended Fuse		A	30 / 30	30 / 30 / -	30 / 16	30 / 16 / -
Recommended power cable section		mm²	4,0 / 4,0	4,0 / 4,0 / -	4,0 / 2,5	4,0 / 2,5 / -
Outdoor unit						
Sound pressure level / Sound power level		dB(A) / dB	49 / 66	50 / 67	49 / 66	50 / 67
Dimensions / Weight	H x W x D	mm / kg	1.340 x 900 x 320 / 104	1.340 x 900 x 320 / 104	1.340 x 900 x 320 / 110	1.340 x 900 x 320 / 110
Pipe diameter	Liquid / Gas	mm (Inch)	9,52 (3/8) / 15,88 (5/8)	9,52 (3/8) / 15,88 (5/8)	9,52 (3/8) / 15,88 (5/8)	9,52 (3/8) / 15,88 (5/8)
Refrigerant (R407C)		kg	2,90	2,90	2,90	2,90
Pipe length range		m	3 – 30	3 – 30	3 – 30	3 – 30
Pipe length for nominal capacity		m	7	7	7	7
Pipe length for additional gas		m	10	10	10	10
Additional gas amount (R407C)		g/m	70	70	70	70
Elevation difference (in/out)		m	20	20	20	20
Operation range	Outdoor ambient	°C	-20 to 35	-20 to 35	-20 to 35	-20 to 35
Water outlet at -2/-7/-15		°C	25 – 65	25 – 65	25 – 65	25 – 65

Internet Control Ready (INTERNET CONTROL) · Output water 65 °C (HIGH TEMP HEAT PUMP) · High efficiency heating (INVERTER+) · Environmentally friendly refrigerant (R407C) · Down to -20 °C in heating mode (OUTDOOR TEMPERATURE) · Boiler connection (RETROFIT) · Solar panels connection (SOLAR KIT) · Domestic hot water (DHW) · Easy control by BMS (CONNECTIVITY) · 5 year compressor warranty

INTERNET CONTROL READY: Optional.

COP classification is at 230 V only in accordance with EU directive 2003/32/EC. Sound pressure measured at 1 m from the outdoor unit and at 1.5 m height. Performance in agreement with EN14511.
1) Available from March 2014. 2) Available from February 2014.

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

DESIGN FOR LOW CONSUMPTION HOMES

A class pump

Panasonic has designed the new Aquarea Mono-Bloc heat pump for houses which have high performance requirements but limited space to install the outdoor unit.
Whatever the weather, Aquarea can work even at -20°C. The Mono-Bloc is easy to install in new and existing residential properties.

Technical focus
- **NEW!** 5kW Model
- **NEW!** New remote control functions
- Efficient control of room temperature based on the outdoor temperature, indoor temperature using the Aquarea Manager.
- Optional Smartphone control
- Range from 6 to 9kW, Single Phase
- Maximum hydraulic module output temperature: 55°C
- Works down to -20°C
- Plug and play system

NEW REMOTE CONTROL
Only for the 5 kW Monobloc

Optional Controllers


Aquarea Manager with LCD.
PAW-HPM1

Aquarea Manager touch screen.
PAW-HPMED for HPM


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

			Single Phase Heating Only		Single Phase Heating and Cooling		
			WH-MDF06E3E5	WH-MDF09E3E5	WH-MDC05F3E5	WH-MDC06E3E5	WH-MDC09E3E5
Heating capacity at +7°C (heating water at 35°C)		kW	6,00	9,00	5,00	6,00	9,00
COP at +7°C (heating water at 35°C)			4,48	4,15	5,08	4,48	4,15
Heating capacity at +2°C (heating water at 35°C)		kW	5,00	7,45	4,80	5,00	7,45
COP at +2°C (heating water at 35°C)			3,45	3,14	3,75	3,45	3,14
Heating capacity at -7°C (heating water at 35°C)		kW	5,15	7,70	4,50	5,15	7,70
COP at -7°C (heating water at 35°C)			2,68	2,12	2,98	2,68	2,12
Cooling capacity at 35°C (cooling water at 7°C)[1]		kW	–	–	4,50	5,50	7,00
EER at 35°C (cooling water at 7°C)[1]			–	–	3,33	2,74	2,44
Sound pressure level		dB(A)	47	49	47	47	49
Sound power level		dB	65	67	65	65	67
Dimensions	H x W x D	mm	865 x 1283 x 320	865 x 1283 x 320	865 x 1.283 x 320	865 x 1.283 x 320	865 x 1.283 x 320
Weight		kg	112	112	107	112	112
Water pipe connector			R 1 ¼	R 1 ¼	R 1 ¼	R 1 ¼	R 1 ¼
Pump	No. of Speed		Variable Speed	Variable Speed	7	Variable Speed	Variable Speed
	Input power (Min/Max.)	W	Min: 21 W at 10l/min / Max: 135 W at 53.8l/min				
Water Flow (ΔT=5 K. 35°C)		l/min	17,2	25,8	9,2	17,2	25,8
Capacity of integrated electric heater		kW	3,00	3,00	3	3,00	3,00
Input Power at +7°C		kW	1,34	2,17	0,985	1,34	2,17
Running and Starting current at +7°C		A	6,1	9,9	3	6,1	9,9
Recommended Fuse		A	30 / 16	30 / 16	30 / 15	30 / 16	30 / 16
Recommended power cable section		mm²	4,0 / 2,5	4,0 / 2,5	4,0 / 2,5	4,0 / 2,5	4,0 / 2,5
Operation range	Outdoor ambient	°C	-20 to 35	-20 to 35	-20 to 35	-20 to 35	-20 to 35
Water outlet at -2/-7/-15		°C	20 – 55	20 – 55	20 – 55	20 – 55	20 – 55

COP classification is at 230 V only in accordance with EU directive 2003/32/EC.
Sound pressure measured at 1 m from the outdoor unit and at 1.5 m height.
Performance in agreement with EN14511.
1. Tentative. Authorized service partner or Authorized installer can enable the cooling mode through a special operation via the remote controller on site.
2. Tentative.

Internet Control Ready – INTERNET CONTROL
5,07 COP high efficiency – AQUAREA HIGH PERFORMANCE
High efficiency heating – INVERTER+
Environmentally friendly refrigerant – R410A
Down to -20 °C in heating mode – OUTDOOR TEMPERATURE
Easy control by BMS – CONNECTIVITY
5 year compressor warranty

INTERNET CONTROL READY: Optional.

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

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

Technical focus
- Efficient control of room temperature based on the outdoor temperature, indoor temperature using the Aquarea Manager.
- Optional Smartphone control
- Range from 9 to 16kW, Single and Three Phase
- Maximum hydraulic module output temperature: 55°C
- Works down to -20°C
- Cooling temperature range 5–20 °C (MDC)

Optional Controllers


Aquarea Manager with LCD.
PAW-HPM1

Aquarea Manager touch screen.
PAW-HPMED for HPM


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

			Single Phase			Three Phase			
Outdoor unit Heating Only			**WH-MDF12C6E5**	**WH-MDF14C6E5**	**WH-MDF16C6E5**	**WH-MDF09C3E8**	**WH-MDF12C9E8**	**WH-MDF14C9E8**	**WH-MDF16C9E8**
Outdoor unit Heating and Cooling			**WH-MDC12C6E5**	**WH-MDC14C6E5**	**WH-MDC16C6E5**	**WH-MDC09C3E8**	**WH-MDC12C9E8**	**WH-MDC14C9E8**	**WH-MDC16C9E8**
Heating capacity at +7°C (heating water at 35°C)		kW	12,00	14,00	16,00	9,00	12,00	14,00	16,00
COP at +7°C (heating water at 35°C)			4,67	4,50	4,23	4,74	4,67	4,50	4,23
Heating capacity at +2°C (heating water at 35°C)		kW	11,40	12,40	13,00	9,00	11,40	12,40	13,00
COP at +2°C (heating water at 35°C)			3,41	3,32	3,25	3,53	3,41	3,32	3,25
Heating capacity at -7°C (heating water at 35°C)		kW	10,00	10,70	11,40	9,00	10,00	10,70	11,40
COP at -7°C (heating water at 35°C)			2,70	2,68	2,65	2,81	2,70	2,68	2,65
Cooling capacity at 35°C (cooling water at 7°C)[1]		kW	10,00	11,50	12,20	7,00	10,00	11,50	12,20
EER at 35°C (cooling water at 7°C)[1]			2,78	2,61	2,54	3,11	2,78	2,61	2,54
Sound pressure level		dB(A)	50	51	53	49	50	51	53
Sound power level		dB	67	68	70	66	67	68	70
Dimensions	H x W x D	mm	1.410 x 1.283 x 320	1.410 x 1.283 x 320	1.410 x 1.283 x 320	1.410 x 1.283 x 320	1.410 x 1.283 x 320	1.410 x 1.283 x 320	1.410 x 1.283 x 320
Weight		kg	153	153	153	157	157	157	157
Water pipe connector			R 1 ¼	R 1 ¼	R 1 ¼	R 1 ¼	R 1 ¼	R 1 ¼	R 1 ¼
Pump	No. of Speed		3	3	3	3	3	3	3
	Input power (Max.)	W	190	190	190	190	190	190	190
Heating water flow (ΔT=5 K. 35°C)		l/min	34,4	40,1	45,9	25,8	34,4	40,1	45,9
Capacity of integrated electric heater		kW	6	6	6	3	9	9	9
Input Power	Heating	kW	2,57	3,11	3,78	1,90	2,57	3,11	3,78
	Cooling[1]	kW	3,60	4,40	4,80	2,25	3,60	4,40	4,80
Running and Starting current	Heating	A	11,6	14,1	17,1	2,9	3,9	4,7	5,7
	Cooling[1]	A	16,1	19,7	21,5	3,4	5,3	6,6	7,2
Current 1		A	24,0	25,0	26,0	11,8	8,8	9,4	9,9
Current 2		A	26,0	26,0	26,0	13,0	13,0	13,0	13,0
Current 3		A	13,0	13,0	13,0		13,0	13,0	13,0
Recommended Fuse		A	30 / 30 / 16	30 / 30 / 16	30 / 30 / 16	16 / 16	16 / 16 / 16	16 / 16 / 16	16 / 16 / 16
Recommended power cable section		mm^2	4,0 / 4,0 / 2,5	4,0 / 4,0 / 2,5	4,0 / 4,0 / 2,5	2,5 / 2,5	2,5 / 2,5 / 2,5	2,5 / 2,5 / 2,5	2,5 / 2,5 / 2,5
Operation range	Outdoor ambient	°C	-20 to 35	-20 to 35	-20 to 35	-20 to 35	-20 to 35	-20 to 35	-20 to 35
Water outlet at -2/-7/-15	Heating / Cooling[1]	°C	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20

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

Internet Control Ready (optional) — INTERNET CONTROL
4,74 COP high efficiency — AQUAREA HIGH PERFORMANCE
High efficiency heating — INVERTER+
Environmentally friendly refrigerant — R410A
Down to -20 °C in heating mode — OUTDOOR TEMPERATURE
Boiler connection — RETROFIT
Solar panels connection — SOLAR KIT
Domestic hot water — DHW
Easy control by BMS — CONNECTIVITY
5 year compressor warranty

INTERNET CONTROL READY: Optional.

AQUAREA T-CAP

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

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

T-CAP stands for Total Capacity. This new line-up is able to maintain the same nominal capacity even at -15°C without the help of an electrical booster heater. T-CAP is also able to provide extremely high efficiency, whatever the outside temperature or the water temperature. The MXC adapts well in an existing install with a boiler backup, and in a new application with underfloor heating, low temperature radiators or even fan-coil heaters. This range can also be connected to a solar kit in order to increase efficiency and minimize the impact on the ecosystem. Finally, it is possible to connect a thermostat for even better heating or cooling control and management.

Technical focus

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

Optional Controllers

Aquarea Manager with LCD.
PAW-HPM1

Aquarea Manager touch screen.
PAW-HPMED for HPM

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

			Single Phase		Three Phase	
Outdoor unit Heating Only			**WH-MXF09D3E5**	**WH-MXF12D6E5**	**WH-MXF09D3E8**	**WH-MXF12D9E8**
Outdoor unit Heating and Cooling			**WH-MXC09D3E5**	**WH-MXC12D6E5**	**WH-MXC09D3E8**	**WH-MXC12D9E8**
Heating capacity at +7°C (heating water at 35°C)		kW	9,00	12,00	9,00	12,00
COP at +7°C (heating water at 35°C)			4,74	4,67	4,74	4,67
Heating capacity at +2°C (heating water at 35°C)		kW	9,00	12,00	9,00	12,00
COP at +2°C (heating water at 35°C)			3,53	3,40	3,53	3,40
Heating capacity at -7°C (heating water at 35°C)		kW	9,00	12,00	9,00	12,00
COP at -7°C (heating water at 35°C)			2,81	2,70	2,81	2,70
Cooling capacity at 35°C (cooling water at 7°C)		kW	7,00	10,00	7,00	10,00
EER at 35°C (cooling water at 7°C)			3,11	2,78	3,11	2,78
Sound pressure level		dB(A)	49	50	49	50
Sound power level		dB	66	67	66	67
Dimensions	H x W x D	mm	14.10 x 1.283 x 320	1.410 x 1.283 x 320	1.410 x 1.283 x 320	1.410 x 1.283 x 320
Weight		kg	155	155	158	158
Water pipe connector			R 1 ¼	R 1 ¼	R 1 ¼	R 1 ¼
Pump	No. of Speed		3	3	3	3
	Input power (Max.)	W	190	190	190	190
Heating water flow (ΔT=5 K. 35°C)		l/min	25,8	34,4	25,8	34,4
Capacity of integrated electric heater		kW	3	6	3	9
Input Power		kW	1,90	2,57	1,90	2,57
Starting Current		A	10,4	16,7	2,9	3,9
Current 1		A	25,0	29,0	14,7	11,9
Current 2		A	26,0	26,0	13,0	13,0
Current 3		A		13,0		13,0
Recommended Fuse		A	30 / 30	30 / 30 / 16	16 / 16	16 / 16 / 16
Recommended power cable section		mm^2	4,0 / 4,0	4,0 / 4,0 / 2,5	2,5 / 2,5	2,5 / 2,5 / 2,5
Operation range	Outdoor ambient	°C	-20 to 35	-20 to 35	-20 to 35	-20 to 35
Water outlet at -2/-7/-15	Heating / Cooling[1]	°C	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20	25 – 55 / 5 – 20

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

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

INTERNET CONTROL READY: Optional.

AQUAREA HT

MONO-BLOC SINGLE PHASE / THREE PHASE
HEATING ONLY - MHF

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

Technical focus
- Efficient control of room temperature based on the outdoor temperature, indoor temperature using the Aquarea Manager.
- Optional Smartphone control
- Range from 9 to 12kW, Single and Three Phase
- Maximum hydraulic module output temperature: 65°C
- Works down to -20°C

Optional Controllers


Aquarea Manager with LCD.
PAW-HPM1

Aquarea Manager touch screen.
PAW-HPMED for HPM


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

			Single Phase		Three Phase	
			WH-MHF09D3E5	WH-MHF12D6E5	WH-MHF09D3E8	WH-MHF12D9E8
Heating capacity at +7°C (heating water at 35°C)		kW	9,00	12,00	9,00	12,00
COP at +7°C (heating water at 35°C)			4,55	4,40	4,55	4,40
Heating capacity at +2°C (heating water at 35°C)		kW	9,00	12,00	9,00	12,00
COP at +2°C (heating water at 35°C)			3,40	3,23	3,40	3,23
Heating capacity at -7°C (heating water at 35°C)		kW	9,00	12,00	9,00	12,00
COP at -7°C (heating water at 35°C)			2,70	2,50	2,70	2,50
Heating capacity at +7°C (heating water at 65°C)		kW	9,00	12,00	9,00	12,00
COP at +7°C (heating water at 65°C)			2,25	2,20	2,25	2,20
Heating capacity at +2°C (heating water at 65°C)		kW	9,00	10,30	9,00	10,30
COP at +2°C (heating water at 65°C)			1,88	1,83	1,88	1,83
Heating capacity at -7°C (heating water at 65°C)		kW	8,90	9,60	8,90	9,60
COP at -7°C (heating water at 65°C)			1,62	1,61	1,62	1,61
Sound pressure level		dB(A)	49	50	49	50
Sound power level		dB	66	67	66	67
Dimensions	H x W x D	mm	1.410 x 1.283 x 320	1.410 x 1.283 x 320	1.410 x 1.283 x 320	1.410 x 1.283 x 320
Weight		kg	155	155	158	158
Water pipe connector			R 1 ¼	R 1 ¼	R 1 ¼	R 1 ¼
Pump	No. of Speed		3	3	3	3
	Input Power (Max.)	W	190	190	190	190
Heating water flow (ΔT=5 K. 35°C)		l/min	25,8	34,4	25,8	34,4
Capacity of integrated electric heater		kW	3	6	3	9
Input Power		kW	1,98	2,73	1,98	2,73
Running and Starting current		A	9,5	12,8	9,5	12,8
Current 1		A	28,5	29,0	14,7	11,9
Current 2		A	26,0	26,0	13,0	13,0
Current 3		A		13,0		13,0
Recommended Fuse		A	30 / 30	30 / 30 / 16	-16 / 16	16 / 16 / 16
Recommended power cable section		mm^2	4,0 / 4,0	4,0 / 4,0 / 2,5	2,5 / 2,5	2,5 / 2,5 / 2,5
Operation range	Outdoor ambient	°C	-20 to 35	-20 to 35	-20 to 35	-20 to 35
Water outlet at -2/-7/-15		°C	25 – 65	25 – 65	25 – 65	25 – 65

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

Internet Control Ready (optional) — INTERNET CONTROL
Output water 65 °C — HIGH TEMP HEAT PUMP
High efficiency heating — INVERTER+
Environmentally friendly refrigerant — R407C
Down to -20 °C in heating mode — OUTDOOR TEMPERATURE
Boiler connection — RETROFIT
Solar panels connection — SOLAR KIT
Domestic hot water — DHW
Easy control by BMS — CONNECTIVITY
5 year compressor warranty

INTERNET CONTROL READY: Optional.

AQUAREA AIR RADIATORS

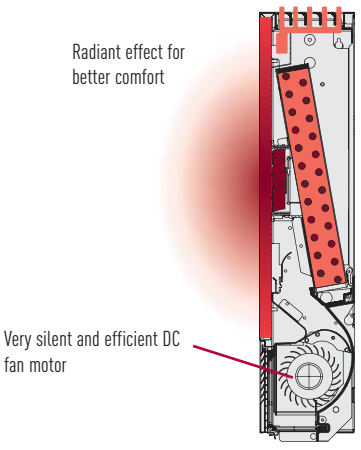
The slimline Panasonic Aquarea Air radiators deliver high efficiency climate control. With a depth of just under 13 cm they are at the cutting edge of the market. Blending easily into the home, Aquarea Air's elegant design and product refinements are clear to see in every detail.

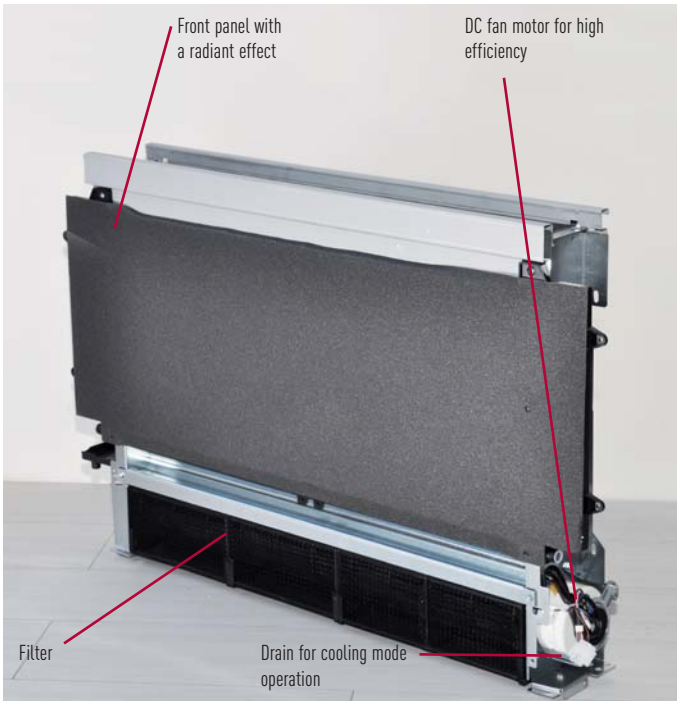
The Aquarea Air's slimline profile has been achieved thanks to the innovative layout of the ventilation unit and the heat exchanger. The fan is tangential with asymmetric blades and the large surface heat exchanger enables high airflows to be achieved with low pressure loss and low noise levels. Exceptional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

All temperature curves and capacity are available on www.panasonicproclub.com

Fan Coils for Heat Pump application		PAW-AAIR-200					PAW-AAIR-700					PAW-AAIR-900				
Without radiant heating		PAW-AAIR-200L					PAW-AAIR-700L					PAW-AAIR-900L				
Total heating capacity	W	138	160	217	470	570	223	360	708	1.032	1.188	273	475	886	1.420	1.703
Water flow	kg/h	23,7	27,5	37,3	80,8	98,0	38,4	61,9	121,8	177,5	204,3	47,0	81,7	152,4	244,2	292,9
Water pressure drop	kPa	0,1	0,2	0,4	2,0	2,9	0,1	0,1	0,3	0,8	1,0	0,1	0,2	0,5	1,6	2,2
Air flow	m³/h	28	37	55	113	162	44	84	155	252	320	54	110	248	367	461
	Speed	Main Fan Off	Super Min	Min	Med	Max	Main Fan Off	Super Min	Min	Med	Max	Main Fan Off	Super Min	Min	Med	Max
Maximum input power	W	2	5	7	9	13	3	9	14	18	22	3	11	16	20	24
Sound pressure level	dB(A)	17,6	18,8	24,7	33,2	39,4	18,4	19,6	25,8	34,1	40,2	18,4	22,3	26,2	34,4	42,2
Inlet water temperature	°C	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Outlet water temperature	°C	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Inlet air temperature	°C	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
Outlet air temperature	°C	34,5	32,6	38,9	32,0	30,0	34,9	32,4	33,3	31,8	30,6	34,8	32,5	30,2	31,1	30,6
Dimensions (H x W x D)	mm	735 x 576 x 129					935 x 579 x 129					1.135 x 579 x 129				
Weight	kg	17					20					23				
3 ways valve included		Yes					Yes					Yes				
Touch screen thermostat		Yes					Yes					Yes				

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





32%
MORE EFFICIENT THAN STANDARD RADIATORS

PAW-AAIR-900

AQUAREA
AIR

PAW-AAIR-700 PAW-AAIR-200

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

Aquarea Air 200/700/900 with radiating effect

Major Benefit

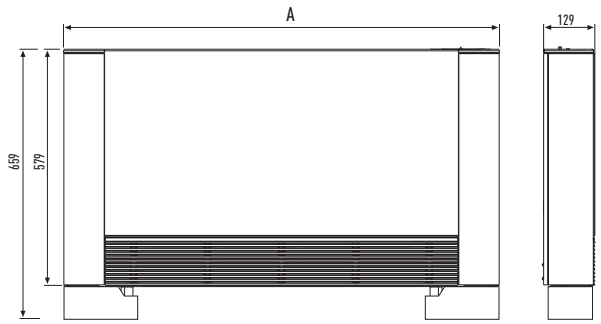
- On the water installation
  - Only 1 water temperature on the water circuit (35°C)
  - No expansive 2 zone kits
  - No overflow valve (as Aquarea Air has a 3-way valve)
  - Very easy to install
- On the efficiency
  - COP with water at 35°C is 32% higher than efficiency with water at 45°C! (case MDF06,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

Main features

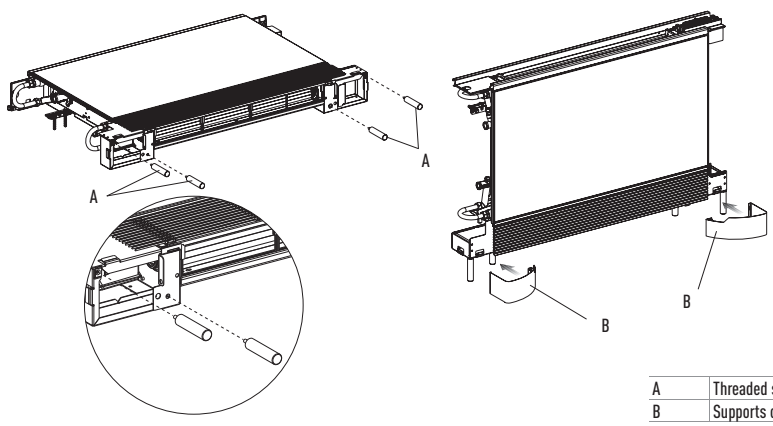
- Front panel heating with radiant effect
- High heating capacity (without main fan running)
- 4 fan speeds and capacities
- Exclusive design
- Extremely compact (only 12.9 cm deep)
- Cooling and dehumidification functions possible (drain is needed)
- 3-way valve included (no overflow valve needed on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

Accessories for Aquarea Air	
PAW-AAIR-LEGS-1*	Kits of 2 legs to support the Aquarea Air on the floor and to protect the water pipings

* Available from March 2014

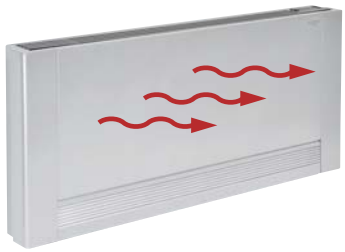


	200	700	900
A	735	935	1.135

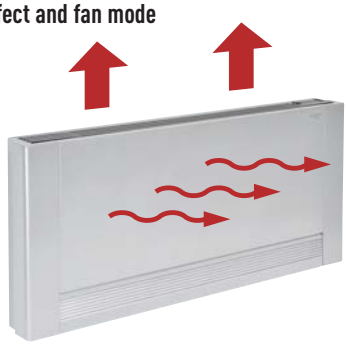


A	Threaded supports
B	Supports cover

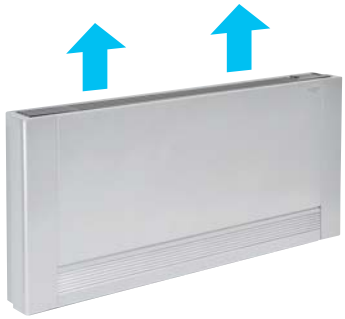
Operating on heating mode with radiator using only radiant effect



Operating on heating mode with radiant effect and fan mode



Operating on cooling mode with fan



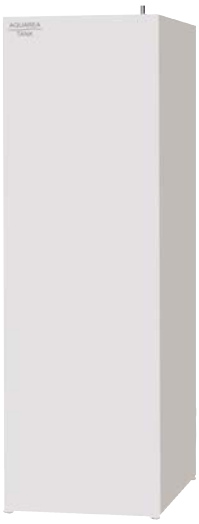
Accessories

Tanks		Stainless Steel Tank		Enamelled Tank		Enamelled high efficiency Tank			Enamelled 2 coils Tank (for bivalent Solar + HP)
Model		WH-TD20E3E5	WH-TD30E3E5-1*	PAW-TE20E3STD*	PAW-TE30E3STD*	PAW-TE20E3HI*	PAW-TE30E3HI*	PAW-TE50E3HI*	PAW-TE30C2E3STD*
									
Water volume	L	200	300	190	290	200	288	440	287
Maximum water temperature	°C	75	75	95	95	95	95	95	95
Dimensions Hight / Diameter	mm	1.150 / 580	1.600 / 580	1.432 / 540	1.794 / 600	1.804 / 600	1.294 / 700	1.921 / 700	1.294 / 700
Weight	kg	49	65	65	85	78	139	222	145
Electric heater	kW	3	3	3	3	3	3	3	3
Power supply	V	230	230	230	230	230	230	230	230
Material inside tank		Stainless steel	Stainless steel	Enamelled	Enamelled	Enamelled	Enamelled	Enamelled	
Exchange surface	m²	1,4	1,8	1,90	2,55	2,25	3,20	6,20	2,4 (for HP) +1,1 (for solar or boiler)
Energy loss at 65°C[1]	kWh/24h	1,9	2,3	1,6	1,8	1,2	1,8	2,4	2,7
3 Way valve included		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
20 m temperature sensor cable included		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Heat up time	Valuation	★★☆☆	★★☆☆	★★★☆	★★★☆	★★★★	★★★★	★★★☆	★★★☆
Energy losses	Valuation	★★★☆	★★★☆	★★★☆	★★★☆	★★★★	★★★★	★★★☆	★★★☆
Efficiency of the tank	Valuation	★★☆☆	★★☆☆	★★☆☆	★★☆☆	★★★★	★★★★	★★★☆	★★☆☆
Warranty		10 years	10 years	7 years	7 years	7 years	7 years	7 years	7 years
Maintenance required		No	No	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly

1) Insulated tested under EN12897.
* Available from March 2014.

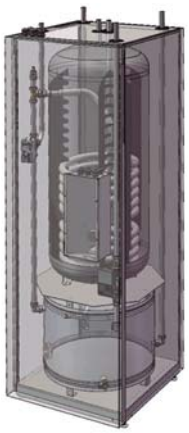
High efficiency water tanks with a large exchange surface and high levels of insulation to minimise energy losses.

AQUAREA TANK



Aquarea Tank. Tanks and buffer tank in one!

Tanks and buffer tank in one!			Standard Sanitary
Model			PAW-TD20B8E3-NDS
Water volume		L	185 (for DHW tank) / 80 (for buffer tank)
Maximum water temperature		°C	100
Dimension	H x W x D	mm	1.810 x 600 x 632
Weight		kg	150
Electric heater		kW	3
Power supply		V	230 - 2p
Material inside tank			Stainless steel
Exchange surface		m²	2,3
Energy loss at 65°C[1]		kWh/24h	1,3
A class pump	Number of speed		Stepless (800-4250 rpm)
	Pressure drop (Min / Max)	kPa	5 / 6
	Input power (Min / Max)	W	3 / 45
3 Way valve included			Yes
Safety thermostat with contact for failure part of E-Heating			Yes
Location of the electrical heater			Mid
Electrical backup heater on the buffer tank			Optional



CZ-NS1P // CZ-NS3P // CZ-NS2P

CZ-TK1

PAW-TS1 / PAW-TS2

CZ-NE1P

Solar Kit Accessories	
CZ-NS1P	PCB for solar connection kit for split systems
CZ-NS2P	PCB for solar connection kit for monoblock systems
CZ-NS3P	PCB for solar connection kit for monoblock systems 6 & 9 kW

Sanitary Tank Accessories	
CZ-TK1	Temperature sensor kit for third party tank (with copper pocket and 6 m length sensor cable)
PAW-TS1	Tank sensor with 6 meter cable length
PAW-TS2	Tank sensor with 6 meter cable length

Deice Accessories	
CZ-NE1P	Base pan heater (for all old Bi-Bloc and Mono-Bloc, not for the 3 and 5 kW)
CZ-NE2P	Base pan heater (for 3 kW and 5 kW)
CZ-NE3P	Base pan heater (for all new F generation products: F3, F6, F9)

Connectivity Solutions	
Model name	Interface
PAW-AW-KNX-1i	KNX Interface
PAW-ZIG-A2W	Interface to connect to Zig Bee
PAW-AW-MBS-1	Modbus Interface
PAW-AW-WIFI-1	Interface for IntesisHome for Aquarea Models
PAW-AW-WIFI-1TE	Wired room temperature sensor (only for PAW-AW-WIFI-1A)

PAW-HPM1

PAW-HPM2

Aquarea Manager Kits	
PAW-HPM12ZONE-U	HPM with roomsensor and setpoint adaption for Bi-Bloc + sensors
PAW-HPM12ZONE-M	HPM with roomsensor and setpoint adaption for Mono-Bloc + sensors
PAW-HPM12ZONELCD-U	HPM with LCD Wireless Room Thermostat for Bi-Bloc + sensors
PAW-HPM12ZONELCD-M	HPM with LCD Wireless Room Thermostat for Mono-Bloc + sensors
PAW-HPM12ZONE-F	HPM with roomsensor and setpoint adaption for Mono-Bloc + Bi-Bloc F type + sensor
PAW-HPM12ZONELCD-F	HPM with LCD Wireless Room Thermostat for Mono-Bloc + Bi-Bloc F type + sensor

PAW-HPMED

Aquarea Manager Accessories	
PAW-HPM1	Aquarea Manager with LCD
PAW-HPM2	Aquarea Manager without LCD
PAW-HPMINT-U	Interface to connect Aquarea Manager to Heat pump Aquarea Bi-Bloc (HPM can control all parametres from HP)
PAW-HPMINT-M	Interface to connect Aquarea Manager to Heat pump Aquarea Mono-Bloc (HPM can control all parametres from HP)
PAW-HPMINT-F	Interface to connect Aquarea Manager to Heat pump Aquarea Mono-Bloc and Bi-Bloc F type (HPM can control all parametres from HP)
PAW-HPMB1	Buffer tank sensor
PAW-HPMDHW	Buffer tank sensor with well
PAW-HPMSOL1	Buffer tank sensor solar (with higher temperature range)
PAW-HPMAH1	Water flow pipe sensor for heating circuit
PAW-HPMR4	Room sensor + set point adaption
PAW-HPMED	Touch screen
PAW-HPMLCD*	Room thermostast with LCD
PAW-LANCABLE	Network cable
PAW-A2WSWITCH	Network switch
PAW-HPM-CASE	HPM casing with Premounted cables **NEW!**
PAW-DEWPOINTSENSOR	Dew point sensor
PAW-HPMUH	Outdoor temperature sensor

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

* Not fixed yet

PAW-A2W-RTWIRED

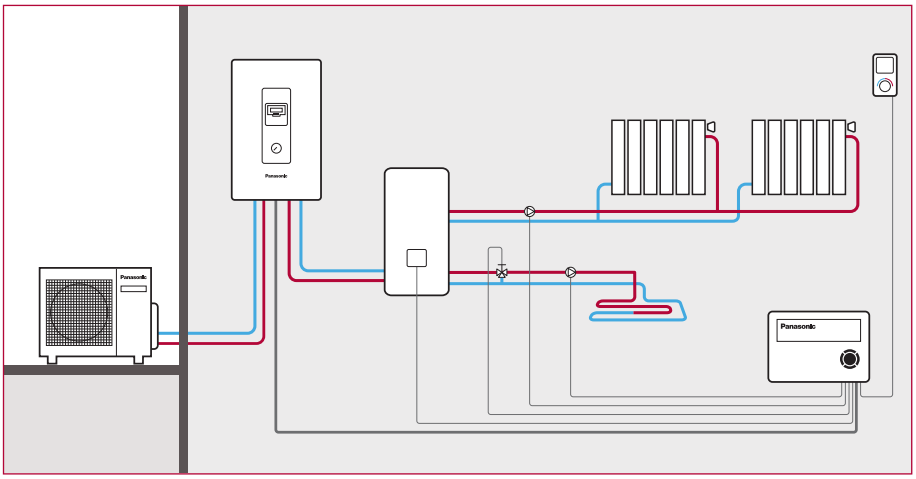
PAW-A2W-RTWIRELESS

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

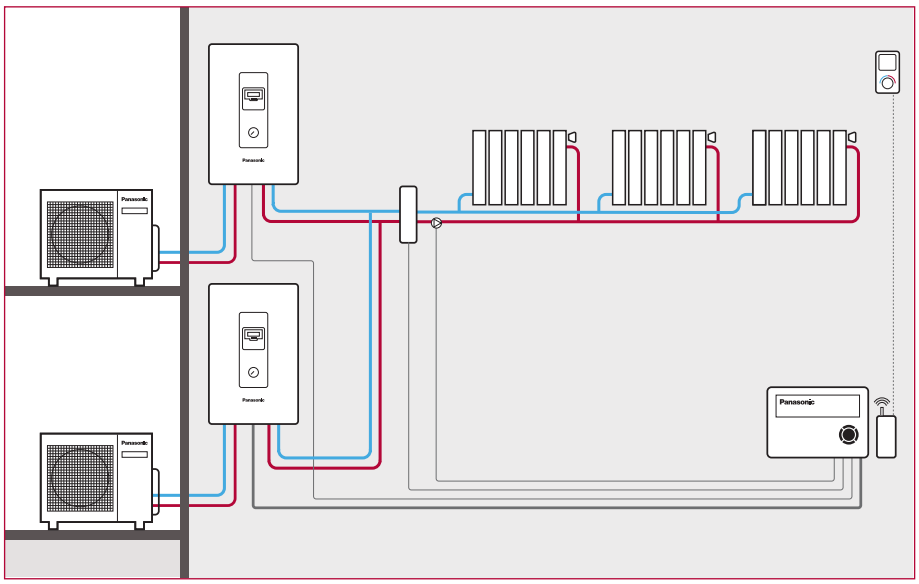
Accessories For All In One 2014	
PAW-FP-WMP-1	Flexible pipings and wall mounting plate for all in one (Available from October 2014)

Examples of installations with Aquarea Manager

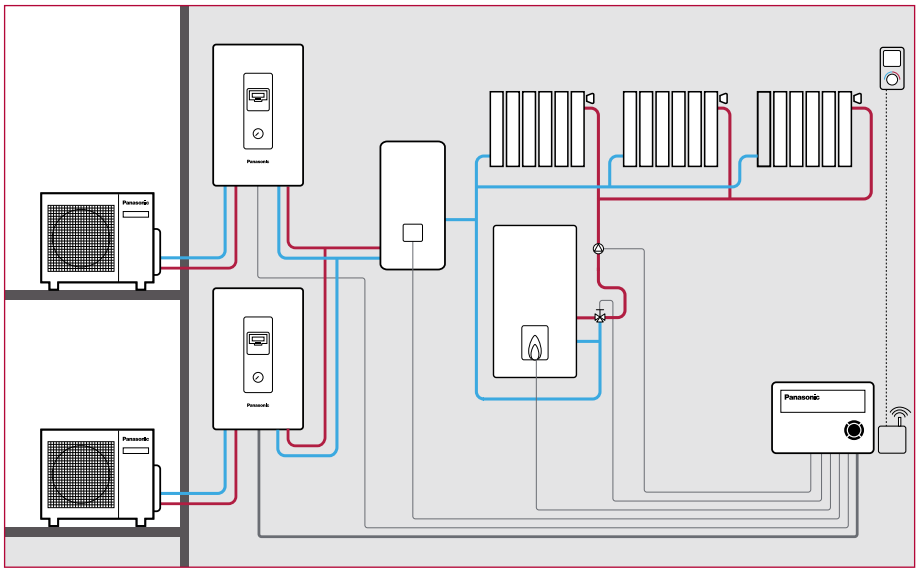
Temperature control in the 2 zones with PAW-HPM12ZONE-U



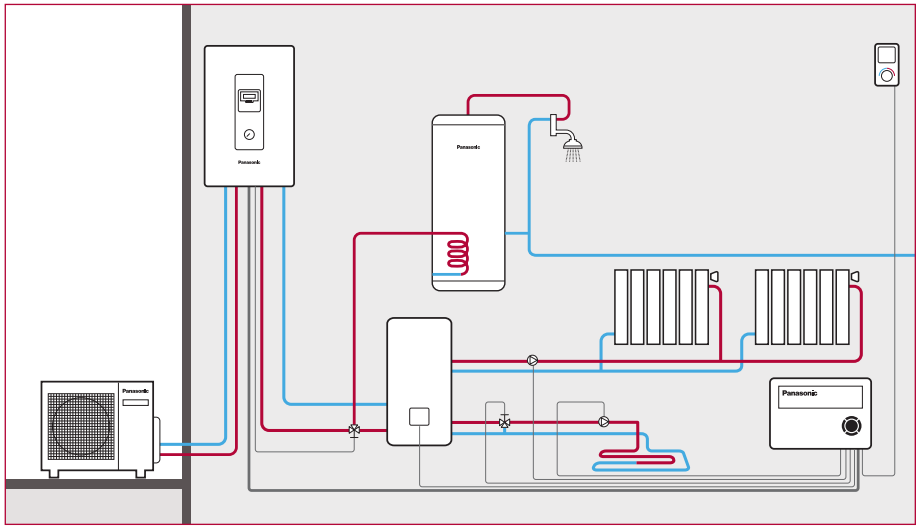
2 heat pumps in cascade with the PAW-HPM12ZONELCD-U



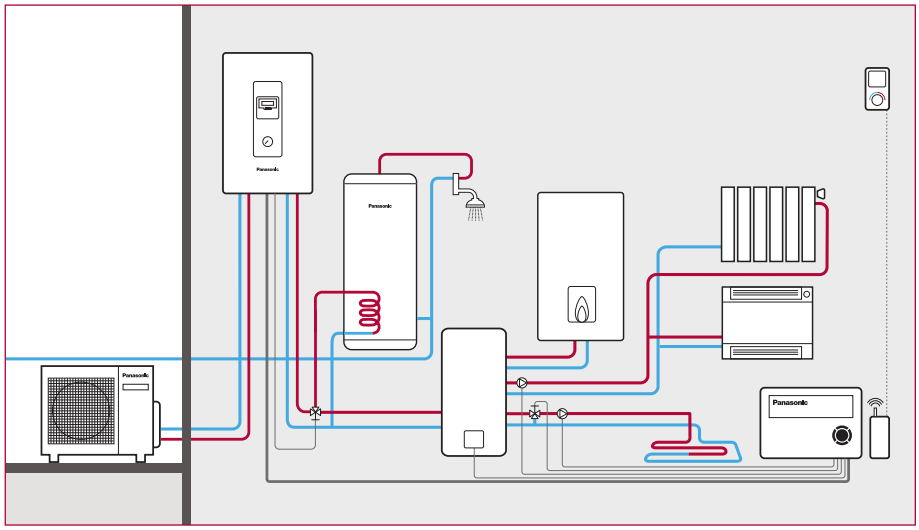
2 heat pump + boiler with PAW-HPM12ZONE-U



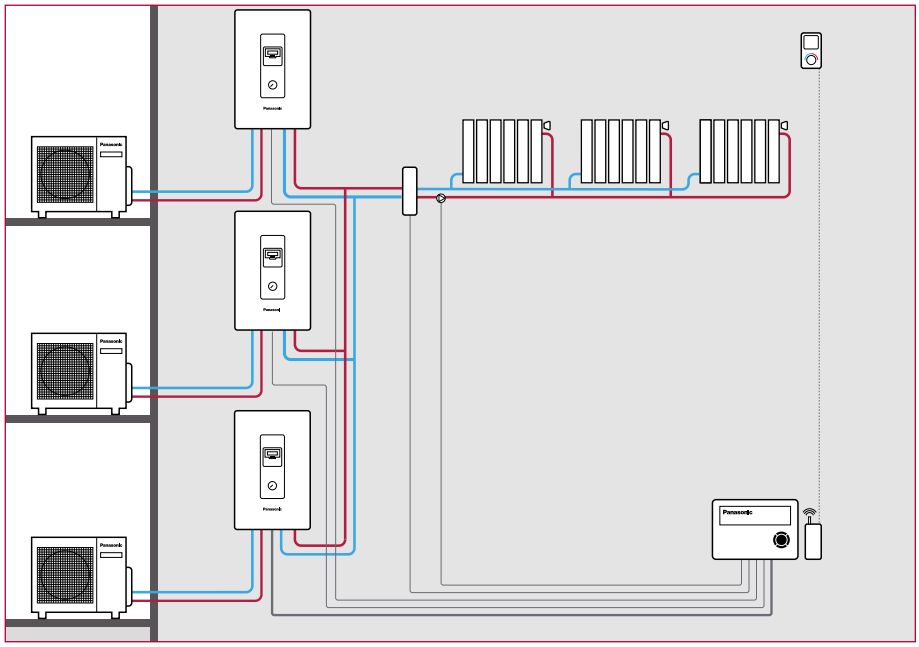
Temperature control in zones 2 + ECS with PAW-HPM12ZONE-U



Management of heat pump + boiler and DHW with PAW-HPM12ZONELCD-U



3 heat pumps in cascade with PAW-HPM12ZONELCD-U



A typical example of savings and efficiencies that Aquarea can offer to you

A 125m² house in Reims

The example below shows a typical 3 bedroom French home and highlights the potential savings that can be achieved with Panasonic's Aquarea heat pump.*

Building data	
Address	Reims (French)
Building area	125 m²
Standard heating requirement	11,3 kW
Internal gains	5625 kWh/year
Solar gains (windows)	4500 kWh/year
Indoor design temperature	20 °C
Outdoor temp. limit for heating 'on'	15 °C
Heat distribution	Underfloor heating by 100 %
	Radiator heating by -- %
	Wall heating by -- %
Max. flow water temperature	55 °C
Max. return water temperature	50 °C
Solar collector area	-- m²

Service hot water	
Type of service	Hot water with heat pump
Tank volume	300 Litre
Average daily need	200 Litre
Cold water inlet temperature	10 °C
Target tank temperature	50 °C
Exchange loss	5 K
Electrical auxiliary heating necessary	no

Used Panasonic heat pump	
Description	WH-SXF12D6E5
Sanitary tank	WH-TD30E3E5
Heat pump type	air / water
Wattage at 2/35	heat: 11,7 kW, electric: 3,4 kW
Recommended flow-through of air	4800,0 m³/h
Max. flow temperature	55 °C
Mode of operation	monovalent
Design/Bivalent temperature	-5,0 °C
Number of heat pumps used	1
Wattage of fan (included in heat pump performance data: yes)	60 W
Wattage of heat circulation pump(s)	180 W

Rate data		
Description	French (Panasonic)	
Shut off times total	0.0 h/day	
Weekends with shut off times	yes	
Daytime rate of heat pump	Time for daytime rate	
	5 - 19 o'clock	14,0 pence/kWh
Nighttime rate of heat pump	Time for nighttime rate	
	19 - 5 o'clock	14,0 pence/kWh
Heat circulation pump(s)	like heat pump: yes	-- pence/kWh
Heating element for monoenergetic operation	Like heat pump: yes	-- pence/kWh
Heating element for post heating of hot water	like heat pump: yes	-- pence/kWh

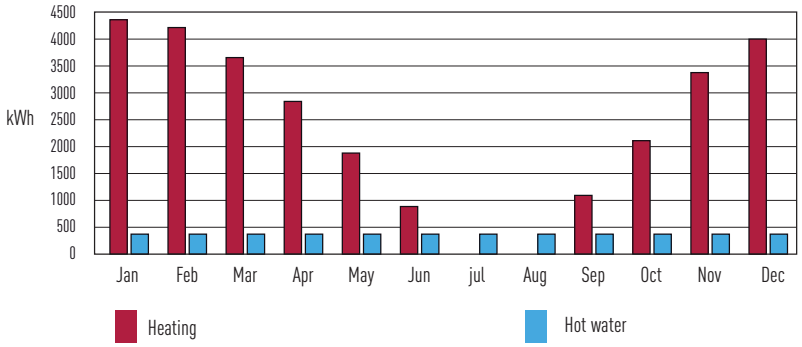
Climatic data				
Climatic location	Reims (FR)			
Monthly average temperatures in °C	Jan	3,4	Jul	16,0
	Feb	3,6	Aug	15,9
	Mar	5,7	Sep	13,7
	Apr	8,0	Oct	10,4
	May	11,2	Nov	6,7
	Jun	14,1	Dec	4,6

* Calculations were carried using Panasonic's Aquarea Designer software, available from the PRO Club website (www.panasonicproclub.com).

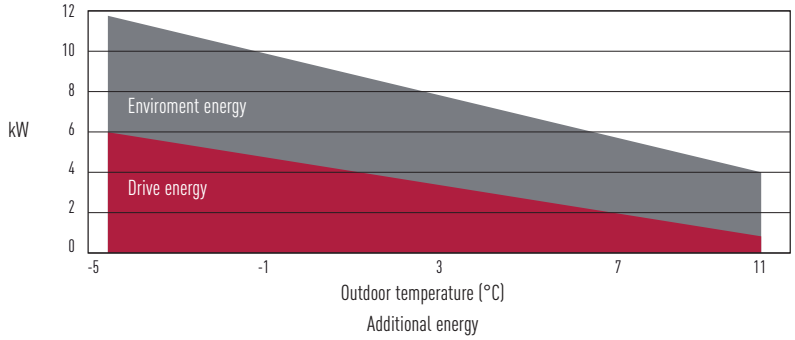
Calculation results

Monthly heat consumption in kWh

Annual energy costs	
Caused by heat producers	
Heat pump	1.600 €
Hot water heating rod	0 €
Caused by heat consumers	
Space heating	1.220 €
Service hot water	225 €
Heat circulation pump(s)	155 €
Total	1.600 €

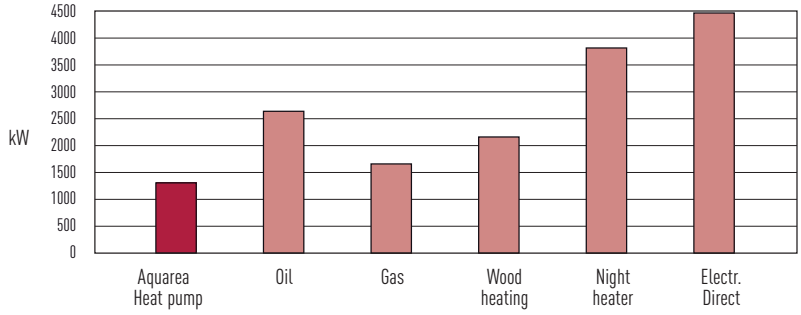


Aquarea energy coverage

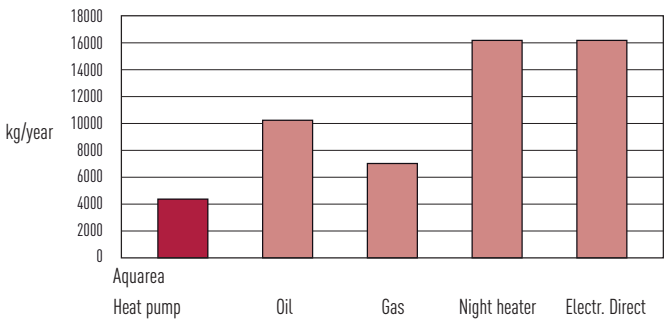


Comparison of running costs

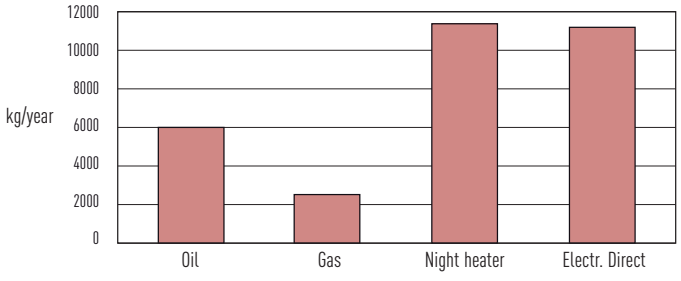
Operational costs				
Type of heating	Price in pence/kWh	Efficiency [%]	Additional costs in €/year	Total costs in €/year
Heat pump	-	-	0	1.600
Oil	6,5	85	0	3.050
Gas	4,0	90	0	1.868
Wood heating	5,0	80	0	2.539
Electric night storage heater	12,0	100	0	4.455
Electric heating element	14,0	100	0	5.197



Comparison of CO_2 emissions



Comparison of CO_2 savings



Heating capacity table based on outlet temperature and outside temperature

Heating capacity Curve

Aquarea. High Performance. Bi-Bloc Single Phase. Heating Only - SDF. Heating and Cooling - SDC. 3 and 5kW																		
WH-SDF03E3E5 / WH-SDC03E3E5																		
Tamb	**HC**	**IP**	**COP**	**HC**	**IP**	**COP**	**HC**	**IP**	**COP**	**HC**	**IP**	**COP**	**HC**	**IP**	**COP**	**HC**	**IP**	**COP**
LWC	**30**	**30**	**30**	**35**	**35**	**35**	**40**	**40**	**40**	**45**	**45**	**45**	**50**	**50**	**50**	**55**	**55**	**55**
-15	3,20	1,39	2,30	3,20	1,39	2,30	3,00	1,64	1,83	3,00	1,64	1,83	2,75	1,92	1,43	2,75	1,92	1,43
-7	3,20	1,19	2,69	3,20	1,19	2,69	3,20	1,48	2,16	3,20	1,48	2,16	3,20	1,86	1,72	3,20	1,86	1,72
2	3,20	0,90	3,56	3,20	0,90	3,56	3,20	1,16	2,76	3,20	1,16	2,76	3,20	1,49	2,15	3,20	1,49	2,15
7	3,20	0,64	5,00	3,20	0,64	5,00	3,20	0,89	3,60	3,20	0,89	3,60	3,20	1,20	2,67	3,20	1,20	2,67

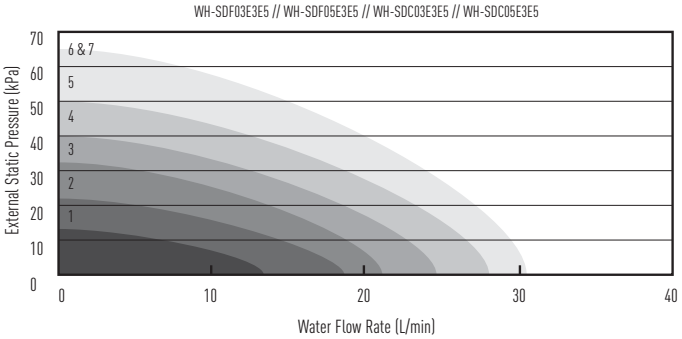
WH-SDF05E3E5 / WH-SDC05E3E5																		
Tamb	**HC**	**IP**	**COP**	**HC**	**IP**	**COP**	**HC**	**IP**	**COP**	**HC**	**IP**	**COP**	**HC**	**IP**	**COP**	**HC**	**IP**	**COP**
LWC	**30**	**30**	**30**	**35**	**35**	**35**	**40**	**40**	**40**	**45**	**45**	**45**	**50**	**50**	**50**	**55**	**55**	**55**
-15	4,20	1,94	2,16	4,20	1,94	2,16	3,4	1,98	1,72	3,40	1,98	1,72	3,00	2,12	1,42	3,00	2,12	1,42
-7	4,20	1,62	2,59	4,20	1,62	2,59	3,8	1,82	2,09	3,80	1,82	2,09	3,55	2,08	1,71	3,55	2,08	1,71
2	4,20	1,35	3,11	4,20	1,35	3,11	4,2	1,65	2,55	4,20	1,65	2,55	4,10	2,07	1,98	4,10	2,07	1,98
7	5,00	1,08	4,63	5,00	1,08	4,63	5,00	1,48	3,38	5,00	1,48	3,38	5,00	1,89	2,65	5,00	1,89	2,65

Cooling Capacity Curve

Aquarea. High Performance. Bi-Bloc Single Phase. Heating and Cooling - SDC. 3 and 5kW												
MODELS	**WH-SDC03E3E5**						**WH-SDC05E3E5**					
Tamb	**CC**	**IP**	**CC**	**IP**	**CC**	**IP**	**CC**	**IP**	**CC**	**IP**	**CC**	**IP**
LWC	**7**	**7**	**14**	**14**	**18**	**18**	**7**	**7**	**14**	**14**	**18**	**18**
18	2,40	0,42	4,40	0,73	3,70	0,49	4,50	0,89	5,00	0,90	5,70	0,90
25	3,20	0,73	4,10	0,86	3,50	0,59	5,00	1,43	6,30	1,50	5,40	1,06
35	3,20	1,04	3,90	1,07	3,30	0,74	4,50	1,67	5,50	1,68	5,00	1,33
43	2,90	1,20	3,50	1,20	3,00	0,88	3,30	1,53	4,10	1,52	4,40	1,53

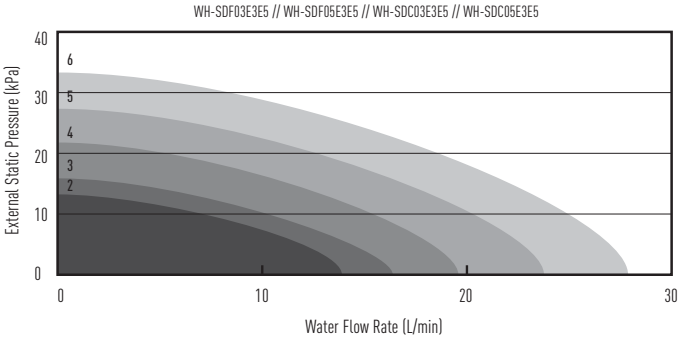
Tamb: Ambient Temperature (°C). LWC: Leaving Water Condenser Temperature (°C). HC: Heating capacity (kW). CC: Cooling Capacity (kW). IP: Power Input (kW)
This data is measured by Panasonic in accordance with EN14511-2 standard. This data is for reference purpose only, and does not guarantee the performance.

Hydraulic Pump Performance. Constant Pressure Head Difference (Δp-c). 3 and 5kW



A Δp-c
When pressure loss of system increased, pump speed will be reduced for maintain constant pressure.

Hydraulic Pump Performance. Variable Pressure Head Difference (Δp-v). 3 and 5kW



A Δp-v
When pressure loss of system increased, pump speed will be reduced for maintain pressure according to water flow rate.

Heating capacity Curve

Aquarea. High Performance. Mono-Bloc Single Phase. Heating Only - MDF. Heating and Cooling - MDC. 5, 6 and 9kW																		
WH-MDC05F3E5																		
Tamb	**HC**	**IP**	**COP**	**HC**	**IP**	**COP**	**HC**	**IP**	**COP**	**HC**	**IP**	**COP**	**HC**	**IP**	**COP**	**HC**	**IP**	**COP**
LWC	**30**	**30**	**30**	**35**	**35**	**35**	**40**	**40**	**40**	**45**	**45**	**45**	**50**	**50**	**50**	**55**	**55**	**55**
-15	5,00	1,82	2,75	5,00	1,95	2,56	5,00	2,20	2,27	5,00	2,45	2,04	5,00	2,70	1,85	5,00	2,95	1,69
-7	4,50	1,44	3,13	4,50	1,51	2,98	4,50	1,64	2,74	4,50	1,78	2,53	4,50	1,94	2,32	4,30	2,12	2,03
2	4,80	1,22	3,93	4,80	1,28	3,75	4,80	1,40	3,43	4,50	1,52	2,96	4,30	1,57	2,14	4,00	1,72	2,33
7	5,00	0,91	5,49	5,00	0,99	5,08	5,00	1,13	4,42	5,00	1,26	3,97	5,00	1,44	3,47	5,00	1,63	3,07
25	5,00	0,67	7,46	5,00	0,71	7,04	5,00	0,78	6,41	5,00	0,86	5,81	5,00	0,98	5,10	5,00	1,10	4,55

WH-MDF06E3E5 / WH-MDC06E3E5																		
Tamb	**HC**	**IP**	**COP**	**HC**	**IP**	**COP**	**HC**	**IP**	**COP**	**HC**	**IP**	**COP**	**HC**	**IP**	**COP**	**HC**	**IP**	**COP**
LWC	**30**	**30**	**30**	**35**	**35**	**35**	**40**	**40**	**40**	**45**	**45**	**45**	**50**	**50**	**50**	**55**	**55**	**55**
-15	6,15	2,50	2,46	5,90	2,66	2,22	5,65	2,82	2,00	5,40	2,98	1,81	5,20	3,15	1,65	5,00	3,32	1,51
-7	5,18	1,68	3,09	5,15	1,92	2,68	5,13	2,17	2,37	5,10	2,41	2,12	5,45	2,81	1,94	5,80	3,20	1,81
2	5,00	1,23	4,08	5,00	1,45	3,45	5,00	1,68	2,99	5,00	1,90	2,63	5,00	2,19	2,28	5,00	2,48	2,02
7	6,00	1,13	5,33	6,00	1,35	4,46	6,00	1,58	3,81	6,00	1,80	3,33	6,00	2,09	2,87	6,00	2,38	2,52
25	7,30	0,78	9,42	7,10	0,93	7,63	6,90	1,09	6,36	6,70	1,24	5,40	6,50	1,41	4,61	6,30	1,58	3,99

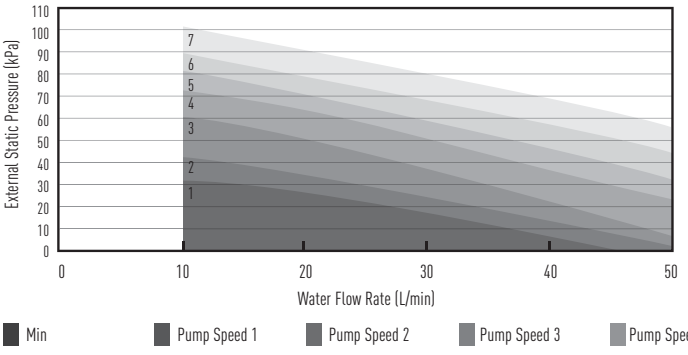
WH-MDF09E3E5 / WH-MDC09E3E5																		
Tamb	**HC**	**IP**	**COP**	**HC**	**IP**	**COP**	**HC**	**IP**	**COP**	**HC**	**IP**	**COP**	**HC**	**IP**	**COP**	**HC**	**IP**	**COP**
LWC	**30**	**30**	**30**	**35**	**35**	**35**	**40**	**40**	**40**	**45**	**45**	**45**	**50**	**50**	**50**	**55**	**55**	**55**
-15	7,90	3,62	2,19	7,60	3,77	2,02	7,30	3,93	1,86	7,00	4,08	1,72	6,45	4,06	1,59	5,90	4,03	1,46
-7	7,80	3,38	2,31	7,70	3,63	2,12	7,60	3,88	1,96	7,50	4,13	1,82	7,55	4,59	1,64	7,60	5,05	1,50
2	7,00	2,01	3,49	2,45	2,37	3,14	7,00	2,60	2,70	7,00	2,89	2,42	7,00	3,37	2,08	7,00	3,85	1,82
7	9,00	1,87	4,83	9,00	2,17	4,16	9,00	2,48	3,64	9,00	2,78	3,24	8,95	3,31	2,70	8,90	3,84	2,32
25	9,00	0,99	9,09	9,00	1,31	6,87	9,00	1,63	5,52	9,00	1,95	4,62	9,00	2,20	4,09	9,00	2,45	3,67

Cooling Capacity Curve

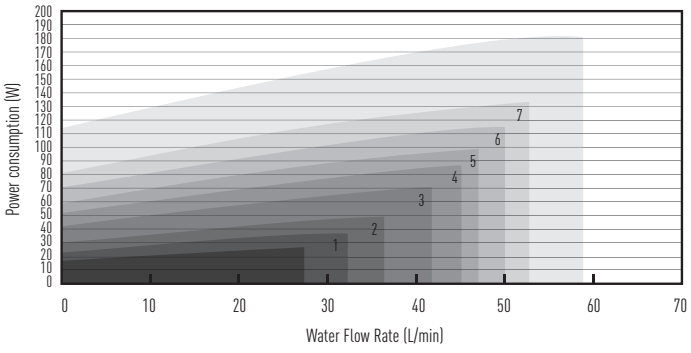
Aquarea. High Performance. Mono-Bloc Single Phase. Heating and Cooling - MDC. 5, 6 and 9kW																		
MODELS	**WH-MDC05F3E5**						**WH-MDC06E3E5**						**WH-MDC09E3E5**					
Tamb	**CC**	**IP**	**CC**	**IP**	**CC**	**IP**	**CC**	**IP**	**CC**	**IP**	**CC**	**IP**	**CC**	**IP**	**CC**	**IP**	**CC**	**IP**
LWC	**7**	**7**	**14**	**14**	**18**	**18**	**7**	**7**	**14**	**14**	**18**	**18**	**7**	**7**	**14**	**14**	**18**	**18**
18	1,95	0,45	2,20	0, 45	2,45	0,50	4,64	0,91	5,83	0,99	6,74	0,94	5,36	1,05	6,12	1,08	7,02	1,08
25	5,00	1,25	6,30	1,20	6,30	0,80	5,85	1,43	9,55	1,73	9,81	1,68	6,44	1,85	10,50	2,51	11,16	2,52
35	4,50	1,35	5,10	1,50	5,00	1,00	5,50	2,03	6,70	2,06	7,30	2,05	7,00	2,90	8,40	2,95	9,00	3,00
43	3,75	1,75	4,50	1,80	4,25	1,20	4,56	2,34	6,31	2,47	7,14	2,45	5,32	3,18	6,34	2,48	6,78	2,46

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

Hydraulic pump performance of the F type Heat Pumps: A class pump F (5 kW and 16 kW)

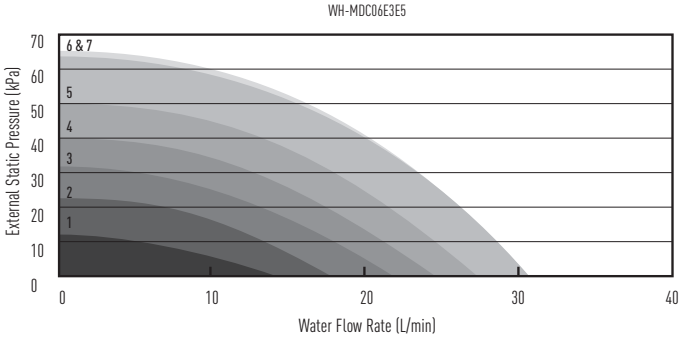


Hydraulic pump performance of the F type Heat Pumps: A class pump F (5 kW and 16 kW)



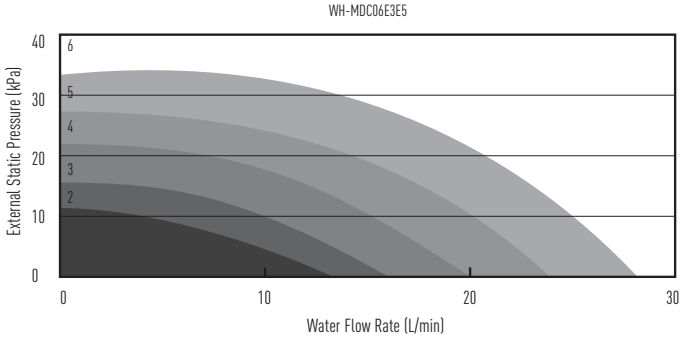
Min | Pump Speed 1 | Pump Speed 2 | Pump Speed 3 | Pump Speed 4 | Pump Speed 5 | Pump Speed 6 | Max

Hydraulic Pump Performance. Constant Pressure Head Difference (Δp-c)



A Δp-c
When pressure loss of system increased, pump speed will be reduced for maintain constant pressure.

Hydraulic Pump Performance. Variable Pressure Head Difference (Δp-c)



A Δp-c
When pressure loss of system increased, pump speed will be reduced for maintain pressure according to water flow rate.

Heating capacity table based on outlet temperature and outside temperature

Heating capacity Curve

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

WH-SDC07F3E5

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	4,60	1,85	2,49	4,60	1,98	2,32	4,60	2,17	2,12	4,60	2,40	1,92	4,55	2,66	1,71	4,50	2,98	1,51
-7	5,15	1,78	2,89	5,15	1,92	2,68	5,08	2,12	2,40	5,00	2,36	2,12	4,90	2,45	2,00	4,80	2,65	1,81
2	6,70	1,81	3,70	6,55	1,96	3,34	6,58	2,27	2,90	6,60	2,62	2,52	6,30	2,88	2,19	6,00	3,14	1,91
7	7,00	1,41	4,96	7,00	1,57	4,46	7,00	1,75	4,00	7,00	2,10	3,33	6,90	2,28	3,03	6,80	2,70	2,52
25	7,00	0,77	9,09	7,00	0,91	7,69	6,40	1,01	6,34	6,10	1,15	5,30	5,90	1,31	4,50	5,70	1,47	3,88

WH-SDC09F3E5

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	6,00	2,53	2,37	5,90	2,66	2,22	5,50	2,80	1,96	5,40	2,98	1,81	5,20	3,12	1,67	5,00	3,31	1,51
-7	6,10	2,14	2,85	5,90	2,34	2,52	5,85	2,61	2,24	5,80	2,88	2,01	5,80	3,04	1,91	5,80	3,21	1,81
2	6,80	1,85	3,68	6,70	2,14	3,13	6,70	2,36	2,84	6,60	2,62	2,52	6,30	2,88	2,19	6,00	3,14	1,91
7	9,00	1,91	4,71	9,00	2,18	4,13	9,00	2,43	3,70	9,00	2,79	3,23	8,95	3,21	2,79	8,90	3,85	2,31
25	9,00	1,05	8,57	9,00	1,25	7,20	8,40	1,38	6,09	8,00	1,57	5,10	7,80	1,79	4,36	7,50	2,01	3,73

WH-SDC12F6E5

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	9,30	3,46	2,69	8,90	3,62	2,46	8,50	3,79	2,24	8,10	3,95	2,05	7,50	4,05	1,85	7,00	4,16	1,68
-7	10,40	3,37	3,09	10,00	3,66	2,73	9,60	3,86	2,49	9,20	4,06	2,27	8,70	4,16	2,09	8,20	4,27	1,92
2	11,80	3,10	3,81	11,40	3,31	3,44	11,00	3,53	3,12	10,60	3,74	2,83	9,80	3,94	2,49	9,10	4,14	2,20
7	12,00	2,10	5,71	12,00	2,53	4,74	12,00	2,96	4,05	12,00	3,39	3,54	12,00	3,78	3,17	12,00	4,16	2,88
25	12,00	1,38	8,70	12,00	1,66	7,23	11,80	1,94	6,08	11,70	2,23	5,25	11,50	2,49	4,62	11,40	2,74	4,16

WH-SDC14F6E5

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	9,90	3,87	2,56	9,50	4,01	2,37	9,00	4,15	2,17	8,60	4,29	2,00	7,90	4,41	1,79	7,30	4,52	1,62
-7	11,10	3,69	3,01	10,70	3,96	2,70	10,20	4,16	2,45	9,80	4,36	2,25	9,10	4,53	2,01	8,50	4,70	1,81
2	12,90	3,47	3,72	12,40	3,69	3,36	11,90	3,91	3,04	11,40	4,13	2,76	10,40	4,25	2,45	9,50	4,36	2,18
7	14,00	2,56	5,47	14,00	3,07	4,56	14,00	3,59	3,90	14,00	4,10	3,41	13,60	4,57	2,98	13,30	5,04	2,64
25	14,00	1,71	8,19	14,00	2,06	6,80	14,00	2,41	5,81	14,00	2,76	5,07	14,00	3,01	4,65	14,00	3,40	4,12

WH-SDC16F6E5

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	10,60	4,09	2,59	10,30	4,38	2,35	10,00	4,67	2,14	9,70	4,96	1,96	8,80	4,94	1,78	7,90	4,91	1,61
-7	11,90	4,03	2,95	11,40	4,26	2,68	10,80	4,46	2,42	10,30	4,66	2,21	9,60	4,81	2,00	9,00	4,95	1,82
2	13,50	3,74	3,61	13,00	3,96	3,28	12,40	4,18	2,97	11,90	4,40	2,70	10,80	4,46	2,42	9,80	4,51	2,17
7	16,00	3,21	4,98	16,00	3,74	4,28	16,00	4,27	3,75	16,00	4,80	3,33	15,20	5,11	2,97	14,50	5,41	2,68
25	16,00	2,31	6,93	16,00	2,69	5,95	16,00	3,07	5,21	16,00	3,45	4,64	16,00	3,67	4,36	15,90	3,89	4,09

WH-SDC09F3E8

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	8,65	3,06	2,83	8,30	3,21	2,59	7,95	3,41	2,33	7,60	3,61	2,11	7,15	3,71	1,93	6,70	3,81	1,76
-7	9,35	2,91	3,21	9,00	3,16	2,85	8,85	3,46	2,56	8,70	3,76	2,31	8,30	3,81	2,18	7,90	3,86	2,05
2	9,31	2,35	3,96	9,00	2,51	3,59	9,00	2,78	3,24	9,00	3,05	2,95	8,90	3,49	2,55	8,80	3,94	2,23
7	9,00	1,54	5,84	9,00	1,86	4,84	9,00	2,16	4,17	9,00	2,46	3,66	9,00	2,76	3,26	9,00	3,06	2,94
25	9,00	1,05	8,57	9,00	1,24	7,26	8,73	1,44	6,06	8,46	1,64	5,16	8,28	1,82	4,55	8,10	2,00	4,05

WH-SDC12F9E8

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	9,30	3,46	2,69	8,90	3,62	2,46	8,50	3,79	2,24	8,10	3,95	2,05	7,50	4,05	1,85	7,00	4,16	1,68
-7	10,40	3,37	3,09	10,00	3,66	2,73	9,60	3,86	2,49	9,20	4,06	2,27	8,70	4,16	2,09	8,20	4,27	1,92
2	11,80	3,10	3,81	11,40	3,31	3,44	11,00	3,53	3,12	10,60	3,74	2,83	9,80	3,94	2,49	9,10	4,14	2,20
7	12,00	2,10	5,71	12,00	2,53	4,74	12,00	2,96	4,05	12,00	3,39	3,54	12,00	3,78	3,17	12,00	4,16	2,88
25	12,00	1,38	8,70	12,00	1,66	7,23	11,80	1,94	6,08	11,70	2,23	5,25	11,50	2,49	4,62	11,40	2,74	4,16

WH-SDC14F9E8

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	9,90	3,87	2,56	9,50	4,01	2,37	9,00	4,15	2,17	8,60	4,29	2,00	7,90	4,41	1,79	7,30	4,52	1,62
-7	11,10	3,69	3,01	10,70	3,96	2,70	10,20	4,16	2,45	9,80	4,36	2,25	9,10	4,53	2,01	8,50	4,70	1,81
2	12,90	3,47	3,72	12,40	3,69	3,36	11,90	3,91	3,04	11,40	4,13	2,76	10,40	4,25	2,45	9,50	4,36	2,18
7	14,00	2,56	5,47	14,00	3,07	4,56	14,00	3,59	3,90	14,00	4,10	3,41	13,60	4,57	2,98	13,30	5,04	2,64
25	14,00	1,71	8,19	14,00	2,06	6,80	14,00	2,41	5,81	14,00	2,76	5,07	14,00	3,01	4,65	14,00	3,40	4,12

WH-SDC16F9E8

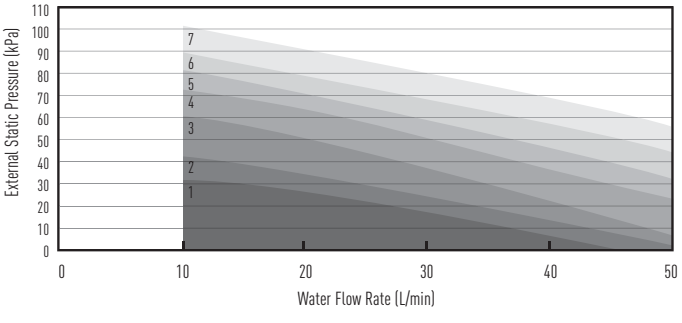
Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	10,60	4,09	2,59	10,30	4,38	2,35	10,00	4,67	2,14	9,70	4,96	1,96	8,80	4,94	1,78	7,90	4,91	1,61
-7	11,90	4,03	2,95	11,40	4,26	2,68	10,80	4,46	2,42	10,30	4,66	2,21	9,60	4,81	2,00	9,00	4,95	1,82
2	13,50	3,74	3,61	13,00	3,96	3,28	12,40	4,18	2,97	11,90	4,40	2,70	10,80	4,46	2,42	9,80	4,51	2,17
7	16,00	3,21	4,98	16,00	3,74	4,28	16,00	4,27	3,75	16,00	4,80	3,33	15,20	5,11	2,97	14,50	5,41	2,68
25	16,00	2,31	6,93	16,00	2,69	5,95	16,00	3,07	5,21	16,00	3,45	4,64	16,00	3,67	4,36	15,90	3,89	4,09

Cooling Capacity Curve

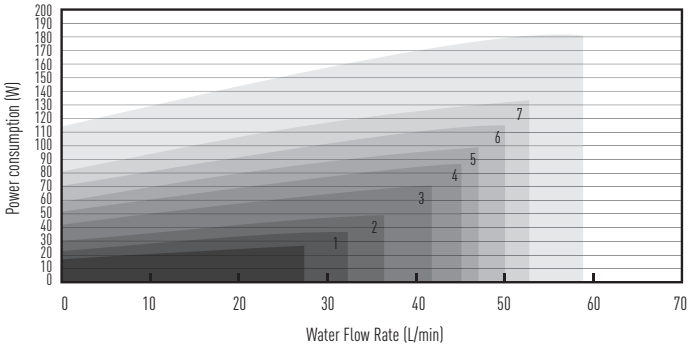
Aquarea. High Performance. Bi-Bloc Single Phase / Three Phase. Heating and Cooling. SDC																		
MODELS	WH-SDC07F3E5		WH-SDC09F3E5		WH-SDC12F6E5		WH-SDC14F6E5		WH-SDC16F6E5		WH-SDC09F3E8		WH-SDC12F9E8		WH-SDC14F9E8		WH-SDC16F9E8	
Tamb	CC	IP	CC	IP	CC	IP	CC	IP	CC	IP	CC	IP	CC	IP	CC	IP	CC	IP
LWC	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
16	5,09	0,86	5,93	1,05	7,65	1,26	8,85	1,46	9,62	1,59	5,90	0,97	7,65	1,26	8,85	1,46	9,62	1,59
25	6,58	1,73	7,79	2,23	9,20	2,26	10,00	2,64	10,51	2,81	7,45	1,55	9,20	2,26	10,00	2,64	10,51	2,81
35	6,00	2,28	7,00	2,88	10,00	3,56	11,50	4,36	12,20	4,76	7,00	2,21	10,00	3,56	11,50	4,36	12,20	4,76
43	5,14	2,67	6,20	3,26	7,60	3,91	9,05	4,97	10,08	5,43	5,80	2,55	7,60	3,91	9,05	4,97	10,08	5,43

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

Hydraulic pump performance of the F type Heat Pumps: A class pump F (5 kW and 16 kW)



Hydraulic pump performance of the F type Heat Pumps: A class pump F (5 kW and 16 kW)



Min Pump Speed 1 Pump Speed 2 Pump Speed 3 Pump Speed 4 Pump Speed 5 Pump Speed 6 Max

Heating capacity table based on outlet temperature and outside temperature

Heating capacity Curve

Aquarea. High Performance. Mono-Bloc Single Phase / Three Phase. Heating Only - MDF. Heating and Cooling - MDC

WH-MDC12C6E5

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	9,30	3,50	2,66	8,90	3,66	2,43	8,50	3,83	2,22	8,10	3,99	2,03	7,50	4,09	1,83	7,00	4,20	1,67
-7	10,40	3,41	3,05	10,00	3,70	2,70	9,60	3,90	2,46	9,20	4,10	2,24	8,70	4,20	2,07	8,20	4,31	1,90
2	11,80	3,14	3,76	11,40	3,34	3,41	11,00	3,57	3,08	10,60	3,78	2,80	9,80	3,98	2,46	9,10	4,18	2,18
7	12,00	2,14	5,61	12,00	2,57	4,67	12,00	3,00	4,00	12,00	3,43	3,50	12,00	3,82	3,14	12,00	4,20	2,86
25	12,00	1,42	8,45	12,00	1,70	7,06	11,80	1,98	5,96	11,70	2,27	5,15	11,50	2,53	4,55	11,40	2,78	4,10

WH-MDC14C6E5

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	9,90	3,91	2,53	9,50	4,05	2,35	9,00	4,19	2,15	8,60	4,33	1,99	7,90	4,45	1,78	7,30	4,56	1,60
-7	11,10	3,73	2,98	10,70	4,00	2,68	10,20	4,20	2,43	9,80	4,40	2,23	9,10	4,57	1,99	8,50	4,74	1,79
2	12,90	3,51	3,68	12,40	3,73	3,32	11,90	3,95	3,01	11,40	4,17	2,73	10,40	4,29	2,42	9,50	4,40	2,16
7	14,00	2,60	5,38	14,00	3,11	4,50	14,00	3,63	3,86	14,00	4,14	3,38	13,60	4,61	2,95	13,30	5,08	2,62
25	14,00	1,75	8,00	14,00	2,10	6,67	14,00	2,45	5,71	14,00	2,80	5,00	14,00	3,05	4,59	14,00	3,44	4,07

WH-MDC16C6E5

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	10,60	4,13	2,57	10,30	4,42	2,33	10,00	4,71	2,12	9,70	5,00	1,94	8,80	4,98	1,77	7,90	4,95	1,60
-7	11,90	4,07	2,92	11,40	4,30	2,65	10,80	4,50	2,40	10,30	4,70	2,19	9,60	4,85	1,98	9,00	4,99	1,80
2	13,50	3,78	3,57	13,00	4,00	3,25	12,40	4,22	2,94	11,90	4,44	2,68	10,80	4,50	2,40	9,80	4,55	2,15
7	16,00	3,25	4,92	16,00	3,78	4,23	16,00	4,31	3,71	16,00	4,84	3,31	15,20	5,15	2,95	14,50	5,45	2,66
25	16,00	2,35	6,81	16,00	2,73	5,86	16,00	3,11	5,14	16,00	3,49	4,58	16,00	3,71	4,31	15,90	3,93	4,05

WH-MDC09C3E8

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	8,65	3,10	2,79	8,30	3,25	2,55	7,95	3,45	2,30	7,60	3,65	2,08	7,15	3,75	1,91	6,70	3,85	1,74
-7	9,35	2,95	3,17	9,00	3,20	2,81	8,85	3,50	2,53	8,70	3,80	2,29	8,30	3,85	2,16	7,90	3,90	2,03
2	9,31	2,39	3,90	9,00	2,55	3,53	9,00	2,82	3,19	9,00	3,09	2,91	8,90	3,53	2,52	8,80	3,98	2,21
7	9,00	1,58	5,70	9,00	1,90	4,74	9,00	2,20	4,09	9,00	2,50	3,60	9,00	2,80	3,21	9,00	3,10	2,90
25	9,00	1,09	8,26	9,00	1,28	7,03	8,73	1,48	5,90	8,46	1,68	5,04	8,28	1,86	4,45	8,10	2,04	3,97

WH-MDC12C9E8

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	9,30	3,50	2,66	8,90	3,66	2,43	8,50	3,83	2,22	8,10	3,99	2,03	7,50	4,09	1,83	7,00	4,20	1,67
-7	10,40	3,41	3,05	10,00	3,70	2,70	9,60	3,90	2,46	9,20	4,10	2,24	8,70	4,20	2,07	8,20	4,31	1,90
2	11,80	3,14	3,76	11,40	3,34	3,41	11,00	3,57	3,08	10,60	3,78	2,80	9,80	3,98	2,46	9,10	4,18	2,18
7	12,00	2,14	5,61	12,00	2,57	4,67	12,00	3,00	4,00	12,00	3,43	3,50	12,00	3,82	3,14	12,00	4,20	2,86
25	12,00	1,42	8,45	12,00	1,70	7,06	11,80	1,98	5,96	11,70	2,27	5,15	11,50	2,53	4,55	11,40	2,78	4,10

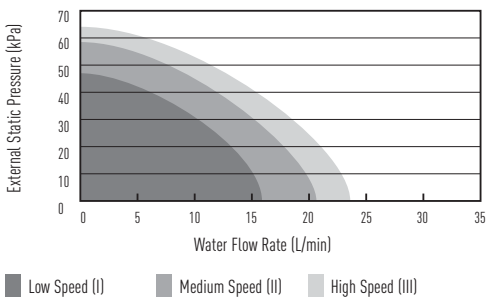
WH-MDC14C9E8

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	9,90	3,91	2,53	9,50	4,05	2,35	9,00	4,19	2,15	8,60	4,33	1,99	7,90	4,45	1,78	7,30	4,56	1,60
-7	11,10	3,73	2,98	10,70	4,00	2,68	10,20	4,20	2,43	9,80	4,40	2,23	9,10	4,57	1,99	8,50	4,74	1,79
2	12,90	3,51	3,68	12,40	3,73	3,32	11,90	3,95	3,01	11,40	4,17	2,73	10,40	4,29	2,42	9,50	4,40	2,16
7	14,00	2,60	5,38	14,00	3,11	4,50	14,00	3,63	3,86	14,00	4,14	3,38	13,60	4,61	2,95	13,30	5,08	2,62
25	14,00	1,75	8,00	14,00	2,10	6,67	14,00	2,45	5,71	14,00	2,80	5,00	14,00	3,05	4,59	14,00	3,44	4,07

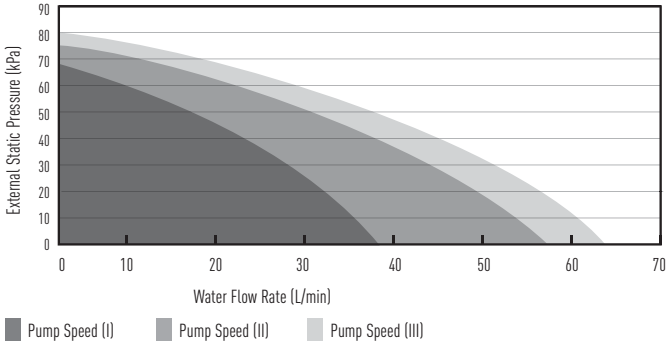
WH-MDC16C9E8

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	10,60	4,13	2,57	10,30	4,42	2,33	10,00	4,71	2,12	9,70	5,00	1,94	8,80	4,98	1,77	7,90	4,95	1,60
-7	11,90	4,07	2,92	11,40	4,30	2,65	10,80	4,50	2,40	10,30	4,70	2,19	9,60	4,85	1,98	9,00	4,99	1,80
2	13,50	3,78	3,57	13,00	4,00	3,25	12,40	4,22	2,94	11,90	4,44	2,68	10,80	4,50	2,40	9,80	4,55	2,15
7	16,00	3,25	4,92	16,00	3,78	4,23	16,00	4,31	3,71	16,00	4,84	3,31	15,20	5,15	2,95	14,50	5,45	2,66
25	16,00	2,35	6,81	16,00	2,73	5,86	16,00	3,11	5,14	16,00	3,49	4,58	16,00	3,71	4,31	15,90	3,93	4,05

Hydraulic Pump Performance. 9 kW single phase



Hydraulic Pump Performance. MDC 12 to MDC 16 single phase and all MDC three phase



Cooling Capacity Curve

Aquarea. High Performance. Mono-Bloc Single Phase / Three Phase. Cooling. MDC												
Models	WH-MDC09			WH-MDC12			WH-MDC14			WH-MDC16		
Tamb	CC	IP	EER	CC	IP	EER	CC	IP	EER	CC	IP	EER
16	5,90	1,01	5,84	7,65	1,30	5,88	8,85	1,50	5,90	9,62	1,63	5,90
25	7,45	1,59	4,69	9,20	2,30	4,00	10,00	2,68	3,73	10,51	2,85	3,69
35	7,00	2,25	3,11	10,00	3,60	2,78	11,50	4,40	2,61	12,20	4,80	2,54
43	5,80	2,59	2,24	7,60	3,95	1,92	9,05	5,01	1,81	10,08	5,47	1,84

Heating Capacity Curve

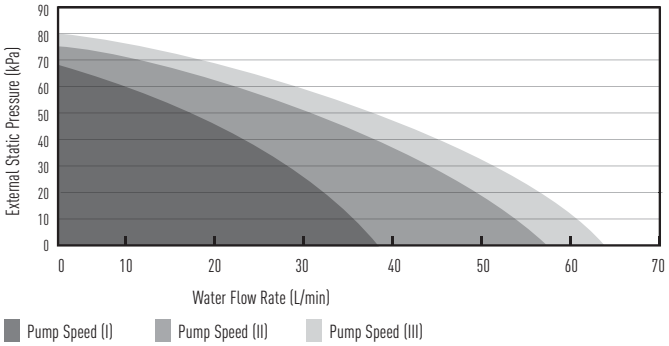
Aquarea T-CAP. Mono-Bloc Single Phase / Three Phase. Heating. MXF / MXC																		
WH-MXC09D3E5																		
Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	9,00	3,28	2,74	9,00	3,55	2,54	9,00	3,95	2,28	9,00	4,34	2,07	9,00	4,77	1,89	9,00	5,20	1,73
-7	9,00	2,75	3,27	9,00	3,20	2,81	9,00	3,66	2,46	9,00	4,11	2,19	9,00	4,31	2,09	9,00	4,50	2,00
2	9,00	2,40	3,75	9,00	2,55	3,53	9,00	2,82	3,19	9,00	3,09	2,91	9,00	3,60	2,50	9,00	4,11	2,19
7	9,00	1,68	5,36	9,00	1,90	4,74	9,00	2,20	4,09	9,00	2,50	3,60	9,00	2,80	3,21	9,00	3,10	2,90
25	13,60	1,54	8,83	13,60	1,75	7,77	13,20	1,97	6,70	12,80	2,18	5,87	12,00	2,45	4,90	11,20	2,71	4,13
WH-MXC12D6E5																		
Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	12,00	4,79	2,51	12,00	5,00	2,40	11,50	5,21	2,21	11,00	5,42	2,03	10,70	5,86	1,83	10,50	6,30	1,67
-7	12,00	3,89	3,08	12,00	4,45	2,70	12,00	5,02	2,39	12,00	5,58	2,15	12,00	5,94	2,02	12,00	6,30	1,90
2	12,00	3,23	3,72	12,00	3,53	3,40	12,00	3,91	3,07	12,00	4,29	2,80	12,00	4,90	2,45	12,00	5,51	2,18
7	12,00	2,22	5,41	12,00	2,57	4,67	12,00	3,00	4,00	12,00	3,43	3,50	12,00	3,82	3,14	12,00	4,20	2,86
25	13,60	1,59	8,55	13,60	1,80	7,56	13,40	2,14	6,26	13,20	2,47	5,34	12,60	2,70	4,67	12,00	2,93	4,10
WH-MXC09D3E8																		
Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	9,00	3,28	2,74	9,00	3,55	2,54	9,00	3,95	2,28	9,00	4,34	2,07	9,00	4,77	1,89	9,00	5,20	1,73
-7	9,00	2,75	3,27	9,00	3,20	2,81	9,00	3,66	2,46	9,00	4,11	2,19	9,00	4,31	2,09	9,00	4,50	2,00
2	9,00	2,40	3,75	9,00	2,55	3,53	9,00	2,82	3,19	9,00	3,09	2,91	9,00	3,60	2,50	9,00	4,11	2,19
7	9,00	1,68	5,36	9,00	1,90	4,74	9,00	2,20	4,09	9,00	2,50	3,60	9,00	2,80	3,21	9,00	3,10	2,90
25	13,60	1,54	8,83	13,60	1,75	7,77	13,20	1,97	6,70	12,80	2,18	5,87	12,00	2,45	4,90	11,20	2,71	4,13
WH-MXC12D9E8																		
Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	12,00	4,79	2,51	12,00	5,00	2,40	12,00	5,45	2,20	12,00	5,90	2,03	11,50	6,28	1,83	11,10	6,66	1,67
-7	12,00	3,89	3,08	12,00	4,45	2,70	12,00	5,02	2,39	12,00	5,58	2,15	12,00	5,94	2,02	12,00	6,30	1,90
2	12,00	3,23	3,72	12,00	3,53	3,40	12,00	3,91	3,07	12,00	4,29	2,80	12,00	4,90	2,45	12,00	5,51	2,18
7	12,00	2,22	5,41	12,00	2,57	4,67	12,00	3,00	4,00	12,00	3,43	3,50	12,00	3,82	3,14	12,00	4,20	2,86
25	13,60	1,59	8,55	13,60	1,80	7,56	13,40	2,14	6,26	13,20	2,47	5,34	12,60	2,70	4,67	12,00	2,93	4,10

Cooling Capacity Curve

Aquarea T-CAP. Mono-Bloc Single Phase / Three Phase. Cooling. MXC						
MODELS	WH-MXC09			WH-MXC12		
Tamb	CC	IP	EER	CC	IP	EER
16	7,00	1,40	5,00	7,50	1,45	5,17
25	7,65	1,95	3,92	8,90	2,20	4,05
35	7,00	2,25	3,11	10,00	3,60	2,78
43	6,25	2,70	2,31	8,00	3,05	2,62

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

Hydraulic Pump Performance. MXC 12 to MXC 16 single phase and all MXC three phase



Heating capacity table based on outlet temperature and outside temperature

Heating Capacity Curve

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

WH-SXC09F3E5

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	9,00	3,24	2,78	9,00	3,51	2,56	9,00	3,91	2,30	9,00	4,30	2,09	9,00	4,73	1,90	9,00	5,16	1,74
-7	9,00	2,71	3,32	9,00	3,16	2,85	9,00	3,62	2,49	9,00	4,07	2,21	9,00	4,27	2,11	9,00	4,46	2,02
2	9,00	2,36	3,81	9,00	2,51	3,59	9,00	2,78	3,24	9,00	3,05	2,95	9,00	3,56	2,53	9,00	4,07	2,21
7	9,00	1,64	5,49	9,00	1,86	4,84	9,00	2,16	4,17	9,00	2,46	3,66	9,00	2,76	3,26	9,00	3,06	2,94
25	13,60	1,50	9,07	13,60	1,71	7,95	13,20	1,93	6,84	12,80	2,14	5,98	12,00	2,41	4,98	11,20	2,67	4,19

WH-SXC12F6E5

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	12,00	4,75	2,53	12,00	4,96	2,42	11,50	5,17	2,22	11,00	5,38	2,04	10,70	5,82	1,84	10,50	6,26	1,68
-7	12,00	3,85	3,12	12,00	4,41	2,72	12,00	4,98	2,41	12,00	5,54	2,17	12,00	5,90	2,03	12,00	6,26	1,92
2	12,00	3,19	3,76	12,00	3,49	3,44	12,00	3,87	3,10	12,00	4,25	2,82	12,00	4,86	2,47	12,00	5,47	2,19
7	12,00	2,18	5,50	12,00	2,53	4,74	12,00	2,96	4,05	12,00	3,39	3,54	12,00	3,78	3,17	12,00	4,16	2,88
25	13,60	1,55	8,77	13,60	1,76	7,73	13,40	2,10	6,38	13,20	2,43	5,43	12,60	2,66	4,74	12,00	2,89	4,15

WH-SXC09F3E8

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	9,00	3,24	2,78	9,00	3,51	2,56	9,00	3,91	2,30	9,00	4,30	2,09	9,00	4,73	1,90	9,00	5,16	1,74
-7	9,00	2,71	3,32	9,00	3,16	2,85	9,00	3,62	2,49	9,00	4,07	2,21	9,00	4,27	2,11	9,00	4,46	2,02
2	9,00	2,36	3,81	9,00	2,51	3,59	9,00	2,78	3,24	9,00	3,05	2,95	9,00	3,56	2,53	9,00	4,07	2,21
7	9,00	1,64	5,49	9,00	1,86	4,84	9,00	2,16	4,17	9,00	2,46	3,66	9,00	2,76	3,26	9,00	3,06	2,94
25	13,60	1,50	9,07	13,60	1,71	7,95	13,20	1,93	6,84	12,80	2,14	5,98	12,00	2,41	4,98	11,20	2,67	4,19

WH-SXC12F9E8

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	12,00	4,75	2,53	12,00	4,96	2,42	12,00	5,41	2,22	12,00	5,86	2,05	11,50	6,24	1,84	11,10	6,62	1,68
-7	12,00	3,85	3,12	12,00	4,41	2,72	12,00	4,98	2,41	12,00	5,54	2,17	12,00	5,90	2,03	12,00	6,26	1,92
2	12,00	3,19	3,76	12,00	3,49	3,44	12,00	3,87	3,10	12,00	4,25	2,82	12,00	4,86	2,47	12,00	5,47	2,19
7	12,00	2,18	5,50	12,00	2,53	4,74	12,00	2,96	4,05	12,00	3,39	3,54	12,00	3,78	3,17	12,00	4,16	2,88
25	13,60	1,55	8,77	13,60	1,76	7,73	13,40	2,10	6,38	13,20	2,43	5,43	12,60	2,66	4,74	12,00	2,89	4,15

WH-SXC16F9E8

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55
-15	16,00	6,50	2,46	16,00	6,89	2,32	16,00	7,50	2,13	16,00	8,10	1,98	15,60	8,76	1,78	15,20	9,41	1,62
-7	16,00	5,85	2,74	16,00	6,42	2,49	16,00	7,00	2,29	16,00	7,57	2,11	16,00	8,31	1,93	16,00	9,05	1,77
2	16,00	4,59	3,49	16,00	5,16	3,10	16,00	5,74	2,79	16,00	6,31	2,54	16,00	7,10	2,26	16,00	7,88	2,03
7	16,00	3,21	4,98	16,00	3,74	4,28	16,00	4,27	3,75	16,00	4,80	3,33	16,00	5,51	2,91	16,00	6,21	2,58
25	16,00	1,90	8,42	16,00	2,40	6,67	16,00	2,90	5,52	16,00	3,40	4,71	16,00	3,86	4,15	16,00	4,31	3,71

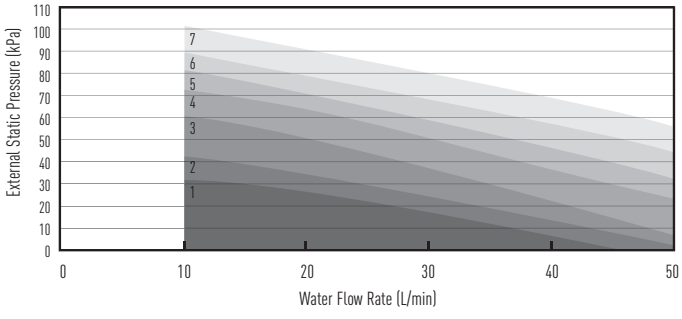
Cooling Capacity Curve

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

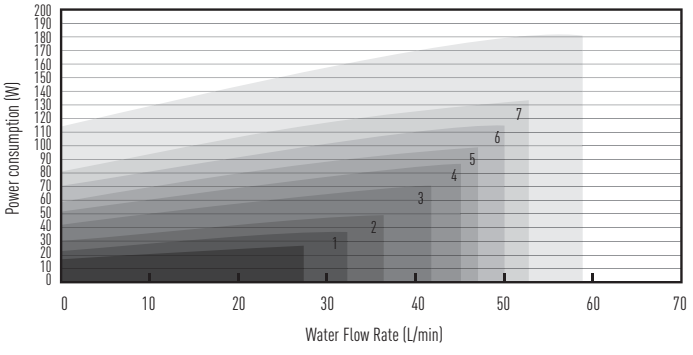
Models	WH-SXC09			WH-SXC12			WH-SXC16		
Tamb	CC	IP	EER	CC	IP	EER	CC	IP	EER
16	7,00	1,36	5,15	7,50	1,41	5,32	9,62	1,59	6,05
25	7,65	1,91	4,01	8,90	2,16	4,12	10,51	2,81	3,74
35	7,00	2,21	3,17	10,00	3,56	2,81	12,20	4,76	2,56
43	6,25	2,66	2,35	8,00	3,01	2,66	10,08	5,43	1,86

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

Hydraulic pump performance of the F type Heat Pumps: A class pump F (5 kW and 16 kW)



Hydraulic pump performance of the F type Heat Pumps: A class pump F (5 kW and 16 kW)



Min | Pump Speed 1 | Pump Speed 2 | Pump Speed 3 | Pump Speed 4 | Pump Speed 5 | Pump Speed 6 | Max

Heating Capacity Curve

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

WH-SHF09F3E5

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55	60	60	60	65	65	65
-15	9,00	3,46	2,60	9,00	3,71	2,43	8,90	4,01	2,22	8,80	4,26	2,07	8,60	4,61	1,87	8,50	4,91	1,73	8,00	5,06	1,58	7,80	5,86	1,33
-7	9,00	3,06	2,94	9,00	3,29	2,74	9,00	3,56	2,53	8,90	3,83	2,32	8,90	4,11	2,17	8,90	4,46	2,00	8,90	4,96	1,79	8,90	5,46	1,63
2	9,00	2,43	3,70	9,00	2,61	3,45	9,00	2,91	3,09	9,00	3,21	2,80	9,00	3,55	2,54	9,00	3,88	2,32	9,00	4,35	2,07	9,00	4,76	1,89
7	9,00	1,82	4,95	9,00	1,94	4,64	9,00	2,21	4,07	9,00	2,46	3,66	9,00	2,76	3,26	9,00	3,12	2,88	9,00	3,46	2,60	9,00	3,96	2,27
25	12,00	1,66	7,23	12,00	1,76	6,82	12,00	2,01	5,97	10,80	2,14	5,05	10,60	2,46	4,31	10,20	2,66	3,83	10,00	2,91	3,44	9,80	3,31	2,96

WH-SHF12F6E5

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55	60	60	60	65	65	65
-15	12,00	5,16	2,33	12,00	5,53	2,17	11,00	5,51	2,00	10,80	5,49	1,97	10,30	5,63	1,83	9,70	5,76	1,68	9,00	6,01	1,50	8,00	6,11	1,31
-7	12,00	4,43	2,71	12,00	4,76	2,52	11,50	4,91	2,34	11,20	5,06	2,21	10,80	5,16	2,09	10,10	5,28	1,91	9,85	5,66	1,74	9,60	5,91	1,62
2	12,00	3,42	3,51	12,00	3,68	3,26	11,50	3,86	2,98	11,30	4,14	2,73	11,00	4,51	2,44	10,80	4,86	2,22	10,65	5,31	2,01	10,30	5,59	1,84
7	12,00	2,52	4,76	12,00	2,69	4,46	12,00	3,06	3,92	12,00	3,44	3,49	12,00	3,81	3,15	12,00	4,28	2,80	12,00	4,86	2,47	12,00	5,41	2,22
25	12,00	1,66	7,23	12,00	1,76	6,82	12,00	2,01	5,97	12,00	2,41	4,98	12,00	2,64	4,55	12,00	2,96	4,05	12,00	3,41	3,52	12,00	3,86	3,11

WH-SHF09F3E8

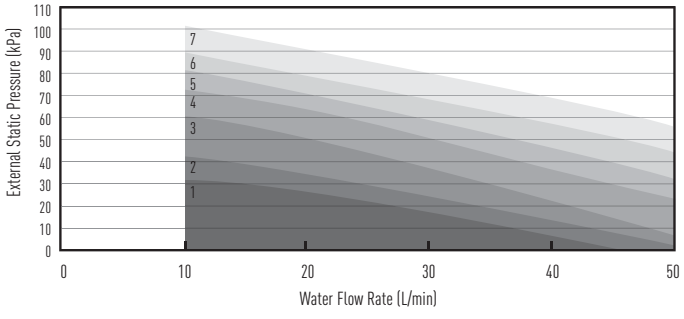
Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55	60	60	60	65	65	65
-15	9,00	3,46	2,60	9,00	3,71	2,43	8,90	4,01	2,22	8,80	4,26	2,07	8,60	4,61	1,87	8,50	4,91	1,73	8,00	5,06	1,58	7,80	5,86	1,33
-7	9,00	3,06	2,94	9,00	3,29	2,74	9,00	3,56	2,53	8,90	3,83	2,32	8,90	4,11	2,17	8,90	4,46	2,00	8,90	4,96	1,79	8,90	5,46	1,63
2	9,00	2,43	3,70	9,00	2,61	3,45	9,00	2,91	3,09	9,00	3,21	2,80	9,00	3,55	2,54	9,00	3,88	2,32	9,00	4,35	2,07	9,00	4,76	1,89
7	9,00	1,82	4,95	9,00	1,94	4,64	9,00	2,21	4,07	9,00	2,46	3,66	9,00	2,76	3,26	9,00	3,12	2,88	9,00	3,46	2,60	9,00	3,96	2,27
25	12,00	1,66	7,23	12,00	1,76	6,82	12,00	2,01	5,97	10,80	2,14	5,05	10,60	2,46	4,31	10,20	2,66	3,83	10,00	2,91	3,44	9,80	3,31	2,96

WH-SHF12F9E8

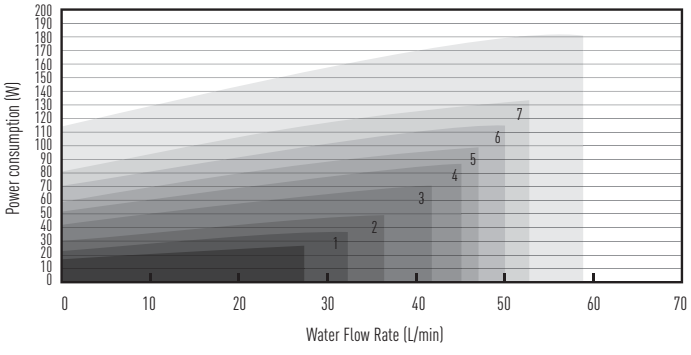
Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55	60	60	60	65	65	65
-15	12,00	5,16	2,33	12,00	5,53	2,17	11,00	5,51	2,00	10,80	5,49	1,97	10,30	5,63	1,83	9,70	5,76	1,68	9,00	6,01	1,50	8,00	6,11	1,31
-7	12,00	4,43	2,71	12,00	4,76	2,52	11,50	4,91	2,34	11,20	5,06	2,21	10,80	5,16	2,09	10,10	5,28	1,91	9,85	5,66	1,74	9,60	5,91	1,62
2	12,00	3,42	3,51	12,00	3,68	3,26	11,50	3,86	2,98	11,30	4,14	2,73	11,00	4,51	2,44	10,80	4,86	2,22	10,65	5,31	2,01	10,30	5,59	1,84
7	12,00	2,52	4,76	12,00	2,69	4,46	12,00	3,06	3,92	12,00	3,44	3,49	12,00	3,81	3,15	12,00	4,28	2,80	12,00	4,86	2,47	12,00	5,41	2,22
25	12,00	1,66	7,23	12,00	1,76	6,82	12,00	2,01	5,97	12,00	2,41	4,98	12,00	2,64	4,55	12,00	2,96	4,05	12,00	3,41	3,52	12,00	3,86	3,11

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

Hydraulic pump performance of the F type Heat Pumps: A class pump F (5 kW and 16 kW)



Hydraulic pump performance of the F type Heat Pumps: A class pump F (5 kW and 16 kW)



Min Pump Speed 1 Pump Speed 2 Pump Speed 3 Pump Speed 4 Pump Speed 5 Pump Speed 6 Max

Heating capacity table based on outlet temperature and outside temperature

Heating Capacity Curve

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

WH-MHF09D3E5

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55	60	60	60	65	65	65
-15	9,00	3,50	2,57	9,00	3,75	2,40	8,90	4,05	2,20	8,80	4,30	2,05	8,60	4,65	1,85	8,50	4,95	1,72	8,00	5,10	1,57	7,80	5,90	1,32
-7	9,00	3,10	2,90	9,00	3,33	2,70	9,00	3,60	2,50	8,90	3,87	2,30	8,90	4,15	2,14	8,90	4,50	1,98	8,90	5,00	1,78	8,90	5,50	1,62
2	9,00	2,47	3,64	9,00	2,65	3,40	9,00	2,95	3,05	9,00	3,25	2,77	9,00	3,59	2,51	9,00	3,92	2,30	9,00	4,39	2,05	9,00	4,80	1,88
7	9,00	1,86	4,84	9,00	1,98	4,55	9,00	2,25	4,00	9,00	2,50	3,60	9,00	2,80	3,21	9,00	3,16	2,85	9,00	3,50	2,57	9,00	4,00	2,25
25	12,00	1,70	7,06	12,00	1,80	6,67	12,00	2,05	5,85	10,80	2,18	4,95	10,60	2,50	4,24	10,20	2,70	3,78	10,00	2,95	3,39	9,80	3,35	2,93

WH-MHF12D6E5

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	30	30	30	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55	60	60	60	65	65	65
-15	12,00	5,20	2,31	12,00	5,57	2,15	11,00	5,55	1,98	10,80	5,53	1,95	10,30	5,67	1,82	9,70	5,80	1,67	9,00	6,05	1,49	8,00	6,15	1,30
-7	12,00	4,47	2,68	12,00	4,80	2,50	11,50	4,95	2,32	11,20	5,10	2,20	10,80	5,20	2,08	10,10	5,32	1,90	9,85	5,70	1,73	9,60	5,95	1,61
2	12,00	3,46	3,47	12,00	3,72	3,23	11,50	3,90	2,95	11,30	4,18	2,70	11,00	4,55	2,42	10,80	4,90	2,20	10,65	5,35	1,99	10,30	5,63	1,83
7	12,00	2,56	4,69	12,00	2,73	4,40	12,00	3,10	3,87	12,00	3,48	3,45	12,00	3,85	3,12	12,00	4,32	2,78	12,00	4,90	2,45	12,00	5,45	2,20
25	12,00	1,70	7,06	12,00	1,80	6,67	12,00	2,05	5,85	12,00	2,45	4,90	12,00	2,68	4,48	12,00	3,00	4,00	12,00	3,45	3,48	12,00	3,90	3,08

WH-MHF09D3E8

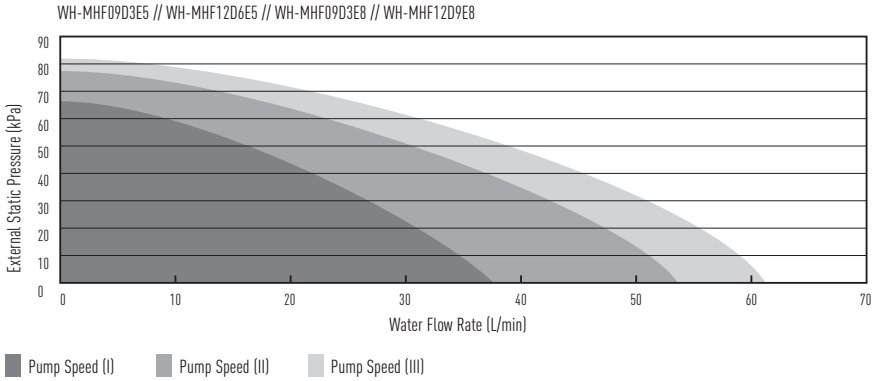
Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	35	35	35	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55	60	60	60	65	65	65
-15	9,00	3,50	2,57	9,00	3,75	2,40	8,90	4,05	2,20	8,80	4,30	2,05	8,60	4,65	1,85	8,50	4,95	1,72	8,00	5,10	1,57	7,80	5,90	1,32
-7	9,00	3,10	2,90	9,00	3,33	2,70	9,00	3,60	2,50	8,90	3,87	2,30	8,90	4,15	2,14	8,90	4,50	1,98	8,90	5,00	1,78	8,90	5,50	1,62
2	9,00	2,47	3,64	9,00	2,65	3,40	9,00	2,95	3,05	9,00	3,25	2,77	9,00	3,59	2,51	9,00	3,92	2,30	9,00	4,39	2,05	9,00	4,80	1,88
7	9,00	1,86	4,84	9,00	1,98	4,55	9,00	2,25	4,00	9,00	2,50	3,60	9,00	2,80	3,21	9,00	3,16	2,85	9,00	3,50	2,57	9,00	4,00	2,25
25	12,00	1,70	7,06	12,00	1,80	6,67	12,00	2,05	5,85	10,80	2,18	4,95	10,60	2,50	4,24	10,20	2,70	3,78	10,00	2,95	3,39	9,80	3,35	2,93

WH-MHF12D9E8

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	35	35	35	35	35	35	40	40	40	45	45	45	50	50	50	55	55	55	60	60	60	65	65	65
-15	12,00	5,20	2,31	12,00	5,57	2,15	11,00	5,55	1,98	10,80	5,53	1,95	10,30	5,67	1,82	9,70	5,80	1,67	9,00	6,05	1,49	8,00	6,15	1,30
-7	12,00	4,47	2,68	12,00	4,80	2,50	11,50	4,95	2,32	11,20	5,10	2,20	10,80	5,20	2,08	10,10	5,32	1,90	9,85	5,70	1,73	9,60	5,95	1,61
2	12,00	3,46	3,47	12,00	3,72	3,23	11,50	3,90	2,95	11,30	4,18	2,70	11,00	4,55	2,42	10,80	4,90	2,20	10,65	5,35	1,99	10,30	5,63	1,83
7	12,00	2,56	4,69	12,00	2,73	4,40	12,00	3,10	3,87	12,00	3,48	3,45	12,00	3,85	3,12	12,00	4,32	2,78	12,00	4,90	2,45	12,00	5,45	2,20
25	12,00	1,70	7,06	12,00	1,80	6,67	12,00	2,05	5,85	12,00	2,45	4,90	12,00	2,68	4,48	12,00	3,00	4,00	12,00	3,45	3,48	12,00	3,90	3,08

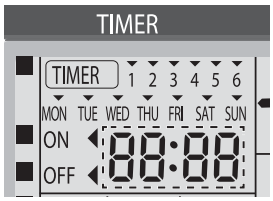
Tamb: Ambient Temperature (°C). LWC: Leaving Water Condenser Temperature (°C). HC: Heating capacity (kW). IP: Power Input (kW)
This data is measured by Panasonic in accordance with EN14511-2 standard. This data is for reference purpose only, and does not guarantee the performance.

Hydraulic Pump Performance



Error Codes

The operation led blinks and an error code appears on the control panel display.



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

Force Heater mode button

FORCE

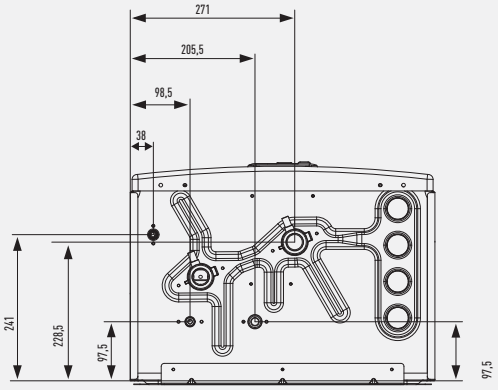
- The backup heater also serves as backup in case of malfunctioning of the outdoor unit.
- Press OFF/ON to stop the force heater operation.
- During Force Heater mode, all other operations are not allowed.

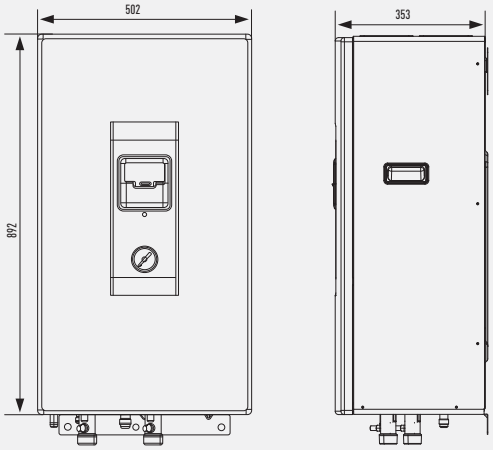
Error Code List

Diagnosis display	Abnormality / Protection control	Abnormality Judgement	Primary location to verify
H00	No abnormality detected	—	—
H12	Indoor/Outdoor capacity unmatched	90s after power supply	· Indoor/outdoor connection wire · Indoor/outdoor PCB · Specification and combination table in catalogue
H15	Outdoor compressor temperature sensor abnormality	Continue for 5 sec.	· Compressor temperature sensor (defective or disconnected)
H23	Indoor refrigerant liquid temperature sensor abnormality	Continue for 5 sec.	· Refrigerant liquid temperature sensor (defective or disconnected)
H38	Indoor/Outdoor mismatch	—	· Indoor/Outdoor PCB
H42	Compressor low pressure abnormality	—	· Outdoor pipe temperature sensor · Clogged expansion valve or strainer · Insufficient refrigerant · Outdoor PCB · Compressor
H62	Water flow switch abnormality	Continue for 1 min.	· Water flow switch
H64	Refrigerant high pressure abnormality	Continue for 5 sec.	· Outdoor high pressure sensor (defective or disconnected)
H70	Back-up heater OLP abnormality	Continue for 60 sec.	· Back-up heater OLP (Disconnection or activated)
H72	Tank sensor abnormal	Continue for 5 sec.	· Tank sensor
H76	Indoor - control panel communication abnormality	—	· Indoor - control panel (defective or disconnected)
H90	Indoor / outdoor abnormal communication	> 1 min after starting operation	· Internal / external cable connections · Indoor / Outdoor PCB
H91	Tank heater OLP abnormality	Continue for 60 sec.	· Tank heater OLP (Disconnection or activated)
H95	Indoor/Outdoor wrong connection	—	· Indoor/Outdoor supply voltage
H98	Outdoor high pressure overload protection	—	· Outdoor high pressure sensor · Water pump or water leakage · Clogged expansion valve or strainer · Excess refrigerant · Outdoor PCB
H99	Indoor heat exchanger freeze prevention	—	· Indoor heat exchanger · Refrigerant shortage
F12	Pressure switch activate	4 times occurrence within 20 minutes	· Pressure switch
F14	Outdoor compressor abnormal revolution	4 times occurrence within 20 minutes	· Outdoor compressor
F15	Outdoor fan motor lock abnormality	2 times occurrence within 30 minutes	· Outdoor PCB · Outdoor fan motor
F16	Total running current protection	3 times occurrence within 20 minutes	· Excess refrigerant · Outdoor PCB
F20	Outdoor compressor overheating protection	4 times occurrence within 30 minutes	· Compressor tank temperature sensor · Clogged expansion valve or strainer · Insufficient refrigerant · Outdoor PCB · Compressor
F22	IPM (power transistor) overheating protection	3 times occurrence within 30 minutes	· Improper heat exchange · IPM (Power transistor)
F23	Outdoor Direct Current (DC) peak detection	7 times occurrence continuously	· Outdoor PCB · Compressor
F24	Refrigeration cycle abnormality	2 times occurrence within 20 minutes	· Insufficient refrigerant · Outdoor PCB · Compressor low compression
F25	Cooling / Heating cycle changeover abnormality	4 times occurrence within 30 minutes	· 4-way valve · V-coil
F27	Pressure switch abnormality	Continue for 1 min.	· Pressure switch
F36	Outdoor air temperature sensor abnormality	Continue for 5 sec.	· Outdoor air temperature sensor (defective or disconnected)
F37	Indoor water inlet temperature sensor abnormality	Continue for 5 sec.	· Water inlet temperature sensor (defective or disconnected)
F40	Outdoor discharge pipe temperature sensor abnormality	Continue for 5 sec.	· Outdoor discharge pipe temperature sensor (defective or disconnected)
F41	PFC control	4 times occurrence within 10 minutes	· Voltage at PFC
F42	Outdoor heat exchanger temperature sensor abnormality	Continue for 5 sec.	· Outdoor heat exchanger temperature sensor (defective or disconnected)
F43	Outdoor defrost sensor abnormality	Continue for 5 sec.	· Outdoor defrost sensor (defective or disconnected)
F45	Indoor water outlet temperature sensor abnormality	Continue for 5 sec.	· Water outlet temperature sensor (defective or disconnected)
F46	Outdoor Current Transformer open circuit	—	· Insufficient refrigerant · Outdoor PCB · Compressor low
F95	Cooling high pressure overload protection	—	· Outdoor high pressure sensor · Water pump or water leakage · Clogged expansion valve or strainer · Excess refrigerant · Outdoor PCB
F48	Outdoor EVA outlet temperature sensor abnormality	Continue for 5 sec.	· Outdoor EVA outlet temperature sensor (detective or disconnected)
F49	Out bypass outlet temperature sensor abnormality	Continue for 5 sec.	· Outdoor bypass outlet temperature sensor (detective or diconnected)

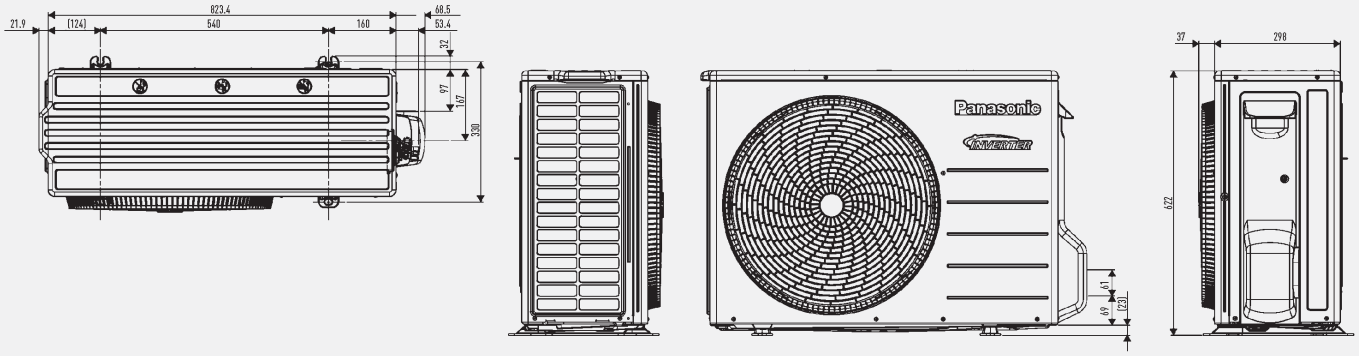
Dimensions

Hydraulic Module for all models

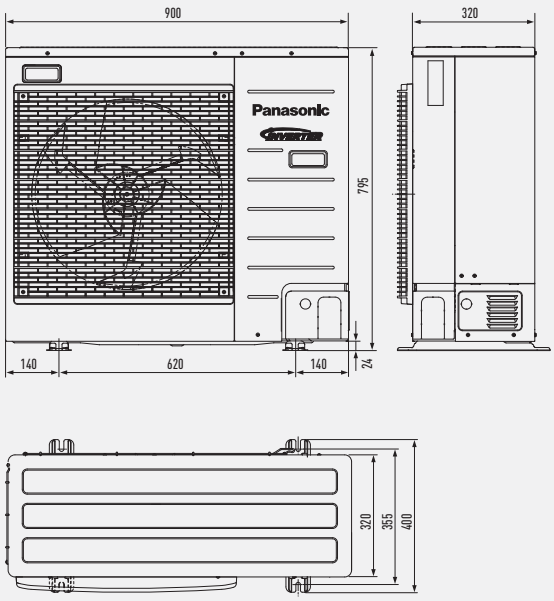




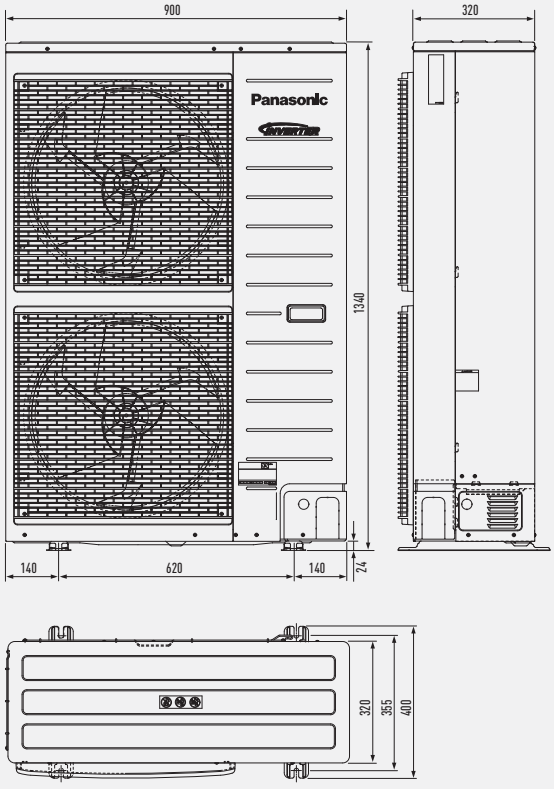
Bi-Bloc 3 and 5kW



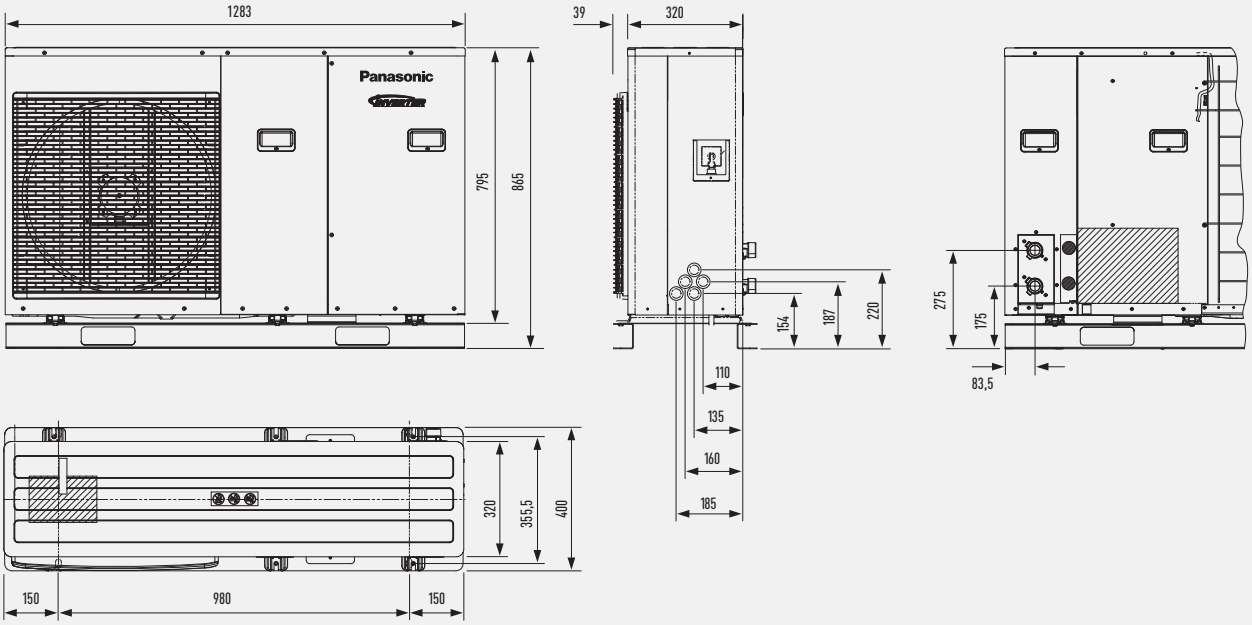
One fan outdoor unit



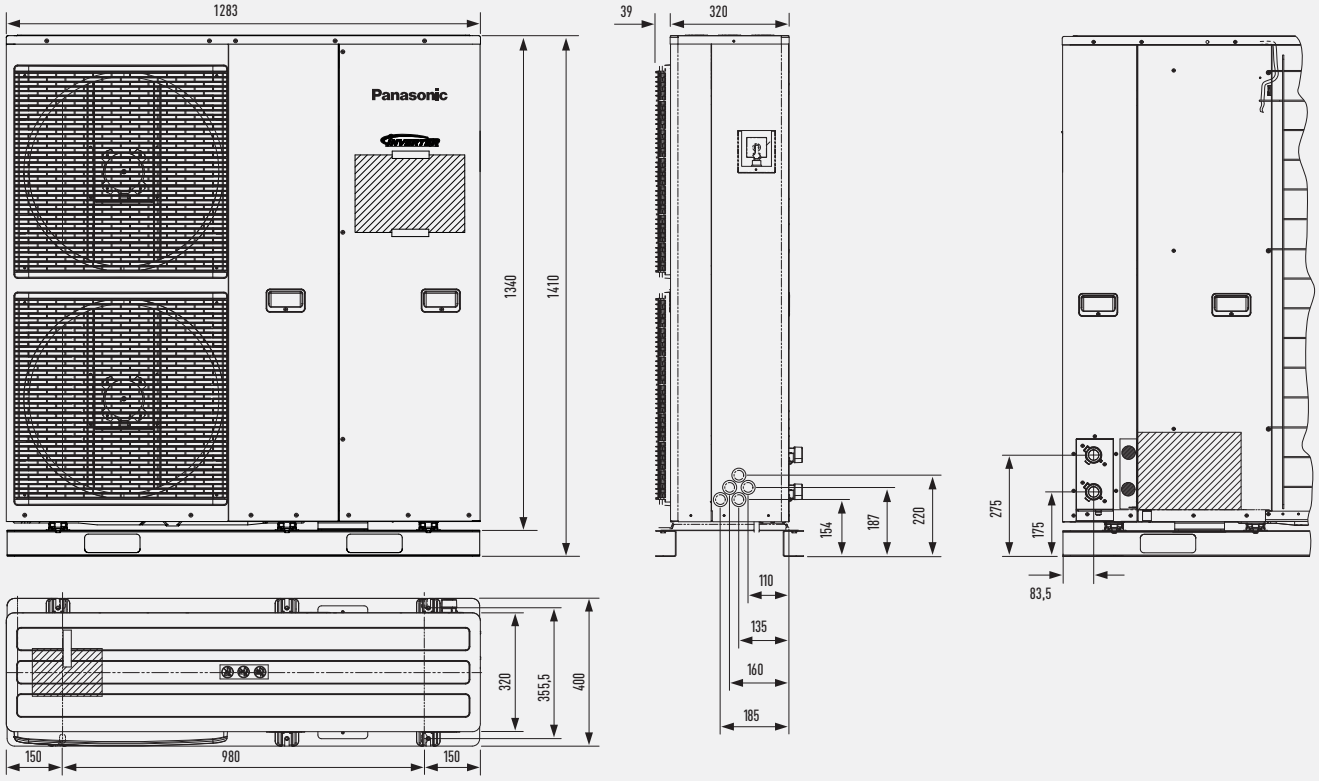
Two fans outdoor unit



Mono-Bloc 6 and 9kW



Mono-Bloc 9 to 16kW



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.

Panasonic®

To find out how Panasonic cares for you, log on to: www.aircon.panasonic.eu

Panasonic Marketing Europe GmbH
Panasonic Air Conditioning
Hagenauer Strasse 43, 65203 Wiesbaden, Germany