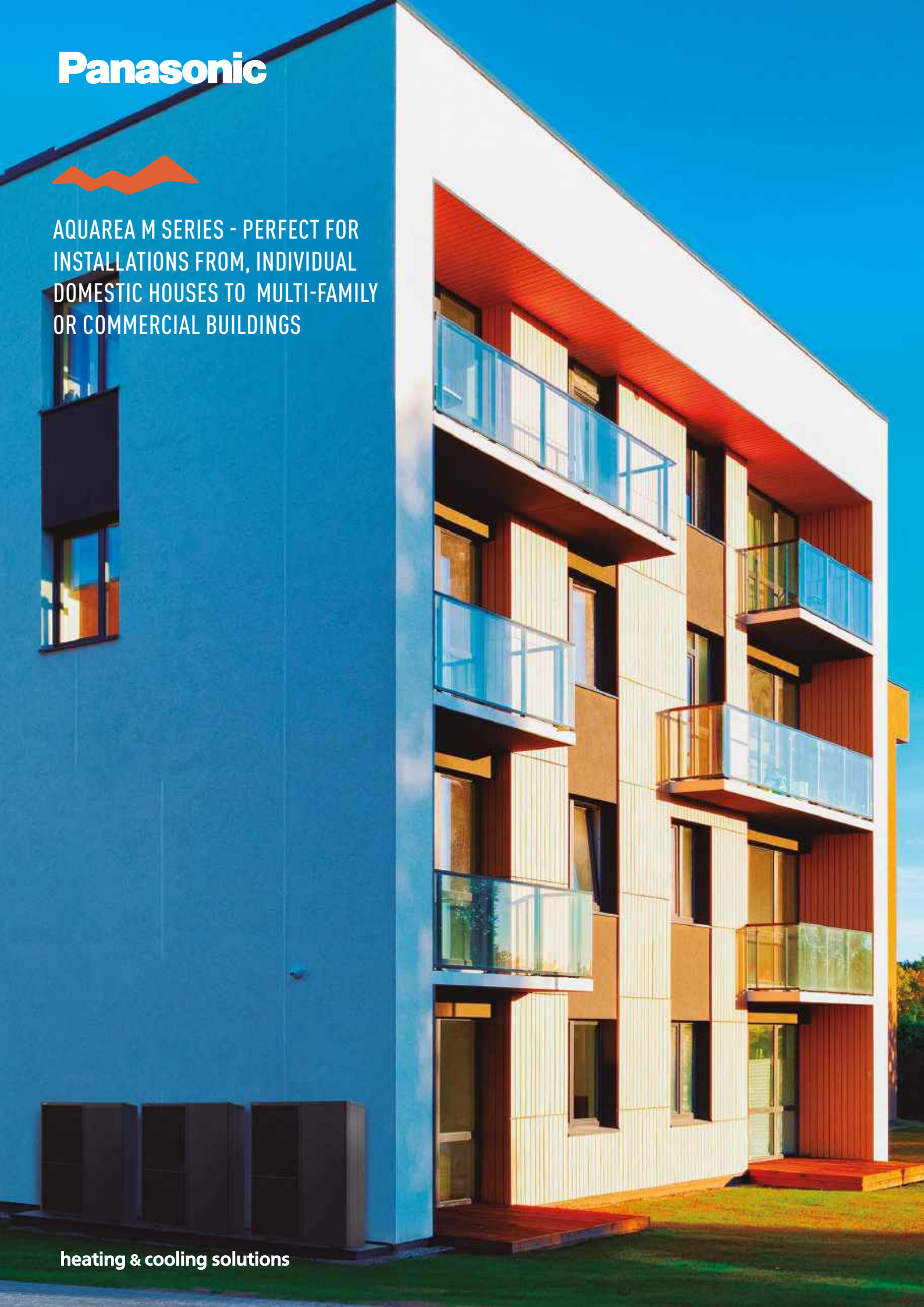
Panasonic

AQUAREA M SERIES - PERFECT FOR INSTALLATIONS FROM, INDIVIDUAL DOMESTIC HOUSES TO MULTI-FAMILY OR COMMERCIAL BUILDINGS



heating & cooling solutions

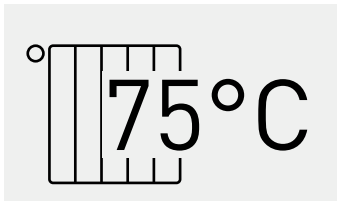
Panasonic introduces Aquarea M, the 2nd Series of air to water heat pumps with R290

Aquarea air to water heat pumps with R290 refrigerant range is a groundbreaking low energy system for heating, cooling and domestic hot water production that delivers outstanding performance, aligning with our vision of a carbon-free society and our GREEN IMPACT plan.

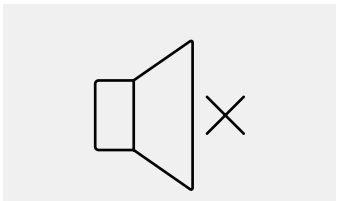
R290
NATURAL REFRIGERANT

3 Global Warming Potential

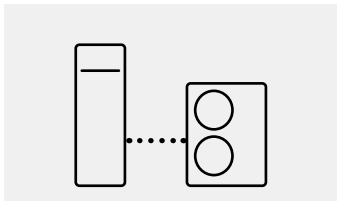
With sustainability at the forefront of its innovations, Panasonic's newest series are engineered with industry leading natural refrigerant R290, which has a low Global Warming Potential (GWP) of just 3, helping reduce CO_2 emissions and environmental impact.



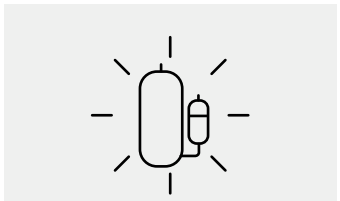
Output water.
Up to 75 °C water outlet down to -15 °C outdoor.



Quiet operation.
Only 27 dB(A) sound pressure at 5m.



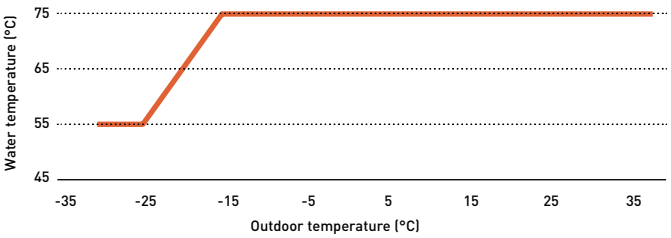
Flexible hydraulic installation.
Hydraulic connection between indoor and outdoor.



Made and designed by Panasonic.
Reliable outdoor units with Panasonic compressor.

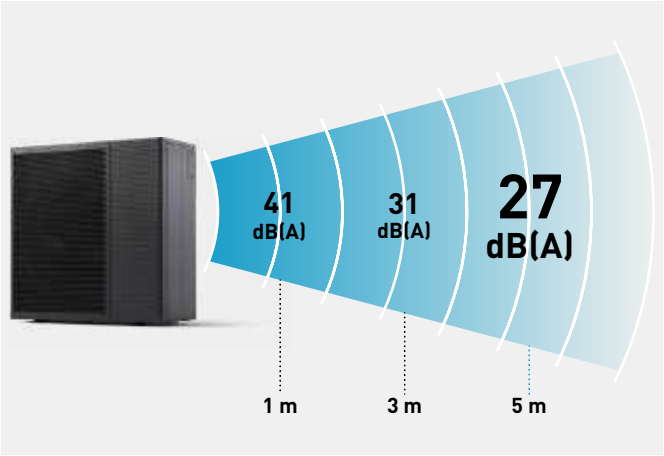
Output water. High performance under extreme conditions

Excellent solution for heating system retrofit.
The compressor operates without backup heating down to -28 °C ambient temperatures, and can be integrated alongside existing radiators with a high-water flow temperature of up to 75 °C at -15 °C outside temperature. Even at -28 °C outside temperature, it can supply hot water at 55 °C.



Sterilisation process without heater.
It can also reach a domestic hot water temperature of up to 65 °C without the use of the electric heater, so the tank sterilisation can be performed by the heat pump compressor only.

Quiet operation. Panasonic's unique low noise architecture



Flexible hydraulic installation

The installation of the system is 100% hydraulic, with only water pipes between the outdoor unit and the interior of the home.

Aquarea T-CAP M Series from 9 to 30 kW.

Wi-Fi adapter included

* Check availability of units and combinations.

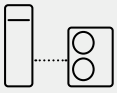
Output water.

Up to 75 °C water outlet down to -15 °C outdoor.

Quiet operation.

Only 29 dB(A) sound pressure at 5 m*.

* Sound pressure calculation for WH-WXG12ME5, free standing, A +7 °C, W 35 °C in Quite mode 3.



Flexible hydraulic installation.

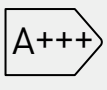
Hydraulic connection between indoor and outdoor.

Made and designed by Panasonic.

Reliable outdoor units with Panasonic compressor.

Panasonic Comfort Cloud App and Aquarea Service Cloud included.

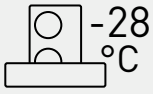
Smart control and maintenance.



High efficiency.

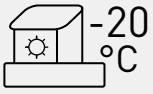
ErP 35 °C.
Energy efficiency class up to A+++*.

* Scale from A+++ to D.



Extreme conditions.

Compressor operating down to -28 °C outdoor temperatures.



T-CAP.

Keeping heating capacity down to -20 °C.

Flexible installation, suitable for retrofit and new buildings.

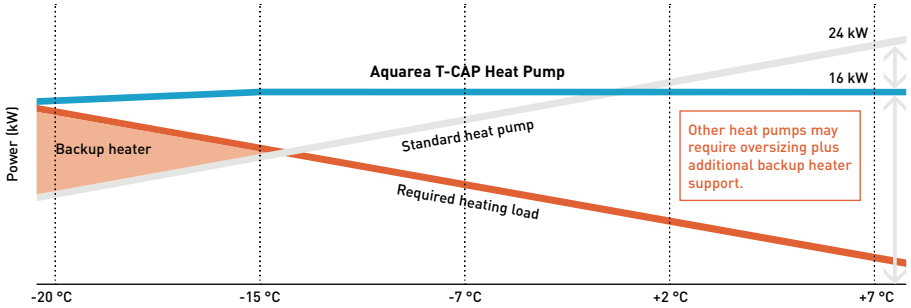
Thanks to its new, modular concept, the outdoor unit can function independently with just an indoor remote control, for those seeking basic functionalities. Homeowners can opt for enhanced functionality by incorporating the more advanced control module or selecting between a Bi-bloc or All in One indoor units.

	Remote controller	Control module	Bi-bloc	All in One
CN-CNT	✔ (1)	✔ (2)	✔ (2)	✔ (2)
Backup heater	—	Field supply	✔	✔
Expansion vessel (10 L)	—	—	✔	✔
Additional functions	—	CZ-NS7P	CZ-NS6P	CZ-NS6P

Aquarea T-CAP, high performance whatever the climate

With Aquarea T-CAP technology and the new compressor with Injection technology, Panasonic heat pumps can work in outdoor temperatures as low as -28 °C and maintain capacity without backup heating at -20 °C*.

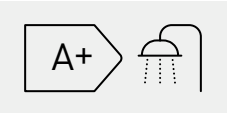
1) 35 °C flow temperature.



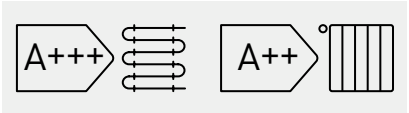
High energy efficiency in heating and domestic hot water

The Aquarea M Series saves energy and significantly reduces operating cost by achieving the highest ErP energy rating.
Aquarea M Series can reach a domestic hot water temperature of up to 65 °C without the use of the electric heater, so the tank sterilisation can be performed with the heat pump operation for further energy savings.

* 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. Energy rating for WH-WXG12ME8.



Energy efficiency class up to A+.
Scale from A+ to F.



ErP 35 °C / 55 °C. Energy efficiency class up to A+++/A++.
Scale from A+++ to D.

Reliable technology.

The outdoor units are equipped with a Panasonic R290 scroll compressor. The compressor is manufactured in-house with T-CAP technology including injection.
The outdoor heat exchanger is protected with a Bluefin treatment for harsh ambient conditions.

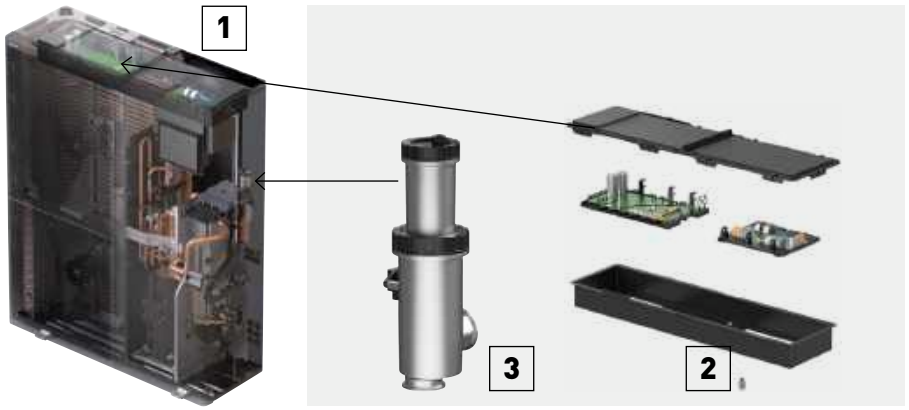
Great serviceability

Cutting-edge outdoor unit design keeps the PCB in a safe and accessible location.

Aquarea M Series safety optimisation.

1 | Non-flammable control box
2 | Power box cable gland with sealed connections
3 | Air/refrigerant separator

* This image applies to 9, 12 and 16 kW.

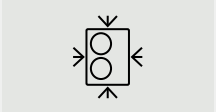


Big Aquarea T-CAP M Series, the ideal solution for centralised & decentralised heating and DHW installations.

The new Big Aquarea M Series offers a flexible, compact and energy-efficient solution for central heating and/or domestic hot water installations in multi-family or commercial buildings.

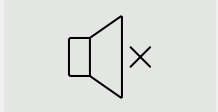
The solution is suitable for both new buildings and retrofits, as it offers a sustainable alternative to traditional fossil fuel heating systems and it can be easily integrated with existing water system such as fan coils, floor heating or domestic hot water tanks.

Up to 300 kW in cascade.



Compact solution with small footprint.

Keeping capacity at 55 °C water outlet down to -15 °C outdoor.



Quiet operation.

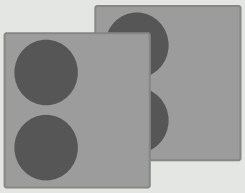
Panasonic Inverter compressor.

DHW at 65 °C with compressor only.

- **Units from 20 to 30 kW, up to 300 kW in cascade**
- **Easy replacement of other heating sources**
- **Flexible control options: remote control only or control module for enhanced functionality**
- **Seamless Modbus integration**
- **Designed to blend with architecture and environment**

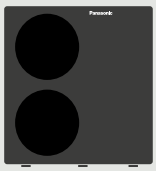
Maintains kW capacity output.
Time-saving installation.
Cost-saving.
Space-saving.

2x 20 kW
standard heat pump



Conventional cascade system

1x 30 kW
Big Aquarea T-CAP



New Panasonic Aquarea T-CAP M Series

For 30 kW demand at 55 °C water outlet and -7 °C outdoor temperature.

Advanced remote controller

Aquarea remote controller is designed in harmony with the whole system, with optimised user interface and improved features.
The remote controller can be removed from the indoor unit and installed in the living room.

M Series remote controller.
Dual controller system: A dual controller system for independent control of two zones within the home (requires additional remote controller CZ-RTW2 for M Series).

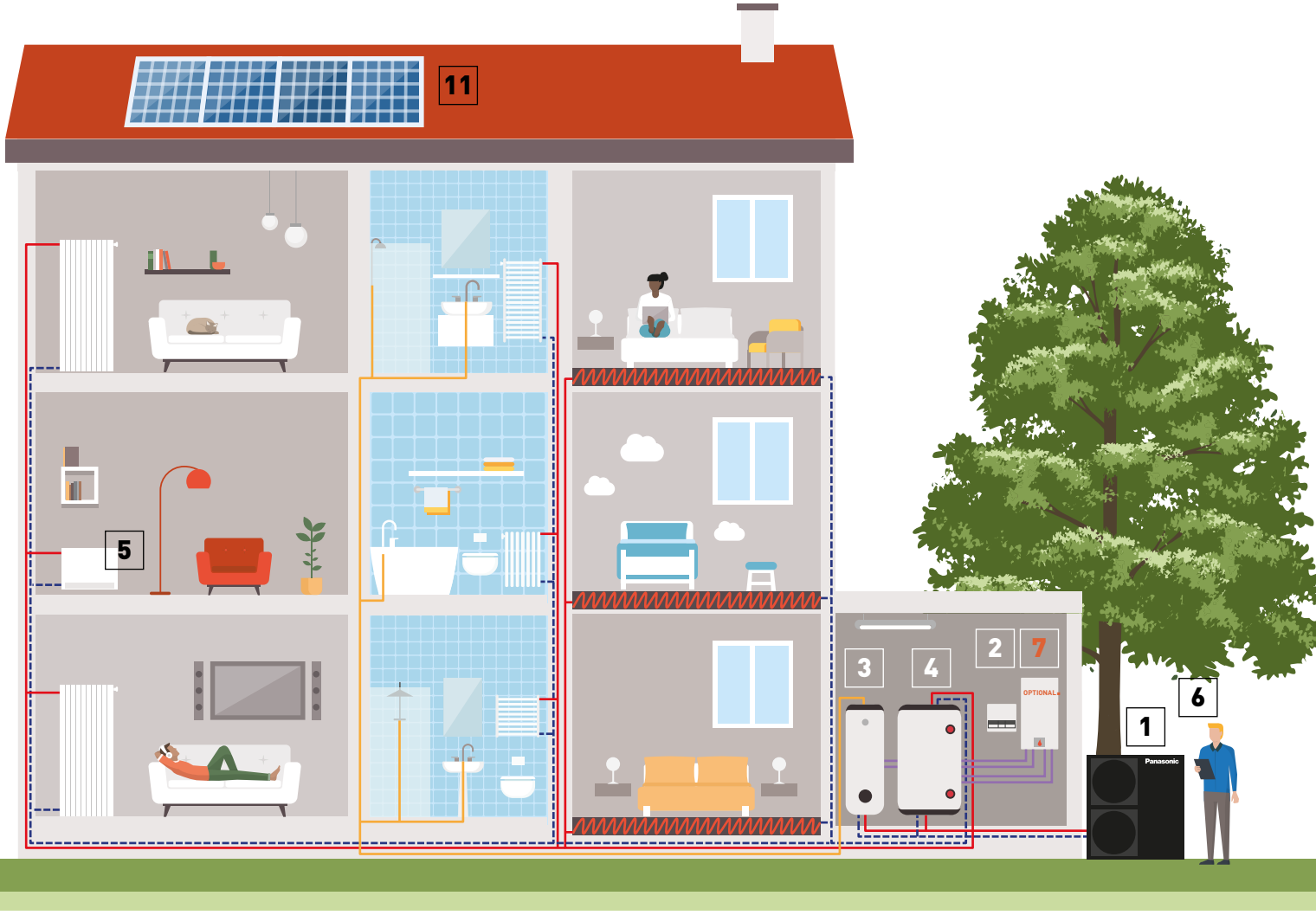
Installer functions:
System setup, operation setup (including heating / cooling modes, ΔT setup), dry concrete mode and cost-effective bivalent mode*, among others.

* Only for K, L and M Series.

End user functions:
Mode selection (including auto, powerful and quiet modes), weekly timer and energy monitoring,among others.

Big Aquarea for centralised heating and DHW installations in multi-family or commercial buildings

The new Big Aquarea M Series offers a flexible, compact and energy-efficient solution for central heating and/or domestic hot water installations in multi-family or commercial buildings.



1

Big Aquarea T-CAP M Series.
25 kW heat pumps in cascade, for a space-saving solution.
It can replace an old fossil fuel boiler.

2

M Series control module.
The control module allows for enhanced control functionality. Operation with the remote controller only is also possible.

3

High efficiency DHW tank.
A high efficiency tank provides the required volume of hot water, at the correct temperature, reducing energy costs.

4

Buffer tank.
Aquarea Heat Pumps can be integrated into a new or existing water system.

5

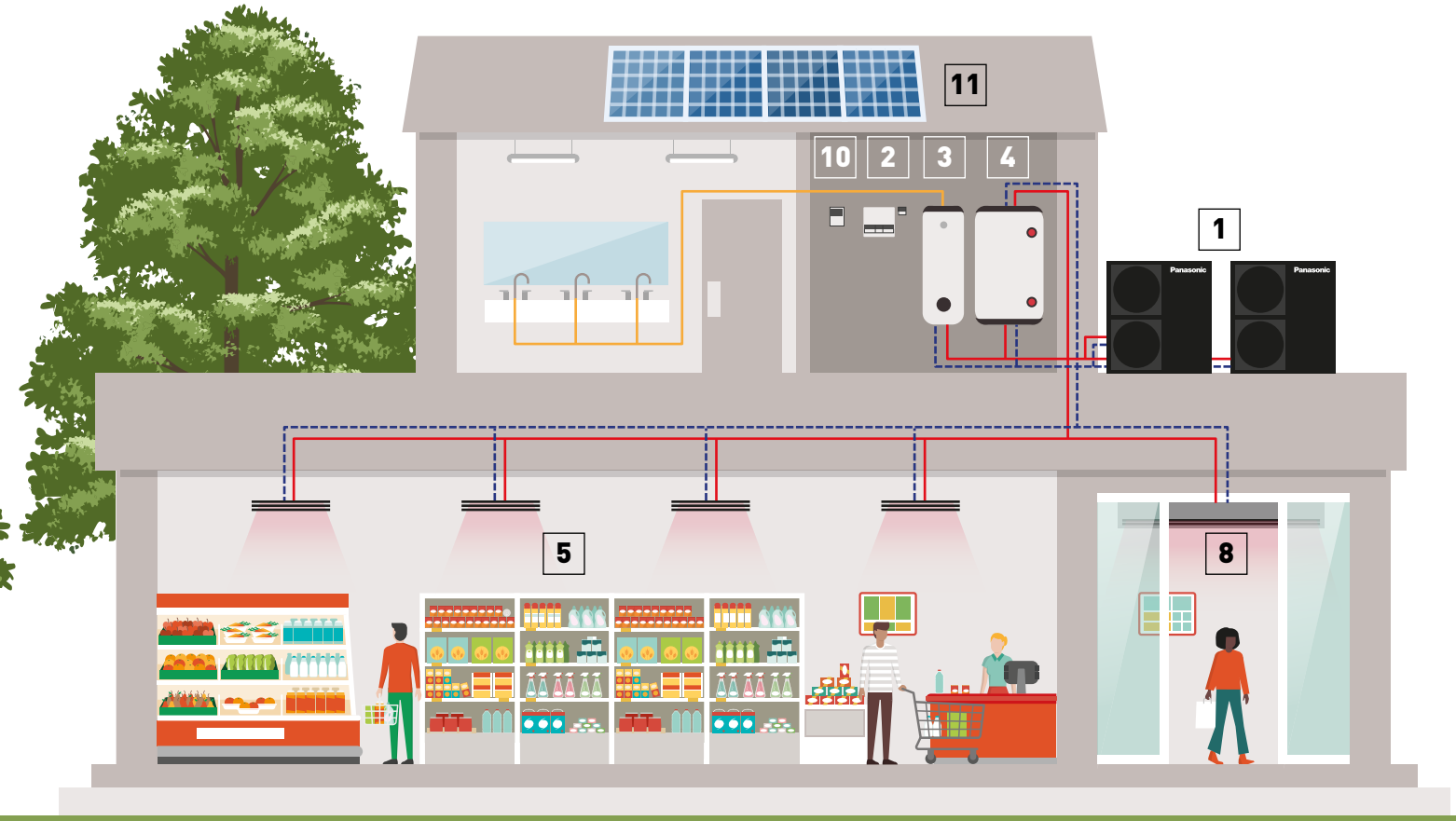
Fan coils, radiators or floor heating.
Aquarea Heat Pumps can be integrated into a new or existing water system.

6

Aquarea Smart and Service Cloud.
This IoT solution provides powerful and user-friendly management and monitoring of Aquarea Heat Pumps and enables remote maintenance.

A revolution in the design, performance, connectivity, and sustainability.

- **Scalable solution, from 9kW to 300 kW in cascade**
- **Suitable for new build and retrofit**
- **Up to 75 °C water outlet down to -15 °C**
- **Easy replacement of other heating sources and integration into existing water systems**
- **Quiet operation**
- **Maintains output at 55 °C down to -15 °C**
- **Hot water production at 65 °C with compressor only**
- **Flexible control options and seamless Modbus integration**



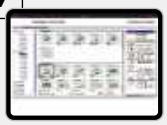
7

OPTIONAL.
Bivalent mode.
Cost-effective bivalent mode with energy tariff logic when combined with a boiler.

8

Air Curtain with water Coil.
Water coil air curtains can be used in the hydraulic system to have efficient performance of the water system.

9



BMS integration.
The system can be easily integrated into a Modbus project with the optional accessory.

10

Cascade manager.
Manages up to 10 Aquarea Heat Pumps, balancing working hours, can control up to 2 buffer tanks and integrates PV, among others.

11

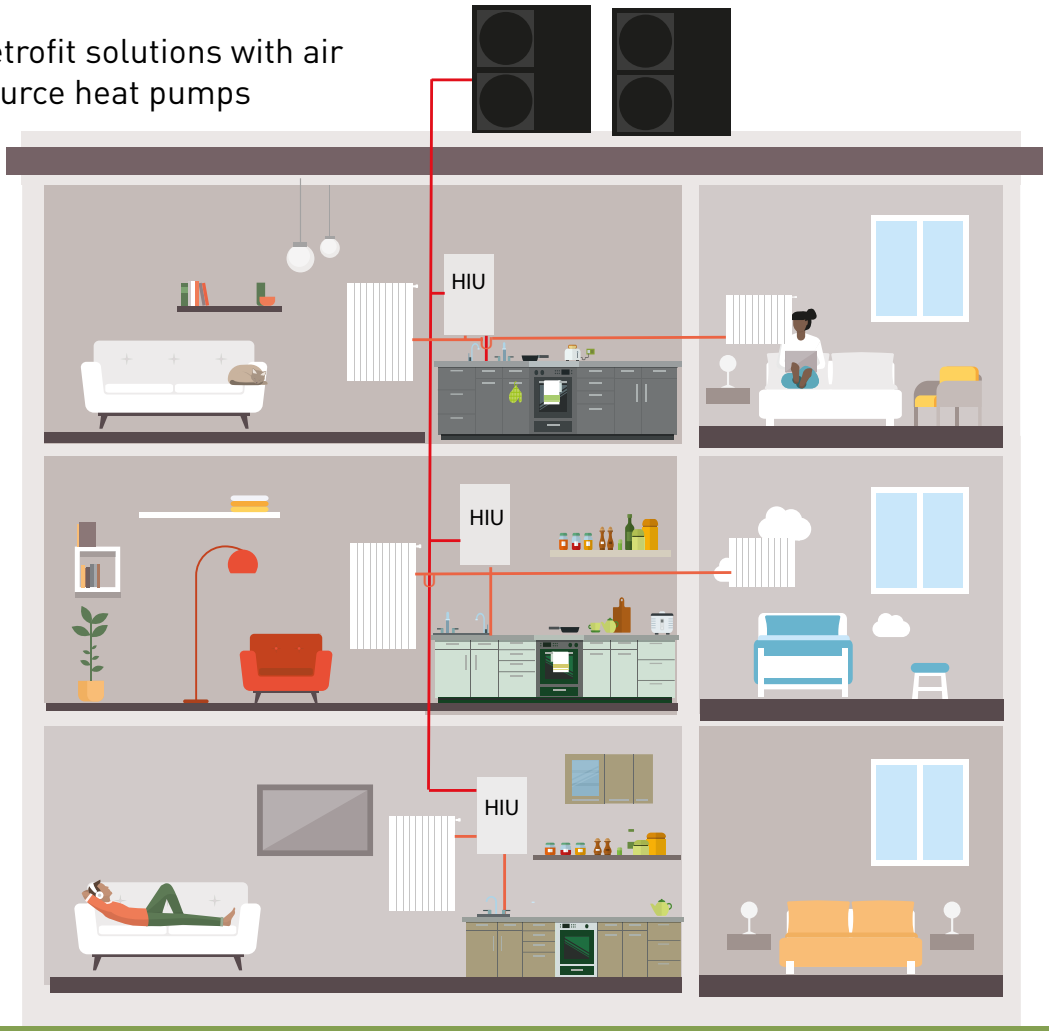
Photovoltaics.
Thanks to the integration with PV, the demand or power consumption for heating or hot water production is adapted to the PV production.

Burger & Lobster restaurant. Bath, UK.
Panasonic's air to water Aquarea system has been installed in the latest glamorous Burger & Lobster restaurant in Bath. The Octagon Chapel, a large listed building in the city centre, was converted to accommodate the restaurant, and Panasonic's Aquarea system provided an extensive, energy efficient and unobtrusive heating and cooling solution.

Big Aquarea for decentralised heating and DHW installations in multi-family or commercial buildings

The latest Big Aquarea M Series provides a versatile, and energy-efficient option for decentralised heating and/or domestic hot water setups in multi-family or commercial buildings.

Retrofit solutions with air source heat pumps



Available with or without buffer tank and/or circulating pump.

PCBs for additional functions

CZ-NS6P: M Series All in One and Bi-bloc.
CZ-NS7P: M Series control module.
The optional PCB enables additional control functions for Aquarea Heat Pumps.
Functions available through the connection of the Optional PCB to the Main PCB:

- 2-zone control, with 2 mixing valves, 2 pumps and 2 room thermostats or sensors
- Control of swimming pool
- Solar thermal control
- External error signal output
- 0-10 V signal for heat pump demand control
- SG ready [1)]
- Stop compressor by external compressor switch
- Switch heating and cooling by external heat-cool switch

Cascade manager

PAW-A2W-CMH-2

- Cascade up to 10 heat pumps, getting up to 300 kW
- Manages the heat demand based on a PID logic, balancing working hours
- Can control 3 way valves for cooling (2 buffer tanks)
- Heating / cooling 0-10 V demand signal – controls target outlet temperature
- DHW control
- Energy meters compatibility
  - Meters communication with Modbus RTU
  - Pre-configuration of 4 market popular meters
- BMS integration. LAN-Port settings with fixed IP and DHCP
- Optimised De-icing function
- Large, easy-to- use touch screen display, providing intuitive control
- All components in one case

* Requires 1 PAW-AW-MBS-H per each Aquarea.

NEW Aquarea T-CAP Hydraulic M Series Single phase / Three phase. Heating and Cooling · R290

Natural refrigerant R290 with GWP 3.
Energy efficiency: A+++ in heating at 35 °C / Built-in flow meter.
Flexibility: Hydraulic connection between indoor and outdoor / Built-in magnetic water filter.
Comfort: Constant capacity down to -20 °C / Operation down to -28 °C / 75 °C water temperature at -15 °C outside / 55 °C hot water even at -25 °C outside temperature / Low noise level.
Control: Optimised user interface and improved features (2 zone control, bivalent control).

Tentative data

Combination table

Indoor unit		Backup heater capacity	DHW tank capacity		Outdoor unit: Heating capacity: Single phase (power to indoor) 9,0 kW WXG09ME5	Single phase (power to indoor) 12,0 kW WXG12ME5	Three phase 9,0 kW WXG09ME8	Three phase 12,0 kW WXG12ME8	Three phase 16,0 kW WXG16ME8	Three phase 20,0 kW WXG20ME8	Three phase 25,0 kW WXG25ME8	Three phase 30,0 kW WXG30ME8
Hydraulic All in One*	1ph	3 kW	185 L	**WH-ADC0316M3E5UK2**	✔	✔	—	—	—	—	—	—
Control module	1ph	—	—	**WH-CME5**	✔	✔	—	—	—	—	—	—
	3ph	—	—	**WH-CME8**	✔	✔	✔	✔	✔	—	—	—
	3ph	—	—	**WH-CME8L**	—	—	—	—	—	✔	✔	✔
Remote controller	—	—	—	**CZ-RTW2TAW1C**	✔	✔	✔	✔	✔	✔	✔	✔

When you are ordering the outdoor unit, you must select one of the following indoor models; WH-ADC0316M3E5UK2, WH-CME5, WH-CME8, WH-CME8L or CZ-RTW2TAW1C. (ticked under the outdoor unit reference model).

Outdoor unit		Heating capacity / COP A +7 °C, W 35 °C	Heating capacity / COP A +7 °C, W 55 °C	Cooling capacity / EER A 35 °C, W 18 °C	SCOP W 35 °C / W 55 °C	Energy class (heating) W 35 °C / W 55 °C	Piping information: Pipe length range (std / max)	Piping information: Elevation difference (in / out)	Sound power [1] Heat	Dimension H x W x D	Weight
		kW/COP	kW/COP	kW/EER		A+++ to D	m	m	dB(A)	mm	kg
1ph	**WH-WXG09ME5**	9,00/5,03	9,00/3,08	9,00/4,63	**4,96/3,57**	**A+++ / A++**	5/30	30	52	1520 x 1200 x 430	165
	WH-WXG12ME5	12,00/5,15	12,00/3,35	12,00/3,80	**5,00/3,83**	**A+++ / A+++**	5/30	30	53	1520 x 1200 x 430	165
3ph	**WH-WXG09ME8**	9,00/5,03	9,00/3,08	9,00/4,63	**4,96/3,57**	**A+++ / A++**	5/30	30	52	1520 x 1200 x 430	165
	WH-WXG12ME8	12,00/5,15	12,00/3,35	12,00/3,80	**5,00/3,83**	**A+++ / A+++**	5/30	30	53	1520 x 1200 x 430	165
	WH-WXG16ME8	16,00/4,70	16,00/2,86	16,00/3,75	**4,46/3,31**	**A++ / A++**	5/30	30	57	1520 x 1200 x 430	165
	WH-WXG20ME8									1665 x 1380 x 460	220
	WH-WXG25ME8	25,00/4,91	25,00/3,35	—/—	**—/—**	**—/—**	—/—	—	70	1665 x 1380 x 460	220
	WH-WXG30ME8									1665 x 1380 x 460	220

Indoor unit		Water volume	DHW tank ERP Energy class [2]	Piping information: Water pipe connector Room	Shower	In / out	Electrical information: Electric backup heater	Recommended RCD, supply 1 / 2	Recommended minimum cable size, supply 1 / 2 [3]	Dimension H x W x D	Weight
		L	A+ to F	Inch	Inch	Inch	kW	A	mm²	mm	kg
All in One											
1ph	**WH-ADC0316M3E5UK2**	185	**A+**	1¼	¾	1/1	3,00	25/16	3x2,5/3x1,5	1642 x 599 x 602	98

Control module		Recommended fuse	Recommended minimum cable size, supply 1 / 2 [3]	Dimension H x W x D	Weight
		A	mm²	mm	kg
1ph	**WH-CME5**	20	3x1,5	450 x 450 x 117	7
3ph	**WH-CME8**	20	3x1,5	450 x 450 x 117	7
	WH-CME8L	—	—	450 x 540 x 117	—

R290 · A++ ErP 55°C · A+++ ErP 35°C · A+ DHW · INVERTER+ · A CLASS WATER PUMP AUTO SPEED · DHW · -28 °C HEATING MODE · WATER FILTER WITH MAGNET · 75°C OUTPUT WATER FLOW TEMPERATURE · FLOW SENSOR · BOILER CONNECTION · WI-FI INCLUDED · BMS CONNECTIVITY

DHW A+: For All in One. INTERNET CONTROL: Wi-Fi adapter included.

Aquarea Smart Cloud for the end user

The IoT solution to help maximise comfort while managing energy consumption. Energy savings, comfort and control from anywhere. Aquarea Smart Cloud provides a powerful and user-friendly service for the management and monitoring of Aquarea Heat Pumps for the end users and enables remote maintenance by service partners.

WATCH DEMO

Remote control from anywhere, anytime

Aquarea Smart Cloud provides a powerful and user-friendly service for the management and monitoring of Aquarea's heating, cooling and hot water functions, including scheduling and malfunction notification.

Easy and powerful energy management

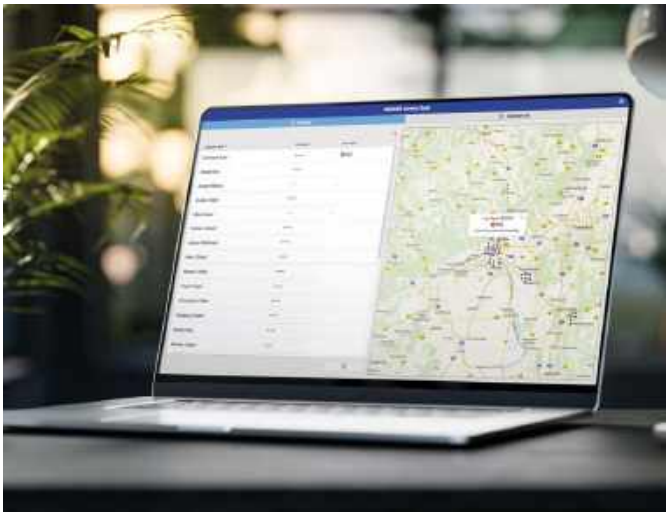
Monitor the energy consumption of the Aquarea Heat Pump at different time intervals by comparing the energy usage patterns to maximise energy savings.

Requirements

1 | Aquarea H Series or later
2 | Cloud adapter CZ-TAW1C
3 | In-house WLAN or Wi-Fi internet connection
4 | Smartphone, PC or tablet with internet connection

Aquarea Service Cloud

With the Aquarea Service Cloud, installers can remotely take care of their customers' heating systems.



Time and cost saving.

Remote system adjustment. Remote diagnosis. One visit, spare part in hand.

Increased customer satisfaction.

Faster service. Time saving (less number of visits).

The real remote maintenance made simple

- Global view at a glance
- Heat pump information and settings
- Error log history
- Statistics always available

Home page.
Status of connected users at a glance. 2 view options: map view or list view.

Status tab.
Current status of unit with a maximum 28 parameters.

Statistics tab.
Customisable statistics of a maximum of 71 parameters. Available anytime with the information of the last 7 days.

Settings tab.
Most of the user and installer settings can be done remotely.

Control and connectivity

Home connectivity and Home Managements Systems integration is becoming more and more popular. These integrations helps to control all house devices from centralised platform and helps to optimise the operation and running costs. Panasonic interfaces are made to work with both KNX and Modbus, the most populars protocols. Also for non integrated control, Panasonic developed a simple connection to Wireless LAN, with this end user can control remotely its own heat pump from wherever.

Control by BMS

Modbus: PAW-AW-MBS-H (Intesis) and PAW-AZAW-MBS-1 (Airzone).
KNX: PAW-AW-KNX-H (Intesis) and PAW-AZAW-KNX-1 (Airzone).
Great flexibility for integration into your KNX / Modbus projects allows fully bi-directional monitoring and control of all the functioning parameters.

· Quick installation
· External power not required
· Direct connection to the unit via CN-CNT connector
· Bidirectional control
· Unit can be controller simultaneously by remote controller and the gateway
· Compatible with H Series onwards

* For specific functionality list of each gateway, please check the user's manual.

External meter gateway

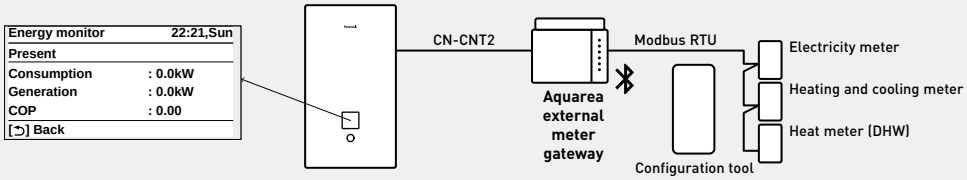
PAW-A2W-EXTMETER

· Energy consumption and production from external Modbus RTU meters
· Real values visualized via Aquarea remote controller and Aquarea Smart Cloud
· Compatible with Aquarea K Series onwards

Possibility to mix internal calculation and external meters			
Configuration	**Electricity meter (HP)**	**Heat meter (heating and cooling)**	**Heat meter (DHW)**
Only external meters	External	External	External
Only external consumption meter	External	Internal calculation	Internal calculation
Only external production meters (2 meters)	Internal calculation	External	External
Only external production meter (single meter for total production)	Internal calculation	External	Internal calculation

Functions:

· Configuration via App (iOS and Android) using Bluetooth®
· Easy to setup thanks to templates for some meters manufacturers
· Configuration can be done before and just send it on commissioning



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Technical service team:
Email: uk-aircon-tech@eu.panasonic.com
UK Office : +44 (0) 1707 378670

Panasonic Heating & Ventilation Air-Conditioning UK Ltd.
Registered Office: Ground Floor, Building 3, Albany Place, Hyde Way,
Welwyn Garden City, Hertfordshire AL7 3BT
Company Registration: 02371708

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

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