

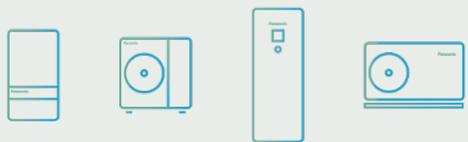
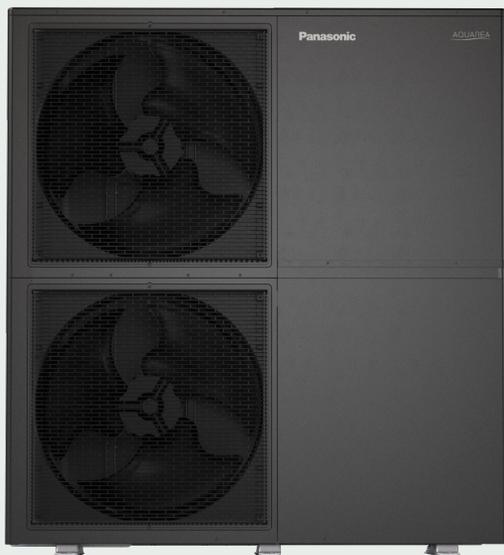
Panasonic

BIG 'M' Series Technical Handbook V.1

WH-WXG20ME8, WH-WXG25ME8 & WH-WXG30ME8

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heating & cooling solutions



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Introducing the new
Big Aquarea T-CAP
M Series of air-to-
water Heat Pumps



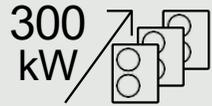
AQUAREA



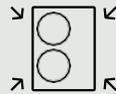
Big Aquarea T-CAP M Series, the ideal solution for centralised heating and DHW installations

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 more 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.



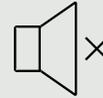
Up to 300 kW in cascade.



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**

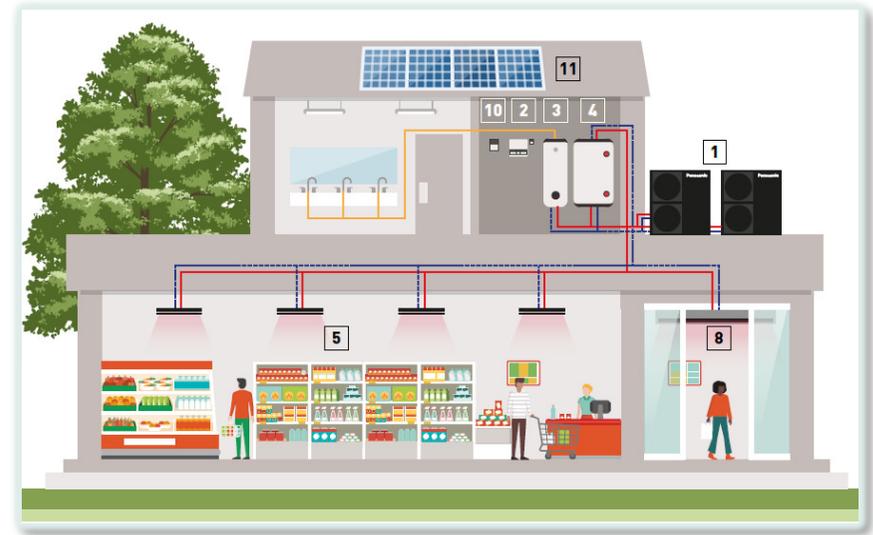
Bringing Aquarea to new market segments...

Aquarea technology can be considered and specified as the solution for many new types of projects



Multi Occupancy Housing

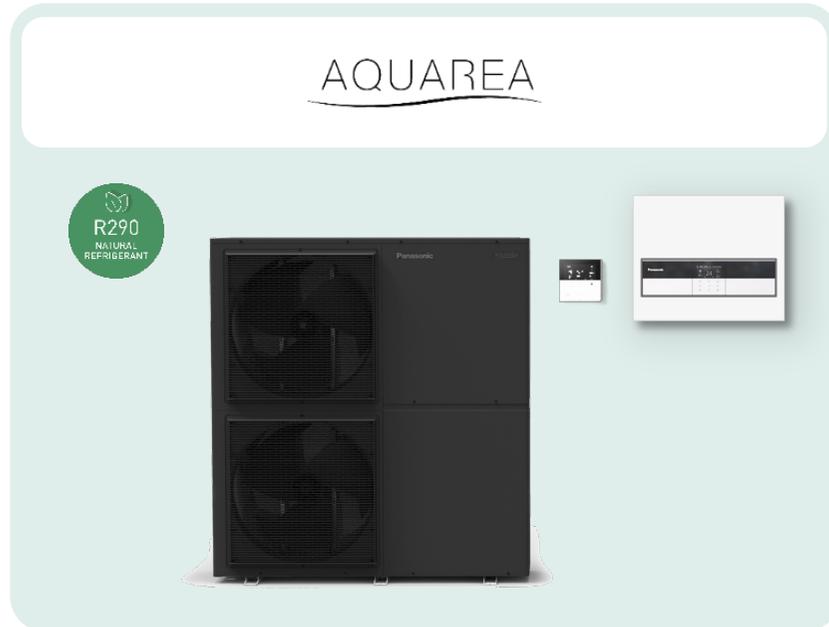
Such as apartment blocks and community heating



Commercial

Such as retail, healthcare facilities, commercial offices/buildings and schools

Big Aquarea T-CAP M Series Highlights



Compact Solution with Small Footprint

- Optimised chassis allows for space-saving installation

Panasonic Inverter Compressor

- Powered by our own inverter compressor with T-CAP technology & R290

Quiet Operation

- Providing an undisturbed and comfortable environment

Improved Scalability; Up to 300 kW

- Units from 20 to 30 kW, up to 300 kW by Cascade control

Outdoor unit	Capacity (kW)	20 / 25 / 30	T-CAP
Options	Type	Stand-alone with remote control	Control Module

Big Aquarea T-CAP M Series Highlights

- 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



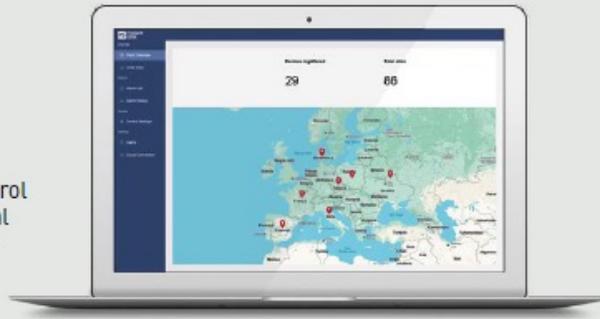
P-Smart Edge.

Control and monitoring online solution for Aquarea Cascade Edge systems wherever you are. In a simple click, configure and receive status updates of all your units.



P-Smart Nexus.

Smart multi-site online control which allows a remote global supervision of all your sites.



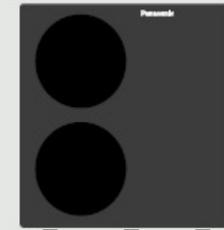
Maintained capacity.
Time-saving installation.
Cost-saving.
Space-saving.

2x 20 kW
heat pump



Conventional cascade
system

1x 30 kW
Big Aquarea T-CAP



New Panasonic Aquarea
T-CAP M Series

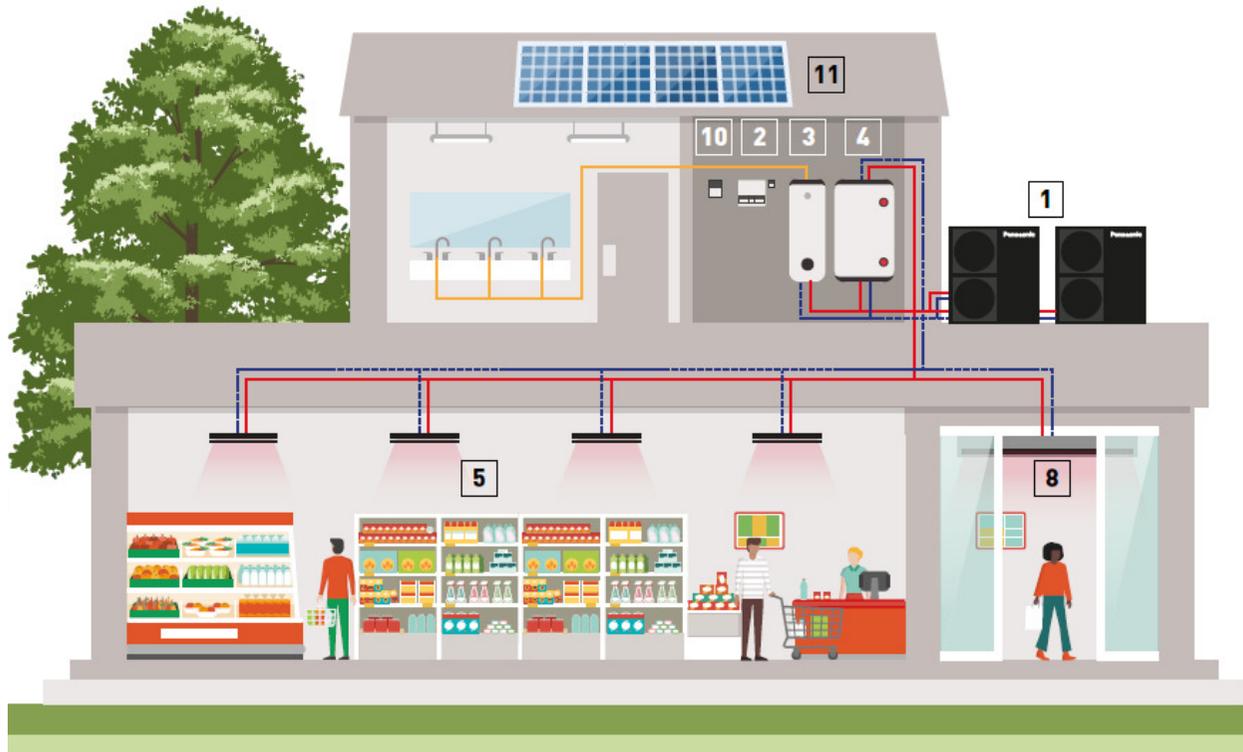
For 30 kW demand at 55 °C water outlet and -7 °C outdoor temperature.

Commercial Building Application

Due to its great capacity, Big Aquarea T-CAP is now more easily scalable to serve commercial applications. Additionally, the high-water temperature helps meet many commercial requirements

Example shown consists of:

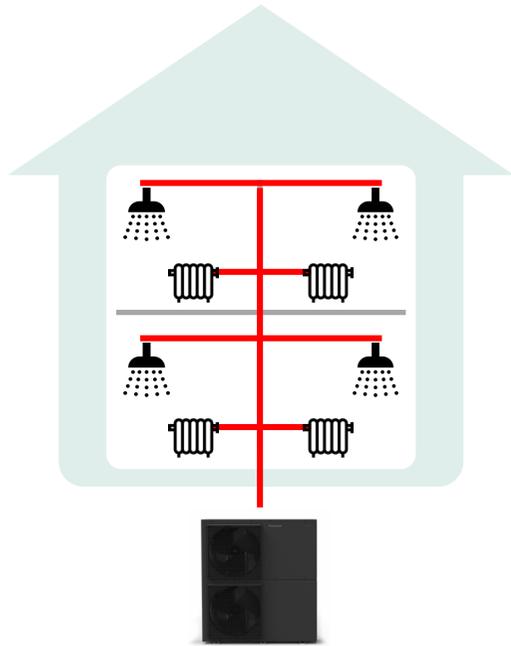
- 2 Big Aquarea T-CAP
- 1 Control Module
- 1 DHW Tank
- 1 Buffer Tank
- Choice of emitters and/or collectors
- 1 Air Curtain (with water coil)
- 1 Cascade Manager
- Photovoltaics



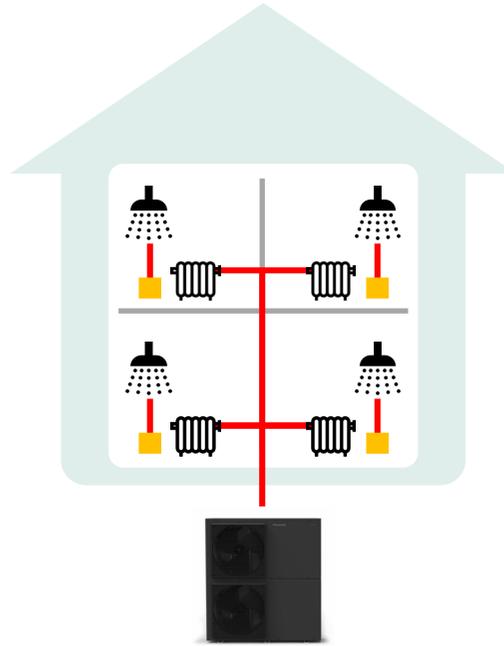
Centralised & Decentralised Concept

Big Aquarea T-CAP is typically applied as a centralised system, including in support of other decentralised systems

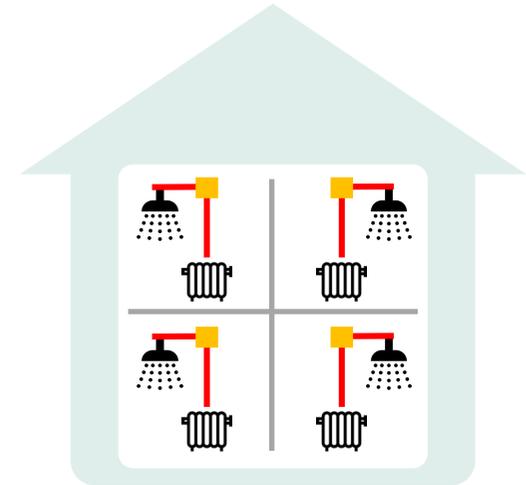
■ Other heat source



Heat pump serving heating and DHW requirements of the whole building



Combination centralised heat pump and decentralised system

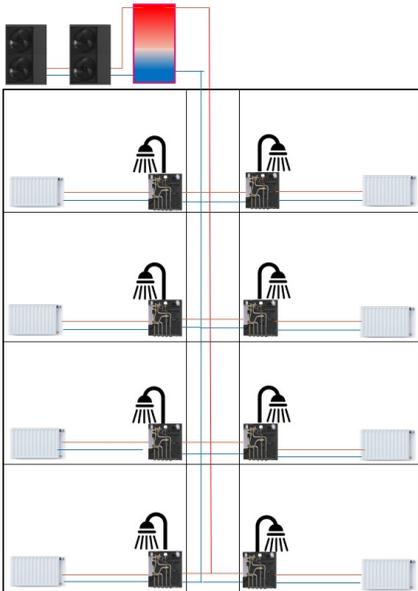


Each apartment has its own heat source



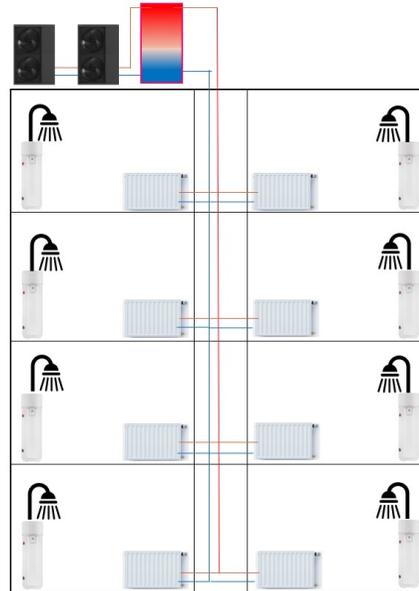
Example 1

- Centralised Heating
- Centralised DHW



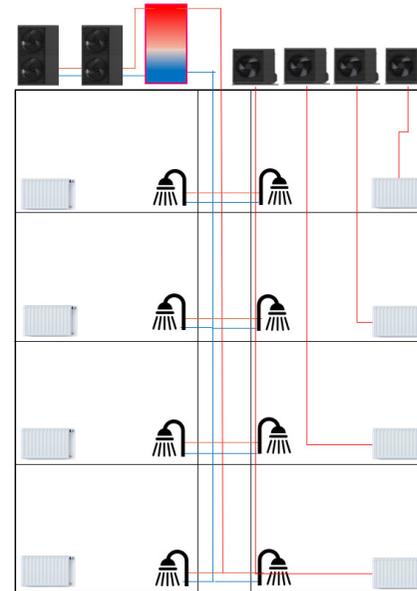
Example 2

- Centralised Heating
- Decentralised DHW



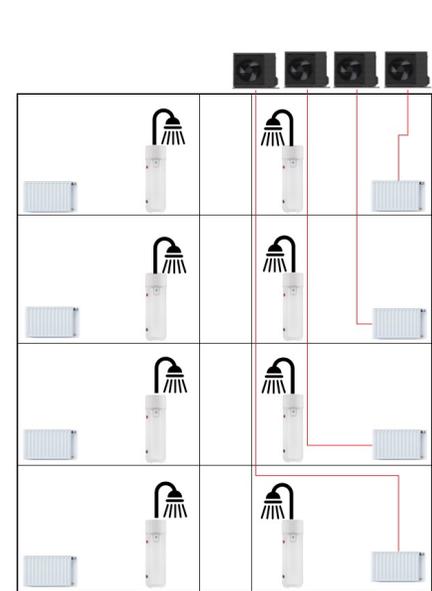
Example 3

- Decentralised Heating
- Centralised DHW



Example 4

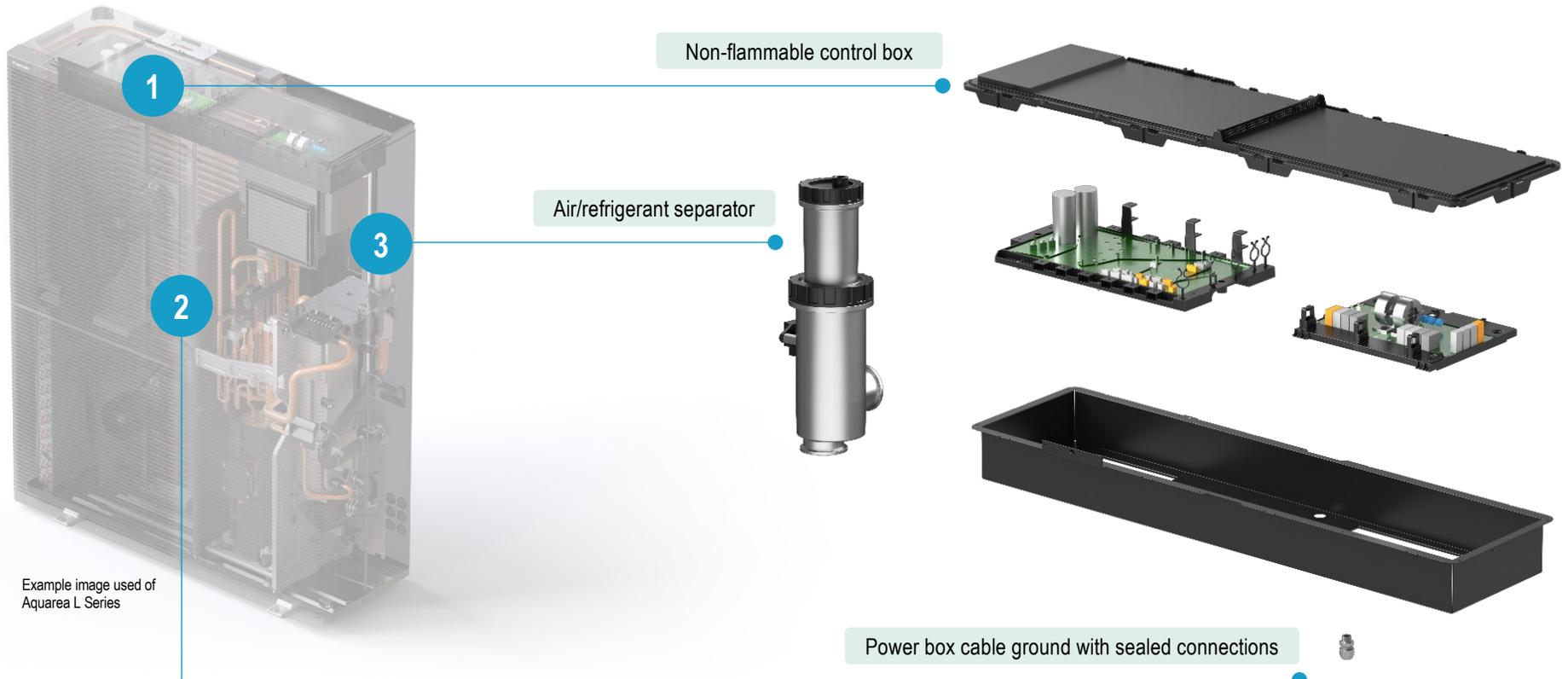
- Decentralised Heating
- Decentralised DHW



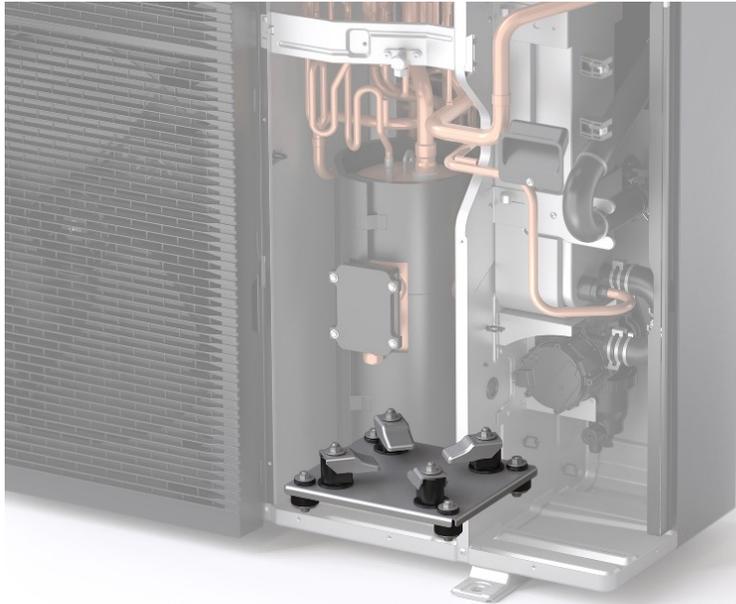
Cutting edge engineering that maximises safety of R290

Great serviceability

PCB is in a safe and accessible location



**Low noise mechanical design enabling
ERP sound value as low as 55 dB(A) *20 kW capacity**



Compressor architecture includes anti-vibration structure

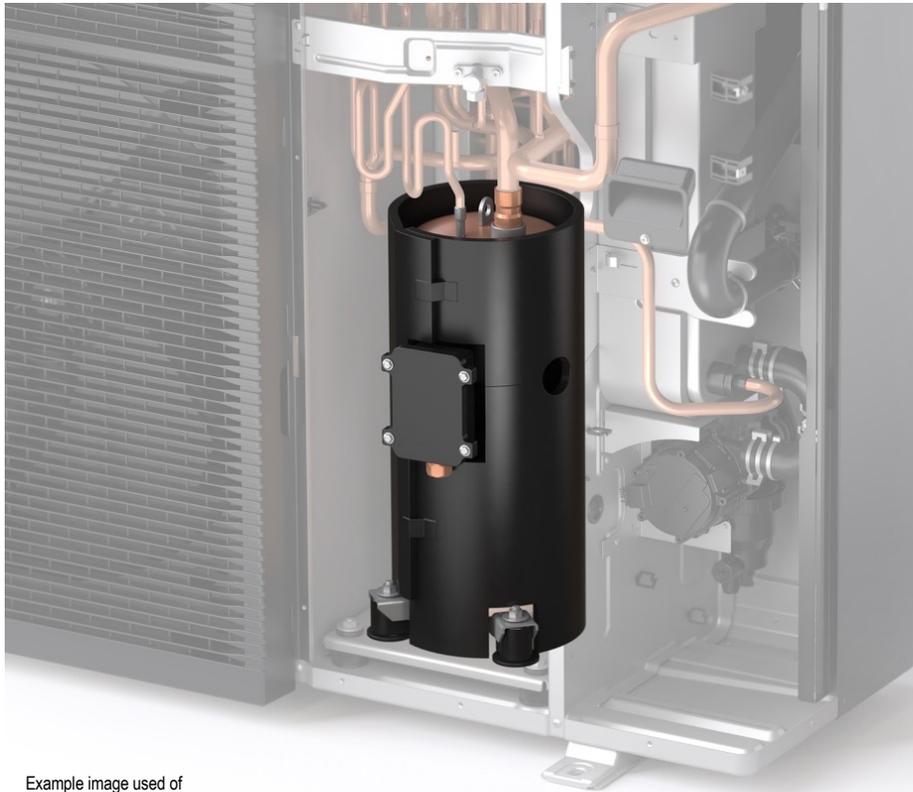
Double mounted structure of compressor to provide dampening and sound absorption

New Chassis

Re-designed chassis and optimised fan speed to reduce blast noise



Panasonic inverter scroll compressor & logic



Example image used of Aquarea L Series

Advanced start sequence

Compressor starts in part load operation and if necessary, increases the frequency. The M Series features fine-tuning options to allow heating control optimisation

Max Capacity mode

Our latest compressor logic which maximises the capacity at lower outdoor temperature

Reliable technology

Panasonic R290 Scroll compressor, including T-CAP technology

■ Signal inputs

Optional thermostat	L N=AC230V, Heat, Cool=Thermostat heat, Cool terminal
OLP for booster heater	Dry contact Vcc-Bit1, Vcc-Bit2 open/short (System setup necessary) It is connected to the safety device (OLP) of DHW tank.
External control	Dry contact Open=not operate, Short=operate (System setup necessary) Able to turn ON/OFF the operation by external switch
Remote controller	Connected (Use 2 cores wire for relocation and extension. Total cable length shall be 50m or less.)

■ Thermistor inputs

Zone 1 room sensor	PAW-A2W-TSRT
Outdoor air sensor	PAW-A2W-TSOD
Tank sensor	Use Panasonic specified part
Buffer tank sensor	PAW-A2W-TSBU

■ Outputs

3-way valve	AC230V N=Neutral Open, Close=direction (For circuit switching when connected to DHW tank)
2-way valve	AC230V N=Neutral Open, Close (Prevent water circuit pass through during cooling mode)
Extra pump	AC230V (Used when Indoor Unit pump capacity is insufficient)
Booster heater	AC230V (Used when using booster heater in DHW tank)
Boiler contact/Defrost signal	Dry contact (System setup necessary)

Cable length

When connecting cables between the Indoor Unit and external devices, the length of the cables must not exceed the maximum length as shown in the table below.

External device	Maximum cable length [m]
2-way valve, 3-way valve, Mixing valve, Room Thermostat, Booster heater, Extra pump, Solar pump, Pool pump, Zone pump, Boiler contact/Defrost signal, External control, Demand signal, SG signal, Heat/Cool switch, External compressor switch	50
Room sensor, Outdoor air sensor, Buffer tank sensor, Pool water sensor, Solar sensor, Zone water sensor	30

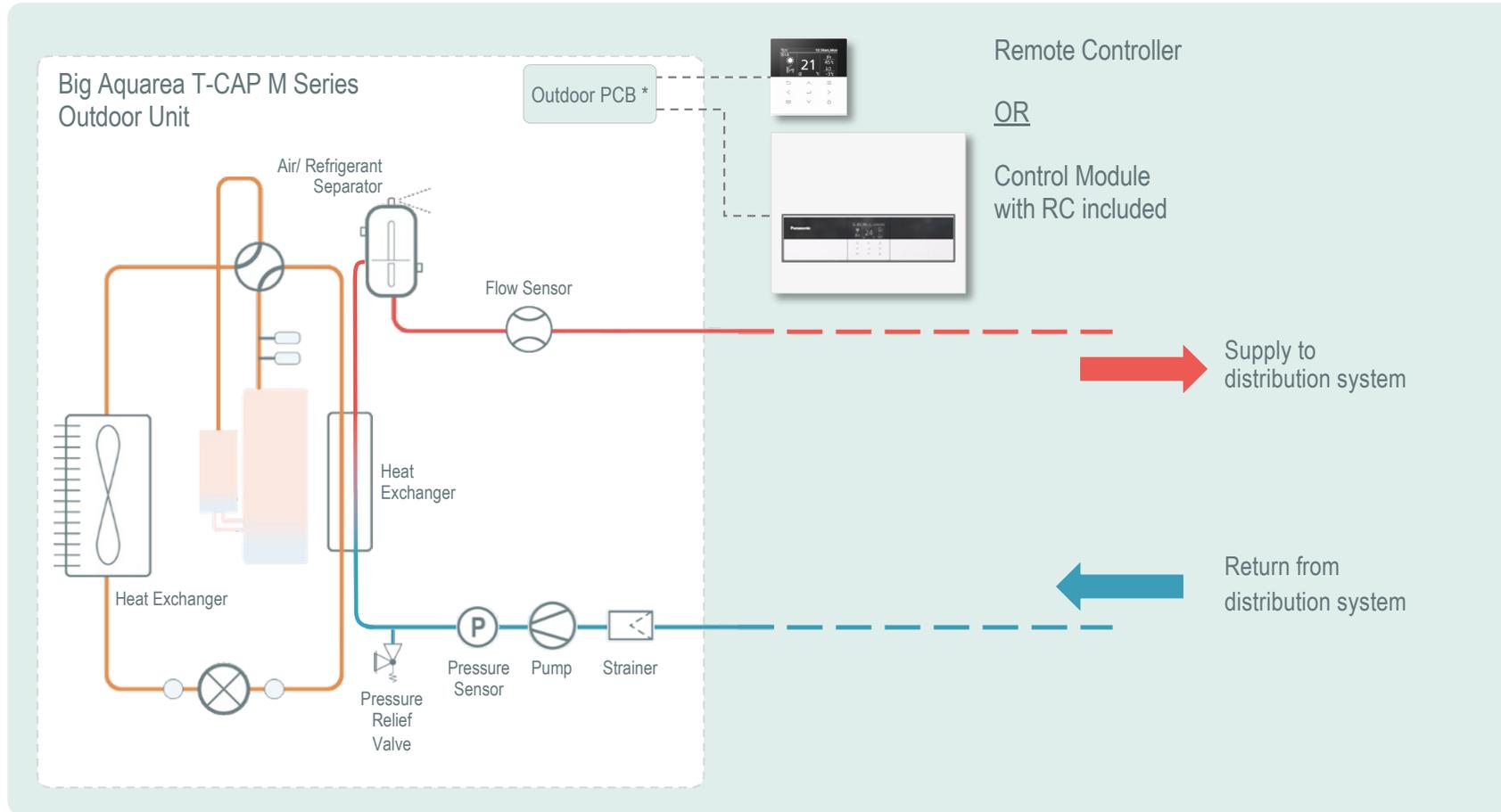
Model Nomenclature Definition | Outdoor unit

Definition				A	B	C	D		E	F	G
Position	1	2	3	4	5	6	7	8	9	10	11
	W	H	-	W	X	G	2	0	M	E	8

<p>A Indoor Type</p> <p>W Water Connection</p>	<p>B Grade</p> <p>X T-Cap</p>	<p>C Refrigerant</p> <p>G R290</p>	<p>D Capacity</p> <p>20 20kW 25 25kW 30 30kW</p>	<p>E Generation</p> <p>M</p>	<p>F Region</p> <p>E Europe</p>	<p>G Phase</p> <p>8 Three Phase</p>
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* Pictures not to scale



* Becomes the main PCB when not connected to a Control Module

Big Aquarea T-CAP M Series Outdoor Unit Design

The chassis design has been optimised to allow increased capacities, whilst keeping a small footprint.

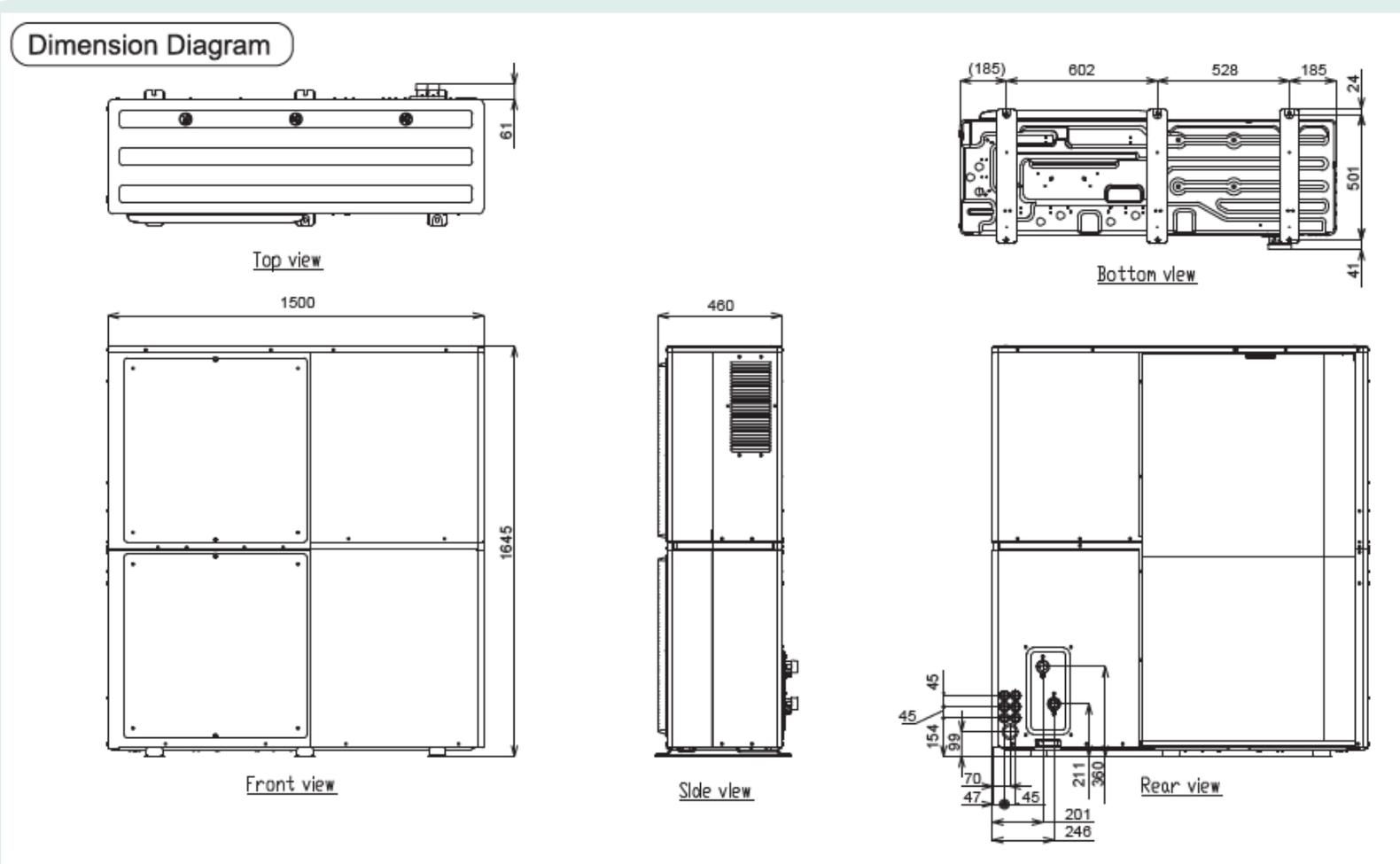
Big Aquarea T-CAP has a low height and depth. It currently has one of the smallest footprints on the market.

Capacity	20.0 kW	25.0 kW	30.0 kW
Power Supply	400 V / 50 Hz / 3 Phase		
Outdoor Unit	WH-WXG20ME8	WH-WXG25ME8	WH-WXG30ME8
Outdoor Unit Dimensions H x W x D (mm) Weight (kg)	1645 x 1500 x 460 240		



* Pictures not to scale

Outdoor Unit – Specification





CZ-RTW2 (Remote Controller)

* Pictures not to scale

Indoor Unit
Dimensions
H x W x D (mm)
Weight (grams)

120 x 120 x 16
100

Optimised user interface

Including water pressure reading on the home-screen for convenience



Dual Controller System

A dual controller system, for independent control of two zones



Indoor Unit – Specification

Panasonic



WH-CME8L (Control Module)

* Pictures not to scale

Dimension Diagram

Unit: mm



FRONT VIEW



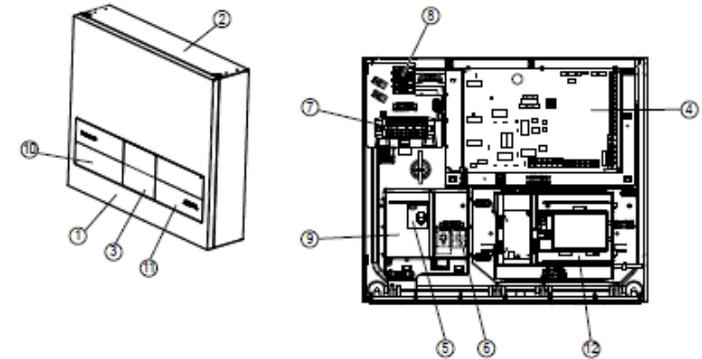
SIDE VIEW



BOTTOM VIEW

Weight 7kg

Main Components Diagram



- ① Front cover
- ② Enclosure
- ③ Remote controller
- ④ PCB
- ⑤ RCCB/ELCB
- ⑥ Terminal 1 (ID-OD Communication)
- ⑦ Terminal 2 (For Heater)
- ⑧ Terminal 3 (For Heater OLP (Bi metal thermostat) & sensor)
- ⑨ Terminal Cover
- ⑩ Left decoration panel
- ⑪ Right decoration panel
- ⑫ Network adaptor holder (A2W Cloud)

Recommended minimum operating system water volume in heating circuit, on open circuit.

WH-WXG20ME8, WH-WXG25ME8 & WH-WXG30ME8

Model	Heating capacity (kW)	Suggested l/kW	Min. Volume content (l)
WH-WXG20ME8	20	4.5	90
WH-WXG25ME8	25	4.5	112.5
WH-WXG30ME8	30	4.5	180

For multiple unit installations (cascade system), then the minimum volume is:

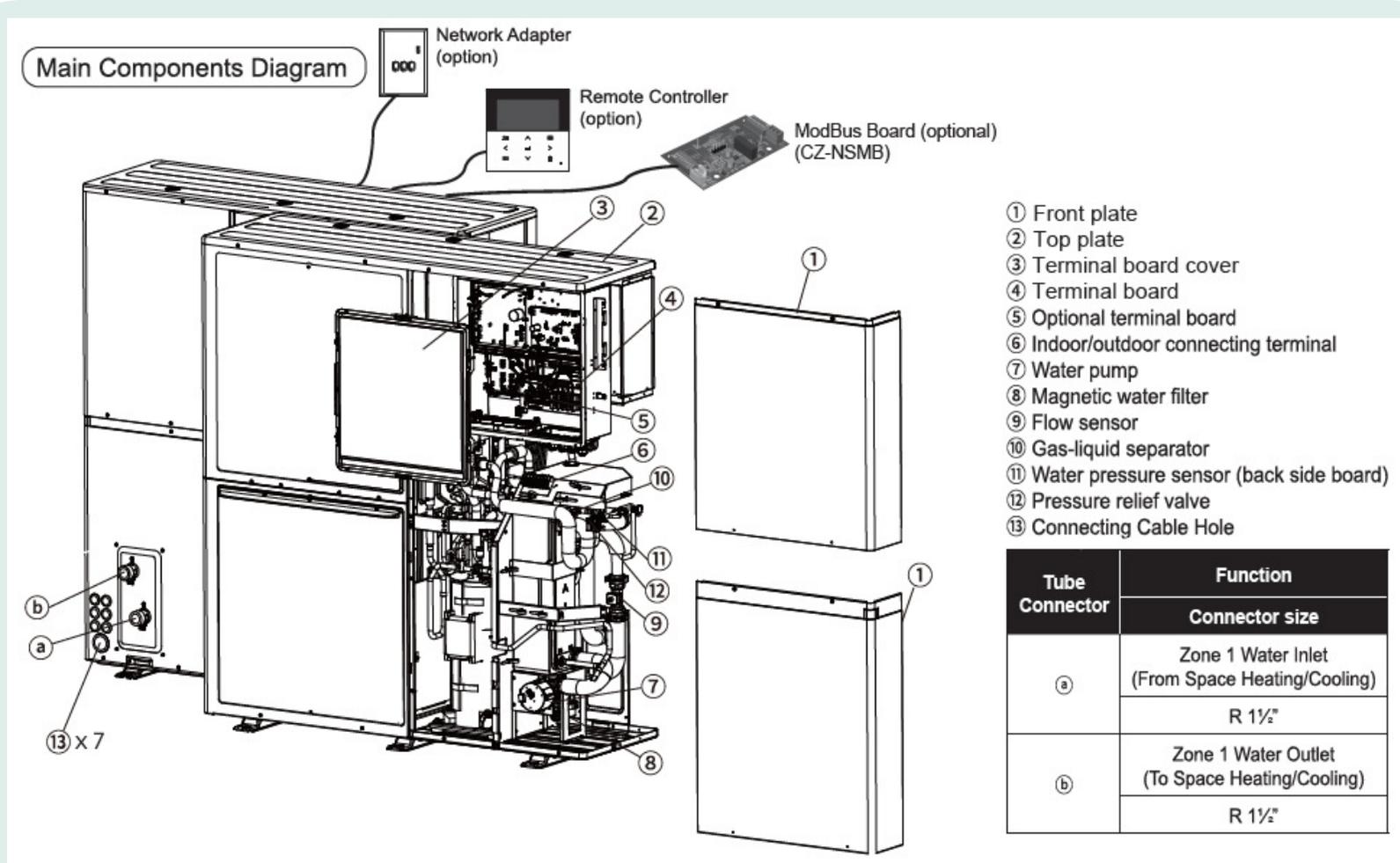
Number of units x minimum volume content of model (largest kW installed)

Example:

6 x WH-WXG30ME8 units cascaded = 810L

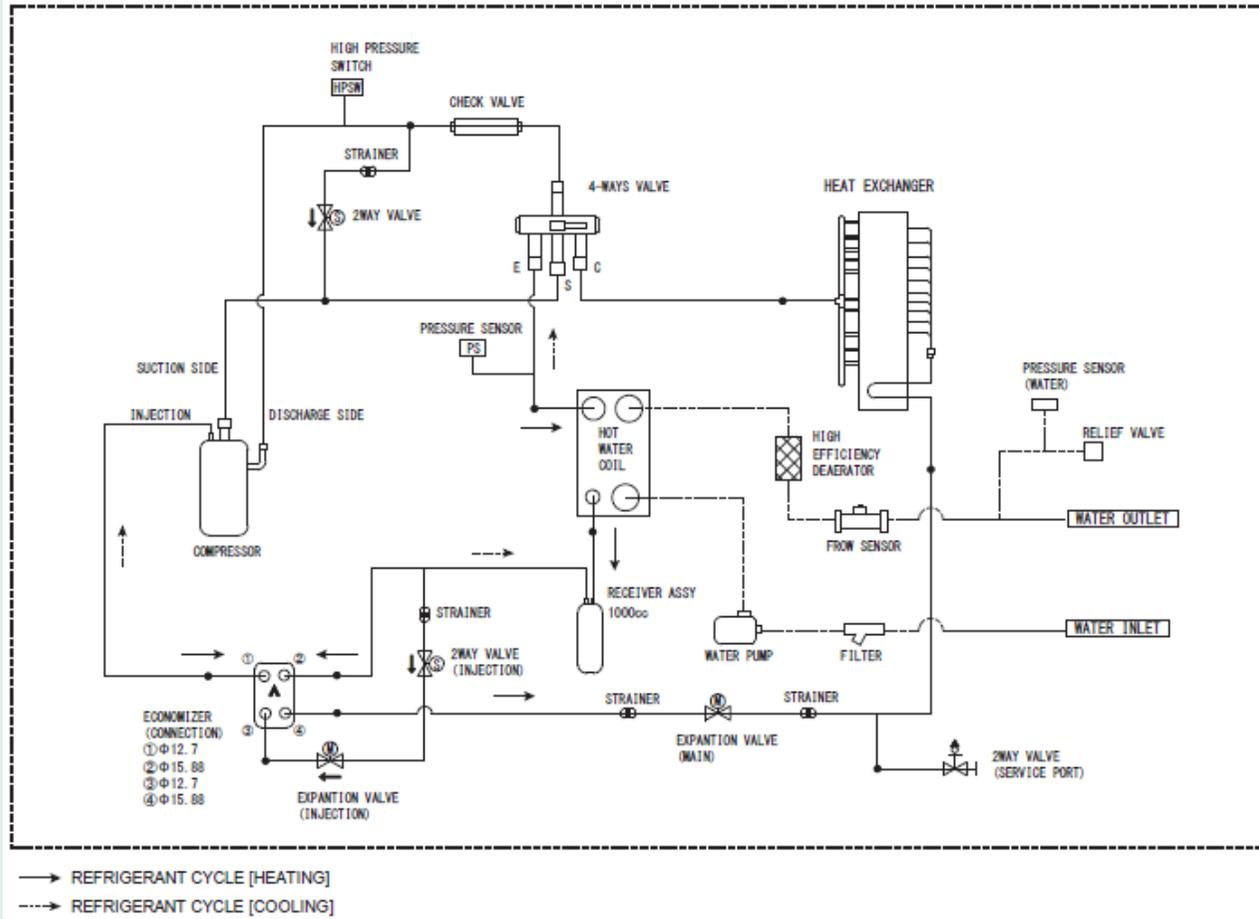
Heating load volume stored, may-be higher than operating volume requirement, which is not an issue.

Outdoor Unit – Specification



Tube Connector	Function
	Connector size
a	Zone 1 Water Inlet (From Space Heating/Cooling)
	R 1½"
b	Zone 1 Water Outlet (To Space Heating/Cooling)
	R 1½"

Outdoor Unit – Refrigeration and Water Cycle Diagram



TH1	Outdoor discharge sensor
TH2	-
TH3	Outdoor heat exchanger sensor
TH4	Outdoor ambient sensor
TH5	Evaporator outlet sensor
TH6	Refrigerant sensor
TH7	Water inlet 2 sensor
TH8	Water outlet sensor 2
TH9	Outdoor heat exchanger middle sensor
TH10	Bypass outlet sensor
TH11	Bypass inlet sensor
TH12	Economizer outlet sensor

Outdoor Unit Dimensions, Flow Rates & Pipe Connection Size

Panasonic

Outdoor Unit Model	Height x Width x Depth (mm)	Volume of Outdoor Unit (m ³)	Weight (kg)	Air Flow - Heating m3/min (ft3/min)	Air Flow - Cooling m3/min (ft3/min)
WH-WXG20ME8	1645 x 1500 x 460	1.135	240	98 (3461)	148 (5227)
WH-WXG25ME8	1645 x 1500 x 460	1.135	240	138 (4873)	148 (5227)
WH-WXG30ME8	1645 x 1500 x 460	1.135	240	158 (5580)	148 (5227)

Outdoor Unit Model	Water Flow Rate Heating l/min (m3/h)	Water Flow Rate Cooling l/min (m3/h)	Outdoor Water Pipe Connector (inch)
WH-WXG20ME8	57.3 (3.4)	43.0 (2.6)	1 ½
WH-WXG25ME8	71.6 (4.3)	43.0 (2.6)	1 ½
WH-WXG30ME8	86.0 (5.2)	43.0 (2.6)	1 ½

Electrical Specification Requirements

Outdoor Unit Model	Start Current (A)	Outdoor Power Supply : Phase (Ø) / Max. Current (A) / Max. Input Power (kW)	Recommended RCD (Outdoor Unit)
WH-WXG20ME8	6.4	3Ø / 24.0 / 15.1	30mA, 4P, type B
WH-WXG25ME8	7.6	3Ø / 27.0 / 17.6	30mA, 4P, type B
WH-WXG30ME8	9.7	3Ø / 30.0 / 19.8	30mA, 4P, type B

Indoor Unit Model	Height x Width x Depth (mm)	Weight (kg)	*Indoor Power Supply (NO back heater connected) : Phase (Ø) / Max. Current (A) / Max. Input Power (kW)	Recommended RCD (Indoor Unit)
WH -CME8L	454 x 520 x 116	7	1Ø / 8.0 / 1.84	30mA, 2P, type AC

If Back-up heater is not connected, WH-CME8L can be powered by Single Phase

Indoor Unit Model	Height x Width x Depth (mm)	Weight (kg)	*Indoor Power Supply (with Back Up Heater connected) : Phase (Ø) / Max. Current (A) / Max. Input Power (kW)	Recommended RCD (Indoor Unit)
WH-CME8L	454 x 520 x 116	7	3Ø / 28.0 / 18.5	30mA, 4P, type AC

*Assuming 3 x 6kW (18kW) Back up heater is connected and controlled by the Heat Pump through the Control Module

- 18kW is the maximum allowed to be controlled through the Heat Pump system (18kW back-up + power for control module 0.5kW = 18.5kW total)
- Back up heater control option is NOT available with Standalone Remote Controller only, WH-CME8L must be used.

Customer can select the equipment based on their needs

Simple Functions

Simple systems can be configured with the Stand-alone outdoor unit and remote control only.

Extended functions

Extended functionality is available by adding a control module

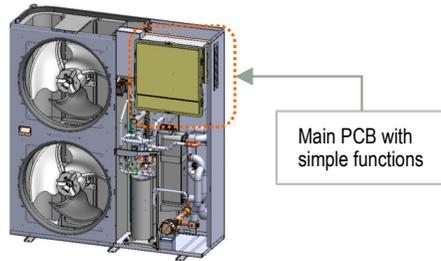
Additional functionality is available by using the Optional PCB CZ-NS7P



- 1 Stand-alone outdoor unit with remote control
- 2 Outdoor unit + control module
- 3 Outdoor unit + control module + optional PCB

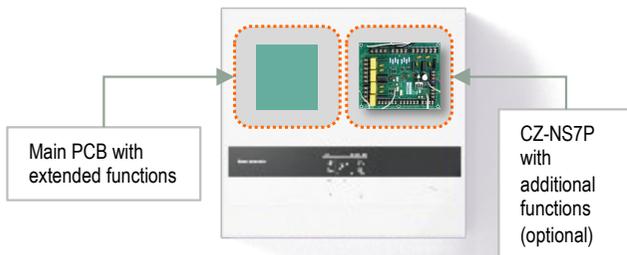
Simple functions with Stand-alone unit

DHW capability is available by use of the Main PCB in the outdoor unit



Extended functions with Control Module and CZ-NS7P

An enhanced Main PCB and optional PCB are housed in the control module, which is installed inside the building for convenient wiring



	Stand-alone	Control module	Control Module + CZ-NS7P	
Tank sensor	✓	✓	Room sensor zone 2	✓
3-way valve	✓	✓	Room thermostat 2	✓
Remote control	✓	✓	Mixing valve 1 & 2	✓
CN-CNT	✓	✓	Water temp zone 1 & 2	✓
Extra pump output	✓	✓	Zone pump 1 & 2	✓
Room sensor zone 1		✓	Buffer tank sensor	✓
Room thermostat 1		✓	Demand signal	✓
Buffer tank sensor		✓	Solar temp sensor	✓
Back-up heater		✓	Solar water pump	✓
Booster heater & OLP		✓	Pool sensor	✓
Outdoor sensor		✓	Pool water pump	✓
External switch		✓	SG Ready signal	✓
Boiler contact / Defrost signal		✓	External switch	✓
2-way valve		✓	Demand signal	✓
CN-CNT2		✓	Error Signal	✓

HANDLING

CAUTION: The packaging around the WH-WXG20ME8, WH-WXG25ME8 & WH-WXG30ME8 unit **MUST** be opened in an outdoor area in case any refrigerant has leaked out in transit.

Technical Specification of units:

Packing status	Height (mm)	Width (mm)	Depth (mm)	Gross Weight (kg)
Packaged Product	1876	1660	660	265
No Packaging	1645	1500	460	240

GENERAL HANDLING

- Take care to avoid any rough handling or impacts when unloading and moving the appliance.
 - Before lifting the appliance into position, perform a test lift to ensure stability and balance. Avoid twisting or uneven lifting of the units.
 - The units shall be carefully inspected before unit installation to make sure this has not happened.
 - All units are inspected before they leave the factory. Prior to commissioning, it is therefore important to make sure that no screws or other fastening components are loosened or missing.
-
- ❖ **CAUTION** Never subject the metal work (panels) of the units to handling constraints.
 - ❖ **CAUTION** To avoid irreversible damage, do not tilt the units by more than 45° during handling.
 - ❖ **CAUTION** Never move the units on rollers.
 - ❖ **CAUTION** When handling the units, beware not to damage the fins of the coil, protect it with board if necessary.

GRAVITY CENTRE POSITION OF UNITS:

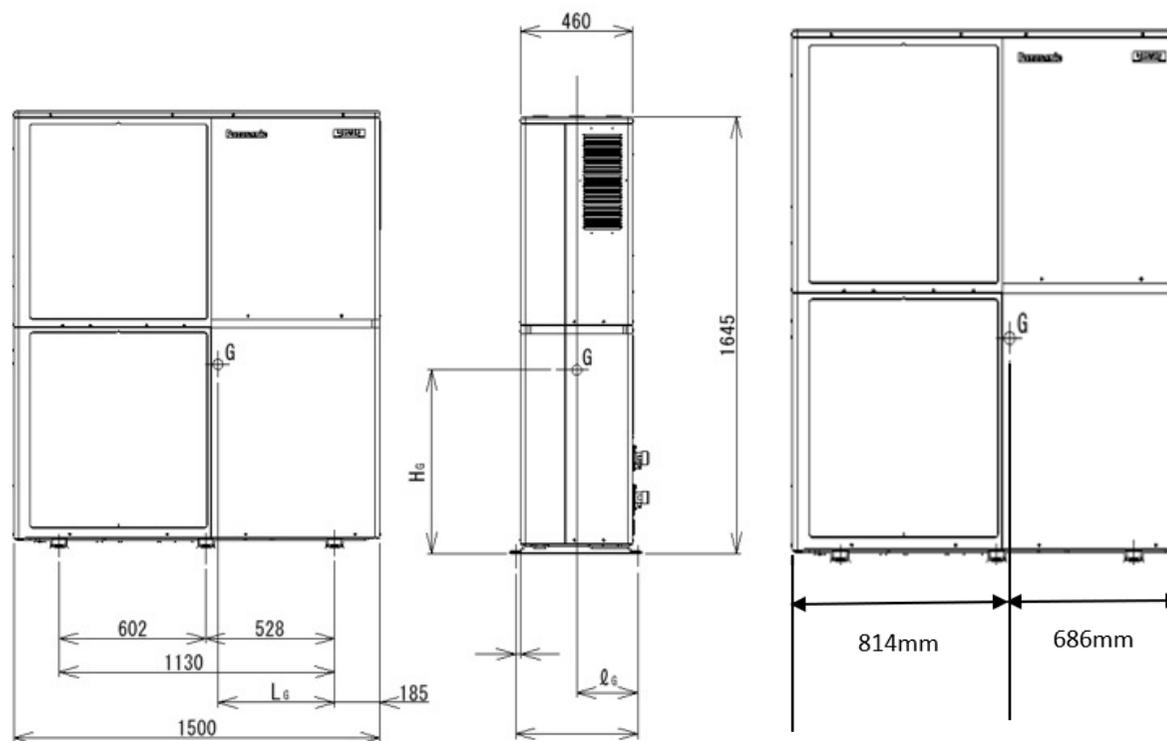
HANDLING WITH A FORKLIFT:

A forklift can be used to handle the units when palletised.

If handled without a pallet, ensure a solid plate is used across the forklift forks to spread the point of lifting on the base of the heat pump unit, failure to do this may cause the cabinet to undue stress at the point of fork contact.

If necessary, place a safety wedge between the unit base and the forklift truck to avoid damaging the unit's structure and casing.

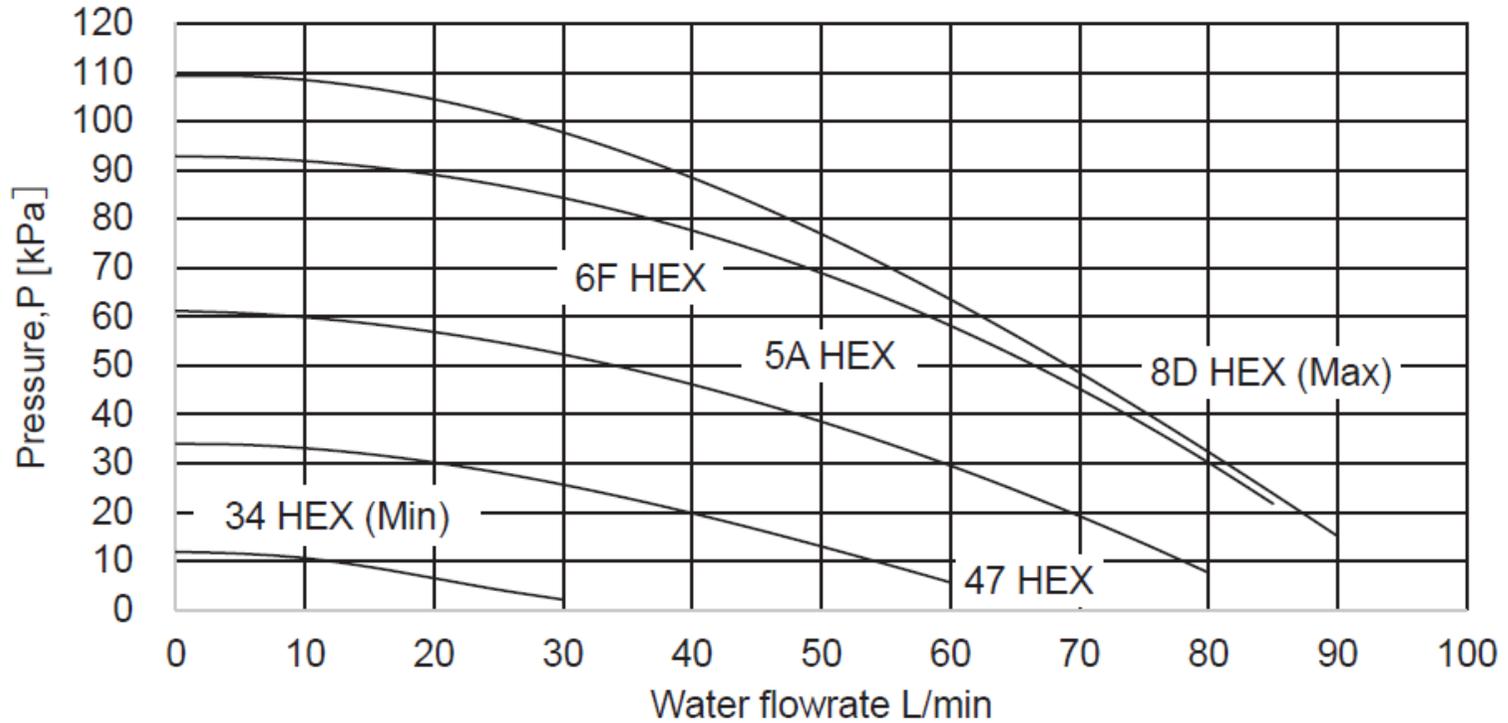
		Model	Dimension H x W x D	Anchor Pitch W x D	Unit net weight	Gravity Centre		
			mm	mm	Kg	L _G	ℓ _G	H _G
BA2W	M Series	WH-WXG20ME8	1645 x 1500 x 460	602/528 x 501	240	478	251	691
		WH-WXG25ME8						
		WH-WXG30ME8						



P-Q graph for different pump HEX duty

- Connection Control Module (WH-WXG20ME8, WH-WXG25ME8, WH-WXG30ME8)

P-Q curve (Standalone)



1. **Minimum heat exchanger surface on domestic hot water cylinders:**
 - Minimum coil size, should be 5m²
2. **What are the DHW kW capacity in 'Variable' setting:**
 - For all three models, it will be 15 kW
3. **What is the maximum switch over time (state change) for 3-way valve?**
 - Around 30 seconds to avoid flow issues (H62). However larger valves can move slower (depends on the manufacturer).
 - If a valve moves slower, then it need to be guaranteed that we have constant, or at least water flow rate above our minimum flow rate.
 - In any case, the valve should not be too fast, because this can damage the pipework system.

DHW pump control for improved user comfort and legionella risk reduction

Purpose

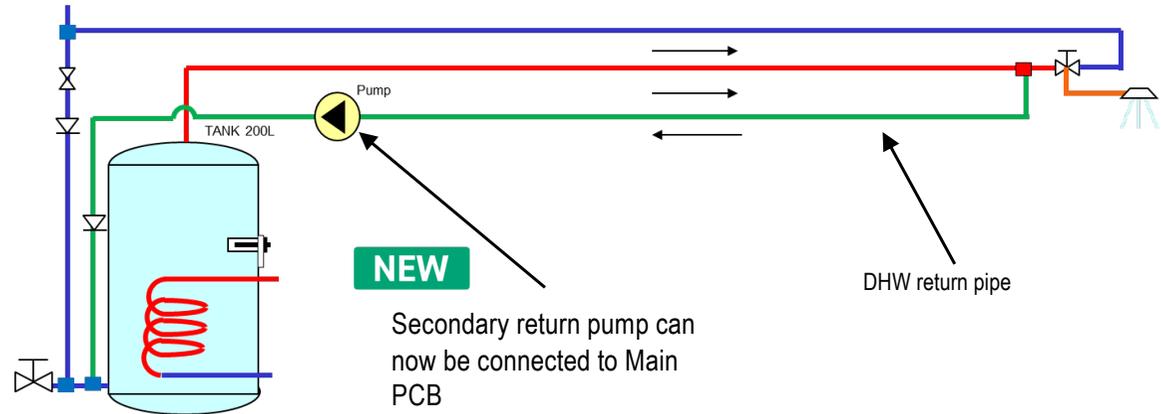
1. Provides instant hot water when the end-user uses hot water tap.
2. Allows sterilisation of pipework during sterilisation cycle

Conventional Issues

1. End-user must wait for hot water to arrive at the faucet/shower if there is a long distance of pipework
2. Sterilisation cycle is effective in the DHW tank, however pipework is un-treated

Change Points

Hot water is circulated in the pipe with an additional pump as required for comfort and during the sterilisation cycle. Pump can be connected and controlled by the main PCB



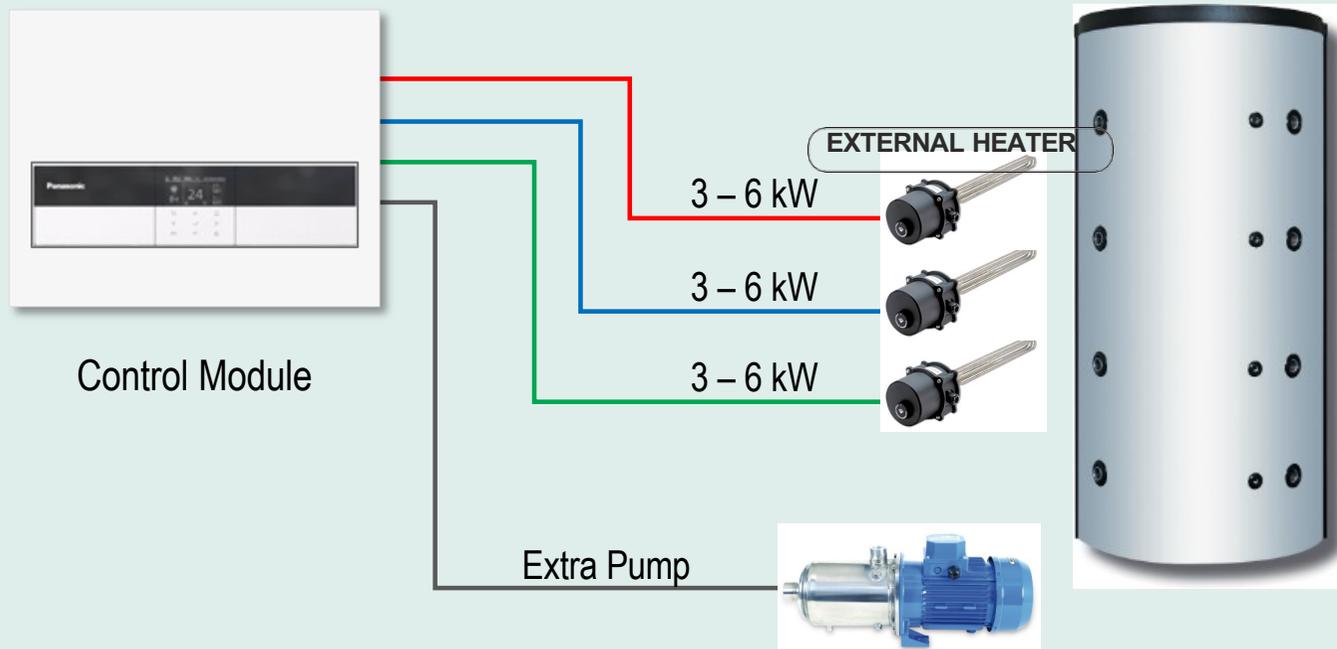
NEW	
DHW circulation	11:45, Mon
Yes ▲ No	
▲Select	[+/-] Confirm

NEW	
DHW circulation	11:45, Mon
Comfort ▲ Efficiency	
▲Select	[+/-] Confirm

Back Up Heater Connection Overview

Panasonic

Main PCB within the Control Module is upgraded to support larger systems



- ✓ 3 outputs to increase the capacity of electric backup heaters in a range from 9 kW (3 x 3 kW) to **max. 18 kW** (3 x 6 kW)
- ✓ Extra pump contact (Max. **3 A**), linked to main pump operation

External heater can be used as an In-line heater or a buffer tank heater.

Connect a heater of 18kW (6kW x 3) or less.

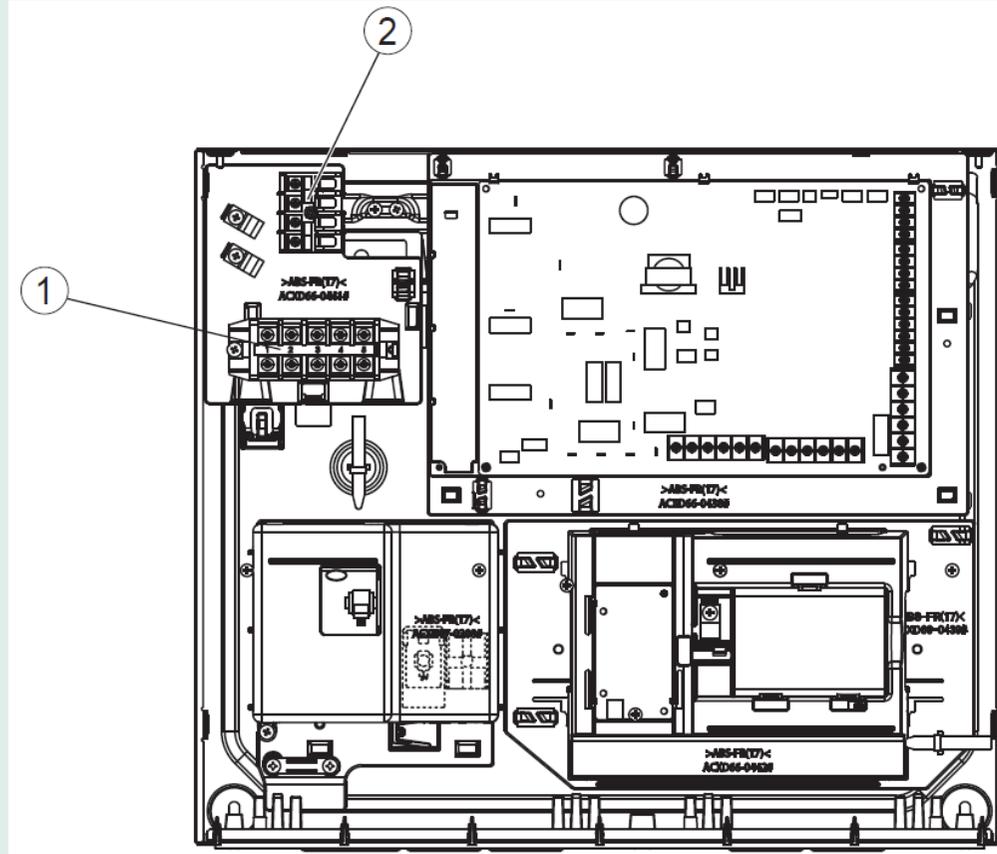
- Each heater shall be equipped with an 85°C OLP that can directly turn OFF the power supply. The OLP shall be non-automatic return type.

- The external heater shall be equipped with an 85°C OLP for signal line. The OLP can be either automatic or non-automatic return type.

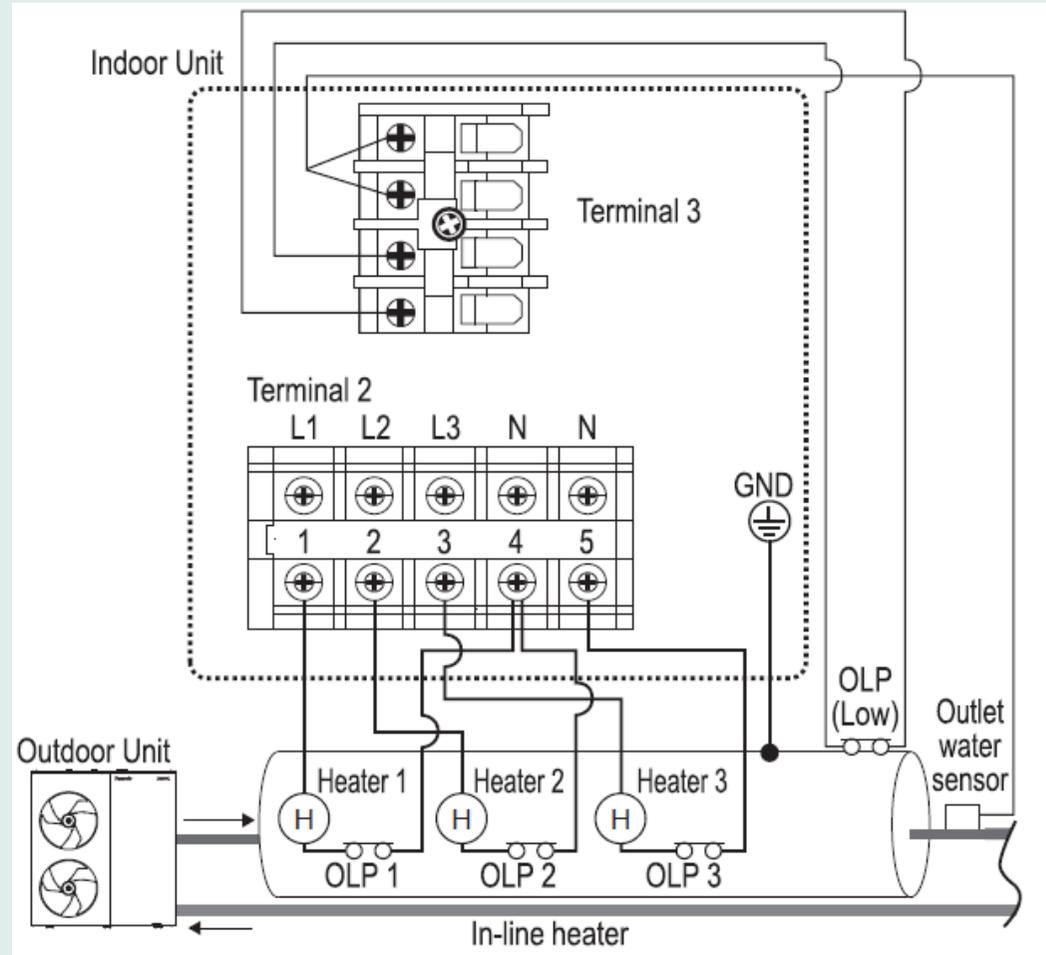
- Using it as an In-line heater, be sure to install Optional outlet water sensor (PAW A2W-TSBH) at the heater outlet.

- Using it as a buffer tank heater, be sure to install Optional Buffer tank sensor (PAW-A2W-TSBU).

- ① Terminal 2 (For Heater)
- ② Terminal 3 (For Heater OLP (Bi metal thermostat) & sensor)

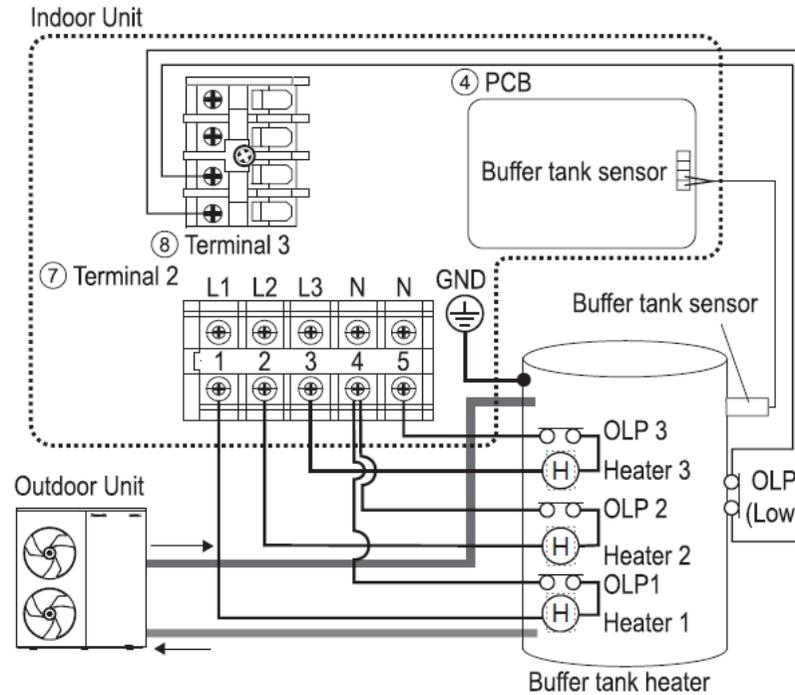


How to connect to the main circulation circuit for **In-Line heater**



How to connect to Buffer tank as a **Buffer tank heater**

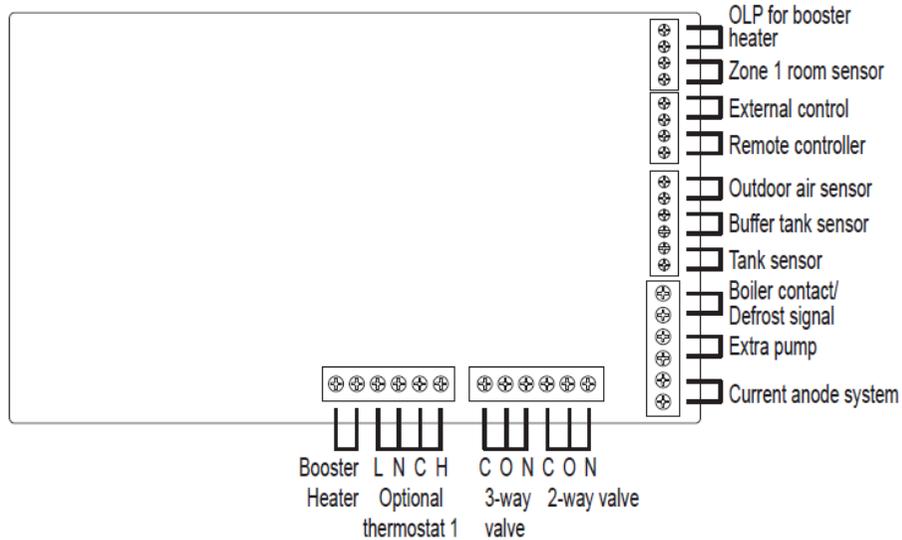
How to connect to the buffer tank as a buffer tank heater



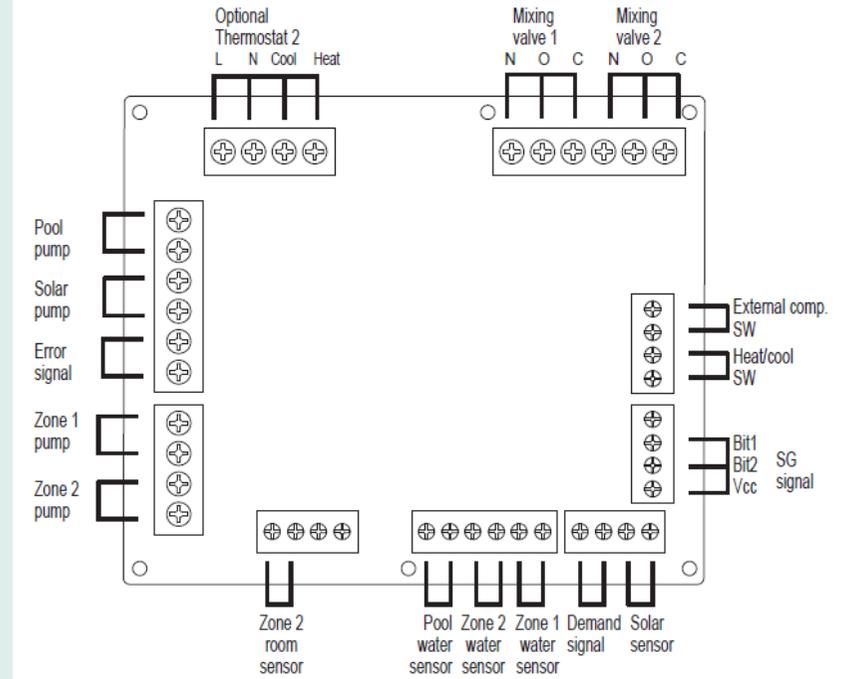
The connecting cable between the external heater (in-line heater or buffer tank heater) and the Indoor Unit should be a double-insulated approved polychloroprene sheathed cord with type designation 60245 IEC 57 or heavier. Cable size depends on the capacity of external heater.

Maximum cable length of OLP for signal and outlet water sensor: 30m

Connection of Main PCB

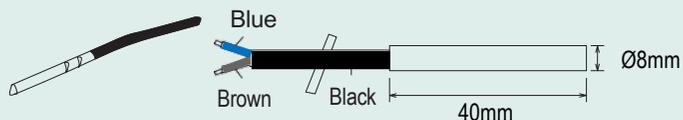


Connection of Optional PCB (CZ-NS7P)



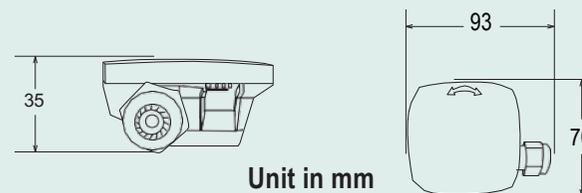
This section explains about the external devices (optional) recommended by Panasonic. Always ensure to use the correct external device during system installation.

1. Buffer tank sensor: PAW-A2W-TSBU (Maximum length 30m)
Use it to measure the buffer tank temperature. Insert the sensor into the sensor pocket on the tank.



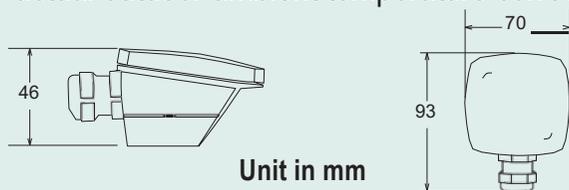
Unit in mm

2. Zone water sensor: *PAW-A2W-TSHC (Maximum length 30m)
Use it to measure the control zone temperature. Mount it on the water piping by using the stainless-steel metal strap and contact paste (both are included).
(*Mandatory requirement if CZ-NS7P is used).



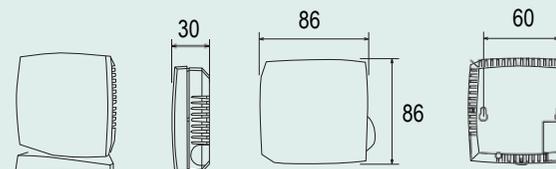
Unit in mm

3. Outdoor air sensor: PAW-A2W-TSOD (Maximum length 30m)
If the installation location of the outdoor unit is exposed to direct sunlight, the outdoor air temperature sensor will be unable to measure the actual outdoor ambient temperature correctly.



Unit in mm

4. Room sensor: PAW-A2W-TSRT (Maximum length 30m)
Install the room temperature sensor to the room where the temperature control is required.

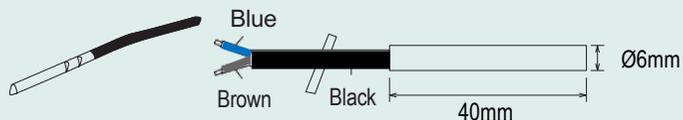


Unit in mm

This section explains about the external devices (optional) recommended by Panasonic. Always ensure to use the correct external device during system installation.

5. Solar Thermal sensor: PAW-A2W-TSSO (Maximum length 30m)

Use it to measure the solar thermal panel temperature
 Insert the sensor into the sensor pocket and paste it on the solar panel surface



See the table below for the characteristic of the sensors (No. 1 to 5).

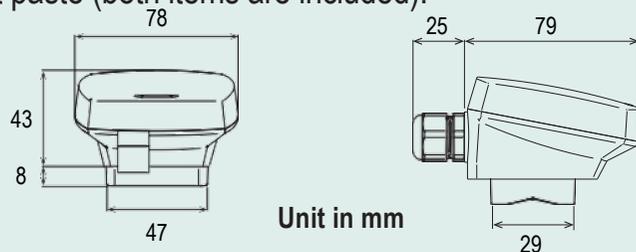
Temperature (°C)	Resistance value (kn)
30	5.326
25	6.523
20	8.044
15	9.98
10	12.443
5	15.604
0	19.7
-5	25.05
-10	32.1
-15	41.45
-20	53.92
-25	70.53
-30	93.05
-35	124.24
-40	167.82

Temperature (°C)	Resistance value (kn)
150	0.147
140	0.186
130	0.236
120	0.302
110	0.39
100	0.511
90	0.686
80	0.932
70	1.279
65	1.504
60	1.777
55	2.106
50	2.508
45	3.003
40	3.615
35	4.375

This section explains about the external devices (optional) recommended by Panasonic. Always ensure to use the correct external device during system installation.

6. Outlet water sensor: PAW-A2W-TSBH (Maximum length 30m)

Use it to detect the water temperature of the In-line heater outlet water. Mount it on the water piping by using the stainless-steel metal strap and contact paste (both items are included).



See the table below for the characteristic of the sensors (No. 6).

Temperature (°C)	Resistance value (kΩ)
30	16.07
25	20
20	25.07
15	31.67
10	40.35
5	51.85
0	67.24
-5	88.05
-10	116.49
-15	155.8
-20	210.77
-25	288.63
-30	400.41
-35	563.15
-40	803.72

Temperature (°C)	Resistance value (kΩ)
150	0.4
140	0.5
130	0.63
120	0.81
110	1.06
100	1.4
90	1.87
80	2.54
70	3.52
65	4.17
60	4.97
55	5.96
50	7.18
45	8.7
40	10.6
35	13.01

Cable Length

When connecting cables between the Indoor Unit and external devices, the length of the cables must not exceed the maximum length as shown in the table below.

External device	Maximum cable length [m]
2-way valve	50
3-way valve	
Mixing valve	
Room Thermostat	
Booster heater	
Extra pump	
Solar pump	
Pool pump	
Zone pump	
Boiler contact/Defrost signal	
External control	
Demand signal	
SG signal	
Heat/Cool switch	
External compressor switch	

Panasonic Sensor	Maximum cable length [m]
Room sensor (PAW-A2W-TSRT)	30
Outdoor air sensor (PAW-A2W-TSOD)	
Buffer tank sensor (PAW-A2W-TSBU)	
Pool water sensor (PAW-A2W-TSHC)	
Solar sensor (PAW-A2W-TSSO)	
Zone water sensor (PAW-A2W-TSHC)	

Panasonic Sensor	Maximum cable length [m]
DHW tank sensor (PAW-TS2)	*20

*Tank sensor can be extended to a maximum length of 30m in total.

Cable shall be (2 x min 0.3 mm²), double insulation layer (with insulation strength of min 30V) of PVC sheathed or rubber-sheathed cable.

When connecting cables between the Indoor Unit and external devices, the length of the cables must not exceed the maximum length as shown in the table below.

Optional thermostat	L N=AC230V, Heat, Cool=Thermostat heat, Cool terminal
OLP for booster heater	Dry contact Vcc-Bit1, Vcc-Bit2 open/short (System setup necessary) It is connected to the safety device (OLP) of DHW tank.
External control	Dry contact Open=not operate, Short=operate (System setup necessary) Able to turn ON/OFF the operation by external switch
Remote controller	Connected (Use 2 cores wire for relocation and extension. Total cable length shall be 50m or less.)

Optional Thermostat	L N =AC230V, Heat, Cool=Thermostat heat, Cool terminal
SG signal	Dry contact Vcc-Bit1, Vcc-Bit2 open/short (System setup necessary) Switching SW (Connect to the 2 contacts controller)
Heat/Cool SW	Dry contact Open=Heat, Short=Cool (System setup necessary)
External comp. SW	Dry contact Open=Comp.OFF, Short=Comp.ON (System setup necessary)
Demand signal	DC 0~10V (System setup necessary) Connect to the DC 0~10V controller.

When connecting cables between the Indoor Unit and external devices, the length of the cables must not exceed the maximum length as shown in the table below.

3-way valve	AC230V N=Neutral Open, Close=direction (For circuit switching when connected to DHW tank)
2-way valve	AC230V N=Neutral Open, Close (Prevent water circuit pass through during cooling mode)
Extra pump	AC230V (Used when Indoor Unit pump capacity is insufficient)
Booster heater	AC230V (Used when using booster heater in DHW tank)
Boiler contact/ Defrost signal	Dry contact (System setup necessary)

Mixing valve	AC230V N=Neutral Open, Close=mixture direction Operating time: 30s~120s	AC230V, 6 VA
Pool pump	AC230V	AC230V, 0.6 A max.
Solar pump	AC230V	AC230V, 0.6 A max.
Zone pump	AC230V	AC230V, 0.6 A max.

It possible to control power consumption with SG Ready. Customer can select SG ready control to choose capacity or power consumption.

Purpose

Improved controllability of power consumption

Conventional Issues

There is existing control allowing alteration of the set temperature, but it was not possible to have accurate amount of power consumption.

Change Points

Power consumption control is added to selection choice. Control the product so that the power consumption is less than the standard power consumption

Current

SG ready	11:45, Mon
Yes ▲ No	
▼Select	[←] Confirm

SG ready	11:34, Mon
Capacity [1-0]: DHW	
Range: (50%~150%)	
Steps: ±5%	▲ 120 % ▼
↕Select	[←] Confirm

NEW

SG ready	11:45, Mon
Capacity ▲ Power consumption	
▲Select	[←] Confirm

SG ready	11:34, Mon
Consumption [1-0]: DHW	
Range: (0.5kw~10.0kw)	
Steps: ±0.1kw	▲ 3.6 ▼
↕Select	[←] Confirm

Further fine-tuning of compressor start-up sequence is possible

Purpose

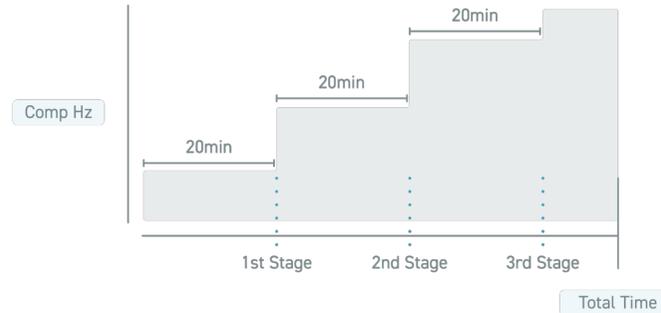
Adjust compressor start-up sequence to optimise operation, as necessary

Conventional Issues

From K&L series, If a user selects Efficiency mode, a control function was available which can suppress the power at startup, by running the compressor in partial load and gradually increases the power. However, the time interval cannot be fine-tuned it.

Change Points

Allow ability to modify the period for each stage of start-up operation



Heat control	11:34, Mon
Efficiency: Stage 2	
Range: (0:00~1:00)	
Steps: ±0:05	0:20
↕Select	[+/-] Confirm

Heat control	11:34, Mon
Efficiency: Stage 1	
Range: (0:00~1:00)	
Steps: ±0:05	0:20
↕Select	[+/-] Confirm

Heat control	11:34, Mon
Efficiency: Stage 3	
Range: (0:00~1:00)	
Steps: ±0:05	0:20
↕Select	[+/-] Confirm

Additional setting to prevent components from seizing due to non-use

Purpose

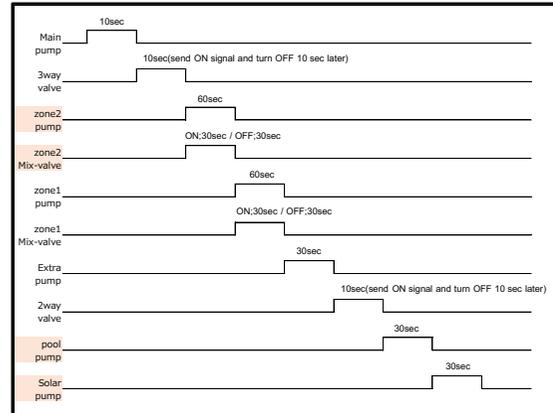
Periodically operate actuators (pumps, 3-way valves, etc.) to prevent sticking

Conventional Issues

If the actuator does not move for a long period of time, the drive part will stick and cause a defect that does not work when used.

Change Points

Operate related parts once a week as a protective measure



NEW

Custom menu	3:24pm,Mon
Reset energy monitor	
Reset operation history	
Smart DHW	
Anti-stick mode	
▲Select	[←] Confirm
Custom menu	3:24pm,Mon
Anti-stick mode	
Enable	
Disable	
▼Select	[←] Confirm

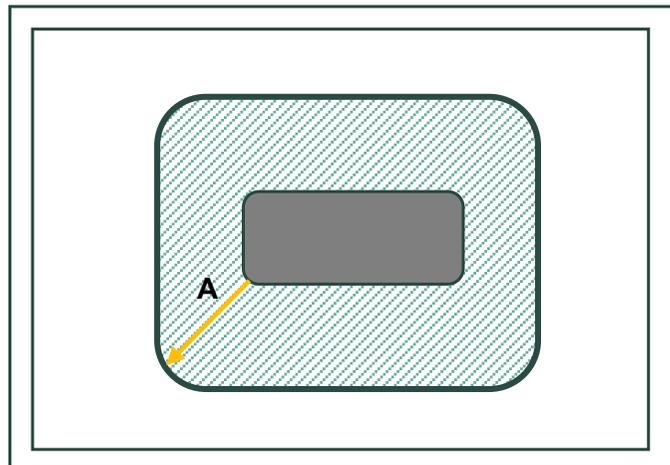
Outdoor unit installation safety guidance

Sealed circuit | Outdoor unit contains R290 refrigerant in a factory sealed circuit. Installation does not require/allow outdoor refrigerant action

Clearance area | A protection area around the unit is defined in which must not be: Ignition sources e.g. plug sockets, lamps, air vents; Or windows, basement window, ventilation ducts and drain soakaway

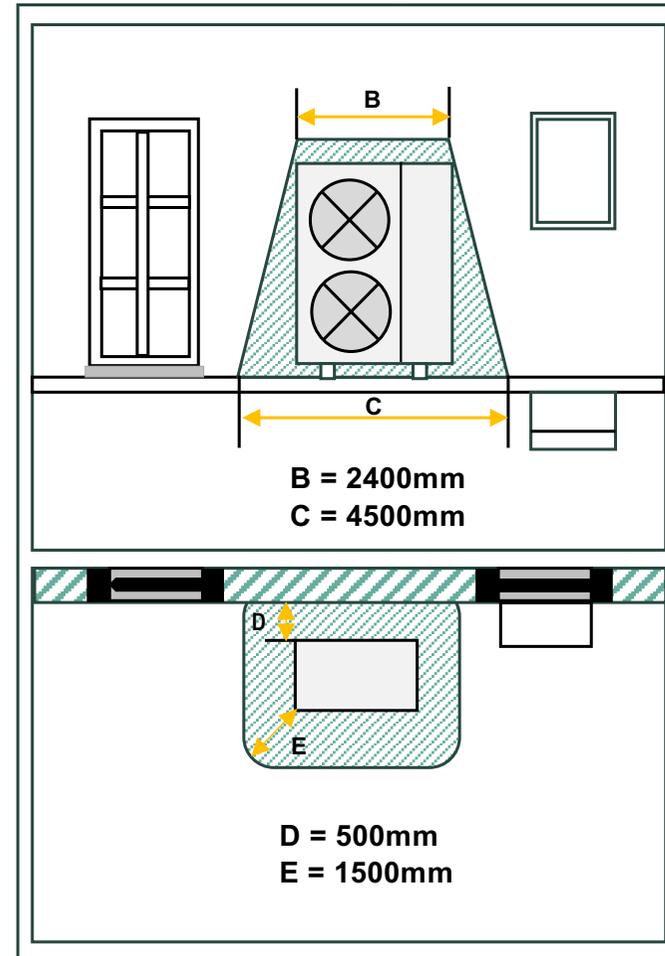
In the protective zone, you are not permitted to make any subsequent structural alterations which infringe the stated rules for the protective zone.

1) Protective zone for ground installation (or flat roof installation) at the open areas

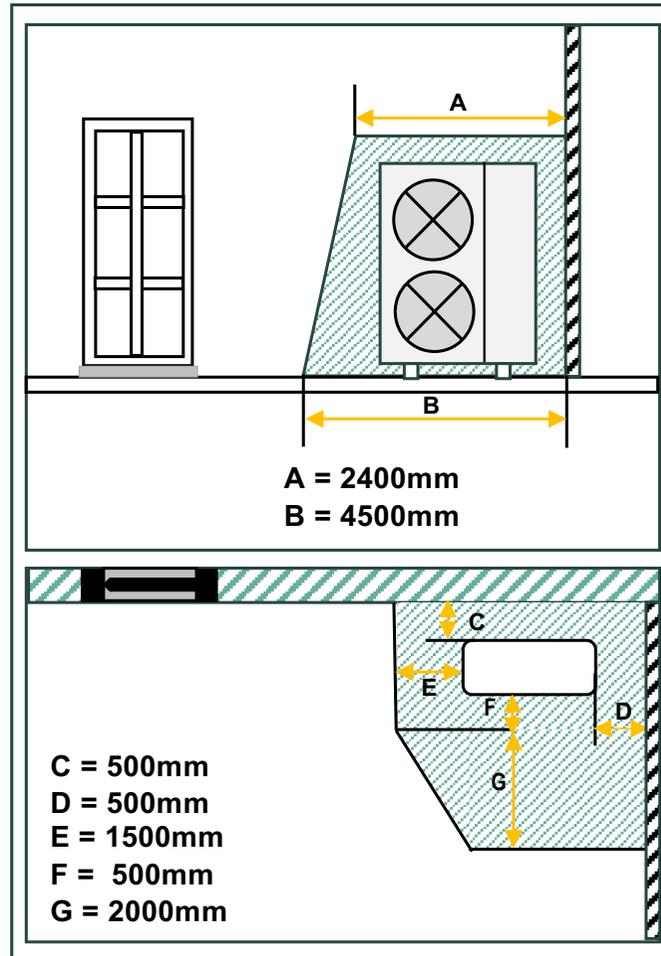


A = 1500mm

2) Protective zone for ground installation in front of a building wall

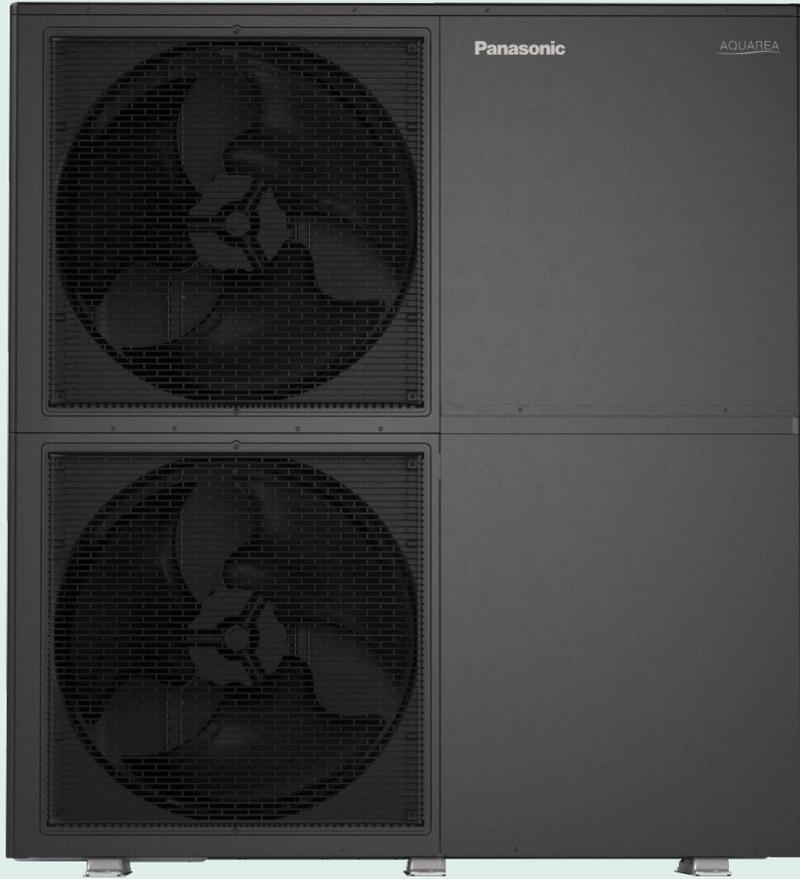


2) Protective zone for ground installation in front of a building wall



Standalone Single unit

Panasonic



+

CZ-RTW2



OR

WH-CME8L



+

Standalone Single unit – Outdoor unit (WH-WXG20ME8 or WH-WXG25ME8 or WH-WXG30ME8 + CZ-RTW2)

Outdoor Unit

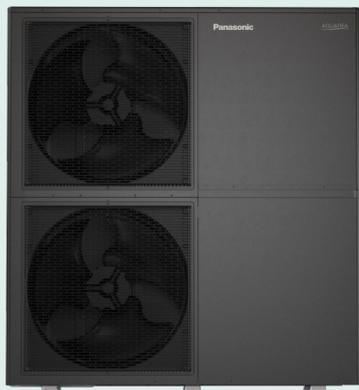


CZ-RTW2



Connections	Function	Stand-alone
Tank sensor	DHW Production	✓
3-way valve		✓
Remote control	Set Up(commissioning) and Room Thermostat	✓
CN-CNT	A2W Cloud or Tado Smart Heating Control	✓
Extra pump output	Control of additional circulating pump added in series to main circulating pump	✓

Outdoor Unit



WH-CME8L

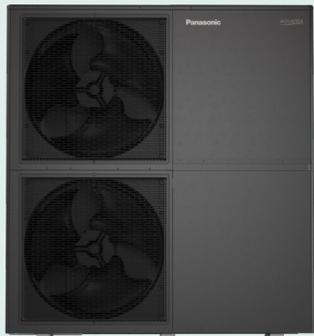


Functions/Control from Main Board in WH-CME8L

Connections	Function	Main Board in WH-CME8L
Tank sensor	DHW Production	✓
3-port valve		
Remote control	Set Up(commissioning) and Room Thermostat	✓
CN-CNT	A2W Cloud, Cascade Controller or Tado Smart Heating Control	✓
Extra pump output	Heating circuit circulating pump on heating side of buffer tank	✓
Room sensor zone 1	Separate Room temperature sensor	✓
Room thermostat 1	Separate Room Thermostat	✓
Buffer tank sensor	Control Buffer tank Temperature	✓
Back-up heater	Inline or Buffer tank back up heater control	✓
Booster heater & OLP	Control or Booster heater in cylinder & OLP	✓
Outdoor sensor	Remote Ambient Air sensor - Rather than sensor on unit	✓
External switch	External control of switching on/off unit	✓
Boiler contact / Defrost signal	Hybrid control with boiler	✓
2-way valve	2way valve control	✓
CN-CNT2	A2W Cloud, Cascade Controller or Tado Smart Heating Control	✓

Standalone Single unit – Outdoor unit + Main Board (in WH-CME8L) + Optional Advanced Options Board (CZ-NS7P) fitted within WH-CME8L **Panasonic**

Outdoor Unit



WH-CME8L



CZ-NS7P

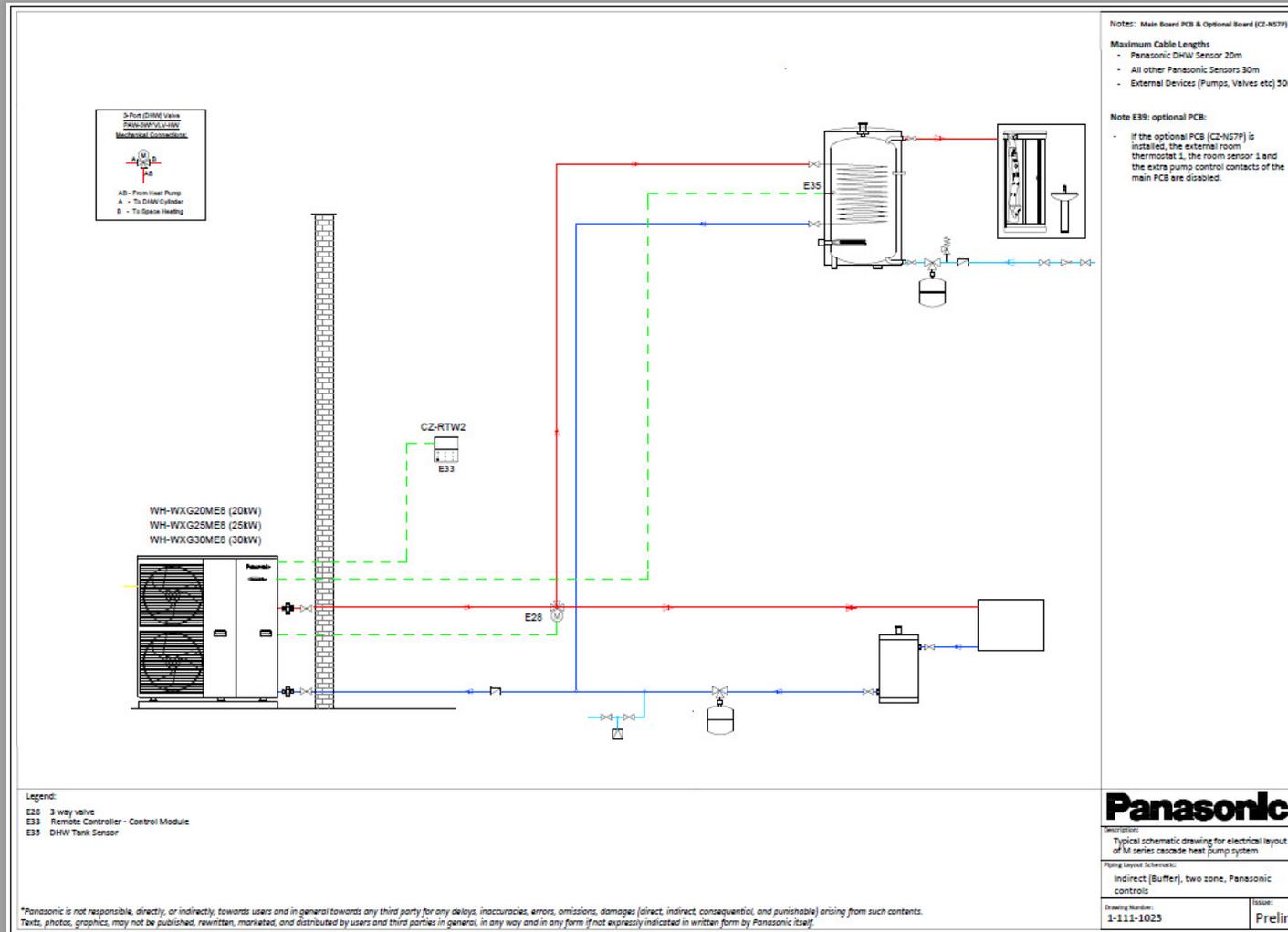


Additional functions/control provided when CZ-NS7P is fitted alongside main board.

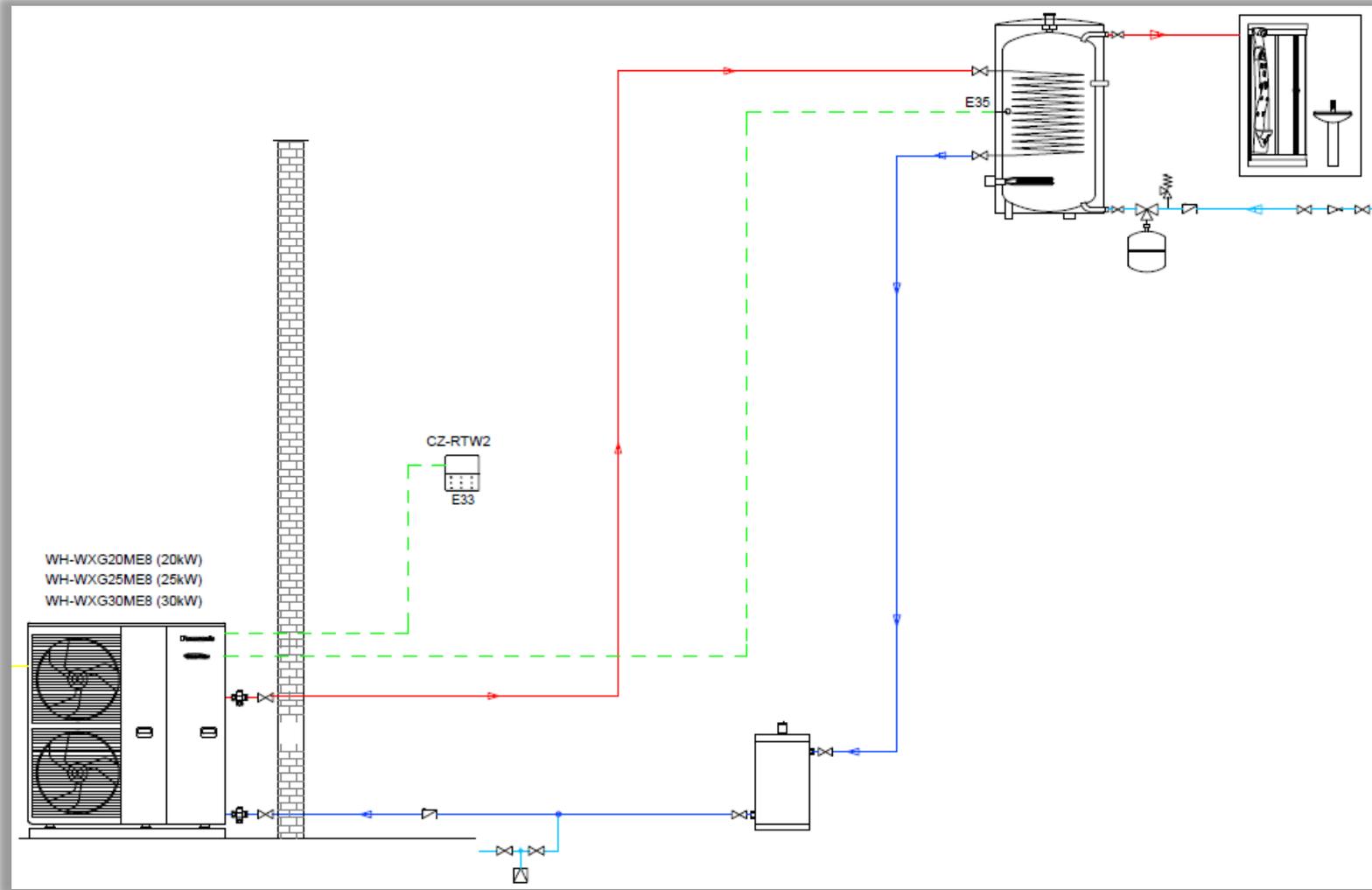
Connections	Function	Stand-alone
Tank sensor	DHW Production	✓
Single Heating Circuit using Controller as Room Thermostat		✓
Remote control	Set Up(commissioning) and Room Thermostat	✓
CN-CNT	A2W Cloud, Cascade Controller or Tado Smart Heating Control	✓
Extra pump output	Heating circuit circulating pump on heating side of buffer tank	✓
Room sensor zone 1	Separate Room temperature sensor	✓
Room thermostat 1	Separate Room Thermostat	✓
Buffer tank sensor	Control Buffer tank Temperature	✓
Back-up heater	Inline or Buffer tank back up heater control	✓
Booster heater & OLP	Control or Booster heater in cylinder & OLP	✓
Outdoor sensor	Remote Ambient Air sensor - Rather than sensor on unit	✓
External switch	External control of switching on/off unit	✓
Boiler contact / Defrost signal	Hybrid control with boiler	✓
2-way valve	2way valve control	✓
CN-CNT2	A2W Cloud, Cascade Controller or Tado Smart Heating Control	✓

Standalone Single unit – Remote Controller, providing Heating & DHW

Panasonic



Standalone Single unit – Remote Controller , providing DHW Only



Cascade managers comparison

Panasonic

	PAW-A2W-CMH-3	PAW-A2W-CME4	PAW-A2W-CME10
Cascade up to N° heat pumps	Up to 10	Up to 4	Up to 10
Management of heat demand, balancing working hours	✓	✓	✓
Working modes	Alternate and combined mode	Alternate and combined mode	Alternate and combined mode
Integration of photovoltaics (PV optimised algorithm)	✓	-	-
Connectable buffer tank	2 tanks	1 tank	1 tank
Heating / cooling 0-10 V demand signal	✓	-	-
BMS integration	Modbus TCP	BACnet IP	BACnet IP
Built-in touch screen display	✓	-	-
Management via Tablet, smartPhone, PC	-	✓	✓
Remote monitoring via P-Smart Edge	-	✓	✓
Multi-site control via P-Smart Nexus	-	✓	✓
Data statistics visualization	-	✓	✓

NEW* Cascade Manager with a large, easy-to-use touch screen display

- Cascade up to 10 heat pumps (up to 300 kW)
- Intuitive control thanks to a user-friendly interface
- Photovoltaics integration (PV optimised algorithm)
- Control of 3-way valves for cooling (2 buffer tanks)
- Heating / cooling 0-10 V demand signal – controls target outlet temperature
- Energy meters compatibility
 - Meters communication with Modbus RTU
 - Pre-configuration of 4 market popular meters
- BMS integration via Modbus TCP
- Working mode: entire system in heating/cooling or DHW by priority

* Requires 1 CZ-NSMB per outdoor unit
(WH-WXG20ME8, WH-WXG25ME8, WH-WXG30ME8)



Fully compatible with Aquarea Heat Pumps*

Terminal Connections inside Cascade Manager

↓	P	↓	↑	L	N	PE	A	B	H	C	↓	↑	B
G	W	10V DC IN Heat:3-8.5V Cool:0.5-2V		Power		EIA485 Modbus			IN	IN	SENSOR		OUT
N	M			230V AC IN		HP1-10 E-Meter			HEAT	COOL	BUFFER TANK		HP1
D		Pump Solar	ext. demand					230V AC OUT BUFFER VALVE					

Cascade Manager - Edge

- PAW-A2W-CMHE4
- PAW-A2W-CMHE10

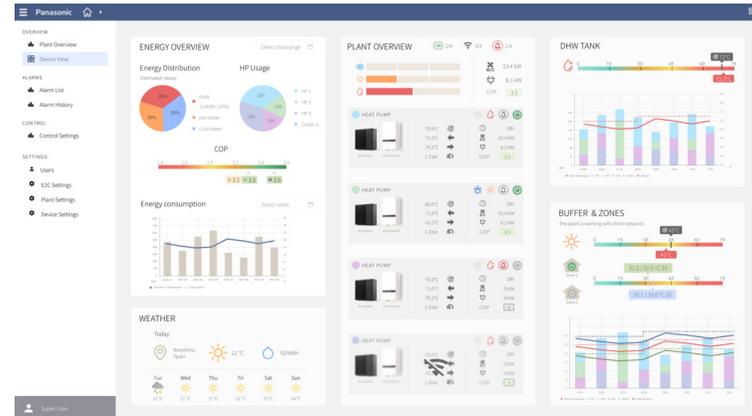
- Connecting the Cascade Manager PAW-A2W-CMH4 allows cascades of up to 4 heat pumps, reaching capacities of up to 120 kW
- Connecting the Cascade Manager PAW-A2W-CMH10 allows cascades of up to 10 heat pumps, reaching capacities of up to 300 kW



Cloud Cascade Manager - Edge

NEW

- Connecting the Cloud Cascade Manager allows cascades of up to 4 or 10 heat pumps, reaching capacities of up to 300 kW
- Cloud Control



Modbus Module PCB (CZ-NSMB)

NEW

- Optional Modbus PCB can be installed inside the Control module

NEW Cascade Manager for Aquarea Projects

Hardware:
“Aquarea Cascade Edge”



Software platform:
“P-Smart Edge”



P-SMART
EDGE

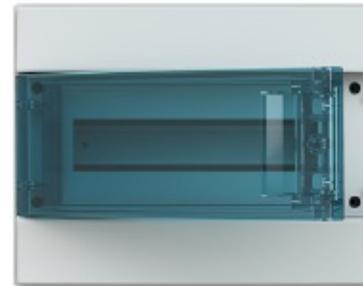


- **PAW-A2W-CME4:** cascade up to 4 outdoor units
- **PAW-A2W-CME10:** cascade up to 10 outdoor units

P-Smart Edge
Accessible as a local web page using
QR code on Aquarea Edge

NEW Cascade Manager for Aquarea projects

- Cascade up to **4 or 10** Aquarea heat pumps*
- Local Web visualisation of the cascade controller
- Easy connection with Tablet, Phone or Laptop thanks to pre-configured Wi-Fi network on the device
- 2 possible online management solutions:
 - **P-Smart Nexus**: multi-site monitoring solution
 - Via customer VPN or MyDNS configuration
- Data ownership thanks to local data storage (No Cloud)
- BMS Integration via BACNET IP (available Q1FY25)
- Configuration wizard with default values



*COMING SOON - Spring '25
possible combination with ECOi-W AQUA chillers and heat pumps
(1 Aquarea: Master + ECOi-W AQUA: sub unit)

NEW Cascade Manager PAW-A2W-CMH4 & PAW-A2W-CMH10

- 1 Edge device box
- 2 Circuit Breaker + Power Supply
- 3 Resistor for DHW Tank on Sub HPs
- 4 QR Code to access to the local P-Smart Edge web page

Note:
The device is prewired and tested before the shipping.



Dimensions (LxHxD): 320x250x155 mm
Weight: 2 kg

** Requires 1 CZ-NSMB per outdoor unit
(WH-WXG20ME8, WH-WXG25ME8, WH-WXG30ME8)

Two possible logic working modes:

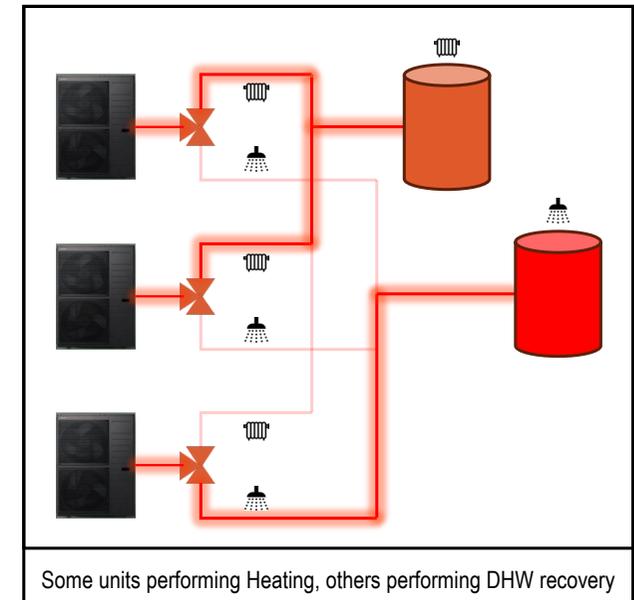
1. Alternate mode: entire system in heating/cooling or DHW by priority
2. **Combined mode:** possibility to combine all the heat pumps between heating/cooling and DHW, providing both simultaneously (set by default)

Option 2: Combined mode

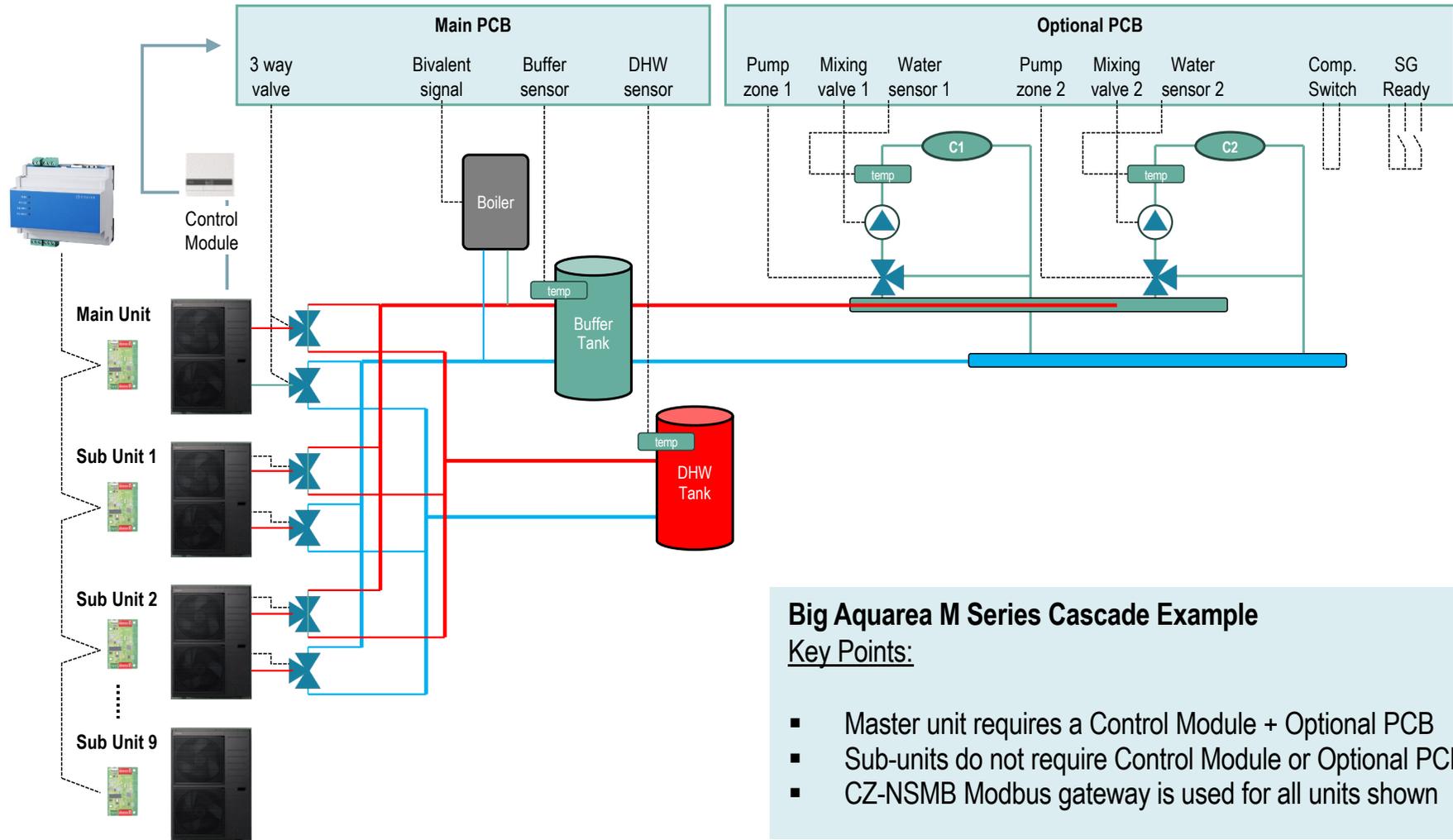
- Installation of two 3-way valves on the inlet & outlet piping to prevent water mixing
- The cascade manager control the working mode based on temperature and set-point.
- Possibility to specify which heat pumps work for DHW production, heating and cooling

Advantages compared to the other working mode:

- Improved occupant comfort levels thanks to constant operation
 - Smaller buffer tank
 - Smaller capacity unit
- } Lower Capex



Example: working mode with Aquarea M Series



Big Aquarea M Series Cascade Example
Key Points:

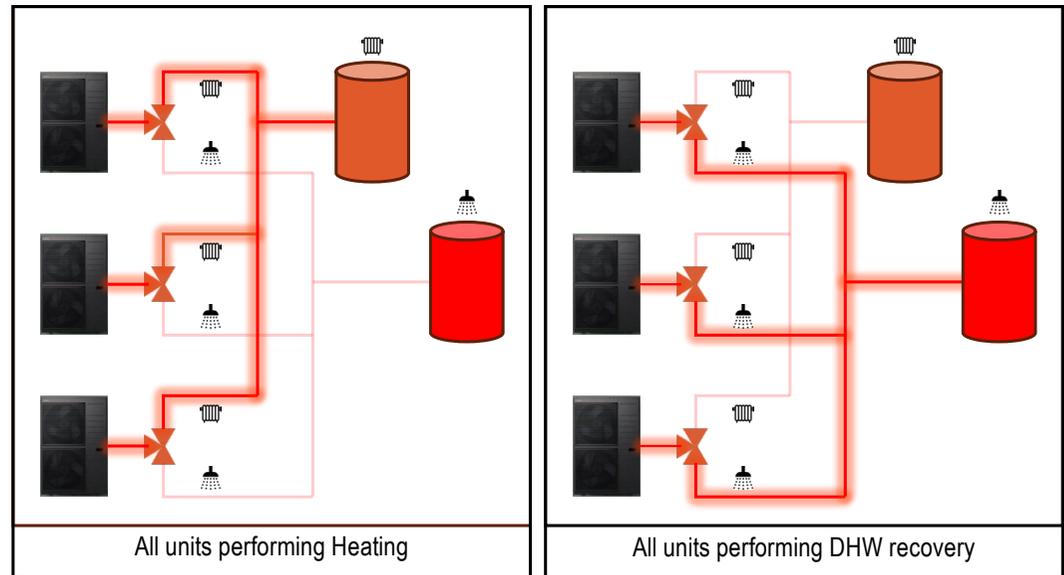
- Master unit requires a Control Module + Optional PCB
- Sub-units do not require Control Module or Optional PCB
- CZ-NSMB Modbus gateway is used for all units shown

Two possible logic working modes:

1. **Alternate mode:** entire system in heating/cooling or DHW by priority
2. Combined mode: possibility to combine all the heat pumps between heating/cooling and DHW, providing both simultaneously (set by default)

Option 1: Alternate mode

All the units in the system perform in heating or DHW by priority.
There is **NO** possibility to provide simultaneously heating and DHW



Plug & Play solution

All necessary components are enclosed in one casing and ready to use without additional accessories.

Easily connection through a configured Wi-Fi Access Point.

Easy wizard with predefined values

Quickly configure your system in few minutes thanks to the interactive online page:

- 4 Heat pumps system in less than 4 minutes
- 10 heat pumps system in less than 6 minutes

Easily access through QR Code

Simple access to the local web page by scanning a QR Code placed on the device and quick authentication via username and password.

No touch-screen on the device but user-friendly online interface to monitor and manage your heat pumps.

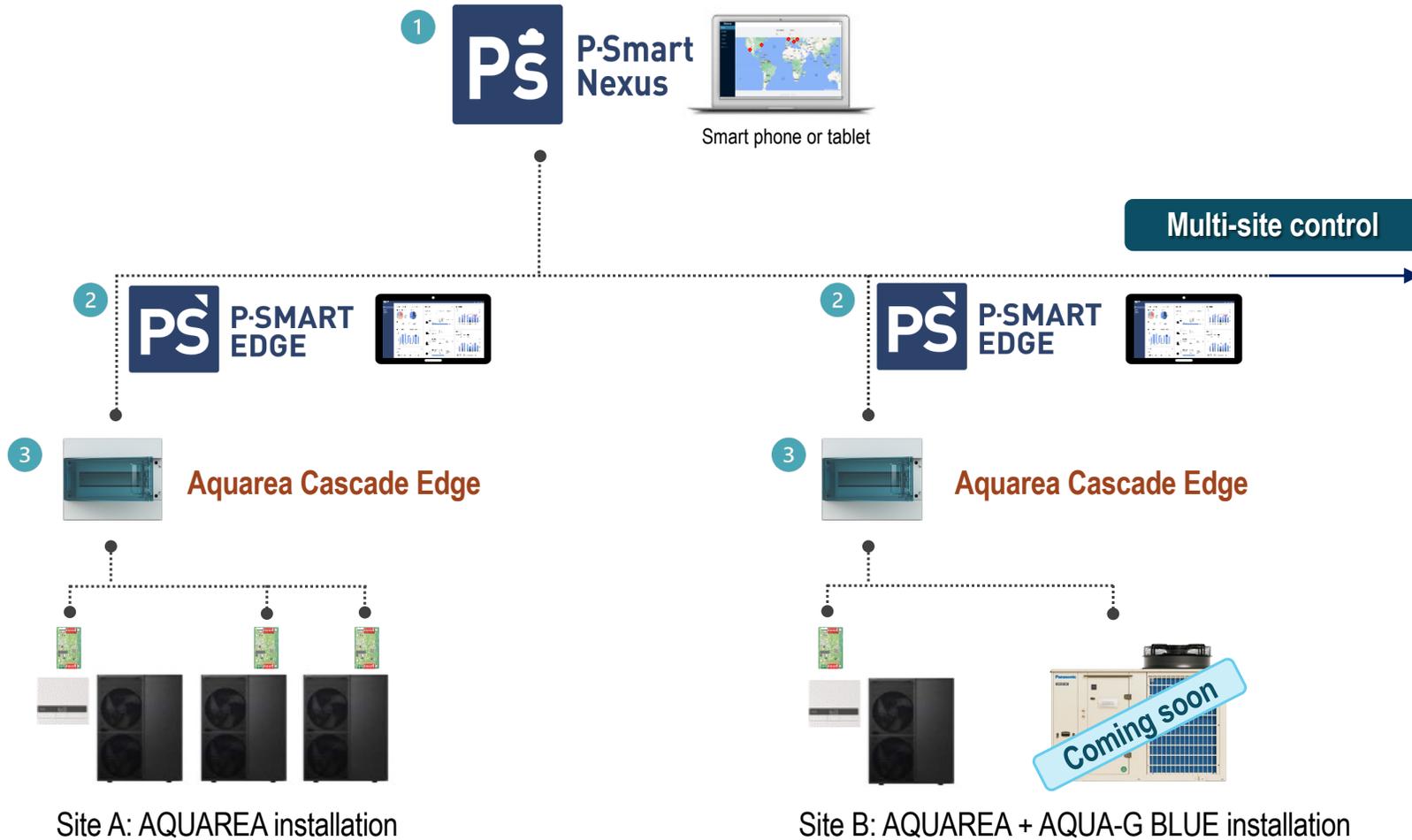
Data ownership

Full control and ownership of the unit data thanks to a local data storage.

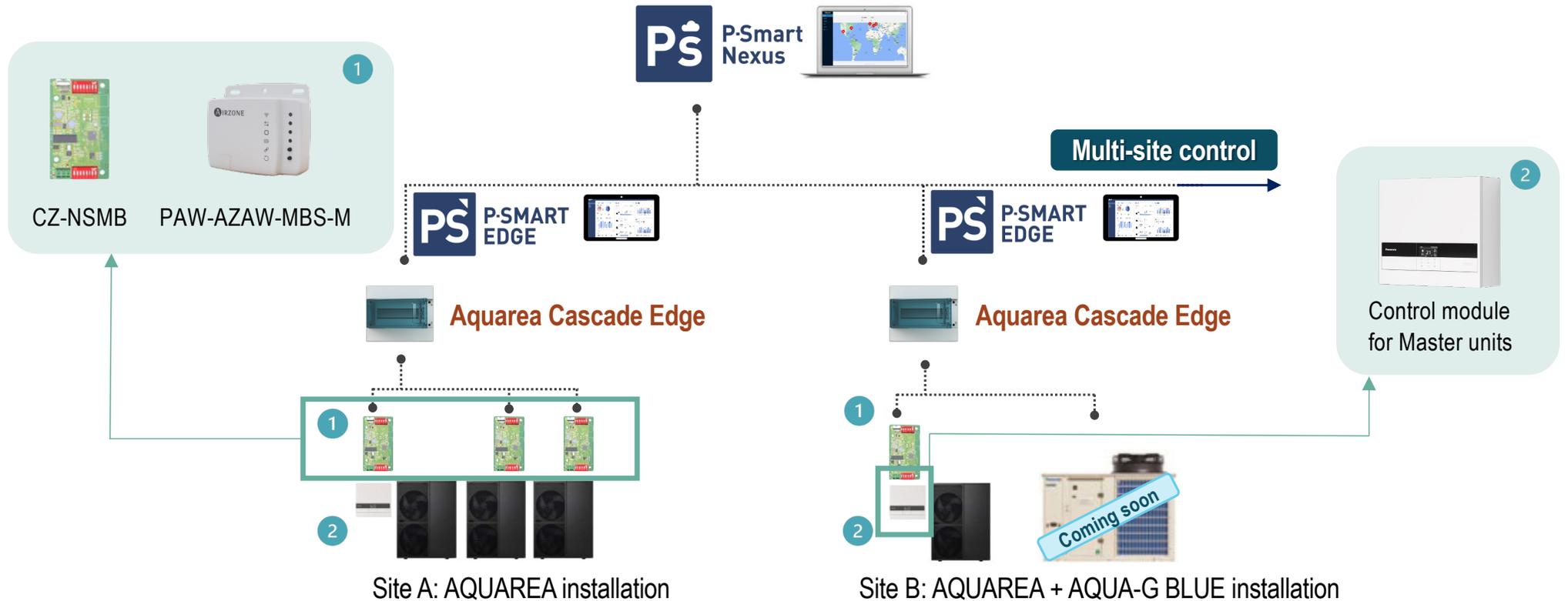
The data are stored inside the device and can be visualized using a Smartphone, Tablet or PC from everywhere, even outside the building.

There is no Cloud storage.





To manage all the units connected in cascade, each Aquarea units requires a Modbus Interface (Optional PCB). The master unit also needs a control module.

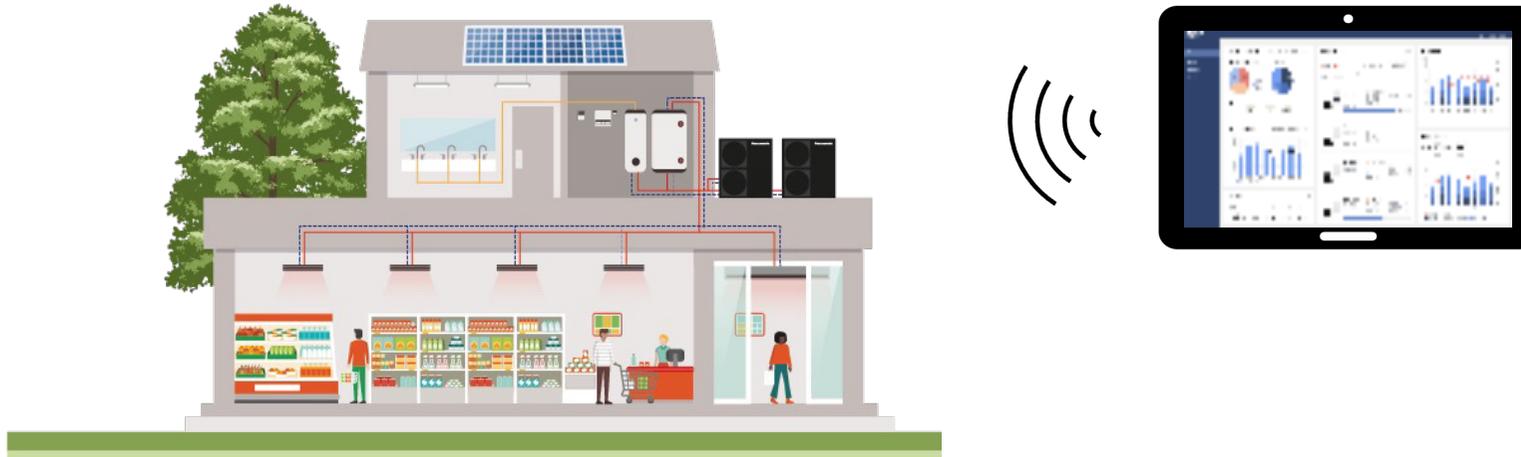


Control and monitoring solution for Aquarea cascade systems

Remotely control your Aquarea units with a local web visualisation via smartphone, tablet or PC, even outside your installation site.



- Local web visualisation of the cascade controller
- Easy connection with smartphone, tablet or PC thanks to the Wi-Fi access point on the device
- Remote management of the system without being on-site
- Historical system data (stored for up to 2 years)

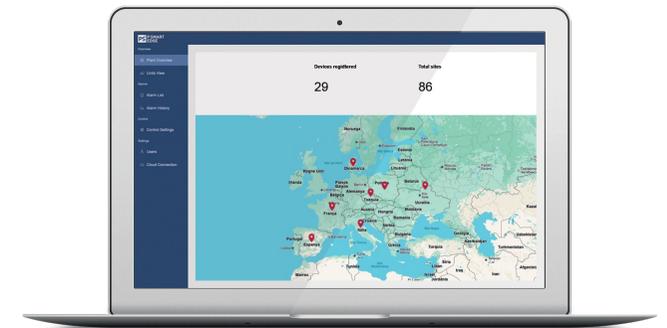


Smart multi-site remote management

Smart multi-site control which allows a remote global supervision of all your sites.
Control your different installations wherever you are, with easy on-site network setup.



- Remote global supervision of all your sites in one place
- 24/7 control of all the installations
- Easy connection to Aquarea Cascade Edge without special on-site network setup
- Online visualization, no installation of any specific software is required
- No limit to the number of sites you can connect to your account
- 3-year subscription from the start-up included



Two possible solution to manage your cascade systems:

1 **P-Smart Nexus: Multi-site monitoring solution**



Connect to all the Aquarea Smart Edge devices and monitor all your sites wherever you are thanks to P-Smart Nexus.
See a map with all your Aquarea installations and monitor each single cascade system remotely.

3-year free access included.

2 **Via customer VPN or MyDNS configuration**

Connect to your Aquarea Smart Edge device via Internet using local VPN or the building network. Alternatively, if a fixed IP address is not used, you may use MyDNS configuration to access to your account and manage your systems.

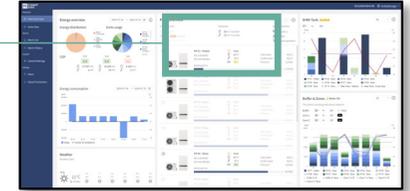
Powerful remote management with user-friendly interface



- 1. Plant overview
- 2. Units View
- 3. Alarms
- 4. Control
- 5. Settings

Note: User interface design may vary.

1. Plant overview



Running units

Alarms

Plant Overview

In operation 9/10

Disabled

Heat

Cool

Total power

131 kW Generated

48 kW Consumed

Advanced functions

- Capacity 1
- Parallel
- Normal operation

- SG ready
- Bivalent mode
- Silent mode

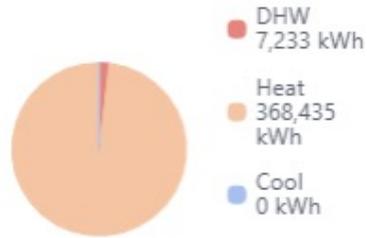
Total power information

Plant overview
View at a glance all system values relating to the current operating status of all the cascade units

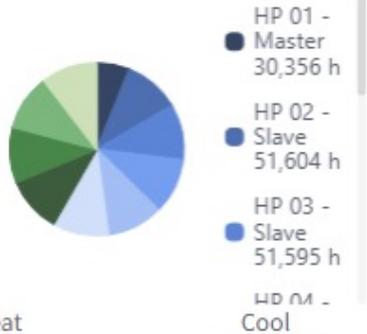
Energy overview

2024-07-24 ~ 2024-07-31

Energy distribution



Units usage



COP DHW

3,0

17.556 kWh
 2 kWh

COP Heat

3,0

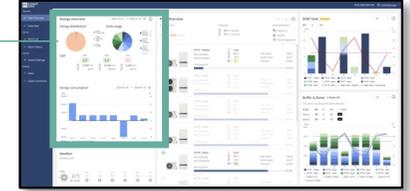
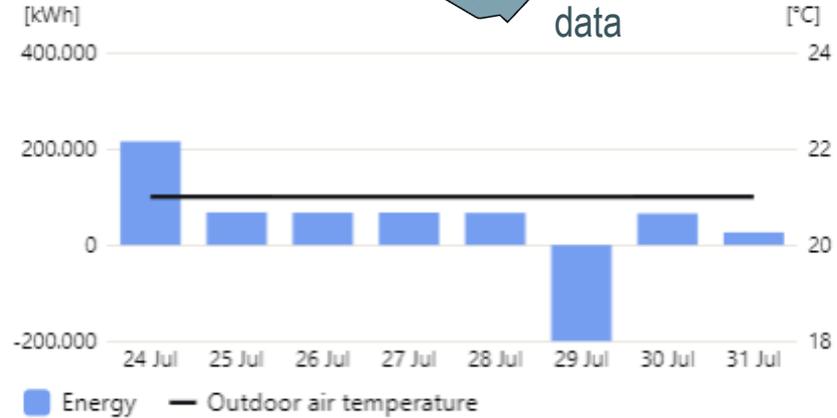
16.643 kWh
 74 kWh

COP Cool

5.182 kWh
 0 kWh

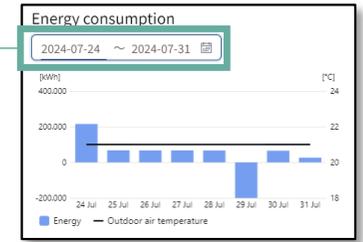
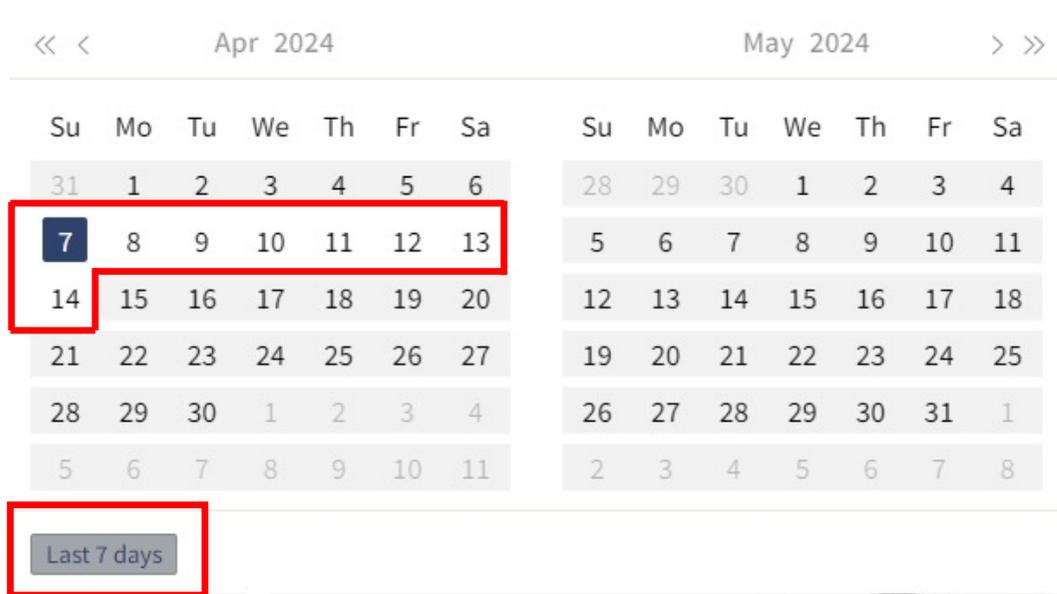
Energy consumption

2024-07-24 ~ 2024-07-31



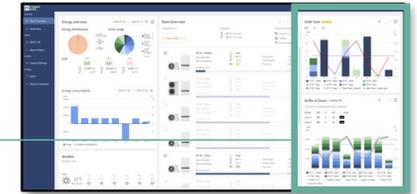
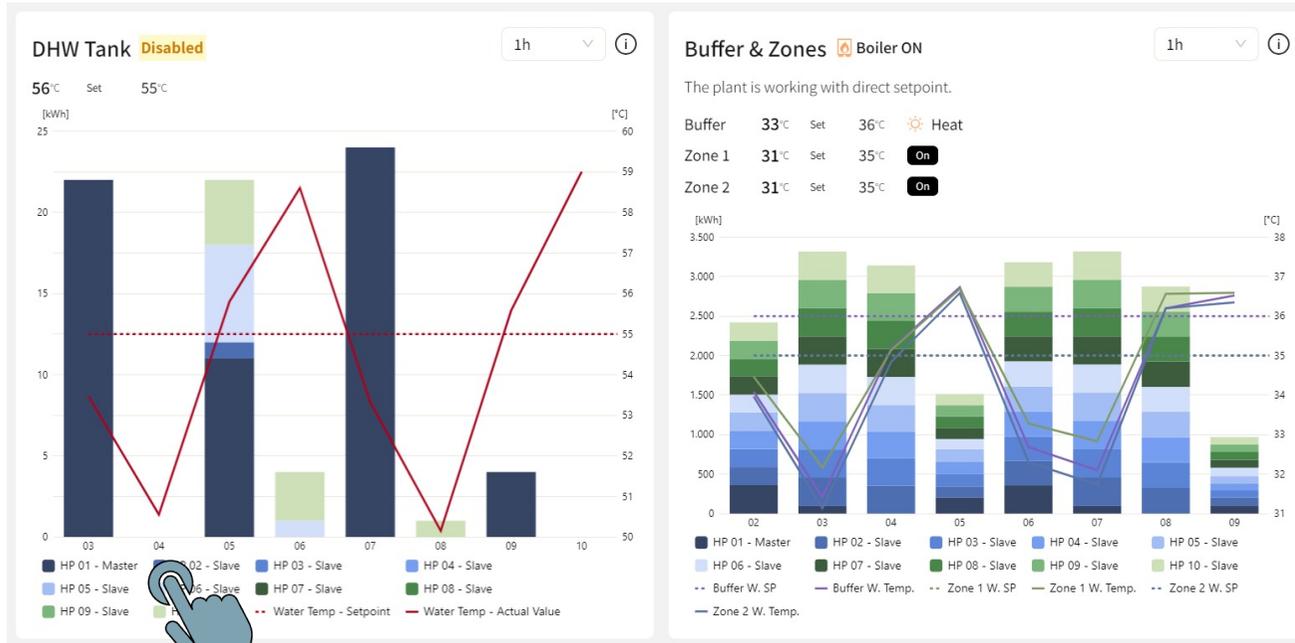
Historical data

Energy overview - historical data
Possibility to check the actual energy consumption of the units and the historical data



Last 7 days or previous 7-day period

- Historical system data
- Graphs and data showing the energy consumption related to periods of 7 days
 - Data stored for up to 2 years



Interactive charts

Energy overview – current status
 Based on 8 hours, the graphs show the current status of the system.
 By default: 1h
 Active or deactivate the units by clicking on them: the graphs changes automatically.

P-Smart Edge – control up to 10 unit in cascade

The screenshot displays a control interface for a cascade of 10 Panasonic heat pumps. On the left, a vertical list shows 10 units, each with a power icon, a small unit image, and a summary of its status. The second unit, HP 02 - Slave, is highlighted with a green border. An arrow points from this unit to a larger, detailed view on the right. This detailed view shows the unit's name, model numbers (WH-UX09HE5 and WH-SXC09K3E5), a power icon, a heat icon, and a COP icon. It also displays the unit's operating parameters: Heat (16 kW), Inlet water (40,0°C), Outlet water (45,0°C), Pressure (12,0bar), and Working time (47.054h).

Unit ID	Model	Heat (kW)	Inlet water (°C)	Outlet water (°C)	Pressure (bar)	Working time (h)
HP 01 - Master	WH-UD03HE5 WH-SXC09K3E5	21 kW	40,0°C	45,0°C	12,0bar	47.054h
HP 02 - Slave	WH-UX09HE5 WH-SXC09K3E5	16 kW	40,0°C	45,0°C	12,0bar	47.054h
HP 03 - Slave	WH-UD03HE5 WH-SXC09K3E5	18 kW	40,0°C	45,0°C	12,0bar	47.054h
HP 04 - Slave	WH-UD03HE5 WH-SXC09K3E5	19 kW	40,0°C	45,0°C	12,0bar	47.055h
HP 05 - Slave	WH-UD03HE5 WH-SXC09K3E5	11 kW	40,0°C	45,0°C	12,0bar	47.058h
HP 06 - Slave	WH-UD03HE5 WH-SXC09K3E5	18 kW	40,0°C	45,0°C	12,0bar	47.058h
HP 07 - Slave	WH-UD03HE5 WH-SXC09K3E5	18 kW	40,0°C	45,0°C	12,0bar	47.062h
HP 08 - Slave	WH-UD03HE5 WH-SXC09K3E5	13 kW	40,0°C	45,0°C	12,0bar	47.062h
HP 09 - Slave	WH-UD03HE5 WH-SXC09K3E5	16 kW	40,0°C	45,0°C	12,0bar	47.058h
HP 10 - Slave	WH-UD03HE5 WH-SXC09K3E5	11 kW	40,0°C	45,0°C	12,0bar	47.057h

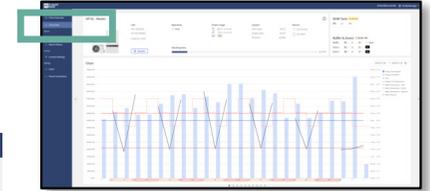
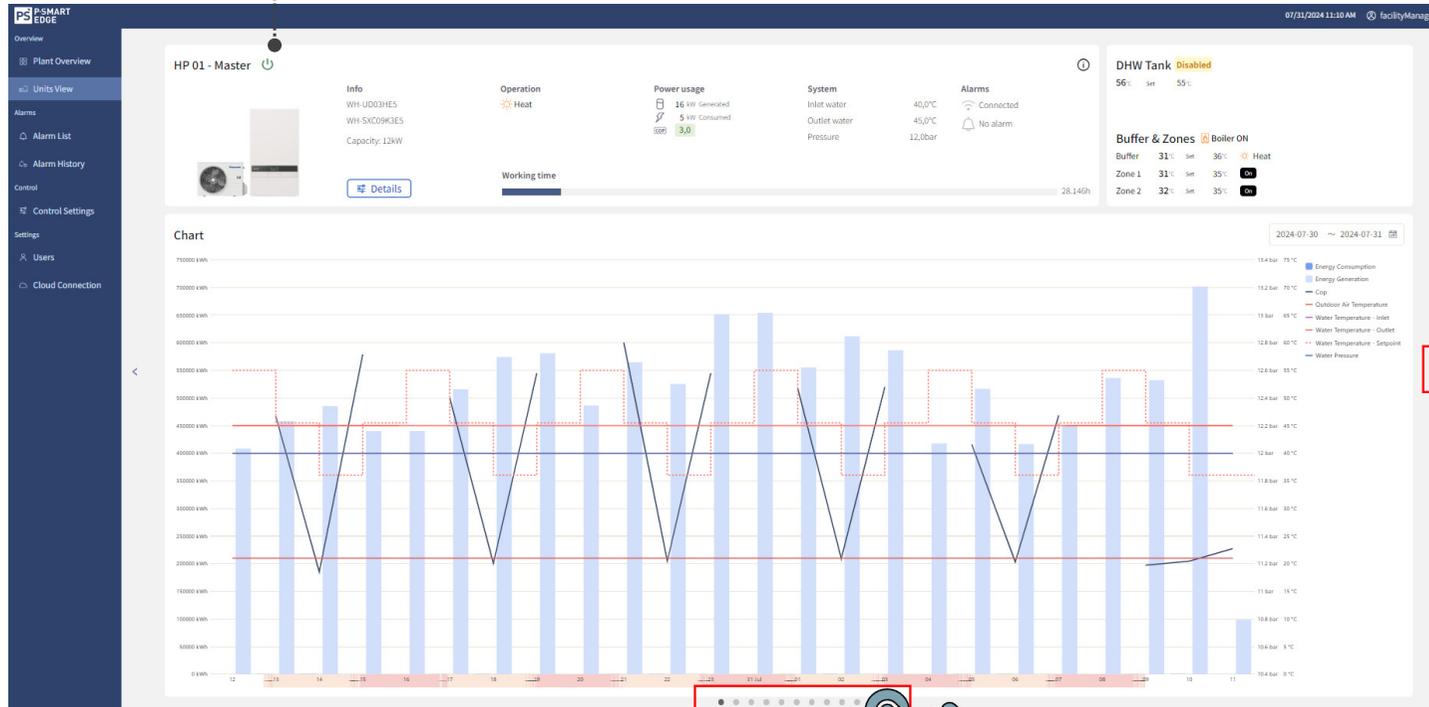
HP 02 - Slave
WH-UX09HE5
WH-SXC09K3E5

Heat: 16 kW
Inlet water: 40,0°C
Outlet water: 45,0°C
Pressure: 12,0bar
Working time: 47.054h

Cascade up to 10 units
Check the current status operation of all the unit connected in cascade.

2. Units overview

On/off unit status



Check all the units

3. Alarms

Target	Status	Code	Details	Priority	Last Time On	Last Time Off	Acked time	Acked by	Count
HP 02 - Slave	unitOffline	Offline	Offline	255	7/24/2024, 6:22 PM	7/24/2024, 6:23 PM	7/25/2024, 1:28 PM	ufacilityManager	4
HP 10 - Slave	unitOffline	Offline	Offline	255	7/24/2024, 6:22 PM	7/24/2024, 6:23 PM	7/25/2024, 1:28 PM	ufacilityManager	4
HP 03 - Slave	unitOffline	Offline	Offline	255	7/24/2024, 6:22 PM	7/24/2024, 6:23 PM	7/25/2024, 1:28 PM	ufacilityManager	4
HP 06 - Slave	unitOffline	Offline	Offline	255	7/24/2024, 6:22 PM	7/24/2024, 6:23 PM	7/25/2024, 1:28 PM	ufacilityManager	4
HP 01 - Master	unitOffline	Offline	Offline	255	7/24/2024, 6:22 PM	7/24/2024, 6:23 PM	7/25/2024, 1:28 PM	ufacilityManager	4
HP 08 - Slave	unitOffline	Offline	Offline	255	7/24/2024, 6:22 PM	7/24/2024, 6:23 PM	7/25/2024, 1:28 PM	ufacilityManager	4
HP 05 - Slave	unitOffline	Offline	Offline	255	7/24/2024, 6:22 PM	7/24/2024, 6:23 PM	7/25/2024, 1:28 PM	ufacilityManager	4
HP 07 - Slave	unitOffline	Offline	Offline	255	7/24/2024, 6:22 PM	7/24/2024, 6:23 PM	7/25/2024, 1:28 PM	ufacilityManager	4
HP 09 - Slave	unitOffline	Offline	Offline	255	7/24/2024, 6:22 PM	7/24/2024, 6:23 PM	7/25/2024, 1:28 PM	ufacilityManager	4
HP 04 - Slave	unitOffline	Offline	Offline	255	7/24/2024, 6:22 PM	7/24/2024, 6:23 PM	7/25/2024, 1:28 PM	ufacilityManager	4



Alarm notification via email



Alarm list

Visualize the active alarms list or the alarm history. To remove an active alarm and move it in the History, acknowledge it.

If an alarm occurs, possibility to be notified via email when the system is connected to the Internet.

▼ Zones

Current mode: Heating

Setpoint type: Heating Active, Compensation curve

Zone 1

Current temperature: 34°C

Direct setpoint: Heating Active: 4.5 °C, Cooling: 10 °C

Zone 1 / Compensation curve / Heating

- Water temperature max: 55 °C
- Outdoor temperature max: 15 °C
- Water temperature min: 35 °C
- Outdoor temperature min: 5 °C

Zone 1 / Compensation curve / Cooling

- Water temperature max: 15 °C
- Outdoor temperature max: 30 °C
- Water temperature min: 10 °C
- Outdoor temperature min: 20 °C

Zone 2

Current temperature: 34°C

Direct setpoint: Heating Active: 4.5 °C, Cooling: 10 °C

Zone 2 / Compensation curve / Heating

- Water temperature max: 55 °C
- Outdoor temperature max: 15 °C
- Water temperature min: 35 °C
- Outdoor temperature min: 5 °C

Zone 2 / Compensation curve / Cooling

- Water temperature max: 15 °C
- Outdoor temperature max: 30 °C
- Water temperature min: 10 °C
- Outdoor temperature min: 20 °C

Set up curves

Set the zones:
 Change mode from heating to cooling and set the curves at once, without doing it for each unit.

Deactivate zones for maintenance operations with a single click, without changing unit-by-unit configurations.

5. Settings

Users

New + Edit ↗ Reset Password 🔑 Delete 🗑️

Username	Group	Language	Region	Time Zone	Email	Note
facilityManager	facilityManager	italiano	Spagna	Berlin		

< 1 >

Edit User [X]

Username: facilityManager

First Name: facilityManager

Last Name: facilityManager

Group: facilityManager

Language: English

Region: Spain

Time Zone: Berlin

Note: Note

Email: Email

Cancel OK



- 3 User profiles:
- FacilityManager: all settings showed before
 - Installer: extra control - it can manage the Plant settings
 - BasicUser: access to Plant Overview page only

P-Smart Nexus connection

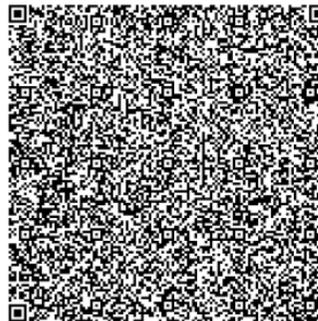
P-Smart Nexus	
Status	Connected
Registered to Cloud	Registered
Reset registration	Reset



Use the direct link clicking on the button below, or scan the QR code.

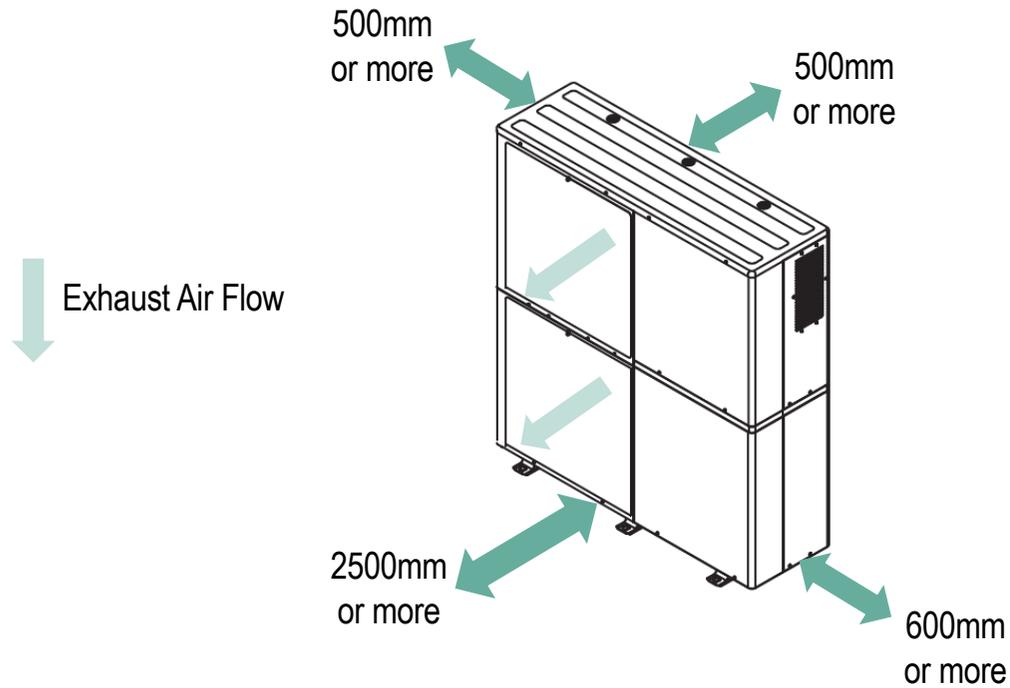
[Register](#)

[Click to copy QR code to clipboard](#)

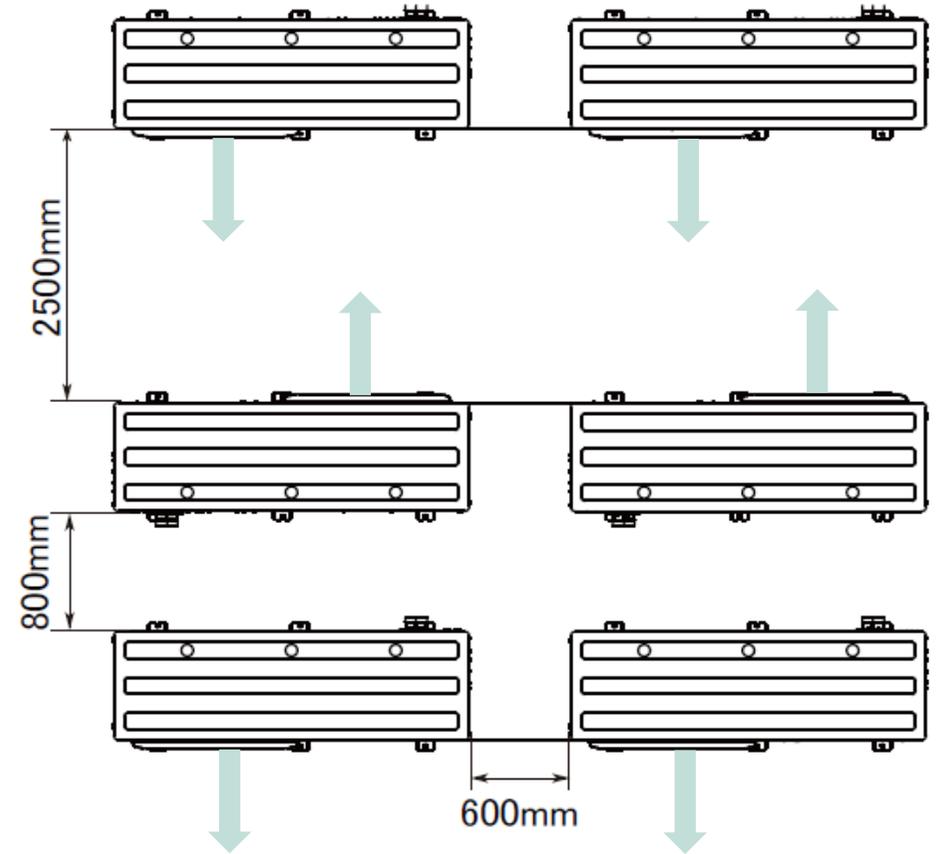


Register to P-Smart Nexus to connect your Nexus Account to P-Smart Edge to manage all your plants in one place.

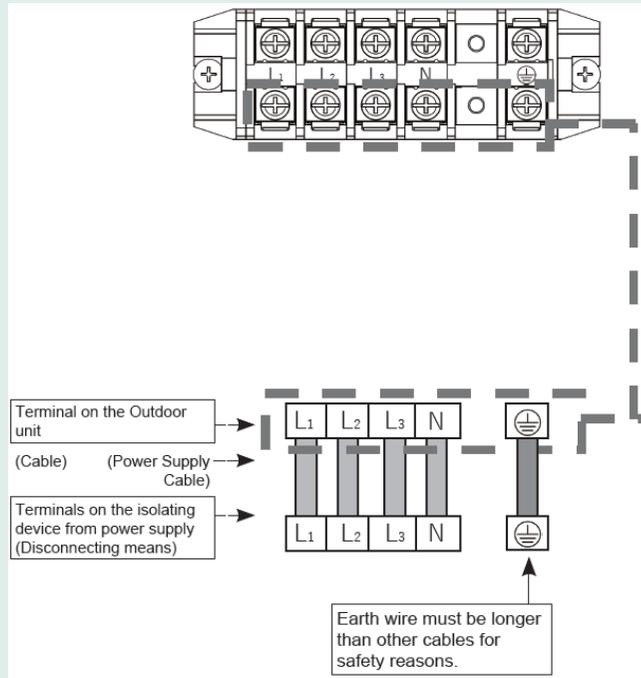
Single Unit Install Spacing



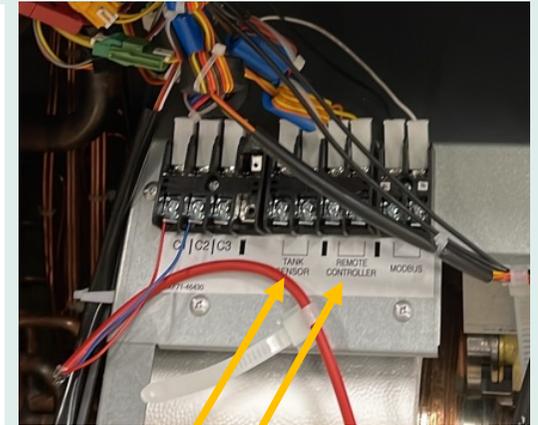
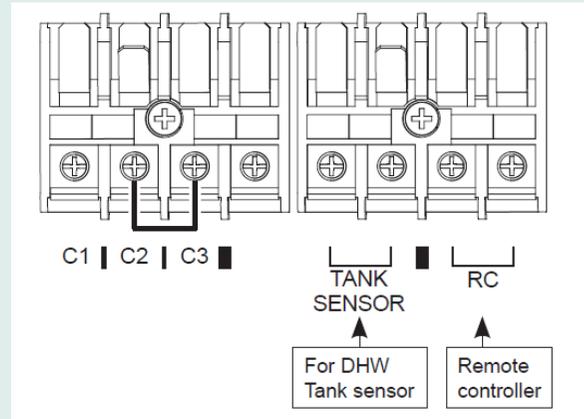
Minimum distance when units are connected in close proximity



Power Supply to Outdoor Unit

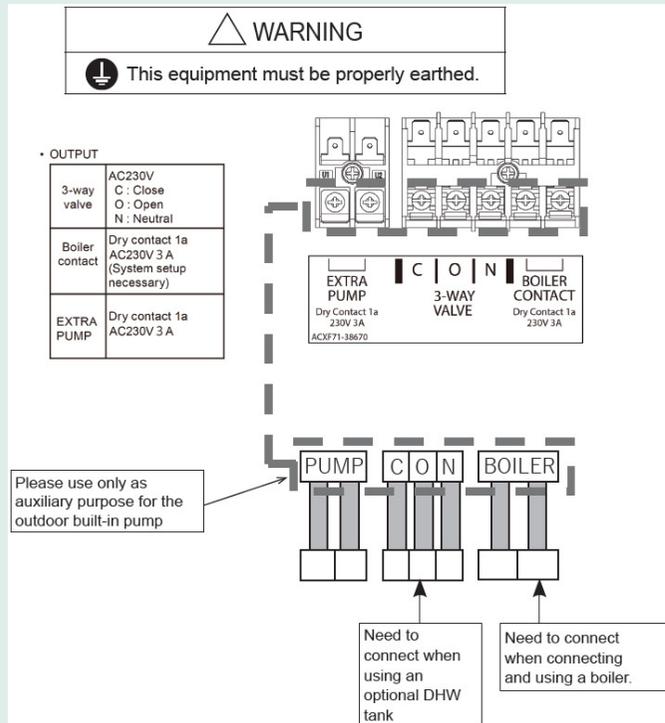


When outdoor unit is used alone, leave the short-circuit wires “C2” and “C3” attached as shown in the diagram below.



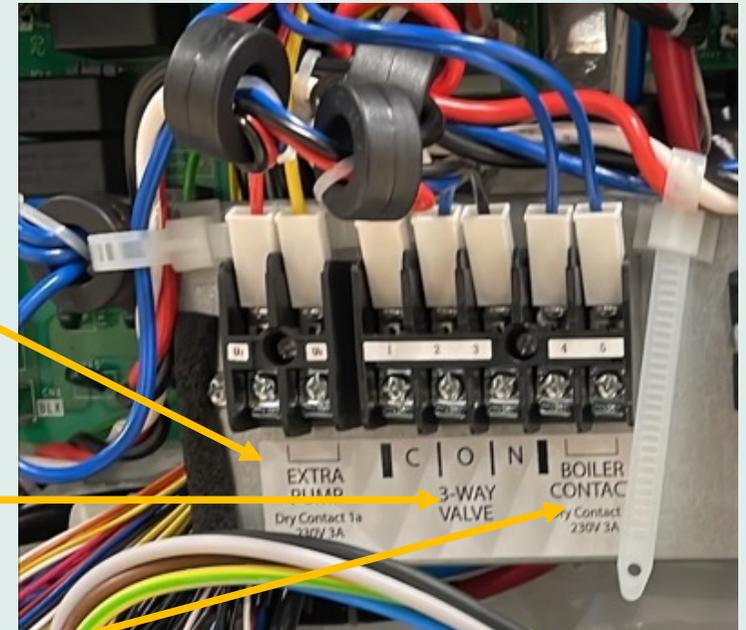
Connections for:

- DHW Tank Sensor
- Remote Controller



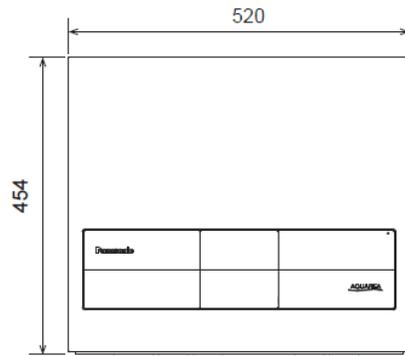
Connections on outdoor unit for:

- Extra Circulating Pump (In Series with built in circulating pump)
- 3 Way Valve (DHW Cylinder)
- Boiler Contact (Hybrid)



Indoor Unit (WH-CME8L) – Specification

Unit: mm



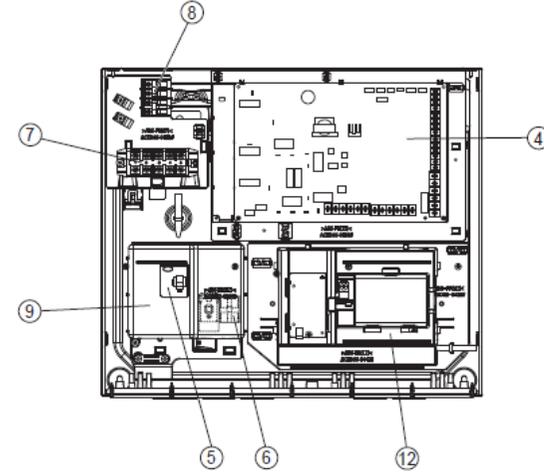
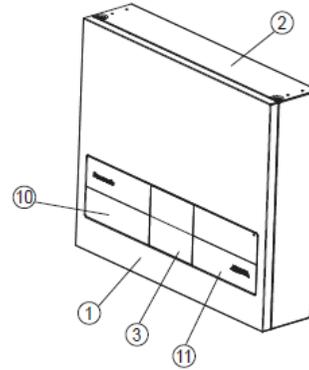
FRONT VIEW



SIDE VIEW

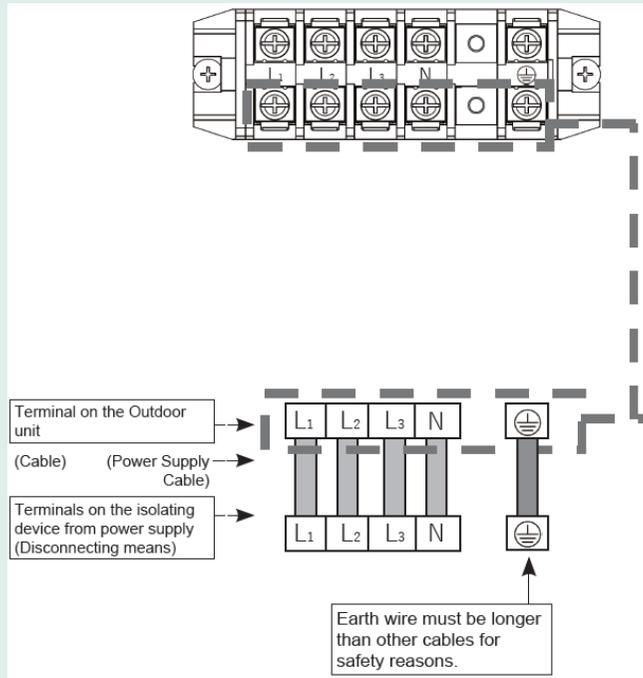


BOTTOM VIEW

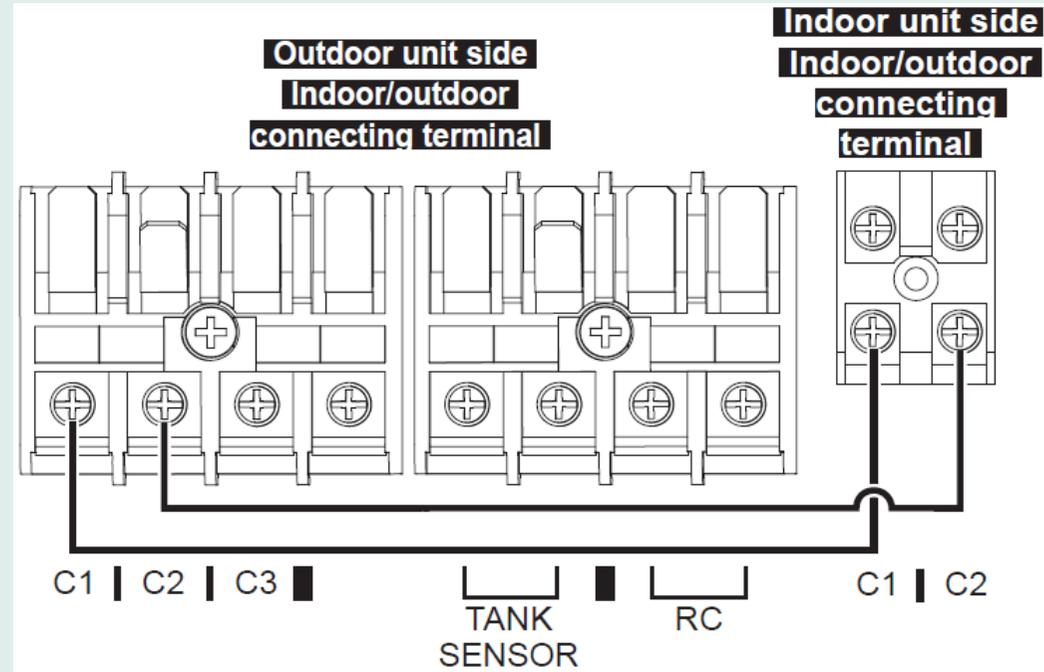


- ① Front cover
- ② Enclosure
- ③ Remote controller
- ④ PCB
- ⑤ RCCB/ELCB
- ⑥ Terminal 1 (ID-OD Communication)
- ⑦ Terminal 2 (For Heater)
- ⑧ Terminal 3 (For Heater OLP (Bi metal thermostat) & sensor)
- ⑨ Terminal Cover
- ⑩ Left decoration panel
- ⑪ Right decoration panel
- ⑫ Network adaptor holder

Power Supply to Outdoor Unit

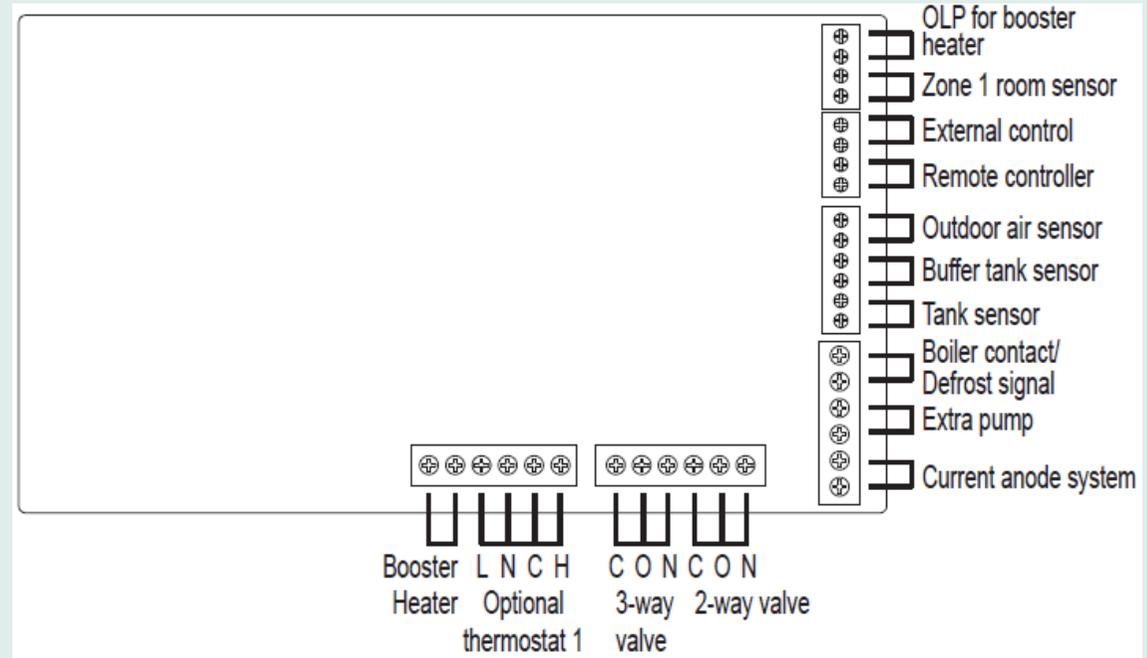


When connecting to an indoor unit *WH-CME8L), remove the short-circuit wires “C2” and “C3” and connect as shown in the diagram below.

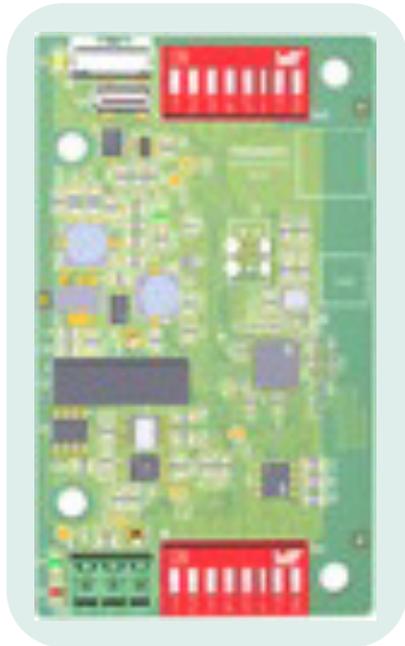


Connections on indoor unit (WH-CME8L) for:

- OLP for booster heater
- Zone 1 room sensor
- External control
- Remote controller
- Outdoor air sensor
- Buffer tank sensor
- Tank sensor (DHW)
- Boiler Contact/Defrost signal
- Extra pump (heating side of buffer)
- Current anode system (DHW cylinder)
- 2-way valve
- 3-way valve (DHW)
- Optional room thermostat
- Booster heater (DHW)

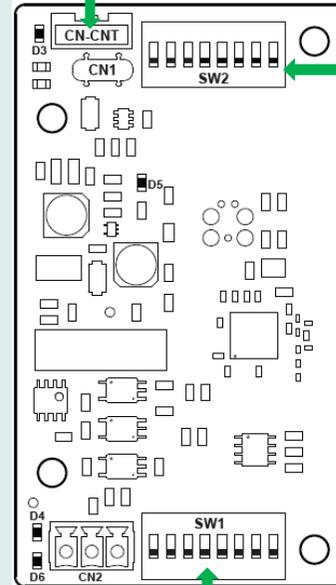


CZ-NSMB is required for communication purposes, between 2 units or more, maximum number of heat pumps that can be connected is **10**, Master + 9 Sub-units.



CN-CNT:
Modbus connection to
heat pump

Switch 1:
Cascade configuration



Switch 2:

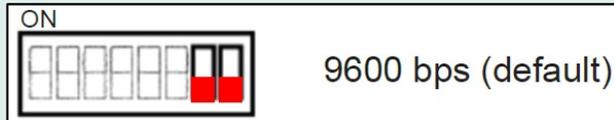
- Temperature display configuration
- Resistor setting & connection depending on system design (Full connection and settings is support by PAW-A2W-CMH-3 install manual)

Switch 1

DIP Switch Configuration Interface

Position 1 to 6 are used to set the Modbus Master + Sub-units system configuration (see listing to right).

While Position 7 and 8 are used to set the Baudrate (9600 bps / 19200 bps / 57600 bps / 119200 bps).
Default setting is 9600 bps



Please note that a power cycle of the board is always needed to make runtime changes effective.

0	ON	Master only (N/A)
1	ON	Master + 1 Sub Unit
2	ON	Master + 2 Sub Unit
3	ON	Master + 3 Sub Unit
4	ON	Master + 4 Sub Unit
5	ON	Master + 5 Sub Unit
6	ON	Master + 6 Sub Unit
7	ON	Master + 7 Sub Unit
8	ON	Master + 8 Sub Unit
9	ON	Master + 9 Sub Unit

Switch 2

8-pin DIP switch is used to set:

- Degrees/decidegrees (x10) temperature representation
- Temperature scale (°C / °F)
- EIA-485 termination resistor, according to the table at the side
- EIA-485 bus requires a 120 Ohm termination resistor at each end of the bus to avoid signal reflections
- The Modbus PCB therefore includes an onboard termination resistor of 120 Ohm that can be connected to the bus using DIP SW2

*Please note that a power cycle of the board is always needed to make runtime changes effective.

SW2 DIP switch	Description
P1 OFF	The temperature values in Modbus register are expressed in degrees (x1) (default value)
P1 ON	The temperature values in the Modbus register are expressed in decidegrees (x10)
P2 OFF	The temperature values in the Modbus register are expressed in degrees Celsius (default value)
P2 ON	The temperature values in the Modbus register are expressed in degrees Fahrenheit
P3 to P7	NOT USED (FOR FUTURE USE)
*P8 OFF	EIA-485 bus without termination resistor (default value)
*P8 ON	Internal termination resistor of 120Ω connected to EIA-485

*Settings requirements for P8 are fully explained within the PAW-A2W-CMH-3 install manual

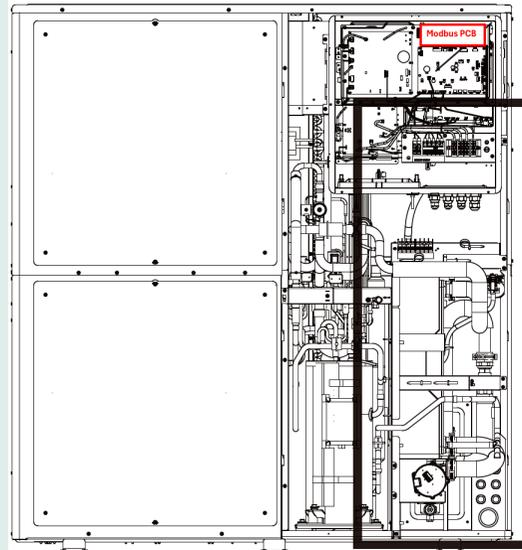
CZ-NSMB Modbus PCB Installation

Make sure that the Air-To-Water unit is fully powered OFF before proceeding with installation.

Remove the front panel of the Air-To-Water Control Module and connect the cable included with this PCB to the connector on the CN-CNT main circuit board. If an optional PCB is installed, connect it to the CN-CNT connector on the optional PCB. Put the Modbus PCB in its designated location and fix it in position. Connect the CN-CNT cable to the Modbus PCB “CN-CNT” connector; do not exert external force on the PCB. Then, connect the PCB (RS485 connector “CN2”) to a Modbus network through a standard cable that is compatible with Modbus RTU EIA-485 networks.

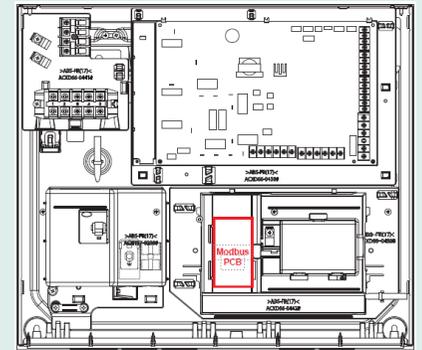
Make sure that the RS-485 connector is connected to RS-485 connectors of external devices only (no voltage >12 V shall be applied here or permanent damage may occur).

Connection example

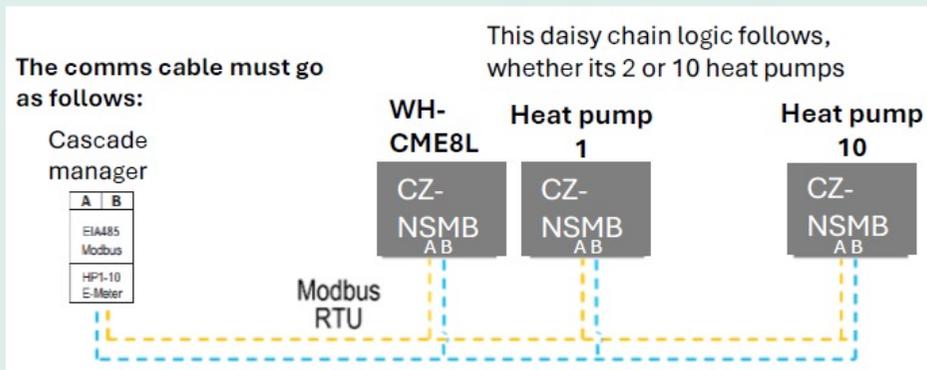


CZ-NSMB install position in Outdoor Unit

- WH-WXG20ME8
- WH-WXG25ME8
- WH-WXG30ME8



CZ-NSMB install position in Control Module (WH-CME8L)



(Belden 9842 or similar cable must be used for the RS485 bus)

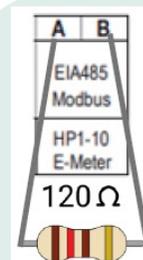
The WH-CME8L (Control Module) Will be the master unit within the cascade system. CZ-NSMB to be installed directly into the Control Module , the outdoor unit of the master is not altered in any way for cascading.

For all Sub-unit(s) the CZ-NSMB will be installed within the outdoor unit(s).

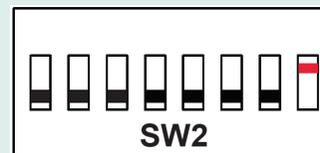
Each Sub-unit(s) will require a CZ-RTW2 for operational use indoors.

Master unit (WH-CME8L) mandatory requires:

- 1 x CZ-NS7P (PCB for advanced functions)
- 1 x PAW-A2W-TSBU (Buffer tank sensor)
- 1 x PAW-A2W-TSHC (Water sensor)



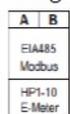
A 120 ohm resistor must be installed in the PAW-A2W-CMH-3 Cascade Manager A & B Modbus terminal.



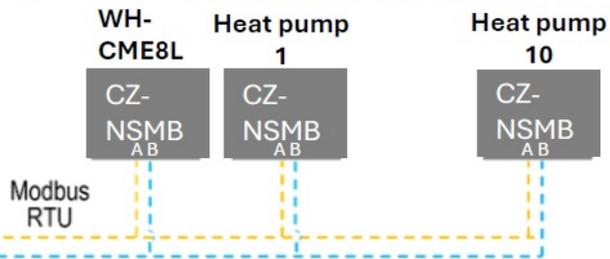
Right hand dip switch of SW2 on the CZ-NSMB, must be set to the up position as indicated in red on the final sub-unit in the cascade.

The comms cable must go as follows:

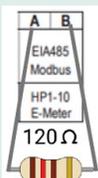
Cascade manager



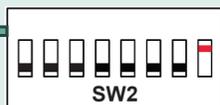
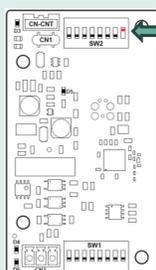
This daisy chain logic follows, whether its 2 or 10 heat pumps



(Belden 9842 or similar cable must be used for the RS485 bus)



A 120 ohm resistor must be installed in the PAW-A2W-CMH-3 Cascade Manager A & B Modbus terminal.



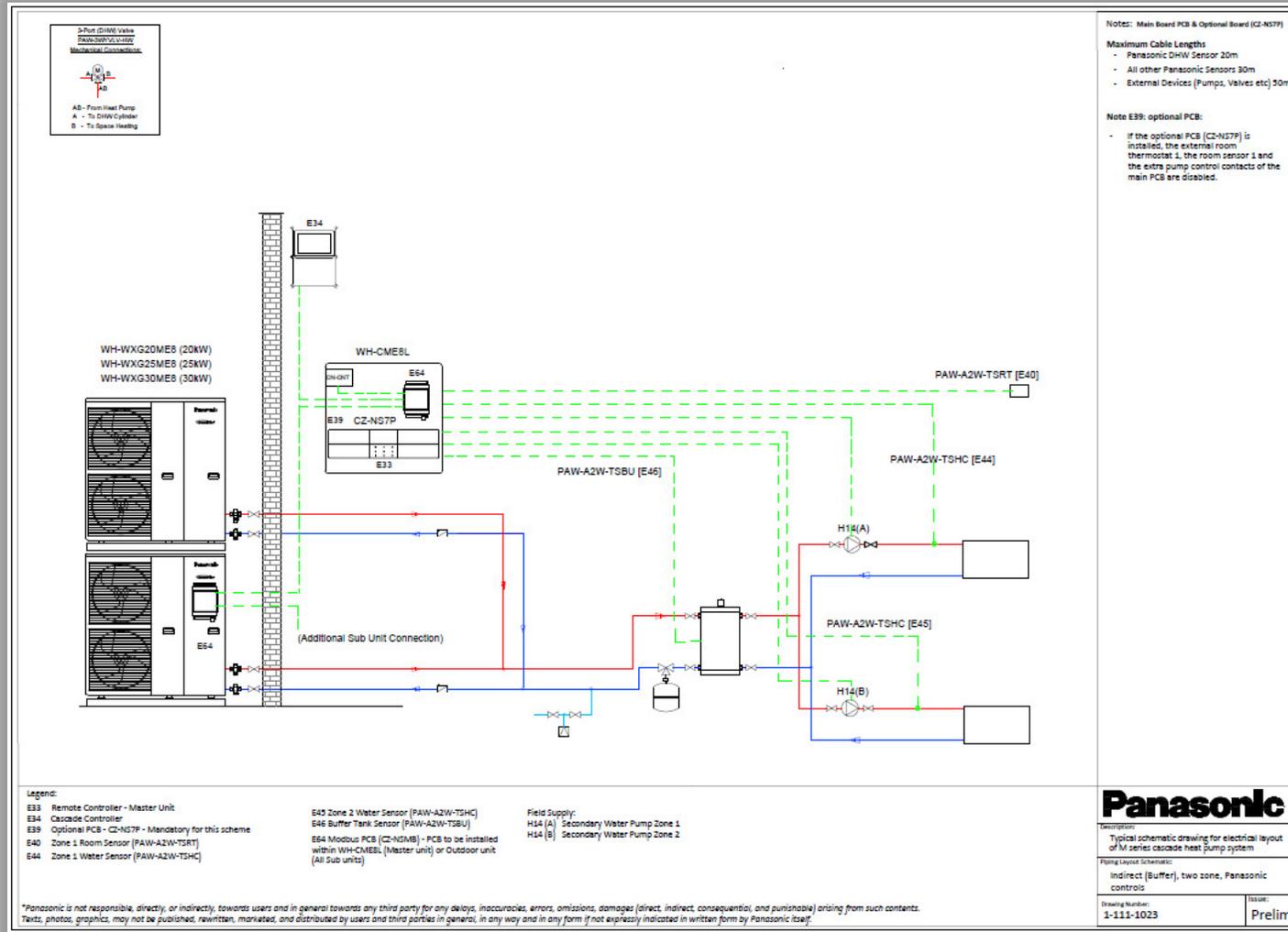
Right hand dip switch of SW2 on the CZ-NSMB, must be set to the up position as indicated in red on the final sub-unit in the cascade.

Master unit (WH-CME8L) mandatory requires:

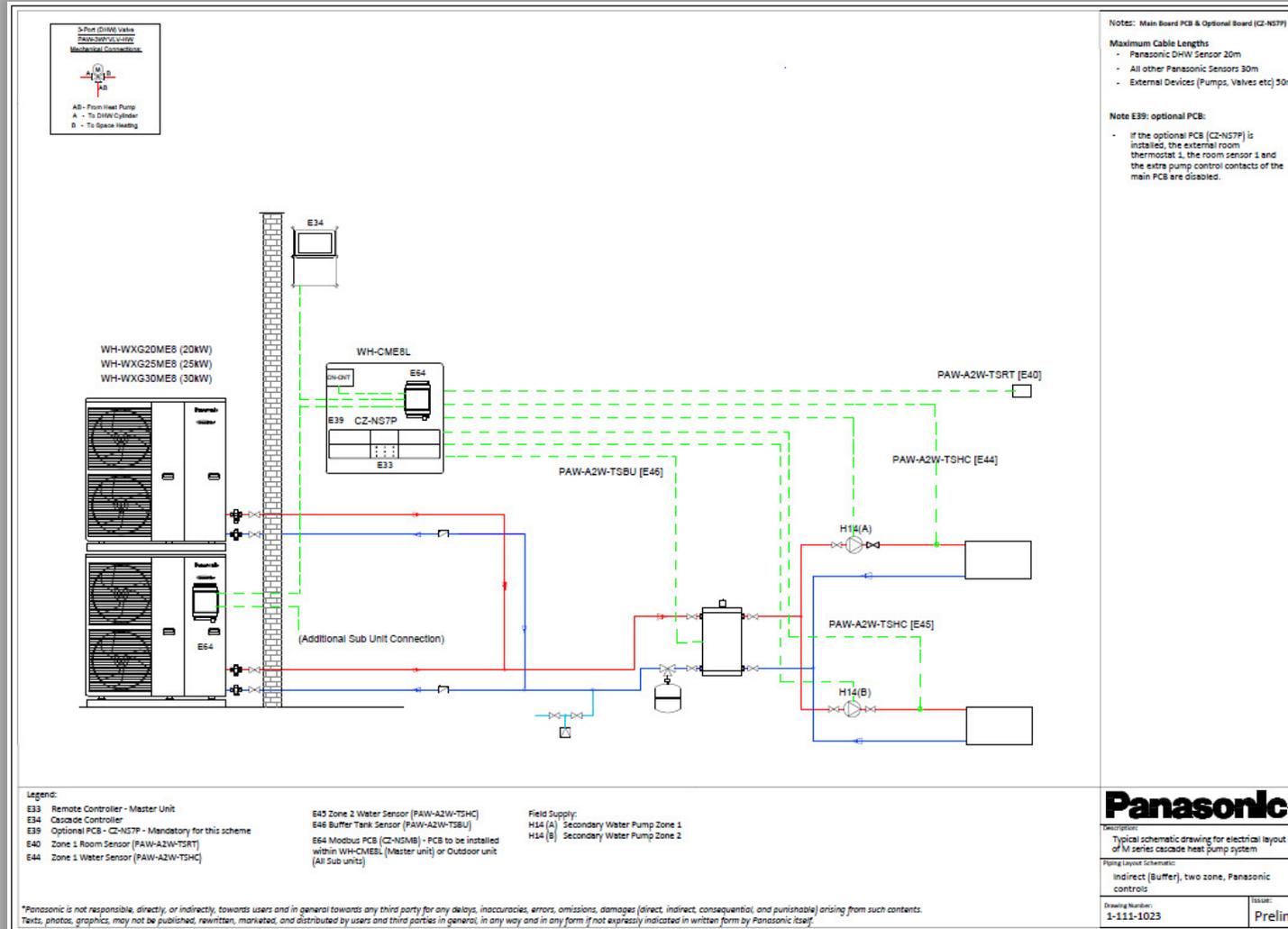
- 1 x CZ-NS7P (PCB for advanced functions)
- 1 x PAW-A2W-TSBU (Buffer tank sensor)
- 1 x PAW-A2W-TSHC (Water sensor)

The WH-CME8L (Control Module) Will be the master unit within the cascade system. CZ-NSMB to be installed directly into the Control Module, the outdoor unit of the master is not altered in any way for cascading. For all Sub-unit(s) the CZ-NSMB will be installed within the outdoor unit(s). Each Sub-unit(s) will require a CZ-RTW2 for operational use indoors.

Schematic (Hydraulic) – Cascade, Two Zone, Heating Only

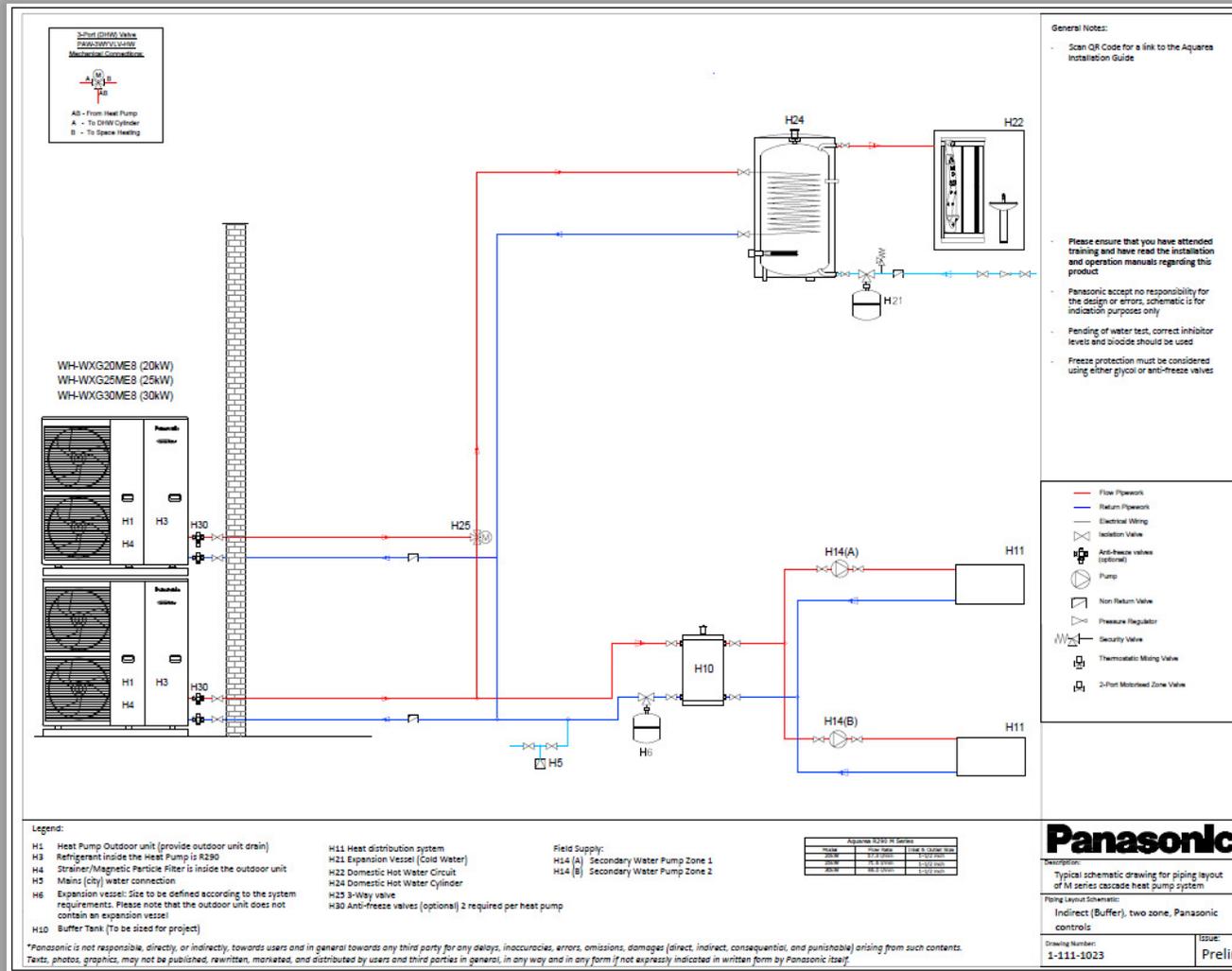


Schematic (Electrical) – Cascade, Two Zone, Heating Only

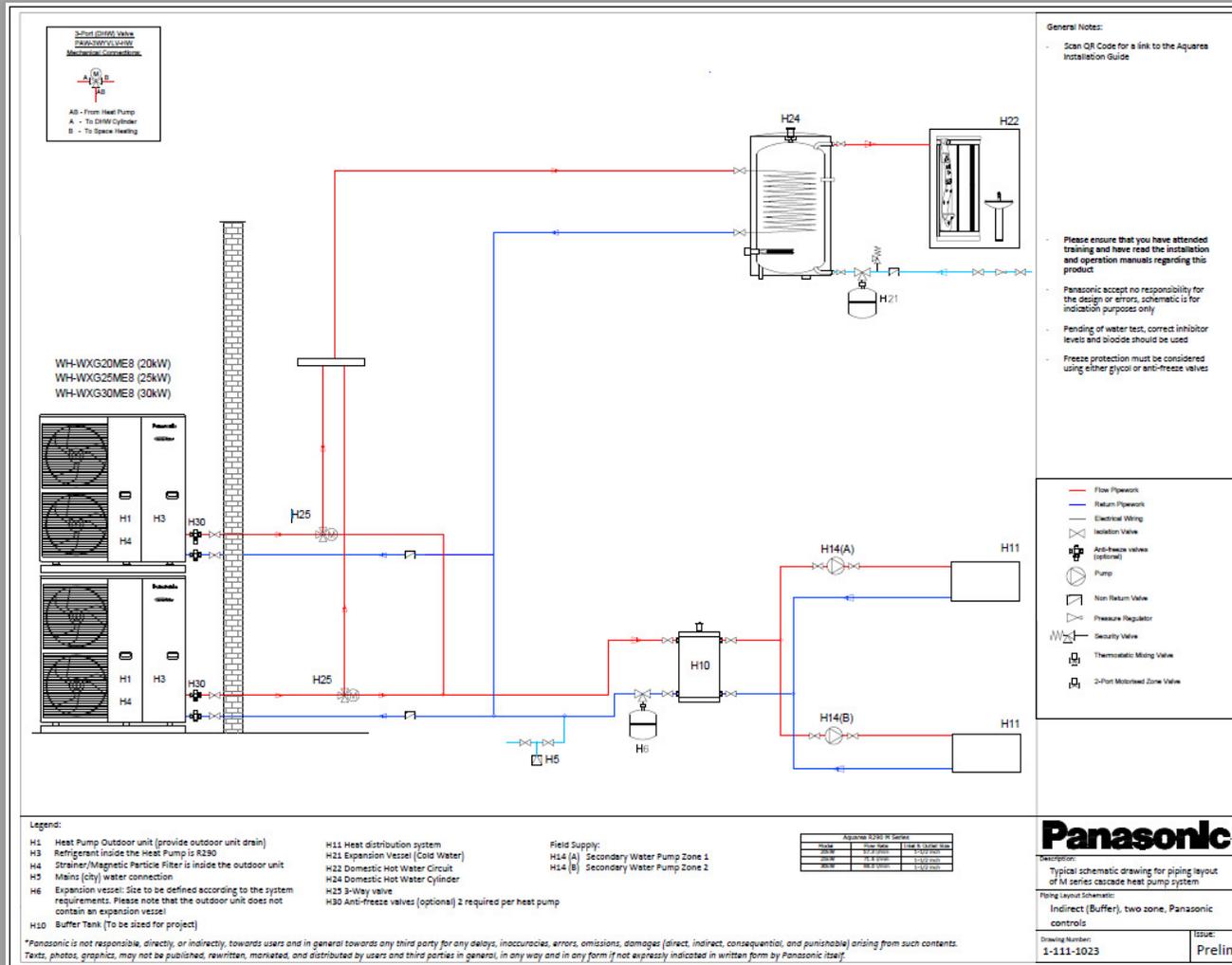


Schematic (Hydraulic) – Cascade, Two Zone Heating & Single Heat Pump providing DHW.

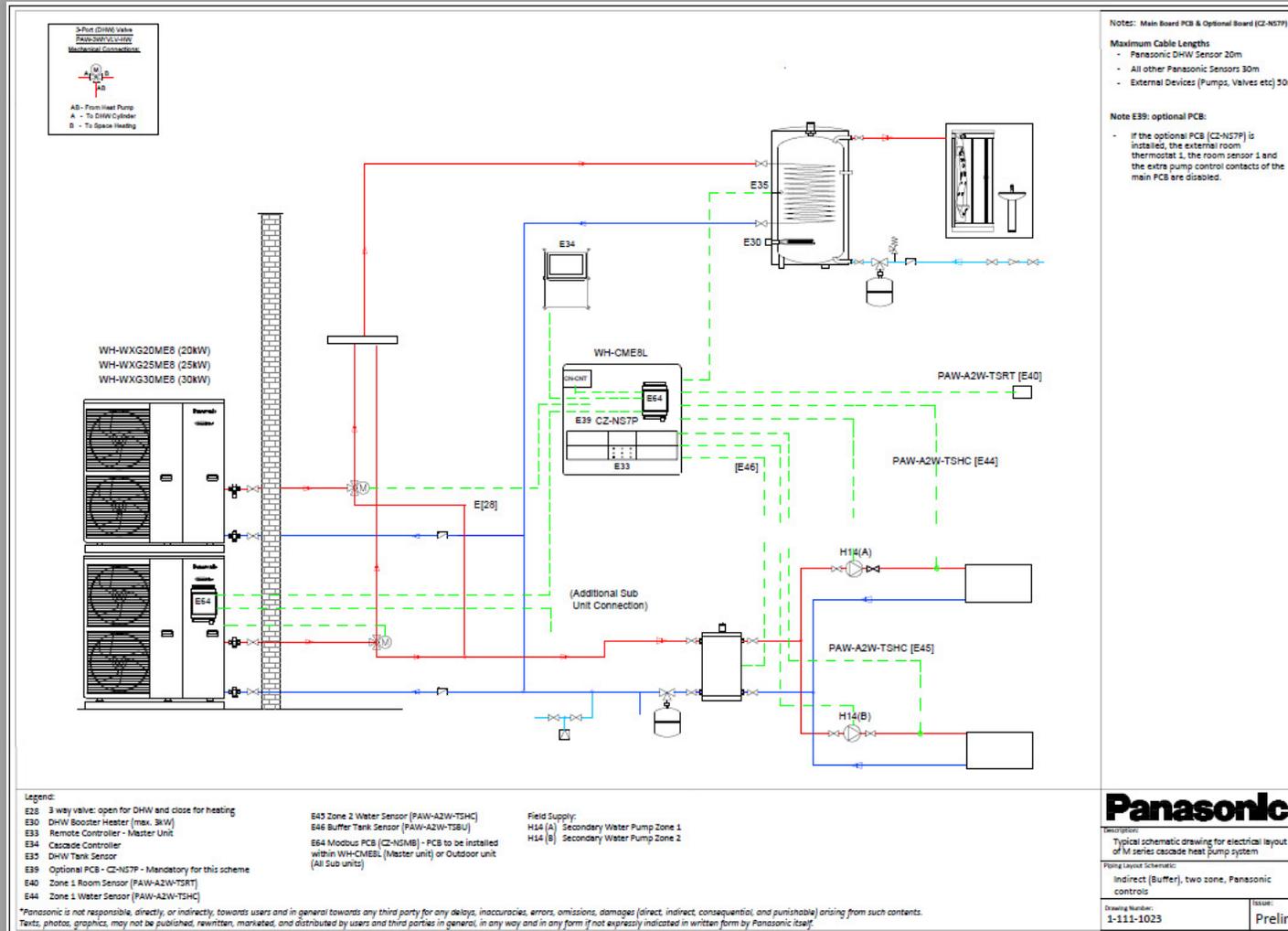
Panasonic



Schematic (Hydraulic) – Cascade, Two Zone Heating & Multiple Heat Pumps providing DHW **Panasonic**



Schematic (Electrical) – Cascade, Two Zone Heating & Multiple Heat Pumps providing DHW Panasonic



TBC

TBC

Heating Capacity Output Charts –WH-WXG20ME8



MANUFACTURE:		PANASONIC					
MODEL REFERENCE:		WH-WXG20ME8					
FLOW TEMPERATURE AMBIENT Inlet dry bulb temperature	kW Output @ 35°C	kW Output @ 40°C	kW Output @ 45°C	kW Output @ 50°C	kW Output @ 55°C	kW Output @ 60°C	kW Output @ 65°C
	+7°C	20.00	20.00	20.00	20.00	20.00	20.00
+6°C	20.00	20.00	20.00	20.00	20.00	20.00	20.00
+5°C	20.00	20.00	20.00	20.00	20.00	20.00	20.00
+4°C	20.00	20.00	20.00	20.00	20.00	20.00	20.00
+3°C	20.00	20.00	20.00	20.00	20.00	20.00	20.00
+2°C	20.00	20.00	20.00	20.00	20.00	20.00	20.00
+1°C	20.00	20.00	20.00	20.00	20.00	20.00	20.00
0°C	20.00	20.00	20.00	20.00	20.00	20.00	20.00
-1°C	20.00	20.00	20.00	20.00	20.00	20.00	20.00
-2°C	20.00	20.00	20.00	20.00	20.00	20.00	20.00
-3°C	20.00	20.00	20.00	20.00	20.00	20.00	20.00
-4°C	20.00	20.00	20.00	20.00	20.00	20.00	20.00
-5°C	20.00	20.00	20.00	20.00	20.00	20.00	20.00
-6°C	20.00	20.00	20.00	20.00	20.00	20.00	20.00
-7°C	20.00	20.00	20.00	20.00	20.00	20.00	20.00

*kW output figures, for flow temperatures above 65°C, are available on request.

Heating Capacity Output Charts –WH-WXG25ME8

Panasonic

MANUFACTURE:		PANASONIC					
MODEL REFERENCE:		WH-WXG25ME8					
FLOW TEMPERATURE AMBIENT Inlet dry bulb temperature	kW Output @ 35°C	kW Output @ 40°C	kW Output @ 45°C	kW Output @ 50°C	kW Output @ 55°C	kW Output @ 60°C	kW Output @ 65°C
	+7°C	25.00	25.00	25.00	25.00	25.00	25.00
+6°C	25.00	25.00	25.00	25.00	25.00	25.00	25.00
+5°C	25.00	25.00	25.00	25.00	25.00	25.00	25.00
+4°C	25.00	25.00	25.00	25.00	25.00	25.00	25.00
+3°C	25.00	25.00	25.00	25.00	25.00	25.00	25.00
+2°C	25.00	25.00	25.00	25.00	25.00	25.00	25.00
+1°C	25.00	25.00	25.00	25.00	25.00	25.00	25.00
0°C	25.00	25.00	25.00	25.00	25.00	25.00	25.00
-1°C	25.00	25.00	25.00	25.00	25.00	25.00	25.00
-2°C	25.00	25.00	25.00	25.00	25.00	25.00	25.00
-3°C	25.00	25.00	25.00	25.00	25.00	25.00	25.00
-4°C	25.00	25.00	25.00	25.00	25.00	25.00	25.00
-5°C	25.00	25.00	25.00	25.00	25.00	25.00	25.00
-6°C	25.00	25.00	25.00	25.00	25.00	25.00	25.00
-7°C	25.00	25.00	25.00	25.00	25.00	25.00	25.00

*kW output figures, for flow temperatures above 65°C, are available on request.

Heating Capacity Output Charts –WH-WXG30ME8

Panasonic

MANUFACTURE:		PANASONIC					
MODEL REFERENCE:		WH-WXG30ME8					
FLOW TEMPERATURE AMBIENT Inlet dry bulb temperature	kW Output @ 35°C	kW Output @ 40°C	kW Output @ 45°C	kW Output @ 50°C	kW Output @ 55°C	kW Output @ 60°C	kW Output @ 65°C
	+7°C	30.00	30.00	30.00	30.00	30.00	30.00
+6°C	30.00	30.00	30.00	30.00	30.00	30.00	30.00
+5°C	30.00	30.00	30.00	30.00	30.00	30.00	30.00
+4°C	30.00	30.00	30.00	30.00	30.00	30.00	30.00
+3°C	30.00	30.00	30.00	30.00	30.00	30.00	30.00
+2°C	30.00	30.00	30.00	30.00	30.00	30.00	30.00
+1°C	30.00	30.00	30.00	30.00	30.00	30.00	30.00
0°C	30.00	30.00	30.00	30.00	30.00	30.00	30.00
-1°C	30.00	30.00	30.00	30.00	30.00	30.00	30.00
-2°C	30.00	30.00	30.00	30.00	30.00	30.00	30.00
-3°C	30.00	30.00	30.00	30.00	30.00	30.00	30.00
-4°C	30.00	30.00	30.00	30.00	30.00	30.00	30.00
-5°C	30.00	30.00	30.00	30.00	30.00	30.00	30.00
-6°C	30.00	30.00	30.00	30.00	30.00	30.00	30.00
-7°C	30.00	30.00	30.00	30.00	30.00	30.00	30.00

*kW output figures, for flow temperatures above 65°C, are available on request.

Cooling Capacity Output Charts – WH-WXG20ME8, WH-WXG25ME8 & WH-WXG30ME8

WH-WXG20ME8

Water Out(°C)	7			14			18		
Outdoor Air(°C)	Capacity (kW)	Input Power (kW)	Current (A)	Capacity (kW)	Input Power (kW)	Current (A)	Capacity (kW)	Input Power (kW)	Current (A)
16	20.0	3.22	5.5	20.0	3.10	5.3	20.0	2.99	5.2
25	20.0	4.65	7.5	20.0	4.01	6.6	20.0	3.38	5.7
35	20.0	6.62	10.4	20.0	5.40	8.6	20.0	4.18	6.9
43	20.0	9.06	13.9	20.0	7.37	11.4	20.0	5.68	9.0

WH-WXG25ME8

Water Out(°C)	7			14			18		
Outdoor Air(°C)	Capacity (kW)	Input Power (kW)	Current (A)	Capacity (kW)	Input Power (kW)	Current (A)	Capacity (kW)	Input Power (kW)	Current (A)
16	25.0	4.56	7.4	25.0	4.32	7.1	25.0	4.09	6.7
25	25.0	6.35	10.0	25.0	5.45	8.7	25.0	4.57	7.4
35	25.0	8.74	13.4	25.0	7.17	11.2	25.0	5.59	8.9
43	21.8	9.44	14.4	23.4	8.63	13.2	25.0	7.54	11.7

WH-WXG30ME8

Water Out(°C)	7			14			18		
Outdoor Air(°C)	Capacity (kW)	Input Power (kW)	Current (A)	Capacity (kW)	Input Power (kW)	Current (A)	Capacity (kW)	Input Power (kW)	Current (A)
16	28.0	5.14	8.2	29.0	5.19	8.3	30.0	5.23	8.4
25	28.0	6.84	10.7	29.0	6.38	10.0	30.0	5.92	9.4
35	26.0	9.70	14.8	28.0	8.51	13.1	30.0	7.32	11.4
43	21.8	9.44	14.4	25.9	9.60	14.6	30.0	9.76	14.9

Test conditions and installation details

Test Operating Conditions

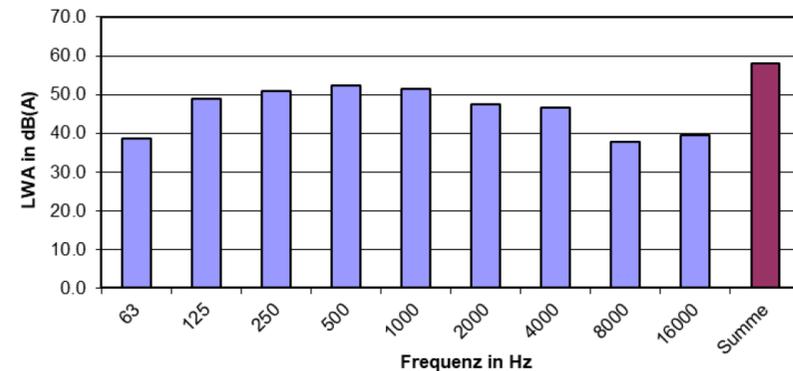
Outlet temperature [°C]	55,0
Intlet temperature [°C]	46,9
Room temperature [°C]	7,3
Relative humidity [%]	88,0

Main results (Sound power test)

	Outdoor Unit WH-WXG20ME8
Test conditions	A7(6) W(*)->55 Part load C
Lwa (dBA)	57,2
Rounded Lwa (dBA)	57

Octavband	Sound power level L _{WA} according to EN ISO 3743-1							
	L _{WA, RSS}	L' _{p(RSS)}	L' _{p(ST)}	L _{p(B), RSS}	L _{p(B), ST}	K _{1(RSS)}	K ₁	L _{WA}
f [Hz]	dB	dB(A)	dB(A)	dB(A)	dB(A)	dB(A)	dB	dB
63	56.4	49.5	32.2	18.8	20.6	0.0	0.3	38.7
125	65.9	57.8	40.2	24.7	25.8	0.0	0.2	48.2
250	73.4	69.9	46.9	30.5	29.3	0.0	0.1	50.3
500	78.9	77.9	50.6	29.7	28.3	0.0	0.0	51.5
1000	85.2	83.4	49.3	26.6	28.1	0.0	0.0	51.1
2000	87.5	87.2	45.9	23.0	26.4	0.0	0.0	46.2
4000	85.3	83.8	43.7	22.6	19.5	0.0	0.0	45.2
8000	80.2	76.2	31.4	20.2	16.6	0.0	0.1	35.3
16000	69.6	59.7	29.5	12.2	5.2	0.0	0.0	39.4
∑ 63 Hz - 16 kHz	91.6	90.4	55.1	90.4	35.1	0.0	0.0	57.2
∑ 125 Hz - 8 kHz	91.6	90.4	55.1	90.4	34.9	0.0	0.0	57.2

Sound Power Level LWA in dB(A)



The sound power level is measured with accordance to EN12102 under conditions of the EN14825 – ERP label figure.

TBC

Test conditions and installation details

	Outdoor side			Indoor side		
	Condition	Start	End	Condition	Start	End
Temperature (°C)	7,0	6,7	6,8	-	-	-
Relative humidity (%)	87,0	88,4	84,9	-	-	-
Water circuit inlet T (°C)	-	-	-	47,0	47,1	47,2
Water circuit outlet T (°C)	-	-	-	55,0	55,0	55,1
Atmospheric pressure (kPa)	94,47					

Main results (Sound power test)

	Outdoor Unit WH-WXG30ME8
Test conditions	A7(6) W(*)->55 Part load C
Compressor (Hz)	24
Fan (RPM)	400 400
Lwa (dBA)	60,7
Rounded Lwa (dBA) (1)	61

**Sound power levels and measurement uncertainties
1/3 Octave Bands**

Hz	Lwa(dB)	Lwa(dBA)	Result type	u(Lwa)	U(Lwa)
100	62,5	43,4	Real sound power level	0,7	1,6
125	57,7	41,6	Real sound power level	0,9	2,0
160	58,9	45,5	Real sound power level	0,6	1,3
200	65,3	54,4	Real sound power level	1,0	2,0
250	58,6	50,0	Real sound power level	0,7	1,4
315	58,4	51,8	Real sound power level	0,5	1,0
400	53,9	49,1	Real sound power level	0,5	1,1
500	53,2	50,0	Real sound power level	0,5	1,1
630	51,4	49,5	Real sound power level	0,7	1,5
800	50,3	49,5	Real sound power level	0,5	1,1
1000	48,8	48,8	Real sound power level	0,5	1,1
1250	47,2	47,8	Real sound power level	0,5	1,1
1600	44,1	45,1	Real sound power level	0,5	1,1
2000	41,1	42,3	Real sound power level	0,5	1,0
2500	40,8	42,1	Real sound power level	0,5	1,0
3150	39,1	40,3	Real sound power level	0,5	1,0
4000	34,1	35,1	Real sound power level	0,7	1,6
5000	34,0	34,5	Real sound power level	0,6	1,2
6300	34,3	34,2	Real sound power level	0,6	1,3
8000	31,9	30,8	Real sound power level	0,8	1,8
10000	31,4	28,9	Real sound power level	0,9	2,0
Overall	69,5	60,7	Real sound power level	0,3	0,6

Lwa is the sound power radiated by the appliance.

u(Lwa) is the uncertainty for the Sound Power Level

Expanded uncertainty (U(Lwa)) is calculated using k=2,14 factor (95% for normal distribution).

Sound power levels when result type is "Upper sound power level limit" are given as informative results and are not real sound power level measured values.

Model	Connect Direct Device Profile
WH-WXG20ME8 + CZ-RTW2	PANAS/10566/V1/A1
WH-WXG20ME8 + WH-CME8L	PANAS/10567/V1/A1

PANAS/10566/V1/A1 | Panasonic
Heat Pump Device

Device Status
This is the current status of the device. It is assigned by ENA appointed evaluators

✔ **Compliant**
This device has been assessed by ENA's engineers and has been deemed **acceptable** for use by Distribution network operators

Device Details

Model Reference	WH-WXG20ME8 + CZ-RTW2
Heat Pump Type	Air Source
Function	Heating and Cooling
Number of Phases	3
Voltage (V)	400.0
Total System Max Demand Current (A)	24
Total System Max Power (kVA)	16.63

Other Details

Product Code	WH-WXG20ME8 + CZ-RTW2
Is Connect & Notify?	FALSE
Is Apply to Connect?	TRUE

PANAS/10567/V1/A1 | Panasonic
Heat Pump Device

Device Status
This is the current status of the device. It is assigned by ENA appointed evaluators

✔ **Compliant**
This device has been assessed by ENA's engineers and has been deemed **acceptable** for use by Distribution network operators

Device Details

Model Reference	WH-WXG20ME8 + WH-CME8L
Heat Pump Type	Air Source
Function	Heating and Cooling
Number of Phases	3
Voltage (V)	400.0
Total System Max Demand Current (A)	24
Total System Max Power (kVA)	16.63

Other Details

Product Code	WH-WXG20ME8 + WH-CME8L
Is Connect & Notify?	FALSE
Is Apply to Connect?	TRUE

Model	Connect Direct Device Profile
WH-WXG25ME8 + CZ-RTW2	PANAS/10563/V1/A2
WH-WXG25ME8 + WH-CME8L	

PANAS/10563/V1/A2 | Panasonic
Heat Pump Device

Device Status
This is the current status of the device. It is assigned by ENA appointed evaluators

Compliant
This device has been assessed by ENA's engineers and has been deemed **acceptable** for use by Distribution network operators

Device Details

Model Reference	WH-WXG25ME8 + CZ-RTW2
Heat Pump Type	Air Source
Function	Heating and Cooling
Number of Phases	3
Voltage (V)	400.0
Total System Max Demand Current (A)	27
Total System Max Power (kVA)	18.71

Other Details

Product Code	WH-WXG25ME8 + CZ-RTW2
Is Connect & Notify?	FALSE
Is Apply to Connect?	TRUE

PANAS/10564/V1/A2 | Panasonic
Heat Pump Device

Device Status
This is the current status of the device. It is assigned by ENA appointed evaluators

Compliant
This device has been assessed by ENA's engineers and has been deemed **acceptable** for use by Distribution network operators

Device Details

Model Reference	WH-WXG25ME8 + WH-CME8L
Heat Pump Type	Air Source
Function	Heating and Cooling
Number of Phases	3
Voltage (V)	400.0
Total System Max Demand Current (A)	27
Total System Max Power (kVA)	18.71

Other Details

Product Code	WH-WXG25ME8 + WH-CME8L
Is Connect & Notify?	FALSE
Is Apply to Connect?	TRUE

Model	Connect Direct Device Profile
WH-WXG30ME8 + CZ-RTW2	PANAS/10459/V1/A3
WH-WXG30ME8 + WH-CME8L	PANAS/10567/V1/A1

PANAS/10459/V1/A3 | Panasonic
Heat Pump Device

Device Status
This is the current status of the device. It is assigned by ENA appointed evaluators

Compliant
This device has been assessed by ENA's engineers and has been deemed **acceptable** for use by Distribution network operators

Device Details

Model Reference	WH-WXG30ME8 + CZ-RTW2
Heat Pump Type	Air Source
Function	Heating and Cooling
Number of Phases	3
Voltage (V)	400.0
Total System Max Demand Current (A)	30
Total System Max Power (kVA)	20.784

Other Details

Product Code	WH-WXG30ME8 + CZ-RTW2
Is Connect & Notify?	FALSE
Is Apply to Connect?	TRUE

PANAS/10567/V1/A1 | Panasonic
Heat Pump Device

Device Status
This is the current status of the device. It is assigned by ENA appointed evaluators

Compliant
This device has been assessed by ENA's engineers and has been deemed **acceptable** for use by Distribution network operators

Device Details

Model Reference	WH-WXG20ME8 + WH-CME8L
Heat Pump Type	Air Source
Function	Heating and Cooling
Number of Phases	3
Voltage (V)	400.0
Total System Max Demand Current (A)	24
Total System Max Power (kVA)	16.63

Other Details

Product Code	WH-WXG20ME8 + WH-CME8L
Is Connect & Notify?	FALSE
Is Apply to Connect?	TRUE

Quick selection guide - Aquarea Air Smart fan coils

	Size	Cooling and heating capacity ^{1) 2) 3)} (kW)	Air flow - Max (m ³ /h)	Pressure (Pa)	Fan	Dimension H x W x D (mm)
Fan coil floor standing 	10	0,73 0,69	146	10		580 x 680 x 119
	20	1,36 1,50	294	10		580 x 880 x 119
	30	2,08 2,15	438	13		580 x 1080 x 119
	35	2,39 2,56	567	13		580 x 1280 x 119
	40	2,57 2,78	663	13		580 x 1480 x 119
Fan coil wall-mounted 	10	0,88 0,98	228	—		335 x 815 x 128
	15	1,08 1,30	331	—		335 x 1015 x 128
	20	1,21 1,49	440	—		335 x 1215 x 128
	40	2,66 3,04	788	—		335 x 1215 x 215

1) Data for medium fan speed. Fan standard factory set speeds. 2) Cooling capacity: According to Eurovent standard. Air: 27 °C DB/19 °C WB, chilled water: 7 °C/12 °C. 3) Heating capacity: According to Eurovent standard. Air: 20 °C, hot water: 45 °C/40 °C.

* The Aquarea Air range aligns with the Aquarea commercial policy.

Quick selection guide - Aquarea Air Smart fan coils

	Size	Cooling and heating capacity ^{1) 2) 3)} (kW)	Air flow - Max (m ³ /h)	Pressure (Pa)	Fan	Dimension H x W x D (mm)
Fan coil ducted thin 	15	1,14 1,32	290	100		185 x 590 x 575
	20	1,84 1,80	390	90		185 x 790 x 575
	25	2,17 2,32	550	120		185 x 990 x 575
	35	2,40 2,76	680	110		185 x 1190 x 575
	45	2,80 3,98	870	140		185 x 1440 x 575
Fan coil ducted 	20	1,37 1,48	390	90		240 x 590 x 695
	25	1,86 2,04	560	130		240 x 790 x 695
	35	2,38 2,63	730	110		240 x 990 x 695
	45	3,22 3,77	905	140		240 x 1190 x 695
	55	3,97 4,23	1150	140		240 x 1440 x 695

1) Data for medium fan speed. Fan standard factory set speeds. 2) Cooling capacity: According to Eurovent standard. Air: 27 °C DB/19 °C WB, chilled water: 7 °C/12 °C. 3) Heating capacity: According to Eurovent standard. Air: 20 °C, hot water: 45 °C/40 °C.

* The Aquarea Air range aligns with the Aquarea commercial policy.

Quick selection guide - Aquarea Air Smart fan coils

	Size	Cooling and heating capacity ^{1) 2) 3)} (kW)	Air flow - Max (m ³ /h)	Pressure (Pa)	Fan	Dimension HxWxD (mm)
Fan coil ducted multi zone thin 	30	Cooling: 1,97 Heating: 2,11	480	100		185 x 790 x 575
	45	Cooling: 2,97 Heating: 3,19	720	100		185 x 990 x 575
	60	Cooling: 3,68 Heating: 5,76	960	100		185 x 1190 x 575
	65	Cooling: 4,15 Heating: 4,75	1200	100		185 x 1440 x 575
Fan coil ducted multi zone 	30	Cooling: 3,80 Heating: 3,90	810	100		240 x 790 x 695
	45	Cooling: 3,77 Heating: 4,16	1215	100		240 x 990 x 695
	60	Cooling: 4,87 Heating: 5,42	1620	100		240 x 1190 x 695
	75	Cooling: 6,31 Heating: 6,87	2025	100		240 x 1440 x 695

1) Data for medium fan speed. Fan standard factory set speeds. 2) Cooling capacity: According to Eurovent standard. Air: 27 °C DB/19 °C WB, chilled water: 7 °C/12 °C. 3) Heating capacity: According to Eurovent standard. Air: 20 °C, hot water: 45 °C/40 °C.

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