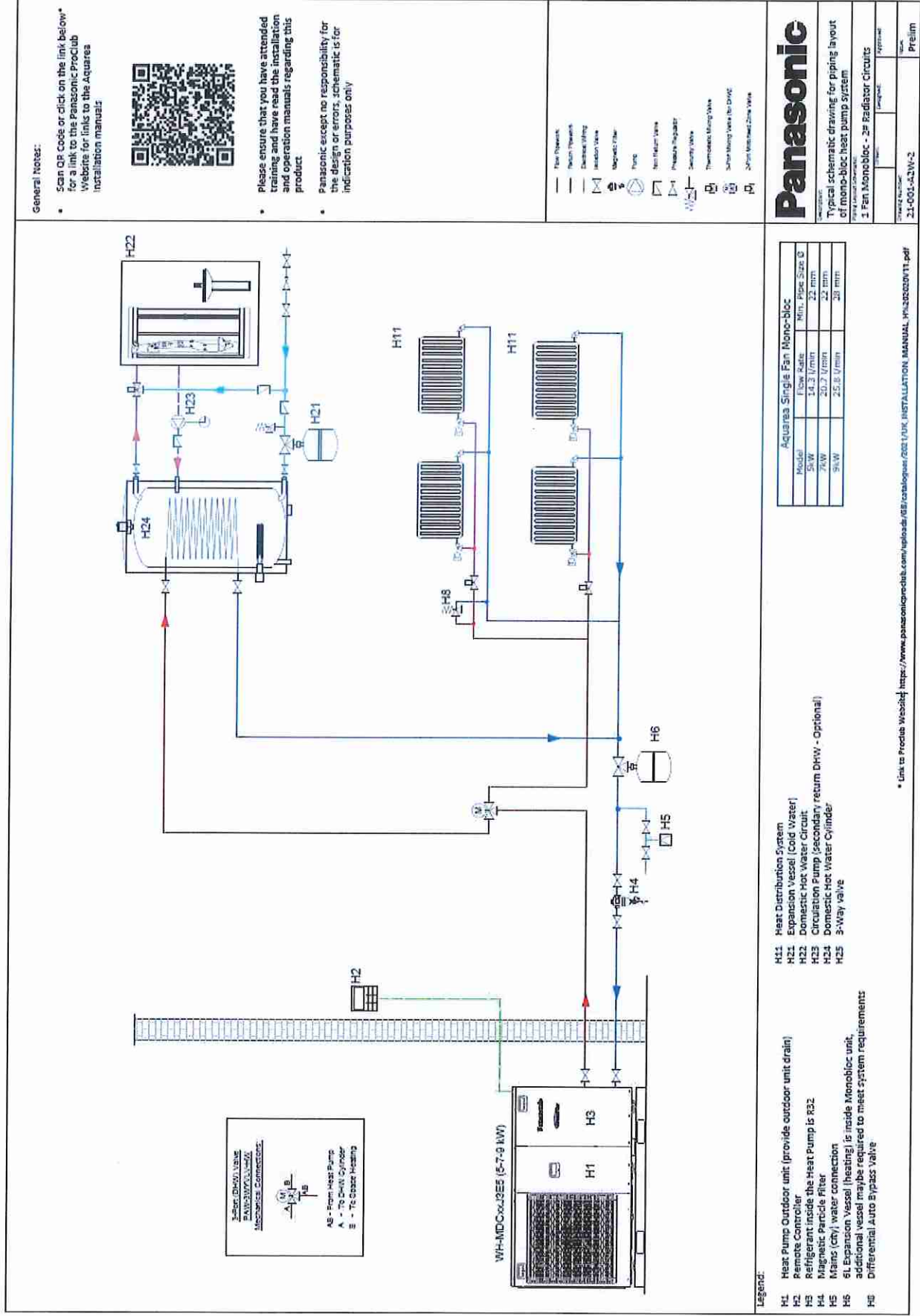




Specifications – WH-MDC05J3E5 5kW High Performance Heat Pump Air to Water Heat Pump

Description:

Air-to-water heat pump for heating, cooling and hot water preparation, consisting of an outdoor unit.

Outdoor Unit:

The refrigeration circuit, optimized for R32 refrigerant, includes the following main components: compressor, electronic expansion valve, evaporator / condenser, liquid receiver, filters, 4-way valve and relative control and safety devices, shut-off valves on the liquid and suction lines, service ports with Schrader valves.

On the hydraulic circuit side there are: plate heat exchanger, Panasonic circulator (control by setting the working deltaT or maximum settable fixed curve), magnetic Y filter and shut-off valves, bleed valve, flow meter (l / min) and minimum flow switch, back-up heater, 6 liter expansion tank, pressure gauge, safety valve (3 bar), water side flow and return probes, condensate drain.

Controller:

3.5 inch, back lit controller unit including a keypad with touch-keys. User friendly control interface with pictograms, user quick menu and 16 languages. Integrated room temperature sensor. Removable with option to mount on the wall. Optional Smartphone control.

System:

System shall be optimized for R32 refrigerant with low GWP. Maximum water outlet temperature of hydraulic module at 60°C. High efficiency both in heating and cooling operation. Heating operation until ambient temperature down to -20 °C. Operation in cooling mode at outdoor temperatures as low as 10°C. Built-in magnet filter for easy installation.

The compressor is a 2-piston DC rotary inverter, optimized for R32 refrigerant, complete with anti-vibration, machine noise reduction, and crankcase heater. The control and regulation of the compressor speed are based on a precise dynamic monitoring system of the building load and on the working conditions (eg outside temperature).

High efficiency heat exchanger in copper tube and aluminum fins with special cross section profile. Optimized for use with R32 refrigerant.

High efficiency brazed plate heat exchanger with counter-current flow in heating mode.

Microprocessor-controlled expansion valve, optimized for use with R32 refrigerant gas, designed to ensure optimal load to the evaporator and at the same time precise superheat control.

High efficiency fan / s with speed variator and optimum pressure inside the heat exchanger and especially in low speed operation. Horizontal air expulsion system with fan protection grill designed for the optimization of aerodynamic flows and reduction of air flow noise, even with high volumes of air.

The Heat Pump shall have a pump, back up heater, 6ltr expansion vessel (enough for a maximum system volume of 150ltrs), pressure relief valve and Y strainer with magnetic filter as standard. In built Y strainer shall be easily accessed by 2 screw panel on the right hand side of the Outdoor unit. Magnetic mesh filter maintenance and internal 3 way valve installation shall be possible by using the fast clip technology.

Panasonic Aquarea Heat Pump is capable of delivering 13.5m head (vertical pump distance) which covers most Residential requirements.

Aquarea Heat Pumps can be controlled by: Primary water temperature only (Water temperature), Room temperature measured with Remote Controller (Room thermostat – External), 3rd party device using 230V switching e.g. UFH controls or room stat (Room thermostat – External) or Panasonic room sensor (Room thermistor).

The system shall have a DC pump with fully adjustable flow rates.

Indoor back up heater: In the event of compresor side failure the system shall provide space heating requirements via back up and can compliment the main heat pump operation in very cold ambient temperatures.

Sterilisation shall be via in built booster immersion or back up.

Quiet operation shall be possible at the Outdoor unit by reducing the frequency or fan speed.

Alternative outdoor ambient sensor control shall be possible using the PAW-AW-TSOD which can be placed in an alternative outdoor location.

The Panasonic controls shall be able to control 2 Zones at different flow temperatures. The Panasonic controller can be used as a differential temperature controller for Solar thermal applications. Panasonic controller shall be able to control a 3rd party boiler. e.g gas, oil, electric with the following 3 different modes: Alternative, Parallel and Advanced parallel.

Smart Grid ready control mode available for bivalent connections to include boilers and solar PV.

Dry Concrete/Screed mode to incrementally increase flow tempertaures to aid with the drying of screed safely. Used to help cure newly laid UFH screeds. Settings should be advised by the screed installer.

There shall be an Inbuilt internal flow sensor so as to measure/check the flow directly from the controller.

Regulation and Standards:

The product complies with all relevant European standards

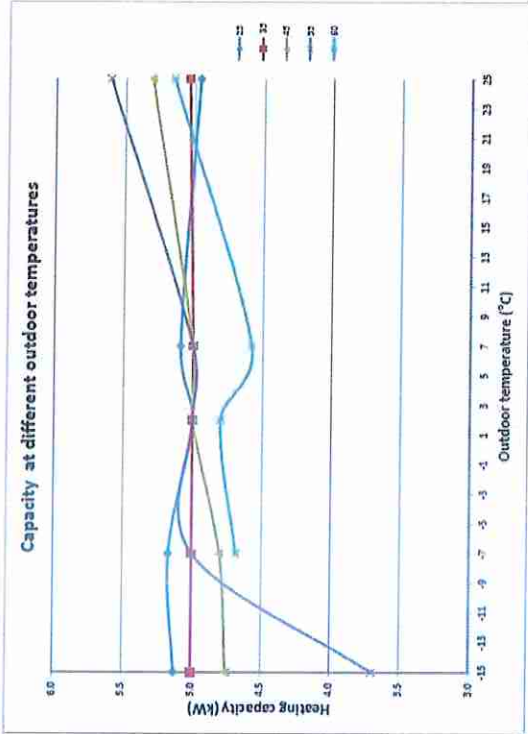
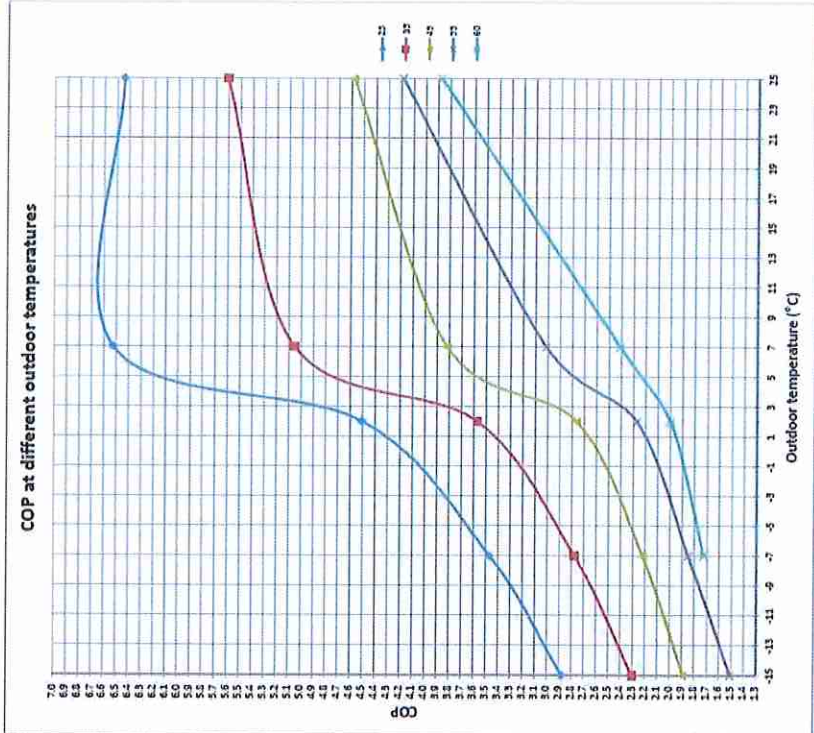
Technical Data:

Heating capacity / COP (A +7 °C, W 35 °C)		kW / COP	5,00 / 5,08
Heating capacity / COP (A +7 °C, W 55 °C)		kW / COP	5,00 / 3,01
Heating capacity / COP (A +2 °C, W 35 °C)		kW / COP	5,00 / 3,57
Heating capacity / COP (A +2 °C, W 55 °C)		kW / COP	5,00 / 2,27
Heating capacity / COP (A -7 °C, W 35 °C)		kW / COP	5,00 / 2,78
Heating capacity / COP (A -7 °C, W 55 °C)		kW / COP	5,00 / 1,85
Cooling capacity / EER (A 35 °C, W 7 °C)		kW / EER	5,00 / 3,31
Cooling capacity / EER (A 35 °C, W 18 °C)		kW / EER	5,00 / 5,05
Seasonal energy efficiency - Heating average climate (W35 °C / W55 °C)		ηs %	202 / 142
		SCOP	5,12 / 3,63
Energy class heating average climate (W35 °C / W55 °C)		A+++ to D	A+++ / A++
Seasonal energy efficiency - Heating warm climate (W35 °C / W55 °C)		ηs %	237 / 165
		SCOP	6,00 / 4,20
Energy class heating warm climate (W35 °C / W55 °C)		A+++ to D	A+++ / A+++
Seasonal energy efficiency - Heating cold climate (W35 °C / W55 °C)		ηs %	160 / 115
		SCOP	4,08 / 2,95
Energy class heating cold climate (W35 °C / W55 °C)		A+++ to D	A++ / A+
Sound power part load	Heat	dB	59
Sound power full load	Heat / Cool	dB	64 / 65
Dimension	H x W x D	mm	865 x 1283 x 320
Net weight		kg	99
Refrigerant (R32) / CO2 Eq.		kg / T	1,3 / 0,878
Water pipe connector		Inch	R1½
Pump	Number of speeds		Variable speed
	Input power (Min/Max)	W	34 / 96
Heating water flow (ΔT=5K, 35°C)		L/min	14,3
Capacity of integrated electric heater		kW	3
Input Power	Heat	kW	0,985
	Cool	kW	1,51
Running and Starting current	Heat	A	4,7
	Cool	A	7
Current 1		A	12
Current 2		A	13
Recommended fuse		A	30 / 15
Recommended cable size, supply 1 / 2		mm	3x1,5 / 3x1,5
Operation range (outdoor temperature)	Heat	°C	-20 ~ 35
	Cool	°C	10 ~ 43
Water outlet	Heat	°C	20 ~ 60
	Cool	°C	5 ~ 20

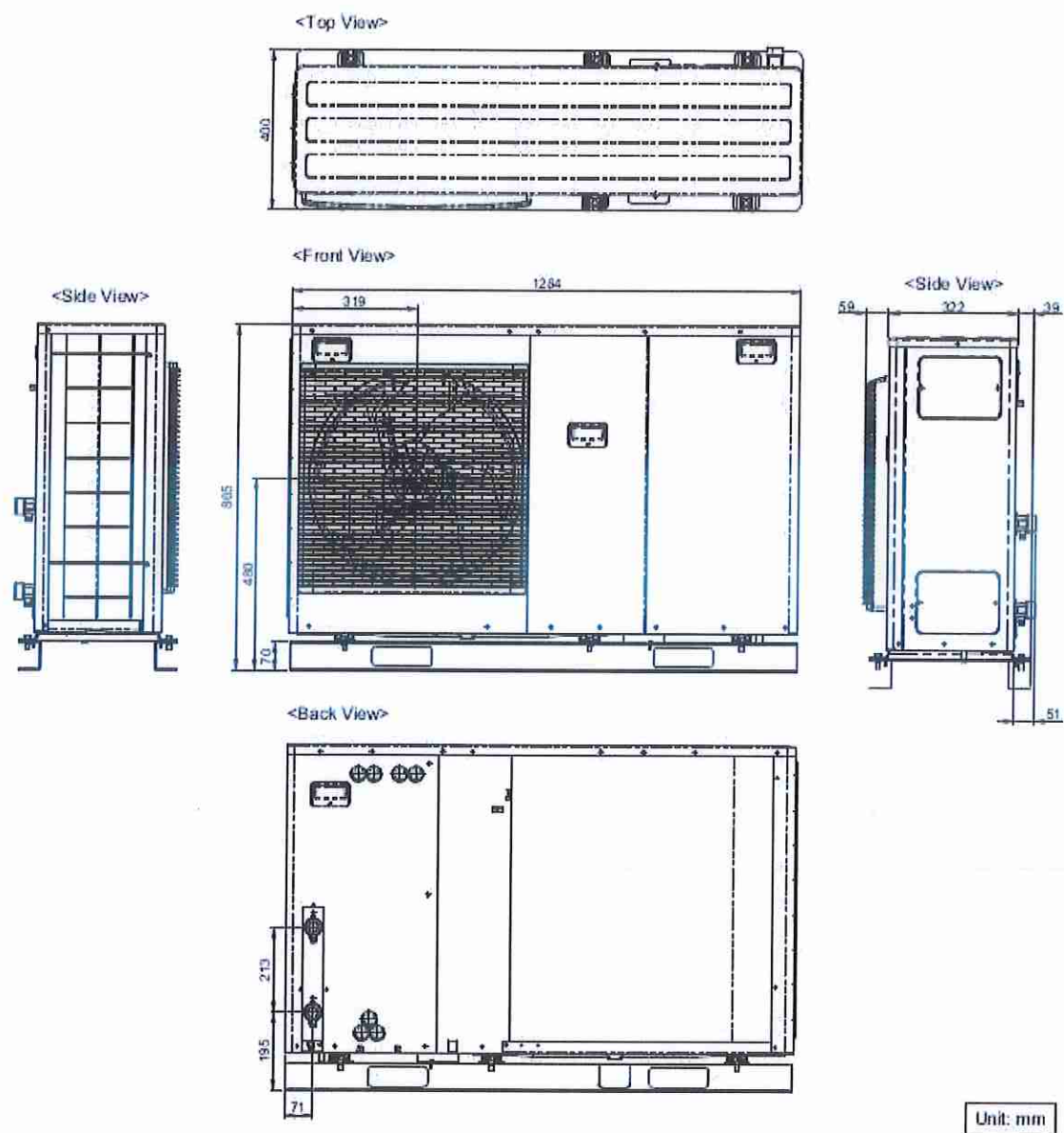
Capacity/Efficiency charts

WH-MDC05J3E5

Tamb	HC	IP	COP	HC	IP	COP	HC	IP	COP	HC	IP	COP
LWC	25	25	25	35	35	35	45	45	45	55	55	55
-15	5.13	1.78	2.88	5.00	2.17	2.30	4.75	2.51	1.89	3.70	2.45	1.51
-7	5.17	1.49	3.47	5.00	1.80	2.78	4.80	2.16	2.22	5.00	2.70	1.85
2	5.00	1.11	4.50	5.00	1.40	3.57	5.00	1.81	2.76	5.00	2.20	2.27
7	5.09	0.78	6.53	5.00	0.99	5.05	5.00	1.31	3.82	5.00	1.66	3.01
25	4.96	0.77	6.44	5.04	0.90	5.60	5.31	1.16	4.58	5.61	1.34	4.19



Dimensions: Outdoor Unit



Specifications – CZ-TAW1 (Optional)

Controls

Description:

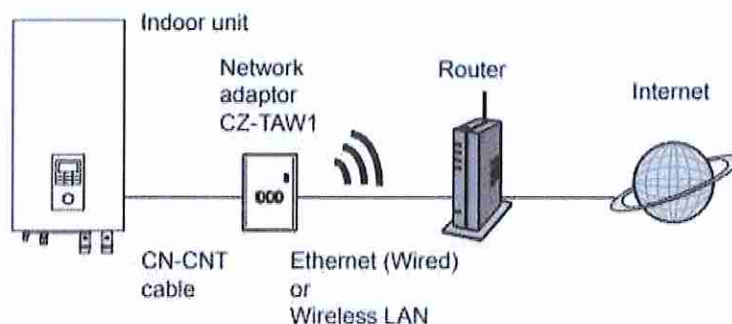
Aquarea Smart Cloud for remote control and maintenance through wireless or wired LAN. Connect Aquarea J and H Generation system to the cloud using wireless LAN or a wired LAN Network. User connects to the Cloud portal to remotely operate all unit functions and can also permit partners to access customised functions for remote maintenance and monitoring.

Technical Data:

Model	CZ-TAW1	
Aquarea compatibility	J and H Generation	
Connection point	CN-CNT Aquarea port	
Home router connection	Wireless or Wired LAN	
Temperature sensor	Can use remote controller sensor	
Tablet or PC browser compatibility*	Yes	
Operation from remote - ON/OFF - House temperature setting mode selection - DHW setting - Error codes - Scheduling	Yes	
Heating areas	Up to 2 zones	
Power consumption estimation - Operation log history	Yes - Yes	
Input voltage	V	DC 5V (from Indoor unit)
Power consumption	W	Max 2.5
Dimensions H x W x D	m m	100 x 70 x 23
Weight	g	Approx. 80
Interfaces	1x Wireless LAN, 1x Ethernet, 1x USB	
Radio Protocol	2.4GHz, 802.11 b/g/n	

*Check browser and version compatibility

System overview:



Installation considerations

Outdoor Unit:

It is advisable to avoid more than 2 blockage directions. For better ventilation & multiple-outdoor installation, please consult authorized dealer/specialist. This illustration is for explanation purposes only.

