



AQUAREA AIR TO WATER HEAT PUMP // HEATING AND COOLING SYSTEMS

EVERY
HOUSE
MATTERS



AQUAREA
engineered for high performance
equipped for high performance



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AQUAREA AIR TO WATER HEAT PUMP RANGE

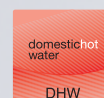
COST-EFFECTIVE AND ENVIRONMENTALLY FRIENDLY, PANASONIC'S NEW AQUAREA AIR TO WATER SYSTEM MAXIMUM EFFICIENCY EVEN AT -20 °C

Panasonic's new Aquarea system, based on high-efficiency heat pump technology, not only heats your home and hot water, but also cools your home in summer with incredible performances for perfect comfort whatever the weather conditions, even down to outdoor temperatures of -20°C.



An ideal solution for heating, cooling and hot water in new and old buildings.

- High-efficiency heat pump technology (COP of 4.67 for the 12kW)
- A wide range from 7 to 16 kW, in single-phase and three-phase, single-unit or split
- Reduction of energy costs (78% saving compared to an electrical heating system)
- Connection possible to an existing heating system or solar panels.
- Reduced energy consumption and CO₂ emissions.

energy**saving**high**connectivity**

'ECO IDEAS' FOR PRODUCTS

We will produce energy-efficient products

eco
ideas

'ECO IDEAS' FOR MANUFACTURING

We will reduce CO₂ emissions across all our manufacturing sites

'ECO IDEAS' FOR EVERYBODY, EVERYWHERE

We will encourage the spread of environmental activities throughout the world

PANASONIC HEATING AND COOLING SYSTEMS TECHNOLOGY MAKES US FEEL BETTER

The desire to advance has made Panasonic the international leader in heating and air conditioning. Our industrial capabilities and firm commitment to the environment enable us to open new avenues of research and to develop innovative technologies which can enhance our way of life.

With more than 30 years of experience, exporting to more than 120 countries around the world, Panasonic is unquestionably one of the leaders in the air conditioning sector. With more than 100 million compressors produced, you are assured of the high quality of Panasonic's air conditioners.

Panasonic offers a range of turnkey heating and air conditioning solutions for homes, medium-sized buildings such as offices and restaurants, and large-scale buildings. These offer maximum effectiveness, comply with the strictest environmental standards and meet the most avant-garde construction requirements of our time.

At Panasonic we know what a great responsibility it is to install heating and cooling systems. Because offering you the best solutions in heating and cooling matters.

EVERYTHING MATTERS





"GREEN" HIGH-EFFICIENT HEATING WITH PANASONIC'S NEW AIR-TO-WATER HEAT PUMP SYSTEMS

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

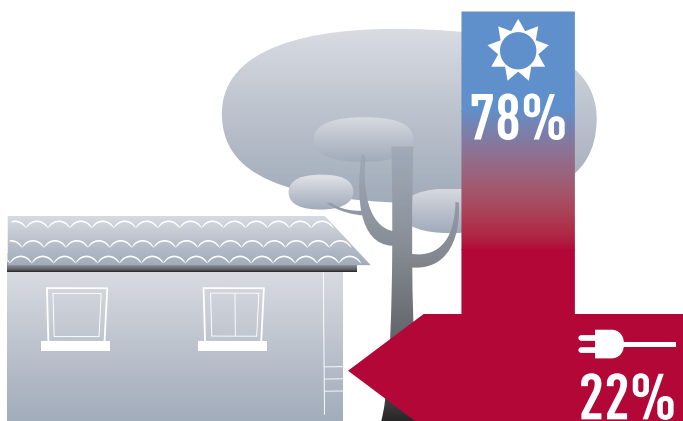
AQUAREA
engineered for high performance
equipped for high performance



We are surrounded by free, inexhaustible energy: supplied by the sun present in all spheres of our environment, in the air, the ground, the groundwater...

Heat pumps enable us to recover this free, inexhaustible energy and to use it to heat our homes. These systems have the huge advantage, apart from reducing your electricity bill, of saving fossil fuels while at the same time limiting greenhouse gas emissions*.

Thus, Panasonic's Aquarea system is an air/water heat pump system that uses calories from the outdoor air and transmits them via a heat exchanger to the water used to heat your home in winter, in addition, some Aquarea models can even be used to cool your house in summer timer and produce your hot water all year round.



UP TO 78% ENERGY SAVINGS

Panasonic's Aquarea heat pump provides a saving of up to 78% on heating expenses with electrical heaters. For example, the Aquarea system of 12 kW has a COP coefficient of 4.67: for every kW of electricity consumed, it returns 4.67 kW of energy, i.e. 3.67 kW more than a conventional electrical heating system, which is equivalent to a 78% saving.

Consumption can be further reduced by connecting solar panels to the Aquarea system.

Up to 78% of the heat produced by a heat pump is free, since it comes from the outdoor air.



Installation space*
0.35 m²

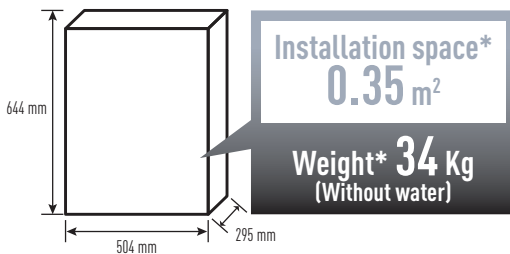
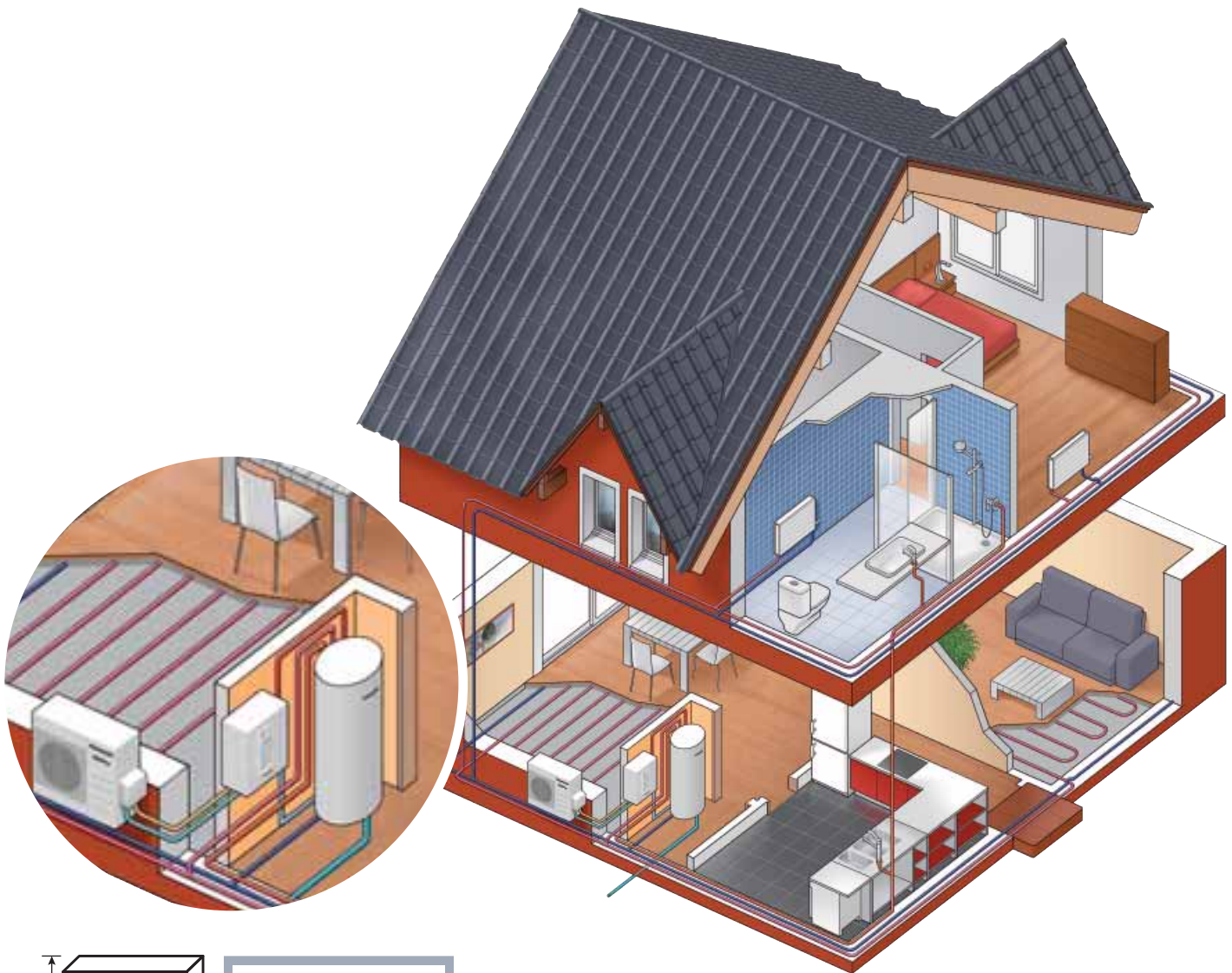


A COMPACT DESIGN: EASY TO INSTALL AND MAINTAIN

Aquarea is a very easy heating and air conditioning system to install either in new or old buildings.

Panasonic's Aquarea air to water system provides a considerable reduction on installation and maintenance costs. For new buildings, no drilling or excavation work is necessary to capture the heat, unlike geothermal installations, nor any gas connection, chimneys or fuel reservoirs. For retrofits or refurbishing, it is easy to connect to an existing heating system with low-temperature radiators or a radiant floor.

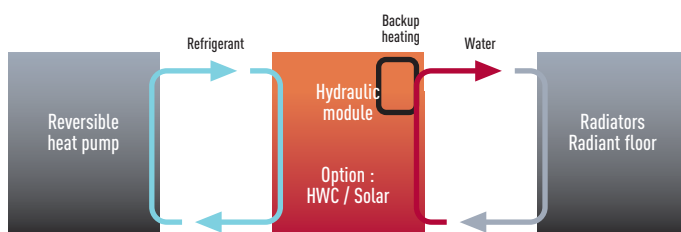
* for the WH-SDH07C3E5 and WH-SDH09C3E5



HOW DOES THE AQUAREA SYSTEM WORK ?

An air to water Heat pump system uses heat energy present in the outdoor air to heat the house, cool it and also to produce hot water. The Aquarea system therefore uses free energy to heat or cool your home. It only consumes electricity to operate the compressor, the electronics, the pumps and in the event of very low temperatures, the electric elements. The result is very high efficiency and real energy savings.

Application: New or replacement boiler



THERE ARE SEVERAL TYPES OF HEAT PUMP :

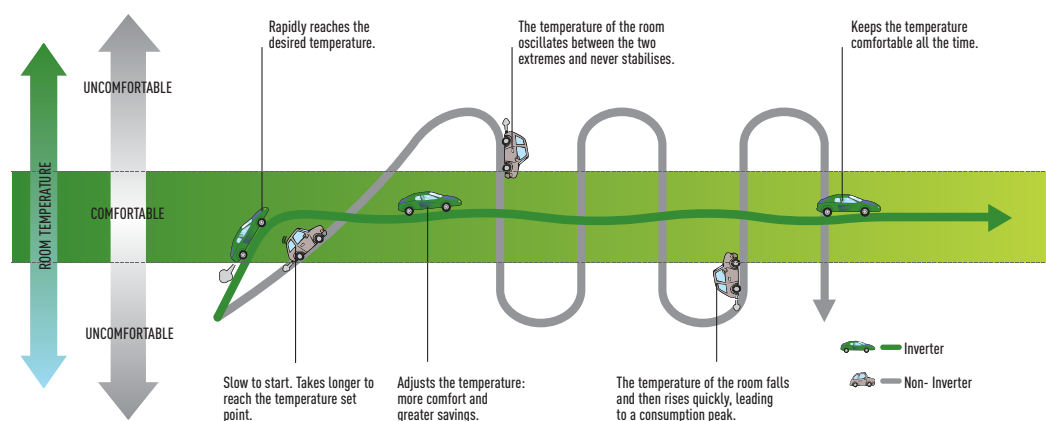
- The split system
This is formed by an outdoor unit and a hydraulic module, normally located in the utility room or garage. This configuration requires refrigerant pipes between the two units but is easily integrated in the house and can be connected to an existing boiler, for example.
- The single-unit system
It only has an outdoor unit. The installation doesn't require a refrigerated connection and is only connected to the heating system. This system is therefore easier to install, but requires more outdoor space.

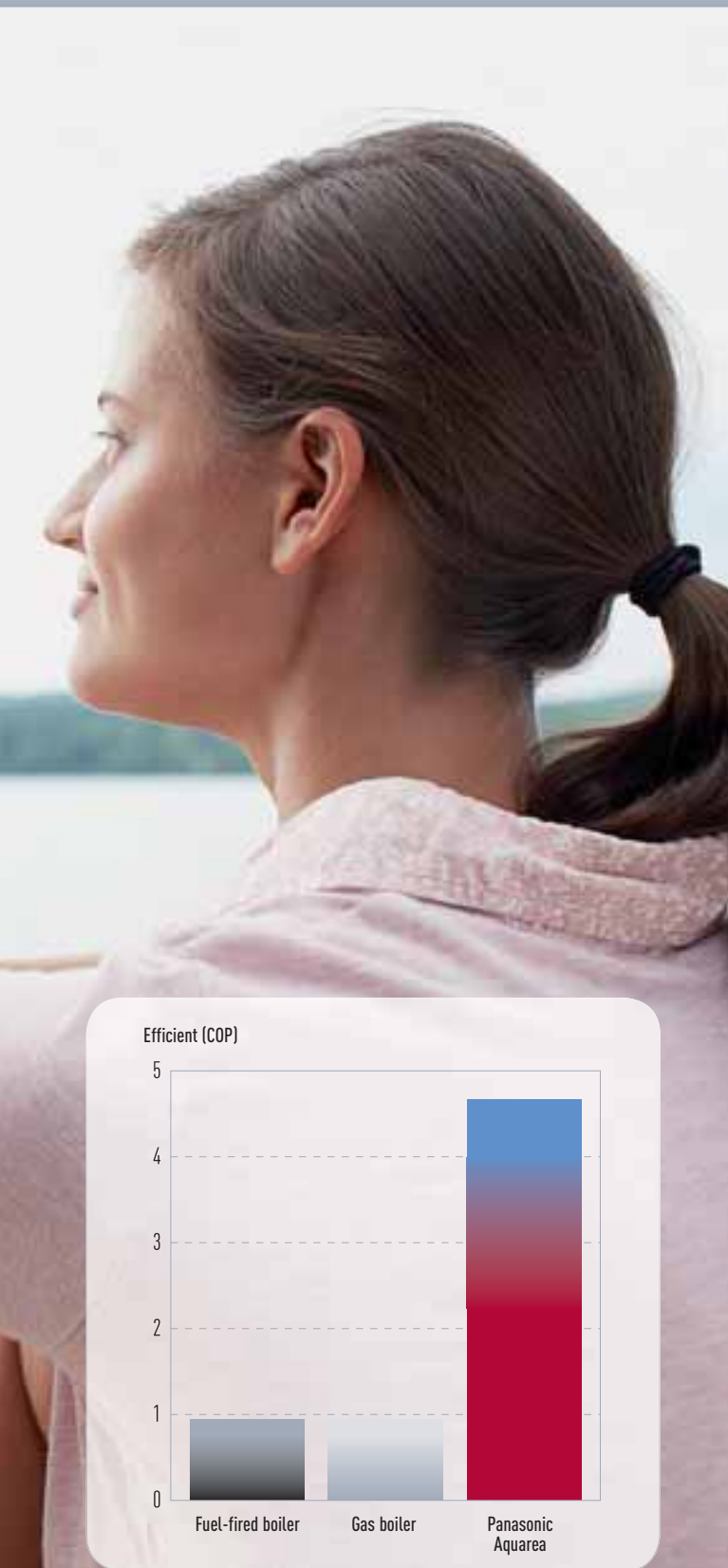


INVERTER+ COMPRESSOR FOR EVEN GREATER EFFICIENCY

With over 100 million compressors supplied, Panasonic has demonstrated its status as leader and the excellent quality and reliability of its heat pumps.

With a Panasonic Inverter+ compressor, you can save up to 30% energy compared to a traditional system no inverter.





HOW TO CALCULATE THE POWER YOUR HOUSE NEEDS

To calculate the power, you will need a thermal balance report drawn up by a specialist who will analyse the house's insulation, its orientation, the openings, the minimum temperature in your area, etc.

However, here is a quick calculation method to enable you to roughly estimate the power needed. This calculation method is given for guidance only. Panasonic will not accept responsibility under any circumstances in the event of an assessment error.

1- Calculation of the house's total energy loss:

A detached house's total energy loss can be calculated approximately using the following formula: $D = G \times V \times \Delta T$

Where:

D = Total loss in W

V = Living space in m^3

ΔT = Difference between the temperature inside the house and the minimum outdoor temperature where the house is located

G = The building's insulation coefficient in $W/m^3K \cdot ^\circ C$

Estimation of coefficient G according to the insulation type (G en $W/m^3K \cdot ^\circ C$)

Old house without insulation G = 2

Old house with insulation G = 1.5

House built after 1990 G = 1.1

House built after 2005 G = 0.8

Very good insulation G = 0.6

Bioclimatic G = 0.4

2- Power requirement:

The model selected must be capable of providing power at least equal to the estimated total energy loss value.

Example: A $130 m^2$ detached house with a ceiling height of 2.5 m in Seine et Marne (77), with a minimum outdoor temperature of $-7^\circ C$, built in 1995, has total energy loss: $D = 1.1 \times [(130 m^2 \times 2.5 m) \times (20^\circ C - (-7^\circ C))] = 9652 W$ (i.e. 9.65 kW)

We must therefore select a Heat pump capable of producing 9.65 kW at $-7^\circ C$, which leads us to a 12- kW Aquarea model.

MAXIMUM EFFICIENCY EVEN AT $-7^\circ C$

The Aquarea range has been specially designed to provide maximum efficiency even at extreme temperatures.

		7 kW	9 kW	12 kW	14 kW	16 kW
Outside temperature $7^\circ C$	Power (kW)	7.00	9.00	12.00	14.00	16.00
	COP	4.40	4.10	4.67	4.50	4.23
Outside temperature $-7^\circ C$	Power (kW)	5.15	5.90	10.00	10.70	11.40
	COP	2.65	2.50	2.70	2.62	2.55

Conditions : Water input temperature: $30^\circ C$. Water output temperature: 35°



WHAT MAKES THE AIR-TO-WATER HEAT PUMP WORK:

- The outdoor unit: this captures the free energy from the outdoor air and brings it into the house by means of the hydraulic module. These free calories are transported to the hydraulic module using an environmentally-friendly refrigerant gas with a high thermal exchange coefficient (R410A).
- Via the hydraulic module, with control panel, the temperature inside the house can be controlled and efficiency maximised. It has a heat exchanger which transmits the calories contained in the refrigerant coming from the outdoor unit to the water used for the house's heating and hot water. The hydraulic module manages priorities in terms of heating and hot water production. It also has a 400 µm particle filter. This hydraulic module is situated in the house in the case of the split system or in the outdoor unit in the case of the single-unit system.
- The hot water cylinder heats the hot water. It is made of stainless steel, which guarantees it a very long life. It is also fitted with a 3 kW element to ensure maximum comfort when outdoor temperatures are very low. The heater, situated at the top of the cylinder, guarantees maximum efficiency and faster heat-up. A 3-way valve for the hot water cylinder connection is supplied with the hot water cylinder
- Other necessary or optional features (not provided by Panasonic):
 - Room temperature thermostat, which can be connected to the Aquarea system to ensure optimum room temperature conditions.
 - Solar kit, to connect solar panels for even greater efficiency.

SCREEN FILTER

The 400 µm screen filter protects the water exchanger from impurities and comes standard on the Aquarea hydraulic module.

2 EARTH LEAKAGE CUT-OUTS

The Aquarea hydraulic module has 2 differential cut-outs ensuring maximum safety in the event of a short circuit.



THE CONTROL PANEL

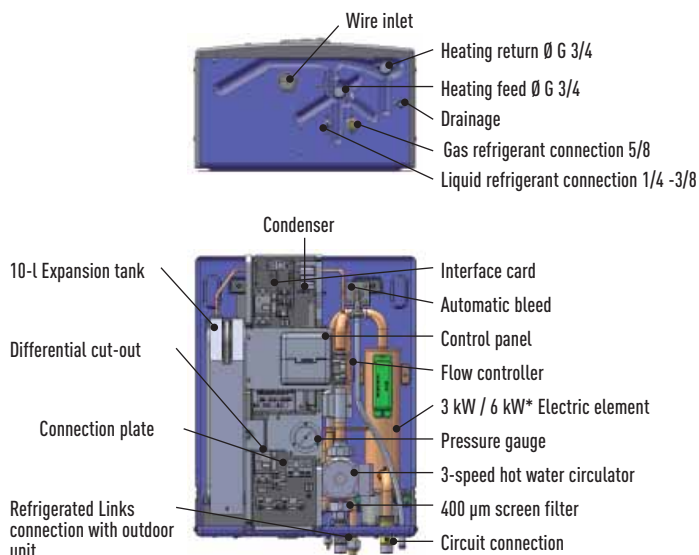
The control panel allows perfect temperature control based on the outdoor temperature, providing maximum efficiency and comfort. The control panel controls the heating temperature and the hot water cylinder temperature very simply.

EASY PROGRAMMING OF THE CONTROL PANEL

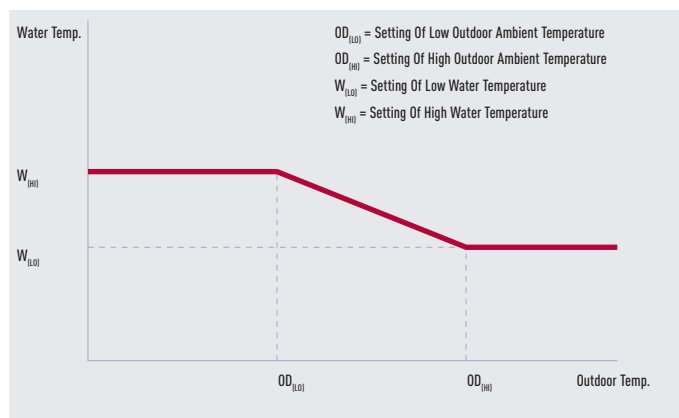
The primary circuit temperature is controlled based on the outdoor temperature. The temperature of the primary circuit is determined by your heating specialist depending on your installation. Enter the below parameters in the remote control on starting up the system.

Your heating specialist must also select the type of operation you need: heating priority or hot water cylinder priority.

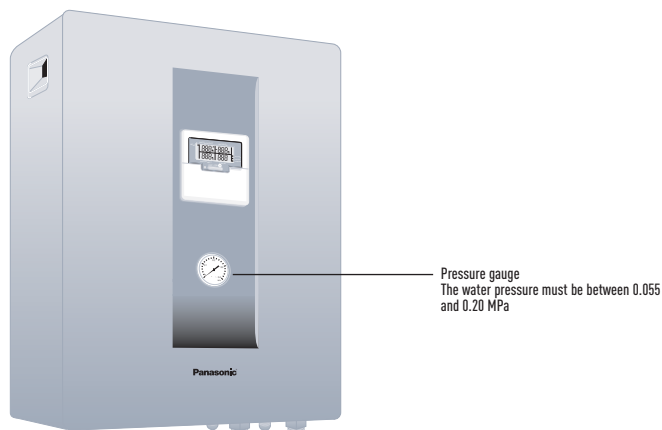
THE HYDRAULIC MODULE



* 3 kW for 7 and 9 kW, and 6 kW for 12, 14 and 16 kW.

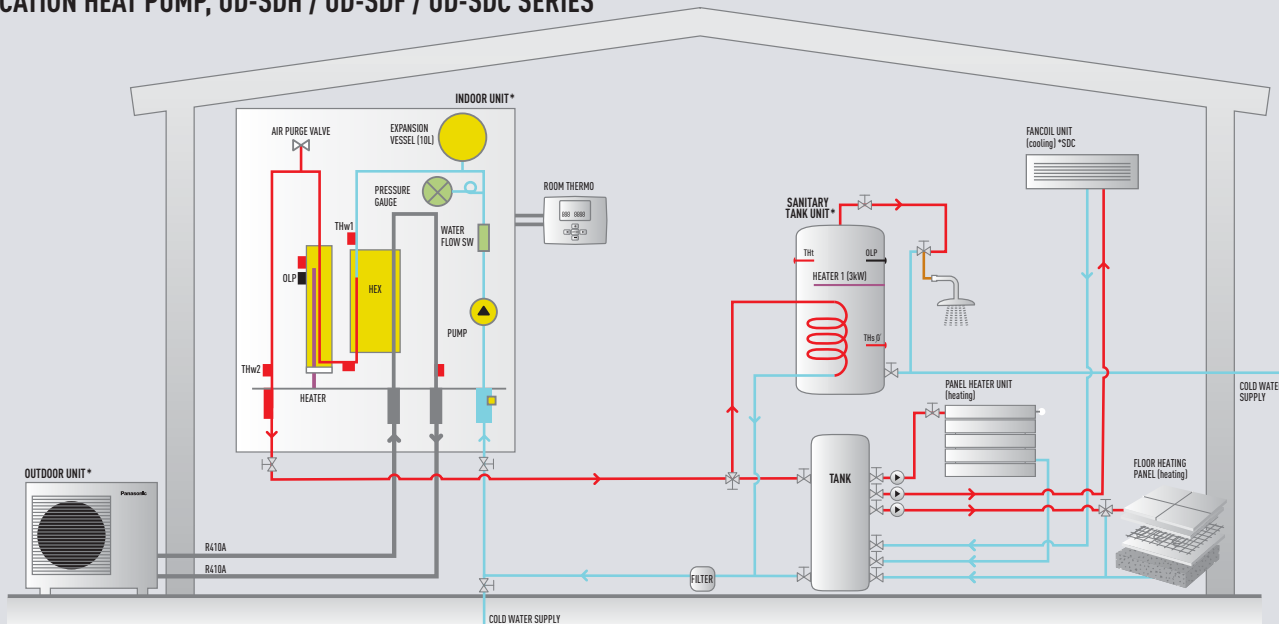


EASY READING OF CONTROL OF WATER PRESSURE



APPLICATION EXAMPLES

AQUAREA IN A RADIANT FLOOR AND HOT WATER CYLINDER APPLICATION HEAT PUMP, UD-SDH / UD-SDF / UD-SDC SERIES

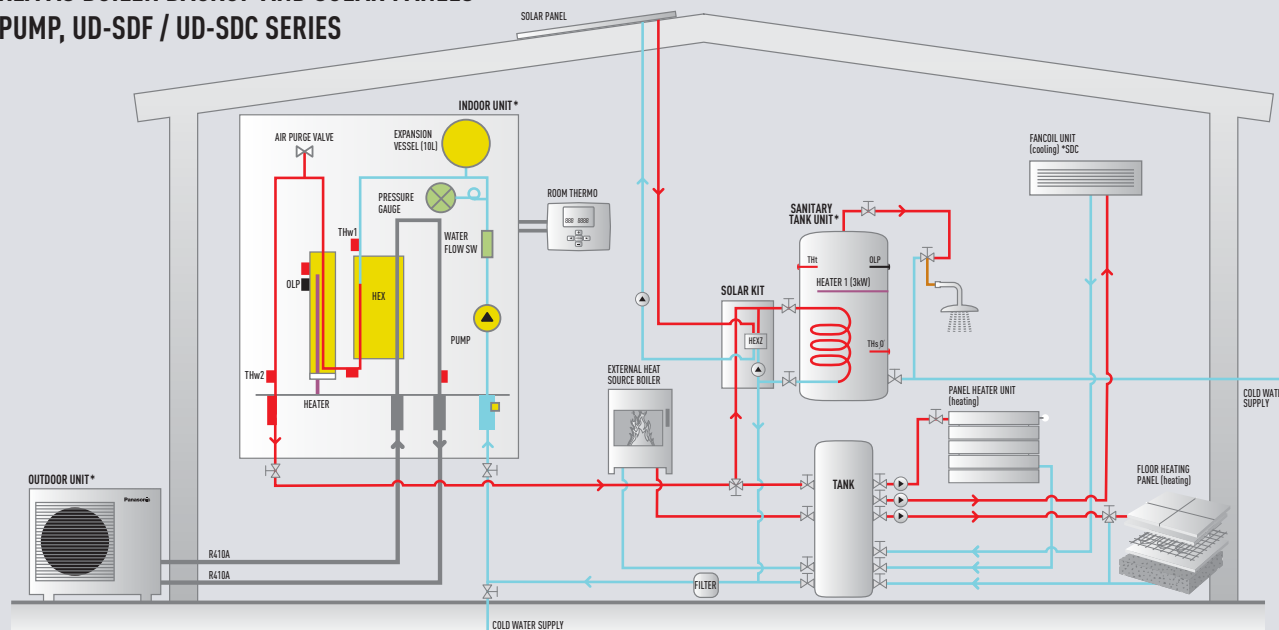


* Panasonic supplies the outdoor unit, the indoor unit, the sanitary tank and a 3-way on/off valve (included with the sanitary tank)

- Hot water production with TD series cylinder
- Heating
- Cooling (only for the UD-SDC series)
- Connection of a thermostat possible (only for the UD-SDF / UD-SDC series)

Schematic diagram

AQUAREA AS BOILER BACKUP AND SOLAR PANELS HEAT PUMP, UD-SDF / UD-SDC SERIES



* Panasonic supplies the outdoor unit, the indoor unit, the sanitary tank and a 3-way on/off valve (included with the sanitary tank)

- Hot water production with TD series cylinder
- Heating with boiler backup
- Cooling (UD-SDC series only)
- Connection of solar panels possible
- Connection of a thermostat possible

Schematic diagram

DESCRIPTION OF LOGOS



INVERTER+ SYSTEM

The A Inverter+ system provides energy savings of up to 30% compared to non inverter models. You win and nature wins.



REFRIGERANT R410A

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



UP TO -20°C IN HEATING MODE

The air conditioner works in heat pump mode with an outdoor temperature as low as -20°C.



RENOVATION

With our Aquarea heat pumps you can connect an existing or new boiler for optimum comfort even at very low outside temperatures.



SOLAR KIT

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



DHW

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



5 YEARS WARRANTY

We guarantee the compressors in the entire range for five years.

AQUAREA RANGE

	7 kW		9 kW		12 kW		14 kW		16 kW	
AQUAREA // BI-BLOC // SEMI-CONNECTIVITY // HEATING ONLY PAGE 14										
	WH-SDH07C3E5	WH-UD07CE5	WH-SDH09C3E5	WH-UD09CE5	WH-SDH12C3E5	WH-UD12CE5	WH-SDH14C3E5	WH-UD14CE5	WH-SDH16C3E5	WH-UD16CE5
AQUAREA // BI-BLOC // HIGH CONNECTIVITY // HEATING ONLY OR HEATING AND COOLING PAGE 16										
	WH-SDF07C3E5 WH-SDC07C3E5	WH-UD07CE5 -A	WH-SDF09C3E5 WH-SDF09C9E8 WH-SDC09C3E5 WH-SDC09C9E8	WH-UD09CE5-A WH-UD09CE8-A	WH-SDF12C6E5 WH-SDF12C9E8 WH-SDC12C6E5 WH-SDC12C9E8	WH-UD12CE5-A WH-UD12CE8-A	WH-SDF14C6E5 WH-SDF14C9E8 WH-SDC14C6E5 WH-SDC14C9E8	WH-UD14CE5-A WH-UD14CE8-A	WH-SDF16C6E5 WH-SDF16C9E8 WH-SDC16C6E5 WH-SDC16C9E8	WH-UD16CE5-A WH-UD16CE8-A
AQUAREA // MONO-BLOC // HIGH CONNECTIVITY // HEATING ONLY OR HEATING AND COOLING PAGE 18										
			WH-MDF09C3E5 WH-MDF09C3E8 WH-MDC09C3E5 WH-MDC09C3E8	WH-MDF12C6E5 WH-MDF12C9E8 WH-MDC12C6E5 WH-MDC12C9E8	WH-MDF14C6E5 WH-MDF14C9E8 WH-MDC14C6E5 WH-MDC14C9E8	WH-MDF16C6E5 WH-MDF16C9E8 WH-MDC16C6E5 WH-MDC16C9E8				



AQUAREA // BI-BLOC // SEMI-CONNECTIVE // HEATING ONLY

Aquarea's split UD/SHD unit is designed to be installed in your new house with radiant floor or low/mid-temperature radiators.

Aquarea provides a saving of up to 78% compared to electrical heating, with an energy efficiency 4.67 times greater than that of a gas or fuel-fired boiler, also reducing CO₂ emissions.

With its (optional) hot water cylinder it also provides you with hot water all year round at a very low cost.

environmentally friendly refrigerant

R410A

down to -20°C in the heat pump

OUTDOOR TEMPERATURE

domestic hot water

DHW

5 years warranty on compressor

BI-BLOC // SEMI-CONNECTIVITY

		HEATING ONLY				
Outdoor unit, Monophase 220 V		WH-UD07CE5	WH-UD09CE5	WH-UD12CE5 ¹⁾	WH-UD14CE5 ¹⁾	WH-UD16CE5 ¹⁾
Heating Capacity at +7°C	kW	7.00	9.00	12.00	14.00	16.00
COP at +7°C with heating water temperature at 35°C W/W		4.4	4.1	4.67	4.50	4.23
Heating Capacity at -7°C	kW	5.15	5.90	10.00	10.70	11.40
COP at -7°C	W/W	2.65	2.50	2.70	2.62	2.55
Sound pressure level	dB(A)	48	49	50	51	53
Sound power level	dB	66	67	67	68	70
Dimensions (H x W x D)	mm	795 x 900 x 320	795 x 900 x 320	1,340 x 900 x 320	1,340 x 900 x 320	1,340 x 900 x 320
Pipe Diameter	Liquid	mm (inch)	6.35 (1/4)	6.35 (1/4)	9.53 (3/8)	9.53 (3/8)
	Gas	mm (inch)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)	15.88 (5/8)
Refrigerant (R410A)	kg	1.45	1.45	2.95	2.95	2.95
Additional Gas Amount (R410A)	g/m	30	30	50	50	50
Pipe Length for additional gas	m	10	10	30	30	30
Pipe Length Range	m	3 / 30	3 / 30	3 / 40	3 / 40	3 / 40
I/D&O/D Height Difference	m	20	20	30	30	30
Operation Range	Outdoor Ambient	°C	-20 / 35	-20 / 35	-20 / 35	-20 / 35
	Water Outlet (at -2/-7/-15) ²⁾	°C	55	55	55	55
Indoor unit, Monophase 220 V		WH-SDH07C3E5	WH-SDH09C3E5	WH-SDH12C6E5	WH-SDH14C6E5	WH-SDH16C6E5
Dimensions (H x W x D)	mm	644 x 504 x 295	644 x 504 x 295	892 x 502 x 353	892 x 502 x 353	892 x 502 x 353
Water pipe connector	mm (inch)	19.05 (3/4)	19.05 (3/4)	31.75 (1 1/4)	31.75 (1 1/4)	31.75 (1 1/4)
Pump	No. of Speed	3	3	2	2	2
	Input Power(max)	100	100	190	190	190
Heating water flow ΔT=5 K, 35°C	m ³ /h	1.2	1.6	2.1	2.4	2.8
Water Filter	Inner Diameter	mm	22	-	-	-
Capacity of integrated electric heater	kW	3	3	6	6	6
Input Power	kW	1.59	2.20	2.57	3.11	3.78
Running and starting Current	A	7.30	10.10	11.7	14.1	17.1
Maximum Current	A	21	22.9	24	25	26
Connection to solar kit and boiler		No	No	No	No	No

OPTIONAL HOT WATER CYLINDER

		WH-TD20B3E5 ¹⁾	WH-TD30B3E5 ¹⁾
Cylinder capacity	L	198	287
Max water temp.	°C	75	75
Dimensions	Height	mm	1,600
	Diameter	mm	580
Weight on empty	kg	46	60
Electrical backup element	kW	3	3
Electrical connections	φ / V / Hz	Single-Phase / 230 / 50	Single-Phase / 230 / 50
Exchanger material		Stainless steel	Stainless steel

A 3-way valve for the hot water cylinder connection is supplied with the hot water cylinder
Water quality must comply with standard EN 98/83EN. If the water's chlorides and sulphates contents exceed 250 mg/l, water treatment upstream is obligatory. The guarantee does not apply in the event of values over 250 mg/l.

1) Preliminary data.
2) Outdoor temperature.



WH-SDH07C3E5 // WH-SDH09C3E5

TECHNICAL DATA

- RANGE FROM 7 TO 16 kW, SINGLE-PHASE
- MAXIMUM HYDRAULIC MODULE OUTPUT TEMPERATURE: 55 °C
- WORKS DOWN TO -20 °C
- 400 µm SCREEN FILTER INCLUDED IN THE HYDRAULIC MODULE
- MAXIMUM 20 M RISE BETWEEN THE OUTDOOR UNIT AND THE HYDRAULIC MODULE

ENERGY AND ENVIRONMENTAL EFFICIENCY

- 78% more efficient than an electrical convection system
- Maximum COP of 4.67 for the 12 kW model
- Environmentally friendly refrigerant gas R410A

COMFORT

- Maximum hydraulic module output temperature: 55 °C
- Power optimised based on the return water temperature
- Built-in management of the hot water cylinder and heating

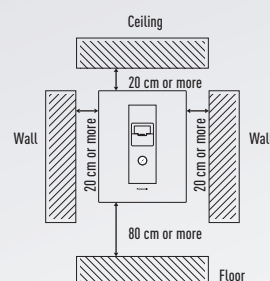
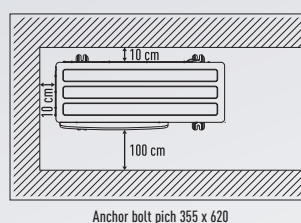
EASY TO USE

- Control on the hydraulic module
- Easy programming on the control panel

EASY INSTALLATION AND MAINTENANCE

- Easy-to-access pressure gauge for easy control of the water pressure
- 400 µm screen filter included in the hydraulic module
- Easy-to-open hydraulic module and outdoor unit

SPACE NECESSARY FOR INSTALLATION

WH-UD07CE5
WH-UD09CE5WH-UD12CE5
WH-UD14CE5
WH-UD16CE5

WH-TD20B3E5



WH-TD30B3E5



AQUAREA // BI-BLOC // HIGH CONNECTIVITY //

HEATING ONLY OR HEATING AND COOLING

The Aquarea UD/SDC and UD/SDF ranges adapt just as well to an existing installation as boiler backup or to a new installation with radiant floor, low-temperature radiators or even fan-coil heaters (in heating and cooling for the UD/SDF range). These ranges also allow you to connect a solar kit in order to increase efficiency and minimise the impact on the ecosystem. Finally, it is possible to connect a thermostat for even better heating control and management.

Aquarea provides a saving of up to 78% compared to electrical heating, with an energy efficiency 4.67 times greater than that of a gas or fuel-fired boiler, also reducing CO₂ emissions.

And by adding the hot water cylinder (optional), you can enjoy hot water all the year round at a very low cost.

environmentally
friendly refrigerant

R410A

down to **-20°C**
in the heat pump

OUTDOOR TEMPERATURE

boiler
connection

RETROFIT

solar panels
connection

SOLAR KIT

domestic hot
water

DHW

5 years
warranty on
compressor

BI-BLOC // HIGH-CONNECTIVITY

		HEATING ONLY ¹⁾					HEATING AND COOLING ¹⁾				
Outdoor unit. Monophase 220 V		WH-UD07CE5-A WH-UD09CE5-AWH-UD12CE5-AWH-UD14CE5-AWH-UD16CE5-AWH-UD07CE5-AWH-UD09CE5-AWH-UD12CE5-AWH-UD14CE5-AWH-UD16CE5-A					WH-UD07CE5-AWH-UD09CE5-AWH-UD12CE5-AWH-UD14CE5-AWH-UD16CE5-A				
Outdoor unit. Triphase 400 V		WH-UD09CE8-AWH-UD12CE8-AWH-UD14CE8-AWH-UD16CE8-A					WH-UD09CE8-AWH-UD12CE8-AWH-UD14CE8-AWH-UD16CE8-A				
Heating Capacity at +7°C	kW	7.00	9.00	12.00	14.00	16.00	7.00	9.00	12.00	14.00	16.00
COP at +7°C with heating water temperature at 35°C W/W		4.4	4.1	4.67	4.5	4.23	4.4	4.1	4.67	4.5	4.23
Heating Capacity at -7°C	kW	5.15	5.90	10.00	10.70	11.40	5.15	5.90	10.00	10.70	11.40
COP at -7°C	W/W	2.65	2.50	2.70	2.62	2.55	2.65	2.50	2.70	2.62	2.55
Sound pressure level	dB(A)	48	49	50	51	53	48	49	50	51	53
Sound power level	dB	66	67	67	68	70	66	67	67	68	70
Dimensions (H x W x D)	mm	795x900x320	795x900x320	1,340x900x320	1,340x900x320	1,340x900x320	795x900x320	795x900x320	1,340x900x320	1,340x900x320	1,340x900x320
Pipe Diameter	Liquid	mm (inch)	6.35(1/4)	6.35(1/4)	9.53 (3/8)	9.53 (3/8)	9.53 (3/8)	6.35(1/4)	6.35(1/4)	9.53 (3/8)	9.53 (3/8)
	Gas	mm (inch)	15.88(5/8)	15.88(5/8)	15.88(5/8)	15.88(5/8)	15.88(5/8)	15.88(5/8)	15.88(5/8)	15.88(5/8)	15.88(5/8)
Refrigerant (R410A)	kg	1.45	1.45	2.95	2.95	2.95	1.45	1.45	2.95	2.95	2.95
Additional Gas Amount (R410A)	g/m	30	30	50	50	50	30	30	50	50	50
Pipe Length for additional gas	m	10	10	30	30	30	10	10	30	30	30
Pipe Length Range	m	3 / 30	3 / 30	3 / 40	3 / 40	3 / 40	3 / 30	3 / 30	3 / 40	3 / 40	3 / 40
I/D&O/D Hight Difference	m	20	20	30	30	30	20	20	30	30	30
Operation Range	Outdoor Ambient	°C	-20 / 35	-20 / 35	-20 / 35	-20 / 35	-20 / 35	-20 / 35	-20 / 35	-20 / 35	-20 / 35
	Water Outlet (at -2/-7/-15) ²⁾	°C	55	55	55	55	55	55	55	55	55
Indoor unit. Monophase 220 V		WH-SDF07C3E5 WH-SDF09C3E5 WH-SDF12C6E5 WH-SDF14C6E5 WH-SDF16C6E5 WH-SDC07C3E5 WH-SDC09C3E5 WH-SDC12C6E5 WH-SDC14C6E5 WH-SDC16C6E5					WH-SDF07C3E5 WH-SDF09C3E5 WH-SDF12C6E5 WH-SDF14C6E5 WH-SDF16C6E5 WH-SDC07C3E5 WH-SDC09C3E5 WH-SDC12C6E5 WH-SDC14C6E5 WH-SDC16C6E5				
Indoor unit. Triphase 400 V		WH-SDF09C9E8 WH-SDF12C9E8 WH-SDF14C9E8 WH-SDF16C9E8					WH-SDF09C9E8 WH-SDF12C9E8 WH-SDF14C9E8 WH-SDF16C9E8				
Dimension	mm	892x502x353	892x502x 353	892X502X353	892X502X353	892X502X353	892X502X353	892X502X353	892X502X353	892X502X353	892X502X353
Water pipe connector	mm (inch)	31.75 (11/4)	31.75 (11/4)	31.75 (11/4)	31.75 (11/4)	31.75 (11/4)	31.75 (11/4)	31.75 (11/4)	31.75 (11/4)	31.75 (11/4)	31.75 (11/4)
Pump	No. of Speed	3	3	2	2	2	3	3	2	2	2
	Input Power(max)	100	100	190	190	190	100	100	190	190	190
Heating water flow ΔT=5 K. 35°C	m ³ /h	1.2	1.6	2.1	2.4	2.8	1.2	1.6	2.1	2.4	2.8
Water Filter	Inner Diameter	mm	22	22	-	-	22	22	-	-	-
Capacity of integrated electric heater	kW	3	3	6	6	6	3	3	6	6	6
Input Power	kW	1.59	2.20	2.57	3.11	3.78	1.59	2.20	2.57	3.11	3.78
Runing and starting Current	A	7.30	10.10	11.7	14.1	17.1	7.30	10.10	11.7	14.1	17.1
Maximum Current	A	21	22.9	24	25	26	21	22.9	24	25	26
Connection to solar kit and boiler		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

OPTIONAL HOT WATER CYLINDER

		WH-TD20B3E5 ¹⁾		WH-TD30B3E5 ¹⁾	
Cylinder capacity	L	198		287	
Max water temp.	°C	75		75	
Dimensions	Height	1,150		1,600	
	Diameter	580		580	
Weight on empty	kg	46		60	
Electrical backup element	kW	3		3	
Electrical connections	φ / V / Hz	Single-Phase / 230 / 50		Single-Phase / 230 / 50	
Exchanger material		Stainless steel		Stainless steel	

A 3-way valve for the hot water cylinder connection is supplied with the hot water cylinder
Water quality must comply with standard EN 98/83EN. If the water's chlorides and sulphates contents exceed 250 mg/l, water treatment upstream is obligatory. The guarantee does not apply in the event of values over 250 mg/l.

¹⁾ Preliminary data.
²⁾ Outdoor temperature.



TECHNICAL DATA

- RANGE FROM 7 TO 16 kW, SINGLE AND THREE-PHASE
- MAXIMUM HYDRAULIC MODULE OUTPUT TEMPERATURE: 55 °C
- WORKS DOWN TO -20 °C
- 400 µm SCREEN FILTER INCLUDED IN THE HYDRAULIC MODULE
- MAXIMUM 20 M RISE BETWEEN THE OUTDOOR UNIT AND THE HYDRAULIC MODULE

ENERGY AND ENVIRONMENTAL EFFICIENCY

- 78% more efficient than an electrical convection system
- Maximum COP of 4.67 for the 12 kW model
- Environmentally-friendly refrigerant gas R410A

COMFORT

- Heating and cooling possible in the UD/SDF range
- Optimum control possible with an outside thermometer (not supplied)
- Maximum hydraulic module output temperature: 55 °C
- Power optimised based on the return water temperature
- Built-in management of the hot water cylinder and heating

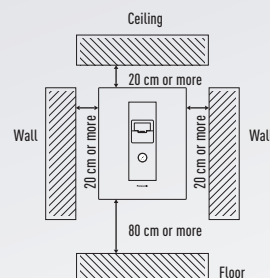
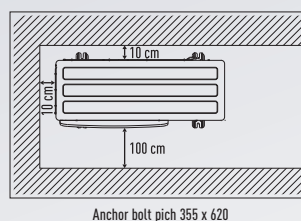
EASY TO USE

- Control on the hydraulic module
- Easy programming on the control panel

EASY INSTALLATION AND MAINTENANCE

- Easy-to-access pressure gauge for easy control of the water pressure
- 400 µm screen filter included in the hydraulic module
- Easy-to-open hydraulic module and outdoor unit

SPACE NECESSARY FOR INSTALLATION



WH-UD07CE5
WH-UD09CE5
WH-UD09CE8



WH-UD12CE5
WH-UD14CE5
WH-UD16CE5
WH-UD16CE8



WH-TD20B3E5



WH-TD30B3E5



AQUAREA // MONO-BLOC // HIGH CONNECTIVITY //

HEATING ONLY OR HEATING AND COOLING

The Aquarea MDF / MDC single-unit range adapt just as well to an existing installation as boiler backup or to a new installation with radiant floor, low-temperature radiators or even fan-coil heaters (in heating and cooling for the MDC range). This range also allows you to connect a solar kit in order to increase efficiency and minimise the impact on the ecosystem. Finally, it is possible to connect a thermostat for even better heating control and management.

Aquarea provides a saving of up to 78% compared to electrical heating, with an energy efficiency 4.67 times greater than that of a gas or fuel-fired boiler, also reducing CO₂ emissions.

With its (optional) hot water cylinder it also provides you with hot water all year round at a very low cost.

environmentally
friendly refrigerant

R410A

down to **-20°C**
in the heat pump

OUTDOOR TEMPERATURE

boiler
connection

RETROFIT

solar panels
connection

SOLAR KIT

domestic hot
water

DHW

5 years
warranty on
compressor

MONO-BLOC // HIGH-CONNECTIVITY

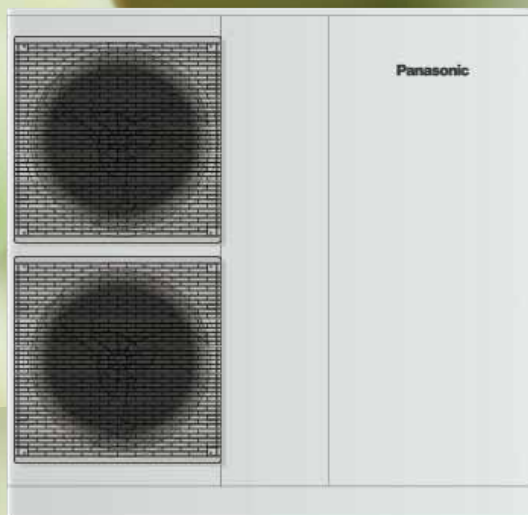
		HEATING ONLY ¹⁾				HEATING AND COOLING ¹⁾			
Outdoor unit. Monophase 220 V		WH-MDF09C3E5	WH-MDF12C6E5	WH-MDF14C6E5	WH-MDF16C6E5	WH-MDC09C3E5	WH-MDC12C6E5	WH-MDC14C6E5	WH-MDC16C6E5
Outdoor unit. Triphase 400 V		WH-MDF09C3E8	WH-MDF12C9E8	WH-MDF14C9E8	WH-MDF16C9E8	WH-MDC09C3E8	WH-MDC12C9E8	WH-MDC14C9E8	WH-MDC16C9E8
Heating Capacity at +7°C	kW	9.00	12.00	14.00	16.00	9.00	12.00	14.00	16.00
COP at +7°C with heating water temperature at 35°C W/W		4.1	4.67	4.5	4.23	4.1	4.67	4.5	4.23
Heating Capacity at -7°C	kW	5.90	10.00	10.70	11.40	5.90	10.00	10.70	11.40
COP at -7°C	W/W	2.70	2.70	2.62	2.55	2.70	2.70	2.62	2.55
Heating Capacity at -15°C	kW	5.90	8.90	9.50	10.30	5.90	8.90	9.50	10.30
COP at -15°C	W/W	2.20	2.43	2.35	2.33	2.20	2.43	2.35	2.33
Sound pressure level	dB(A)	49	50	51	53	49	50	51	53
Sound power level	dB	66	67	68	70	66	67	68	70
Dimensions (H x W x D)	mm	1,283x1,440x360	1,283x1,440x360	1,283x1,440x360	1,283x1,440x360	1,283x1,440x360	1,283x1,440x360	1,283x1,440x360	1,283x1,440x360
Operation Range	Outdoor Ambient	°C	°C	-20 / 35	-20 / 35	-20 / 35	-20 / 35	-20 / 35	-20 / 35
	Water Outlet (at -2/-7/-15) ²⁾	°C	°C	55	55	55	55	55	55
Water pipe connector	mm (inch)	31.75 (11/4)	31.75 (11/4)	31.75 (11/4)	31.75 (11/4)	19.05 (3/4)	31.75 (11/4)	31.75 (11/4)	31.75 (11/4)
Pump	No. of Speed	2	2	2	2	2	2	2	2
	Input Power(max)	190	190	190	190	190	190	190	190
Heating water flow ΔT=5 K. 35°C	m³/h	1.6	2.1	2.4	2.8	1.6	2.1	2.4	2.8
Capacity of integrated electric heater		3	6	6	6	3	6	6	6
Input Power	kW	2.20	2.57	3.11	3.78	2.20	2.57	3.11	3.78
Running and starting Current	A	8.7	11.7	14.1	17.1	8.7	11.7	14.1	17.1
Maximum Current	A	24	25	26	22.9	24	25	26	26
Connection to solar kit and boiler		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

OPTIONAL HOT WATER CYLINDER

		WH-TD20B3E5 ¹⁾	WH-TD30B3E5 ¹⁾
Cylinder capacity	L	198	287
Max water temp.	°C	75	75
Dimensions	Height	1,150	1,600
	Diameter	580	580
Weight on empty	kg	46	60
Electrical backup element	kW	3	3
Electrical connections	φ / V / Hz	Single-Phase / 230 / 50	Single-Phase / 230 / 50
Exchanger material		Stainless steel	Stainless steel

A 3-way valve for the hot water cylinder connection is supplied with the hot water cylinder
Water quality must comply with standard EN 98/83EN. If the water's chlorides and sulphates contents exceed 250 mg/l, water treatment upstream is obligatory. The guarantee does not apply in the event of values over 250 mg/l.

1) Preliminary data.
2) Outdoor temperature.



TECHNICAL DATA

- RANGE FROM 9 TO 16 kW, SINGLE AND THREE-PHASE
- MAXIMUM HYDRAULIC MODULE OUTPUT TEMPERATURE: 55 °C
- WORKS DOWN TO -20 °C
- 400 µm SCREEN FILTER INCLUDED IN THE HYDRAULIC MODULE
- MAXIMUM 20M RISE BETWEEN THE OUTDOOR UNIT AND THE HYDRAULIC MODULE

ENERGY AND ENVIRONMENTAL EFFICIENCY

- 78% more efficient than an electrical convection system
- Maximum COP of 4.67 for the 12 kW model
- Environmentally friendly refrigerant gas R410 A

COMFORT

- Heating and cooling possible with the MDC range
- Optimum control possible with an outside thermometer (not supplied)
- Maximum hydraulic module output temperature: 55 °C
- Power optimised according to the return water temperature
- Autonomous management of the hot water cylinder and heating

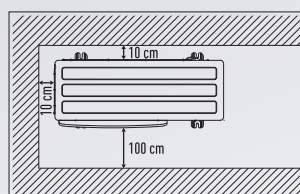
EASY TO USE

- Single-unit range, with no refrigerant connections
- Wired control panel for installation in the house
- Easy programming on the control panel

EASY INSTALLATION AND MAINTENANCE

- 400 µm screen filter included in the outdoor unit
- Outdoor unit easy to open for maintenance

SPACE NECESSARY FOR INSTALLATION



Anchor bolt pitch 355 x 620



WH-TD20B3E5



WH-TD30B3E5



ACCESSOIRES

FIELD PROCURED OPTIONAL PARTS

Solar Kit		
Brand	Model No.	Feature
RESOL	FlowConS_DeltaSol_BS_Plus	Remote Control
Oventrop	Regusol X-25	Remote Control
3 way-Valve		
Brand	Model No.	Feature
Siemens	CZV322 3 Port	Spring return
2 way Valve		
Brand	Model No.	Feature
Honeywell	V4043C1007	Spring return
Siemens	CZV222 2 Port	Spring return
Room Thermostat		
Brand	Model No.	Feature
Siemens	RAA20	Dial type
Siemens	REV200	Programme
Thermal Valve		
Brand	Model No.	Feature
Taconova	RA57	NC
Danfoss	AVB-NC	NC



RESOL
FlowConS_DeltaSol_BS_Plus



Oventrop
Regusol X-25



Siemens
CZV322 3 Port



Siemens
CZV222 2 Port



Siemens
RAA20



Siemens
RAA200



Taconova
RA57

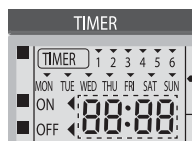


Danfoss
AVB-NC




ERROR CODES

THE OPERATION LED BLINKS AND AN ERROR CODE APPEARS ON THE CONTROL PANEL DISPLAY.



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

FORCE HEATER MODE BUTTON

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

ERROR CODES TABLE

Diagnosis display	Abnormality / Protection control	Abnormality Judgement	Primary location to verify
H00	No abnormality detected	—	—
H12	Indoor/Outdoor capacity unmatched	90s after power supply	<ul style="list-style-type: none"> • Indoor/outdoor connection wire • Indoor/outdoor PCB • Specification and combination table in catalogue
H15	Outdoor compressor temperature sensor abnormality	Continue for 5 sec.	• Compressor temperature sensor (defective or disconnected)
H23	Indoor refrigerant liquid temperature sensor abnormality	Continue for 5 sec.	• Refrigerant liquid temperature sensor (defective or disconnected)
H38	Indoor/Outdoor mismatch	—	• Indoor/Outdoor PCB
H42	Compressor low pressure abnormality	—	<ul style="list-style-type: none"> • Outdoor pipe temperature sensor • Clogged expansion valve or strainer • Insufficient refrigerant • Outdoor PCB • Compressor
H62	Water flow switch abnormality	Continue for 1 min.	• Water flow switch
H64	Refrigerant high pressure abnormality	Continue for 5 sec.	• Outdoor high pressure sensor (defective or disconnected)
H72	Tank sensor abnormal	Continue for 5 sec.	• Tank sensor
H76	Indoor - control panel communication abnormality	—	• Indoor - control panel (defective or disconnected)
H90	Indoor / outdoor abnormal communication	> 1 min after starting operation	<ul style="list-style-type: none"> • Internal / external cable connections • Indoor / Outdoor PCB
H95	Indoor/Outdoor wrong connection	—	• Indoor/Outdoor supply voltage
H98	Outdoor high pressure overload protection	—	<ul style="list-style-type: none"> • Outdoor high pressure sensor • Water pump or water leakage • Clogged expansion valve or strainer • Excess refrigerant • Outdoor PCB
F12	Pressure switch activate	4 times occurrence within 20 minutes	• Pressure switch
F14	Outdoor compressor abnormal revolution	4 times occurrence within 20 minutes	• Outdoor compressor
F15	Outdoor fan motor lock abnormality	2 times occurrence within 30 minutes	<ul style="list-style-type: none"> • Outdoor PCB • Outdoor fan motor
F16	Total running current protection	3 times occurrence within 20 minutes	<ul style="list-style-type: none"> • Excess refrigerant • Outdoor PCB
F20	Outdoor compressor overheating protection	4 times occurrence within 30 minutes	<ul style="list-style-type: none"> • Compressor tank temperature sensor • Clogged expansion valve or strainer • Insufficient refrigerant • Outdoor PCB • Compressor
F22	IPM (power transistor) overheating protection	3 times occurrence within 30 minutes	<ul style="list-style-type: none"> • Improper heat exchange • IPM (Power transistor)
F23	Outdoor Direct Current (DC) peak detection	7 times occurrence continuously	<ul style="list-style-type: none"> • Outdoor PCB • Compressor
F24	Refrigeration cycle abnormality	2 times occurrence within 20 minutes	<ul style="list-style-type: none"> • Insufficient refrigerant • Outdoor PCB • Compressor low compression
F25	Cooling / Heating cycle changeover abnormality	4 times occurrence within 30 minutes	<ul style="list-style-type: none"> • 4-way valve • V-coil
F27	Pressure switch abnormality	Continue for 1 min.	• Pressure switch
F36	Outdoor air temperature sensor abnormality	Continue for 5 sec.	• Outdoor air temperature sensor (defective or disconnected)
F37	Indoor water inlet temperature sensor abnormality	Continue for 5 sec.	• Water inlet temperature sensor (defective or disconnected)
F40	Outdoor discharge pipe temperature sensor abnormality	Continue for 5 sec.	• Outdoor discharge pipe temperature sensor (defective or disconnected)
F41	PFC control	4 times occurrence within 10 minutes	• Voltage at PFC
F42	Outdoor heat exchanger temperature sensor abnormality	Continue for 5 sec.	• Outdoor heat exchanger temperature sensor (defective or disconnected)
F45	Indoor water outlet temperature sensor abnormality	Continue for 5 sec.	• Water outlet temperature sensor (defective or disconnected)
F46	Outdoor Current Transformer open circuit	—	<ul style="list-style-type: none"> • Insufficient refrigerant • Outdoor PCB • Compressor low

Contact Details:

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