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AIRWENDE 2024

PRODUCT CATALOG



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ABOUT AIRWENDE

AIRWENDE is a German and international brand registered and established in Germany, responsible for the development, production, testing, sales of air source heat pumps, as well as assisting in installation. The company's objective is to advance renewable energy through scientific and technological innovation, engage in collaborations involving new energy technologies, actively participate in social initiatives focused on energy conservation, emission reduction, environmental protection technology. Additionally, AIRWENDE manufactures heat pump products specifically tailored for the European market area.

Our experienced engineering and design team, comprising over 50 sophisticated engineers, boasts extensive expertise in their respective fields of high-tech. They consistently enhance their knowledge by actively participating in top-notch professional conferences and seminars worldwide to stay abreast of the latest advancements in technology.

Our hard earned reputation in quality and reliability is our highest valued asset. AIRWENDE has one of the most stringent control mechanisms in place for its manufacturing processes and product quality. It has successfully obtained most of the world well known certificates, including CE, RoHs, etc., for its products and ISO9001 approvals for the production management.

We value the customer. We continually strive to meet the customer's demands and listen to the ideas provided to us through our distributors and dealers. These ideas from the market are always incorporated into our products for user satisfaction, ease in installation and after-service, as well as developing totally new or enhanced products.

AIRWENDE is determined to keep on its endeavor and commitment in technology progression and product improvement, by working together with its worldwide partners in its task of offering solutions in environmental technologies with highest innovation, reliability, quality and energy efficiency.

Please contact us and discover our abilities and products. We are looking forward to welcoming you as a new member of our family of worldwide dedicated distributors.



AWHP-12SPAS-R1A1

AW — Stands for Airwende

HP — Stands for heat pump

12 — Max. heating capacity in kW

S — Unit structure, S represents split, M represents integrated and A represents three in one unit

P — The unit is equipped with a built-in water pump, which is omitted if there is no water pump

A — Water pump type, A represents variable frequency water pump, fixed frequency omitted

S — Power supply type, S represents single-phase electricity, T represents three-phase electricity

R1 — Refrigerant type, R1 represents R290, R2 represents R32

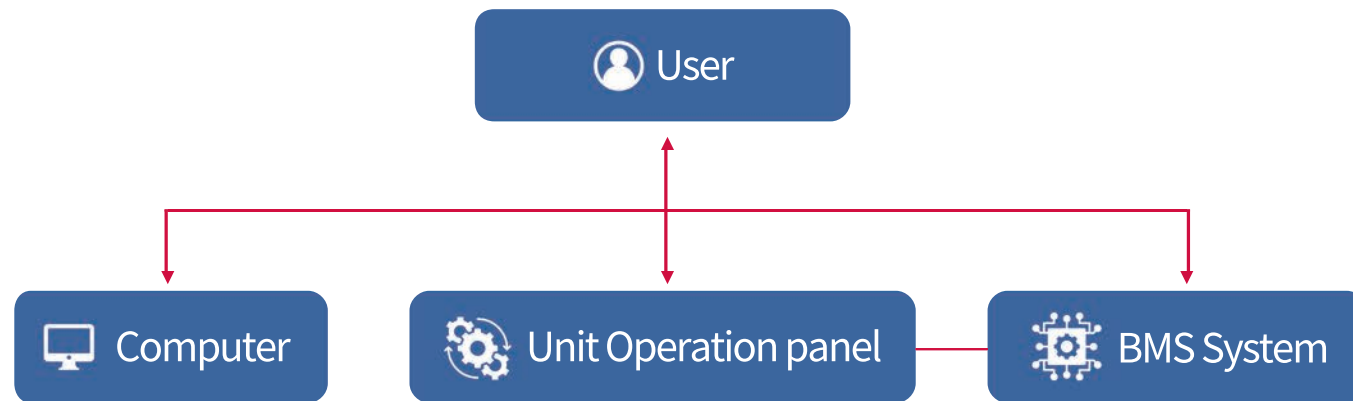
A1 — Stands for version number



AIRWENDER32 SERIES

GENERAL INSTRUCTION

CONTROL SYSTEM



COMPUTER CONTROL

Note: Computer Control function is only available for the units equipped with EcoTouch control system.

Users, via computer can login Airwende web server remotely and change any setting, view historic operation status, as well as update the software from anywhere remotely.



OPERATION PANEL

—EcoTouch

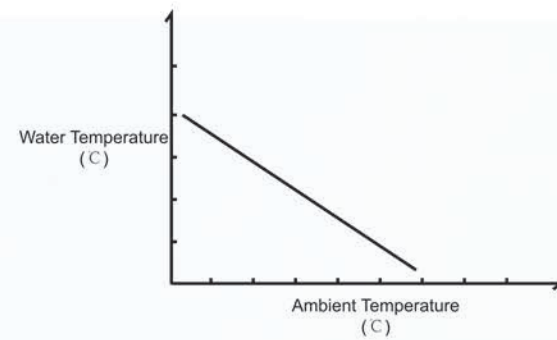
With a 4.3" touch screen operation panel, EcoTouch can combine various heating equipment, to optimize the energy consumption of the entire system as a whole. Its sophisticated control logic smartly manages the system components and allows the integration with other common control systems to fulfill the complex requirement of various applications, for highly efficient operation while minimizing the power consumption. Additionally, with the intergrated WIFI module, it can work remotely with Airwende's WIFI and Computer control systems.



Touch Screen Operation Panel

1. HEATING CURVE FUNCTION

Using Airwende's proprietary Heating Curve Logic, users can set up the system to meet their optimum comfort levels based on the changing heat demand, insulation levels, etc. Airwende R32 system can adjust the outlet water temperatures based on the ambient temperature, by continuously monitoring and adjusting it in opposite direction with the current ambient temperature levels to ensure the optimum comfort in the living spaces.

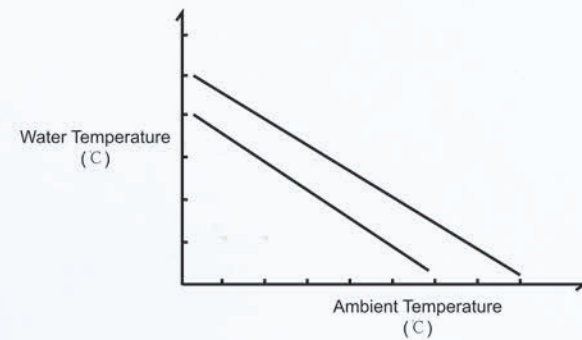


3. DUAL WATER TEMPERATURE SETTINGS

Different heating systems require differing levels of water temperatures, such as the case with floor heating systems and radiator heating systems. Airwende's new R32 system provides the users with the ability to set up two separate heat curve programs, for different water temperatures. low temperature curve for floor heating and a high temperature curve for the radiators. When high temperature water is required, Airwende R32 unit runs high-heat-demanding curve. When high temperature water is no longer needed or after it is reached, the unit automatically switches to low-heat-demanding curve operation with lower water set temperatures for a more economical and energy-saving operation...

2. ROOM TEMPERATURE CONTROL FUNCTION

In addition to water temperature control function, users can also choose to control the room temperatures. In this mode, Airwende R32 unit will manage the outlet water temperature and work towards achieving and maintaining the set room temperature.



4. ROOM TEMPERATURE COMPENSATION FUNCTION

When the water temperature control function is utilized, users can still connect the optional room temperature sensor to allow the R32 system to adjust the outlet water temperature automatically based on the difference between the desired room temperature and the actual room temperature measured.

5. AUTO HEAT/COOL SWITCH-OVER MODE

Airwende R32 unit utilizes Automatic Heat/Cool Switch-over function to enable the user a truly unattended automatic operation of the system. User can choose to set this mode based on the ambient temperature, room temperature, or a signal input from other external devices.



6. VACATION MODE

Built-in Vacation Mode allows the users to set the system to operate under minimized vacation settings between the programmed starting and ending time of their vacation periods. In this mode, Airwende R32 system works to maintain the minimal required temperatures to save the maximum amount of energy. System will switch back to normal mode at the ending time of vacation mode properly, so that the occupants will be welcome with proper heating temperature and sanitary hot water, upon returning from their vacations.



7. REDUCED SETPOINT FOR HEATING

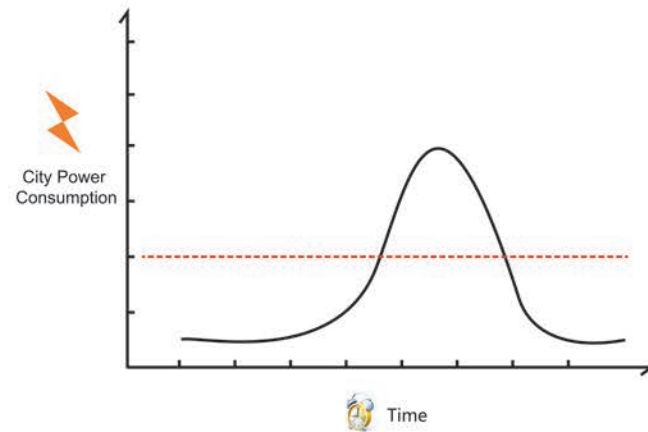
In this mode Airwende R32 system adjusts outlet water temperature or room temperature to save energy and lowers the operation noise by reducing the operating speed of the compressor and fan motor for optimum sleeping comfort.



8. POWER CONSUMPTION PEAK-EVADING FUNCTION

In some countries or regions, power companies encourage people to use less power at peak time by adjusting their pricing for consumed power based on the certain times of the day, called the peak timing. Airwende R32 system is able to receive the related signals from the power company and adjust its operation or even stop its operation upon receiving

can set up the operation of water pump and the control signal to other heating appliances, like gas boiler or oil boiler. This function is an excellent tool for maximized energy savings.

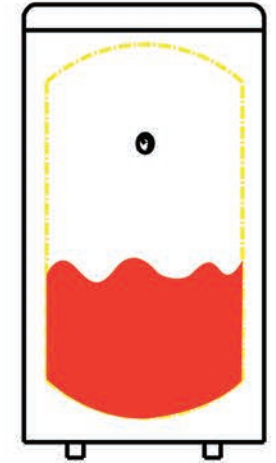


9. ECONOMICAL OPERATION

As the ambient temperature drops, the heating efficiency of heat pumps drops along. In some countries or regions, when ambient temperature drops to a certain level, usage of other heating sources, such as a gas boiler, may become more economical than the use of the heat pump. Airwende R32 unit allows the user to stop running the heat pump and turn on other heating appliances, when the ambient temperature drops to a certain level.

10. DHW STORAGE

Sanitary Hot Water should have the top priority in any heating system (if it is included). Airwende R32 Series system offers an enhanced 2-step sanitary water production logic, that allows the users better satisfy the heating requirements, while sanitary hotwater is also tenable. User can choose to run the system for high temperature sanitary hot water when the heating load is low and for medium temperature sanitary hot water when heating load is high.



11. ANTI-LEGIONELLA PROGRAM

If sanitary hot water is provided directly from the HWT (hot water tank), the water inside the tank must be periodically heated to temperatures over 60°C to eliminate the risk of bacterial growth inside the storage tank. Airwende R32 Series controls this sanitization function according to the parameter settings automatically for a healthy life.



12. UNIT OPERATION WITH MINOR ERRORS, OR ERROR-SHIELDING

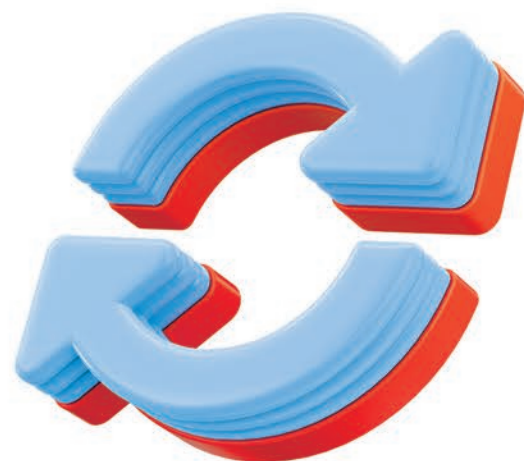
When Airwende R32 unit detects an error, the related error code will display on the operation panel. If the error is a minor one that won't adversely affect the system, the unit keeps on operating under a safe working instruction despite of the error, whereby the living space can still be kept reasonably comfortable.

In case if the error may cause a safety issue, the system will shut down and won't start until the failure is resolved.



13. SOFTWARE UPDATE

Airwende R32 unit is equipped with a USB port for any future software updates and improvements.



14. INSTALLER LEVEL SETTING PARAMETERS

Allows the installer to do certain restrictive settings on some of the parameters to ensure safe and efficient operation of the system.

15. UNIT WORKING STATUS DISPLAY

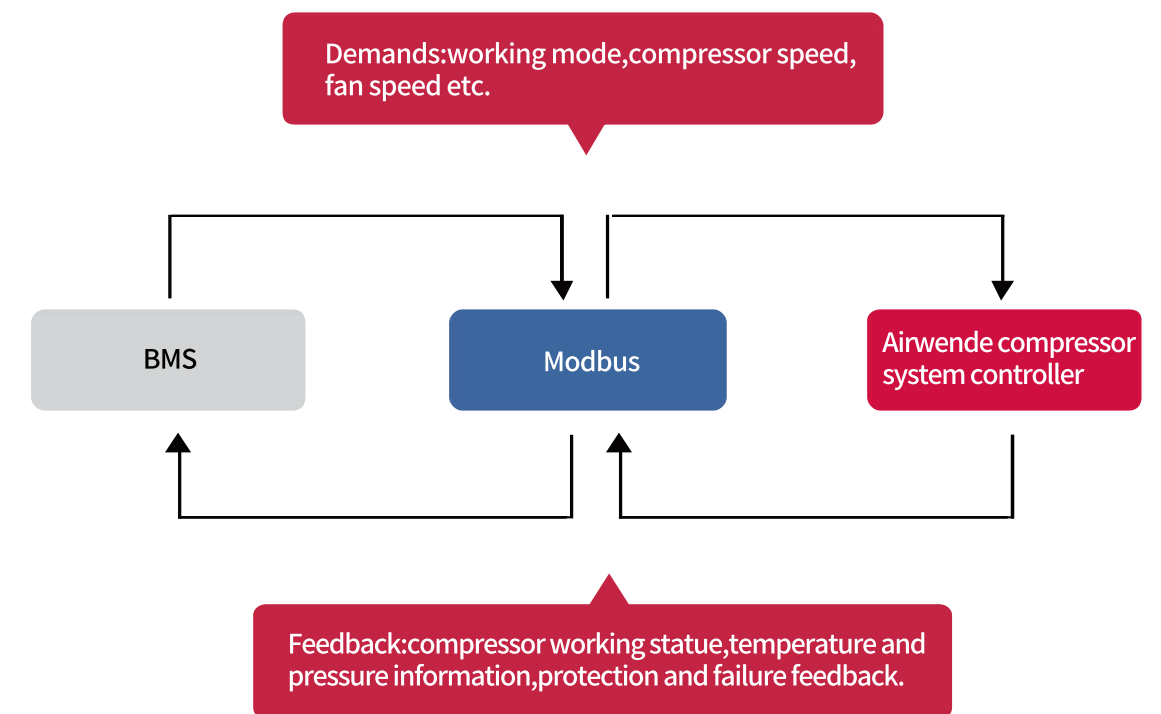
Installer and the user can monitor the real-time operation status of the unit, like working voltage/current, water flow, unit capacity, COP, temperatures readings, system high and low pressures, etc.

MODBUS CONTROL
(BMS System Control)

In addition to the listed control modes, Airwende's R32 can also be put under the control of a BMS (Building Management System) controller through a standard MODBUS communication link.

Structure of R32 software has been divided into;"Application Controller" and "Compressor System Controller" for easy extension purposes. By using your BMS system to replace our "Application Controller" and connecting it directly to our "Compressor System Controller", you can easily have R32 unit integrate into any BMS controller.

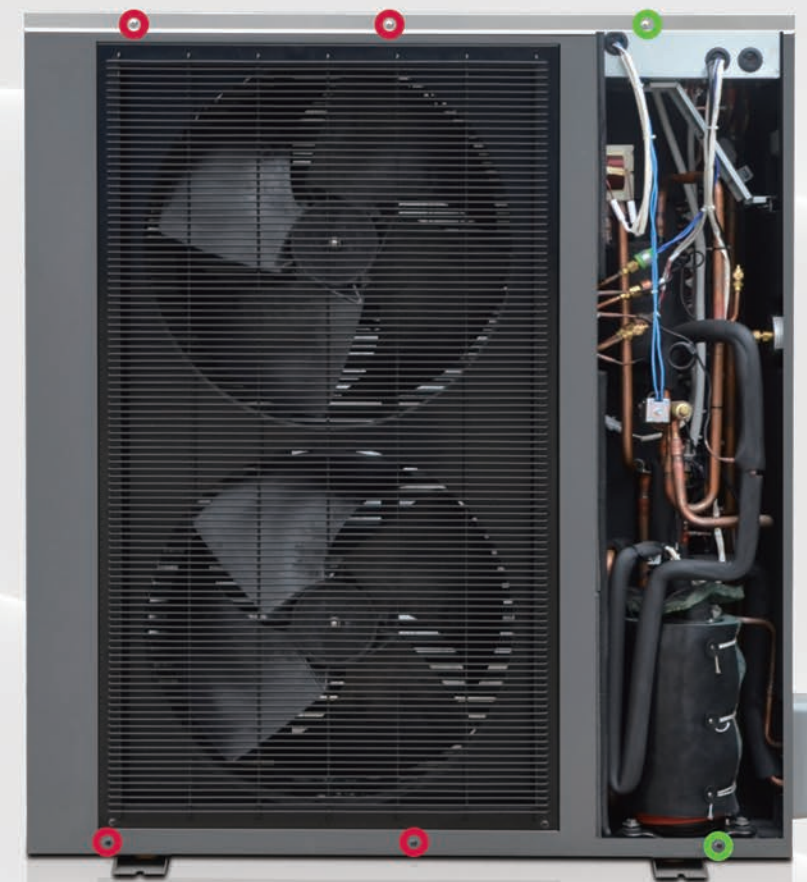
"Compressor System Controller", handles all the compressor controls and protections by following the instructions from the BMS (working mode, compressor speed etc.,) while keeping its compressor protections in higher priority. In case a protection is triggered, system will switch to a safe mode automatically and send related feedback to the BMS controller.



MAIN COMPONENTS

The overall structural designs of our products have been well developed to make the installation and service as easy as possible.

OUTDOOR UNIT STRUCTURE



NOTE:

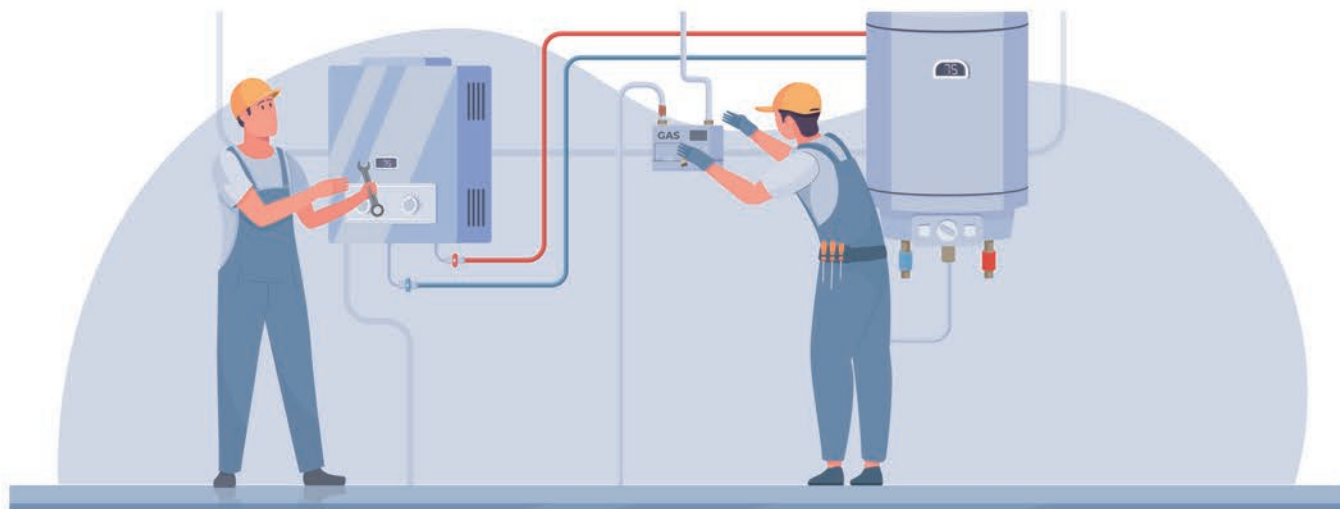
● 4 screws to open the fan guard to get access to fan system and bottom plate heater.

● 2 screws to open the service panel to compressor system.

INDOOR UNIT STRUCTURE

Front panel swings open like a door, with easy access to the control system. All connections from controller are connected via terminal blocks. This allows the wiring and trouble-shooting work on the unit clear and easy.

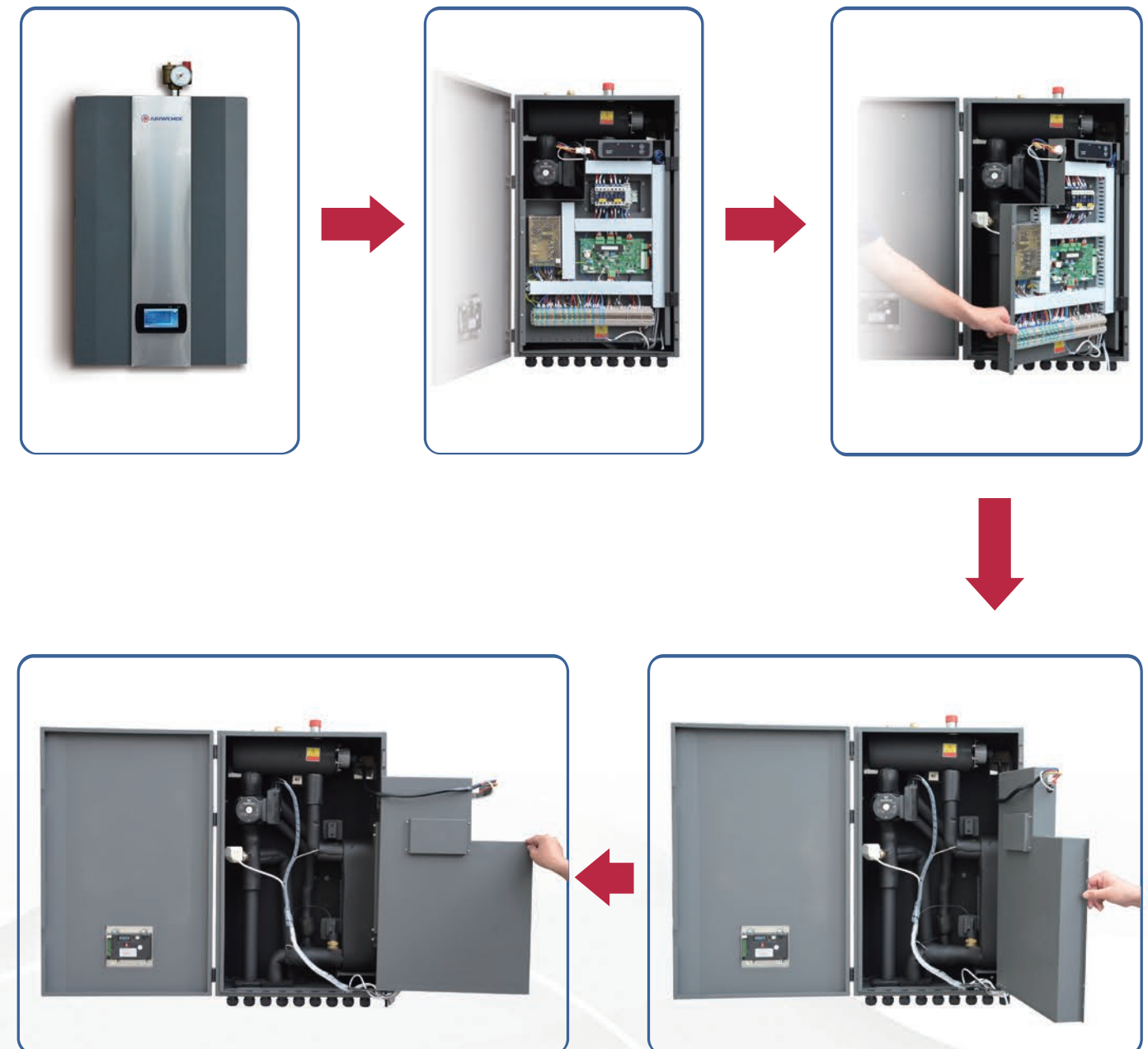
Swing open the control box like a door, allowing hydraulic system to become fully exposed, which provides sufficient space to work on any component inside the unit.



MAIN COMPONENTS R32 SERIES

Unit	Compressor	Fan Motor	E.E.V	4-way valve	Pressure Sensor	Pressure switch
AWHP-6	Mitsubishi	Nidec	Sanhua	Sanhua	Sensata	Leili
AWHP-9	Mitsubishi	Nidec	Sanhua	Sanhua	Sensata	Leili
AWHP-12	Mitsubishi	Nidec	Sanhua	Sanhua	Sensata	Leili
AWHP-15	Mitsubishi	Nidec	Sanhua	Sanhua	Sensata	Leili
AWHP-19	Mitsubishi	Nidec	Sanhua	Sanhua	Sensata	Leili

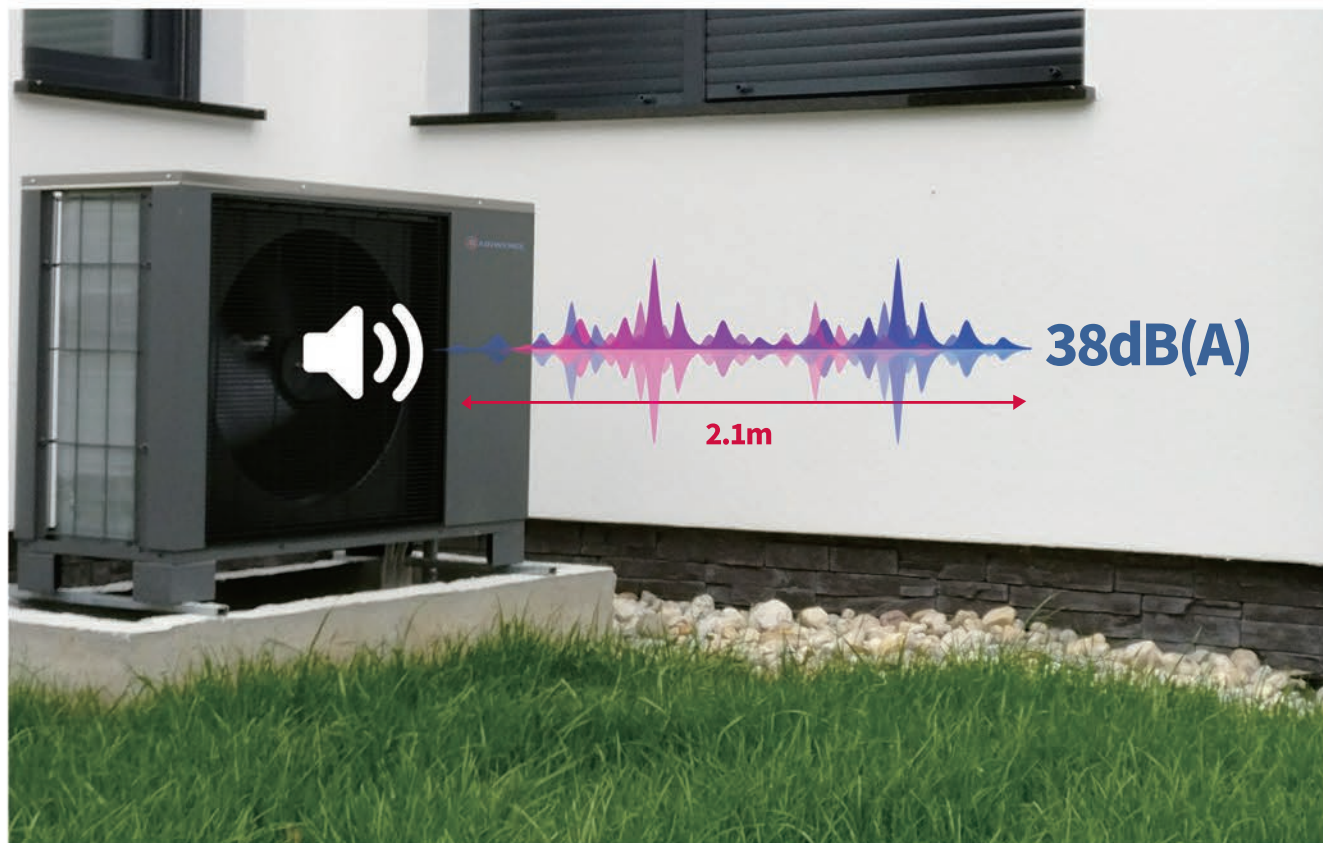
Unit	Heat Exchanger	Water Pump	Terminals	Temperature Sensor	Motorized Valve	Safety Valve kit
AWHP-6	SWEP	Grundfos/wilo	Weidmuller	Ohizumi	Watts/LK	Watts
AWHP-9	SWEP	Grundfos/wilo	Weidmuller	Ohizumi	Watts/LK	Watts
AWHP-12	SWEP	Grundfos/wilo	Weidmuller	Ohizumi	Watts/LK	Watts
AWHP-15	SWEP	Grundfos/wilo	Weidmuller	Ohizumi	Watts/LK	Watts
AWHP-19	SWEP	Grundfos/wilo	Weidmuller	Ohizumi	Watts/LK	Watts



ABOUT R32 SERIES

AIRWENDE R32 Series heat pumps has applied new gas solution of R32. The advantages are:

- 1 Compared to R410A refrigerant, the R32 heat pumps have a GWP of only one-third, so its environmental performance is even better.
- 2 High energy efficiency: It reaches A+++ energy level according to EU regulation. By making use of the heat in the outside air, you use much less energy while still enjoying a stable and pleasant level of comfort. Maintenance requirements are minimal making your running cost low. Thanks to the inverter technology, your energy savings are even greater.
- 3 EcoTouch operation panel: It has user friendly interface with powerful functions and can be intergrated with WiFi module
- 4 Low noise level: By optimizing the air duct system, the sound power level can be as low as 52 dB(A). The sound pressure level reaches 38dB(A) at 2.1 meters. Please refer the TUV test report on the right side.



CERTIFICATION

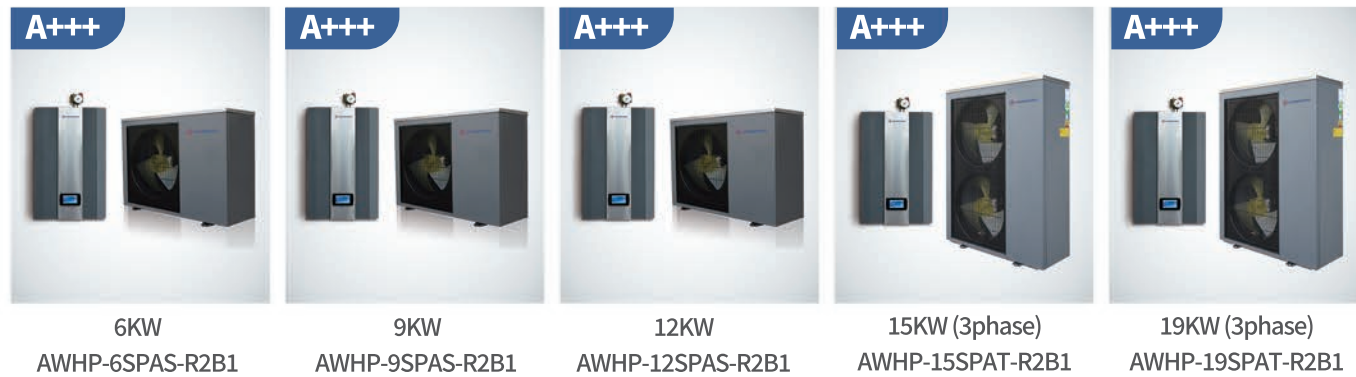


APPENDIX I TEST RESULTS

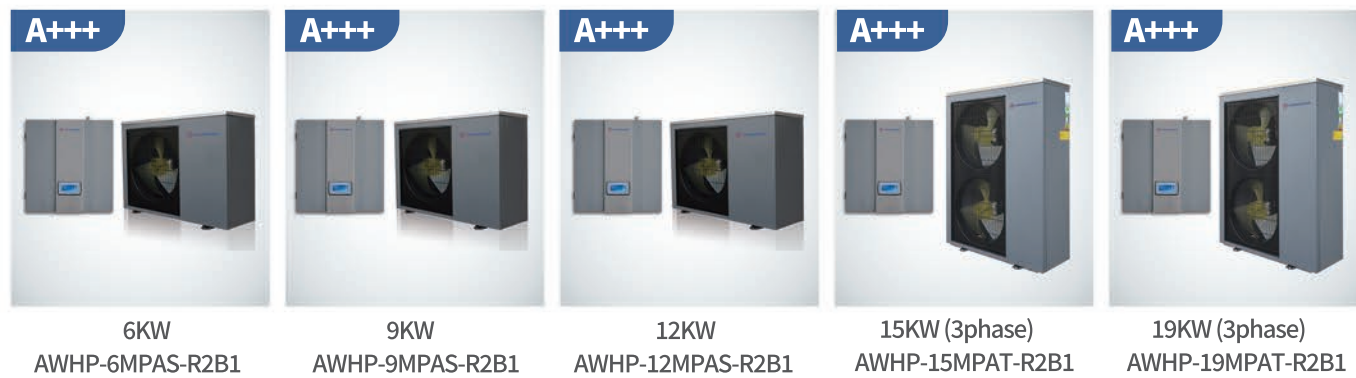
Table 2	Sound power level measurement(Low temperature application)	P	
Model	AWHP-12APAS-R2B1		
	Product type :	Air to Water	
	Outdoor heat exchanger, Air temperature DB/B (°C):	7.0/6.0	
	Indoor heat exchanger, Water inlet/outlet temperature (°C):	30.0/35.0	
	Voltage (V):	230	
	Frequency (Hz):	50	
	Working condition class :	Class A	
	Acoustical environment :	hemi-anechoic room	
	Windshield type :	Sponge	
	Measured position amount :	14	
	Water flow (m ³ /h):	1.15	
Measured quantity	LWA,indoors(dB(A))	LWA,outdoors(dB(A))	Remark
Sound pressure level $\bar{L}_{p(ST)}$ ****	--	38	--
Spheres radius r*	--	2.1m	--
Sound power level L _{wA} ****	--	52	--
Setting of controls:according to user manual. Duct connection: -- Rounding to: *)1 decimal places; **) 2 decimal places; ***) 3 decimal places; ****) nearest integer Fan speed: 480 r/min			

R32 SERIES PRODUCT OVERVIEW

Split Type



Monoblock Type



All-in-one Type

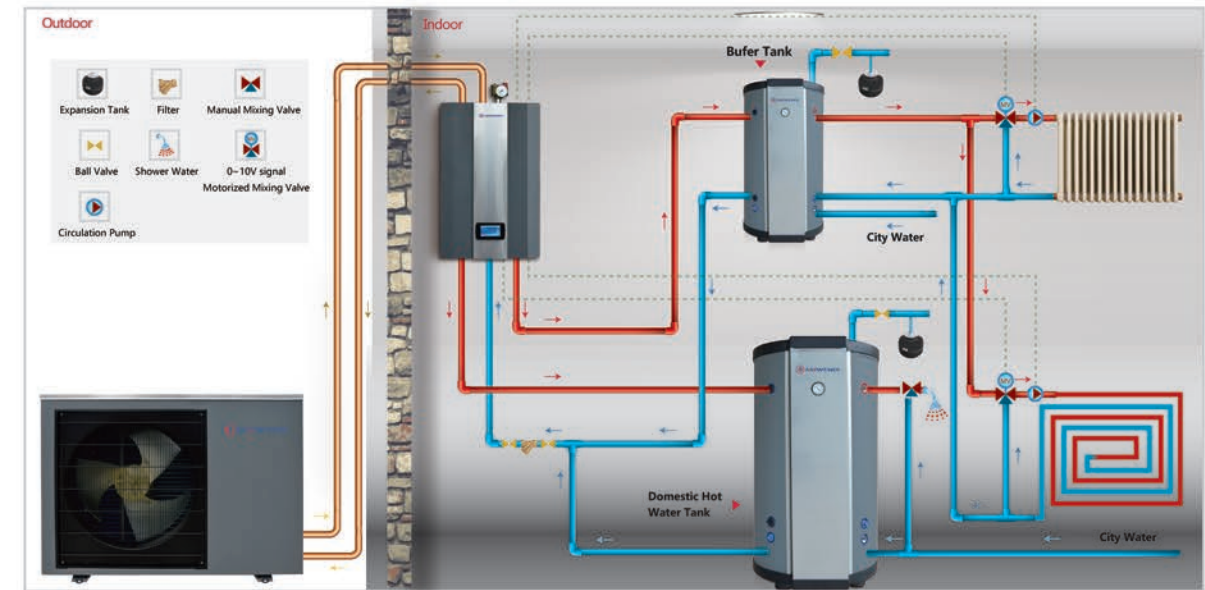


NOTE:

Capacity mentioned here is for easy reference of the unit, rough values based on unit output at A7/W35 testing condition

R32 SERIES-SPLIT

Application



Technical Data

Unit Name		AWHP-6SPAS-R2B1	AWHP-9SPAS-R2B1	AWHP-12SPAS-R2B1	AWHP-15SPAT-R2B1	AWHP-19SPAT-R2B1
Power Supply/Refrigerant	V/Hz/Ph	220-240/50/1 - R32			380-420/50/3 - R32	
Max. Heating Capacity(1)	kW	6.5	9.2	11.6	15.5	18.5
C.O.P(1)	W/W	4.7	4.48	4.3	4.6	4.38
Heating Capacity Min./Max.(1)	kW	3.5/6.5	4.3/9.2	5.5/11.6	7.3/15.5	9.1/18.5
Heating Power Input Min./Max.(1)	W	738/1652	885/2055	1107/2683	1600/3300	1900/4200
C.O.P Min./Max.(1)	W/W	4.5/4.81	4.48/4.88	4.3/4.9	4.5/5.0	4.38/4.79
Max. Heating Capacity(2)	kW	5.9	8.6	11.2	14.4	18.2
C.O.P (2)	W/W	3.1	3.46	3.4	3.5	3.58
Heating Capacity Min./Max.(2)	kW	2.3/5.9	3.9/8.6	4.9/11.2	6.6/14.4	8.5/18.2
Heating power input Min./Max.(2)	W	909/1917	1120/2510	1401/3263	1900/4100	2300/5000
C.O.P Min./Max.(2)	W/W	2.6/3.1	3.46/3.66	3.4/3.6	3.5/3.7	3.58/3.72
Max. Cooling Capacity (3)	kW	7.41	9.5	9.8	18.5	19.3
E.E.R(3)	W/W	4.1	4.31	3.9	3.7	3.05
Cooling Capacity Min./Max.(3)	kW	6.22/7.41	8.48/9.5	7.0/9.8	7.2/18.5	16/19.3
Cooling Power Input Min./Max.(3)	W	1374/1806	1860/2200	1728/2510	1400/5000	4700/6300
E.E.R Min./Max.(3)	W/W	4.1/4.5	4.31/4.56	4.05/3.9	3.7/5.1	3.05/3.41
Max. Cooling Capacity (4)	kW	4.25	7.2	8.3	13	15.8
E.E.R (4)	W/W	2.7	2.8	2.7	3.0	2.89
Cooling Capacity Min./Max.(4)	kW	3.5/4.5	4.9/7.2	4.9/8.259	10.3/13	12.3/15.8
Cooling Power Input Min./Max.(4)	W	1308/1680	1768/2324	1358/2610	3200/4300	4000/5400
E.E.R Min./Max.(4)	W/W	2.5/2.7	3.0/3.14	2.87/3.7	3.0/3.2	2.89/3.04
Circuit Breaker	A	16	25	25	25	25
Workable Ambient Temperature Range	°C	-25~43				
Min. System Water Temperature(Heating / Cooling)	°C	20 / 7				
Min. Floor Area for installation,operation and storage	m²	0.8	1.9	3.1	6.2	6.2
Min. Area of Pipe-work	m²	0.8	1.9	3.1	6.2	6.2
Max. Operation High Pressure	MPa	4.2				
Max. Operation Low Pressure	MPa	1.2				
Compressor	Type - Quantity/System	Twin Rotary - 1	Twin Rotary - 1	Twin Rotary - 1	Twin Rotary - 1	Twin Rotary - 1
Refrigerant	Type / Amount	R32 / 1kg	R32 / 1.6kg	R32 / 1.8kg	R32 / 2.6kg	R32 / 3kg
	Quantity	1	1	1	2	2
Fan	Airflow	2500	3150	3150	6200	6200
	Rated power	35	45	45	90	90
Noise Level	Indoor/Outdoor	44/52	45/53	45/52	40/57	44/57
	Type	Plate Heat Exchanger				
Water Side Heat Exchanger	Water Pressure Drop	kPa	26	26	26	26
	Piping Connection	Inch	G1"	G1"	G1"	G5/4"
Allowable Water Flow	Min./Rated./Max.	L/S	0.21/0.29/0.35	0.3/0.43/0.56	0.4/0.57/0.74	0.5/0.72/0.93
	Indoor Unit	mm	750x500x300	750x500x300	750x500x300	750x500x300
	Outdoor Unit	mm	1010x370x700	1170x370x850	1170x370x850	1090x400x1450
Net Dimension(LxDxH)	Indoor Unit	kg	42	44	45	45
Net Weight	Outdoor Unit	kg	64	74	79	120

NOTE:

- (1) Heating condition: water inlet/outlet temperature: 30°C/35 °C, Ambient temperature: DB 7°C/WB 6°C;
- (2) Heating condition: water inlet/outlet temperature: 40°C/45°C, Ambient temperature: DB 7°C/WB 6°C;
- (3) Cooling condition: water inlet/outlet temperature: 23 °C/18 °C, Ambient temperature: DB 35°C/WB 24°C;
- (4) Cooling condition: water inlet/outlet temperature: 12°C/7 °C, Ambient temperature: DB 35°C/WB 24°C;
- (5) The specifications are subject to change without prior notice. For actual specifications of unit, please refer to the stickers on the unit.

R32 SERIES-MONOBLOCK

Monoblock System:

As the name suggests, monoblock equipment are packaged equipment, where all components of the entire system is housed within a single piece of equipment.

Monoblock equipment must be located outdoors. The advantages of the monoblock systems are: easy installation and no additional refrigerant piping requirement. It can be simply plumbed to your house's heating system using water connections. Airwende also offers a semi monoblock system, where only a small part of the hydrolic circuitry is separated from the main unit and just as full monoblock systems, requires only simple plumbing connections.

R32 RANGE



Hydro Box



6kW



9kW



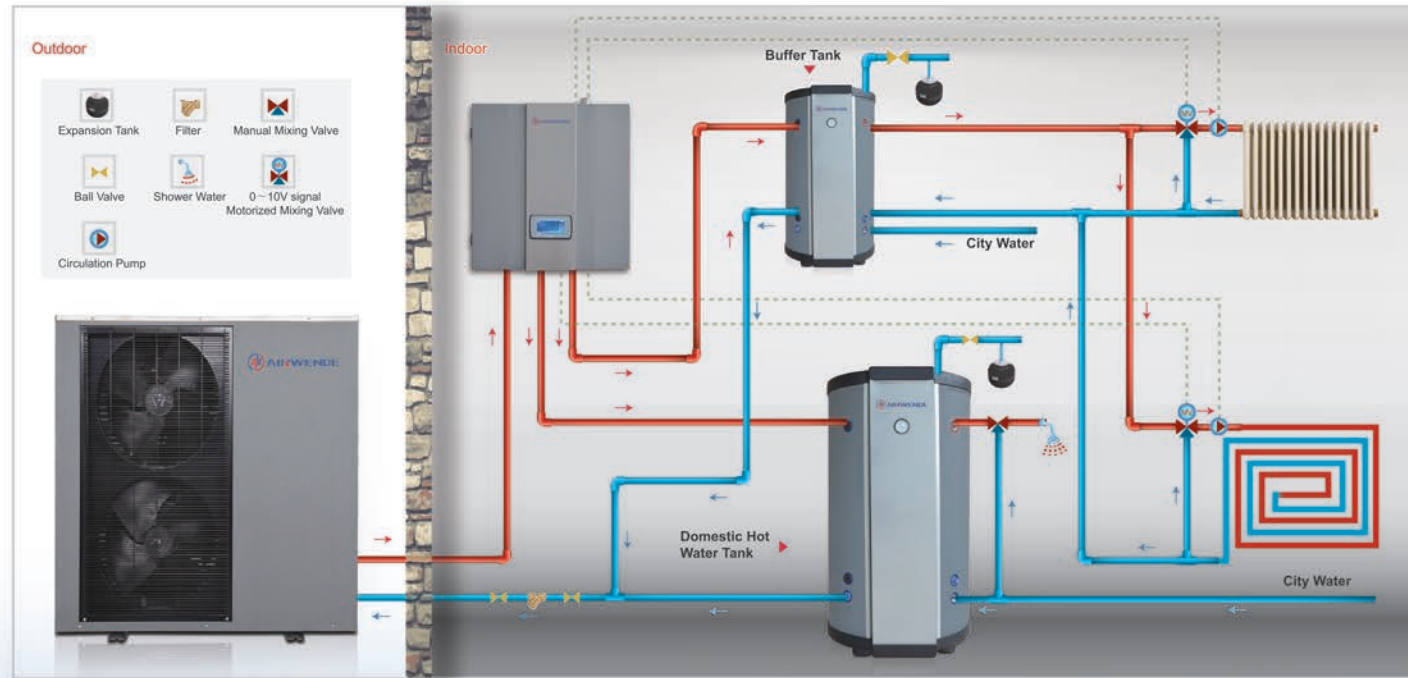
12kW



15/19kW (3phase)

R32 SERIES-MONOBLOCK

Application



Technical Data

Unit Name		AWHP-6MPAS-R2B1	AWHP-9MPAS-R2B1	AWHP-12MPAS-R2B1	AWHP-15MPAT-R2B1	AWHP-19MPAT-R2B1
Power Supply / Refrigerant	V/Hz/Ph	220-240/50/1 - R32			380-420/50/3 - R32	
Max. Heating Capacity (1)	kW	6.5	9.2	11.6	15.5	18.5
C.O.P (1)	W/W	4.7	4.48	4.3	4.6	4.38
Heating Capacity Min./Max.(1)	kW	3.5 / 6.5	4.3/9.2	5.5 / 11.6	7.3/15.5	9.1/18.5
Heating Power Input Min./Max.(1)	W	738/ 1652	885/2055	1107 / 2683	1600/3300	1900/4200
C.O.P Min./Max.(1)	W/W	4.5 / 4.81	4.48/4.88	4.3 / 4.9	4.5/5.0	4.38/4.79
Max. Heating Capacity(2)	kW	5.9	8.6	11.2	14.4	18.2
C.O.P (2)	W/W	3.1	3.46	3.4	3.5	3.58
Heating Capacity Min./Max.(2)	kW	2.3 / 5.9	3.9/8.6	4.9 / 11.2	6.6/14.4	8.5/18.2
Heating power input Min./Max.(2)	W	909/ 1917	1120/2510	1401 / 3263	1900/4100	2300/5000
C.O.P Min./Max.(2)	W/W	2.6/3.1	3.46/3.66	3.4/ 3.6	3.5/3.7	3.58/3.72
Max. Cooling Capacity (3)	kW	7.41	9.5	9.8	18.5	19.3
E.E.R (3)	W/W	4.1	4.31	3.9	3.7	3.05
Cooling Capacity Min./Max.(3)	kW	6.22/7.41	8.48/9.5	7.0/ 9.8	7.2/18.5	16/19.3
Cooling Power Input Min./Max.(3)	W	1374/1806	1860/2200	1728/ 2510	1400/5000	4700/6300
E.E.R Min./Max.(3)	W/W	4.1/4.5	4.31/4.56	4.05 / 3.9	3.7/5.1	3.05/3.41
Max. Cooling Capacity (4)	kW	4.25	7.2	8.3	13	15.8
E.E.R (4)	W/W	2.7	2.8	2.7	3.0	2.89
Cooling Capacity Min./Max.(4)	kW	3.5/4.5	4.9/7.2	4.9/8.3	10.3/13	12.3/15.8
Cooling Power Input Min./Max.(4)	W	1308/1680	1768/2324	1358/2610	3200/4300	4000/5400
E.E.R Min./Max.(4)	W/W	2.5/2.7	3.0/3.14	2.87 / 3.7	3.0/3.2	2.89/3.04
Circuit Breaker	A	16	25	25	25	25
Workable Ambient Temperature Range	°C	-25-43				
Min. System Water Temperature (Heating / Cooling)	°C	20 / 7				
Min. Floor Area for installation, operation and storage	m2	0.8	1.9	3.1	6.2	6.2
Min. Area of Pipe-work	m2	0.8	1.9	3.1	6.2	6.2
Max. Operation High Pressure	MPa	4.2				
Max. Operation Low Pressure	MPa	1.2				
Compressor	Type - Quantity/System	Twin Rotary - 1	Twin Rotary - 1	Twin Rotary - 1	Twin Rotary - 1	Twin Rotary - 1
Refrigerant	Type / Amount	R32 / 0.9kg	R32 / 1.4kg	R32 / 1.8kg	R32 / 2.55kg	R32 / 2.6kg
	Quantity	1	1	1	2	2
Fan	Airflow	m3/h	2500	3150	3150	6200
	Rated power	W	35	45	45	90
Noise Level (sound power)	Indoor/Outdoor	dB(A)	44/52	45/53	45/52	40/57
	Type	Plate Heat Exchanger				
Water Side Heat Exchanger	Water Pressure Drop	kPa	26	26	26	26
	Piping Connection	Inch	G1"	G1"	G1"	G5/4"
Allowable Water Flow	Min./Rated./Max.	L/S	0.21/0.29/0.35	0.3/0.43/0.56	0.4/0.57/0.74	0.5/0.72/0.93
	Indoor Unit	mm	650x550x260	650x550x260	650x550x260	650x550x260
	Outdoor Unit	mm	1010x370x700	1170x370x850	1170x370x850	1090x400x1450
Net Dimension(LxDxH)	Indoor Unit	mm	1010x370x700	1170x370x850	1170x370x850	1090x400x1450
	Outdoor Unit	mm	1010x370x700	1170x370x850	1170x370x850	1090x400x1450
Net Weight	Indoor Unit	Kg	37	37	37	37
	Outdoor Unit	Kg	71	83	91	146

NOTE:

- (1) Heating condition: water inlet/outlet temperature: 30°C/35°C, Ambient temperature: DB 7°C MB 6°C;
- (2) Heating condition: water inlet/outlet temperature: 40°C/45°C, Ambient temperature: DB 7°C/WB 6°C;
- (3) Cooling condition: water inlet/outlet temperature: 23°C/18°C, Ambient temperature: DB 35°C WB 24°C;
- (4) Cooling condition: water inlet/outlet temperature: 12°C/7°C, Ambient temperature: DB 35°C/WB 24°C;
- (5) The specifications are subject to change without prior notice. For actual specifications of unit, please refer to the stickers on the unit.

R32 SERIES-ALL-IN-ONE

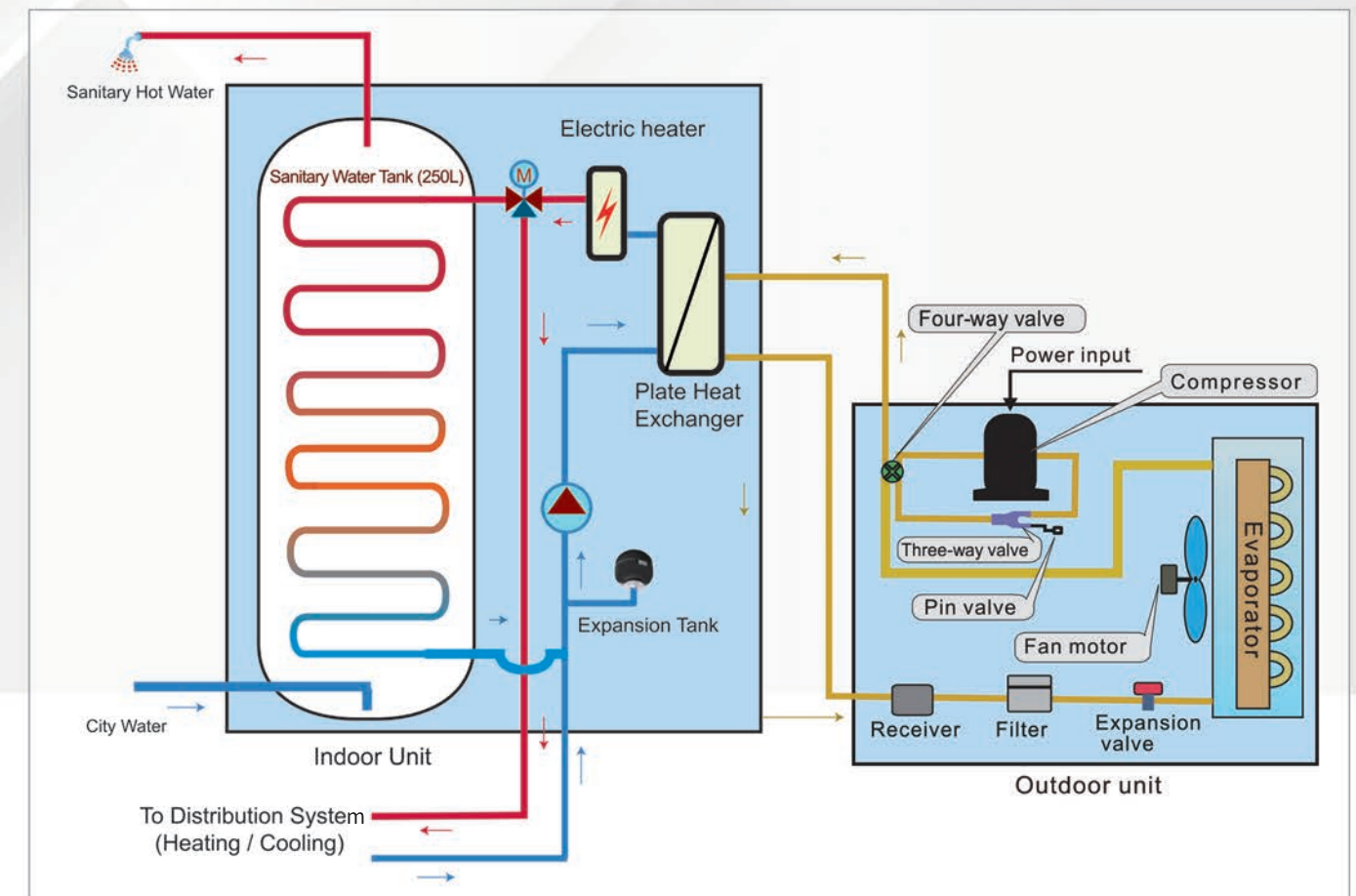
All In One System:

are split systems combining a water tank in its indoor section. This structure minimizes the installation of a water tank in the house.



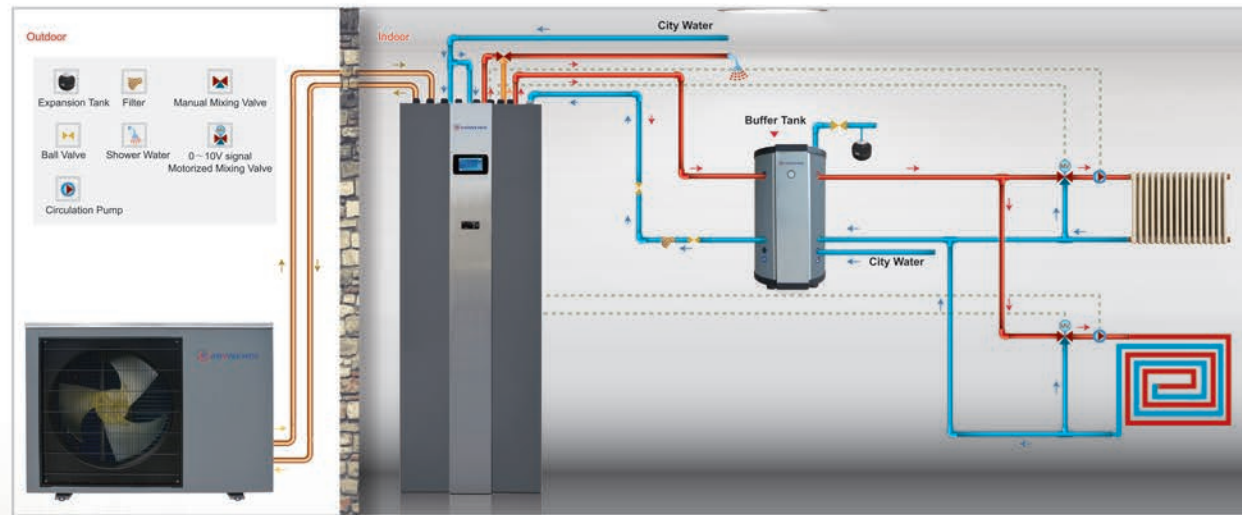
6kW/9kW/12kW

Unit Schematic Drawing



R32 SERIES-ALL-IN-ONE

Application



Technical Data

Unit Name		AWHP-6APAS-R2B1	AWHP-9APAS-R2B1	AWHP-12APAS-R2B1	AWHP-15APAT-R2B1	AWHP-19APAT-R2B1
Power Supply / Refrigerant	V/Hz/Ph	220-240/50/1 - R32				
Max. Heating Capacity (1)	kW	6.5	9.2	11.6	15.5	18.5
C.O.P (1)	W/W	4.7	4.48	4.3	4.6	4.38
Heating Capacity Min./Max.(1)	kW	3.5 / 6.5	4.3/9.2	5.5 / 11.6	7.3/15.5	9.1/18.5
Heating Power Input Min./Max.(1)	W	738/ 1652	885/2055	1107 / 2683	1600/3300	1900/4200
C.O.P Min./Max.(1)	W/W	4.5 / 4.81	4.48/4.88	4.3 / 4.9	4.5/5.0	4.38/4.79
Max. Heating Capacity(2)	kW	5.9	8.6	11.2	14.4	18.2
C.O.P (2)	W/W	3.1	3.46	3.4	3.5	3.58
Heating Capacity Min./Max.(2)	kW	2.3 / 5.9	3.9/8.6	4.9 / 11.2	6.6/14.4	8.5/18.2
Heating power input Min./Max.(2)	W	909/ 1917	1120/2510	1401 / 3263	1900/4100	2300/5000
C.O.P Min./Max.(2)	W/W	2.6/3.1	3.46/3.66	3.4/ 3.6	3.5/3.7	3.58/3.72
Max. Cooling Capacity (3)	kW	7.41	9.5	9.8	18.5	19.3
E.E.R (3)	W/W	4.1	4.31	3.9	3.7	3.05
Cooling Capacity Min./Max.(3)	kW	6.22/7.41	8.48/9.5	7.0/ 9.8	7.2/18.5	16/19.3
Cooling Power Input Min./Max.(3)	W	1374/1806	1860/2200	1728/ 2510	1400/5000	4700/6300
E.E.R Min./Max.(3)	W/W	4.1/4.5	4.31/4.56	4.05 / 3.9	3.7/5.1	3.05/3.41
Max. Cooling Capacity (4)	kW	4.25	7.2	8.3	13	15.8
E.E.R (4)	W/W	2.7	2.8	2.7	3.0	2.89
Cooling Capacity Min./Max.(4)	kW	3.5/4.5	4.9/7.2	4.9/8.259	10.3/13	12.3/15.8
Cooling Power Input Min./Max.(4)	W	1308/1680	1768/2324	1358/2610	3200/4300	4000/5400
E.E.R Min./Max.(4)	W/W	2.5/2.7	3.0/3.14	2.87 / 3.7	3.0/3.2	2.89/3.04
Circuit Breaker	A	16	25	25	25	25
Workable Ambient Temperature Range	C	-25~43				
Min. System Water Temperature (Heating / Cooling)	C	20 / 7				
Min. Floor Area for installation, operation and storage	m2	0.8	1.9	3.1	6.2	6.2
Min. Area of Pipe-work	m2	0.8	1.9	3.1	6.2	6.2
Max. Operation High Pressure	MPa	4.2				
Max. Operation Low Pressure	MPa	1.2				
Compressor	Type - Quantity/System	Twin Rotary - 1		Twin Rotary - 1	Twin Rotary - 1	Twin Rotary - 1
Refrigerant	Type / Amount	R32 / 1kg	R32 / 1.6kg	R32 / 1.8kg	R32 / 2.6kg	R32 / 3kg
	Quantity	1	1	1	2	2
Fan	Airflow	m3/h	2500	3150	3150	6200
	Rated power	W	35	45	45	90
Noise Level (sound power)	Indoor/Outdoor	dB(A)	44/52	45/53	45/52	40/57
	Type	Plate Heat Exchanger				
Water Side Heat Exchanger	Water Pressure Drop	kPa	26	26	26	26
	Piping Connection	Inch	G1"	G1"	G1"	G5/4"
Allowable Water Flow	Min./Rated./Max.	L/S	0.21/0.29/0.35	0.3/0.43/0.56	0.4/0.57/0.74	0.5/0.72/0.93
Net Dimension(LxDxH)	Indoor Unit	mm	600x700x1760	600x700x1760	600x700x1760	600x700x1760
	Outdoor Unit	mm	1010x370x700	1170x370x850	1170x370x850	1090x400x1450
Net Weight	Indoor Unit	Kg	125	125	125	125
	Outdoor Unit	Kg	72	84	91	142
Tank Volume	L	265				

NOTE:

- (1) Heating condition: water inlet/outlet temperature: 30°C/35°C, Ambient temperature: DB 7°C MB 6°C;
- (2) Heating condition: water inlet/outlet temperature: 40°C/45°C, Ambient temperature: DB 7°C/WB 6°C;
- (3) Cooling condition: water inlet/outlet temperature: 23°C/18°C, Ambient temperature: DB 35°C WB 24°C;
- (4) Cooling condition: water inlet/outlet temperature: 12°C/7°C, Ambient temperature: DB 35°C/WB 24°C;
- (5) The specifications are subject to change without prior notice. For actual specifications of unit, please refer to the stickers on the unit.

R32 SERIES

AIRWENDE R32 Series system has been developed with the idea in mind for maximum possible energy savings, through its ultra high SCOP rating and quiet operation. Latest development in DC inverter technologies and their application in various internal components including compressor, fan, and water pump, has been the major player in the success of our R32 Series.



AIRWENDE R290 SERIES

INSTALLATION WITH R290 SERIES



AIRWENDE R290 Series can provide heating/cooling and domestic hot water. Floor heating loops is used for space heating while fancoil unit can be used for space heating and cooling. Domestic hot water is supplied from the domestic hot water tank connected to the heat pump.

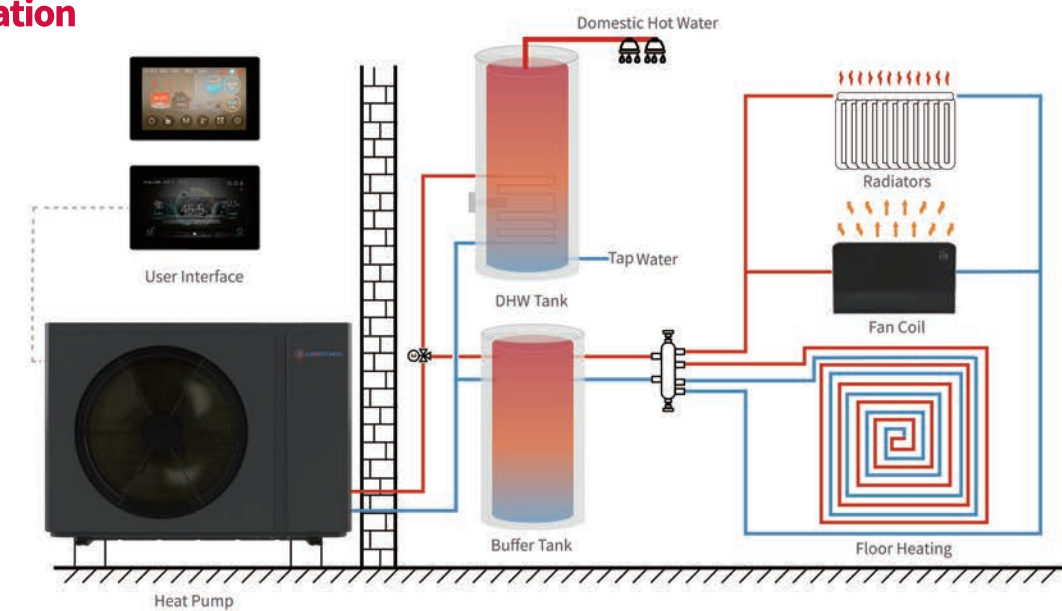


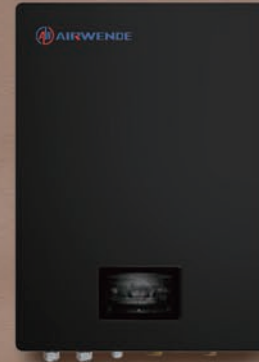
Traditional Installation

Airwende provides the R290 Series with main circulation pump built inside. When installing the unit, installer should connect the heat pump with other parts including the buffer tank (for space heating/cooling), storage water tank (for domestic hot water) and water pumps (for space heating/cooling water circulation and domestic hot water). External fittings are also needed including the safety valve, water refill valve and hot water valves (three-way valve).

Temperature sensor should be added in the storage water tank. Additional electric heater can be installed in the DHW tank or the buffer tank which can get the control signal from the heat pump.

Application

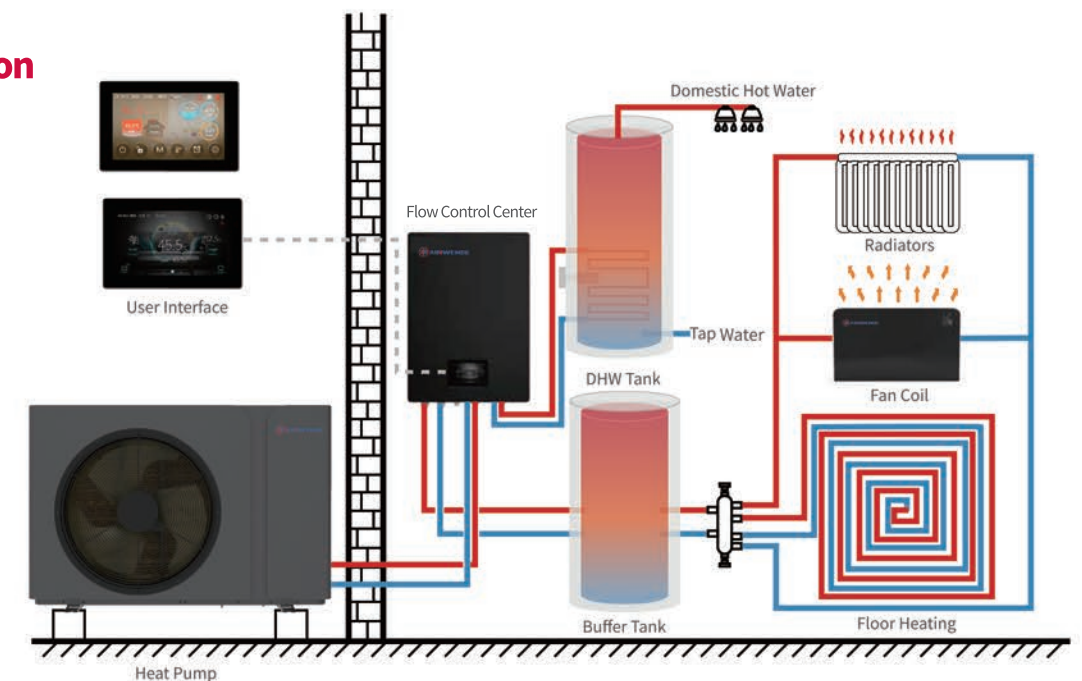




Installation with Flow Control Center

Airwende provides the R290 heat pump and the Flow Control Center. Flow Control Center includes expansion tank, main circulation water pump (optional), one space heating/cooling circulation water pump (optional), one DHW pump (optional), safety valve, water refill valve, and electrical heater. When installing the unit, installer can connect the heat pump directly to the Flow Control Center, which saves labor cost and time. Storage water tank is needed for the domestic hot water application.

Application



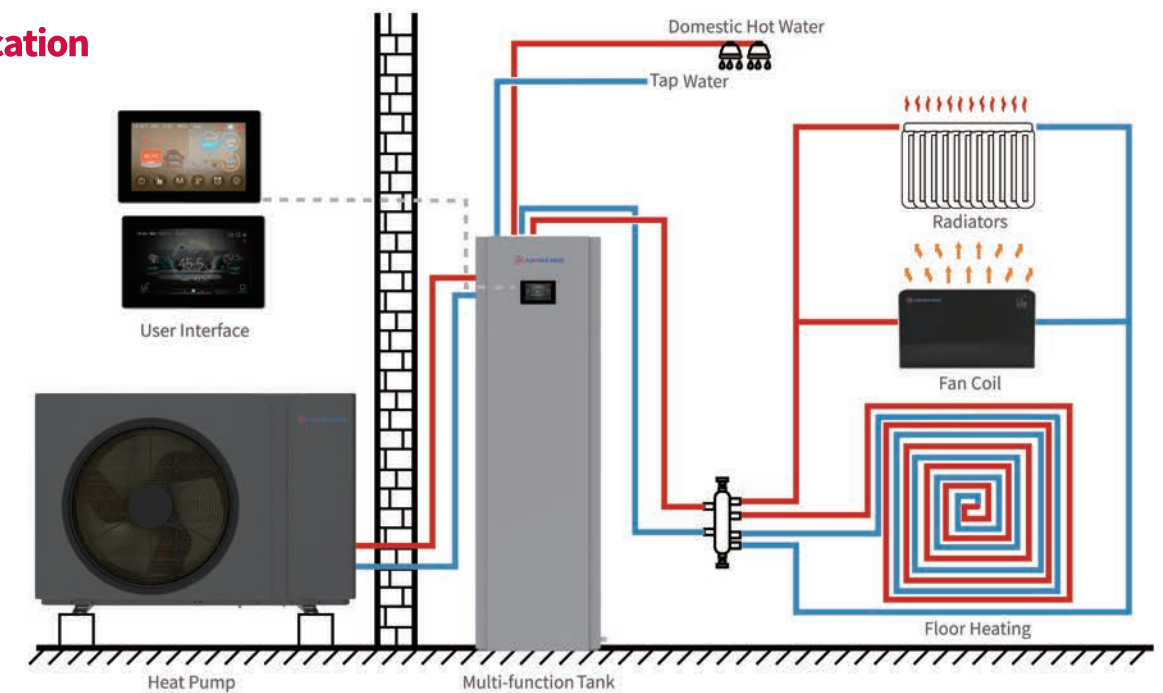


Installation with Multi-function Tank

Airwende provides the R290 heat pump and the Multi-function tank.

Multi-function tank includes a buffer tank and a storage tank, a circulation pump for heating/cooling(optional), safety valve, water refill valve and expansion tank. When installing the unit, installer just needs to connect the heat pump directly to the Multi-function tank.

Application



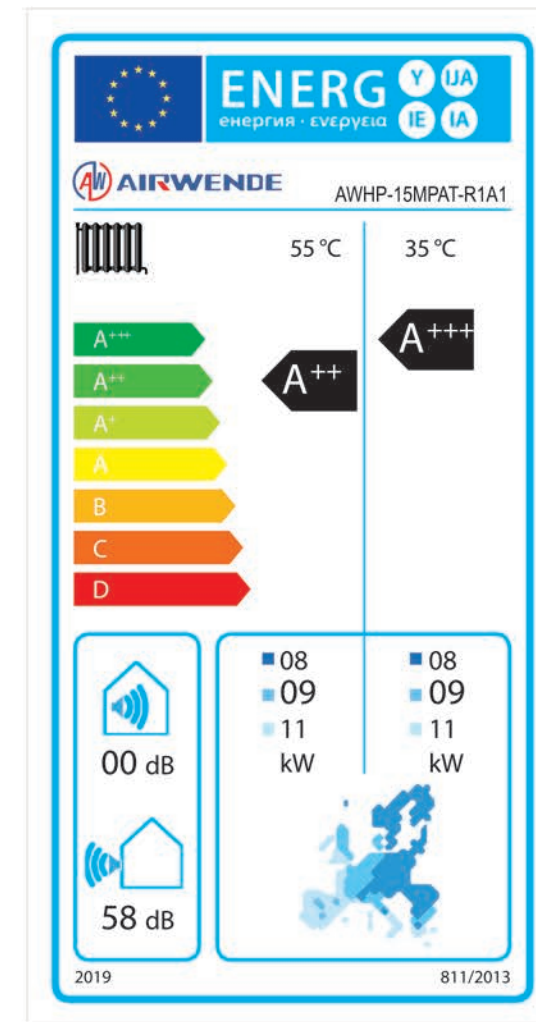


Environmental Refrigerant



To reduce carbon emission to the environment and curb global warming, AIRWENDE develops R290 air to water heat pump - AIRWENDE R290 Series. With many advantages such as low carbon emission and high efficiency, R290 refrigerant is recognized as a refrigerant with the most development potential in the industry, which contributes to the reduction of carbon emission and help achieve the global goal of carbon neutrality.

SUPER HIGH EFFICIENCY A+++



R290 Series Air to Water Heat Pump is specially developed with the most cutting-edge heat pump technology and modern design to meet stringent requirements for efficiency, stability and quietness. Not only does R290 Series use R290 green gas and inverter technology, but also is rated with A+++ energy label. With top energy rating A+++ , the unit is energy efficient and can greatly reduce energy bills for users.

-25°C Ultra-low Temperature



42-47dB(A)
1 Meter Distance

- 70dB(A) — Car
- 30dB(A) — Whisper
- 20dB(A) — Rustle of leaves

Full DC Inverter Technology

R290 Series perfectly combines eco-friendly R290 refrigerant and inverter technology to produce efficient house heating/cooling and hot water even under extreme cold climate.



DC Inverter Compressor

Compared to AC drive technology, DC inverter speed technology usually modulates control process of the compressor more precisely, thus improving transmission efficiency and reducing noise and energy consumption of the compressor.



DC Inverter Fan Motor

With better dynamic balance and reducing turbulent flow noise, heat pump work efficiency is greatly improved.

Noise Reduction Technology

Airwende dedicates to creating super quiet running environment for the user. R290 Series adopts multiple noise reduction technologies, every product has been repeatedly tested and optimized.



Shock Absorption & Noise Reduction Technology

R290 Series offers suspension chassis which can greatly minimize vibration and reduce noise.



Soundproof Isolation

All-sided of cabinet is fully wrapped with Soundproof sponge material, which can efficiently absorb and block out the noise from compressor operation.



RS485 Centralized Control

R290 Series is highlighted with central control system as a RS485 serial port is designed for communications in every unit.



Electronic Expansion Valve

With electronic expansion valve, it can instantly adjust refrigerant flow to ensure the stability of the refrigeration system.



Elegant Wave Screw-Free Design

R290 Series features stylish and innovative cabinet design, no screws are visible on the surface



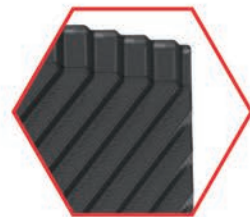
Circulation Water Pump

Connect to the water inlet of the machine to make water flow in the pipe.



SWEP Plate Heat Exchanger

Thin rectangular channels are formed between various plates, and heat exchange is carried out through the plates, which has the advantage of high heat exchange efficiency.



ASA Material

The ASA panel and top cover are strongly corrosion-resistant and anti-weathering that ensures a long service life.



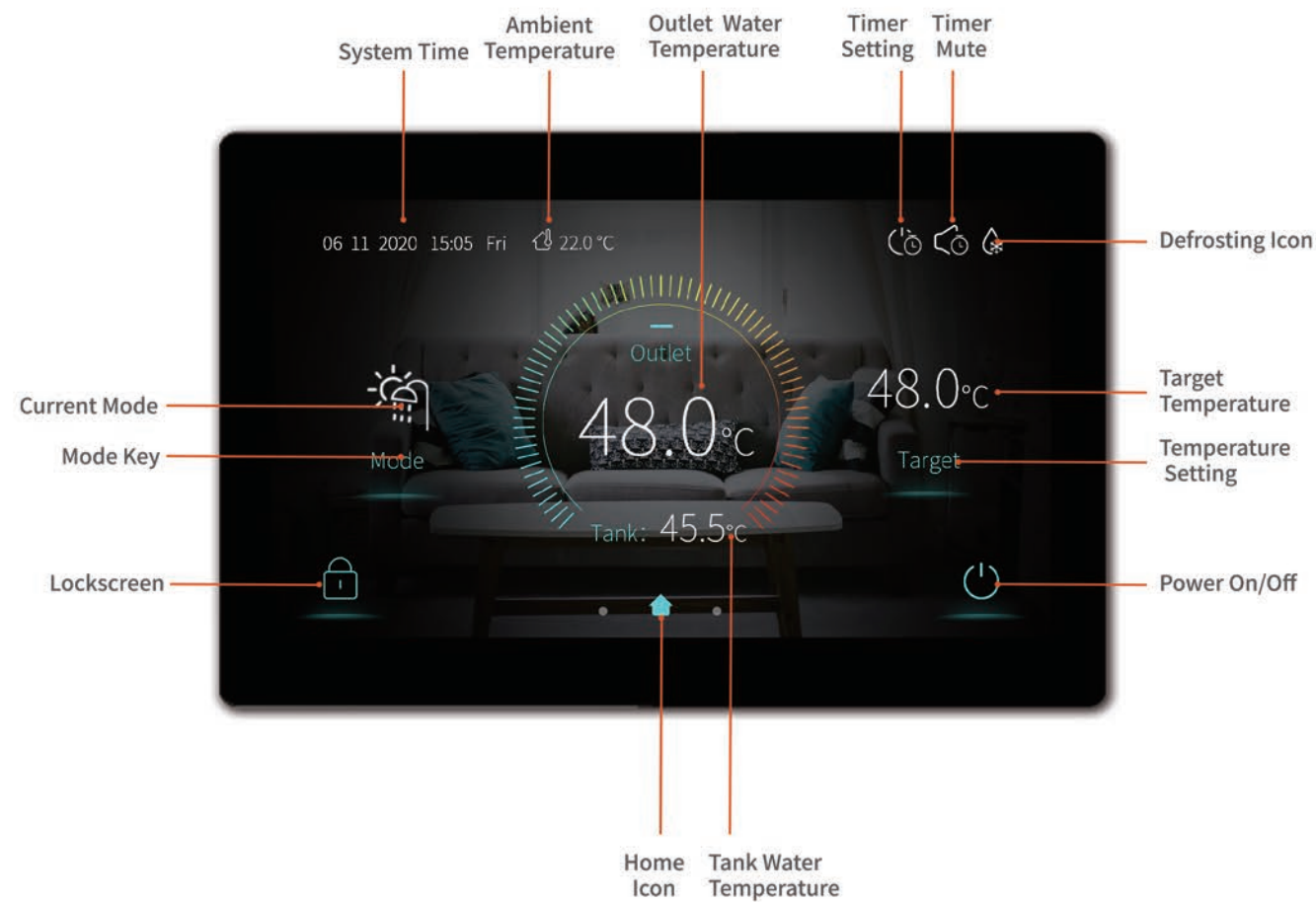
Pressure Sensor

Pressure Sensor can detect system pressure and transmit the signal to the main board so as to protect the unit.

SMART TOUCH DISPLAY

Two types of controllers are up to choice.

Airwende Smart Display Inverter Heat Pump has a high-end controller with 5-inch colorful touch screen, which is one of the highlights of this trendy heat pump product. With temperature and power consumption curve, users can always be clear of the energy consumption at a glance. It is incredibly convenient for users from different countries at multi-language function can be chosen.



Available for Option

AIRWENDE SMART CONTROL FAMILY

Smart APP control brings a lot of convenience to users. Temperature adjustment, mode switching, and timer setting can be achieved on your smart phone. Moreover, you can know power consumption statistics and fault record at anytime and anywhere.



Web Platform

Central platform management can be realized with DTU or WiFi function, which effectively saves the cost for labor when service is needed.

The fault report button creates a direct error report channel to the local service provider. When an error is reported, the service provider can notice the error information of the target house heating heat pump from the background system, and contact users immediately to provide support.

R290 SERIES PRODUCT OVERVIEW



AWHP-8MPAS-R1A1



AWHP-15MPAS-R1A1



AWHP-22MPAS-R1A1



AWHP-15MPAT-R1A1



AWHP-22MPAT-R1A1

SPECIFICATION

Model		AWHP-8MPAS-R1A1	AWHP-15MPAS-R1A1	AWHP-15MPAT-R1A1	AWHP-22MPAS-R1A1	AWHP-22MPAT-R1A1
Power Supply	/	230V~/30~90Hz	230V~/30~90Hz	380V/3N~/30~90Hz	230V~/30~90Hz	380V/3N~/30~90Hz
Heating Condition - Ambient Temp. (DB/WB): 7/6°C, Water Temp. (In/Out): 30/35°C						
Heating Capacity Range	kW	3.10~8.90	5.40~14.95	5.40~14.95	8.00~22.00	8.00~22.00
Heating Power Input Range	kW	0.65~2.10	1.05~3.85	1.05~3.85	1.60~6.90	1.60~6.90
Heating Current Input Range	A	2.9~9.2	4.6~16.9	1.9~6.8	7.0~30.3	2.8~12.2
Cooling Condition - Ambient Temp. (DB/WB): 35/24°C, Water Temp. (In/Out): 12/7°C						
Cooling Capacity Range	kW	1.20~5.72	3.60~10.50	3.60~10.50	4.20~15.00	4.20~15.00
Cooling Power Input Range	kW	0.65~2.40	1.12~4.47	1.12~4.47	1.80~7.30	1.80~7.30
Heating Current Input Range	A	2.9~10.5	4.9~19.6	2.0~7.9	7.9~32.1	3.2~12.9
Hot Water Condition - Ambient Temp. (DB/WB): 20/15°C, Water Temp. (In/Out): 15/55°C						
Hot Water Capacity Range	kW	3.92~10.68	6.50~18.50	6.50~18.50	10.00~27.00	10.00~27.00
Hot Water Power Input Range	kW	0.78~2.47	1.27~4.65	1.27~4.65	1.90~7.10	1.90~7.10
Hot Water Current Input Range	A	3.4~10.8	5.6~20.4	2.4~8.21	8.3~31.2	3.4~12.5
Max. Power Input	kW	3.0	5.3	5.3	7.5	9.0
Max. Current Input	A	13.5	24.5	10.5	35.0	15.8
Water Flow	m ³ /h	1.0	1.7	1.7	2.9	2.9
Refrigerant / Proper Input	kg	R290 / 0.50kg	R290 / 0.85kg	R290 / 0.85kg	R290 / 1.30kg	R290 / 1.30kg
CO ₂ Equivalent	Ton	0.0015	0.0026	0.0026	0.0039	0.0039
Sound Pressure (1m)	dB(A)	43	42	42	48	46
Sound Power Level _(EN12102)	dB(A)	60	57	58	64	61
Operating Ambient Temperature	°C	-25~43				
Max. Water Temperature	°C	75				
Fan Quantity	/	1	1	1	2	2
Fan Motor Type	/	DC				
Water Connection	inch	1				
Water Pressure Drop (max)	kPa	20	20	20	64	61
Circulation Pump	/	DC				
Circulation Pump Water Head	m	7.5	7.5	7.5	12.5	12.5
ErP Level(35°C)	/	A+++				
Cabinet Type	/	Galvanized sheet metal+ASA				
Unit Dimension(L/W/H)	mm	1167×407×795	1287×458×928	1287×458×928	1250×540×1330	1250×540×1330
Shipping Dimension(L/W/H)	mm	1290×475×820	1410×520×960	1410×520×960	1370×560×1360	1370×560×1360

SAMPLE PROJECT

R32 Series Cases



R32 Series Cases



R32 Series Cases



R32 Series Cases



R32 Series Cases

