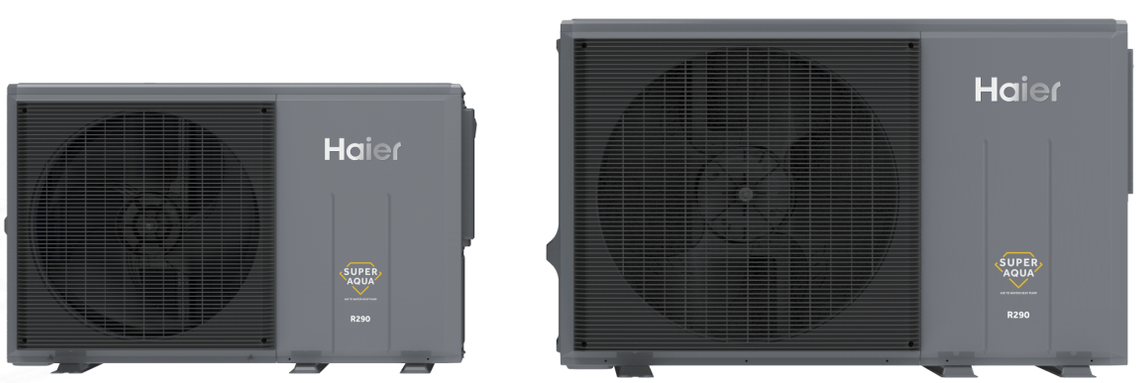
Engineering Data Book

R290 Super Aqua Monobloc GT



The original documentation is written in English. All other languages are translations.

CONTENTS

1. Safety Precautions 1
1.1 General Guidelines 1
1.2 Meaning of Warnings and Symbols 1
1.3 Safety Measures for Workers 1
1.4 Safety Warnings for Users 3
2. Precautions for Using R290 Refrigerant 5
3. General Information 11
3.1 Nomenclature 11
3.2 Certificates and Regulations 12
3.3 Lineup 13
3.4 Features and Benefits 14
4. Specifications 15
5. Dimensions 48
6. Center of Gravity 54
7. Piping Diagrams 56
8. Wiring Diagrams 60
8.1 Wiring diagram of communication and power cables 60
8.2 Wiring diagram of communication and power cables 62
9. Electric Characteristics 76
10. Capacity Tables 77
10.1 Cooling capacity 77
10.2 Heating capacity 81
11. Operation Limits Delivery-Leaving 95
12. Water Pressure Drop 98
13. Water Pump Characteristic Curve 106
14. Sound Level 108
15. PCB Photos 112
16. Dip Switch Setting 124
17. Sensor Resistance Table 125
18. Accessories 129
19. Recommended External Device Specification 130
20. Manual Updates Versions 131

1. Safety Precautions

1.1 General Guidelines

1. The precautions described in this document cover very important topics related to safety, please read carefully.
2. Only licensed electricians and water system installers should perform all electrical and water installation works, in accordance with local regulations.
3. After completing the installation/repair work, make sure that the unit operates normally by carrying out test run operation.
4. Instruct the customer how to operate and maintain the unit and explain the cautions to the customer.
5. Keep this manual for future reference.

1.2 Meaning of Warnings and Symbols

	**WARNNING** Indicates a situation that could result in death or serious injury.
	**CAUTION** Indicates a situation that could result in minor or moderate injury. It may also be used to alert against unsafe practices.
	This symbol with white background indicates item that must be PROHIBITED.
	This symbol with black background indicates item that must be carried out.

1.3 Safety Measures for Workers

WARNING	
	For electrical work, must ensure to follow the local regulations, wiring standards and installation manual.
	For water circuit installation work, must ensure to follow the relevant European and national regulations and local plumbing and building regulation codes.
	Do not store the units near sources of fire, such as open flames, gas appliances, or electric heaters.
	Must ship and store the units in upright conditions and dry area.
	Must disconnect the power cable from the socket prior to disassembling equipment for repair to avoid electrical shocks. Never touch electrically charged sections of the equipment if power supply is necessary for repair or circuit inspection.
	Do not contact with discharged refrigerant gas during repair as it can cause frostbite.
	Must ensure complete evacuation of the refrigerant gas in a well-ventilated place before disconnecting the suction or discharge pipe of the compressor at the welded section. In case of gas remaining inside the compressor, disconnection of the pipe can lead to discharge of refrigerant gas or refrigerating machine oil, which may cause injury.
	Must ensure good ventilation if refrigerant gas leaks during repair as refrigerant gas may generate toxic gases when it contacts flames.
	Must discharge the capacitor completely prior to repair to avoid electrical shocks as it supplies high-voltage electricity to the outdoor unit's electrical components.

WARNING	
	Do not plug in or unplug the power cable to turn the air conditioner on or off as it may cause an electrical shock or fire.
	Must wear a safety helmet, gloves, and a safety belt to prevent falls when working in high places (more than 2 m or 6.5 ft).
	Must use exclusively designed pipes, flare nuts, and tools for R32, R410A and R290 refrigerant models to avoid serious accidents like damage to the refrigerant cycle or equipment failure.
	Do not mix air or any gas other than the specified refrigerant (R32, R410A, R290) in the refrigerant system to avoid excessively high pressure that could result in equipment damage and injury.

CAUTION	
	Do not repair electrical components with wet hands to avoid electrical shocks.
	Do not clean the units with water; it can cause electrical shocks.
	Must ensure proper grounding when working in a humid or wet place to avoid electrical shocks.
	Must switch off the power and unplug the cable when cleaning the equipment. The internal fan rotates at a high speed, and may cause injury.
	Must use appropriate tools for repairs to avoid injury.
	Must ensure the refrigerating cycle section has cooled down enough before conducting repair work to avoid burns.
	Must conduct welding work in a well-ventilated place to avoid oxygen deficiency.

1.4 Safety Warnings for Users

WARNING	
	Do not store the units near sources of fire, such as open flames, gas appliances, or electric heaters.
	Only use the parts in the spare parts list for the specific model and appropriate tools when performing repairs. Modifying the equipment is strictly prohibited as it can lead to electrical shocks, excessive heat or fire.
	Replace power cables and lead wires if they show signs of damage or deterioration or it may cause electrical shocks, excessive heat or fire.
	Do not use a joined power cable or extension cable, or share the same power outlet with other electrical appliances. This can cause electrical shocks, excessive heat or fire.
	Must ensure to use an exclusive power circuit for the equipment. Follow local technical standards, internal wiring regulations and the installation instruction manual when conducting electrical work. Improper electrical work or insufficient power circuit capacity can cause electrical shocks or fire.
	Must use the specified cable for wiring between the indoor and outdoor units and ensure the connections are secure and the cable is routed properly to avoid any force pulling at the connection terminals. Improper connections can lead to excessive heat or fire.
	Must ensure the terminal cover doesn't lift or dismount due to the cable during wiring. If the cover isn't mounted correctly, it can cause electrical shocks, excessive heat or fire.
	Do not damage or modify the power cable as it can cause electrical shocks or fire. Do not place heavy items on the power cable, or heating or pulling the cable.
	Only use the specified refrigerant (R32, R410A, R290) in the refrigerant system. If air enters into the system, it can result in high pressure, causing equipment damage and injury.
	Must locate and repair the leak first before recharging the refrigerant if refrigerant gas leaks. Ensure there are no leaks after recharging. If leaks can't be located and repair work needs to be halted, pump-down and close the service valve to prevent refrigerant gas from leaking into the room. While refrigerant gas is harmless, it may produce toxic gases upon contact with flames.
	Must ensure the new installation site can support the weight of the equipment when relocating the equipment. If not properly installed or the site lacks sufficient strength, the equipment can fall and cause injury.
	Must ensure the power cable plug is clean and securely inserted into the power outlet. A dirty or loose plug can cause electrical shocks or fire.
	Must ensure the dispose of old batteries from the remote controller to prevent children from swallowing them. If a child does swallow a battery, seek immediate medical attention.

CAUTION	
	A leakage breaker may be required depending on installation site conditions to prevent electrical shocks.
	Do not install the equipment in an area where combustible gas leaks may occur as this can cause a fire.
	Must confirm that parts and wires are properly mounted and connected, and that connections at soldered or crimped terminals are secure. Improper installation or connections can cause excessive heat, fire or electrical shocks.
	Must ensure to replace corroded installation platforms or frames as it can cause the unit to fall and result in injury.
	Must ensure proper earthing/grounding and repair if necessary. Improper earthing/grounding can cause electrical shocks.
	Must measure insulation resistance after repair and ensure that the resistance is 1 MΩor above. Faulty insulation can cause an electrical shock.
	Must check the drainage of the indoor unit after repair. Faulty drainage can cause water damage to furniture and flooring.
	Do not tilt the unit when removing it. Water inside the unit may spill and damage furniture or flooring.

2. Precautions for Using R290 Refrigerant

Please pay attention to the following points:

WARNING	
	Do not mix any different refrigerants within a system.
	Well trained and certified personnel are required for operating, maintaining, repairing, and recovering the flammable refrigerants, and also for conducting any operation, servicing and maintenance on a system or relevant parts of the units.
	Do not store any of the parts of refrigeration circuit or pipes near sources of fire, such as open flames, gas appliances, or electric heaters.
	The alarms, mechanical ventilation and detectors must be checked regularly by users or the authorized dealer at least once a year based on the national rules to ensure correct operation.
	It is necessary to keep a logbook and record all outcomes of these checks.
	Ventilation in occupied areas must be checked to make sure there are no any obstructions.
	Before a new refrigeration system is put into operation, the person in charge of system operation should ensure that the operating personnel are properly trained and certified and familiarized with the system's construction, supervision, operation and maintenance, safety precautions, and the properties and handling of the refrigerant used.
	For the trained and certified personnel, they must: 1. Well understand the legislation, regulations, and standards related to flammable refrigerants; 2. Own the knowledge and skills in managing flammable refrigerants, personal protective equipment, preventing refrigerant leaks, handling cylinders, charging, leak detection, recovery and disposal; 3. Be able to comprehend and apply national legislation, regulations and standards; 4. Keep continuous, regular and additional training to maintain these skills.
	Must protect the protection devices, refrigeration circuits, and fittings from potentially damaging environmental factors, such as the risk of water collection and freezing in relief pipes or the accumulation of dirt and debris.

CAUTION	
Installation	
	Must follow all related national gas regulations, state municipal regulations and laws, and notify the relevant authorities as per all applicable rules.
	Must ensure that all mechanical connections are accessible for maintenance purposes.
	Must ensure that all ventilation openings are clear without any obstructions.
	Always reach out to local authorities for proper guidance.

CAUTION	
Servicing	
● **Service Personnel**	
❗	Any certified individual working on or breaking into a refrigerant circuit should have a valid certificate from an industry-recognized assessment authority, confirming their ability to safely handle refrigerants per industry assessment specifications.
	Servicing should only be done as recommended by the equipment manufacturer. Maintenance and repairs requiring additional specialized personnel should be done under the supervision of a person competent in the use of flammable refrigerants.
	Servicing should be performed only as recommended by the equipment manufacturer.
	The system should be inspected, regularly monitored and maintained by a trained and certified service personnel employed by the user or responsible party.
	Must ensure no leak during refrigerant charge.
● **Work**	
❗	Must ensure conducting safety checks before starting work on systems that contain flammable refrigerants to minimize the risk of ignition.
	Must ensure to follow all related safety precautions before conducting work on the system when repairing the refrigeration system.
	Must ensure the work is conducted under controlled procedures to minimize the risk of a flammable gas or vapor being present.
	Avoid working in enclosed space and ensure a safety distance of at least 2 meters from any source, or establish a free space zone of at least 2 meters in radius.
	Must use suitable protective equipment per the actual situation.
	Must ensure to stay away from any flammable materials and heat-producing items.
● **Confirming Refrigerant Existence**	
❗	A suitable refrigerant detector should be used to check the area before and during work to identify potentially combustible environments.
	The leak detection equipment should be non-sparking, adequately sealed, or intrinsically safe.
	If a leak or spill occurs, ventilate the area immediately, stay upwind and avoid the spill/release.
	In the event of a leak or spill, inform individuals downwind of the leak/spill, isolate the immediate hazard area, and restrict unauthorized personnel.
● **Fire Extinguisher Availability**	
❗	If any heat-related work is to be done on the cooling equipment or any related parts, relevant fire extinguishing equipment should be accessible.
	Keep a dry powder or CO_2 fire extinguisher close to the charging area.
● **Avoid Ignition Sources**	
❗	When working on a cooling system, avoid using any ignition sources that could risk a fire or explosion.
	Keep all potential ignition sources, including smoking, sufficiently far from the installation, repair, removal, and disposal site where flammable refrigerant could be released.
	Check the area around the equipment before starting work to ensure that there are no flammable hazards or ignition risks.
	Must display "No Smoking" signs.
● **Ventilated Area**	
❗	Must ensure the area is open or adequately ventilated before opening the system or conducting any heat-related work.
	Ensure continuous ventilation throughout the work.
	Safely disperse any released refrigerant during ventilation, preferably expelling into the atmosphere outside.

CAUTION	
● **Checking for Refrigerating Equipment**	
!	When changing electrical components, must ensure they are suitable and meet the correct specifications.
	Must ensure to follow the guidelines provided by the manufacturer for maintenance and service.
	Must reach out to the manufacturer's technical support for help if there are any unsure points.
	When using flammable refrigerants during installation, please conduct below checks:
	1. Must ensure ventilation equipment and outlets are not obstructed and are functioning properly.
	2. Must check the secondary circuit for the presence of refrigerant if an indirect cooling circuit is being used.
	3. Must ensure the equipment markings are legible and visible and correct any markings that are not legible.
	4. Refrigeration pipes or components should not be exposed to corrosive substances unless they are made of corrosion-resistant materials or are properly protected.
● **Checking for Electrical Devices**	
!	Maintenance and repairs of electrical components should include initial safety checks and component inspection procedures.
	Initial safety checks should include but not limited to: 1. Safe discharge of capacitors to prevent sparking. 2. No live electrical components or wiring exposed during system charging, recovery, or purging. 3. Continuity of earth bonding.
	Must follow the guidelines provided by the manufacturer for maintenance and service.
	Must reach out to the manufacturer's technical support for help if there are any unsure points.
	If a fault that could compromise safety is present, do not connect the electrical supply to the circuit until it is satisfactorily resolved.
	If the fault cannot be immediately corrected but operation must continue, implement a suitable temporary fix.
	The equipment owner must be informed of any issues so that all parties are aware.
Repairs to Sealed Components	
!	Must disconnect all electrical supplies from the equipment before removing any sealed covers during repairs.
	Must ensure there is a permanent form of leak detection located at the most critical point to warn of potential hazards if it is necessary to have an electrical supply during servicing.
	Must pay special attention to ensure that working on electrical components will not change the casing in a way that impacts the level of protection, which includes cable damage, excessive connections, terminals not made to the original specification, seal damage, incorrect fitting of glands, etc.
	Must ensure that the equipment is securely mounted.
	Must check that seals or sealing materials have not degraded to the point that they can no longer prevent the entry of flammable atmospheres.
	Must ensure the replacement parts meet the manufacturer's specifications.
Note	The use of silicone sealant may affect the performance of some types of leak detection equipment. Intrinsically safe components do not need to be isolated before working on them.

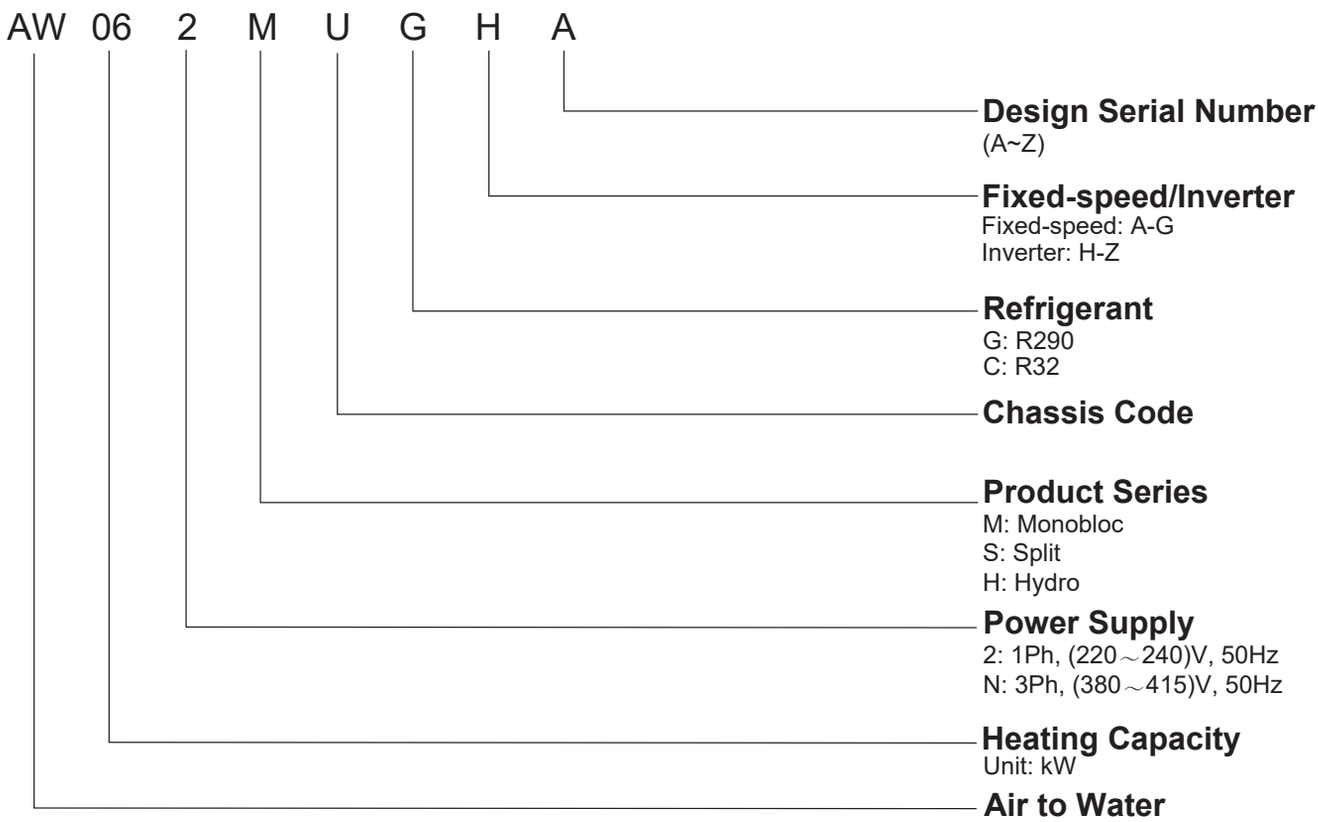
CAUTION	
Maintenance of Intrinsically Safe Components	
!	Avoid adding any permanent inductive or capacitance loads to the circuit without verifying that this will not surpass the allowed voltage and current for the equipment in operation.
	Only intrinsically safe components can be serviced while powered on in an environment with a potential for combustion.
	Ensure that the testing equipment is correctly rated.
	Only replace components with parts explicitly recommended by the manufacturer. Utilizing non-specified parts could potentially lead to the ignition of refrigerant in the environment due to a leak.
	Must replace components with parts specified by the manufacturer. Any unspecified parts by manufacturer could potentially lead to the ignition of refrigerant in the environment due to a leak.
Cabling	
!	Confirm that the cabling will not be exposed to wear, corrosion, extreme pressure, vibration, sharp edges or other damaging environmental conditions.
	Consider the impacts of aging or continuous vibration from compressors or fans during this check.
Detection of Combustible Refrigerants	
!	Absolutely avoid the use of potential ignition sources when searching for or detecting refrigerant leaks.
	A halide torch (or any other detector that uses an open flame) should not be used.
Methods for Detecting Leaks	
!	The following methods for detecting leaks are considered suitable for all types of refrigerant systems:
	1. Leak detection should be conducted using equipment with a sensitivity of 5 grams per year of refrigerant or better under a pressure of at least 0.25 times the maximum allowable pressure (>0.98MPa, max 3.90MPa). A universal sniffer, for instance.
	2. Electronic leak detectors can be used for flammable refrigerants, but they may require recalibration for adequate sensitivity.
	(The calibration of detector should be done in an area free of refrigerant.)
	3. Ensure the detector does not pose a risk of ignition and is compatible with the refrigerant being used.
	4. The detector should be calibrated to the specific refrigerant used and set to a percentage of the refrigerant's Lower Flammable Limit (LFL), ensuring it doesn't exceed 25%.
	5. Leak-detecting fluids, such as bubble or fluorescent method agents, can be used with most refrigerants. However, detergents with chlorine should be avoided as they can react with the refrigerant and corrode copper piping.
	6. If a leak is suspected, eliminate any potential ignition sources.
	7. If a leak requires brazing to repair, all refrigerant must be recovered from the system first. Must follow the related precautions to remove the refrigerant.
Removal and Evacuation	
!	Conventional procedures should be followed when needing to access the refrigerant circuit for repairs or other purposes. Flammability factor must be taken into account, and follow below procedures:
	remove refrigerant ->purge the circuit with inert gas ->evacuate ->purge with inert gas ->open the circuit by cutting
	Brazing is prohibited.
	Recover the refrigerant charge into the appropriate recovery cylinders.
	Purge the system with Oxygen Free Nitrogen (OFN) to ensure safety.
	Repeat this process for several times as necessary.
	Compressed air or oxygen is prohibited for this task.

CAUTION	
	The purging process involves filling the system with OFN until working pressure is achieved, venting to atmosphere, pulling down to a vacuum, and repeating until no refrigerant remains in the system. (Until the concentration of purge gas is 0.25 LFL or less by the leak detector). ø0.25LFL = 0.525Vol%
	After the final OFN charge, vent the system down to atmospheric pressure before starting any work.
	This process is crucial if brazing on the pipework is needed.
	Must ensure the vacuum pump outlet is located away from any potential ignition sources and in a well-ventilated area.
Charging procedures	
	In addition to standard charging procedures, the following steps should be followed: 1. Prevent contamination of different refrigerants when using charging equipment. 2. Use the shortest possible hoses or lines to minimize the amount of refrigerant they can hold. 3. Store cylinders in the correct position as per their instructions. 4. Ground the refrigerating system before charging it with refrigerant. 5. Label the system once charging is complete (if not already). 6. Pay special attention not to overcharge the refrigerating system.
	Before recharging the system, pressure test it with OFN (refer to “**Removal and Evacuation”**).
	After charging, but before commissioning, perform a leak test on the system.
	Perform a follow-up leak test before leaving the site.
	Static electricity can build up and create a hazardous situation when charging and discharging refrigerant. To prevent fires or explosions, ground and bond containers and equipment before starting the process.
Decommissioning	
	Before beginning this process, the technician should be thoroughly familiar with the equipment and all its components.
	It is highly advised that all refrigerants should be safely collected.
	Do not reuse the collected refrigerant.
	Must ensure that the electricity is accessible before starting the task. 1. Learn about the equipment and how it operates. 2. Cut off the system's electrical power. 3. Prior to starting the process, confirm that: 1) If necessary, mechanical transport tools are ready for moving refrigerant cylinders; 2) all needed personal protection equipment and leak detectors are at hand and used properly; 3) the recovery process is constantly overseen by a qualified individual; 4) Recovery tools and cylinders meet the standard requirements. 4. Ensure that the cylinder is placed on the scales before the recovery begins. 5. Operate the recovery machine by following the guidelines. 6. Avoid overfilling cylinders. (Do not exceed 80% of the cylinder's volume). 7. Must ensure not exceeding the maximum operational pressure of the cylinder, even temporarily. 8. Once the cylinders have been correctly filled and the procedure is done, ensure that the cylinders and equipment are promptly removed from the location and all equipment isolation valves are closed.
	Charging or discharging the refrigerant might lead to static electricity accumulation, which can be hazardous. To prevent fire or explosion, neutralize static electricity during transfer by grounding and connecting containers and equipment before charging/discharging.

CAUTION	
Labelling	
!	Label the equipment to indicate that it has been decommissioned and emptied of refrigerant.
	The label should include the date and signature.
	Ensure that labels on the equipment state that it contains flammable refrigerant.
Recovery	
!	It is advised that all refrigerants are safely removed when removing refrigerant from a system, either for servicing or decommissioning.
	Must ensure using suitable refrigerant recovery cylinders if transferring refrigerant into cylinders,.
	Prepare the right amount of cylinders to contain the total system charge.
	All cylinders to be used should be assigned for the recovered refrigerant and labelled for that specific refrigerant (i.e., dedicated cylinders for refrigerant recovery).
	Cylinders should have a fully operational pressure relief valve and associated shut-off valves of good working conditions.
	Recovery cylinders should be evacuated and, if possible, cooled before recovery.
	The recovery equipment should be operational with a set of instructions about the device available and appropriate for flammable refrigerant recovery.
	Ensure the recovery equipment does not create potential ignition risks and is compatible with the refrigerant being used.
	Prepare a set of calibrated weighing scales of good working conditions.
	Hoses should have leak-free disconnected couplings of good working conditions.
	Before using the recovery machine, verify its operational state, proper maintenance, and that any related electrical components are sealed to prevent ignition if a refrigerant leak occurs. Contact the manufacturer if there are any uncertainties.
	Return the recovered refrigerant to the refrigerant supplier in the correct recovery cylinder, and arrange the relevant Waste Transfer Note.
	Refrigerants should not be mixed in recovery units, and especially not in cylinders.
	If compressors or compressor oils need to be removed, they should be evacuated to an acceptable level to ensure no flammable refrigerant remains in the lubricant.
	The evacuation process should be completed before returning the compressor to the suppliers.
	Only electrical heating to the compressor body should be used to accelerate this process.
	When draining oil from a system, it should be done safely.

3. General Information

3.1 Nomenclature



3.2 Certificates and Regulations

EMC directive (2014/30/EU):
EN 55014-1:2021 +A11:2020
EN 55014-2:2021
EN 61000-3-2:2019
EN 61000-3-3:2013+A1:2019

Low-Voltage Directive (2014/35/EU):
EN60335-1:2023+A11:2023
EN60335-1:2012+A13:2017+A1:2019+A14:2019+A2:2019
EN 60335-2-40:2023
ENIEC60335-2-40:2023 +A11:2022
EN60335-2-40-2003/A13-2012
EN 62233:2008

Machinery Directive(2006/42/EC):
EN60335-1:2023+A11:2023
EN60335-1:2012+A13:2017+A1:2019+A14:2019+A2:2019+A15:2021
EN 60335-2-40:2023
ENIEC60335-2-40:2023 +A11:2022
EN60335-2-40-2003/A13-2012
EN 62233:2008

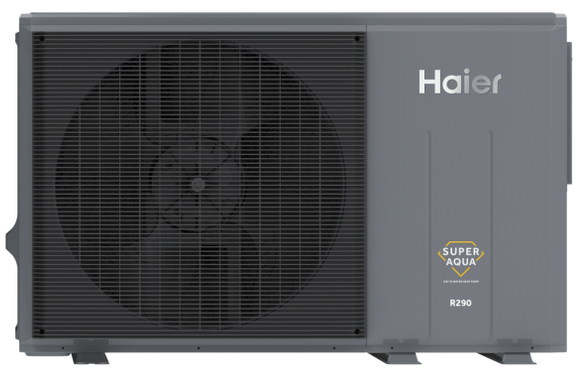
Directive 2014/68/EU (PED)
EN 378-2:2020
EN 14276-2:2020+A1:2011

Directive 2011/65/EU (RoHS)
IEC 62321

3.3 Lineup



Model	Dimension W/D/H	Power Supply (V/Ph/Hz)	Capacity	Compressor type	Heat exchanger	A/C mode	Hydraulic module	Refrigerant
AW042MUGHA	1250*380*790	220~230/1/50	4KW	DC Inverter	Plate-heat Exchanger	Heat Pump	Built-in	R290
AW062MUGHA			6KW					
AW082MUGHA			8KW					
AW102MUGHA			10KW					
AW10NMUGHA		380~415V/3/50	10KW					



Model	Dimension W/D/H	Power Supply (V/Ph/Hz)	Capacity	Compressor type	Heat exchanger	A/C mode	Hydraulic module	Refrigerant
AW122MXGHA	1380*460*880	220~230/1/50	12KW	DC Inverter	Plate-heat Exchanger	Heat Pump	Built-in	R290
AW142MXGHA			14KW					
AW162MXGHA			16KW					
AW12NMXGHA		380~415V/3/50	12KW					
AW14NMXGHA			14KW					
AW16NMXGHA			16KW					

3.4 Features and Benefits

Environmental-friendly

- **Natural refrigerant R290**

High-efficiency

- **Max COP up to 5.50**

The GT series has excellent performance. Higher compression ratio and lower oil compressors and the efficient internal thread regenerator is used in the appliance to increase the suction temperature and improve the energy efficiency of the unit. The maximum value of COP can reach 5.50.

- **SCOP A+++/A+++ (35°C/55°C)**

The SCOP at 35°C and 55°C water temperature both reach the top class A +++.

- **Hot water ERP class A+**

DHW efficiency level reaches the top class A+.

Ultimate Comfort

- **High leaving water temperature**

The max leaving water temperature can reach 80°C, leading in the industry. It is the best solution to replace the boiler heating.

- **Low sound level**

With excellent design, the Haier Super Aqua GT series sound pressure level is as low as 55dB(A).

Super Convenience

- **Easy installation and easy maintenance**

From the convenience of installation and maintenance, the internal structure is optimized, the layout is more reasonable, and the components can be removed and assembled without interfering with each other.

High Reliability

- **Wide operating range**

The GT series can operate normally at minus 25°C, providing a quarantee for users to warm in cold weather.

- **Silver brazing technology**

To deal with the R290 refrigerant which is combustible, optimize the system design by reducing welding joints and adopting silver brazing welding technology to ensure stronger welding and avoid leakage.

- **Refrigerant separator**

Refrigerant separator can quickly discharge the refrigerant from the water system in case of leakage and prevent it from entering the water system and indoor space.

- **Sealed electric control box**

Explosion-proof electric control design, more safety for R290 product, is used to avoid potential fire hazards and provide strong protection for user safety.

Intelligence

- **Smart control**

With Haier Wi-Fi control you can check the running state of heat and allows you to have flexibility and control of your heat pump. It delivers a simply life for you.

- **Selection software**

The system is built on the Cloud and authorized users to operate by browser. Users can visit the system by mobile terminals and computers. It can support all the ATW heat pump models to select and design. The system can finally output the corresponding selected results and the overall project plan report.

4. Specifications

Product Data		Unit	AW042MUGHA
Heating (LWT 35℃ / OAT 7℃)	Capacity	kW	4.00
	Power input	kW	0.73
	COP	W/W	5.50
Heating (LWT 55℃ / OAT 7℃)	Capacity	kW	4.00
	Power input	kW	1.19
	COP	W/W	3.35
Space Heating Average Climate Water Outlet 35℃	SCOP	~	5.10
	η_s	%	201
	Energy class	-	A+++
Space Heating Average Climate Water Outlet 55℃	SCOP	-	3.85
	η_s	%	151
	Energy class	-	A+++
Cooling (LWT 18℃ / OAT 35℃)	Capacity	kW	4.00
	Power input	kW	0.79
	EER	-	5.05
Cooling (LWT 7℃ / OAT 35℃)	Capacity	kW	3.50
	Power input	kW	0.95
	EER	-	3.70
Outdoor Operating Temperature Range	Heating	℃	-25 ~35
	Cooling	℃	10 ~ 48
	DHW	℃	-25 ~43
Leaving Water Temperature Range	Heating	℃	20~80
	Cooling	℃	5~25
Storage Temperature Range(Tank)	DHW	℃	25~75
Water Flow Rate	Standard	m^3/h	0.690
	Minimum	m^3/h	0.240
Water Piping Connection	Inlet/Outlet	inch	R 1/R 1
Expansion Tank		L	4.5
Safety Devices			High pressure switch, Fan driver overload protector, Overcurrent fuse, Inverter overload protector, Refrigerant separator, Safety valve, Expansion vessel
Defrost Method			4WV reverse defrosting
Casing	Color		Slate Grey
	Material		Galvanized steel

Product Data		Unit	AW042MUGHA
Compressor	Brand		MITSUBISHI ELECTRIC
	Type		DC Inverter Twin Rotary
	Compressor Quantity		1
	Rated Load Amps. (RLA)	A	5.80
	Crankcase Heater	W	27
		Quantity	1
	Compressor Oil Brand		IDEMITSUKOSAN CO.,LTD
	Compressor Oil Type		PZ46M
	Compressor Oil Charge(Compressor + Gas-liquid Separator)	ml	380
Fan Motor	Brand		BROAD-OCEAN
	IP Class		IP44
	Type		DC
	Quantity		1
	Insulation Class		E
	Safe Class		I
	Max. Speed	rpm	900
Fan	Brand		Shun wei
	Type		Axial
	Diameter	mm	Ø604
Heat Exchanger	Number of Rows		2
	Tube Pitch	mm	21
	Row Pitch	mm	18.186
	Fin Spacing	mm	1.45
	Fin Type		Hydrophilic aluminum
	Fin Coating Type	Optional	Clear lacquer
	Salt Spray Test Duration	hour	168
	Tube(ID)	mm	φ7
	Tube Type		INNERGROOVE TUBE
Plate Heat Exchanger	Brand		Weyee
Water Pump	Head	m	7.5
Electronic Expansion Valve	LEVa	Brand	SANHUA
Four Way Valve		Brand	SANHUA
		Quantity	1
Pressure Sensor of Discharge	Brand		Sensata/SANHUA
Pressure Sensor of Suction	Brand		Sensata/SANHUA
Temp. Sensor	Temperature Sensor Type		Discharge
	Value of Resistance @20℃ /Ω		50K
	Temperature Sensor Type		Suction/Outdoor Ambient/Defrost/ Liquid pipe/Gas pipe/Inlet water/ Outlet water
	Value of Resistance @20℃ /Ω		10K

Product Data		Unit	AW042MUGHA
Cabinet Coating	Coating Type		Powder Coating
	Salt Spray Test Duration	hour	72
	Sheet Metal Material		Hot zinc plate
	Sheet Metal Thickness	mm	1
Electrical Control Box IP Class		Standard	IP24
Refrigerant	Type	-	R290
	Charge	kg	0.80
	CO_2 Eq.	kg	2.40
Net Dimension	H*W*D	mm	790*1250*380
Packing Dimension	H*W*D	mm	1022*1395*595
Net/Gross Weight		kg	94/127
Sound Pressure Level*(1)		dB(A)	44
Sound Power Level*(1)		dB	55
Power Supply		Ph/V/Hz	1/220~240/50
Minimum Circuit Amps(MCA)		A	13.5
Maximum Fuse Amps(MFA)		A	16
Minimum Power Supply Cable		mm²	4
Accessory	Wired Controller	/	HW-WA101DBT(Standard)*1
	PCB Box	/	ATW-A03(Standard)*1
	Filter	/	Y-type(Standard)*1

Note:
1.Accordng to EN14511, EN14825 (EU) and No 811/2013(EU).
2. LWT: Leaving water temperature; OAT: Outdoor air temperature.
3. Sound level values are measured at a semi-anechoic room. And the sound power level values are based on measurement of EN12102-1 under conditions of EN14825.
4. The above data may be changed without notice for future improvement on quality and performance.

Product Data		Unit	AW062MUGHA
Heating (LWT 35℃ / OAT 7℃)	Capacity	kW	6.00
	Power input	kW	1.12
	COP	W/W	5.35
Heating (LWT 55℃ / OAT 7℃)	Capacity	kW	6.00
	Power input	kW	1.82
	COP	W/W	3.30
Space Heating Average Climate Water Outlet 35℃	SCOP	~	5.10
	η_s	%	201
	Energy class	-	A+++
Space Heating Average Climate Water Outlet 55℃	SCOP	-	3.83
	η_s	%	150
	Energy class	-	A+++
Cooling (LWT 18℃ / OAT 35℃)	Capacity	kW	6.00
	Power input	kW	1.20
	EER	-	5.00
Cooling (LWT 7℃ / OAT 35℃)	Capacity	kW	5.00
	Power input	kW	1.37
	EER	-	3.65
Outdoor Operating Temperature Range	Heating	℃	-25 ~35
	Cooling	℃	10 ~ 48
	DHW	℃	-25 ~43
Leaving Water Temperature Range	Heating	℃	20~80
	Cooling	℃	5~25
Storage Temperature Range(Tank)	DHW	℃	25~75
Water Flow Rate	Standard	m^3/h	1.032
	Minimum	m^3/h	0.360
Water Piping Connection	Inlet/Outlet	inch	R 1/R 1
Expansion Tank		L	4.5
Safety Devices			High pressure switch, Fan driver overload protector, Overcurrent fuse, Inverter overload protector, Refrigerant separator, Safety valve, Expansion vessel
Defrost Method			4WV reverse defrosting
Casing	Color		Slate Grey
	Material		Galvanized steel

Product Data		Unit	AW062MUGHA
Compressor	Brand		MITSUBISHI ELECTRIC
	Type		DC Inverter Twin Rotary
	Compressor Quantity		1
	Rated Load Amps. (RLA)	A	5.80
	Crankcase Heater	W	27
		Quantity	1
	Compressor Oil Brand		IDEMITSUKOSAN CO.,LTD
	Compressor Oil Type		PZ46M
	Compressor Oil Charge(Compressor + Gas-liquid Separator)	ml	380
Fan Motor	Brand		BROAD-OCEAN
	IP Class		IP44
	Type		DC
	Quantity		1
	Insulation Class		E
	Safe Class		I
	Max. Speed	rpm	900
Fan	Brand		Shun wei
	Type		Axial
	Diameter	mm	Ø604
Heat Exchanger	Number of Rows		2
	Tube Pitch	mm	21
	Row Pitch	mm	18.186
	Fin Spacing	mm	1.45
	Fin Type		Hydrophilic aluminum
	Fin Coating Type	Optional	Clear lacquer
	Salt Spray Test Duration	hour	168
	Tube(ID)	mm	φ7
	Tube Type		INNERGROOVE TUBE
Plate Heat Exchanger	Brand		Weyee
Water Pump	Head	m	7.5
Electronic Expansion Valve	LEVa	Brand	SANHUA
Four Way Valve		Brand	SANHUA
		Quantity	1
Pressure Sensor of Discharge	Brand		Sensata/SANHUA
Pressure Sensor of Suction	Brand		Sensata/SANHUA
Temp. Sensor	Temperature Sensor Type		Discharge
	Value of Resistance @20℃ /Ω		50K
	Temperature Sensor Type		Suction/Outdoor Ambient/Defrost/ Liquid pipe/Gas pipe/Inlet water/ Outlet water
	Value of Resistance @20℃ /Ω		10K

Product Data		Unit	AW062MUGHA
Cabinet Coating	Coating Type		Powder Coating
	Salt Spray Test Duration	hour	72
	Sheet Metal Material		Hot zinc plate
	Sheet Metal Thickness	mm	1
Electrical Control Box IP Class		Standard	IP24
Refrigerant	Type	-	R290
	Charge	kg	0.80
	CO_2 Eq.	kg	2.40
Net Dimension	H*W*D	mm	790*1250*380
Packing Dimension	H*W*D	mm	1022*1395*595
Net/Gross Weight		kg	94/127
Sound Pressure Level*(1)		dB(A)	47
Sound Power Level*(1)		dB	58
Power Supply		Ph/V/Hz	1/220~240/50
Minimum Circuit Amps(MCA)		A	13.5
Maximum Fuse Amps(MFA)		A	16
Minimum Power Supply Cable		mm²	4
Accessory	Wired Controller	/	HW-WA101DBT(Standard)*1
	PCB Box	/	ATW-A03(Standard)*1
	Filter	/	Y-type(Standard)*1

Note:
1.Accordng to EN14511, EN14825 (EU) and No 811/2013(EU).
2. LWT: Leaving water temperature; OAT: Outdoor air temperature.
3. Sound level values are measured at a semi-anechoic room. And the sound power level values are based on measurement of EN12102-1 under conditions of EN14825.
4. The above data may be changed without notice for future improvement on quality and performance.

Product Data		Unit	AW082MUGHA
Heating (LWT 35℃ / OAT 7℃)	Capacity	kW	8.00
	Power input	kW	1.50
	COP	W/W	5.35
Heating (LWT 55℃ / OAT 7℃)	Capacity	kW	8.00
	Power input	kW	2.35
	COP	W/W	3.40
Space Heating Average Climate Water Outlet 35℃	SCOP	~	5.20
	η_s	%	205
	Energy class	-	A+++
Space Heating Average Climate Water Outlet 55℃	SCOP	-	3.85
	η_s	%	151
	Energy class	-	A+++
Cooling (LWT 18℃ / OAT 35℃)	Capacity	kW	7.50
	Power input	kW	1.58
	EER	-	4.75
Cooling (LWT 7℃ / OAT 35℃)	Capacity	kW	6.80
	Power input	kW	1.97
	EER	-	3.45
Outdoor Operating Temperature Range	Heating	℃	-25 ~35
	Cooling	℃	10 ~ 48
	DHW	℃	-25 ~43
Leaving Water Temperature Range	Heating	℃	20~80
	Cooling	℃	5~25
Storage Temperature Range(Tank)	DHW	℃	25~75
Water Flow Rate	Standard	m^3/h	1.374
	Minimum	m^3/h	0.540
Water Piping Connection	Inlet/Outlet	inch	R 1/R 1
Expansion Tank		L	4.5
Safety Devices			High pressure switch, Fan driver overload protector, Overcurrent fuse, Inverter overload protector, Refrigerant separator, Safety valve, Expansion vessel
Defrost Method			4WV reverse defrosting
Casing	Color		Slate Grey
	Material		Galvanized steel

Product Data		Unit	AW082MUGHA
Compressor	Brand		MITSUBISHI ELECTRIC
	Type		DC Inverter Twin Rotary
	Compressor Quantity		1
	Rated Load Amps. (RLA)	A	7.50
	Crankcase Heater	W	27
		Quantity	1
	Compressor Oil Brand		IDEMITSUKOSAN CO.,LTD
	Compressor Oil Type		PZ46M
	Compressor Oil Charge(Compressor + Gas-liquid Separator)	ml	600
Fan Motor	Brand		BROAD-OCEAN
	IP Class		IP44
	Type		DC
	Quantity		1
	Insulation Class		E
	Safe Class		I
	Max. Speed	rpm	900
Fan	Brand		Shun wei
	Type		Axial
	Diameter	mm	Ø604
Heat Exchanger	Number of Rows		2
	Tube Pitch	mm	21
	Row Pitch	mm	18.186
	Fin Spacing	mm	1.45
	Fin Type		Hydrophilic aluminum
	Fin Coating Type	Optional	Clear lacquer
	Salt Spray Test Duration	hour	168
	Tube(ID)	mm	φ7
	Tube Type		INNERGROOVE TUBE
Plate Heat Exchanger	Brand		Weyee
Water Pump	Head	m	7.5
Electronic Expansion Valve	LEVa	Brand	SANHUA
Four Way Valve		Brand	SANHUA/DANAN
		Quantity	1
Pressure Sensor of Discharge	Brand		Sensata/SANHUA
Pressure Sensor of Suction	Brand		Sensata/SANHUA
Temp. Sensor	Temperature Sensor Type		Discharge
	Value of Resistance @20℃ /Ω		50K
	Temperature Sensor Type		Suction/Outdoor Ambient/Defrost/ Liquid pipe/Gas pipe/Inlet water/ Outlet water
	Value of Resistance @20℃ /Ω		10K

Product Data		Unit	AW082MUGHA
Cabinet Coating	Coating Type		Powder Coating
	Salt Spray Test Duration	hour	72
	Sheet Metal Material		Hot zinc plate
	Sheet Metal Thickness	mm	1
Electrical Control Box IP Class		Standard	IP24
Refrigerant	Type	-	R290
	Charge	kg	0.90
	CO2 Eq.	kg	2.70
Net Dimension	H*W*D	mm	790*1250*380
Packing Dimension	H*W*D	mm	1022*1395*595
Net/Gross Weight		kg	106/139
Sound Pressure Level*(1)		dB(A)	48
Sound Power Level*(1)		dB	59
Power Supply		Ph/V/Hz	1/220~240/50
Minimum Circuit Amps(MCA)		A	18.6
Maximum Fuse Amps(MFA)		A	20
Minimum Power Supply Cable		mm²	6
Accessory	Wired Controller	/	HW-WA101DBT(Standard)*1
	PCB Box	/	ATW-A03(Standard)*1
	Filter	/	Y-type(Standard)*1

Note:
1.Accordng to EN14511, EN14825 (EU) and No 811/2013(EU).
2. LWT: Leaving water temperature; OAT: Outdoor air temperature.
3. Sound level values are measured at a semi-anechoic room. And the sound power level values are based on measurement of EN12102-1 under conditions of EN14825.
4. The above data may be changed without notice for future improvement on quality and performance.

Product Data		Unit	AW102MUGHA
Heating (LWT 35℃ / OAT 7℃)	Capacity	kW	10.00
	Power input	kW	1.96
	COP	W/W	5.10
Heating (LWT 55℃ / OAT 7℃)	Capacity	kW	10.00
	Power input	kW	3.13
	COP	W/W	3.20
Space Heating Average Climate Water Outlet 35℃	SCOP	~	5.10
	η_s	%	201
	Energy class	-	A+++
Space Heating Average Climate Water Outlet 55℃	SCOP	-	3.83
	η_s	%	150
	Energy class	-	A+++
Cooling (LWT 18℃ / OAT 35℃)	Capacity	kW	9.50
	Power input	kW	2.21
	EER	-	4.30
Cooling (LWT 7℃ / OAT 35℃)	Capacity	kW	8.50
	Power input	kW	2.62
	EER	-	3.25
Outdoor Operating Temperature Range	Heating	℃	-25 ~35
	Cooling	℃	10 ~ 48
	DHW	℃	-25 ~43
Leaving Water Temperature Range	Heating	℃	20~80
	Cooling	℃	5~25
Storage Temperature Range(Tank)	DHW	℃	25~75
Water Flow Rate	Standard	m^3/h	1.772
	Minimum	m^3/h	0.660
Water Piping Connection	Inlet/Outlet	inch	R 1/R 1
Expansion Tank		L	4.5
Safety Devices			High pressure switch, Fan driver overload protector, Overcurrent fuse, Inverter overload protector, Refrigerant separator, Safety valve, Expansion vessel
Defrost Method			4WV reverse defrosting
Casing	Color		Slate Grey
	Material		Galvanized steel

Product Data		Unit	AW102MUGHA
Compressor	Brand		MITSUBISHI ELECTRIC
	Type		DC Inverter Twin Rotary
	Compressor Quantity		1
	Rated Load Amps. (RLA)	A	7.50
	Crankcase Heater	W	27
		Quantity	1
	Compressor Oil Brand		IDEMITSUKOSAN CO.,LTD
	Compressor Oil Type		PZ46M
	Compressor Oil Charge(Compressor + Gas-liquid Separator)	ml	600
Fan Motor	Brand		BROAD-OCEAN
	IP Class		IP44
	Type		DC
	Quantity		1
	Insulation Class		E
	Safe Class		I
	Max. Speed	rpm	900
Fan	Brand		Shun wei
	Type		Axial
	Diameter	mm	Ø604
Heat Exchanger	Number of Rows		2
	Tube Pitch	mm	21
	Row Pitch	mm	18.186
	Fin Spacing	mm	1.45
	Fin Type		Hydrophilic aluminum
	Fin Coating Type	Optional	Clear lacquer
	Salt Spray Test Duration	hour	168
	Tube(ID)	mm	φ7
	Tube Type		INNERGROOVE TUBE
Plate Heat Exchanger	Brand		Weyee
Water Pump	Head	m	7.5
Electronic Expansion Valve	LEVa	Brand	SANHUA
Four Way Valve		Brand	SANHUA/DANAN
		Quantity	1
Pressure Sensor of Discharge	Brand		Sensata/SANHUA
Pressure Sensor of Suction	Brand		Sensata/SANHUA

Product Data		Unit	AW102MUGHA
Temp. Sensor	Temperature Sensor Type		Discharge
	Value of Resistance @20℃ /Ω		50K
	Temperature Sensor Type		Suction/Outdoor Ambient/Defrost/ Liquid pipe/Gas pipe/Inlet water/ Outlet water
	Value of Resistance @20℃ /Ω		10K
Cabinet Coating	Coating Type		Powder Coating
	Salt Spray Test Duration	hour	72
	Sheet Metal Material		Hot zinc plate
	Sheet Metal Thickness	mm	1
Electrical Control Box IP Class		Standard	IP24
Refrigerant	Type	-	R290
	Charge	kg	0.90
	CO_2 Eq.	kg	2.70
Net Dimension	H*W*D	mm	790*1250*380
Packing Dimension	H*W*D	mm	1022*1395*595
Net/Gross Weight		kg	106/139
Sound Pressure Level*(1)		dB(A)	49
Sound Power Level*(1)		dB	60
Power Supply		Ph/V/Hz	1/220~240/50
Minimum Circuit Amps(MCA)		A	18.6
Maximum Fuse Amps(MFA)		A	20
Minimum Power Supply Cable		mm²	6
Accessory	Wired Controller	/	HW-WA101DBT(Standard)*1
	PCB Box	/	ATW-A03(Standard)*1
	Filter	/	Y-type(Standard)*1

Note:
1.Accordng to EN14511, EN14825 (EU) and No 811/2013(EU).
2. LWT: Leaving water temperature; OAT: Outdoor air temperature.
3. Sound level values are measured at a semi-anechoic room. And the sound power level values are based on measurement of EN12102-1 under conditions of EN14825.
4. The above data may be changed without notice for future improvement on quality and performance.

Product Data		Unit	AW122MXGHA
Heating (LWT 35℃ / OAT 7℃)	Capacity	kW	12.00
	Power input	kW	2.35
	COP	W/W	5.10
Heating (LWT 55℃ / OAT 7℃)	Capacity	kW	11.50
	Power input	kW	3.48
	COP	W/W	3.30
Space Heating Average Climate Water Outlet 35℃	SCOP	~	4.82
	η_s	%	190
	Energy class	-	A+++
Space Heating Average Climate Water Outlet 55℃	SCOP	-	3.85
	η_s	%	151
	Energy class	-	A+++
Cooling (LWT 18℃ / OAT 35℃)	Capacity	kW	11.50
	Power input	kW	2.56
	EER	-	4.50
Cooling (LWT 7℃ / OAT 35℃)	Capacity	kW	10.00
	Power input	kW	2.99
	EER	-	3.35
Outdoor Operating Temperature Range	Heating	℃	-25 ~35
	Cooling	℃	10 ~ 48
	DHW	℃	-25 ~43
Leaving Water Temperature Range	Heating	℃	20~80
	Cooling	℃	5~25
Storage Temperature Range(Tank)	DHW	℃	25~75
Water Flow Rate	Standard	m^3/h	2.064
	Minimum	m^3/h	0.840
Water Piping Connection	Inlet/Outlet	inch	R 1/R 1
Expansion Tank		L	8
Safety Devices			High pressure switch, Fan driver overload protector, Overcurrent fuse, Inverter overload protector, Refrigerant separator, Safety valve, Expansion vessel
Defrost Method			4WV reverse defrosting
Casing	Color		Slate Grey
	Material		Galvanized steel

Product Data		Unit	AW122MXGHA
Compressor	Brand		MITSUBISHI ELECTRIC
	Type		DC Inverter Twin Rotary
	Compressor Quantity		1
	Rated Load Amps. (RLA)	A	10.25
	Crankcase Heater	W	27
		Quantity	1
	Compressor Oil Brand		IDEMITSUKOSAN CO.,LTD
	Compressor Oil Type		PZ46M
	Compressor Oil Charge(Compressor + Gas-liquid Separator)	ml	900
Fan Motor	Brand		BROAD-OCEAN
	IP Class		IP55
	Type		DC
	Quantity		1
	Insulation Class		B
	Safe Class		I
	Max. Speed	rpm	700
Fan	Brand		Shun wei
	Type		Axial
	Diameter	mm	Ø700
Heat Exchanger	Number of Rows		2
	Tube Pitch	mm	21
	Row Pitch	mm	18.186
	Fin Spacing	mm	1.45
	Fin Type		Hydrophilic aluminum
	Fin Coating Type	Optional	Clear lacquer
	Salt Spray Test Duration	hour	168
	Tube(ID)	mm	φ7
	Tube Type		INNERGROOVE TUBE
Plate Heat Exchanger	Brand		Weyee
Water Pump	Head	m	12.5
Electronic Expansion Valve	LEVa	Brand	SANHUA
Four Way Valve		Brand	DANAN
		Quantity	1
Pressure Sensor of Discharge	Brand		Sensata/SANHUA
Pressure Sensor of Suction	Brand		Sensata/SANHUA
Temp. Sensor	Temperature Sensor Type		Discharge
	Value of Resistance @20℃ /Ω		50K
	Temperature Sensor Type		Suction/Outdoor Ambient/Defrost/ Liquid pipe/Gas pipe/Inlet water/ Outlet water
	Value of Resistance @20℃ /Ω		10K

Product Data		Unit	AW122MXGHA
Cabinet Coating	Coating Type		Powder Coating
	Salt Spray Test Duration	hour	72
	Sheet Metal Material		Hot zinc plate
	Sheet Metal Thickness	mm	1
Electrical Control Box IP Class		Standard	IP24
Refrigerant	Type	-	R290
	Charge	kg	1.05
	CO_2 Eq.	kg	3.15
Net Dimension	H*W*D	mm	880*1380*460
Packing Dimension	H*W*D	mm	1112*1526*675
Net/Gross Weight		kg	127/165
Sound Pressure Level*(1)		dB(A)	52
Sound Power Level*(1)		dB	63
Power Supply		Ph/V/Hz	1/220~240/50
Minimum Circuit Amps(MCA)		A	30.6
Maximum Fuse Amps(MFA)		A	32
Minimum Power Supply Cable		mm^2	10
Accessory	Wired Controller	/	HW-WA101DBT(Standard)*1
	PCB Box	/	ATW-A03(Standard)*1
	Filter	/	Y-type(Standard)*1

Note:
1.Accordng to EN14511, EN14825 (EU) and No 811/2013(EU).
2. LWT: Leaving water temperature; OAT: Outdoor air temperature.
3. Sound level values are measured at a semi-anechoic room. And the sound power level values are based on measurement of EN12102-1 under conditions of EN14825.
4. The above data may be changed without notice for future improvement on quality and performance.

Product Data		Unit	AW142MXGHA
Heating (LWT 35℃ / OAT 7℃)	Capacity	kW	14.00
	Power input	kW	2.83
	COP	W/W	4.95
Heating (LWT 55℃ / OAT 7℃)	Capacity	kW	13.50
	Power input	kW	4.22
	COP	W/W	3.20
Space Heating Average Climate Water Outlet 35℃	SCOP	~	4.80
	η_s	%	189
	Energy class	-	A+++
Space Heating Average Climate Water Outlet 55℃	SCOP	-	3.83
	η_s	%	150
	Energy class	-	A+++
Cooling (LWT 18℃ / OAT 35℃)	Capacity	kW	13.50
	Power input	kW	3.14
	EER	-	4.30
Cooling (LWT 7℃ / OAT 35℃)	Capacity	kW	12.00
	Power input	kW	3.75
	EER	-	3.20
Outdoor Operating Temperature Range	Heating	℃	-25 ~35
	Cooling	℃	10 ~ 48
	DHW	℃	-25 ~43
Leaving Water Temperature Range	Heating	℃	20~80
	Cooling	℃	5~25
Storage Temperature Range(Tank)	DHW	℃	25~75
Water Flow Rate	Standard	m^3/h	0.8406
	Minimum	m^3/h	0.960
Water Piping Connection	Inlet/Outlet	inch	R 1/R 1
Expansion Tank		L	8
Safety Devices			High pressure switch, Fan driver overload protector, Overcurrent fuse, Inverter overload protector, Refrigerant separator, Safety valve, Expansion vessel
Defrost Method			4WV reverse defrosting
Casing	Color		Slate Grey
	Material		Galvanized steel

Product Data		Unit	AW142MXGHA
Compressor	Brand		MITSUBISHI ELECTRIC
	Type		DC Inverter Twin Rotary
	Compressor Quantity		1
	Rated Load Amps. (RLA)	A	10.25
	Crankcase Heater	W	28
		Quantity	1
	Compressor Oil Brand		IDEMITSUKOSAN CO.,LTD
	Compressor Oil Type		PZ46M
	Compressor Oil Charge(Compressor + Gas-liquid Separator)	ml	900
Fan Motor	Brand		BROAD-OCEAN
	IP Class		IP55
	Type		DC
	Quantity		1
	Insulation Class		B
	Safe Class		I
	Max. Speed	rpm	700
Fan	Brand		Shun wei
	Type		Axial
	Diameter	mm	Ø700
Heat Exchanger	Number of Rows		2
	Tube Pitch	mm	21
	Row Pitch	mm	18.186
	Fin Spacing	mm	1.45
	Fin Type		Hydrophilic aluminum
	Fin Coating Type	Optional	Clear lacquer
	Salt Spray Test Duration	hour	168
	Tube(ID)	mm	φ7
	Tube Type		INNERGROOVE TUBE
Plate Heat Exchanger	Brand		Weyee
Water Pump	Head	m	12.5
Electronic Expansion Valve	LEVa	Brand	SANHUA
Four Way Valve		Brand	DANAN
		Quantity	1
Pressure Sensor of Discharge	Brand		Sensata/SANHUA
Pressure Sensor of Suction	Brand		Sensata/SANHUA

Product Data		Unit	AW142MXGHA
Temp. Sensor	Temperature Sensor Type		Discharge
	Value of Resistance @20℃ /Ω		50K
	Temperature Sensor Type		Suction/Outdoor Ambient/Defrost/ Liquid pipe/Gas pipe/Inlet water/ Outlet water
	Value of Resistance @20℃ /Ω		10K
Cabinet Coating	Coating Type		Powder Coating
	Salt Spray Test Duration	hour	72
	Sheet Metal Material		Hot zinc plate
	Sheet Metal Thickness	mm	1
Electrical Control Box IP Class		Standard	IP24
Refrigerant	Type	-	R290
	Charge	kg	1.05
	CO_2 Eq.	kg	3.15
Net Dimension	H*W*D	mm	880*1380*460
Packing Dimension	H*W*D	mm	1112*1526*675
Net/Gross Weight		kg	127/165
Sound Pressure Level*(1)		dB(A)	53
Sound Power Level*(1)		dB	64
Power Supply		Ph/V/Hz	1/220~240/50
Minimum Circuit Amps(MCA)		A	30.6
Maximum Fuse Amps(MFA)		A	32
Minimum Power Supply Cable		mm²	10
Accessory	Wired Controller	/	HW-WA101DBT(Standard)*1
	PCB Box	/	ATW-A03(Standard)*1
	Filter	/	Y-type(Standard)*1

Note:
1.Accordng to EN14511, EN14825 (EU) and No 811/2013(EU).
2. LWT: Leaving water temperature; OAT: Outdoor air temperature.
3. Sound level values are measured at a semi-anechoic room. And the sound power level values are based on measurement of EN12102-1 under conditions of EN14825.
4. The above data may be changed without notice for future improvement on quality and performance.

Product Data		Unit	AW162MXGHA
Heating (LWT 35℃ / OAT 7℃)	Capacity	kW	16.00
	Power input	kW	3.23
	COP	W/W	4.95
Heating (LWT 55℃ / OAT 7℃)	Capacity	kW	15.50
	Power input	kW	5.08
	COP	W/W	3.05
Space Heating Average Climate Water Outlet 35℃	SCOP	~	4.80
	η_s	%	189
	Energy class	-	A+++
Space Heating Average Climate Water Outlet 55℃	SCOP	-	3.85
	η_s	%	151
	Energy class	-	A+++
Cooling (LWT 18℃ / OAT 35℃)	Capacity	kW	15.50
	Power input	kW	3.88
	EER	-	4.00
Cooling (LWT 7℃ / OAT 35℃)	Capacity	kW	14.00
	Power input	kW	4.52
	EER	-	3.10
Outdoor Operating Temperature Range	Heating	℃	-25 ~35
	Cooling	℃	10 ~ 48
	DHW	℃	-25 ~43
Leaving Water Temperature Range	Heating	℃	20~80
	Cooling	℃	5~25
Storage Temperature Range(Tank)	DHW	℃	25~75
Water Flow Rate	Standard	m^3/h	2.754
	Minimum	m^3/h	1.080
Water Piping Connection	Inlet/Outlet	inch	R 1/R 1
Expansion Tank		L	8
Safety Devices			High pressure switch, Fan driver overload protector, Overcurrent fuse, Inverter overload protector, Refrigerant separator, Safety valve, Expansion vessel
Defrost Method			4WV reverse defrosting
Casing	Color		Slate Grey
	Material		Galvanized steel

Product Data		Unit	AW162MXGHA
Compressor	Brand		MITSUBISHI ELECTRIC
	Type		DC Inverter Twin Rotary
	Compressor Quantity		1
	Rated Load Amps. (RLA)	A	12.50
	Crankcase Heater	W	28
		Quantity	1
	Compressor Oil Brand		IDEMITSUKOSAN CO.,LTD
	Compressor Oil Type		PZ46M
	Compressor Oil Charge(Compressor + Gas-liquid Separator)	ml	900
Fan Motor	Brand		BROAD-OCEAN
	IP Class		IP55
	Type		DC
	Quantity		1
	Insulation Class		B
	Safe Class		I
	Max. Speed	rpm	700
Fan	Brand		Shun wei
	Type		Axial
	Diameter	mm	Ø700
Heat Exchanger	Number of Rows		3
	Tube Pitch	mm	21
	Row Pitch	mm	18.186
	Fin Spacing	mm	1.45
	Fin Type		Hydrophilic aluminum
	Fin Coating Type	Optional	Clear lacquer
	Salt Spray Test Duration	hour	168
	Tube(ID)	mm	φ7
	Tube Type		INNERGROOVE TUBE
Plate Heat Exchanger	Brand		Weyee
Water Pump	Head	m	12.5
Electronic Expansion Valve	LEVa	Brand	SANHUA
Four Way Valve		Brand	DANAN
		Quantity	1
Pressure Sensor of Discharge	Brand		Sensata/SANHUA
Pressure Sensor of Suction	Brand		Sensata/SANHUA

Product Data		Unit	AW162MXGHA
Temp. Sensor	Temperature Sensor Type		Discharge
	Value of Resistance @20℃ /Ω		50K
	Temperature Sensor Type		Suction/Outdoor Ambient/Defrost/ Liquid pipe/Gas pipe/Inlet water/ Outlet water
	Value of Resistance @20℃ /Ω		10K
Cabinet Coating	Coating Type		Powder Coating
	Salt Spray Test Duration	hour	72
	Sheet Metal Material		Hot zinc plate
	Sheet Metal Thickness	mm	1
Electrical Control Box IP Class		Standard	IP24
Refrigerant	Type	-	R290
	Charge	kg	1.25
	CO_2 Eq.	kg	3.75
Net Dimension	H*W*D	mm	880*1380*460
Packing Dimension	H*W*D	mm	1112*1526*675
Net/Gross Weight		kg	136/174
Sound Pressure Level*(1)		dB(A)	55
Sound Power Level*(1)		dB	66
Power Supply		Ph/V/Hz	1/220~240/50
Minimum Circuit Amps(MCA)		A	34.8
Maximum Fuse Amps(MFA)		A	40
Minimum Power Supply Cable		mm²	10
Accessory	Wired Controller	/	HW-WA101DBT(Standard)*1
	PCB Box	/	ATW-A03(Standard)*1
	Filter	/	Y-type(Standard)*1

Note:
1.Accordng to EN14511, EN14825 (EU) and No 811/2013(EU).
2. LWT: Leaving water temperature; OAT: Outdoor air temperature.
3. Sound level values are measured at a semi-anechoic room. And the sound power level values are based on measurement of EN12102-1 under conditions of EN14825.
4. The above data may be changed without notice for future improvement on quality and performance.

Product Data		Unit	AW10NMUGHA
Heating (LWT 35℃ / OAT 7℃)	Capacity	kW	10.00
	Power input	kW	1.96
	COP	W/W	5.10
Heating (LWT 55℃ / OAT 7℃)	Capacity	kW	10.00
	Power input	kW	3.13
	COP	W/W	3.20
Space Heating Average Climate Water Outlet 35℃	SCOP	~	5.10
	η_s	%	201
	Energy class	-	A+++
Space Heating Average Climate Water Outlet 55℃	SCOP	-	3.83
	η_s	%	150
	Energy class	-	A+++
Cooling (LWT 18℃ / OAT 35℃)	Capacity	kW	9.50
	Power input	kW	2.21
	EER	-	4.30
Cooling (LWT 7℃ / OAT 35℃)	Capacity	kW	8.50
	Power input	kW	2.62
	EER	-	3.25
Outdoor Operating Temperature Range	Heating	℃	-25 ~35
	Cooling	℃	10 ~ 48
	DHW	℃	-25 ~43
Leaving Water Temperature Range	Heating	℃	20~80
	Cooling	℃	5~25
Storage Temperature Range(Tank)	DHW	℃	25~75
Water Flow Rate	Standard	m^3/h	1.722
	Minimum	m^3/h	0.660
Water Piping Connection	Inlet/Outlet	inch	R 1/R 1
Expansion Tank		L	4.5
Safety Devices			High pressure switch, Fan driver overload protector, Overcurrent fuse, Inverter overload protector, Refrigerant separator, Safety valve, Expansion vessel
Defrost Method			4WV reverse defrosting
Casing	Color		Slate Grey
	Material		Galvanized steel

Product Data		Unit	AW10NMUGHA
Compressor	Brand		MITSUBISHI ELECTRIC
	Type		DC Inverter Twin Rotary
	Compressor Quantity		1
	Rated Load Amps. (RLA)	A	7.50
	Crankcase Heater	W	27
		Quantity	1
	Compressor Oil Brand		IDEMITSUKOSAN CO.,LTD
	Compressor Oil Type		PZ46M
	Compressor Oil Charge(Compressor + Gas-liquid Separator)	ml	600
Fan Motor	Brand		BROAD-OCEAN
	IP Class		IP44
	Type		DC
	Quantity		1
	Insulation Class		E
	Safe Class		I
	Max. Speed	rpm	900
Fan	Brand		Shun wei
	Type		Axial
	Diameter	mm	Ø604
Heat Exchanger	Number of Rows		2
	Tube Pitch	mm	21
	Row Pitch	mm	18.186
	Fin Spacing	mm	1.45
	Fin Type		Hydrophilic aluminum
	Fin Coating Type	Optional	Clear lacquer
	Salt Spray Test Duration	hour	168
	Tube(ID)	mm	φ7
	Tube Type		INNERGROOVE TUBE
Plate Heat Exchanger	Brand		Weyee
Water Pump	Head	m	7.5
Electronic Expansion Valve	LEVa	Brand	SANHUA
Four Way Valve		Brand	DANAN
		Quantity	1
Pressure Sensor of Discharge	Brand		Sensata/SANHUA
Pressure Sensor of Suction	Brand		Sensata/SANHUA

Product Data		Unit	AW10NMUGHA
Temp. Sensor	Temperature Sensor Type		Discharge
	Value of Resistance @20℃ /Ω		50K
	Temperature Sensor Type		Suction/Outdoor Ambient/Defrost/ Liquid pipe/Gas pipe/Inlet water/ Outlet water
	Value of Resistance @20℃ /Ω		10K
Cabinet Coating	Coating Type		Powder Coating
	Salt Spray Test Duration	hour	72
	Sheet Metal Material		Hot zinc plate
	Sheet Metal Thickness	mm	1
Electrical Control Box IP Class		Standard	IP24
Refrigerant	Type	-	R290
	Charge	kg	0.90
	CO_2 Eq.	kg	2.70
Net Dimension	H*W*D	mm	790*1250*380
Packing Dimension	H*W*D	mm	1022*1395*595
Net/Gross Weight		kg	121/154
Sound Pressure Level*(1)		dB(A)	49
Sound Power Level*(1)		dB	60
Power Supply		Ph/V/Hz	3/380~415/50
Minimum Circuit Amps(MCA)		A	6.2
Maximum Fuse Amps(MFA)		A	16
Minimum Power Supply Cable		mm²	4
Accessory	Wired Controller	/	HW-WA101DBT(Standard)*1
	PCB Box	/	ATW-A03(Standard)*1
	Filter	/	Y-type(Standard)*1

Note:
1.Accordng to EN14511, EN14825 (EU) and No 811/2013(EU).
2. LWT: Leaving water temperature; OAT: Outdoor air temperature.
3. Sound level values are measured at a semi-anechoic room. And the sound power level values are based on measurement of EN12102-1 under conditions of EN14825.
4. The above data may be changed without notice for future improvement on quality and performance.

Product Data		Unit	AW12NMXGHA
Heating (LWT 35℃ / OAT 7℃)	Capacity	kW	12.00
	Power input	kW	2.35
	COP	W/W	5.10
Heating (LWT 55℃ / OAT 7℃)	Capacity	kW	11.50
	Power input	kW	3.48
	COP	W/W	3.30
Space Heating Average Climate Water Outlet 35℃	SCOP	~	4.82
	η_s	%	190
	Energy class	-	A+++
Space Heating Average Climate Water Outlet 55℃	SCOP	-	3.85
	η_s	%	151
	Energy class	-	A+++
Cooling (LWT 18℃ / OAT 35℃)	Capacity	kW	11.50
	Power input	kW	2.56
	EER	-	4.50
Cooling (LWT 7℃ / OAT 35℃)	Capacity	kW	10.00
	Power input	kW	2.99
	EER	-	3.35
Outdoor Operating Temperature Range	Heating	℃	-25 ~35
	Cooling	℃	10 ~ 48
	DHW	℃	-25 ~43
Leaving Water Temperature Range	Heating	℃	20~80
	Cooling	℃	5~25
Storage Temperature Range(Tank)	DHW	℃	25~75
Water Flow Rate	Standard	m^3/h	2.064
	Minimum	m^3/h	0.840
Water Piping Connection	Inlet/Outlet	inch	R 1/R 1
Expansion Tank		L	8
Safety Devices			High pressure switch, Fan driver overload protector, Overcurrent fuse, Inverter overload protector, Refrigerant separator, Safety valve, Expansion vessel
Defrost Method			4WV reverse defrosting
Casing	Color		Slate Grey
	Material		Galvanized steel

Product Data		Unit	AW12NMXGHA
Compressor	Brand		MITSUBISHI ELECTRIC
	Type		DC Inverter Twin Rotary
	Compressor Quantity		1
	Rated Load Amps. (RLA)	A	10.25
	Crankcase Heater	W	27
		Quantity	1
	Compressor Oil Brand		IDEMITSUKOSAN CO.,LTD
	Compressor Oil Type		PZ46M
	Compressor Oil Charge(Compressor + Gas-liquid Separator)	ml	900
Fan Motor	Brand		BROAD-OCEAN
	IP Class		IP55
	Type		DC
	Quantity		1
	Insulation Class		B
	Safe Class		I
	Max. Speed	rpm	700
Fan	Brand		Shun wei
	Type		Axial
	Diameter	mm	Ø700
Heat Exchanger	Number of Rows		2
	Tube Pitch	mm	21
	Row Pitch	mm	18.186
	Fin Spacing	mm	1.45
	Fin Type		Hydrophilic aluminum
	Fin Coating Type	Optional	Clear lacquer
	Salt Spray Test Duration	hour	168
	Tube(ID)	mm	φ7
	Tube Type		INNERGROOVE TUBE
Plate Heat Exchanger	Brand		Weyee
Water Pump	Head	m	12.5
Electronic Expansion Valve	LEVa	Brand	SANHUA
Four Way Valve		Brand	DANAN
		Quantity	1
Pressure Sensor of Discharge	Brand		Sensata/SANHUA
Pressure Sensor of Suction	Brand		Sensata/SANHUA

Product Data		Unit	AW12NMXGHA
Temp. Sensor	Temperature Sensor Type		Discharge
	Value of Resistance @20℃ /Ω		50K
	Temperature Sensor Type		Suction/Outdoor Ambient/Defrost/ Liquid pipe/Gas pipe/Inlet water/ Outlet water
	Value of Resistance @20℃ /Ω		10K
Cabinet Coating	Coating Type		Powder Coating
	Salt Spray Test Duration	hour	72
	Sheet Metal Material		Hot zinc plate
	Sheet Metal Thickness	mm	1
Electrical Control Box IP Class		Standard	IP24
Refrigerant	Type	-	R290
	Charge	kg	1.05
	CO_2 Eq.	kg	3.15
Net Dimension	H*W*D	mm	880*1380*460
Packing Dimension	H*W*D	mm	1112*1526*675
Net/Gross Weight		kg	142/180
Sound Pressure Level*(1)		dB(A)	52
Sound Power Level*(1)		dB	63
Power Supply		Ph/V/Hz	3/380~415/50
Minimum Circuit Amps(MCA)		A	10.2
Maximum Fuse Amps(MFA)		A	16
Minimum Power Supply Cable		mm²	4
Accessory	Wired Controller	/	HW-WA101DBT(Standard)*1
	PCB Box	/	ATW-A03(Standard)*1
	Filter	/	Y-type(Standard)*1

Note:
1.Accordng to EN14511, EN14825 (EU) and No 811/2013(EU).
2. LWT: Leaving water temperature; OAT: Outdoor air temperature.
3. Sound level values are measured at a semi-anechoic room. And the sound power level values are based on measurement of EN12102-1 under conditions of EN14825.
4. The above data may be changed without notice for future improvement on quality and performance.

Product Data		Unit	AW14NMXGHA
Heating (LWT 35℃ / OAT 7℃)	Capacity	kW	14.00
	Power input	kW	2.83
	COP	W/W	4.95
Heating (LWT 55℃ / OAT 7℃)	Capacity	kW	13.50
	Power input	kW	4.22
	COP	W/W	3.20
Space Heating Average Climate Water Outlet 35℃	SCOP	~	4.80
	η_s	%	189
	Energy class	-	A+++
Space Heating Average Climate Water Outlet 55℃	SCOP	-	3.83
	η_s	%	150
	Energy class	-	A+++
Cooling (LWT 18℃ / OAT 35℃)	Capacity	kW	13.50
	Power input	kW	3.14
	EER	-	4.30
Cooling (LWT 7℃ / OAT 35℃)	Capacity	kW	12.00
	Power input	kW	3.75
	EER	-	3.20
Outdoor Operating Temperature Range	Heating	℃	-25 ~35
	Cooling	℃	10 ~ 48
	DHW	℃	-25 ~43
Leaving Water Temperature Range	Heating	℃	20~80
	Cooling	℃	5~25
Storage Temperature Range(Tank)	DHW	℃	25~75
Water Flow Rate	Standard	m^3/h	2.406
	Minimum	m^3/h	0.960
Water Piping Connection	Inlet/Outlet	inch	R 1/R 1
Expansion Tank		L	8
Safety Devices			High pressure switch, Fan driver overload protector, Overcurrent fuse, Inverter overload protector, Refrigerant separator, Safety valve, Expansion vessel
Defrost Method			4WV reverse defrosting
Casing	Color		Slate Grey
	Material		Galvanized steel

Product Data		Unit	AW14NMXGHA
Compressor	Brand		MITSUBISHI ELECTRIC
	Type		DC Inverter Twin Rotary
	Compressor Quantity		1
	Rated Load Amps. (RLA)	A	10.25
	Crankcase Heater	W	28
		Quantity	1
	Compressor Oil Brand		IDEMITSUKOSAN CO.,LTD
	Compressor Oil Type		PZ46M
	Compressor Oil Charge(Compressor + Gas-liquid Separator)	ml	900
Fan Motor	Brand		BROAD-OCEAN
	IP Class		IP55
	Type		DC
	Quantity		1
	Insulation Class		B
	Safe Class		I
	Max. Speed	rpm	700
Fan	Brand		Shun wei
	Type		Axial
	Diameter	mm	Ø700
Heat Exchanger	Number of Rows		2
	Tube Pitch	mm	21
	Row Pitch	mm	18.186
	Fin Spacing	mm	1.45
	Fin Type		Hydrophilic aluminum
	Fin Coating Type	Optional	Clear lacquer
	Salt Spray Test Duration	hour	168
	Tube(ID)	mm	φ7
	Tube Type		INNERGROOVE TUBE
Plate Heat Exchanger	Brand		Weyee
Water Pump	Head	m	12.5
Electronic Expansion Valve	LEVa	Brand	SANHUA
Four Way Valve		Brand	DANAN
		Quantity	1
Pressure Sensor of Discharge	Brand		Sensata/SANHUA
Pressure Sensor of Suction	Brand		Sensata/SANHUA

Product Data		Unit	AW14NMXGHA
Temp. Sensor	Temperature Sensor Type		Discharge
	Value of Resistance @20℃ /Ω		50K
	Temperature Sensor Type		Suction/Outdoor Ambient/Defrost/ Liquid pipe/Gas pipe/Inlet water/ Outlet water
	Value of Resistance @20℃ /Ω		10K
Cabinet Coating	Coating Type		Powder Coating
	Salt Spray Test Duration	hour	72
	Sheet Metal Material		Hot zinc plate
	Sheet Metal Thickness	mm	1
Electrical Control Box IP Class		Standard	IP24
Refrigerant	Type	-	R290
	Charge	kg	1.05
	CO_2 Eq.	kg	3.15
Net Dimension	H*W*D	mm	880*1380*460
Packing Dimension	H*W*D	mm	1112*1526*675
Net/Gross Weight		kg	142/180
Sound Pressure Level*(1)		dB(A)	53
Sound Power Level*(1)		dB	64
Power Supply		Ph/V/Hz	3/380~415/50
Minimum Circuit Amps(MCA)		A	10.2
Maximum Fuse Amps(MFA)		A	16
Minimum Power Supply Cable		mm²	4
Accessory	Wired Controller	/	HW-WA101DBT(Standard)*1
	PCB Box	/	ATW-A03(Standard)*1
	Filter	/	Y-type(Standard)*1

Note:
1.Accordng to EN14511, EN14825 (EU) and No 811/2013(EU).
2. LWT: Leaving water temperature; OAT: Outdoor air temperature.
3. Sound level values are measured at a semi-anechoic room. And the sound power level values are based on measurement of EN12102-1 under conditions of EN14825.
4. The above data may be changed without notice for future improvement on quality and performance.

Product Data		Unit	AW16NMXGHA
Heating (LWT 35℃ / OAT 7℃)	Capacity	kW	16.00
	Power input	kW	3.23
	COP	W/W	4.95
Heating (LWT 55℃ / OAT 7℃)	Capacity	kW	15.50
	Power input	kW	5.08
	COP	W/W	3.05
Space Heating Average Climate Water Outlet 35℃	SCOP	~	4.80
	η_s	%	189
	Energy class	-	A+++
Space Heating Average Climate Water Outlet 55℃	SCOP	-	3.85
	η_s	%	151
	Energy class	-	A+++
Cooling (LWT 18℃ / OAT 35℃)	Capacity	kW	15.50
	Power input	kW	3.88
	EER	-	4.00
Cooling (LWT 7℃ / OAT 35℃)	Capacity	kW	14.00
	Power input	kW	4.52
	EER	-	3.10
Outdoor Operating Temperature Range	Heating	℃	-25 ~35
	Cooling	℃	10 ~ 48
	DHW	℃	-25 ~43
Leaving Water Temperature Range	Heating	℃	20~80
	Cooling	℃	5~25
Storage Temperature Range(Tank)	DHW	℃	25~75
Water Flow Rate	Standard	m^3/h	2.754
	Minimum	m^3/h	1.080
Water Piping Connection	Inlet/Outlet	inch	R 1/R 1
Expansion Tank		L	8
Safety Devices			High pressure switch, Fan driver overload protector, Overcurrent fuse, Inverter overload protector, Refrigerant separator, Safety valve, Expansion vessel
Defrost Method			4WV reverse defrosting
Casing	Color		Slate Grey
	Material		Galvanized steel

Product Data		Unit	AW16NMXGHA
Compressor	Brand		MITSUBISHI ELECTRIC
	Type		DC Inverter Twin Rotary
	Compressor Quantity		1
	Rated Load Amps. (RLA)	A	12.50
	Crankcase Heater	W	28
		Quantity	1
	Compressor Oil Brand		IDEMITSUKOSAN CO.,LTD
	Compressor Oil Type		PZ46M
	Compressor Oil Charge(Compressor + Gas-liquid Separator)	ml	900
Fan Motor	Brand		BROAD-OCEAN
	IP Class		IP55
	Type		DC
	Quantity		1
	Insulation Class		B
	Safe Class		I
	Max. Speed	rpm	700
Fan	Brand		Shun wei
	Type		Axial
	Diameter	mm	Ø700
Heat Exchanger	Number of Rows		3
	Tube Pitch	mm	21
	Row Pitch	mm	18.186
	Fin Spacing	mm	1.45
	Fin Type		Hydrophilic aluminum
	Fin Coating Type	Optional	Clear lacquer
	Salt Spray Test Duration	hour	168
	Tube(ID)	mm	φ7
	Tube Type		INNERGROOVE TUBE
Plate Heat Exchanger	Brand		Weyee
Water Pump	Head	m	12.5
Electronic Expansion Valve	LEVa	Brand	SANHUA
Four Way Valve		Brand	DANAN
		Quantity	1
Pressure Sensor of Discharge	Brand		Sensata/SANHUA
Pressure Sensor of Suction	Brand		Sensata/SANHUA
Temp. Sensor	Temperature Sensor Type		Discharge
	Value of Resistance @20℃ /Ω		50K
	Temperature Sensor Type		Suction/Outdoor Ambient/Defrost/ Liquid pipe/Gas pipe/Inlet water/ Outlet water
	Value of Resistance @20℃ /Ω		10K

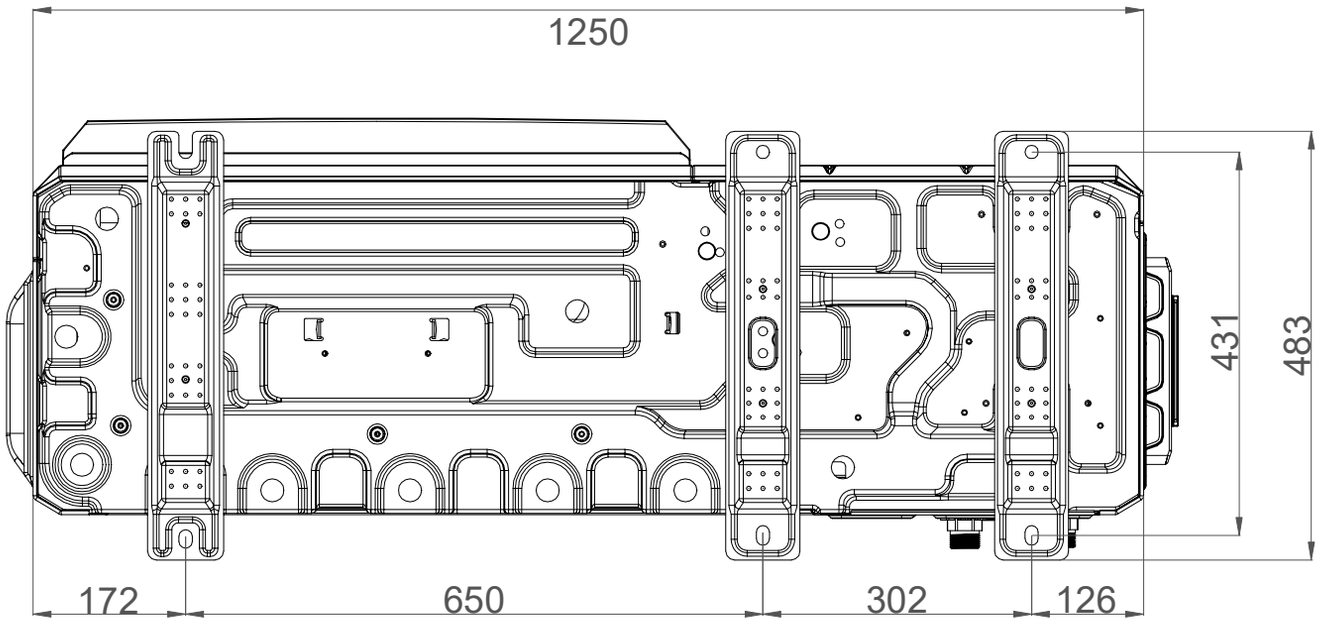
Product Data		Unit	AW16NMXGHA
Cabinet Coating	Coating Type		Powder Coating
	Salt Spray Test Duration	hour	72
	Sheet Metal Material		Hot zinc plate
	Sheet Metal Thickness	mm	1
Electrical Control Box IP Class		Standard	IP24
Refrigerant	Type	-	R290
	Charge	kg	1.25
	CO2 Eq.	kg	3.75
Net Dimension	H*W*D	mm	880*1380*460
Packing Dimension	H*W*D	mm	1112*1526*675
Net/Gross Weight		kg	151/189
Sound Pressure Level*(1)		dB(A)	55
Sound Power Level*(1)		dB	66
Power Supply		Ph/V/Hz	3/380~415/50
Minimum Circuit Amps(MCA)		A	11.6
Maximum Fuse Amps(MFA)		A	16
Minimum Power Supply Cable		mm²	4
Accessory	Wired Controller	/	HW-WA101DBT(Standard)*1
	PCB Box	/	ATW-A03(Standard)*1
	Filter	/	Y-type(Standard)*1

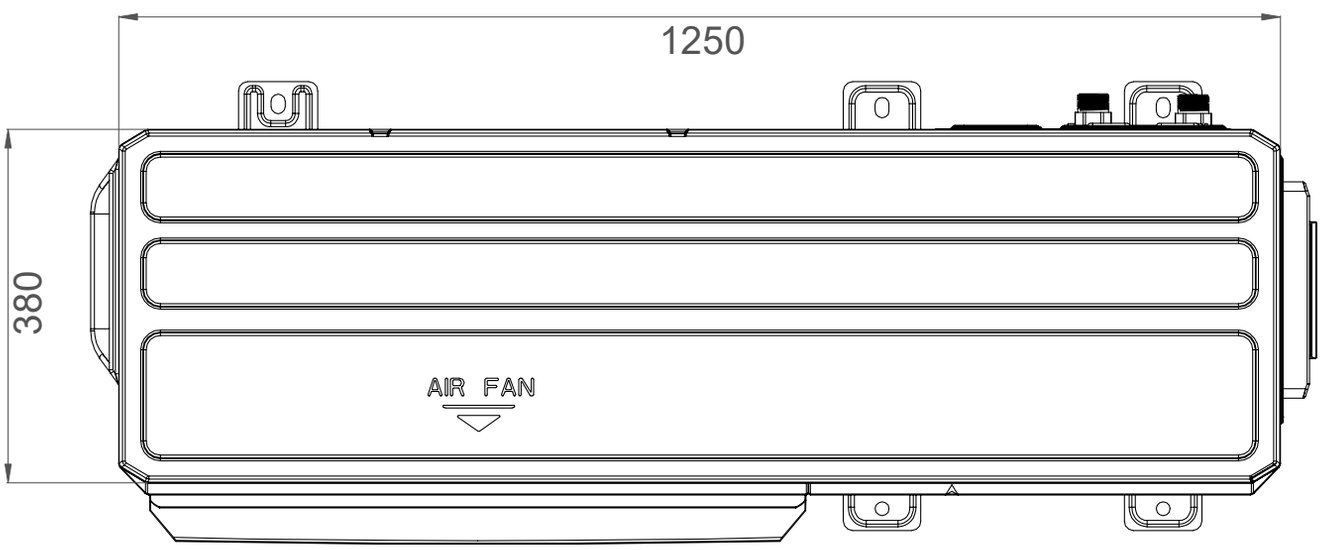
Note:
1.Accordng to EN14511, EN14825 (EU) and No 811/2013(EU).
2. LWT: Leaving water temperature; OAT: Outdoor air temperature.
3. Sound level values are measured at a semi-anechoic room. And the sound power level values are based on measurement of EN12102-1 under conditions of EN14825.
4. The above data may be changed without notice for future improvement on quality and performance.

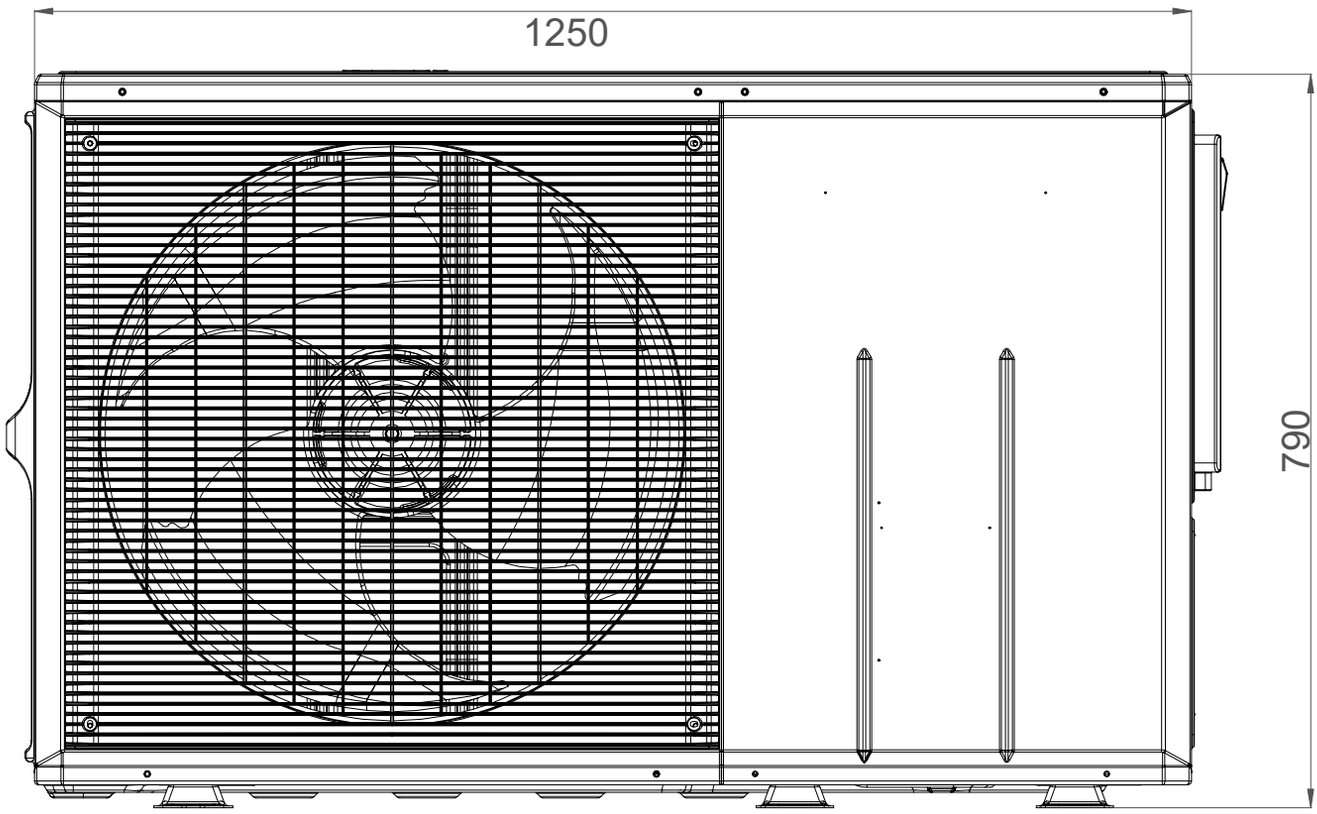
5. Dimensions

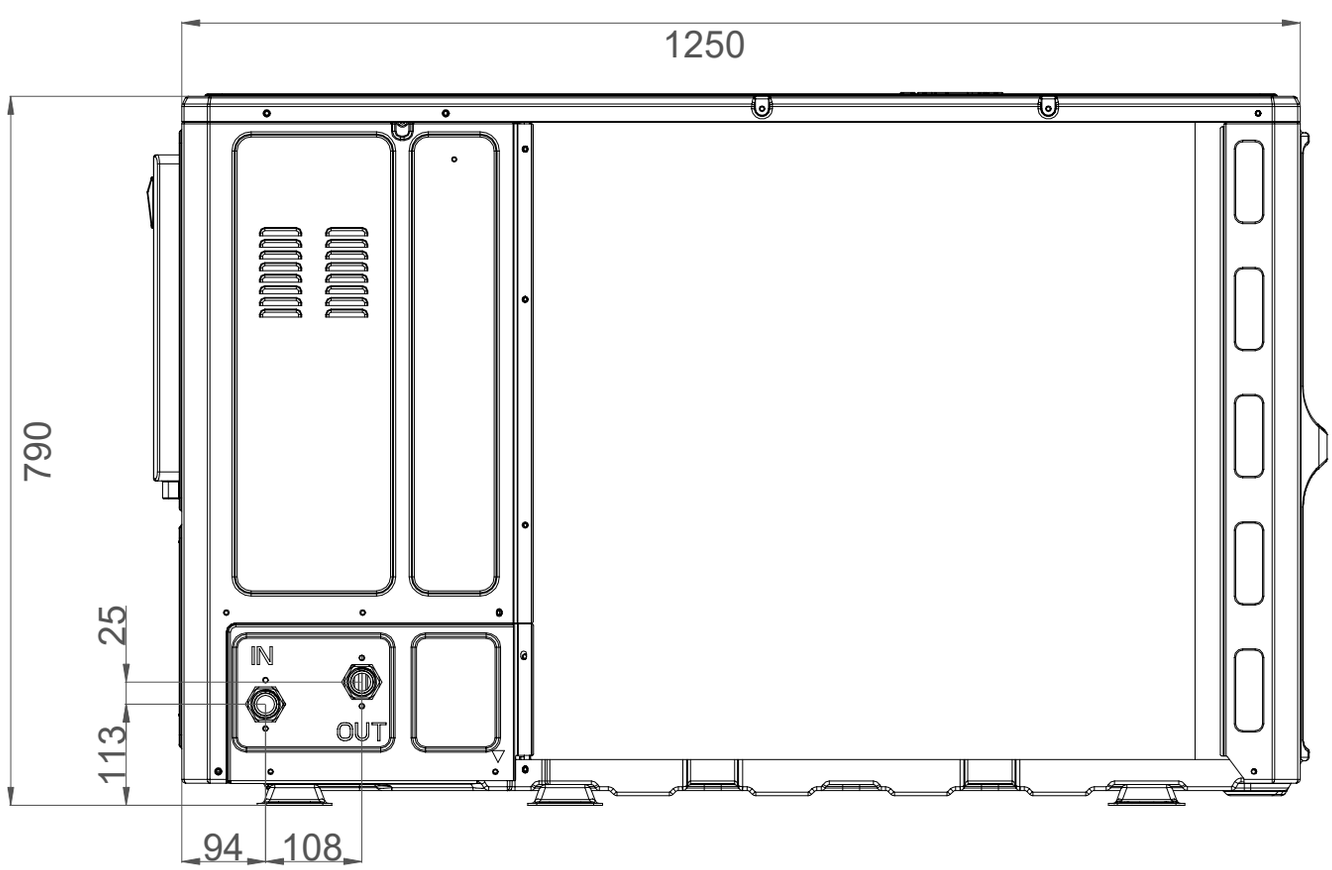
AW042MUGHA AW062MUGHA AW082MUGHA AW102MUGHA AW10NMUGHA

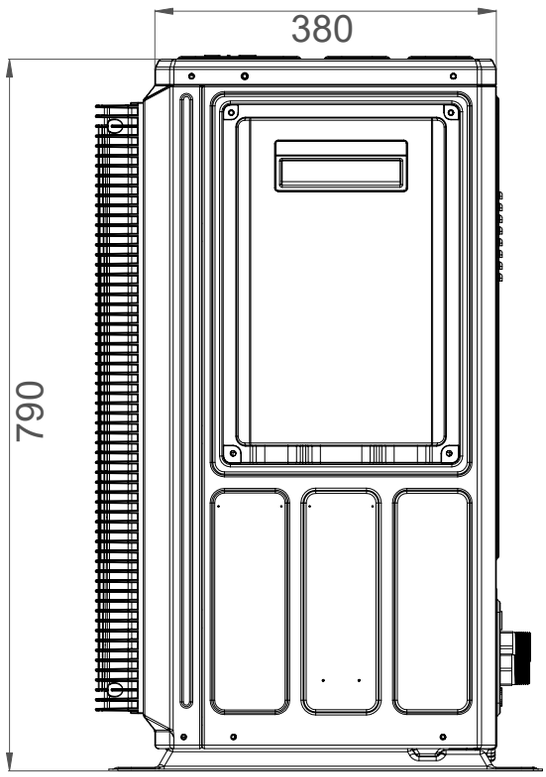
Unit: mm





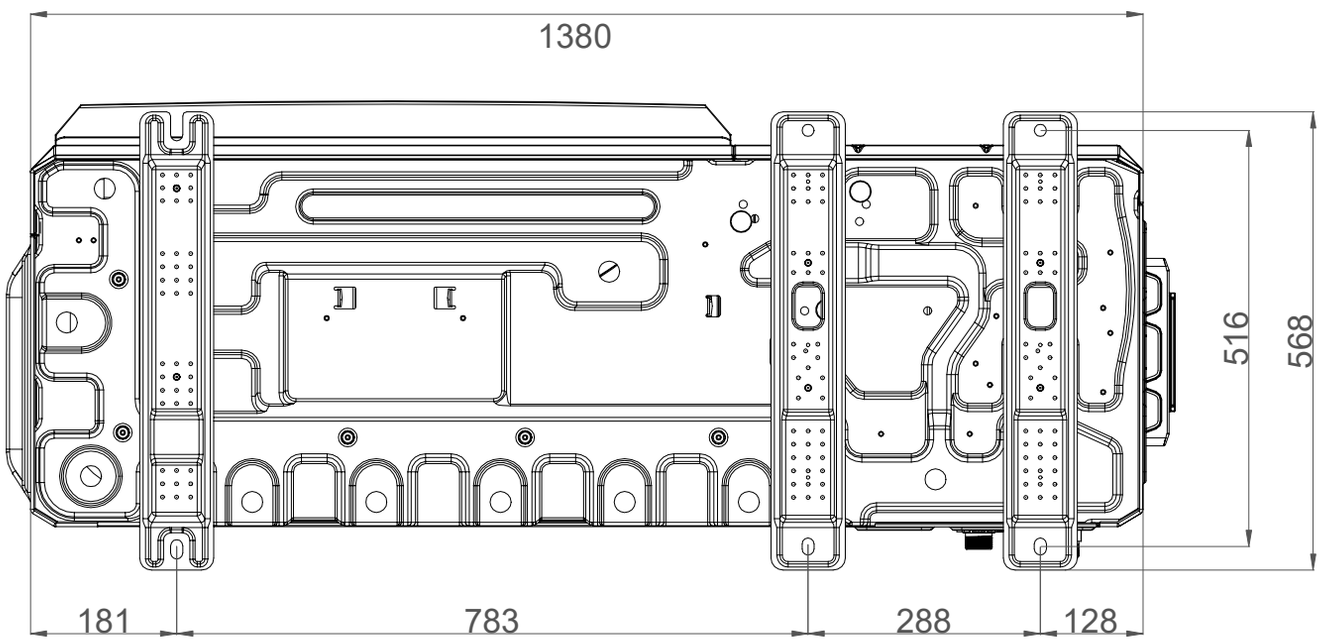

1250
790

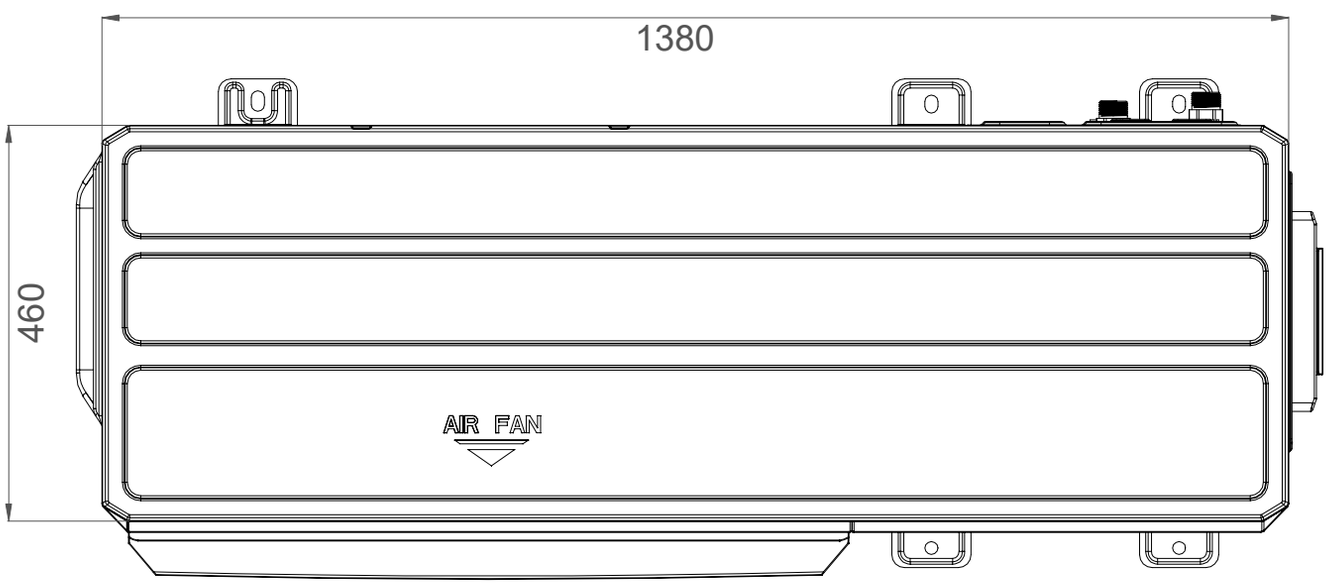

1250
790
25
113
IN
OUT
94
108

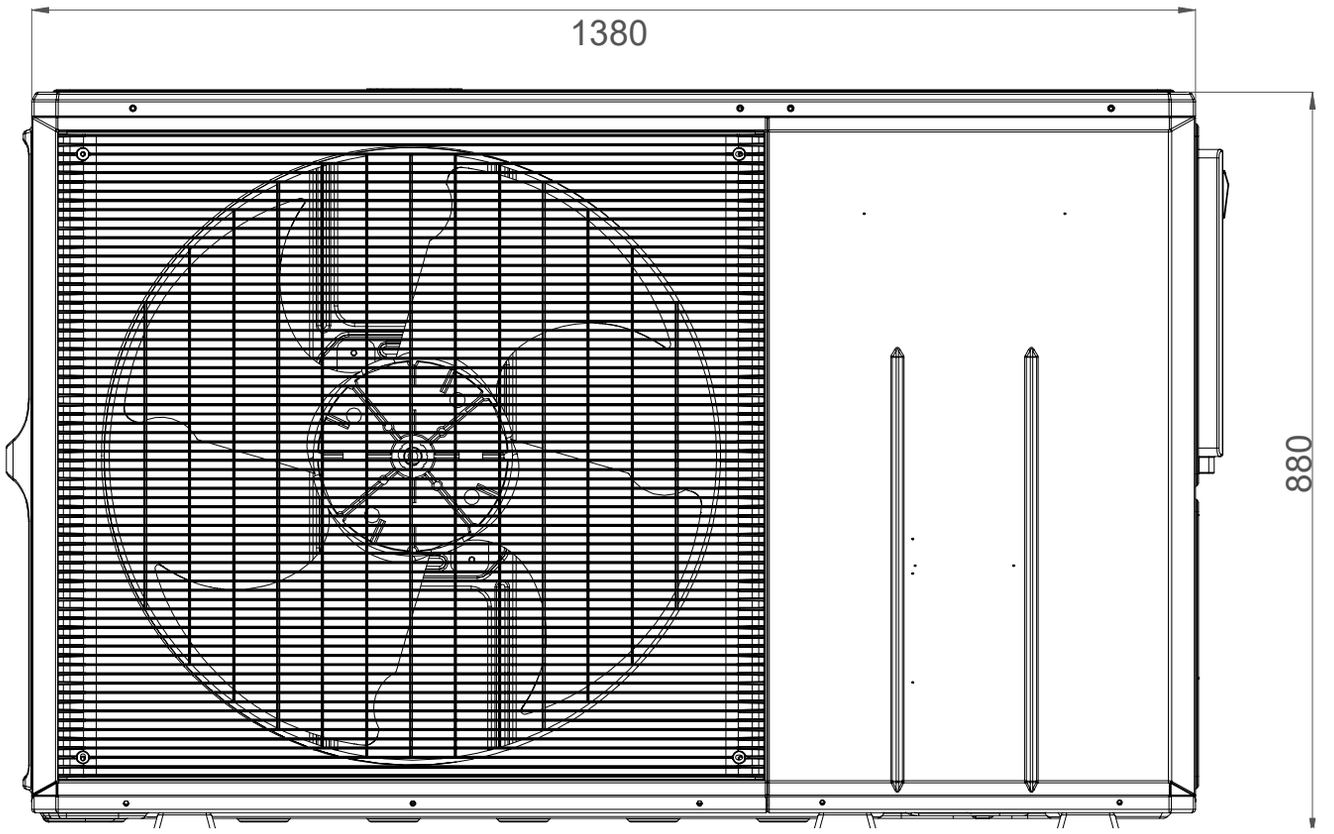

380
790

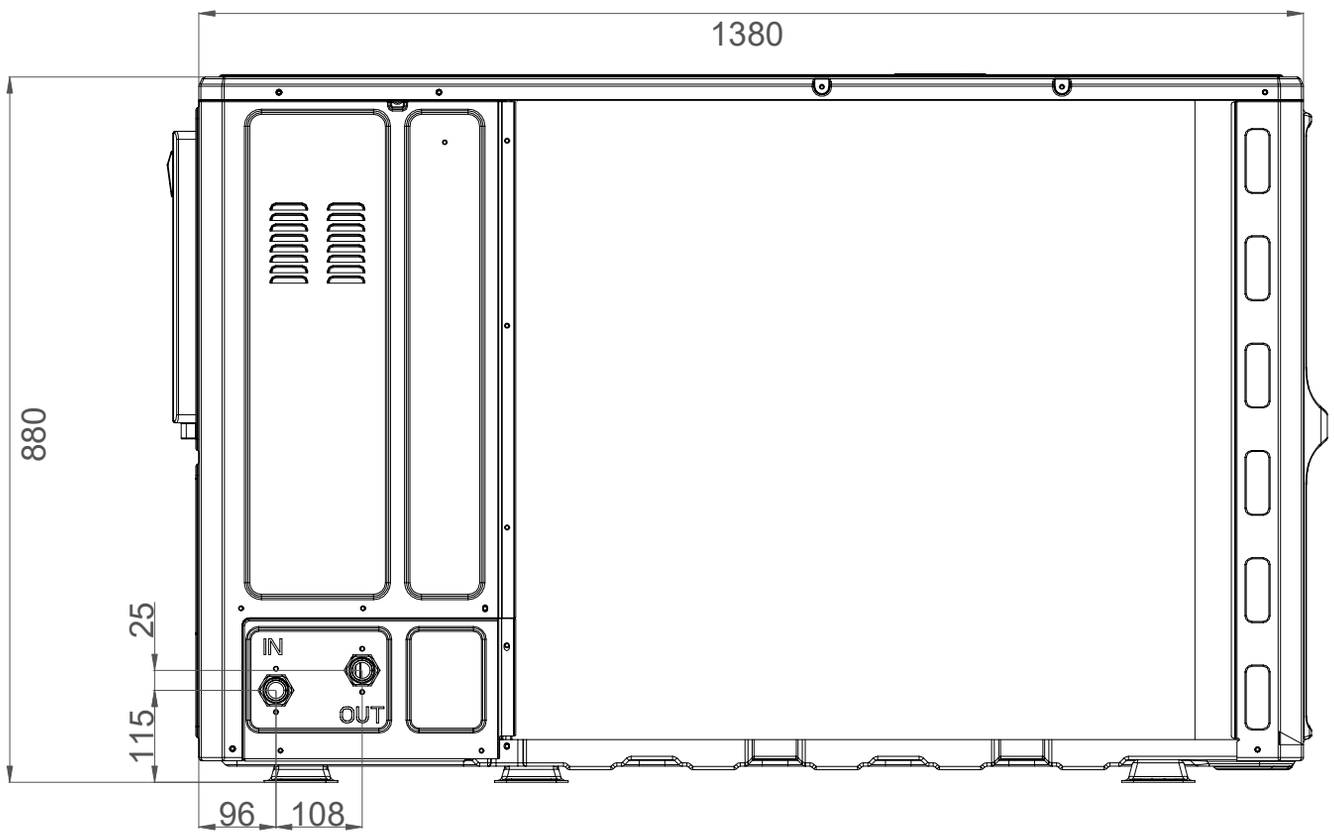
AW122MXGHA AW142MXGHA AW162MXGHA
AW12NMXGHA AW14NMXGHA AW16NMXGHA

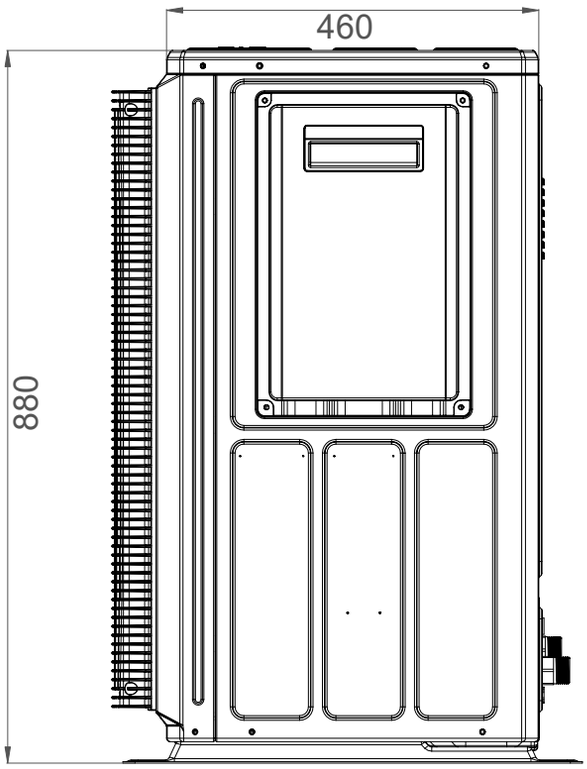
Unit: mm






1380
880

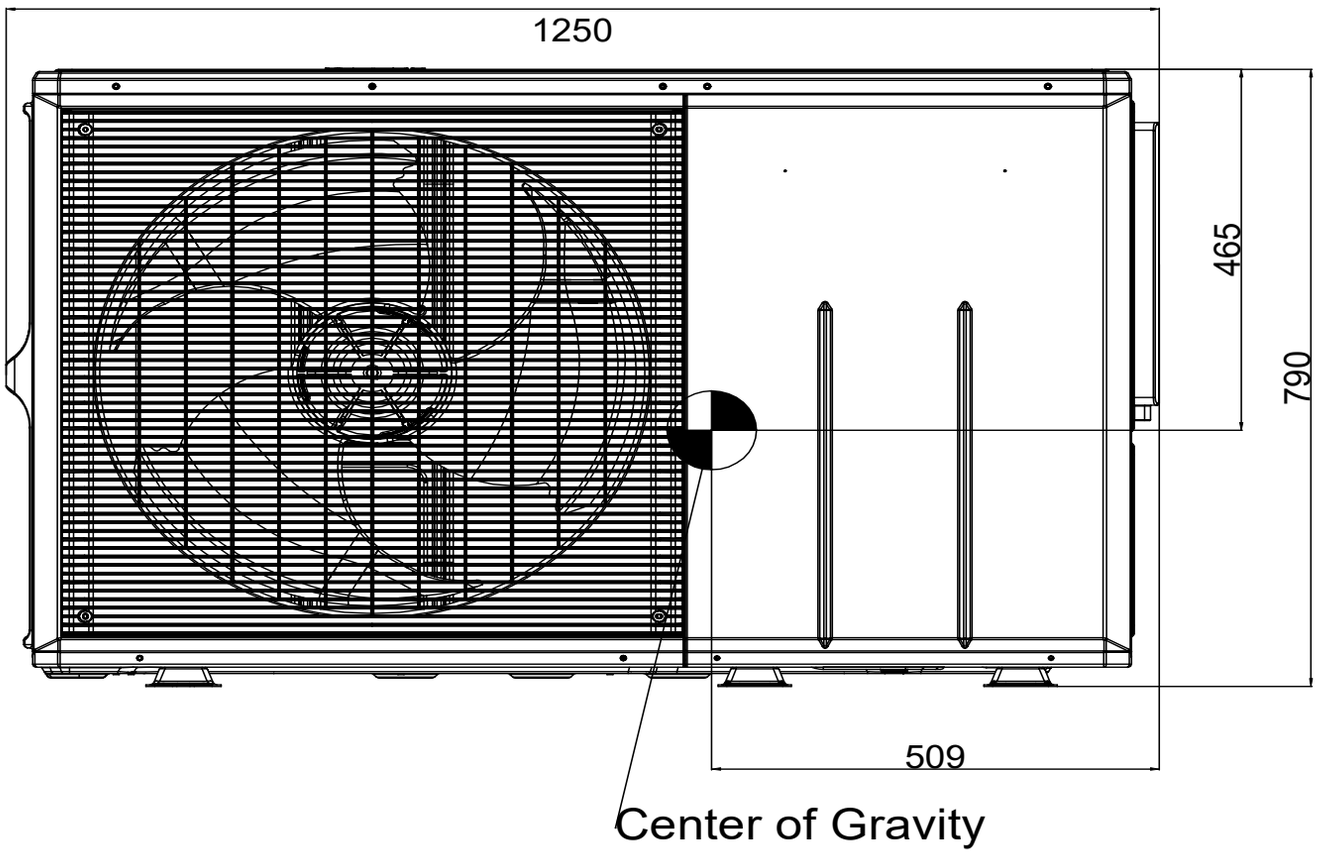

1380
880
25
115
IN
OUT
96
108

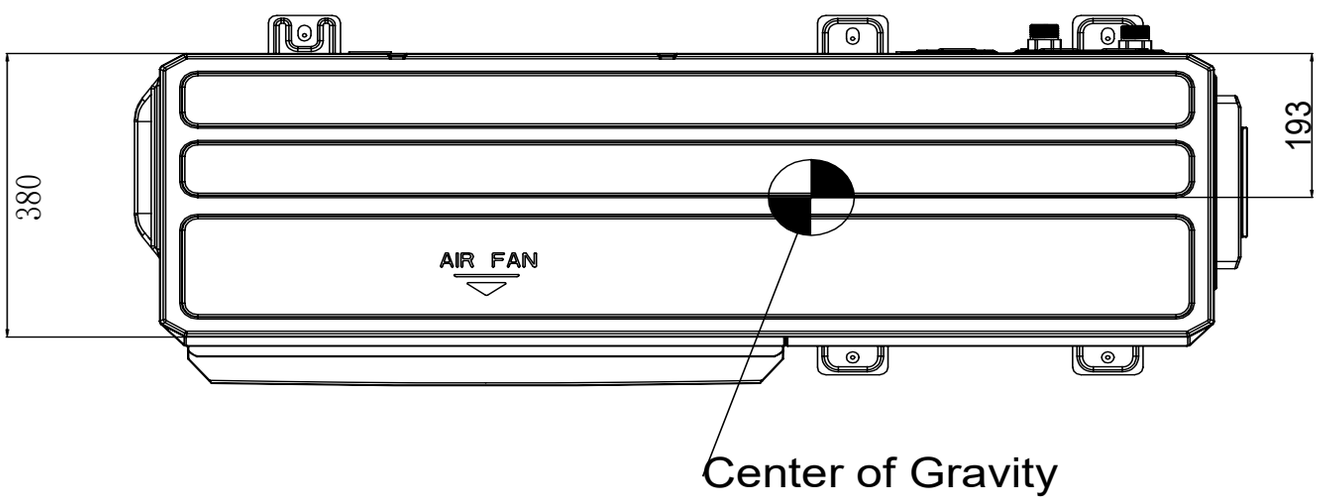

460
880

6. Center of Gravity

AW042MUGHA AW062MUGHA AW082MUGHA AW102MUGHA AW10NMUGHA

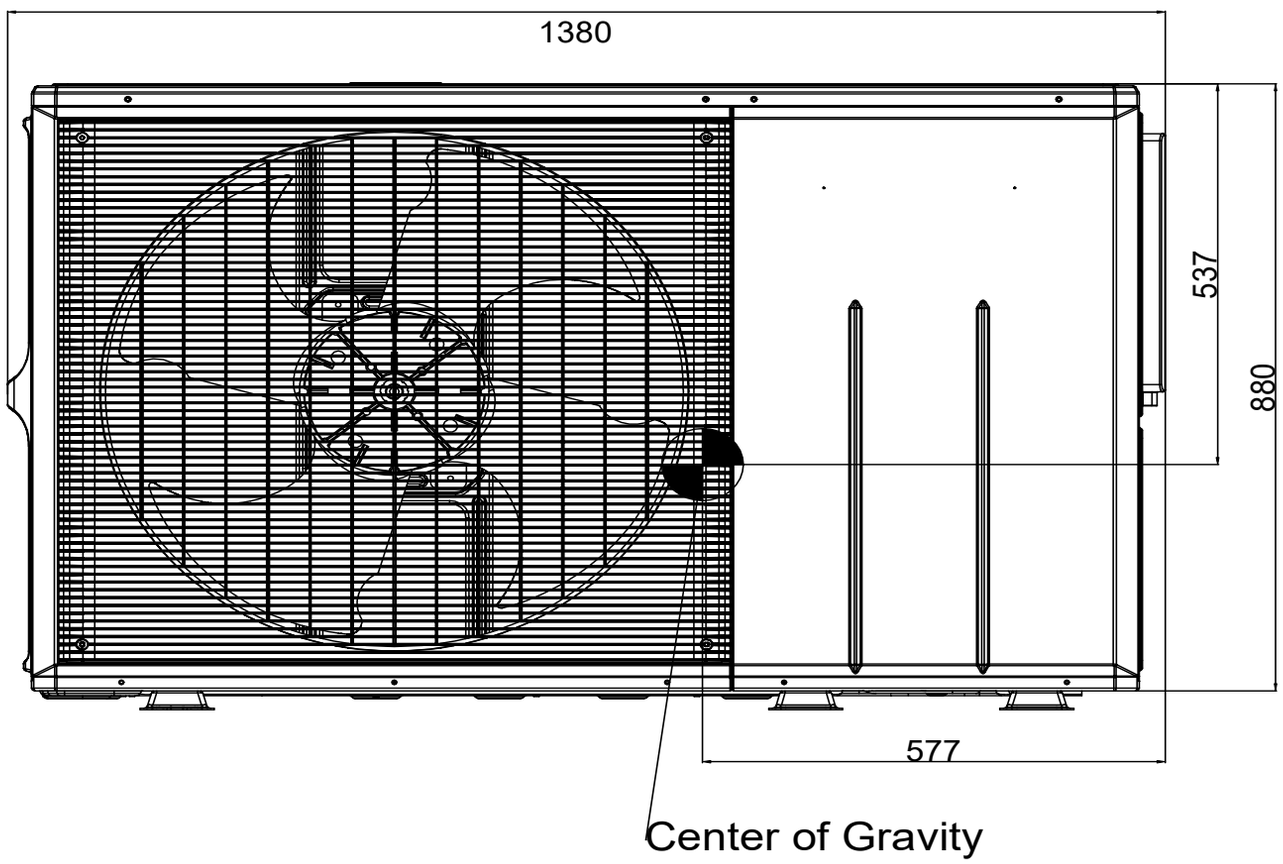
Unit: mm

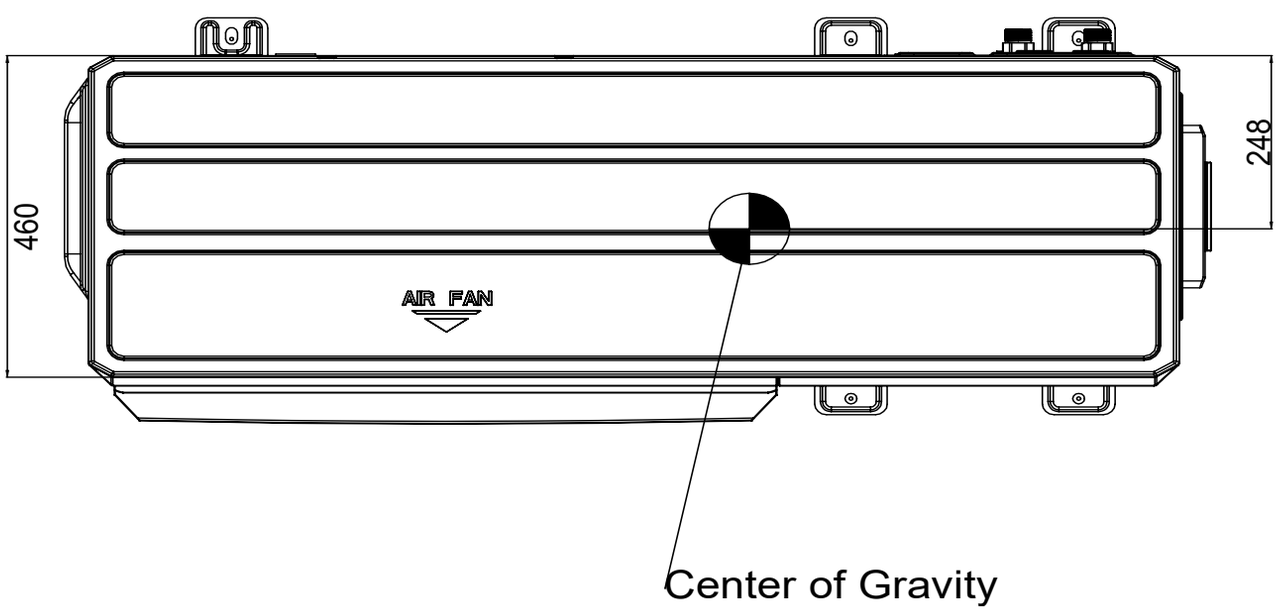




AW122MXGHA AW142MXGHA AW162MXGHA
AW12NMXGHA AW14NMXGHA AW16NMXGHA

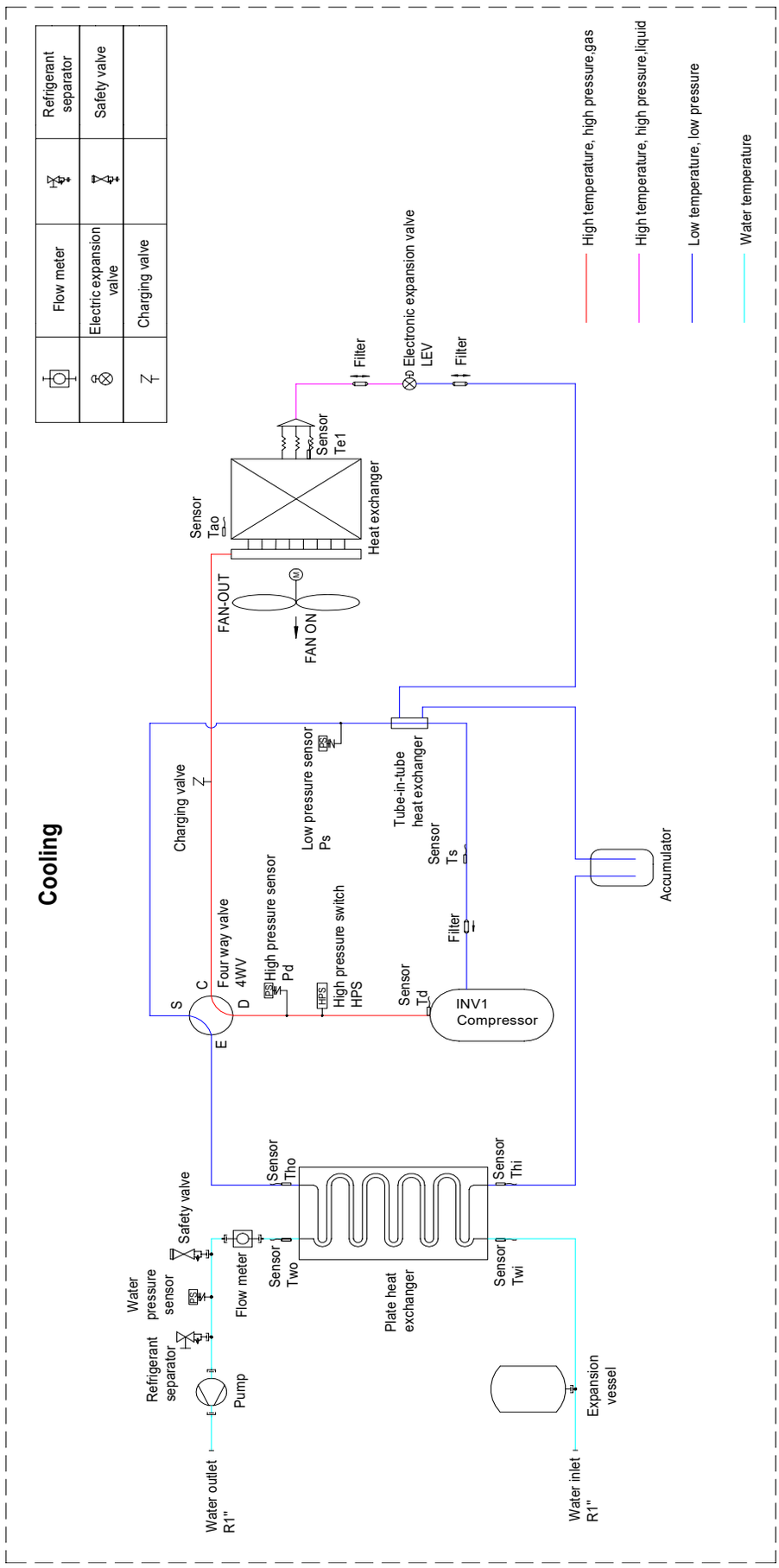
Unit: mm



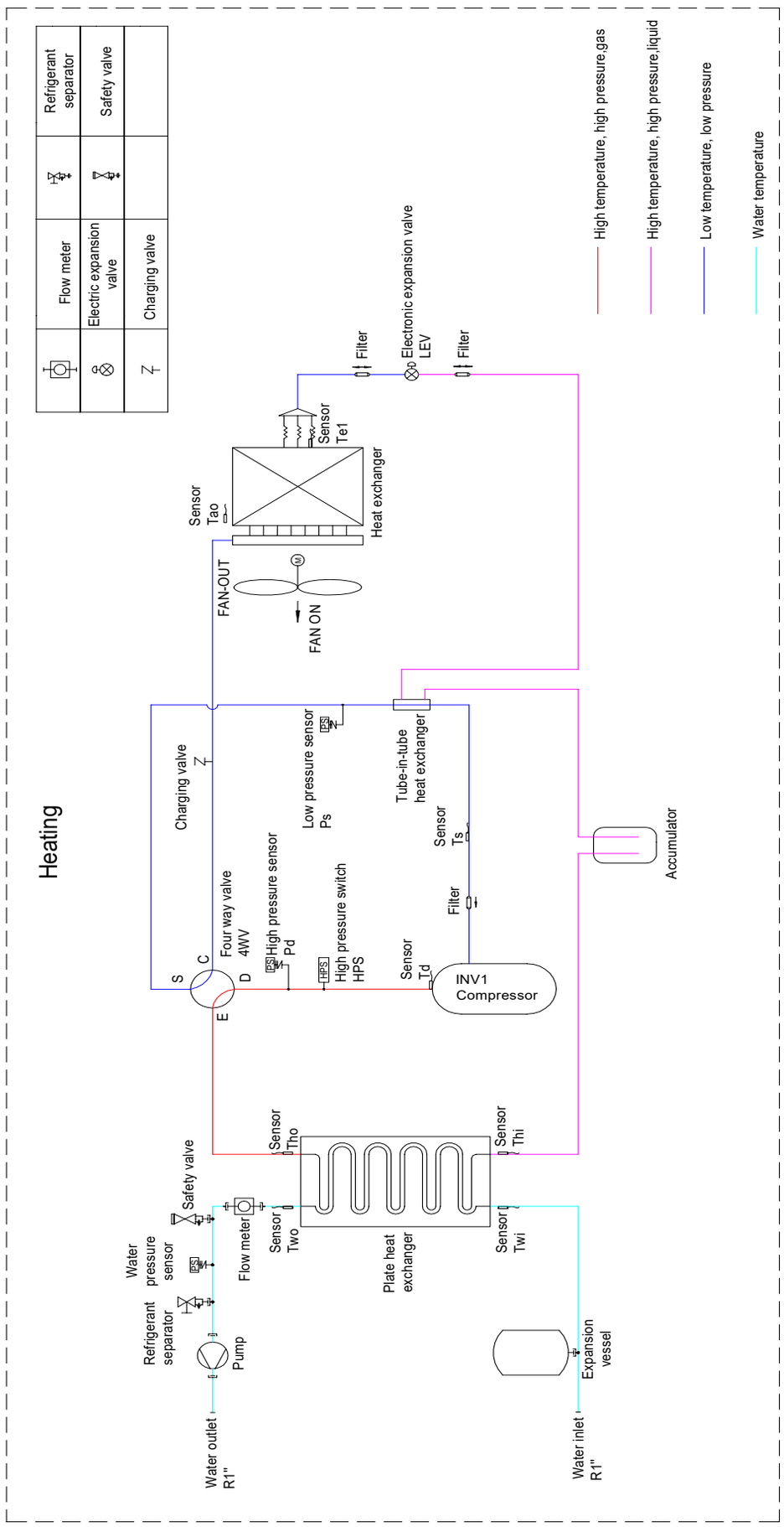


7. Piping Diagrams

Cooling



Heating


Heating
Refrigerant separator
Safety valve
Flow meter
Electric expansion valve
Charging valve
High temperature, high pressure,gas
High temperature, high pressure,liquid
Low temperature, low pressure
Water temperature
Filter
Electronic expansion valve
LEV
Filter
Sensor Te1
Heat exchanger
Sensor Tao
FAN-OUT
FAN ON
Charging valve
Low pressure sensor
Ps
Tube-in-tube heat exchanger
Sensor Ts
Accumulator
Four way valve 4WV
S
C
D
E
High pressure sensor
Pd
High pressure switch
HPS
Sensor Td
Filter
INV1 Compressor
Sensor Tho
Sensor Thi
Safety valve
Water pressure sensor
Flow meter
Sensor Two
Plate heat exchanger
Sensor Twi
Refrigerant separator
Pump
Expansion vessel
Water outlet R1"
Water inlet R1"

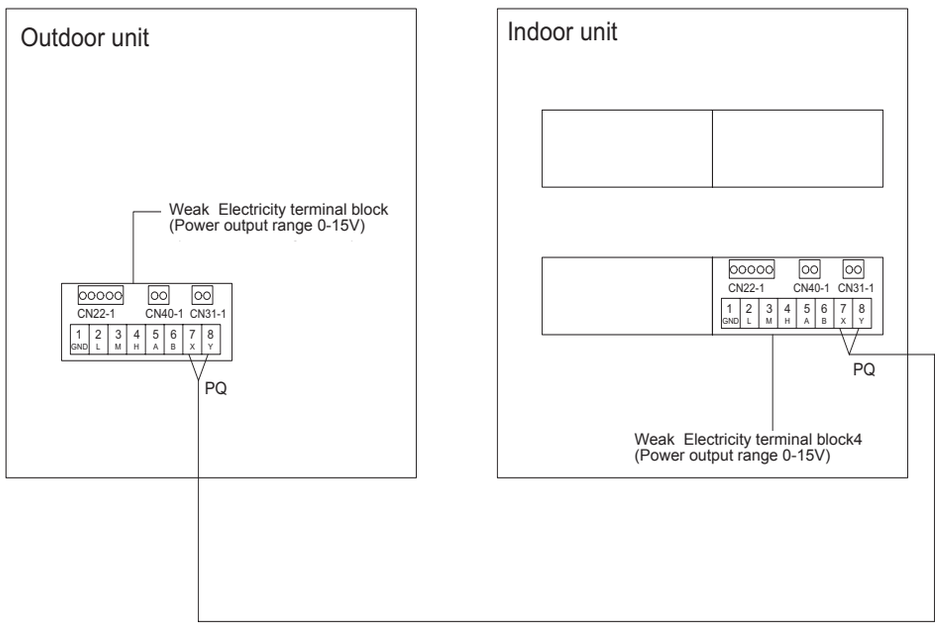
Part name	Model	abbr.	Function	Characteristics
Compressor	AW042MUGHA AW062MUGHA	Comp.	Capacity control, meet indoor load request by adjusting the frequency	Motor resistance(at 20°C):1.44±5%Ω
	AW082MUGHA AW102MUGHA AW10NMUGHA			Motor resistance(at 20°C):0.88±5%Ω
	AW122MXGHA AW142MXGHA AW12NMXGHA AW14NMXGHA			Motor resistance(at 20°C):0.54±5%Ω
	AW162MXGHA AW16NMXGHA			Motor resistance(at 20°C):0.54±5%Ω
Pressure Sensor	All	Pd	High pressure detection	Pressure range: 0 to 4.15 MPa
		Ps	Low pressure detection	Pressure range: 0 to 1.7 MPa
Pressure Switch	All	Hps	High pressure protection	break:3.3MPa reset:2.65MPa
Electronic Expansion Valve1	AW042MUGHA AW062MUGHA	LEVA	Refrigerant flow control	Ø1.8
	AW082MUGHA AW102MUGHA AW10NMUGHA AW122MXGHA AW142MXGHA AW12NMXGHA AW14NMXGHA			Ø2.4
	AW162MXGHA AW16NMXGHA			Ø3.0
Four Way Valve	AW042MUGHA AW062MUGHA	4WV	Change over between cooling and heating	AC220V, electrified in heat; not electrified in cooling or defrosting
	AW082MUGHA AW102MUGHA AW10NMUGHA			
	AW122MXGHA AW142MXGHA AW12NMXGHA AW14NMXGHA AW162MXGHA AW16NMXGHA			
Liquid Receiver	All	/	Used to storage the refrigerant	Volume:0.3L
Charging Valve	All	/	Used to charge the refrigerant to unit	Ø6.35
Flow Meter	All	/	Detect water flow	5~80 L/min

Part name	Model	abbr.	Function	Characteristics
Pump	AW042MUGHA AW062MUGHA AW082MUGHA AW102MUGHA AW10NMUGHA	Pump	Transport liquid	Pumping head:7.5m
	AW122MXGHA AW142MXGHA AW12NMXGHA AW14NMXGHA AW162MXGHA AW16NMXGHA			Pumping head:12.5m
Expansion Vessel	AW042MUGHA AW062MUGHA AW082MUGHA AW102MUGHA AW10NMUGHA	/	Pressure fluctuation of buffer system	4.5L
	AW122MXGHA AW142MXGHA AW12NMXGHA AW14NMXGHA AW162MXGHA AW16NMXGHA		Pressure fluctuation of buffer system	8L
Filter	All	/	Filter impurities	40 mesh
Refrigerant Separator	All	/	Release refrigerant from the water system	/
Plate Heat Exchanger	All	/	Used to exchange the heat from refrigerant to water	Design pressure of refrigerant side:4.5MPa
Pressure Relief Valve	All	/	Reduce system pressure	Operation pressure:0.3MPa
Air Purge Valve	All	/	Release gas from heating system and water supply pipeline	/
Temp. Sensor	All	Td	Discharge temp. of compressor	R80=50kΩ±3% B25/80=4450K
		Ts	Suction temp. of compressor	R25=10KΩ±3%; B25/50=3700K
		Te	Check frost condition of outdoor heat exchanger	R25=10KΩ±3%; B25/50=3700K
		Tao	Detect ambient temp. set primary setting for fan speed target pressure and PMV open angle	R25=10KΩ±3%; B25/50=3700K
		Thi	Detect the refrigerant inlet temp. of heat exchanger	R25=10KΩ±3%; B25/50=3700K
		Tho	Detect the refrigerant outlet temp. of heat exchanger	R25=10KΩ±3%; B25/50=3700K
		Twi	Detect the water inlet temp. of heat exchanger	R25=10KΩ±3%; B25/50=3700K
		Two	Detect the water outlet temp. of heat exchanger	R25=10KΩ±3%; B25/50=3700K

8. Wiring Diagrams

8.1 Wiring diagram of communication and power cables

Communication cable connection between IDU and ODU (IDU refers to ATW-A03)

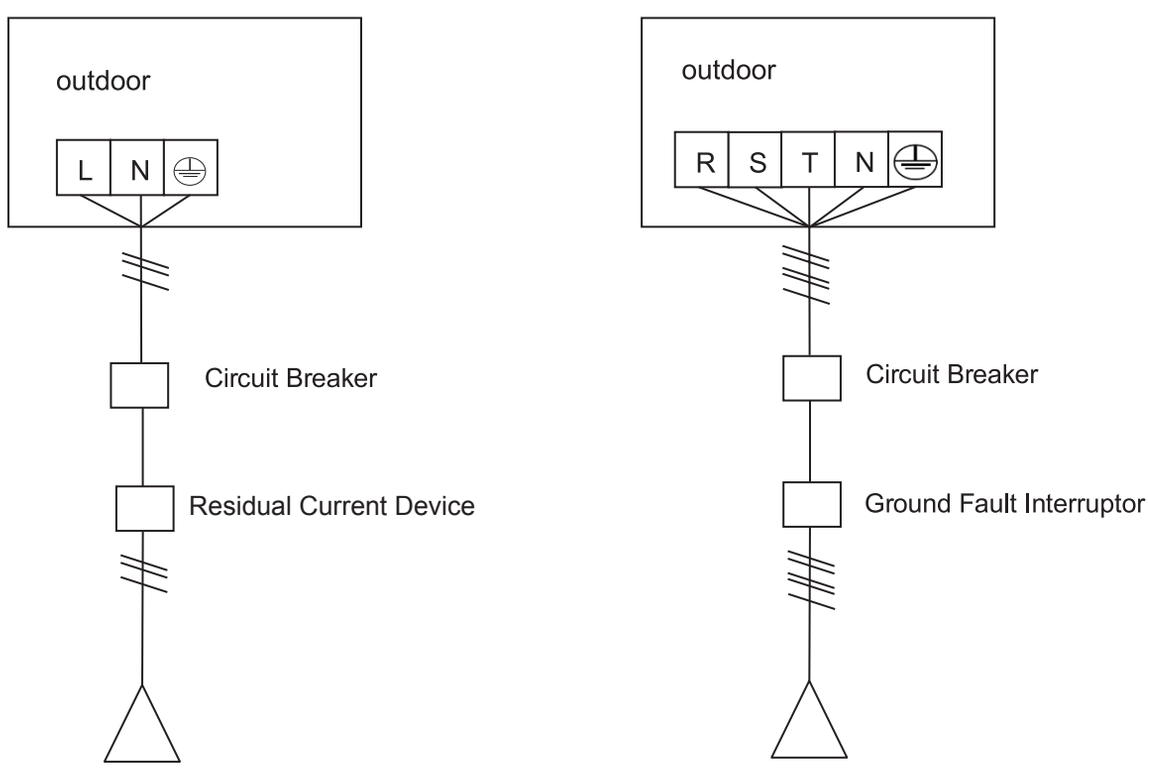


Communication wire to ATW-A03

Length of Signal Line (m)	Wiring Dimensions
≤1000	0.75mm^2 × 2 core shielding line

• The shielding lay of the signal line must be grounded at two side.

Connection of ODU power supply cable

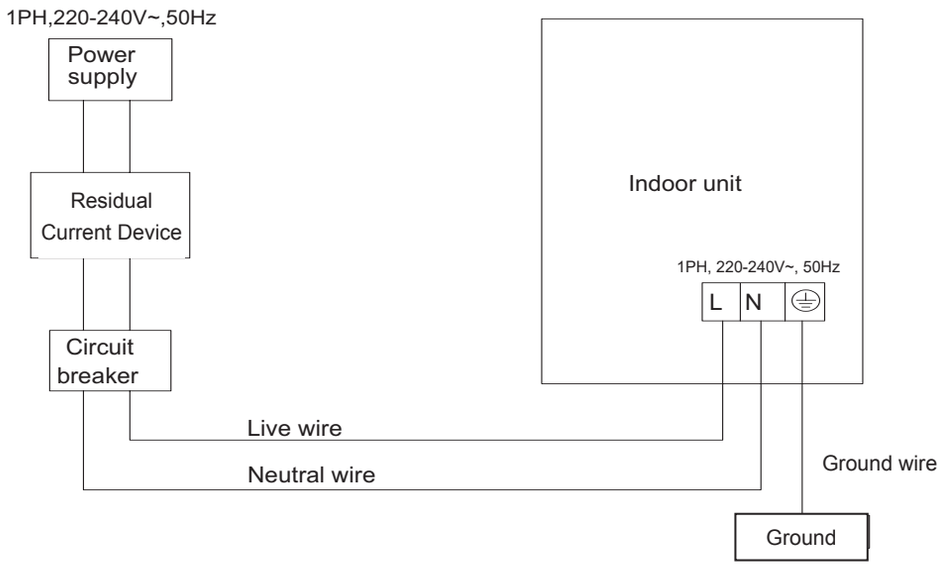


power source: 1Ph, (220~240)V, 50Hz

power source: 3Ph, (380~415)V, 50Hz

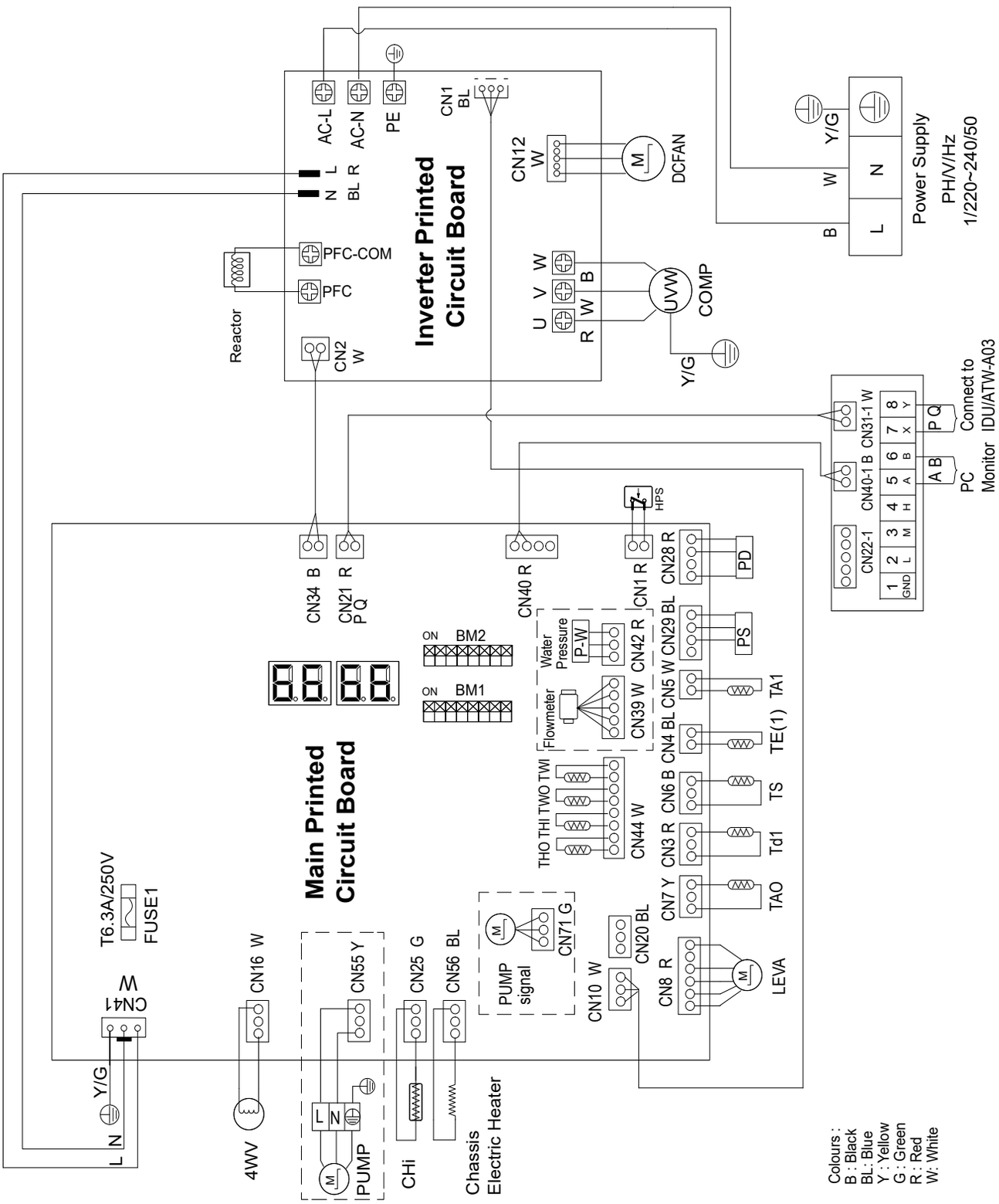
Connection of IDU power supply cable

Wiring instructions

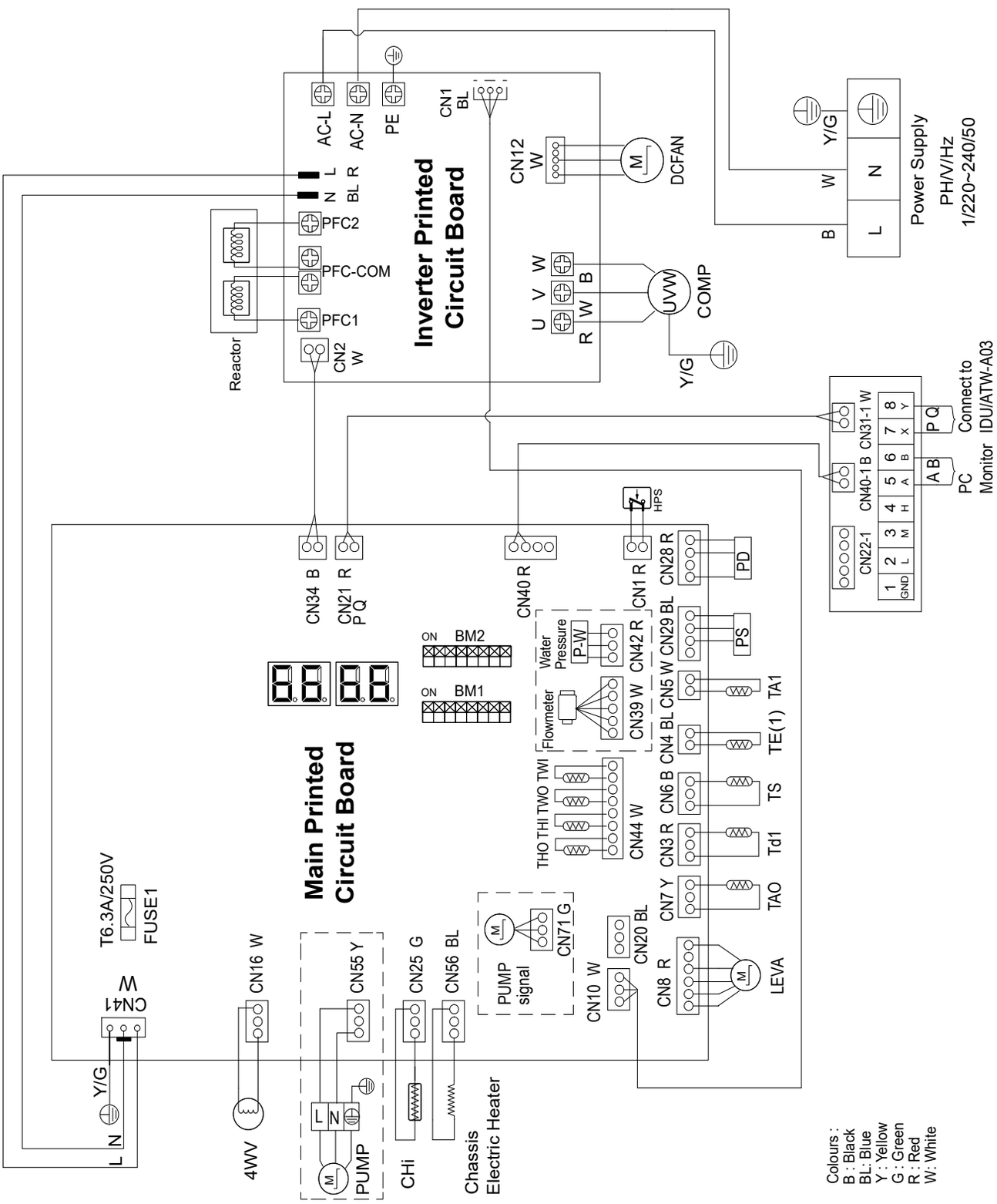


8.2 Wiring diagram of communication and power cables

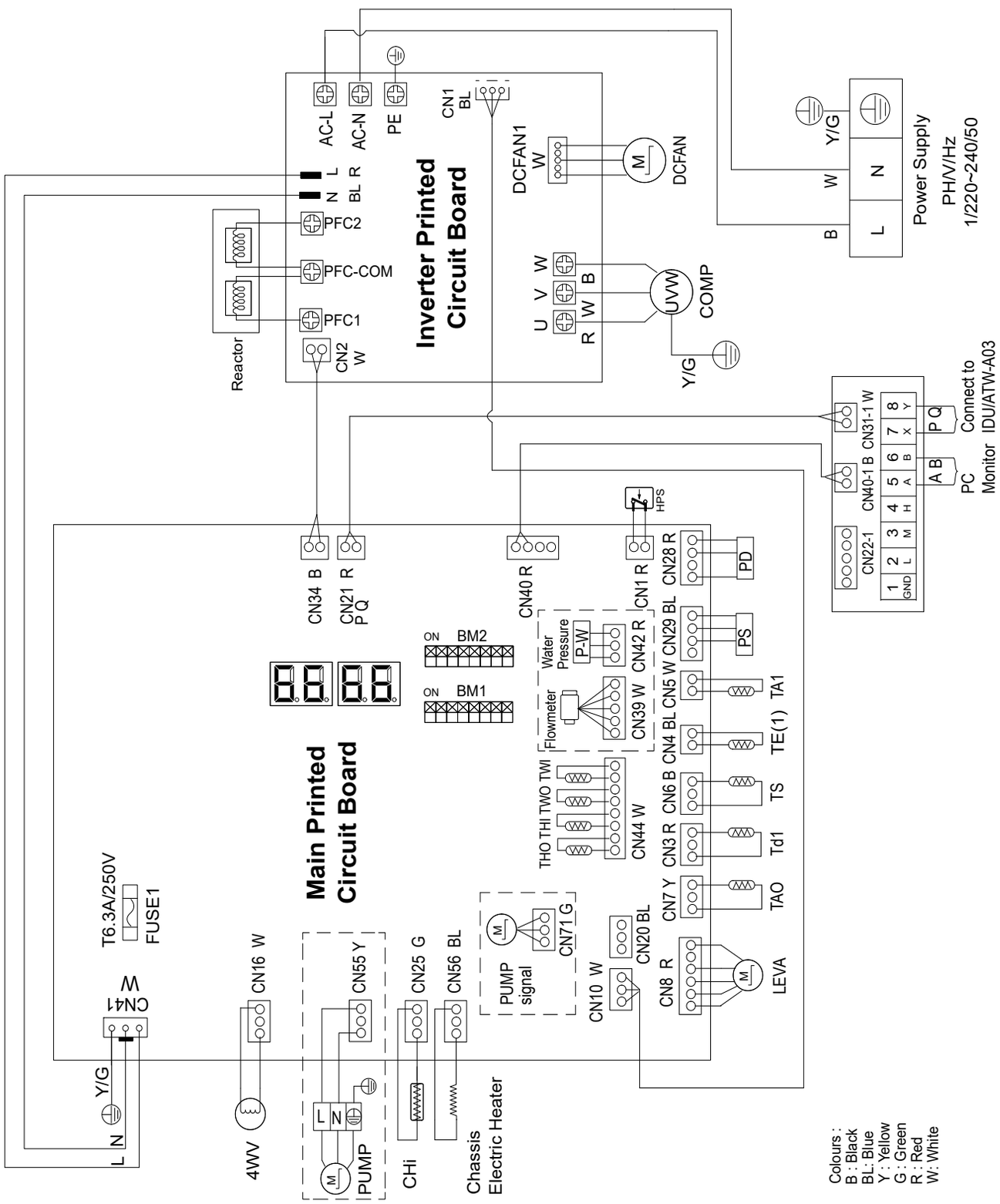
AW042MUGHA AW062MUGHA



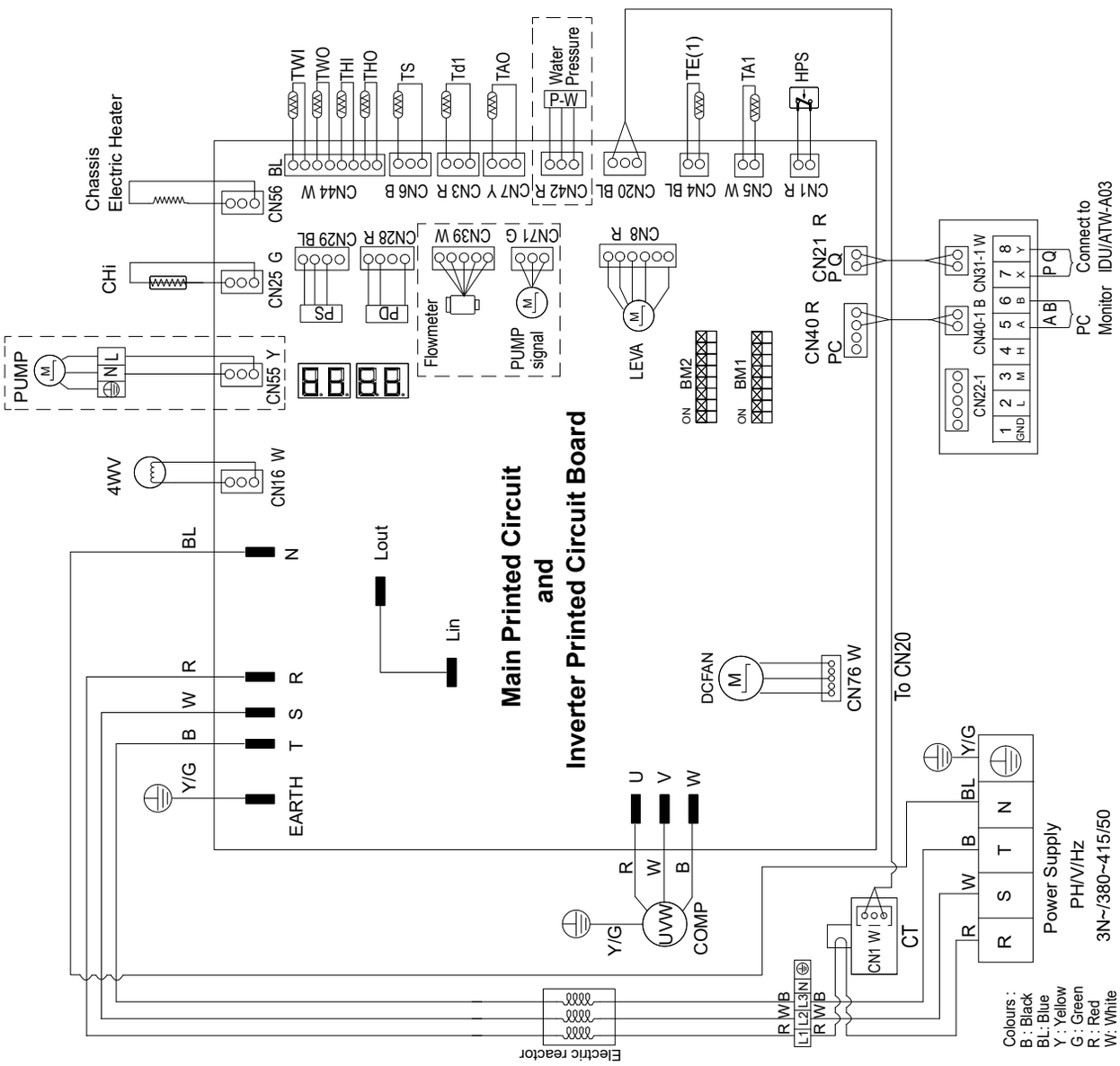
AW082MUGHA AW102MUGHA AW162MXGHA



AW122MXGHA AW142MXGHA

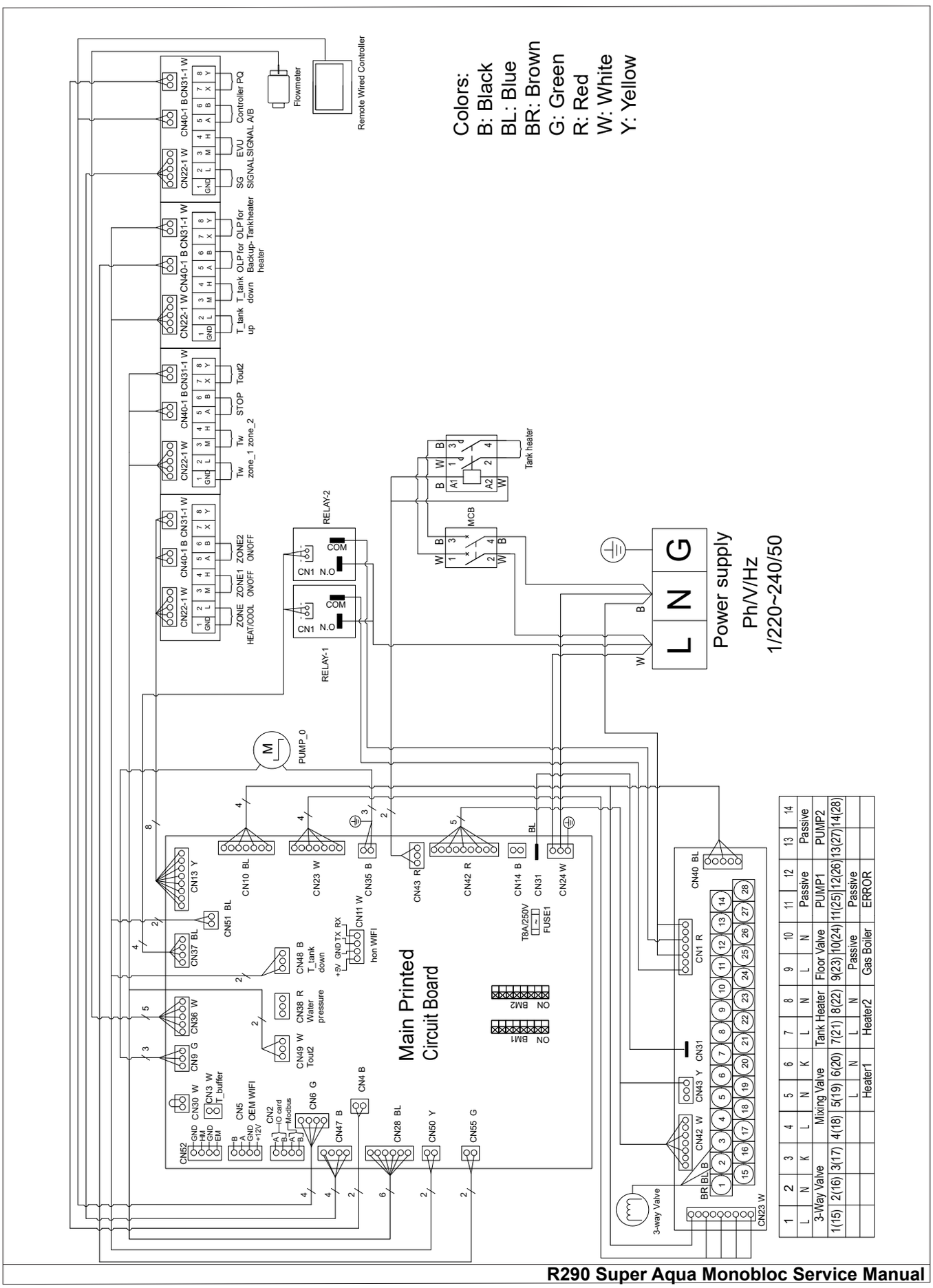


AW10NMUGHA AW12NMXGHA AW14NMXGHA AW16NMXGHA



Port	Port Definition	Function Description
CN1	HPS	High Pressure Switch
CN3	Td1	Compressor Discharge Sensor
CN4	TE(1)	Defrost Detection Sensor
CN5	TA1	Internal Temperature Sensor of Electric Control Box
CN6	TS	Compressor Suction Sensor
CN7	TAO	Ambient Temperature Sensor
CN8	LEVA	Electronic Expansion Valve Control
CN10	INV-COM	INV Module Communication Port\C7(Single Phase Unit)
CN16	4WV	Four Way Valve
CN20	CT1	Input Current Detection(Three Phase Unit)
CN21	PQ	Internal and External Communication Wires
CN25	HEATER1	Compressor Crankcase Heater
CN28	PD	High Pressure Sensor
CN29	PS	Low Pressure Sensor
CN34	low-power consumption	Low-Power Consumption\C7(Single Phase Unit)
CN39	FM	Flowmeter
CN40	PC A/B	PC Communication Interface
CN41	Power Input	220V/50Hz Input
CN42	Wateroutlet	Water Pressure Sensor
CN44	TWO	Water Outlet Sensor of Plate Heat Exchanger
	TWI	Water Inlet Sensor of Plate Heat Exchanger
	THI	Liquid Tube of Plate Heat Exchanger
	THO	Gas Tube of Plate Heat Exchanger
CN55	Pump2	Built-in Water Pump Power
CN56	B-HEATER	Anti-Freezing Electric Heater of Chassis
CN71	DCPUMP	Built-in Water Pump Control Signal
CN76	DCFAN	Fan power output

ATW-A03



1	2	3	4	5	6	7	8	9	10	11	12	13	14
L	N	K	L	N	K	L	N	L	N	Passive		Passive	
3-Way Valve			Mixing Valve			Tank Heater		Floor Valve		PUMP1		PUMP2	
1(15)	2(16)	3(17)	4(18)	5(19)	6(20)	7(21)	8(22)	9(23)	10(24)	11(25)	12(26)	13(27)	14(28)
				L	N	L	N	Passive		Passive			
				Heater1		Heater2		Gas Boiler		ERROR			

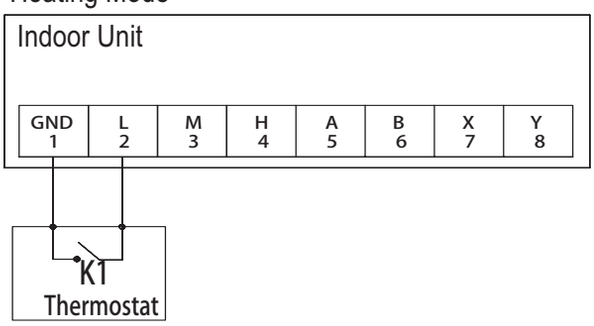
Port	Port Definition	Function Description
CN35	PUMP_0	HU Built-in Pump 220V Output
CN37	PUMP1	Zone1 Pump Control Signal Output(220V)
CN37	PUMP2	Zone2 Pump Control Signal Output(220V)
CN10	Gas Boiler	Gas Boiler Pump Control Signal Output(220V)
CN42	3 way valve	Zone1 Three Way Valve Control Output(220V)
CN42	Mixing valve	Zone2 Mixing Valve Control Output(220V)
CN16	Antifreeze Heater	Antifreezing Electric Heating of Plate Heat Exchanger Control Signal Output(220V)
CN42	Floor Valve	Floor Heating Valve Control Signal Output(220V)
CN43	Tank Heater	DHW Heater Control Signal Output(220V)
CN23	Backupheater1	Auxiliary Heating 1 Control Signal Output(220V)
CN23	Backupheater2	Auxiliary Heating 2 Control Signal Output(220V)
CN10	ERROR	Fault Output Signal(Passive)
CN28	Twzone_1	Zone1 Water Temperature Behind Water Mixing Valve
CN28	Twzone_2	Zone2 Water Temperature Behind Water Mixing Valve
CN3	T_buffer	Buffer Water Tank Temperature Sensor
CN50	T_tank up	Temperature Sensor on Upper Part of Tank
CN48	T_tank down	Temperature Sensor on Lower Part of Tank
CN34	Tz	Outlet Temperature Sensor
CN49	Tout2	Afterheat Temperature Sensor
CN38	P_w	Water Pressure Sensor
CN13	ZONE HEAT/COOL	Zone HEAT/COOL Switch Signal
CN13	ZONE1 ON/OFF	Zone1 ON/OFF Switch Signal
CN13	ZONE2 ON/OFF	Zone2 ON/OFF Switch Signal
CN28	STOP	Externally Controlled Stop
CN47	SG SIGNAL	SG READY 1 Signal
CN47	EVU SIGNAL	SG READY 2 Signal
CN6	controller A/B	Wired Controller A/B
CN4	PQ	Indoor Unit Communication With Outdoor Unit
CN36	FM	Flowmeter
CN2	Modbus	Third Party Agreement
CN2	IO card	The Indoor Unit Communicates With The I/O Board
CN52	EM	Energy Meter Interface
CN52	HM	Heat Meter Interface
CN5	OEM WIFI	TUYA WIFI Interface
CN11	hon WIFI	CANDY WIFI Interface
CN55	OLP for Backupheater	Auxiliary Electric Heater Protection Signal Feedback Port
CN51	OLP for Tankheater	DHW Auxiliary Electric Heater Protection Signal Feedback Port

Wiring instructions of third party control wiring instructions

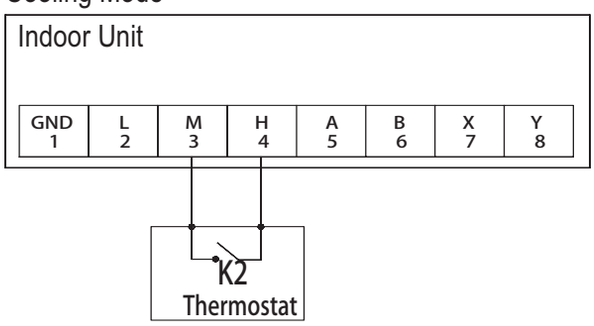
Type1:

ZONE1

Heating Mode



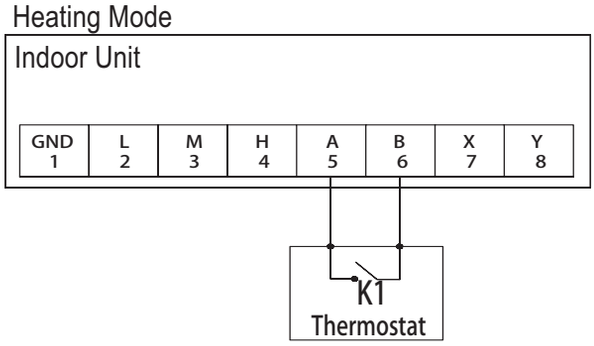
Cooling Mode



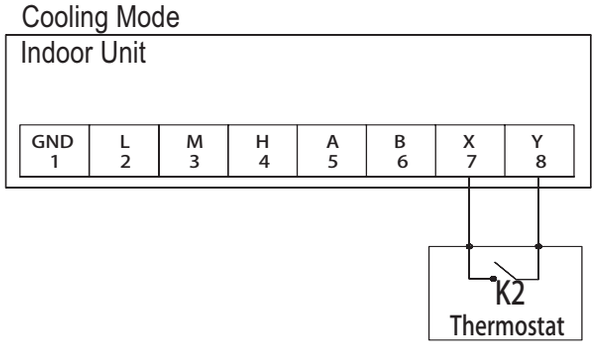
K1: Switch-On represents Heating Mode On; Switch-Off represents Heating Mode Off.
K2: Switch-On represents Cooling Mode On; Switch-Off represents Cooling Mode Off.
K1 and K2 are not allowed to be switched on simultaneously

ZONE2

Heating Mode

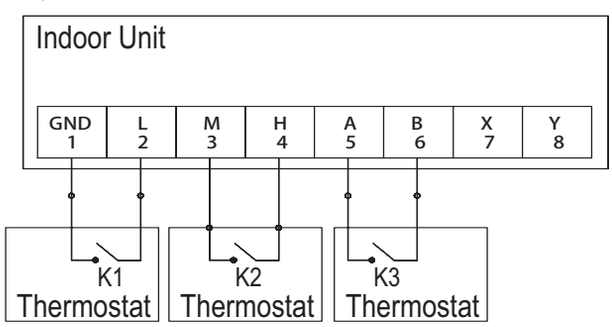


Cooling Mode



K1: Switch-On represents Cooling Mode On; Switch-Off represents Cooling Mode Off.
K2: Switch-On represents the Heating Mode On; Switch-Off represents Heating Mode Off.
K1 and K2 are not allowed to be switched on simultaneously

Type2:



Cooling/Heating Mode ZONE1 ON/OFF ZONE2 ON/OFF

K1: Switch-On represents Cooling Mode ZONE1/ZONE2 On; Switch-Off represents Heating Mode ZONE1/ZONE2 On
K2: Switch-On represents ZONE1 On; Switch-Off represents ZONE1 Off.
K3: Switch-On represents ZONE2 On; Switch-Off represents ZONE2 Off.

I. ZONE HEAT/COOL:

1. This interface is the switching of refrigeration and heating between ZONE1 and ZONE2;
2. Use a two-core cable to penetrate into the electronic control box from the rubber plug hole, and connect the lead to the terminal block and press and install it with screws;
3. The other end of the cable is connected to the ZONE1 and ZONE2 refrigeration and heating switching ports outside the electric cabinet. This control port should be passive and only output on-off signals.

II. ZONE1 ON/OFF:

1. This interface is the switch control interface of ZONE1;
2. Use a two-core cable to penetrate into the electronic control box from the rubber plug hole, and connect the lead to the terminal block and press and install it with screws;
3. The other end of the cable is connected to the switch control port of ZONE1 outside the electric cabinet. This control port should be passive and only output on-off signals.

III ZONE2 ON/OFF:

1. This interface is the switch control interface of ZONE1;
2. Use a two-core cable to penetrate into the electronic control box from the rubber plug hole, and connect the lead to the terminal block and press and install it with screws;
3. The other end of the cable is connected to the switch control port of ZONE1 outside the electric cabinet. This control port should be passive and only output on-off signals.

IV. Tw zone_1:

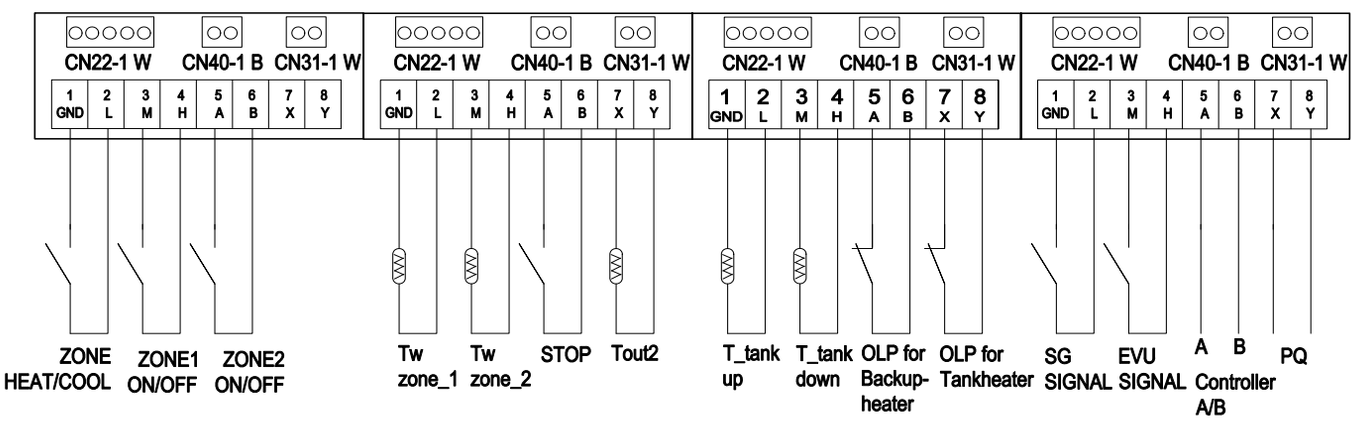
1. This interface is the temperature sensor interface behind the ZONE1 water mixing valve;
2. Install the 0150408957 sensor. The sensor cable penetrates into the electric control box through the rubber plug, the lead is connected to the terminal block, and connect the lead to the terminal block and press and install it with screws;
3. The temperature sensing probe of the sensor shall be installed in a proper position behind the ZONE1 water mixing valve according to the actual situation on site.

V. Tw zone_2:

1. This interface is the temperature sensor interface behind the ZONE2 water mixing valve;
2. Install the 0150408957 sensor. The sensor cable penetrates into the electric control box through the rubber plug, the lead is connected to the terminal block, and connect the lead to the terminal block and press and install it with screws;
3. The temperature sensing probe of the sensor shall be installed in a proper position behind the ZONE2 water mixing valve according to the actual situation on site.

VI. STOP:

1. This interface is the external start-stop control interface;
2. Use a two-core cable to penetrate into the electronic control box from the rubber plug hole, and connect the lead to the terminal block and press and install it with screws;
3. The other end of the cable is connected to the on-off switch control port outside the electric control box. This control port should be passive
and only output on-off signals.



Weak Electricity terminal block interface of internal

VII. Tout2:

1. This interface is the electric auxiliary hot water outlet temperature sensor interface;
2. The wiring terminal of the sensor cable penetrates into the electric control box body through the rubber plug hole, and connect the lead to the terminal block and press and install it with screws;
3. According to the actual situation on site, the temperature sensing probe of the sensor is installed at the appropriate position of the electric auxiliary hot water outlet, and then completely wrapped with thermal insulation cotton, and then firmly fixed with a cable tie.

VIII. T_tank up

1. This interface is the upper temperature sensor of the water tank;
2. The wiring terminal of the sensor cable penetrates into the electric control box body through the rubber plug hole, and connect the lead to the terminal block and press and install it with screws;
3. According to the actual situation on site, the temperature sensing probe of the sensor is installed at the temperature detection position of the upper part of the water tank and fixed.

IX. T_tank down

1. This interface is the lower temperature sensor of the water tank;
2. The wiring terminal of the sensor cable penetrates into the electric control box body through the rubber plug hole, and connect the lead to the terminal block and press and install it with screws;
3. According to the actual situation on site, the temperature sensing probe of the sensor is installed at the temperature detection position of the ower part of the water tank and fixed.

X. OLP for Backupheater

1. This interface is the electrical auxiliary thermal protection signal feedback interface;
2. Use a two-core cable to penetrate into the electronic control box from the rubber plug hole, and connect the lead to the terminal block and press and install it with screws;
3. The other side of the cable is connected to the feedback signal control port of electric auxiliary thermal protection outside the electric control box. This control port should be passive and only output on-off signals;
4. The machine is in normal operation when the two terminals of OLP for Backupheater are connected, and the machine will stop running when the two terminals are disconnected for electrical auxiliary thermal protection. When this protection is not used, the two terminals should be short-circuited with wires.

XI. OLP for Tankheater

1. This interface is the water tank electric heating protection signal feedback interface;
2. Use a two-core cable to penetrate into the electronic control box from the rubber plug hole, and connect the lead to the terminal block and press and install it with screws;
3. The other side of the cable is connected to the feedback signal control port of water tank electric heating protection outside the electric control box. This control port should be passive and only output on-off signals;
4. The machine is in normal operation when the two terminals of OLP for Tankheater are connected, and the machine will stop running when the two terminals are disconnected for electric heating protection of water tank. When this protection is not used, the two terminals should be short-circuited with wires.

XII. SG SIGNAL

1. This interface is the power grid control signal interface;
2. Use a two-core cable to penetrate into the electronic control box from the rubber plug hole, and connect the lead to the terminal block and press and install it with screws;
3. The other end of the cable is connected to the power grid signal control port outside the electric cabinet. This control port should be passive and only output on-off signals.

XIII. EVU SIGNAL

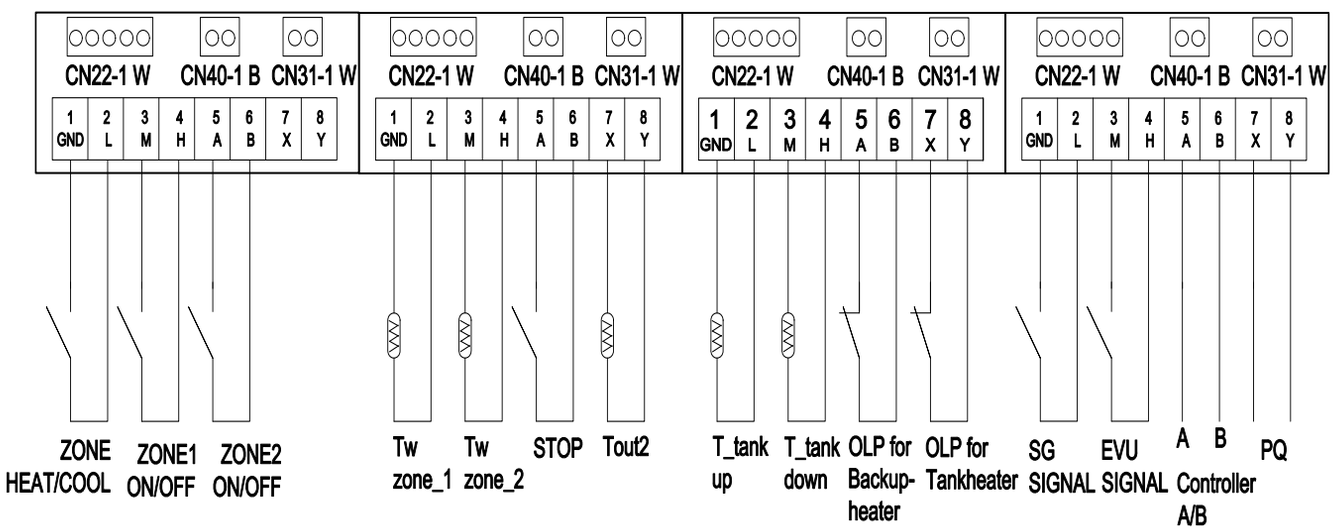
1. This interface is the power grid control signal interface;
2. Use a two-core cable to penetrate into the electronic control box from the rubber plug hole, and connect the lead to the terminal block and press and install it with screws;
3. The other end of the cable is connected to the power grid signal control port outside the electric cabinet. This control port should be passive and only output on-off signals.

XIV. Controller A/B

1. This interface is the data communication port connected with the wire controller, which can be used to connect the indoor temperature and humidity meter or to add the wire controller;
2. Use a two-core shielded cable to penetrate into the electric control box from the rubber plug hole, and connect the lead to the terminal block and press and install it with screws;
3. The other end of the cable is connected to the thermometer or wire controller outside the electric cabinet. Pay attention to the one-to-one correspondence between terminal A and terminal B inside the electric cabinet and terminal A and terminal B outside the electric cabinet.

XV. PQ

1. This interface is the communication line between the internal and external machines;
2. Use a two-core shielded cable, and the shielding layer is grounded; the cable penetrates into the internal electromechanical control box through the rubber plug hole, connect the lead to the terminal block and press and install it with screws, and the shielding layer is connected to the metal plate for grounding;
3. The other end of the cable is connected to the PQ terminal of the external machine, press and install it with screws, and the shielding layer is grounded with the sheet metal of the external machine;



Weak Electricity terminal block interface of internal

I. 3-way Valve:

1. This interface is the three-way valve control interface;
2. When it is necessary to install the three-way valve, make wiring, and the terminal penetrates into the electronic control box from the rubber plug hole,and the wires L, N and K respectively represent the live line, the zero line and the control line;
3. Connect the lead to the terminal block and press and install it with screws;

II. Mixing Valve:

1. This interface is the water mixing valve control interface;
2. When it is necessary to install the water mixing valve, make wiring, and the terminal penetrates into the electric control box from the rubber plug hole,and the wires L, N and K respectively represent the live line, the zero line and the control line;
3. Connect the lead to the terminal block and press and install it with screws;

III. Floor Valve:

1. This interface is the control interface of the floor heating main valve;
2. When it is necessary to install the floor heating main valve, make wiring, and the terminal penetrates into the electric control box from the rubber plug hole, and the wires L and N respectively represent the live line and the zero line;
3. Connect the lead to the terminal block and press and install it with screws;

IV. PUMP1:

1. This interface is the external AC water pump power supply interface used by ZONE1;
2. The terminal penetrates into the electronic control box from the rubber plug hole, and the wires L and N respectively represent the live wire and the zero wire;
3. Connect L and N power supply lines to the terminal block and press and install it with screws. The grounding wire of the water pump enters the electric cabinet together with the power supply line path, and is reliably grounded at the grounding mark;
4. The voltage between L and N is the rated voltage input by the power terminal block, and the power of the selected water pump should not be greater than 180W.

V. PUMP2:

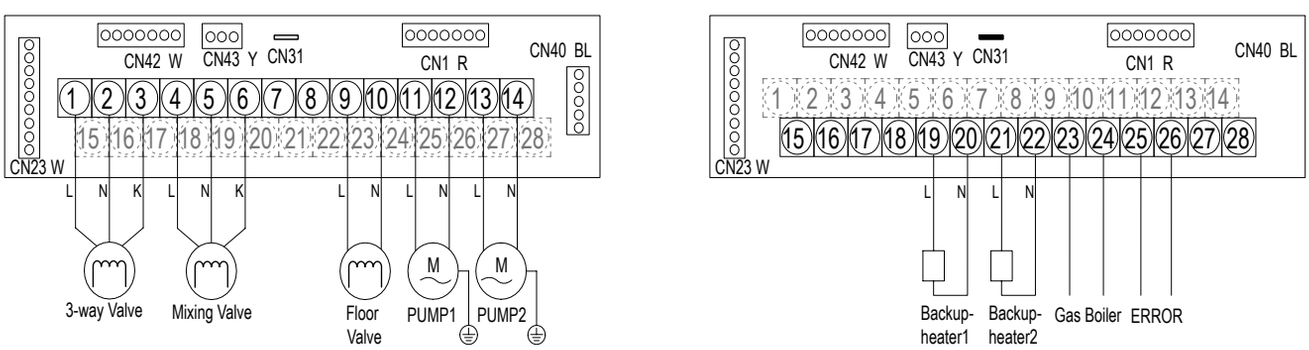
1. This interface is an external AC water pump power supply interface used by ZONE2;
2. The terminal penetrates into the electronic control box from the rubber plug hole, and the wires L and N respectively represent the live wire and the zero wire;
3. Connect L and N power supply lines to the terminal block and press and install it with screws. The grounding wire of the water pump enters the electric cabinet together with the power supply line path, and is reliably grounded at the grounding mark;
4. The voltage between L and N is the rated voltage input by the power terminal block, and the power of the selected water pump should not be greater than 180W.

VI. Backupheater1:

1. This interface is the electric auxiliary heating 1 switch control interface;
2. The terminal penetrates into the electronic control box from the rubber plug hole, and the wires L and N respectively represent the live wire and the zero wire. Connect L and N power supply lines to the terminal block and press and install it with screws
3. The voltage between L and N is the rated voltage input by the computer version, and this loop is a control loop, which can only be connected to the secondary control loop, and cannot be directly connected to the auxiliary thermal power supply.

VII. Backupheater2:

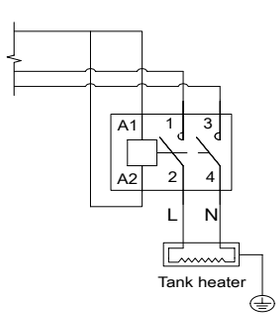
1. This interface is the electric auxiliary heating 2 switch control interface;



Strong Electricity terminal block interface of internal

I. Tank heater:

1. This interface is the interface 2 and 4 on the AC contactor, which is the power supply interface for electric heating of the water tank;
2. The terminals L, N and grounding wire for electric heating of the water tank penetrate into the electric control box through the rubber plug hole, and the power lines L and N are respectively connected to the 2 and 4 interfaces of the AC contactor. The grounding wire electrically heated by the water tank is reliably grounded at the grounding symbol of the electric control box;
3. The maximum operating current of the electric heating of the used water tank must be less than 20A;



AC contactor interface of internal

I. CN3：

1. This interface is the buffer water tank temperature sensor interface;
2. The plug end of the wiring penetrates into the electric control box through the rubber hole, and the plug is inserted into the CN3 port of the computer board;
3. One end of the temperature sensing probe of the sensor is installed at the corresponding position of the buffer water tank to detect the temperature;

II. CN52:

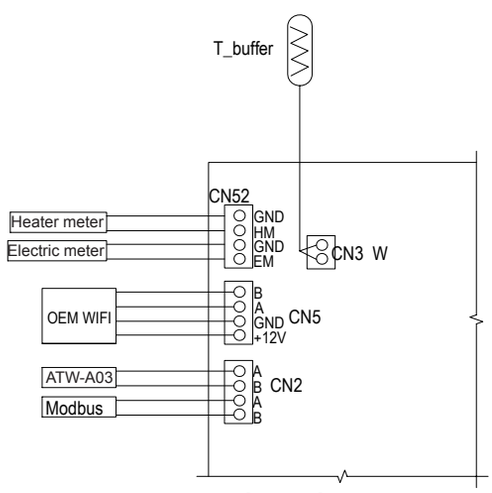
1.HM interface is the heat meter interface; EM interface is the electric meter interface;
2. The heat meter is connected to the HM and GND ports of the computer board CN52 by two-core cable; the cable penetrates into the electronic control box through the rubber plug hole, and the interface on the computer board needs to press the lead;
3. The electric meter is connected to the HM and GND ports of the computer board CN52 by two-core cable; the cable penetrates into the electronic control box through the rubber plug hole, and the interface on the computer board needs to press the lead;

III. CN5：

1. This interface is the OEM WIFI interface;
2. The WIFI module is connected with the CN5 port of the computer board by a four-core cable, and the interfaces B, A, GND and +12V on the computer board should correspond to the interface functions on the WiFi module;
3. The interface on the computer board needs to press the lead.

IV. CN2:

1. The IO card interface is the external wiring valve box interface, which can be connected with ATW-A02; Modbus interface, which is a third-party control interface;
2. Use a two-core cable to penetrate into the electronic control box through the rubber plug hole, and connect it with the A and B ports of IO card of the computer board CN2, and the other end of the cable is connected with A and B phases of the external wiring valve box. Note that A and B need to correspond to each other;
3. Use a two-core cable to penetrate into the electronic control box through the rubber plug hole, and connect it with the A and B ports of Modbus of the computer board CN2, and the other end of the cable is connected with the ports A and B phases of a third-party controller. Note that A and B need to correspond to each other;
4. The interface on the computer board needs to press the lead.



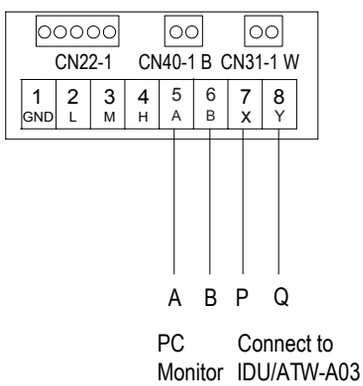
Main control board interface of internal machine

I. A、B:

1. This port is the computer monitoring interface;
2. Use two-core wires, connect and press to the weak current wiring terminal block with screws, and connect the other end to computer monitoring;

II. P、Q:

1. This port is the communication port of internal and external computers;
2. Use two-core wires with shielding layer, connect and press to the weak current terminal block with screws, and connect the other end to the PQ wiring terminal of the internal machine or ATW-A03;
3. The used cable shielding layer is grounded with the external machine sheet metal;



Weak current terminal block interface of external machine

9. Electric Characteristics

Monobloc	Power Supply					MCA (A)	MFA (A)	MSC(A)	OFM	
	Hz	Voltage	Phase	Min	Max				Kw	FLA (A)
AW042MUGHA	50Hz	220-240V	1Ph	198V	264V	13.5	16	2	0.16	1.1
AW062MUGHA	50Hz	220-240V	1Ph	198V	264V	13.5	16	2	0.16	1.1
AW082MUGHA	50Hz	220-240V	1Ph	198V	264V	18.6	20	2	0.16	1.1
AW102MUGHA	50Hz	220-240V	1Ph	198V	264V	18.6	20	2	0.16	1.1
AW122MXGHA	50Hz	220-240V	1Ph	198V	264V	30.6	32	2	0.375	2.3
AW142MXGHA	50Hz	220-240V	1Ph	198V	264V	30.6	32	2	0.375	2.3
AW162MXGHA	50Hz	220-240V	1Ph	198V	264V	34.8	40	2	0.375	2.3
AW10NMUGHA	50Hz	380-415V	3Ph	342V	456.5V	6.2	16	2	0.375	0.8
AW12NMXGHA	50Hz	380-415V	3Ph	342V	456.5V	10.2	16	2	0.375	0.8
AW14NMXGHA	50Hz	380-415V	3Ph	342V	456.5V	10.2	16	2	0.375	0.8
AW16NMXGHA	50Hz	380-415V	3Ph	342V	456.5V	11.6	16	2	0.375	0.8

Remark:

MCA: Min. Circuit Amps. (A)
MFA: Max. Fuse Amps. (A)
MSC: Max. Starting Amps. (A)
OFM: Outdoor Fan Motor
FLA: Full Load Amps. (A)
kW: Rated Motor Output (kW)

10. Capacity Tables
10.1 Cooling capacity

AW042											
Water Out(°C)		5		7		14		18		25	
Ambient Temperature(°C)		Capacity	EER	Capacity	EER	Capacity	EER	Capacity	EER	Capacity	EER
Max.	10	2701	2.83	3859	4.64	4350	6.04	4631	7.06	4769	7.74
	15	2585	2.66	3822	4.37	4282	5.58	4544	6.43	4464	7.20
	25	2353	2.34	3749	3.92	4145	4.80	4372	5.41	3854	6.12
	35	2121	2.03	3675	3.53	4009	4.18	4200	4.61	3244	5.08
	48	1819	1.67	2021	2.43	2249	3.03	2379	3.44	2451	3.77
Nom.	10	2573	3.24	3675	4.86	4143	6.49	4410	7.73	4542	8.85
	15	2462	3.04	3640	4.58	4078	6.00	4328	7.04	4252	8.22
	25	2241	2.67	3570	4.10	3948	5.17	4164	5.92	3671	7.00
	35	2020	2.32	3500	3.70	3818	4.50	4000	5.05	3089	5.81
	48	1733	1.91	1925	2.54	2142	3.25	2266	3.76	2334	4.31
Mid.	10	1405	3.43	1929	5.45	2175	7.16	2315	8.41	2385	9.33
	15	1344	3.22	1911	5.14	2141	6.61	2272	7.65	2232	8.67
	25	1224	2.82	1874	4.61	2073	5.69	2186	6.43	1927	7.38
	35	1103	2.46	1838	4.16	2005	4.96	2100	5.49	1622	6.12
	48	946	2.02	1011	2.86	1125	3.59	1190	4.09	1225	4.54
Min.	10	675	3.54	965	6.10	1087	7.95	1158	9.29	1216	10.67
	15	646	3.33	956	5.75	1070	7.34	1136	8.46	1138	9.92
	25	588	2.92	937	5.15	1036	6.32	1093	7.11	983	8.44
	35	530	2.54	919	4.65	1002	5.51	1050	6.07	827	7.00
	48	455	2.09	505	3.19	562	3.98	595	4.52	625	5.20

AW062											
Water Out(°C)		5		7		14		18		25	
Ambient Temperature(°C)		Capacity	EER	Capacity	EER	Capacity	EER	Capacity	EER	Capacity	EER
Max.	10	3859	2.79	5513	4.57	6425	6.00	6946	6.99	7154	7.67
	15	3693	2.63	5460	4.31	6323	5.54	6817	6.37	6696	7.12
	25	3361	2.30	5355	3.86	6121	4.77	6558	5.35	5781	6.06
	35	3030	2.01	5250	3.48	5918	4.15	6300	4.57	4866	5.03
	48	2599	1.65	2888	2.40	3321	3.00	3569	3.40	3676	3.73
Nom.	10	3675	3.19	5250	4.79	6119	6.45	6615	7.66	6813	8.76
	15	3517	3.00	5200	4.52	6022	5.96	6492	6.97	6378	8.14
	25	3201	2.63	5100	4.05	5829	5.13	6246	5.86	5506	6.93
	35	2886	2.29	5000	3.65	5636	4.47	6000	5.00	4634	5.75
	48	2475	1.88	2750	2.51	3163	3.23	3399	3.73	3501	4.27
Mid.	10	2007	3.38	2756	5.38	3212	7.11	3473	8.32	3577	9.24
	15	1920	3.17	2730	5.07	3162	6.56	3408	7.58	3348	8.58
	25	1748	2.79	2678	4.54	3060	5.65	3279	6.37	2891	7.30
	35	1575	2.43	2625	4.10	2959	4.92	3150	5.43	2433	6.06
	48	1351	1.99	1444	2.82	1661	3.56	1784	4.05	1838	4.50
Min.	10	965	3.49	1378	6.02	1606	7.90	1736	9.20	1824	10.57
	15	923	3.28	1365	5.68	1581	7.29	1704	8.38	1708	9.82
	25	840	2.88	1339	5.08	1530	6.27	1640	7.04	1474	8.36
	35	757	2.51	1313	4.58	1480	5.46	1575	6.01	1241	6.93
	48	650	2.06	722	3.15	830	3.95	892	4.48	937	5.14

AW082											
Water Out(°C)		5		7		14		18		25	
Ambient Temperature(°C)		Capacity	EER	Capacity	EER	Capacity	EER	Capacity	EER	Capacity	EER
Max.	10	5248	2.64	7497	4.32	8251	5.64	8682	6.64	8943	7.28
	15	5022	2.48	7426	4.08	8123	5.21	8521	6.05	8371	6.77
	25	4571	2.18	7283	3.65	7865	4.49	8198	5.08	7226	5.76
	35	4121	1.90	7140	3.29	7608	3.91	7875	4.34	6082	4.78
	48	3534	1.56	3927	2.26	4267	2.83	4461	3.23	4595	3.55
Nom.	10	4998	3.02	7140	4.53	7858	6.06	8269	7.27	8517	8.32
	15	4783	2.84	7072	4.27	7736	5.60	8115	6.62	7972	7.74
	25	4354	2.49	6936	3.83	7491	4.83	7808	5.57	6882	6.58
	35	3924	2.17	6800	3.45	7245	4.21	7500	4.75	5793	5.46
	48	3366	1.78	3740	2.37	4064	3.04	4249	3.54	4376	4.05
Mid.	10	2729	3.19	3749	5.09	4126	6.68	4341	7.91	4471	8.78
	15	2612	3.00	3713	4.80	4061	6.17	4260	7.20	4185	8.15
	25	2377	2.63	3641	4.30	3933	5.32	4099	6.05	3613	6.94
	35	2143	2.29	3570	3.87	3804	4.64	3938	5.16	3041	5.76
	48	1838	1.88	1964	2.66	2133	3.35	2231	3.85	2298	4.27
Min.	10	1312	3.30	1874	5.69	2063	7.42	2171	8.74	2280	10.04
	15	1256	3.10	1856	5.36	2031	6.86	2130	7.96	2135	9.33
	25	1143	2.72	1821	4.80	1966	5.91	2049	6.69	1843	7.94
	35	1030	2.37	1785	4.33	1902	5.15	1969	5.71	1551	6.59
	48	884	1.95	982	2.98	1067	3.72	1115	4.25	1172	4.89

AW102/10N											
Water Out(°C)		5		7		14		18		25	
Ambient Temperature(°C)		Capacity	EER	Capacity	EER	Capacity	EER	Capacity	EER	Capacity	EER
Max.	10	6560	2.49	9371	4.07	10406	5.20	10997	6.01	11327	6.59
	15	6278	2.34	9282	3.84	10244	4.80	10793	5.47	10603	6.13
	25	5714	2.05	9104	3.44	9918	4.14	10384	4.60	9154	5.21
	35	5151	1.79	8925	3.10	9593	3.60	9975	3.93	7704	4.33
	48	4418	1.47	4909	2.13	5381	2.60	5651	2.93	5820	3.21
Nom.	10	6248	2.84	8925	4.27	9911	5.59	10474	6.58	10788	7.54
	15	5979	2.67	8840	4.02	9756	5.16	10279	6.00	10098	7.00
	25	5442	2.34	8670	3.60	9446	4.45	9890	5.04	8718	5.96
	35	4905	2.04	8500	3.25	9136	3.88	9500	4.30	7337	4.94
	48	4208	1.68	4675	2.23	5125	2.80	5382	3.21	5543	3.67
Mid.	10	3411	3.01	4686	4.79	5203	6.16	5499	7.16	5664	7.94
	15	3265	2.83	4641	4.52	5122	5.69	5396	6.52	5301	7.38
	25	2971	2.48	4552	4.05	4959	4.90	5192	5.48	4577	6.28
	35	2678	2.16	4463	3.65	4797	4.27	4988	4.67	3852	5.21
	48	2297	1.77	2454	2.51	2690	3.09	2825	3.48	2910	3.87
Min.	10	1640	3.11	2343	5.36	2602	6.84	2749	7.91	2888	9.09
	15	1570	2.92	2321	5.05	2561	6.32	2698	7.20	2704	8.45
	25	1429	2.56	2276	4.53	2480	5.44	2596	6.06	2334	7.19
	35	1288	2.23	2231	4.08	2398	4.74	2494	5.17	1965	5.96
	48	1104	1.83	1227	2.81	1345	3.43	1413	3.85	1484	4.42

AW122/12N											
Water Out(°C)		5		7		14		18		25	
Ambient Temperature(°C)		Capacity	EER	Capacity	EER	Capacity	EER	Capacity	EER	Capacity	EER
Max.	10	7718	2.56	11025	4.20	12481	5.42	13313	6.29	13712	6.90
	15	7386	2.41	10920	3.96	12285	5.01	13065	5.73	12835	6.41
	25	6723	2.11	10710	3.55	11894	4.31	12570	4.82	11081	5.46
	35	6060	1.84	10500	3.20	11502	3.75	12075	4.11	9326	4.53
	48	5198	1.51	5775	2.20	6453	2.72	6840	3.06	7046	3.36
Nom.	10	7350	2.93	10500	4.40	11886	5.83	12679	6.89	13059	7.89
	15	7034	2.75	10400	4.15	11700	5.38	12443	6.27	12224	7.33
	25	6403	2.42	10200	3.71	11327	4.64	11972	5.28	10553	6.24
	35	5771	2.10	10000	3.35	10955	4.04	11500	4.50	8882	5.17
	48	4950	1.73	5500	2.30	6146	2.92	6515	3.35	6710	3.84
Mid.	10	4013	3.10	5513	4.94	6240	6.42	6656	7.49	6856	8.31
	15	3841	2.91	5460	4.66	6143	5.93	6533	6.82	6417	7.73
	25	3496	2.56	5355	4.17	5947	5.11	6285	5.73	5540	6.57
	35	3151	2.23	5250	3.76	5751	4.45	6038	4.89	4663	5.46
	48	2703	1.83	2888	2.59	3227	3.22	3420	3.65	3523	4.05
Min.	10	1929	3.21	2756	5.52	3120	7.13	3328	8.28	3497	9.51
	15	1846	3.01	2730	5.21	3071	6.59	3266	7.54	3273	8.84
	25	1681	2.64	2678	4.66	2973	5.67	3143	6.34	2826	7.52
	35	1515	2.30	2625	4.21	2876	4.94	3019	5.41	2378	6.24
	48	1299	1.89	1444	2.89	1613	3.57	1710	4.03	1797	4.63

AW142/14N											
Water Out(°C)		5		7		14		18		25	
Ambient Temperature(°C)		Capacity	EER	Capacity	EER	Capacity	EER	Capacity	EER	Capacity	EER
Max.	10	9261	2.45	13230	4.01	14756	5.17	15628	6.01	16097	6.59
	15	8863	2.30	13104	3.78	14525	4.77	15337	5.47	15067	6.13
	25	8067	2.02	12852	3.39	14064	4.11	14756	4.60	13008	5.21
	35	7272	1.76	12600	3.05	13602	3.58	14175	3.93	10948	4.33
	48	6237	1.44	6930	2.10	7630	2.59	8030	2.93	8271	3.21
Nom.	10	8820	2.80	12600	4.20	14053	5.56	14884	6.58	15330	7.54
	15	8441	2.63	12480	3.96	13834	5.13	14607	6.00	14350	7.00
	25	7683	2.31	12240	3.55	13394	4.42	14054	5.04	12388	5.96
	35	6925	2.01	12000	3.20	12955	3.85	13500	4.30	10427	4.94
	48	5940	1.65	6600	2.20	7267	2.78	7648	3.21	7877	3.67
Mid.	10	4816	2.96	6615	4.72	7378	6.12	7814	7.16	8048	7.94
	15	4609	2.78	6552	4.45	7263	5.65	7669	6.52	7534	7.38
	25	4195	2.44	6426	3.98	7032	4.87	7378	5.48	6504	6.28
	35	3781	2.13	6300	3.59	6801	4.24	7088	4.67	5474	5.21
	48	3243	1.75	3465	2.47	3815	3.07	4015	3.48	4136	3.87
Min.	10	2315	3.06	3308	5.28	3689	6.80	3907	7.91	4105	9.09
	15	2216	2.88	3276	4.98	3631	6.28	3834	7.20	3842	8.45
	25	2017	2.53	3213	4.46	3516	5.41	3689	6.06	3317	7.19
	35	1818	2.20	3150	4.02	3401	4.71	3544	5.17	2792	5.96
	48	1559	1.80	1733	2.76	1908	3.41	2008	3.85	2109	4.42

AW162/16N											
Water Out(°C)		5		7		14		18		25	
Ambient Temperature(°C)		Capacity	EER	Capacity	EER	Capacity	EER	Capacity	EER	Capacity	EER
Max.	10	10805	2.37	15435	3.88	17031	4.88	17943	5.59	18481	6.13
	15	10340	2.23	15288	3.66	16765	4.51	17610	5.09	17299	5.70
	25	9412	1.96	14994	3.28	16234	3.88	16942	4.28	14935	4.85
	35	8483	1.70	14700	2.96	15702	3.38	16275	3.65	12570	4.02
	48	7277	1.40	8085	2.03	8807	2.45	9220	2.72	9496	2.99
Nom.	10	10290	2.71	14700	4.07	16220	5.25	17089	6.13	17601	7.01
	15	9848	2.55	14560	3.84	15967	4.85	16771	5.58	16475	6.51
	25	8964	2.24	14280	3.44	15461	4.18	16136	4.69	14224	5.54
	35	8079	1.95	14000	3.10	14955	3.64	15500	4.00	11972	4.60
	48	6930	1.60	7700	2.13	8388	2.63	8781	2.98	9044	3.41
Mid.	10	5618	2.87	7718	4.57	8516	5.79	8972	6.66	9241	7.39
	15	5377	2.70	7644	4.31	8383	5.34	8805	6.06	8650	6.87
	25	4894	2.37	7497	3.86	8117	4.60	8471	5.10	7467	5.84
	35	4411	2.06	7350	3.48	7851	4.01	8138	4.35	6285	4.85
	48	3784	1.69	4043	2.39	4404	2.90	4610	3.24	4748	3.60
Min.	10	2701	2.97	3859	5.11	4258	6.43	4486	7.36	4713	8.45
	15	2585	2.79	3822	4.82	4191	5.93	4402	6.70	4411	7.86
	25	2353	2.45	3749	4.32	4058	5.11	4236	5.63	3808	6.69
	35	2121	2.13	3675	3.89	3926	4.45	4069	4.81	3205	5.55
	48	1819	1.75	2021	2.68	2202	3.22	2305	3.58	2422	4.12

10.2 Heating capacity

	AW042																													
Water Out(°C)	20		25		30		35		40		45		50		55		60		65		70		75		80	
Ambient Temperature(°C)	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP
Max. -25	2465	2.17	2449	2.07	2433	1.96	2417	1.86	2153	1.74	1889	1.61	1626	1.49	1362	1.36	1225	1.23	1087	1.12	——	——	——	——	——	——
-20	3003	2.66	2984	2.56	2964	2.45	2944	2.34	2653	2.17	2362	2.00	2071	1.83	1780	1.65	1590	1.47	1399	1.36	1209	1.16	——	——	——	——
-15	3542	3.16	3519	3.04	3495	2.93	3472	2.82	3154	2.60	2836	2.39	2517	2.17	2199	1.95	1955	1.71	1711	1.58	1468	1.32	——	——	——	——
-10	4080	3.65	4053	3.53	4027	3.42	4000	3.30	3654	3.04	3309	2.77	2963	2.51	2617	2.24	2320	1.94	2023	1.77	1727	1.47	1430	1.19	——	——
-7	4153	3.95	4122	3.83	4091	3.71	4060	3.59	3762	3.30	3464	3.01	3166	2.71	2868	2.42	2540	2.09	2211	1.88	1882	1.56	1553	1.25	1224	1.01
-2	4274	4.44	4236	4.32	4198	4.19	4160	4.07	3942	3.73	3723	3.39	3505	3.05	3287	2.72	2905	2.33	2523	2.04	2141	1.68	1759	1.34	1377	1.02
2	4371	4.84	4327	4.71	4284	4.58	4240	4.46	4085	4.08	3931	3.70	3776	3.33	3622	2.95	3197	2.52	2772	2.16	2348	1.77	1923	1.41	1499	1.06
7	4492	5.34	4441	5.20	4391	5.07	4340	4.94	4265	4.51	4190	4.09	4115	3.67	4040	3.25	3562	2.76	3085	2.30	2607	1.88	2129	1.48	1651	1.11
12	4613	5.45	4555	5.31	4498	5.17	4440	5.04	4226	4.47	4012	3.91	3798	3.34	3584	2.78	3228	2.40	2872	2.05	2516	1.73	2160	1.44	1804	1.16
15	4685	5.52	4624	5.38	4562	5.23	4500	5.10	4317	4.54	4135	3.98	3952	3.42	3769	2.86	3394	2.47	3020	2.11	2645	1.78	2270	1.47	1896	1.18
20	4807	5.64	4738	5.49	4669	5.34	4600	5.20	4470	4.64	4339	4.09	4209	3.54	4078	2.99	3672	2.57	3266	2.19	2860	1.84	2454	1.52	2048	1.22
25	——	——	4852	5.60	4776	5.44	4700	5.29	4622	4.75	4544	4.20	4465	3.65	4387	3.11	3950	2.67	3513	2.27	3075	1.90	2638	1.57	——	——
30	——	——	——	——	4883	5.55	4800	5.39	4774	4.85	4748	4.31	4722	3.76	4696	3.22	4228	2.76	3759	2.34	3291	1.96	——	——	——	——
35	——	——	——	——	——	——	4900	5.49	4926	4.95	4953	4.41	4979	3.87	5005	3.33	——	——	——	——	——	——	——	——	——	——
43	——	——	——	——	——	——	——	——	——	——	5280	4.57	5390	4.02	5500	3.48	——	——	——	——	——	——	——	——	——	——
Nom. -25	2280	2.26	2244	2.16	2208	2.06	2171	1.96	1966	1.83	1760	1.70	1554	1.57	1349	1.44	1210	1.31	1071	1.20	——	——	——	——	——	——
-20	2580	2.86	2539	2.74	2498	2.63	2457	2.51	2284	2.32	2110	2.12	1936	1.93	1763	1.73	1568	1.56	1373	1.46	1179	1.25	——	——	——	——
-15	2880	3.46	2834	3.32	2789	3.19	2743	3.07	2601	2.81	2460	2.55	2319	2.29	2177	2.03	1927	1.82	1676	1.70	1426	1.44	——	——	——	——
-10	3180	4.05	3130	3.90	3079	3.76	3029	3.62	2919	3.30	2810	2.98	2701	2.65	2591	2.33	2285	2.07	1979	1.91	1673	1.61	1367	1.31	——	——
-7	3360	4.41	3307	4.25	3253	4.10	3200	3.95	3110	3.59	3020	3.23	2930	2.87	2840	2.51	2500	2.22	2161	2.03	1821	1.70	1482	1.38	1142	1.06
-2	3660	5.01	3602	4.83	3544	4.67	3486	4.50	3428	4.08	3370	3.66	3312	3.23	3254	2.81	2859	2.47	2464	2.21	2069	1.85	1673	1.49	1278	1.13
2	3900	5.48	3838	5.30	3776	5.12	3714	4.95	3682	4.47	3650	4.00	3618	3.52	3586	3.05	3146	2.67	2706	2.34	2266	1.95	1826	1.57	1387	1.18
7	4200	6.08	4133	5.88	4067	5.69	4000	5.50	4000	4.96	4000	4.43	4000	3.89	4000	3.35	3504	2.92	3009	2.50	2513	2.08	2018	1.66	1522	1.25
12	4288	6.10	4219	5.91	4151	5.72	4083	5.54	4097	5.00	4111	4.47	4125	3.93	4139	3.40	3643	2.96	3147	2.54	2650	2.12	2154	1.71	1658	1.31
15	4340	6.11	4271	5.92	4202	5.74	4133	5.56	4156	5.03	4178	4.49	4200	3.96	4222	3.42	3726	2.99	3229	2.56	2733	2.15	2236	1.74	1740	1.34
20	4428	6.13	4357	5.95	4287	5.77	4217	5.60	4253	5.06	4289	4.53	4325	4.00	4361	3.46	3864	3.03	3367	2.60	2870	2.18	2373	1.78	1875	**1.39**
25	——	——	4443	5.97	4372	5.80	4300	5.63	4350	5.10	4400	4.57	4450	4.04	4500	3.51	4002	3.06	3504	2.63	3007	2.22	2509	1.82	——	——
30	——	——	——	——	4456	5.83	4383	5.67	4447	5.14	4511	4.61	4575	4.08	4639	3.55	4141	3.10	3642	2.67	3144	2.26	——	——	——	——
35	——	——	——	——	——	——	4467	5.70	4544	5.17	4622	4.64	4700	4.11	4778	3.58	——	——	——	——	——	——	——	——	——	——
43	——	——	——	——	——	——	——	——	——	——	4800	4.70	4900	4.17	5000	3.64	——	——	——	——	——	——	——	——	——	——

AW042																											
Water Out(°C)		20		25		30		35		40		45		50		55		60		65		70		75		80	
Ambient Temperature(°C)		Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP
Mid.	-25	1150	2.23	1134	2.15	1117	2.06	1101	1.98	987	1.87	873	1.77	759	1.67	645	1.57	580	1.48	515	1.43	——	——	——	——	——	——
	-20	1283	2.71	1262	2.61	1242	2.51	1221	2.40	1119	2.26	1016	2.12	914	1.98	812	1.83	729	1.72	646	1.70	564	1.56	——	——	——	——
	-15	1415	3.19	1390	3.07	1366	2.95	1341	2.83	1250	2.65	1160	2.47	1069	2.28	978	2.10	878	1.96	777	1.94	677	1.77	——	——	——	——
	-10	1547	3.67	1519	3.53	1490	3.40	1461	3.26	1382	3.04	1303	2.81	1224	2.59	1145	2.36	1027	2.20	909	2.15	790	1.95	672	1.74	——	——
	-7	1627	3.96	1595	3.81	1564	3.66	1533	3.52	1461	3.27	1389	3.02	1317	2.77	1246	2.52	1116	2.34	987	2.27	858	2.06	729	1.82	600	1.57
	-2	1759	4.44	1724	4.27	1688	4.11	1653	3.95	1593	3.66	1533	3.37	1473	3.07	1413	2.78	1265	2.58	1118	2.45	971	2.21	824	1.95	677	1.67
	2	1865	4.83	1826	4.64	1787	4.47	1749	4.29	1698	3.97	1647	3.64	1597	3.32	1546	2.99	1385	2.77	1223	2.59	1062	2.33	901	2.05	739	1.75
	7	1997	5.31	1954	5.10	1912	4.91	1869	4.72	1830	4.36	1791	3.99	1752	3.62	1713	3.25	1534	3.01	1355	2.74	1175	2.46	996	2.16	817	1.84
	12	2130	5.57	2083	5.36	2036	5.15	1989	4.95	1961	4.57	1934	4.19	1907	3.82	1880	3.44	1683	3.17	1486	2.89	1289	2.58	1091	2.26	894	1.91
	15	2209	5.73	2160	5.50	2110	5.29	2061	5.08	2041	4.70	2020	4.31	2000	3.93	1980	3.54	1772	3.26	1564	2.97	1357	2.65	1149	2.31	941	1.96
	20	2341	5.98	2288	5.75	2234	5.52	2181	5.30	2172	4.90	2164	4.51	2155	4.11	2147	3.71	1921	3.41	1696	3.09	1470	2.76	1244	2.40	1018	**2.02**
	25	——	——	2416	5.98	2358	5.74	2301	5.51	2304	5.10	2307	4.69	2311	4.28	2314	3.86	2070	3.54	1827	3.21	1583	2.85	1340	2.48	——	——
	30	——	——	——	——	2482	5.96	2421	5.72	2436	5.29	2451	4.86	2466	4.44	2481	4.01	2219	3.67	1958	3.32	1696	2.94	——	——	——	——
	35	——	——	——	——	——	——	2540	5.92	2567	5.47	2594	5.03	2621	4.59	2648	4.14	——	——	——	——	——	——	——	——	——	——
	43	——	——	——	——	——	——	——	——	——	——	2824	5.28	2869	4.81	2915	4.34	——	——	——	——	——	——	——	——	——	——
Min.	-25	598	2.37	586	2.30	574	2.24	563	2.17	502	2.07	442	1.97	381	1.88	320	1.78	289	1.71	257	1.69	——	——	——	——	——	——
	-20	665	3.02	652	2.93	639	2.84	625	2.75	572	2.58	518	2.41	464	2.24	410	2.07	368	1.97	326	1.99	283	1.85	——	——	——	——
	-15	733	3.67	718	3.55	703	3.44	688	3.32	641	3.08	594	2.84	547	2.60	500	2.35	447	2.23	394	2.26	341	2.08	——	——	——	——
	-10	801	4.31	784	4.17	768	4.04	751	3.90	711	3.59	670	3.27	630	2.96	589	2.64	526	2.49	462	2.49	399	2.28	335	2.05	——	——
	-7	841	4.70	824	4.55	806	4.40	789	4.25	752	3.89	716	3.53	680	3.17	643	2.81	573	2.65	503	2.62	434	2.39	364	2.14	294	1.85
	-2	909	5.35	890	5.17	871	5.00	852	4.83	822	4.39	792	3.96	763	3.53	733	3.10	652	2.91	572	2.81	491	2.56	411	2.28	330	1.95
	2	963	5.86	943	5.67	922	5.48	902	5.29	878	4.80	853	4.31	829	3.82	805	3.33	716	3.11	627	2.95	538	2.68	449	2.37	360	2.03
	7	1031	6.51	1009	6.29	987	6.08	965	5.87	947	5.30	929	4.74	912	4.18	894	3.62	795	3.38	695	3.11	596	2.81	496	2.48	396	2.11
	12	1098	6.79	1075	6.56	1051	6.34	1027	6.13	1017	5.54	1006	4.96	995	4.38	984	3.80	874	3.54	764	3.25	653	2.94	543	2.58	433	2.18
	15	1139	6.95	1114	6.72	1090	6.50	1065	6.28	1058	5.68	1051	5.09	1045	4.49	1038	3.90	921	3.63	805	3.33	688	3.00	572	2.64	455	2.22
	20	1207	7.21	1180	6.98	1154	6.75	1128	6.52	1128	5.90	1128	5.29	1128	4.67	1128	4.06	1000	3.77	873	3.46	746	3.11	619	2.72	492	**2.29**
	25	——	——	1246	7.22	1219	6.99	1191	6.75	1197	6.12	1204	5.48	1211	4.84	1217	4.20	1079	3.90	942	3.57	804	3.20	666	2.80	——	——
	30	——	——	——	——	1283	7.22	1254	6.98	1267	6.32	1280	5.66	1294	5.00	1307	4.34	1158	4.02	1010	3.67	862	3.29	——	——	——	——
	35	——	——	——	——	——	——	1316	7.20	1336	6.51	1356	5.83	1376	5.15	1397	4.46	——	——	——	——	——	——	——	——	——	——
	43	——	——	——	——	——	——	——	——	——	——	1478	6.09	1509	5.37	1540	4.64	——	——	——	——	——	——	——	——	——	——

	AW062																													
Water Out(°C)		20		25		30		35		40		45		50		55		60		65		70		75		80	
	Ambient Temperature(°C)	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP
Max.	-25	3805	2.16	3780	2.05	3755	1.95	3730	1.84	3316	1.70	2903	1.57	2489	1.44	2075	1.30	1865	1.17	1654	1.04	——	——	——	——	——	——
	-20	4576	2.68	4546	2.57	4517	2.46	4487	2.35	4039	2.16	3592	1.98	3145	1.80	2698	1.61	2406	1.43	2114	1.28	1823	1.08	——	——	——	——
	-15	5348	3.20	5313	3.09	5278	2.97	5243	2.85	4763	2.62	4282	2.39	3801	2.16	3320	1.93	2947	1.69	2574	1.52	2201	1.27	——	——	——	——
	-10	6120	3.72	6080	3.60	6040	3.48	6000	3.36	5486	3.08	4972	2.80	4457	2.52	3943	2.24	3489	1.95	3034	1.73	2580	1.44	2125	1.16	——	——
	-7	6288	4.04	6241	3.91	6193	3.78	6146	3.66	5689	3.35	5231	3.04	4774	2.73	4317	2.43	3813	2.10	3310	1.86	2807	1.54	2304	1.24	1801	1.01
	-2	6569	4.56	6509	4.42	6449	4.29	6389	4.17	6027	3.81	5664	3.45	5302	3.09	4939	2.74	4355	2.36	3770	2.06	3186	1.70	2601	1.36	2017	1.03
	2	6794	4.97	6724	4.84	6654	4.70	6584	4.57	6297	4.18	6011	3.78	5724	3.38	5437	2.99	4788	2.57	4138	2.21	3489	1.82	2839	1.45	2189	1.09
	7	7074	5.50	6992	5.35	6910	5.21	6828	5.08	6636	4.63	6444	4.19	6252	3.74	6060	3.30	5329	2.83	4598	2.39	3867	1.97	3136	1.56	2405	1.17
	12	7355	5.68	7260	5.53	7166	5.38	7071	5.24	6604	4.62	6138	4.00	5671	3.38	5205	2.76	4688	2.43	4171	2.11	3655	1.81	3138	1.52	2621	1.24
	15	7523	5.79	7421	5.63	7319	5.48	7217	5.34	6780	4.71	6342	4.09	5905	3.47	5468	2.85	4924	2.51	4381	2.18	3838	1.87	3294	1.57	2751	1.29
	20	7804	5.97	7689	5.81	7575	5.65	7460	5.49	7072	4.87	6683	4.25	6294	3.62	5906	3.00	5318	2.64	4730	2.30	4142	1.97	3554	1.65	2967	1.35
	25	——	——	7958	5.98	——	——	7704	5.65	7364	5.02	7024	4.40	6684	3.77	6344	3.14	5711	2.77	5079	2.41	4447	2.06	3815	1.73	——	——
	30	——	——	——	——	8086	5.98	7947	5.81	7656	5.18	7364	4.54	7073	3.91	6781	3.28	6105	2.89	5428	2.51	4752	2.15	——	——	——	——
	35	——	——	——	——	——	——	8191	5.96	7948	5.32	7705	4.69	7462	4.05	7219	3.41	——	——	——	——	——	——	——	——	——	——
	43	——	——	——	——	——	——	——	——	——	——	8250	4.90	8085	4.25	7920	3.60	——	——	——	——	——	——	——	——	——	——
Nom.	-25	3535	2.23	3479	2.12	3423	2.01	3367	1.90	3039	1.76	2711	1.63	2383	1.49	2055	1.35	1842	1.22	1629	1.07	——	——	——	——	——	——
	-20	3967	2.81	3904	2.68	3841	2.56	3778	2.44	3501	2.24	3225	2.05	2948	1.85	2671	1.66	2374	1.47	2076	1.32	1778	1.09	——	——	——	——
	-15	4399	3.38	4329	3.25	4260	3.11	4190	2.98	3964	2.72	3739	2.47	3513	2.21	3288	1.96	2905	1.72	2522	1.55	2140	1.28	——	——	——	——
	-10	4831	3.96	4755	3.81	4678	3.66	4601	3.52	4427	3.20	4253	2.89	4078	2.58	3904	2.26	3437	1.98	2969	1.76	2502	1.45	2034	1.15	——	——
	-7	5090	4.30	5010	4.15	4929	3.99	4848	3.84	4704	3.49	4561	3.14	4417	2.80	4274	2.45	3755	2.13	3237	1.88	2719	1.54	2200	1.22	1682	0.91
	-2	5522	4.88	5435	4.71	5347	4.54	5259	4.38	5167	3.97	5075	3.57	4983	3.16	4890	2.75	4287	2.38	3684	2.07	3080	1.70	2477	1.34	1874	0.99
	2	5868	5.34	5775	5.16	5682	4.98	5589	4.81	5537	4.36	5486	3.90	5435	3.45	5384	3.00	4712	2.58	4041	2.22	3370	1.82	2698	1.43	2027	1.05
	7	6300	5.91	6200	5.72	6100	5.53	6000	5.35	6000	4.84	6000	4.33	6000	3.81	6000	3.30	5244	2.84	4488	2.39	3731	1.95	2975	1.53	2219	1.13
	12	6563	6.05	6458	5.86	6354	5.68	6250	5.50	6229	4.96	6208	4.42	6188	3.88	6167	3.35	5415	2.88	4664	2.44	3913	2.01	3162	1.60	2411	1.20
	15	6720	6.14	6613	5.95	6507	5.76	6400	5.58	6367	5.03	6333	4.48	6300	3.92	6267	3.37	5518	2.91	4770	2.47	4022	2.04	3274	1.63	2526	1.24
	20	6983	6.27	6872	6.08	6761	5.90	6650	5.72	6596	5.15	6542	4.57	6488	3.99	6433	3.42	5690	2.96	4947	2.52	4204	2.09	3461	1.69	2718	**1.30**
	25	——	——	7130	6.21	7015	6.03	6900	5.86	6825	5.26	6750	4.66	6675	4.06	6600	3.46	5862	3.00	5124	2.56	4386	2.14	3648	1.75	——	——
	30	——	——	——	——	7269	6.16	7150	5.99	7054	5.37	6958	4.75	6863	4.12	6767	3.50	6034	3.04	5301	2.61	4567	2.19	——	——	——	——
	35	——	——	——	——	——	——	7400	6.12	7283	5.48	7167	4.83	7050	4.18	6933	3.54	——	——	——	——	——	——	——	——	——	——
	43	——	——	——	——	——	——	——	——	——	——	7500	4.96	7350	4.28	7200	3.60	——	——	——	——	——	——	——	——	——	——

AW062																											
Water Out(°C)		20		25		30		35		40		45		50		55		60		65		70		75		80	
Ambient Temperature(°C)		Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP
Mid.	-25	1812	2.25	1785	2.16	1759	2.08	1733	1.99	1544	1.87	1355	1.74	1165	1.62	976	1.50	878	1.40	780	1.33	——	——	——	——	——	——
	-20	2046	2.78	2013	2.70	1980	2.61	1946	2.53	1763	2.34	1580	2.14	1396	1.95	1213	1.76	1089	1.65	966	1.59	843	1.45	——	——	——	——
	-15	2281	3.32	2240	3.23	2200	3.14	2160	3.06	1982	2.80	1805	2.54	1627	2.29	1450	2.03	1301	1.90	1152	1.84	1003	1.67	——	——	——	——
	-10	2515	3.85	2468	3.77	2420	3.68	2373	3.59	2201	3.27	2030	2.94	1858	2.62	1687	2.30	1512	2.15	1338	2.07	1164	1.88	990	1.68	——	——
	-7	2656	4.17	2604	4.09	2553	4.00	2501	3.91	2333	3.55	2165	3.19	1997	2.82	1829	2.46	1639	2.30	1450	2.20	1260	2.00	1071	1.78	881	1.54
	-2	2891	4.71	2832	4.62	2773	4.53	2714	4.44	2552	4.01	2390	3.59	2228	3.16	2066	2.73	1851	2.55	1636	2.41	1421	2.19	1206	1.95	991	1.69
	2	3078	5.14	3014	5.05	2949	4.96	2885	4.87	2727	4.39	2570	3.91	2413	3.42	2255	2.94	2020	2.75	1785	2.57	1550	2.34	1314	2.08	1079	1.80
	7	3313	5.67	3241	5.58	3170	5.49	3098	5.40	2946	4.85	2795	4.31	2643	3.76	2492	3.21	2231	3.00	1971	2.76	1710	2.51	1450	2.24	1189	1.93
	12	3548	5.99	3469	5.87	3390	5.75	3311	5.63	3166	5.08	3020	4.52	2874	3.97	2729	3.42	2443	3.19	2157	2.95	1871	2.68	1585	2.38	1299	2.05
	15	3688	6.17	3605	6.04	3522	5.90	3439	5.77	3297	5.21	3155	4.65	3013	4.09	2871	3.54	2570	3.30	2269	3.05	1967	2.77	1666	2.46	1365	2.13
	20	3923	6.47	3833	6.31	3743	6.14	3652	5.98	3516	5.42	3380	4.85	3244	4.29	3108	3.73	2781	3.48	2455	3.21	2128	2.92	1801	2.60	1475	**2.24**
	25	——	——	4060	6.57	3963	6.37	3866	6.18	3735	5.61	3605	5.05	3475	4.48	3345	3.91	2993	3.65	2641	3.37	2289	3.06	1937	2.73	——	——
	30	——	——	——	——	4183	6.60	4079	6.38	3955	5.80	3830	5.23	3706	4.65	3582	4.08	3204	3.81	2827	3.52	2449	3.20	——	——	——	——
	35	——	——	——	——	——	——	4292	6.56	4174	5.98	4055	5.40	3937	4.82	3819	4.24	——	——	——	——	——	——	——	——	——	——
	43	——	——	——	——	——	——	——	——	——	——	4415	5.67	4307	5.08	4198	4.49	——	——	——	——	——	——	——	——	——	——
Min.	-25	941	2.39	923	2.33	904	2.26	886	2.19	786	2.07	685	1.94	585	1.82	485	1.69	437	1.62	389	1.57	——	——	——	——	——	——
	-20	1061	3.11	1040	3.04	1019	2.97	997	2.90	901	2.67	805	2.44	709	2.22	612	1.99	549	1.89	486	1.87	423	1.73	——	——	——	——
	-15	1181	3.82	1157	3.75	1133	3.67	1109	3.60	1017	3.27	924	2.94	832	2.61	740	2.28	662	2.17	583	2.15	505	1.98	——	——	——	——
	-10	1301	4.53	1274	4.46	1247	4.38	1220	4.31	1132	3.87	1044	3.44	955	3.01	867	2.58	774	2.44	681	2.41	587	2.21	494	1.99	——	——
	-7	1373	4.96	1345	4.88	1316	4.81	1287	4.73	1201	4.23	1115	3.74	1029	3.25	944	2.75	841	2.61	739	2.55	637	2.35	534	2.11	432	1.83
	-2	1493	5.68	1462	5.59	1430	5.51	1399	5.43	1317	4.84	1235	4.24	1153	3.64	1071	3.05	954	2.88	836	2.78	719	2.55	601	2.29	484	1.98
	2	1589	6.25	1556	6.16	1522	6.08	1488	5.99	1409	5.32	1330	4.64	1252	3.96	1173	3.29	1043	3.10	914	2.95	784	2.70	655	2.42	525	2.10
	7	1709	6.96	1673	6.87	1636	6.79	1600	6.70	1525	5.92	1450	5.14	1375	4.36	1300	3.58	1156	3.38	1011	3.15	866	2.88	722	2.58	577	2.23
	12	1829	7.30	1790	7.19	1750	7.07	1711	6.96	1640	6.16	1569	5.37	1499	4.58	1428	3.79	1268	3.57	1108	3.33	949	3.05	789	2.73	629	2.36
	15	1901	7.49	1860	7.37	1819	7.24	1778	7.10	1709	6.30	1641	5.50	1573	4.70	1504	3.90	1335	3.68	1167	3.43	998	3.15	829	2.82	660	2.43
	20	2021	7.81	1977	7.65	1933	7.50	1889	7.34	1825	6.53	1760	5.72	1696	4.90	1632	4.09	1448	3.86	1264	3.60	1080	3.30	896	2.95	712	**2.55**
	25	——	——	2095	7.93	2048	7.75	2001	7.57	1940	6.74	1880	5.91	1819	5.09	1759	4.26	1560	4.02	1361	3.75	1162	3.44	963	3.08	——	——
	30	——	——	——	——	2162	7.99	2112	7.78	2056	6.94	1999	6.10	1943	5.26	1886	4.42	1672	4.18	1458	3.90	1244	3.57	——	——	——	——
	35	——	——	——	——	——	——	2224	7.98	2171	7.13	2119	6.28	2066	5.43	2014	4.58	——	——	——	——	——	——	——	——	——	——
	43	——	——	——	——	——	——	——	——	——	——	2310	6.54	2264	5.67	2218	4.80	——	——	——	——	——	——	——	——	——	——

	AW082																													
Water Out(°C)	20		25		30		35		40		45		50		55		60		65		70		75		80	
Ambient Temperature(°C)	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP
Max.	-25	5144	2.16	5111	2.08	5077	1.99	5043	1.91	4395	1.80	3747	1.69	3099	1.57	2451	1.46	2198	1.35	1946	0.97	——	——	——	——	——
	-20	6149	2.69	6109	2.59	6069	2.50	6029	2.41	5353	2.24	4677	2.08	4000	1.91	3324	1.75	2956	1.59	2587	1.24	2219	1.07	——	——	——	——
	-15	7155	3.21	7108	3.11	7061	3.01	7014	2.91	6310	2.69	5606	2.47	4902	2.25	4198	2.03	3713	1.82	3229	1.50	2745	1.27	——	——	——	——
	-10	8160	3.74	8107	3.62	8053	3.51	8000	3.40	7268	3.13	6535	2.86	5803	2.59	5071	2.32	4471	2.06	3870	1.74	3270	1.46	2670	1.19	——	——
	-7	8385	4.05	8321	3.93	8258	3.82	8195	3.70	7545	3.40	6895	3.10	6245	2.79	5595	2.49	4925	2.20	4255	1.87	3586	1.57	2916	1.28	2246	1.03
	-2	8759	4.58	8679	4.45	8599	4.32	8519	4.20	8006	3.84	7494	3.49	6981	3.13	6468	2.77	5682	2.44	4897	2.09	4111	1.74	3325	1.41	2540	1.07
	2	9058	4.99	8965	4.86	8872	4.73	8779	4.60	8376	4.20	7973	3.80	7570	3.40	7167	3.00	6288	2.62	5410	2.25	4532	1.87	3653	1.50	2775	1.14
	7	9432	5.52	9323	5.38	9213	5.24	9103	5.10	8838	4.65	8572	4.19	8306	3.74	8040	3.28	7046	2.86	6051	2.44	5057	2.03	4063	1.62	3069	1.22
	12	9806	5.70	9680	5.55	9554	5.40	9428	5.26	8769	4.62	8109	3.98	7450	3.34	6791	2.70	6105	2.41	5419	2.12	4734	1.84	4048	1.56	3362	1.29
	15	10031	5.81	9895	5.65	9759	5.50	9623	5.35	9006	4.72	8389	4.08	7772	3.44	7155	2.80	6432	2.50	5709	2.20	4985	1.91	4262	1.62	3539	1.33
	20	10405	5.98	10252	5.82	10100	5.66	9947	5.51	9401	4.87	8855	4.24	8309	3.60	7763	2.96	6977	2.64	6191	2.32	5405	2.01	4619	1.70	3833	1.40
	25	——	——	10610	5.99	10441	5.82	10272	5.66	9797	5.03	9322	4.39	8846	3.75	8371	3.12	7522	2.77	6673	2.43	5824	2.10	4975	1.78	——	——
	30	——	——	——	——	10782	5.98	10596	5.82	10192	5.18	9788	4.54	9384	3.90	8979	3.26	8067	2.90	7156	2.54	6244	2.19	——	——	——	——
	35	——	——	——	——	——	——	10921	5.97	10587	5.33	10254	4.69	9921	4.04	9587	3.40	——	——	——	——	——	——	——	——	——	——
	43	——	——	——	——	——	——	——	——	——	——	11000	4.91	10780	4.26	10560	3.61	——	——	——	——	——	——	——	——	——	——
Nom.	-25	4790	2.23	4714	2.14	4638	2.05	4562	1.97	4029	1.85	3496	1.74	2963	1.62	2430	1.51	2175	1.40	1919	1.01	——	——	——	——	——	——
	-20	5354	2.81	5269	2.70	5184	2.60	5099	2.49	4650	2.32	4200	2.15	3750	1.98	3300	1.80	2925	1.64	2549	1.29	2173	1.09	——	——	——	——
	-15	5918	3.38	5824	3.26	5731	3.14	5637	3.02	5270	2.79	4904	2.56	4537	2.33	4171	2.10	3674	1.88	3178	1.55	2682	1.30	——	——	——	——
	-10	6482	3.96	6380	3.82	6277	3.68	6174	3.55	5891	3.26	5607	2.97	5324	2.68	5041	2.39	4424	2.12	3808	1.79	3191	1.49	2574	1.20	——	——
	-7	6821	4.30	6713	4.15	6604	4.01	6496	3.87	6263	3.54	6030	3.22	5796	2.90	5563	2.57	4874	2.27	4185	1.93	3496	1.60	2807	1.28	2118	0.96
	-2	7385	4.88	7268	4.71	7150	4.55	7033	4.40	6883	4.02	6733	3.63	6583	3.25	6433	2.87	5624	2.51	4815	2.14	4005	1.77	3196	1.41	2387	1.04
	2	7836	5.34	7712	5.16	7587	4.99	7463	4.82	7380	4.39	7296	3.96	7213	3.53	7130	3.10	6224	2.70	5318	2.31	4413	1.90	3507	1.50	2601	1.11
	7	8400	5.91	8267	5.72	8133	5.53	8000	5.35	8000	4.86	8000	4.38	8000	3.89	8000	3.40	6974	2.95	5948	2.50	4922	2.06	3895	1.62	2869	1.18
	12	8750	6.05	8611	5.86	8472	5.68	8333	5.50	8306	4.98	8278	4.47	8250	3.96	8222	3.45	7205	2.99	6188	2.55	5171	2.11	4154	1.68	3137	1.26
	15	8960	6.14	8818	5.95	8676	5.76	8533	5.58	8489	5.06	8444	4.53	8400	4.00	8356	3.47	7344	3.02	6333	2.57	5321	2.14	4310	1.71	3298	1.30
	20	9310	6.27	9162	6.08	9014	5.90	8867	5.72	8794	5.17	8722	4.62	8650	4.07	8578	3.52	7576	3.06	6573	2.62	5571	2.19	4569	1.77	3566	**1.36**
	25	——	——	9507	6.21	9353	6.03	9200	5.86	9100	5.29	9000	4.71	8900	4.14	8800	3.56	7807	3.10	6814	2.66	5821	2.23	4828	1.82	——	——
	30	——	——	——	——	9692	6.16	9533	5.99	9406	5.40	9278	4.80	9150	4.20	9022	3.60	8038	3.14	7054	2.70	6071	2.28	——	——	——	——
	35	——	——	——	——	——	——	9867	6.12	9711	5.50	9556	4.88	9400	4.26	9244	3.65	——	——	——	——	——	——	——	——	——	——
	43	——	——	——	——	——	——	——	——	——	——	10000	5.02	9800	4.36	9600	3.71	——	——	——	——	——	——	——	——	——	——

AW082																											
Water Out(°C)		20		25		30		35		40		45		50		55		60		65		70		75		80	
Ambient Temperature(°C)		Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP
Mid.	-25	2456	2.25	2421	2.18	2386	2.11	2350	2.04	2048	1.92	1746	1.81	1443	1.70	1141	1.58	1026	1.51	911	1.21	——	——	——	——	——	——
	-20	2766	2.79	2721	2.71	2677	2.64	2632	2.57	2341	2.38	2050	2.20	1759	2.01	1468	1.83	1318	1.73	1167	1.50	1016	1.40	——	——	——	——
	-15	3076	3.33	3022	3.25	2967	3.17	2913	3.10	2634	2.84	2355	2.58	2075	2.32	1796	2.07	1610	1.96	1423	1.77	1236	1.64	——	——	——	——
	-10	3386	3.87	3322	3.79	3258	3.71	3195	3.63	2927	3.30	2659	2.97	2391	2.64	2124	2.31	1901	2.18	1679	2.02	1457	1.87	1235	1.70	——	——
	-7	3572	4.19	3502	4.11	3433	4.03	3363	3.95	3103	3.57	2842	3.20	2581	2.83	2320	2.45	2077	2.32	1833	2.16	1589	2.00	1345	1.82	1102	1.60
	-2	3881	4.73	3803	4.65	3724	4.56	3645	4.48	3396	4.03	3146	3.58	2897	3.14	2648	2.69	2369	2.55	2089	2.39	1810	2.20	1530	2.00	1251	1.76
	2	4129	5.16	4043	5.07	3956	4.99	3870	4.90	3630	4.40	3390	3.89	3150	3.39	2910	2.89	2602	2.73	2294	2.56	1986	2.36	1678	2.13	1370	1.87
	7	4439	5.70	4343	5.61	4247	5.52	4151	5.43	3923	4.86	3695	4.28	3466	3.70	3238	3.13	2894	2.95	2550	2.76	2206	2.54	1863	2.29	1519	2.01
	12	4749	6.01	4643	5.89	4538	5.78	4433	5.66	4216	5.08	3999	4.50	3782	3.93	3565	3.35	3186	3.16	2806	2.95	2427	2.71	2047	2.44	1668	2.13
	15	4935	6.19	4824	6.06	4713	5.92	4602	5.79	4392	5.21	4182	4.63	3972	4.06	3762	3.48	3361	3.28	2960	3.06	2559	2.81	2158	2.53	1757	2.20
	20	5244	6.49	5124	6.32	5004	6.16	4883	6.00	4685	5.42	4486	4.84	4288	4.26	4090	3.68	3653	3.47	3216	3.23	2780	2.96	2343	2.66	1906	**2.32**
	25	——	——	5424	6.58	5294	6.39	5164	6.20	4978	5.62	4791	5.04	4604	4.46	4417	3.88	3945	3.65	3473	3.40	3000	3.11	2528	2.79	——	——
	30	——	——	——	——	5585	6.61	5446	6.39	5271	5.81	5095	5.22	4920	4.64	4745	4.06	4237	3.82	3729	3.55	3221	3.25	——	——	——	——
	35	——	——	——	——	——	——	5727	6.57	5564	5.99	5400	5.40	5236	4.82	5073	4.24	——	——	——	——	——	——	——	——	——	——
	43	——	——	——	——	——	——	——	——	——	——	5887	5.67	5742	5.09	5597	4.50	——	——	——	——	——	——	——	——	——	——
Min.	-25	1276	2.39	1251	2.34	1226	2.28	1201	2.22	1043	2.10	885	1.97	726	1.85	568	1.73	511	1.67	455	1.43	——	——	——	——	——	——
	-20	1434	3.11	1406	3.05	1377	2.99	1349	2.92	1197	2.69	1046	2.46	895	2.24	744	2.01	666	1.93	588	1.77	511	1.67	——	——	——	——
	-15	1593	3.83	1560	3.76	1528	3.70	1496	3.63	1352	3.29	1207	2.96	1063	2.62	919	2.28	821	2.19	722	2.07	623	1.95	——	——	——	——
	-10	1751	4.55	1715	4.48	1679	4.41	1643	4.33	1506	3.89	1369	3.45	1232	3.00	1095	2.56	975	2.45	856	2.35	736	2.20	616	2.01	——	——
	-7	1846	4.98	1808	4.91	1770	4.83	1731	4.76	1598	4.25	1466	3.74	1333	3.23	1200	2.72	1068	2.60	936	2.50	804	2.34	671	2.14	539	1.90
	-2	2005	5.70	1963	5.62	1921	5.54	1878	5.46	1753	4.85	1627	4.23	1502	3.62	1376	3.00	1223	2.86	1069	2.75	916	2.56	763	2.33	610	2.06
	2	2132	6.28	2087	6.19	2041	6.11	1996	6.03	1876	5.32	1756	4.62	1636	3.92	1516	3.22	1346	3.07	1176	2.93	1006	2.72	836	2.47	666	2.18
	7	2290	6.99	2241	6.91	2192	6.82	2143	6.73	2031	5.92	1918	5.11	1805	4.30	1692	3.50	1501	3.33	1310	3.14	1119	2.91	928	2.64	736	2.31
	12	2449	7.33	2396	7.21	2343	7.10	2291	6.98	2185	6.17	2079	5.35	1973	4.54	1868	3.72	1656	3.54	1443	3.33	1231	3.08	1019	2.79	807	2.44
	15	2544	7.52	2489	7.39	2434	7.26	2379	7.13	2277	6.31	2176	5.49	2075	4.67	1973	3.85	1748	3.66	1524	3.44	1299	3.18	1074	2.88	849	2.51
	20	2703	7.83	2644	7.68	2585	7.52	2526	7.36	2432	6.53	2337	5.70	2243	4.88	2149	4.05	1903	3.85	1657	3.61	1411	3.34	1166	3.02	920	**2.63**
	25	——	——	2798	7.95	2736	7.76	2673	7.58	2586	6.74	2499	5.91	2412	5.07	2324	4.23	2058	4.02	1791	3.78	1524	3.49	1257	3.15	——	——
	30	——	——	——	——	2887	8.00	2820	7.79	2740	6.94	2660	6.10	2580	5.25	2500	4.41	2212	4.18	1924	3.93	1637	3.62	——	——	——	——
	35	——	——	——	——	——	——	2968	7.98	2895	7.13	2822	6.28	2749	5.43	2676	4.57	——	——	——	——	——	——	——	——	——	——
	43	——	——	——	——	——	——	——	——	——	——	3080	6.55	3018	5.68	2957	4.81	——	——	——	——	——	——	——	——	——	——

AW102/AW10N																															
Water Out(°C)		20		25		30		35		40		45		50		55		60		65		70		75		80	
	Ambient Temperature(°C)	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP
Max.	-25	6609	2.12	6566	2.05	6522	1.98	6479	1.91	5622	1.82	4764	1.72	3907	1.63	3050	1.53	2736	1.44	2422	0.99	——	——	——	——	——	——
	-20	7806	2.62	7755	2.54	7704	2.46	7653	2.38	6777	2.23	5902	2.09	5027	1.94	4151	1.80	3692	1.65	3233	1.26	2775	1.08	——	——	——	——
	-15	9003	3.11	8944	3.02	8885	2.93	8826	2.84	7933	2.65	7040	2.45	6146	2.26	5253	2.06	4649	1.87	4045	1.51	3441	1.28	——	——	——	——
	-10	10200	3.61	10133	3.51	10067	3.41	10000	3.31	9089	3.07	8177	2.82	7266	2.58	6354	2.33	5606	2.08	4857	1.74	4108	1.47	3359	1.19	——	——
	-7	10481	3.91	10402	3.80	10322	3.70	10243	3.59	9436	3.32	8629	3.04	7822	2.76	7015	2.49	6179	2.21	5343	1.87	4507	1.57	3671	1.27	2835	1.02
	-2	10948	4.41	10849	4.29	10749	4.17	10649	4.06	10016	3.73	9383	3.41	8750	3.08	8117	2.75	7136	2.43	6155	2.07	5174	1.73	4193	1.39	3212	1.06
	2	11323	4.81	11206	4.68	11090	4.56	10974	4.43	10480	4.07	9986	3.70	9492	3.33	8998	2.97	7901	2.60	6804	2.22	5707	1.85	4610	1.48	3513	1.12
	7	11790	5.30	11653	5.17	11516	5.03	11379	4.90	11059	4.48	10740	4.07	10420	3.65	10100	3.23	8858	2.81	7616	2.40	6374	1.99	5132	1.59	3890	1.20
	12	12258	5.47	12100	5.33	11943	5.19	11785	5.05	10874	4.42	9963	3.78	9052	3.15	8142	2.52	7366	2.26	6591	2.00	5816	1.75	5041	1.51	4266	1.26
	15	12539	5.57	12369	5.42	12198	5.28	12028	5.14	11164	4.50	10301	3.87	9437	3.24	8573	2.60	7757	2.33	6941	2.07	6124	1.81	5308	1.55	4492	1.30
	20	13006	5.73	12816	5.58	12625	5.43	12434	5.28	11648	4.64	10863	4.01	10078	3.37	9292	2.73	8407	2.45	7523	2.17	6638	1.89	5753	1.62	4868	1.36
	25	——	——	13263	5.73	13051	5.58	12840	5.42	12133	4.78	11425	4.14	10718	3.50	10011	2.86	9058	2.56	8105	2.26	7151	1.97	6198	1.69	——	——
	30	——	——	——	——	13477	5.72	13245	5.56	12617	4.91	11988	4.27	11359	3.62	10730	2.97	9708	2.66	8687	2.35	7665	2.05	——	——	——	——
	35	——	——	——	——	——	——	13651	5.70	13101	5.05	12550	4.39	12000	3.74	11449	3.08	——	——	——	——	——	——	——	——	——	——
	43	——	——	——	——	——	——	——	——	——	——	13450	4.58	13025	3.91	12600	3.24	——	——	——	——	——	——	——	——	——	——
Nom.	-25	6180	2.18	6082	2.11	5984	2.03	5886	1.96	5169	1.86	4453	1.76	3736	1.66	3019	1.56	2702	1.46	2384	1.00	——	——	——	——	——	——
	-20	6855	2.72	6746	2.63	6637	2.54	6529	2.45	5924	2.29	5319	2.13	4715	1.97	4110	1.81	3642	1.67	3173	1.27	2704	1.08	——	——	——	——
	-15	7530	3.26	7410	3.15	7291	3.04	7171	2.94	6679	2.72	6186	2.51	5694	2.29	5201	2.07	4581	1.88	3962	1.51	3342	1.27	——	——	——	——
	-10	8205	3.80	8075	3.67	7945	3.55	7814	3.43	7434	3.15	7053	2.88	6672	2.60	6292	2.33	5521	2.08	4751	1.74	3980	1.45	3210	1.17	——	——
	-7	8610	4.12	8473	3.99	8337	3.85	8200	3.73	7887	3.41	7573	3.10	7260	2.79	6946	2.48	6085	2.21	5224	1.86	4363	1.55	3502	1.24	2641	0.93
	-2	9285	4.66	9138	4.51	8990	4.36	8843	4.22	8641	3.85	8440	3.48	8238	3.11	8037	2.74	7025	2.41	6013	2.06	5001	1.71	3989	1.36	2977	1.01
	2	9825	5.10	9669	4.93	9513	4.77	9357	4.61	9245	4.19	9133	3.78	9021	3.36	8909	2.94	7777	2.58	6644	2.20	5511	1.82	4378	1.45	3245	1.07
	7	10500	5.64	10333	5.45	10167	5.27	10000	5.10	10000	4.63	10000	4.15	10000	3.68	10000	3.20	8716	2.79	7433	2.37	6149	1.96	4865	1.55	3581	1.14
	12	10938	5.77	10764	5.59	10590	5.41	10417	5.24	10382	4.74	10347	4.24	10313	3.74	10278	3.24	9006	2.83	7734	2.41	6461	2.01	5189	1.60	3917	1.20
	15	11200	5.85	11022	5.67	10844	5.49	10667	5.32	10611	4.81	10556	4.30	10500	3.78	10444	3.27	9179	2.85	7914	2.44	6649	2.03	5384	1.63	4119	1.24
	20	11638	5.97	11453	5.80	11268	5.62	11083	5.46	10993	4.92	10903	4.38	10813	3.85	10722	3.31	9469	2.89	8215	2.48	6962	2.07	5708	1.68	4455	**1.30**
	25	——	——	11883	5.92	11692	5.75	11500	5.59	11375	5.03	11250	4.47	11125	3.91	11000	3.35	9758	2.93	8516	2.51	7274	2.11	6033	1.73	——	——
	30	——	——	——	——	12115	5.88	11917	5.71	11757	5.13	11597	4.55	11438	3.97	11278	3.39	10048	2.96	8817	2.55	7587	2.15	——	——	——	——
	35	——	——	——	——	——	——	12333	5.84	12139	5.23	11944	4.63	11750	4.03	11556	3.43	——	——	——	——	——	——	——	——	——	——
	43	——	——	——	——	——	——	——	——	——	——	12500	4.76	12250	4.13	12000	3.49	——	——	——	——	——	——	——	——	——	——

AW102/AW10N																													
Water Out(°C)		20		25		30		35		40		45		50		55		60		65		70		75		80	
Ambient Temperature(°C)		Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP
Mid.	-25	3173	2.20	3128	2.17	3082	2.14	3036	2.12	2628	2.05	2220	1.98	1811	1.91	1403	1.84	1263	1.80	1124	1.23	——	——	——	——	——	——
	-20	3553	2.71	3496	2.68	3438	2.64	3381	2.60	2983	2.45	2586	2.31	2189	2.16	1791	2.01	1612	1.96	1433	1.50	1253	1.40	——	——	——	——
	-15	3932	3.23	3863	3.18	3794	3.14	3726	3.09	3339	2.86	2952	2.64	2566	2.41	2179	2.18	1960	2.11	1742	1.75	1523	1.63	——	——	——	——
	-10	4312	3.74	4231	3.69	4151	3.63	4070	3.58	3694	3.27	3318	2.96	2943	2.66	2567	2.35	2309	2.26	2051	1.97	1793	1.84	1535	1.68	——	——
	-7	4540	4.05	4452	3.99	4364	3.93	4277	3.87	3907	3.51	3538	3.16	3169	2.81	2799	2.46	2518	2.36	2236	2.10	1955	1.95	1673	1.79	1391	1.60
	-2	4920	4.56	4820	4.49	4721	4.42	4621	4.35	4263	3.92	3904	3.49	3546	3.06	3187	2.63	2866	2.51	2545	2.30	2224	2.14	1903	1.95	1582	1.74
	2	5223	4.97	5115	4.90	5006	4.82	4897	4.74	4547	4.25	4197	3.75	3847	3.26	3498	2.77	3145	2.63	2792	2.45	2440	2.27	2087	2.08	1735	1.85
	7	5603	5.49	5483	5.40	5362	5.32	5241	5.23	4902	4.66	4563	4.08	4224	3.51	3885	2.94	3493	2.79	3102	2.62	2710	2.43	2318	2.22	1926	1.97
	12	5983	5.77	5851	5.66	5718	5.55	5586	5.44	5258	4.86	4930	4.28	4601	3.70	4273	3.12	3842	2.96	3411	2.78	2979	2.58	2548	2.35	2117	2.09
	15	6211	5.94	6071	5.81	5932	5.69	5793	5.56	5471	4.97	5149	4.39	4828	3.81	4506	3.23	4051	3.06	3596	2.87	3141	2.66	2686	2.43	2231	2.16
	20	6590	6.22	6439	6.06	6288	5.90	6137	5.75	5826	5.16	5516	4.57	5205	3.98	4894	3.40	4399	3.22	3905	3.02	3411	2.80	2916	2.54	2422	**2.26**
	25	——	——	6807	6.30	6644	6.11	6482	5.93	6182	5.34	5882	4.74	5582	4.15	5282	3.55	4748	3.36	4214	3.15	3680	2.92	3147	2.65	——	——
	30	——	——	——	——	7001	6.32	6826	6.10	6537	5.50	6248	4.90	5959	4.30	5670	3.70	5096	3.50	4523	3.28	3950	3.04	——	——	——	——
	35	——	——	——	——	——	——	7171	6.27	6892	5.66	6614	5.06	6336	4.45	6057	3.84	——	——	——	——	——	——	——	——	——	——
	43	——	——	——	——	——	——	——	——	——	——	7200	5.28	6939	4.66	6678	4.05	——	——	——	——	——	——	——	——	——	——
Min.	-25	1648	2.34	1616	2.32	1584	2.29	1552	2.26	1338	2.17	1125	2.09	912	2.00	698	1.91	630	1.88	561	1.45	——	——	——	——	——	——
	-20	1842	3.03	1806	2.99	1769	2.96	1732	2.92	1526	2.72	1319	2.52	1113	2.32	906	2.12	814	2.07	722	1.76	630	1.67	——	——	——	——
	-15	2037	3.72	1995	3.67	1954	3.63	1913	3.58	1713	3.27	1513	2.96	1314	2.65	1114	2.34	999	2.27	883	2.04	767	1.92	——	——	——	——
	-10	2231	4.40	2185	4.35	2139	4.29	2093	4.24	1900	3.82	1708	3.39	1515	2.97	1322	2.55	1183	2.47	1044	2.29	905	2.15	766	1.99	——	——
	-7	2347	4.81	2299	4.75	2250	4.70	2201	4.63	2013	4.15	1824	3.66	1636	3.17	1447	2.68	1294	2.58	1141	2.42	987	2.28	834	2.10	681	1.89
	-2	2542	5.50	2488	5.43	2435	5.36	2381	5.29	2200	4.69	2018	4.09	1837	3.49	1655	2.89	1478	2.78	1302	2.64	1125	2.47	948	2.27	771	2.04
	2	2697	6.05	2640	5.97	2583	5.90	2526	5.82	2350	5.13	2174	4.44	1998	3.75	1822	3.06	1626	2.94	1430	2.79	1235	2.61	1039	2.40	843	2.15
	7	2891	6.73	2829	6.65	2768	6.57	2706	6.48	2537	5.68	2368	4.88	2199	4.08	2030	3.27	1811	3.13	1591	2.97	1372	2.78	1153	2.55	933	2.27
	12	3085	7.04	3019	6.93	2953	6.82	2886	6.71	2724	5.90	2562	5.08	2400	4.27	2238	3.46	1995	3.31	1752	3.13	1509	2.93	1267	2.68	1024	2.39
	15	3202	7.22	3133	7.09	3064	6.97	2994	6.84	2836	6.02	2679	5.20	2521	4.38	2363	3.56	2106	3.40	1849	3.22	1592	3.01	1335	2.76	1078	2.45
	20	3396	7.51	3322	7.36	3248	7.21	3175	7.06	3024	6.22	2873	5.39	2722	4.56	2571	3.72	2290	3.56	2010	3.37	1729	3.14	1449	2.88	1168	**2.56**
	25	——	——	3512	7.61	3433	7.43	3355	7.25	3211	6.41	3067	5.56	2923	4.72	2779	3.87	2475	3.70	2171	3.50	1867	3.26	1563	2.98	——	——
	30	——	——	——	——	3618	7.64	3535	7.44	3398	6.59	3261	5.73	3124	4.87	2987	4.01	2659	3.83	2332	3.62	2004	3.38	——	——	——	——
	35	——	——	——	——	——	——	3716	7.62	3585	6.75	3455	5.88	3325	5.01	3195	4.14	——	——	——	——	——	——	——	——	——	——
	43	——	——	——	——	——	——	——	——	——	——	3766	6.11	3647	5.22	3528	4.33	——	——	——	——	——	——	——	——	——	——

Haier

AW122/AW12N																															
Water Out(°C)		20		25		30		35		40		45		50		55		60		65		70		75		80	
	Ambient Temperature(°C)	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP
Max.	-25	7395	2.05	7347	1.98	7298	1.91	7250	1.84	6549	1.75	5848	1.66	5148	1.57	4447	1.48	4007	1.38	3567	1.13	——	——	——	——	——	——
	-20	9010	2.51	8951	2.42	8892	2.34	8833	2.27	8017	2.14	7200	2.01	6384	1.88	5567	1.75	4984	1.60	4402	1.36	3820	1.17	——	——	——	——
	-15	10625	2.96	10556	2.87	10486	2.78	10417	2.69	9484	2.52	8552	2.36	7619	2.19	6687	2.02	5962	1.83	5237	1.57	4513	1.35	——	——	——	——
	-10	12240	3.41	12160	3.31	12080	3.22	12000	3.12	10952	2.91	9903	2.71	8855	2.50	7807	2.29	6940	2.05	6073	1.78	5205	1.51	4338	1.25	——	——
	-7	12577	3.68	12482	3.58	12387	3.48	12292	3.38	11339	3.15	10386	2.92	9432	2.68	8479	2.45	7526	2.18	6574	1.90	5621	1.61	4668	1.33	3716	1.05
	-2	13138	4.14	13018	4.02	12899	3.91	12779	3.81	11984	3.53	11189	3.26	10394	2.99	9599	2.72	8504	2.40	7409	2.08	6314	1.76	5219	1.44	4124	1.13
	2	13587	4.50	13447	4.38	13308	4.26	13168	4.15	12500	3.85	11832	3.54	11163	3.24	10495	2.94	9286	2.58	8077	2.23	6868	1.87	5659	1.53	4450	1.19
	7	14148	4.95	13984	4.82	13820	4.70	13655	4.57	13145	4.23	12635	3.89	12125	3.55	11615	3.21	10264	2.80	8912	2.40	7561	2.01	6210	1.63	4859	1.26
	12	14710	5.16	14520	5.02	14331	4.89	14142	4.76	13156	4.26	12171	3.76	11186	3.26	10200	2.76	9214	2.46	8227	2.17	7240	1.88	6253	1.60	5267	1.33
	15	15046	5.28	14842	5.14	14638	5.00	14434	4.87	13496	4.37	12558	3.86	11620	3.36	10682	2.86	9648	2.54	8614	2.24	7580	1.94	6546	1.65	5512	1.37
	20	15608	5.49	15379	5.34	15150	5.19	14921	5.05	14062	4.54	13203	4.03	12344	3.53	11485	3.02	10372	2.68	9259	2.35	8146	2.04	7033	1.73	5920	1.43
	25	——	——	15915	5.54	15661	5.39	15408	5.24	14628	4.72	13848	4.20	13068	3.69	12289	3.17	11096	2.81	9904	2.46	8712	2.13	7520	1.80	——	——
	30	——	——	——	——	16173	5.58	15894	5.42	15194	4.90	14493	4.37	13792	3.84	13092	3.31	11821	2.93	10549	2.57	9278	2.21	——	——	——	——
	35	——	——	——	——	——	——	16381	5.61	15760	5.07	15138	4.53	14516	3.99	13895	3.45	——	——	——	——	——	——	——	——	——	——
	43	——	——	——	——	——	——	——	——	——	——	16170	4.79	15675	4.23	15180	3.67	——	——	——	——	——	——	——	——	——	——
Nom.	-25	6840	2.14	6731	2.06	6623	1.99	6514	1.91	5986	1.81	5459	1.71	4931	1.61	4403	1.51	3953	1.41	3503	1.15	——	——	——	——	——	——
	-20	7740	2.69	7617	2.59	7494	2.50	7371	2.41	6907	2.25	6442	2.10	5977	1.94	5512	1.79	4910	1.63	4308	1.38	3706	1.18	——	——	——	——
	-15	8640	3.23	8503	3.12	8366	3.01	8229	2.91	7827	2.70	7425	2.49	7023	2.28	6621	2.07	5867	1.86	5113	1.59	4359	1.35	——	——	——	——
	-10	9540	3.78	9389	3.65	9237	3.53	9086	3.41	8747	3.14	8408	2.88	8069	2.61	7730	2.35	6824	2.08	5918	1.80	5012	1.51	4106	1.22	——	——
	-7	10080	4.11	9920	3.97	9760	3.84	9600	3.70	9299	3.41	8998	3.11	8696	2.81	8395	2.52	7398	2.22	6401	1.92	5404	1.60	4407	1.29	3410	0.99
	-2	10980	4.65	10806	4.50	10631	4.35	10457	4.20	10219	3.85	9981	3.50	9742	3.15	9504	2.80	8355	2.45	7206	2.10	6057	1.75	4908	1.40	3759	1.06
	2	11700	5.09	11514	4.92	11329	4.76	11143	4.60	10955	4.21	10767	3.81	10579	3.42	10391	3.02	9120	2.63	7850	2.25	6579	1.86	5308	1.48	4038	1.12
	7	12600	5.64	12400	5.45	12200	5.27	12000	5.10	11875	4.65	11750	4.20	11625	3.75	11500	3.30	10077	2.85	8655	2.42	7232	2.00	5809	1.58	4387	1.18
	12	13350	5.87	13067	5.65	12783	5.44	12500	5.24	12330	4.77	12160	4.29	11990	3.82	11819	3.35	10403	2.90	8986	2.47	7569	2.05	6153	1.64	4736	1.24
	15	13800	6.01	13467	5.77	13133	5.54	12800	5.32	12603	4.83	12406	4.35	12208	3.86	12011	3.37	10598	2.92	9185	2.49	7772	2.08	6358	1.67	4945	1.28
	20	14550	6.23	14133	5.96	13717	5.70	13300	5.46	13058	4.95	12815	4.44	12573	3.93	12331	3.42	10923	2.97	9516	2.54	8109	2.12	6702	1.72	5294	**1.34**
	25	——	——	14800	6.15	14300	5.86	13800	5.59	13513	5.05	13225	4.52	12938	3.99	12650	3.46	11249	3.01	9847	2.58	8446	2.17	7045	1.77	——	——
	30	——	——	——	——	14883	6.02	14300	5.71	13967	5.16	13635	4.61	13302	4.05	12969	3.50	11574	3.05	10179	2.62	8783	2.21	——	——	——	——
	35	——	——	——	——	——	——	14800	5.84	14422	5.26	14044	4.69	13667	4.11	13289	3.54	——	——	——	——	——	——	——	——	——	——
	43	——	——	——	——	——	——	——	——	——	——	14700	4.81	14250	4.21	13800	3.60	——	——	——	——	——	——	——	——	——	——

AW122/AW12N

	Water Out(°C)	20		25		30		35		40		45		50		55		60		65		70		75		80	
	Ambient Temperature(°C)	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP
Mid.	-25	3500	2.15	3449	2.07	3399	1.99	3348	1.91	3039	1.82	2730	1.72	2421	1.63	2111	1.53	1902	1.46	1693	1.44	——	——	——	——	——	——
	-20	3978	2.65	3913	2.55	3848	2.45	3783	2.36	3474	2.22	3166	2.08	2857	1.94	2548	1.80	2293	1.70	2038	1.69	1784	1.58	——	——	——	——
	-15	4456	3.15	4377	3.03	4298	2.91	4218	2.80	3910	2.61	3601	2.43	3293	2.24	2984	2.06	2684	1.95	2383	1.92	2083	1.79	——	——	——	——
	-10	4935	3.65	4841	3.51	4747	3.37	4654	3.24	4345	3.01	4037	2.78	3729	2.55	3420	2.32	3074	2.19	2729	2.15	2383	1.99	2037	1.82	——	——
	-7	5222	3.95	5119	3.80	5017	3.65	4915	3.50	4607	3.25	4298	2.99	3990	2.73	3682	2.47	3309	2.34	2936	2.28	2562	2.11	2189	1.92	1816	1.70
	-2	5700	4.45	5583	4.28	5467	4.11	5350	3.95	5042	3.64	4734	3.34	4426	3.04	4119	2.74	3700	2.58	3281	2.48	2862	2.29	2443	2.08	2024	1.84
	2	6083	4.85	5954	4.66	5826	4.48	5698	4.30	5390	3.96	5083	3.62	4775	3.28	4468	2.94	4012	2.78	3557	2.64	3101	2.44	2646	2.21	2191	1.95
	7	6561	5.35	6418	5.14	6276	4.94	6133	4.74	5826	4.36	5519	3.97	5211	3.59	4904	3.21	4403	3.03	3902	2.83	3401	2.61	2900	2.36	2399	2.08
	12	7039	5.66	6882	5.44	6725	5.22	6568	5.01	6261	4.61	5954	4.21	5647	3.82	5340	3.42	4794	3.22	4247	3.01	3700	2.77	3154	2.50	2607	2.19
	15	7326	5.84	7161	5.61	6995	5.38	6829	5.17	6523	4.76	6216	4.36	5909	3.95	5602	3.54	5028	3.34	4454	3.11	3880	2.86	3306	2.58	2732	2.26
	20	7804	6.14	7624	5.89	7445	5.65	7265	5.42	6958	5.00	6651	4.58	6345	4.16	6038	3.74	5419	3.52	4799	3.28	4180	3.01	3560	2.71	2940	**2.37**
	25	——	——	8088	6.16	7894	5.92	7700	5.67	7394	5.24	7087	4.81	6781	4.37	6475	3.94	5809	3.70	5144	3.44	4479	3.15	3814	2.83	——	——
	30	——	——	——	——	8344	6.17	8135	5.92	7829	5.47	7523	5.02	7217	4.57	6911	4.12	6200	3.87	5489	3.59	4779	3.29	——	——	——	——
	35	——	——	——	——	——	——	8570	6.16	8264	5.69	7959	5.23	7653	4.76	7347	4.30	——	——	——	——	——	——	——	——	——	——
	43	——	——	——	——	——	——	——	——	——	——	8656	5.55	8351	5.06	8045	4.57	——	——	——	——	——	——	——	——	——	——
Min.	-25	1818	2.29	1782	2.21	1747	2.13	1711	2.06	1545	1.95	1379	1.84	1213	1.73	1047	1.63	946	1.55	844	1.53	——	——	——	——	——	——
	-20	2063	2.96	2021	2.86	1980	2.76	1939	2.66	1775	2.48	1611	2.30	1447	2.11	1283	1.93	1154	1.84	1025	1.82	895	1.78	——	——	——	——
	-15	2307	3.63	2260	3.50	2213	3.38	2166	3.26	2004	3.00	1842	2.75	1680	2.49	1518	2.24	1362	2.14	1205	2.10	1048	2.08	——	——	——	——
	-10	2552	4.30	2499	4.15	2447	4.00	2394	3.86	2234	3.53	2074	3.20	1914	2.87	1754	2.55	1570	2.43	1386	2.40	1201	2.34	1017	2.16	——	——
	-7	2699	4.70	2643	4.53	2587	4.37	2530	4.22	2372	3.84	2213	3.47	2054	3.10	1895	2.73	1694	2.60	1494	2.58	1293	2.47	1092	2.27	892	2.03
	-2	2944	5.37	2882	5.18	2820	4.99	2758	4.81	2601	4.37	2444	3.92	2287	3.48	2131	3.03	1903	2.89	1674	2.86	1446	2.66	1218	2.44	990	2.17
	2	3140	5.90	3073	5.69	3006	5.49	2940	5.29	2785	4.79	2629	4.29	2474	3.78	2319	3.28	2069	3.12	1819	3.02	1569	2.81	1318	2.57	1068	2.28
	7	3385	6.57	3312	6.34	3240	6.11	3167	5.89	3014	5.32	2861	4.74	2708	4.16	2555	3.59	2277	3.41	1999	3.22	1721	2.99	1444	2.72	1166	2.40
	12	3630	6.90	3551	6.66	3473	6.43	3395	6.20	3243	5.60	3092	5.00	2941	4.40	2790	3.80	2485	3.61	2180	3.40	1874	3.15	1569	2.86	1264	2.52
	15	3776	7.09	3695	6.85	3613	6.61	3531	6.38	3381	5.77	3231	5.15	3081	4.54	2931	3.92	2610	3.73	2288	3.50	1966	3.25	1645	2.95	1323	2.59
	20	4021	7.41	3934	7.16	3846	6.91	3759	6.67	3611	6.03	3463	5.40	3315	4.76	3167	4.12	2818	3.91	2468	3.67	2119	3.40	1770	3.08	1421	**2.69**
	25	——	——	4173	7.45	4079	7.20	3986	6.96	3840	6.29	3694	5.63	3548	4.97	3403	4.30	3026	4.08	2649	3.83	2272	3.54	1895	3.20	——	——
	30	——	——	——	——	4313	7.48	4213	7.23	4070	6.54	3926	5.85	3782	5.16	3638	4.48	3234	4.24	2829	3.98	2425	3.67	——	——	——	——
	35	——	——	——	——	——	——	4441	7.49	4299	6.78	4157	6.07	4015	5.35	3874	4.64	——	——	——	——	——	——	——	——	——	——
	43	——	——	——	——	——	——	——	——	——	——	4528	6.39	4389	5.64	4250	4.89	——	——	——	——	——	——	——	——	——	——

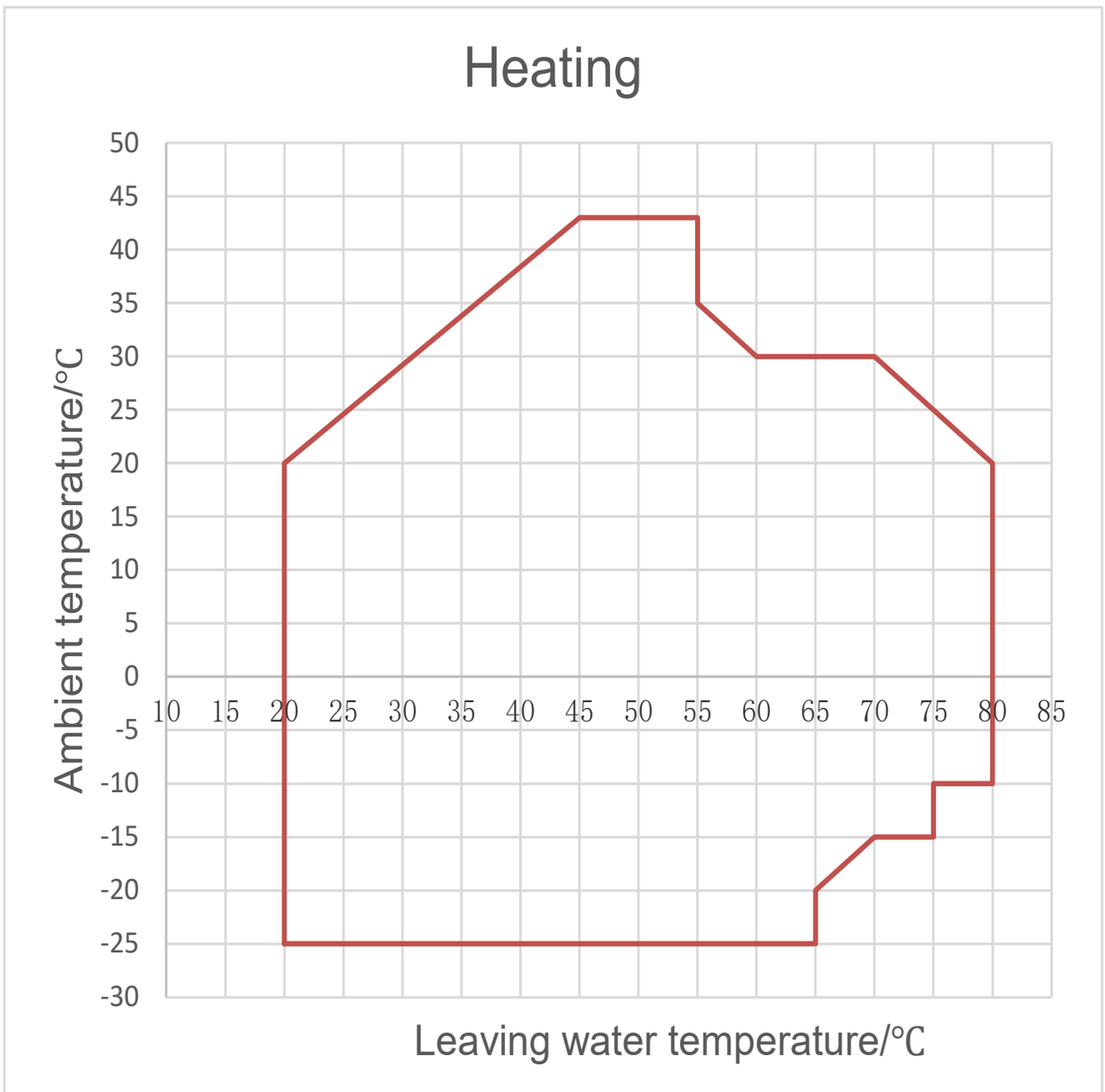
	AW142/AW14N																													
Water Out(°C)	20		25		30		35		40		45		50		55		60		65		70		75		80					
Ambient Temperature(°C)	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP				
Max.	-25	8628	1.99	8571	1.92	8515	1.84	8458	1.76	7685	1.67	6912	1.58	6139	1.48	5366	1.39	4827	1.29	4289	1.17	——	——	——	——	——	——				
	-20	10512	2.43	10443	2.35	10374	2.27	10306	2.18	9394	2.05	8482	1.92	7570	1.79	6658	1.66	5953	1.51	5248	1.39	4543	1.20	——	——	——	——				
	-15	12396	2.87	12315	2.78	12234	2.69	12153	2.60	11102	2.43	10051	2.27	9001	2.10	7950	1.93	7078	1.74	6206	1.59	5334	1.36	——	——	——	——				
	-10	14280	3.31	14187	3.21	14093	3.11	14000	3.02	12810	2.81	11621	2.61	10431	2.41	9242	2.20	8203	1.96	7165	1.78	6126	1.51	5088	1.25	——	——				
	-7	14673	3.58	14562	3.47	14451	3.37	14341	3.27	13260	3.04	12179	2.82	11098	2.59	10017	2.37	8879	2.10	7740	1.88	6602	1.60	5463	1.32	4325	1.04				
	-2	15328	4.02	15188	3.90	15048	3.79	14909	3.69	14009	3.43	13109	3.16	12209	2.90	11309	2.64	10004	2.32	8699	2.05	7394	1.73	6088	1.42	4783	1.10				
	2	15852	4.37	15689	4.25	15526	4.13	15363	4.02	14608	3.73	13853	3.44	13098	3.15	12343	2.86	10904	2.50	9466	2.18	8027	1.84	6589	1.49	5150	1.16				
	7	16506	4.81	16315	4.68	16123	4.56	15931	4.44	15357	4.11	14783	3.79	14209	3.46	13635	3.13	12030	2.73	10424	2.34	8819	1.96	7214	1.58	5609	1.22				
	12	17161	5.01	16940	4.87	16720	4.74	16499	4.62	15499	4.16	14499	3.71	13500	3.26	12500	2.80	11213	2.48	9927	2.17	8640	1.86	7354	1.56	6067	1.27				
	15	17554	5.13	17316	4.99	17078	4.85	16840	4.72	15903	4.27	14966	3.81	14030	3.35	13093	2.89	11743	2.56	10393	2.23	9043	1.91	7692	1.60	6342	1.30				
	20	18209	5.33	17942	5.18	17675	5.04	17408	4.90	16576	4.44	15745	3.97	14913	3.51	14082	3.04	12626	2.68	11169	2.34	9713	2.00	8257	1.67	6801	1.36				
	25	——	——	18568	5.38	18272	5.23	17975	5.08	17249	4.61	16523	4.13	15797	3.66	15071	3.19	13508	2.80	11946	2.43	10384	2.08	8822	1.73	——	——				
	30	——	——	——	——	18868	5.42	18543	5.27	17922	4.78	17301	4.29	16680	3.81	16059	3.32	14391	2.92	12723	2.53	11054	2.15	——	——	——	——				
	35	——	——	——	——	——	——	19111	5.45	18596	4.95	18080	4.45	17564	3.95	17048	3.45	——	——	——	——	——	——	——	——	——	——				
	43	——	——	——	——	——	——	——	——	——	——	19325	4.70	18978	4.17	18630	3.65	——	——	——	——	——	——	——	——	——	——				
Nom.	-25	7980	2.07	7853	1.98	7727	1.89	7600	1.80	7023	1.69	6446	1.58	5869	1.47	5292	1.35	4753	1.24	4213	1.23	——	——	——	——	——	——				
	-20	9030	2.60	8887	2.50	8743	2.39	8600	2.29	8094	2.13	7587	1.97	7081	1.81	6575	1.64	5859	1.49	5144	1.45	4429	1.24	——	——	——	——				
	-15	10080	3.13	9920	3.01	9760	2.90	9600	2.79	9164	2.57	8729	2.36	8293	2.14	7857	1.93	6966	1.73	6076	1.65	5185	1.40	——	——	——	——				
	-10	11130	3.66	10953	3.53	10777	3.40	10600	3.28	10235	3.01	9870	2.75	9505	2.48	9140	2.22	8073	1.97	7007	1.84	5941	1.55	4875	1.26	——	——				
	-7	11760	3.98	11573	3.84	11387	3.71	11200	3.57	10877	3.28	10555	2.98	10232	2.69	9909	2.39	8738	2.11	7566	1.94	6395	1.63	5223	1.33	4052	1.02				
	-2	12810	4.51	12607	4.36	12403	4.21	12200	4.06	11948	3.72	11696	3.37	11444	3.03	11192	2.68	9845	2.35	8498	2.11	7151	1.76	5804	1.42	4457	1.09				
	2	13650	4.94	13433	4.77	13217	4.61	13000	4.46	12804	4.07	12609	3.68	12413	3.30	12218	2.91	10730	2.55	9243	2.23	7755	1.86	6268	1.50	4781	1.14				
	7	14700	5.47	14467	5.29	14233	5.12	14000	4.95	13875	4.51	13750	4.08	13625	3.64	13500	3.20	11837	2.79	10174	2.38	8511	1.98	6848	1.59	5185	1.19				
	12	15575	5.70	15244	5.49	14914	5.28	14583	5.09	14406	4.63	14229	4.16	14052	3.70	13875	3.24	12218	2.83	10561	2.42	8904	2.02	7247	1.63	5590	1.25				
	15	16100	5.83	15711	5.60	15322	5.38	14933	5.17	14725	4.69	14517	4.22	14308	3.74	14100	3.27	12447	2.85	10793	2.45	9140	2.05	7486	1.66	5833	1.28				
	20	16975	6.04	16489	5.79	16003	5.54	15517	5.30	15256	4.80	14996	4.30	14735	3.81	14475	3.31	12828	2.89	11180	2.48	9533	2.09	7885	1.70	6238	**1.33**				
	25	——	——	17267	5.97	16683	5.69	16100	5.42	15788	4.90	15475	4.39	15163	3.87	14850	3.35	13209	2.93	11567	2.52	9926	2.12	8284	1.74	——	——				
	30	——	——	——	——	17364	5.84	16683	5.54	16319	5.01	15954	4.47	15590	3.93	15225	3.39	13589	2.96	11954	2.55	10318	2.16	——	——	——	——				
	35	——	——	——	——	——	——	17267	5.66	16850	5.11	16433	4.55	16017	3.99	15600	3.43	——	——	——	——	——	——	——	——	——	——				
	43	——	——	——	——	——	——	——	——	——	——	17200	4.67	16700	4.08	16200	3.49	——	——	——	——	——	——	——	——	——	——				

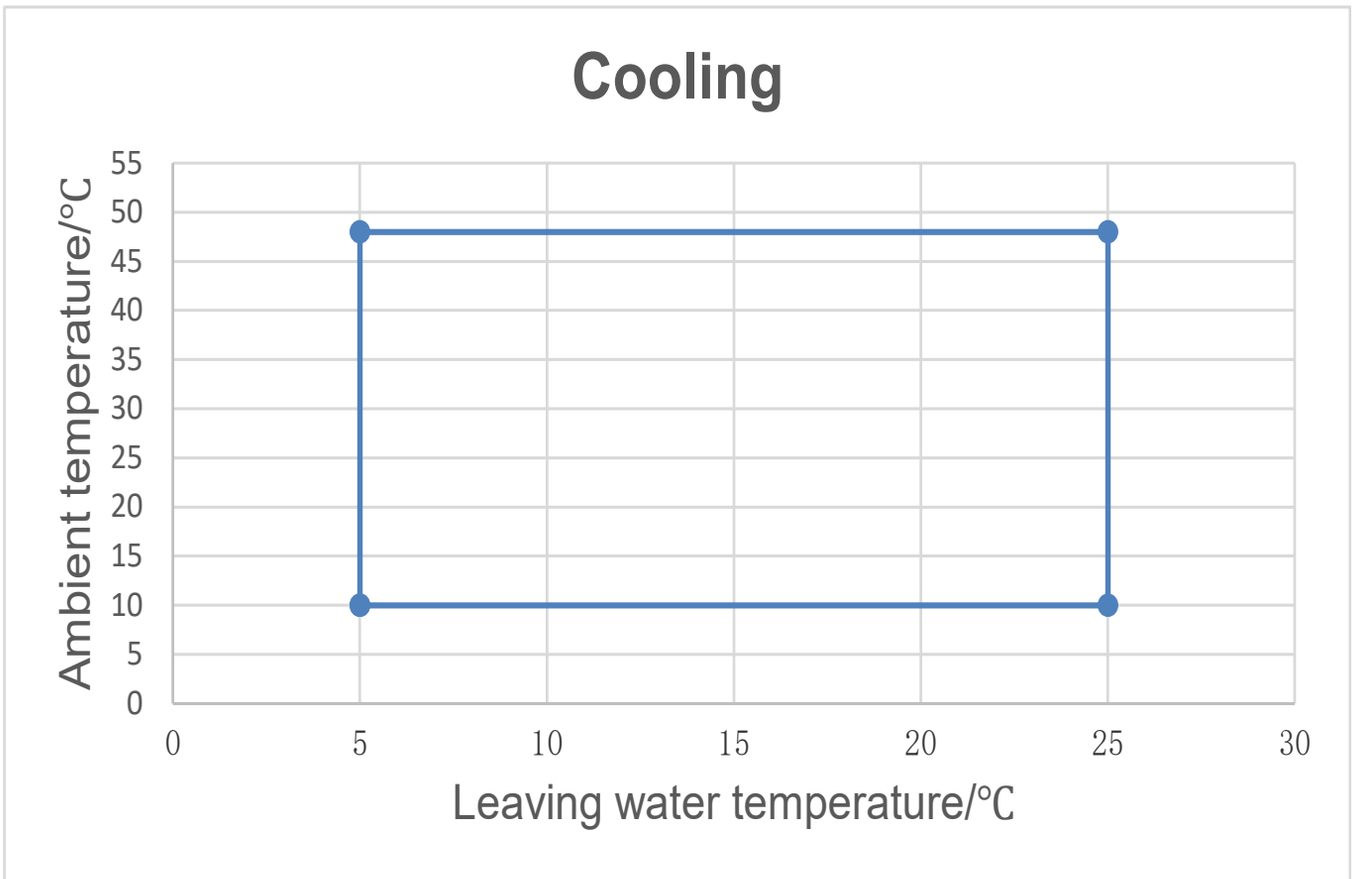
AW142/AW14N																											
Water Out(°C)		20		25		30		35		40		45		50		55		60		65		70		75		80	
Ambient Temperature(°C)		Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP
Mid.	-25	4083	2.08	4024	2.00	3965	1.93	3906	1.85	3572	1.77	3239	1.68	2905	1.59	2571	1.51	2311	1.43	2050	1.41	——	——	——	——	——	——
	-20	4641	2.56	4565	2.47	4490	2.38	4414	2.28	4087	2.16	3761	2.03	3435	1.91	3108	1.78	2787	1.69	2466	1.67	2145	1.63	——	——	——	——
	-15	5199	3.05	5107	2.94	5014	2.82	4922	2.71	4602	2.55	4283	2.38	3964	2.22	3645	2.06	3264	1.94	2882	1.98	2500	1.83	——	——	——	——
	-10	5757	3.54	5648	3.40	5539	3.27	5429	3.14	5117	2.94	4806	2.74	4494	2.53	4182	2.33	3740	2.20	3298	2.15	2856	2.03	2413	1.83	——	——
	-7	6092	3.83	5973	3.68	5853	3.54	5734	3.40	5426	3.17	5119	2.95	4812	2.72	4504	2.49	4026	2.35	3547	2.32	3069	2.14	2590	1.93	2112	1.69
	-2	6650	4.32	6514	4.15	6378	3.99	6242	3.83	5941	3.56	5641	3.30	5341	3.03	5041	2.77	4502	2.60	3963	2.51	3424	2.31	2885	2.07	2346	1.81
	2	7096	4.71	6947	4.52	6797	4.35	6648	4.17	6353	3.88	6059	3.58	5765	3.28	5471	2.99	4883	2.81	4296	2.66	3708	2.44	3121	2.18	2533	1.90
	7	7654	5.20	7488	4.99	7322	4.79	7155	4.60	6869	4.27	6582	3.93	6295	3.60	6008	3.26	5360	3.06	4712	2.84	4064	2.59	3416	2.32	2768	2.00
	12	8212	5.49	8029	5.28	7846	5.07	7663	4.86	7384	4.51	7104	4.16	6824	3.82	6545	3.47	5836	3.25	5128	3.01	4419	2.74	3711	2.44	3002	2.10
	15	8547	5.67	8354	5.44	8161	5.23	7968	5.02	7693	4.66	7417	4.30	7142	3.94	6867	3.59	6122	3.36	5377	3.10	4632	2.82	3888	2.51	3143	2.15
	20	9105	5.96	8895	5.72	8685	5.49	8475	5.26	8208	4.89	7940	4.52	7672	4.15	7404	3.78	6599	3.53	5793	3.26	4988	2.96	4182	2.62	3377	**2.24**
	25	——	——	9436	5.98	9210	5.74	8983	5.51	8723	5.12	8462	4.73	8201	4.35	7941	3.96	7075	3.69	6209	3.40	5343	3.08	4477	2.73	——	——
	30	——	——	——	——	9734	5.99	9491	5.74	9238	5.34	8984	4.94	8731	4.54	8478	4.13	7551	3.85	6625	3.54	5699	3.20	——	——	——	——
	35	——	——	——	——	——	——	9998	5.97	9753	5.56	9507	5.14	9261	4.72	9015	4.30	——	——	——	——	——	——	——	——	——	——
	43	——	——	——	——	——	——	——	——	——	——	10342	5.44	10108	5.00	9874	4.55	——	——	——	——	——	——	——	——	——	——
Min.	-25	2121	2.21	2079	2.14	2038	2.06	1997	1.99	1816	1.89	1636	1.79	1456	1.69	1276	1.59	1149	1.52	1022	1.50	——	——	——	——	——	——
	-20	2406	2.86	2358	2.76	2310	2.67	2262	2.57	2088	2.41	1914	2.24	1740	2.08	1565	1.91	1403	1.82	1240	1.78	1077	1.71	——	——	——	——
	-15	2692	3.51	2637	3.39	2582	3.27	2527	3.16	2359	2.92	2191	2.69	2023	2.46	1855	2.23	1656	2.12	1458	2.11	1259	2.07	——	——	——	——
	-10	2978	4.16	2916	4.02	2854	3.88	2793	3.74	2631	3.44	2469	3.15	2307	2.85	2145	2.55	1910	2.42	1676	2.41	1441	2.38	1206	2.17	——	——
	-7	3149	4.55	3083	4.39	3018	4.24	2952	4.09	2794	3.75	2635	3.42	2477	3.08	2319	2.74	2063	2.61	1806	2.58	1550	2.49	1294	2.27	1038	2.00
	-2	3435	5.20	3362	5.02	3290	4.84	3217	4.67	3065	4.27	2913	3.87	2761	3.47	2608	3.06	2316	2.91	2024	2.89	1732	2.68	1440	2.43	1148	2.12
	2	3663	5.73	3585	5.52	3507	5.33	3430	5.14	3282	4.68	3135	4.23	2988	3.78	2840	3.32	2519	3.15	2199	3.05	1878	2.81	1557	2.54	1236	2.21
	7	3949	6.38	3864	6.15	3780	5.93	3695	5.72	3554	5.20	3413	4.68	3271	4.16	3130	3.64	2773	3.45	2416	3.23	2060	2.97	1703	2.67	1346	2.31
	12	4235	6.70	4143	6.47	4052	6.24	3960	6.02	3825	5.48	3690	4.93	3555	4.39	3420	3.85	3027	3.64	2634	3.40	2242	3.12	1849	2.80	1456	2.41
	15	4406	6.89	4310	6.65	4215	6.42	4120	6.19	3988	5.64	3857	5.08	3725	4.52	3594	3.96	3179	3.74	2765	3.49	2351	3.20	1936	2.87	1522	2.46
	20	4692	7.19	4589	6.95	4487	6.71	4385	6.48	4260	5.90	4134	5.31	4009	4.73	3883	4.15	3433	3.91	2983	3.65	2533	3.34	2082	2.97	1632	**2.55**
	25	——	——	4868	7.23	4759	6.99	4650	6.75	4531	6.14	4412	5.54	4293	4.93	4173	4.32	3687	4.07	3201	3.79	2715	3.46	2228	3.08	——	——
	30	——	——	——	——	5031	7.26	4916	7.01	4802	6.38	4689	5.75	4576	5.12	4463	4.48	3941	4.22	3419	3.92	2897	3.58	——	——	——	——
	35	——	——	——	——	——	——	5181	7.27	5074	6.61	4967	5.95	4860	5.30	4753	4.64	——	——	——	——	——	——	——	——	——	——
	43	——	——	——	——	——	——	——	——	——	——	5411	6.26	5314	5.56	5216	4.87	——	——	——	——	——	——	——	——	——	——

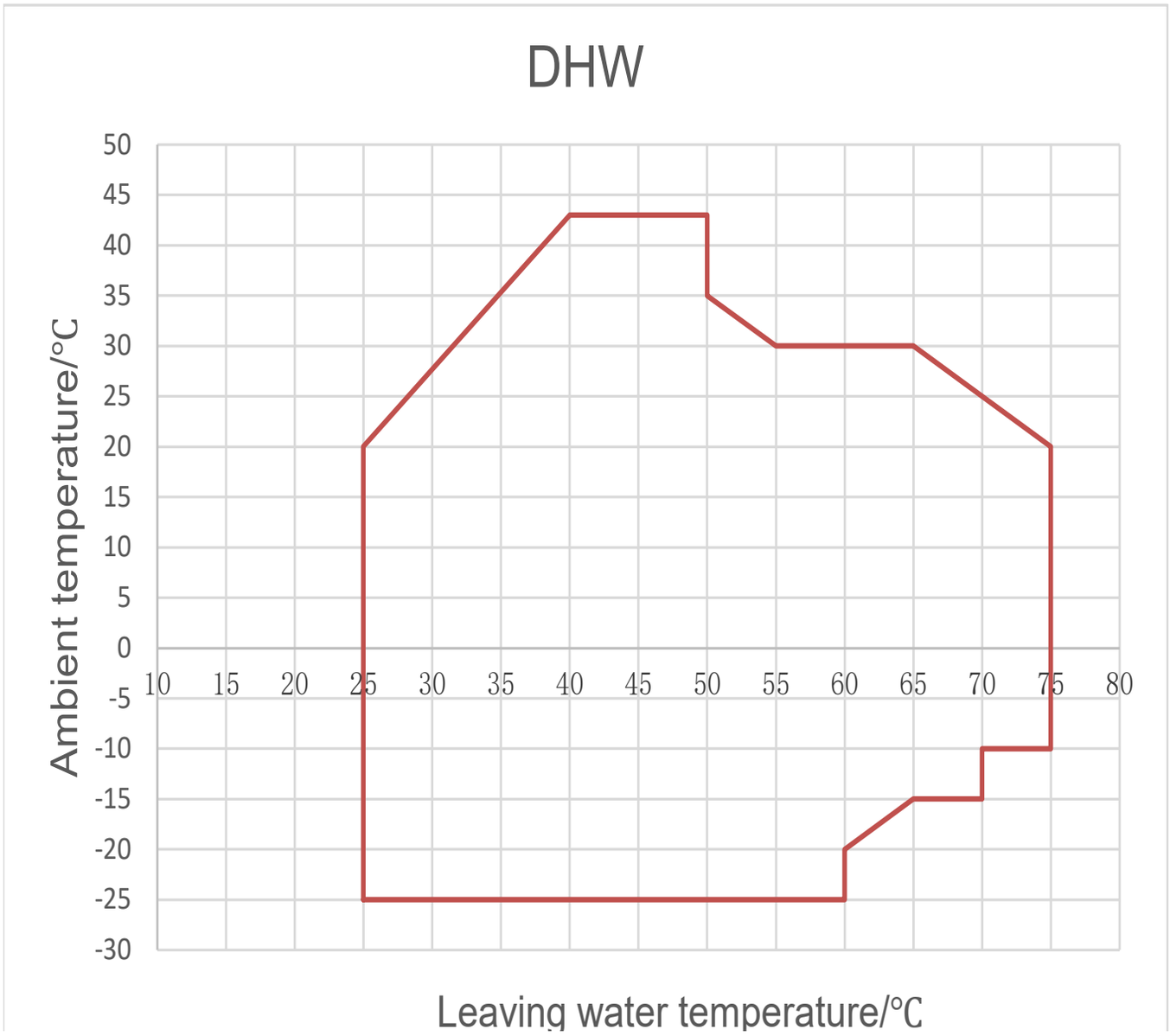
AW162/AW16N																															
Water Out(°C)		20		25		30		35		40		45		50		55		60		65		70		75		80					
	Ambient Temperature(°C)	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP				
Max.	-25	9574	1.94	9512	1.87	9449	1.81	9387	1.74	8791	1.66	8195	1.58	7599	1.50	7003	1.42	6282	1.33	5560	1.34	——	——	——	——	——	——				
	-20	11823	2.33	11746	2.26	11668	2.19	11591	2.11	10782	2.00	9973	1.90	9164	1.79	8355	1.68	7457	1.54	6559	1.52	5661	1.30	——	——	——	——				
	-15	14071	2.73	13979	2.64	13888	2.57	13796	2.49	12773	2.35	11751	2.21	10729	2.07	9707	1.93	8633	1.75	7559	1.68	6484	1.43	——	——	——	——				
	-10	16320	3.12	16213	3.03	16107	2.94	16000	2.86	14765	2.69	13529	2.52	12294	2.35	11059	2.19	9808	1.95	8558	1.83	7308	1.55	6057	1.27	——	——				
	-7	16558	3.36	16435	3.26	16313	3.17	16190	3.08	15110	2.90	14030	2.71	12950	2.52	11870	2.34	10514	2.08	9158	1.92	7802	1.62	6446	1.32	5090	1.03				
	-2	16954	3.75	16805	3.65	16656	3.55	16507	3.46	15686	3.24	14864	3.02	14043	2.81	13222	2.59	11690	2.28	10157	2.05	8625	1.72	7093	1.40	5561	1.09				
	2	17271	4.07	17101	3.96	16931	3.86	16761	3.75	16146	3.52	15532	3.28	14918	3.04	14303	2.80	12630	2.45	10957	2.15	9284	1.80	7611	1.46	5937	1.13				
	7	17668	4.46	17471	4.35	17274	4.24	17078	4.13	16722	3.86	16366	3.59	16011	3.32	15655	3.05	13806	2.66	11956	2.27	10107	1.90	8258	1.53	6408	1.18				
	12	18064	4.58	17841	4.46	17618	4.34	17395	4.23	16995	3.92	16596	3.60	16197	3.29	15798	2.98	14014	2.61	12230	2.25	10447	1.90	8663	1.55	6879	1.22				
	15	18302	4.65	18063	4.52	17824	4.40	17585	4.29	17160	3.95	16734	3.62	16309	3.28	15884	2.94	14139	2.59	12395	2.24	10651	1.90	8906	1.57	7162	1.24				
	20	18698	4.76	18433	4.63	18167	4.51	17902	4.39	17433	4.01	16964	3.64	16495	3.26	16026	2.88	14348	2.55	12669	2.22	10990	1.90	9312	1.59	7633	1.28				
	25	——	——	18803	4.74	18511	4.61	18219	4.49	17706	4.07	17194	3.66	16682	3.24	16169	2.83	14556	2.51	12943	2.20	11330	1.90	9717	1.61	——	——				
	30	——	——	——	——	18854	4.72	18536	4.59	17980	4.14	17424	3.68	16868	3.23	16312	2.77	14765	2.47	13217	2.18	11670	1.90	——	——	——	——				
	35	——	——	——	——	——	——	18853	4.69	18253	4.20	17654	3.71	17054	3.21	16455	2.72	——	——	——	——	——	——	——	——	——	——				
	43	——	——	——	——	——	——	——	——	——	——	18022	3.75	17353	3.20	16683	2.64	——	——	——	——	——	——	——	——	——	——				
Nom.	-25	8785	2.05	8655	1.98	8524	1.92	8393	1.86	8021	1.77	7650	1.67	7278	1.58	6906	1.49	6185	1.41	5463	1.36	——	——	——	——	——	——				
	-20	9988	2.56	9852	2.49	9717	2.41	9582	2.34	9249	2.19	8915	2.04	8582	1.89	8249	1.74	7341	1.61	6434	1.54	5526	1.32	——	——	——	——				
	-15	11190	3.08	11050	3.00	10910	2.91	10770	2.82	10476	2.61	10181	2.40	9887	2.19	9592	1.98	8498	1.80	7404	1.70	6311	1.44	——	——	——	——				
	-10	12392	3.60	12248	3.50	12103	3.40	11959	3.31	11703	3.04	11447	2.76	11191	2.49	10935	2.22	9655	2.00	8375	1.85	7095	1.56	5815	1.28	——	——				
	-7	13114	3.91	12966	3.81	12819	3.70	12672	3.60	12439	3.29	12206	2.98	11973	2.68	11740	2.37	10349	2.12	8957	1.94	7566	1.63	6175	1.33	4783	1.03				
	-2	14316	4.43	14164	4.31	14012	4.19	13861	4.08	13666	3.71	13472	3.35	13277	2.98	13083	2.61	11506	2.31	9928	2.07	8351	1.74	6773	1.41	5196	1.08				
	2	15278	4.85	15122	4.72	14967	4.59	14811	4.47	14648	4.05	14484	3.64	14321	3.22	14157	2.81	12431	2.47	10705	2.17	8978	1.82	7252	1.47	5526	1.11				
	7	16480	5.37	16320	5.22	16160	5.08	16000	4.95	15875	4.48	15750	4.00	15625	3.53	15500	3.05	13588	2.67	11675	2.29	9763	1.91	7851	1.54	5938	1.16				
	12	16831	5.39	16628	5.24	16425	5.09	16222	4.95	16066	4.46	15910	3.98	15753	3.49	15597	3.01	13748	2.64	11898	2.28	10049	1.92	8200	1.56	6351	1.20				
	15	17042	5.40	16813	5.24	16584	5.09	16356	4.95	16180	4.46	16005	3.97	15830	3.47	15655	2.98	13844	2.62	12032	2.27	10221	1.92	8410	1.57	6598	1.22				
	20	17393	5.42	17121	5.26	16849	5.10	16578	4.95	16371	4.45	16165	3.95	15958	3.44	15752	2.94	14004	2.60	12255	2.25	10507	1.92	8759	1.59	7011	**1.26**				
	25	——	——	17429	5.27	17115	5.11	16800	4.95	16562	4.44	16324	3.93	16087	3.41	15849	2.90	14164	2.57	12479	2.24	10794	1.92	9109	1.61	——	——				
	30	——	——	——	——	17380	5.11	17022	4.95	16753	4.43	16484	3.91	16215	3.38	15946	2.86	14324	2.54	12702	2.23	11080	1.92	——	——	——	——				
	35	——	——	——	——	——	——	17244	4.95	16944	4.42	16643	3.89	16343	3.36	16043	2.83	——	——	——	——	——	——	——	——	——	——				
	43	——	——	——	——	——	——	——	——	——	——	16899	3.86	16548	3.32	16198	2.77	——	——	——	——	——	——	——	——	——	——				

AW162/AW16N																											
Water Out(°C)		20		25		30		35		40		45		50		55		60		65		70		75		80	
Ambient Temperature(°C)		Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP	Capacity	COP
Mid.	-25	4416	2.01	4353	1.96	4289	1.91	4226	1.86	3990	1.80	3753	1.74	3516	1.68	3280	1.62	2945	1.58	2611	1.55	——	——	——	——	——	——
	-20	4921	2.40	4842	2.33	4763	2.27	4684	2.20	4435	2.10	4186	2.00	3938	1.89	3689	1.79	3321	1.73	2953	1.72	2585	1.71	——	——	——	——
	-15	5426	2.80	5332	2.71	5237	2.62	5142	2.54	4881	2.40	4620	2.25	4359	2.11	4098	1.96	3696	1.89	3295	1.85	2894	1.80	——	——	——	——
	-10	5931	3.20	5821	3.09	5710	2.98	5600	2.88	5327	2.69	5053	2.51	4780	2.32	4507	2.13	4072	2.05	3638	1.99	3203	1.96	2768	1.80	——	——
	-7	6235	3.43	6115	3.31	5995	3.19	5875	3.08	5594	2.87	5313	2.66	5033	2.45	4752	2.24	4297	2.15	3843	2.09	3388	2.02	2934	1.86	2479	1.68
	-2	6740	3.83	6604	3.69	6468	3.55	6333	3.42	6040	3.17	5747	2.91	5454	2.66	5161	2.41	4673	2.31	4185	2.28	3697	2.13	3209	1.96	2721	1.77
	2	7144	4.15	6996	3.99	6847	3.84	6699	3.69	6396	3.40	6094	3.12	5791	2.83	5488	2.54	4974	2.43	4459	2.36	3944	2.21	3429	2.04	2915	1.85
	7	7649	4.54	7485	4.37	7321	4.19	7157	4.03	6842	3.70	6527	3.37	6212	3.04	5897	2.72	5349	2.59	4801	2.45	4253	2.30	3705	2.13	3157	1.93
	12	8154	4.77	7975	4.59	7795	4.40	7615	4.23	7288	3.87	6961	3.52	6634	3.17	6306	2.81	5725	2.69	5143	2.54	4562	2.39	3980	2.21	3399	2.01
	15	8458	4.91	8268	4.71	8079	4.53	7890	4.35	7555	3.98	7221	3.61	6886	3.24	6552	2.87	5950	2.74	5349	2.59	4747	2.43	4146	2.26	3544	2.05
	20	8963	5.13	8758	4.93	8553	4.73	8348	4.54	8001	4.14	7654	3.75	7308	3.35	6961	2.95	6326	2.82	5691	2.68	5056	2.51	4421	2.33	3786	**2.12**
	25	——	——	9247	5.13	9027	4.92	8806	4.72	8447	4.30	8088	3.88	7729	3.46	7370	3.04	6701	2.90	6033	2.75	5365	2.59	4697	2.40	——	——
	30	——	——	——	——	9500	5.11	9264	4.91	8892	4.46	8521	4.01	8150	3.56	7779	3.11	7077	2.98	6375	2.82	5674	2.65	——	——	——	——
	35	——	——	——	——	——	——	9722	5.08	9338	4.61	8955	4.14	8571	3.66	8188	3.19	——	——	——	——	——	——	——	——	——	——
	43	——	——	——	——	——	——	——	——	——	——	9648	4.33	9245	3.81	8842	3.30	——	——	——	——	——	——	——	——	——	——
Min.	-25	2294	2.13	2249	2.08	2204	2.04	2160	2.00	2025	1.93	1890	1.86	1756	1.79	1621	1.72	1460	1.68	1298	1.67	——	——	——	——	——	——
	-20	2552	2.67	2501	2.60	2450	2.53	2400	2.47	2261	2.33	2122	2.19	1984	2.06	1845	1.92	1662	1.87	1478	1.85	1295	1.82	——	——	——	——
	-15	2810	3.21	2753	3.11	2696	3.02	2639	2.94	2497	2.73	2354	2.53	2212	2.33	2069	2.12	1864	2.06	1658	2.02	1452	1.98	——	——	——	——
	-10	3069	3.74	3006	3.63	2942	3.52	2879	3.41	2733	3.14	2586	2.86	2440	2.59	2294	2.32	2066	2.25	1838	2.22	1610	2.18	1382	2.13	——	——
	-7	3224	4.07	3157	3.94	3090	3.81	3023	3.69	2874	3.38	2726	3.07	2577	2.75	2428	2.44	2187	2.36	1946	2.33	1704	2.28	1463	2.19	1221	2.00
	-2	3482	4.61	3409	4.45	3336	4.30	3263	4.16	3110	3.78	2958	3.40	2805	3.02	2653	2.64	2389	2.55	2125	2.59	1862	2.45	1598	2.29	1335	2.09
	2	3689	5.04	3611	4.87	3533	4.70	3455	4.53	3299	4.10	3143	3.67	2988	3.24	2832	2.80	2551	2.70	2269	2.67	1988	2.53	1706	2.36	1425	2.16
	7	3947	5.58	3863	5.38	3779	5.19	3694	5.00	3535	4.50	3375	4.00	3216	3.50	3056	3.00	2753	2.89	2449	2.77	2145	2.62	1842	2.44	1538	2.24
	12	4206	5.82	4115	5.62	4025	5.42	3934	5.23	3771	4.70	3607	4.16	3444	3.63	3281	3.10	2955	2.98	2629	2.85	2303	2.70	1977	2.52	1651	2.31
	15	4361	5.96	4266	5.76	4172	5.56	4078	5.37	3912	4.81	3747	4.26	3581	3.70	3415	3.15	3076	3.03	2737	2.90	2397	2.75	2058	2.56	1719	2.35
	20	4619	6.19	4519	5.98	4418	5.78	4318	5.58	4148	4.99	3979	4.40	3809	3.81	3640	3.23	3278	3.11	2916	2.97	2555	2.82	2193	2.63	1832	**2.41**
	25	——	——	4771	6.20	4664	5.99	4558	5.79	4384	5.17	4211	4.54	4037	3.92	3864	3.30	3480	3.18	3096	3.04	2713	2.88	2329	2.70	——	——
	30	——	——	——	——	4910	6.20	4797	5.99	4620	5.33	4443	4.68	4265	4.02	4088	3.37	3682	3.25	3276	3.11	2870	2.95	——	——	——	——
	35	——	——	——	——	——	——	5037	6.18	4856	5.50	4675	4.81	4494	4.12	4312	3.43	——	——	——	——	——	——	——	——	——	——
	43	——	——	——	——	——	——	——	——	——	——	5046	5.00	4859	4.26	4671	3.52	——	——	——	——	——	——	——	——	——	——

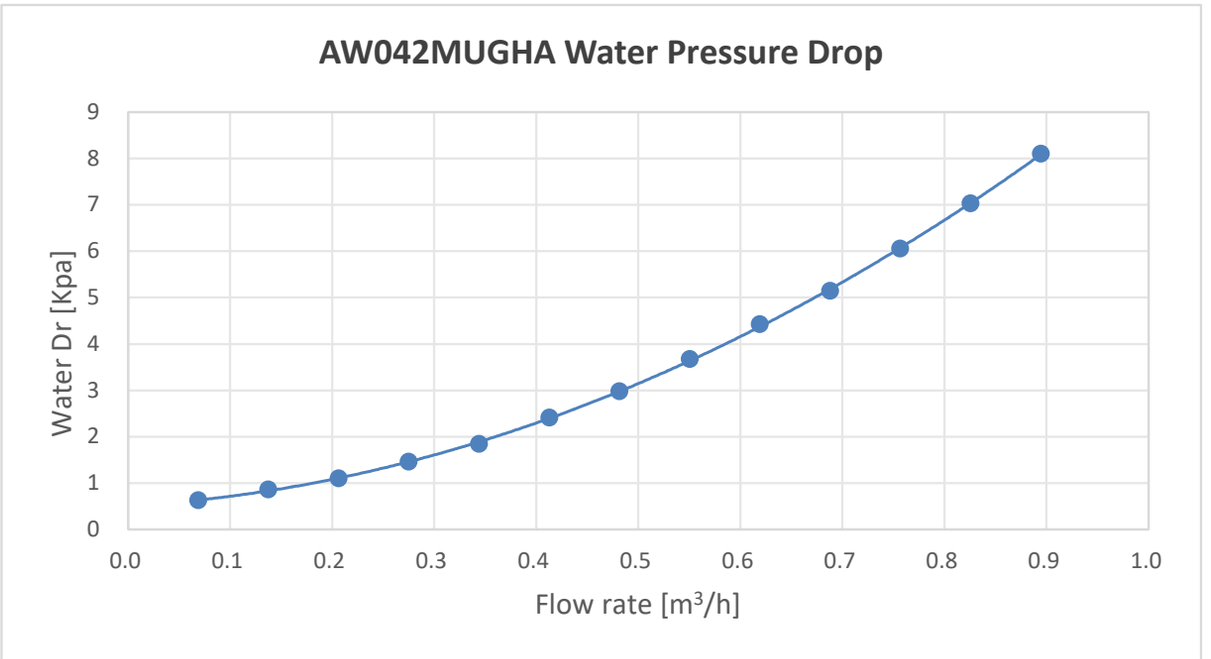
11. Operation Limits Delivery-Leaving

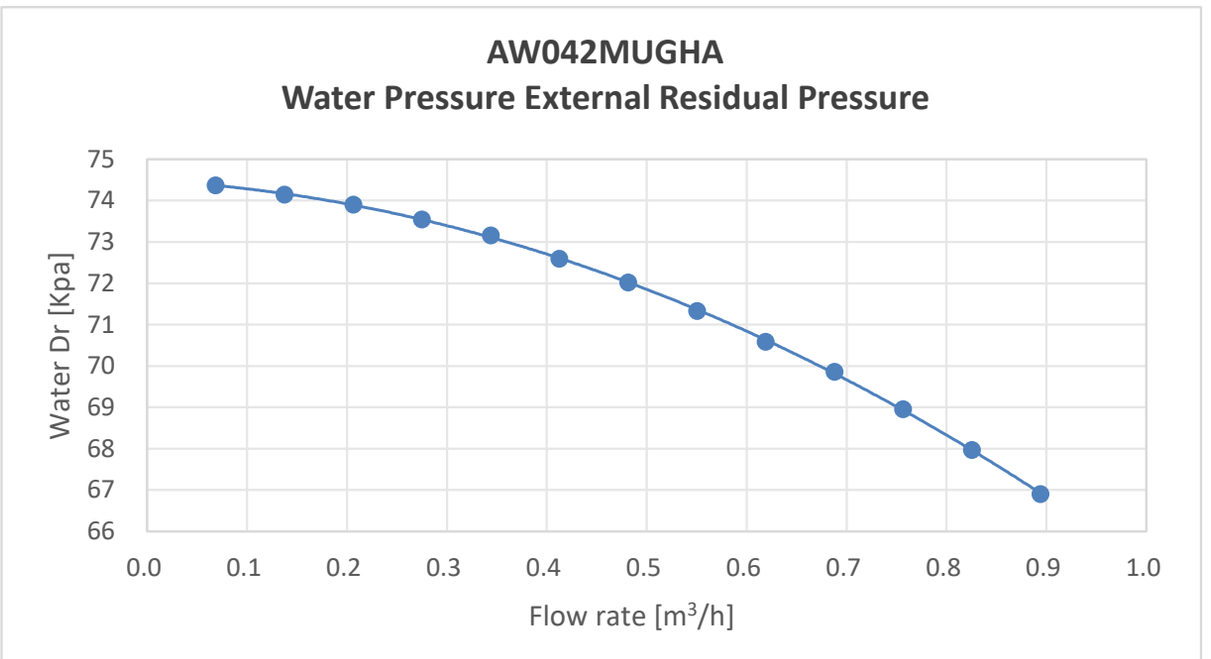


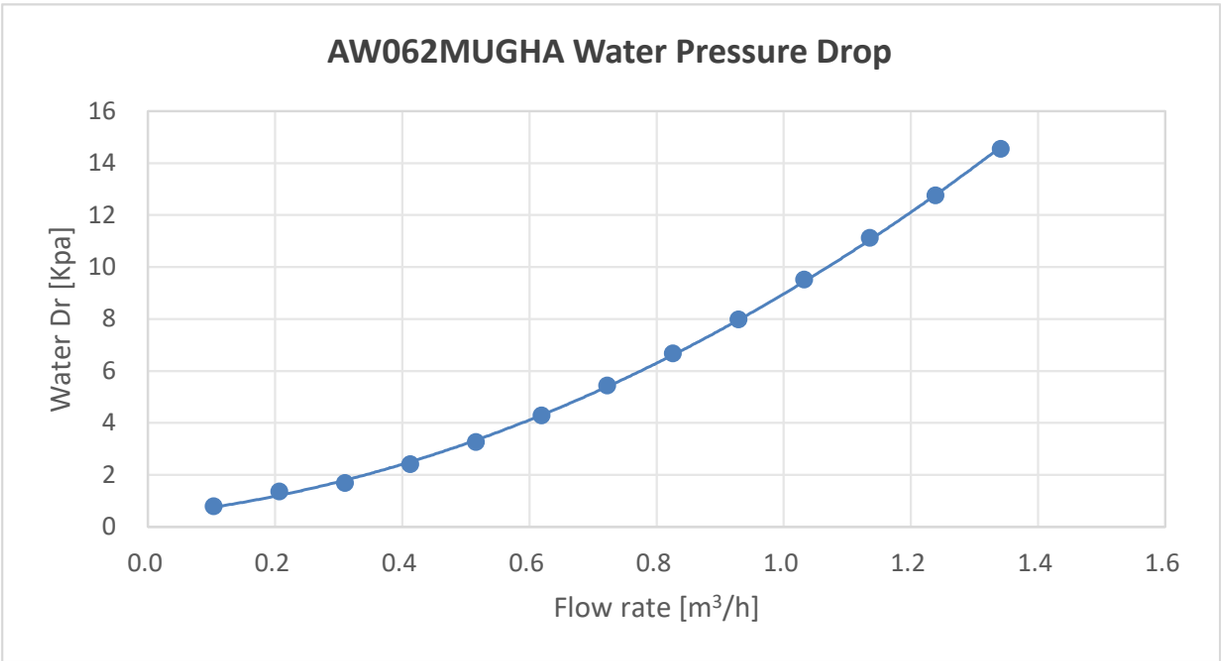

Cooling
Ambient temperature/°C
55
50
45
40
35
30
25
20
15
10
5
0
0
5
10
15
20
25
30
Leaving water temperature/°C

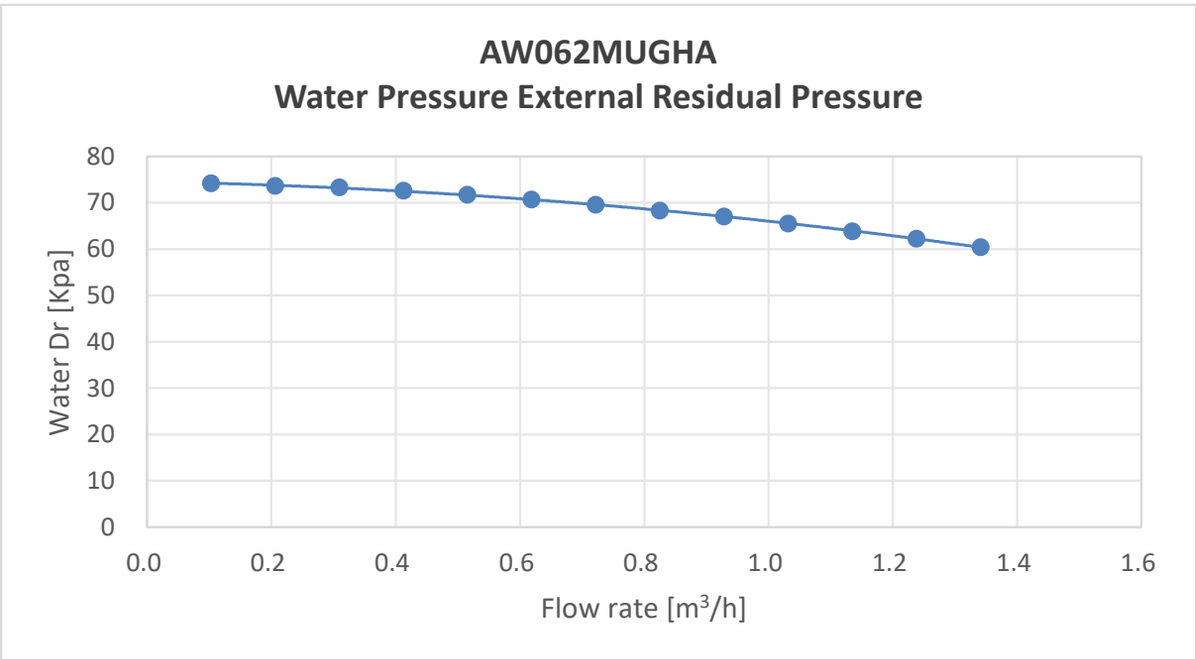

DHW
Ambient temperature/℃
50
45
40
35
30
25
20
15
10
5
0
-5
-10
-15
-20
-25
-30
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
Leaving water temperature/℃

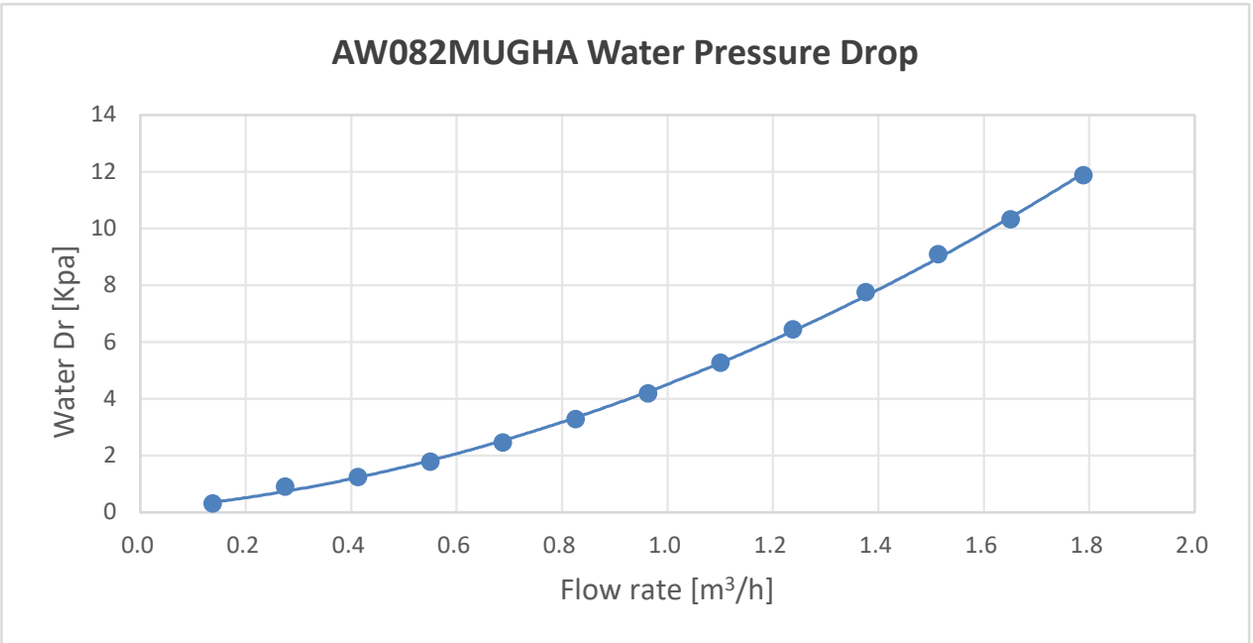
12. Water Pressure Drop

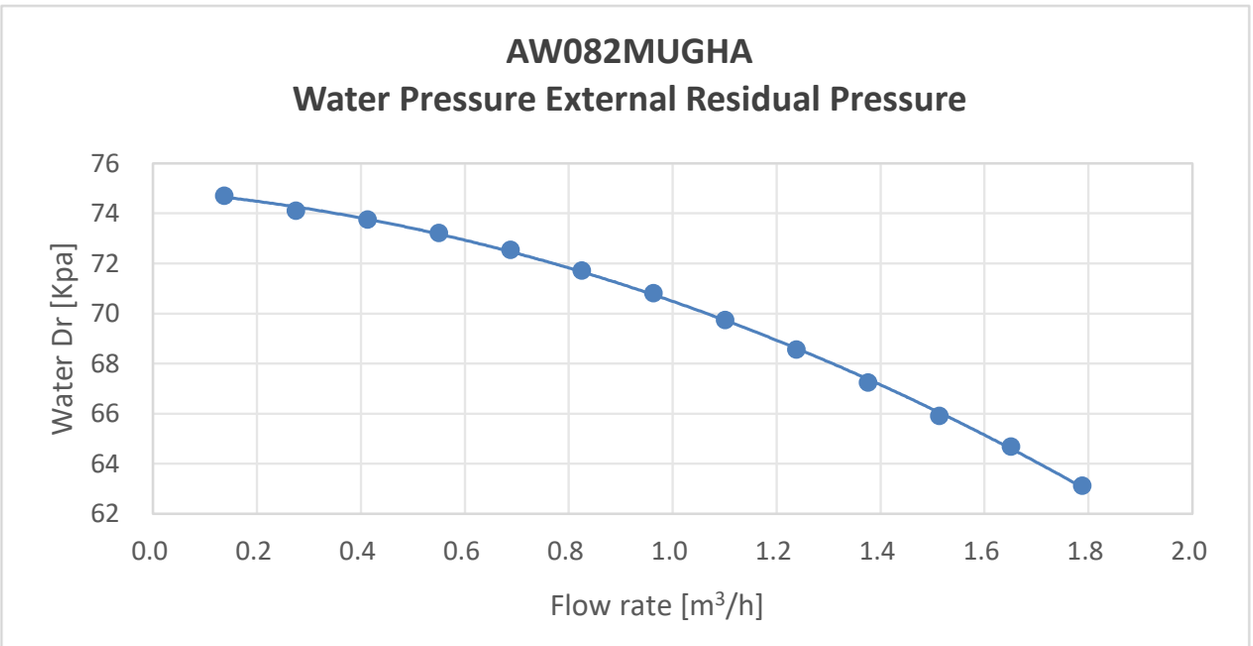


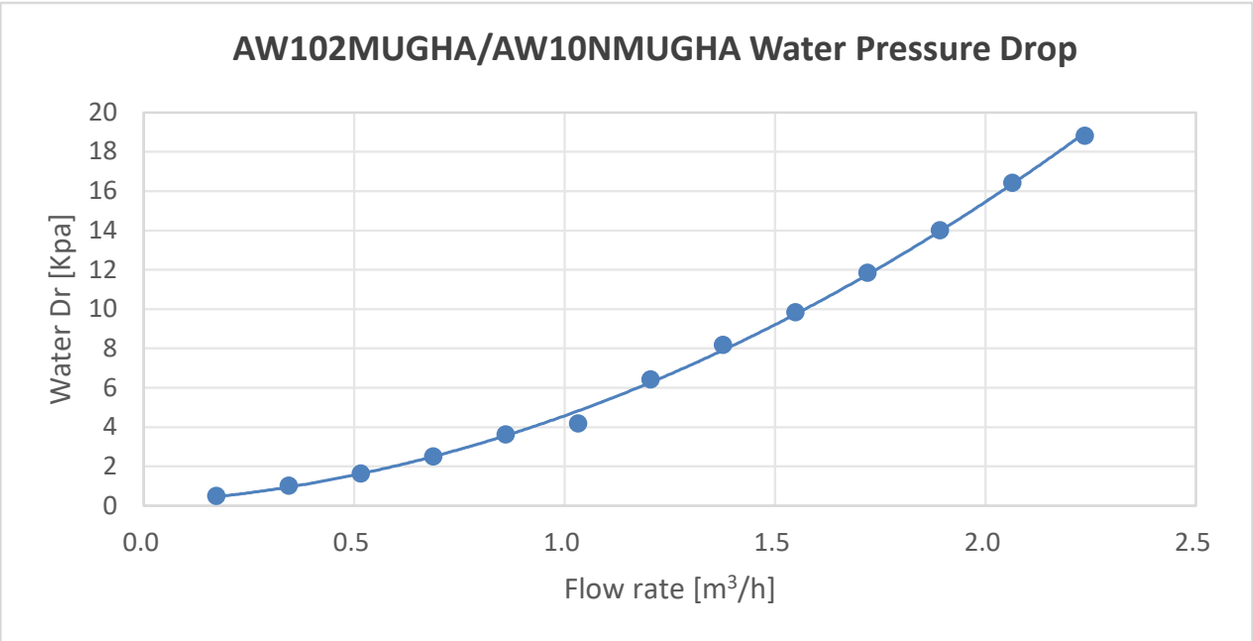


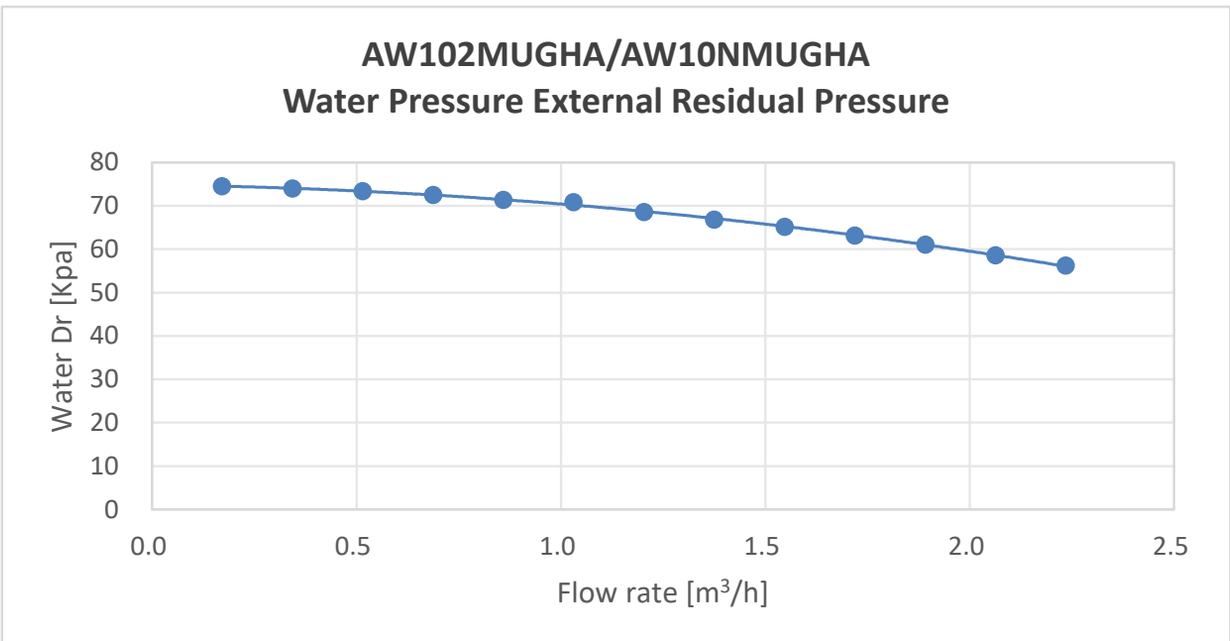

AW062MUGHA Water Pressure Drop
Water Dr [Kpa]
16
14
12
10
8
6
4
2
0
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
Flow rate [m³/h]

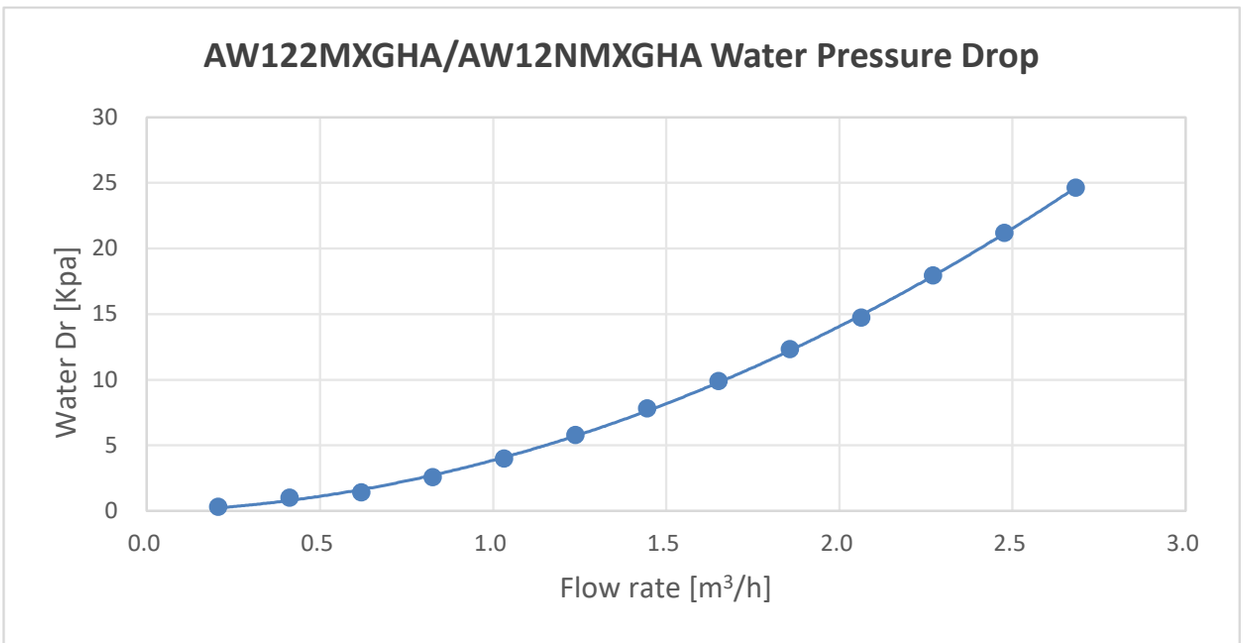

AW062MUGHA
Water Pressure External Residual Pressure
Water Dr [Kpa]
80
70
60
50
40
30
20
10
0
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
Flow rate [m³/h]

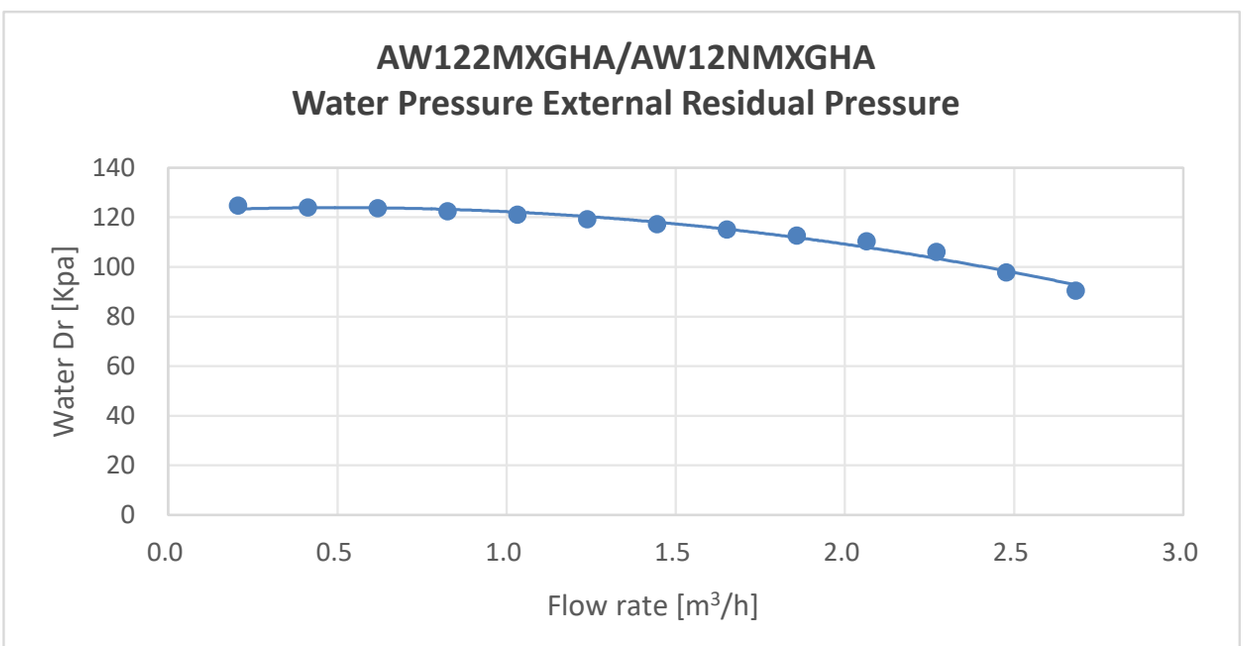

AW082MUGHA Water Pressure Drop
Water Dr [Kpa]
14
12
10
8
6
4
2
0
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
Flow rate [m³/h]

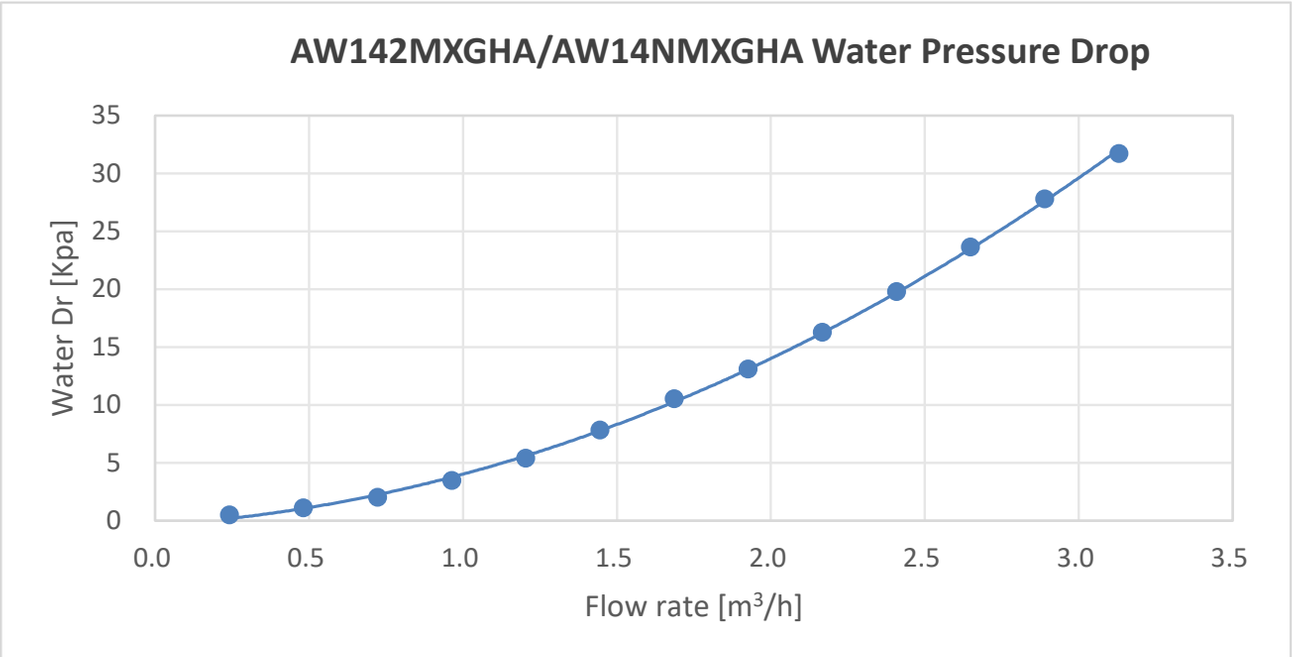

AW082MUGHA
Water Pressure External Residual Pressure
Water Dr [Kpa]
76
74
72
70
68
66
64
62
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1.8
2.0
Flow rate [m³/h]

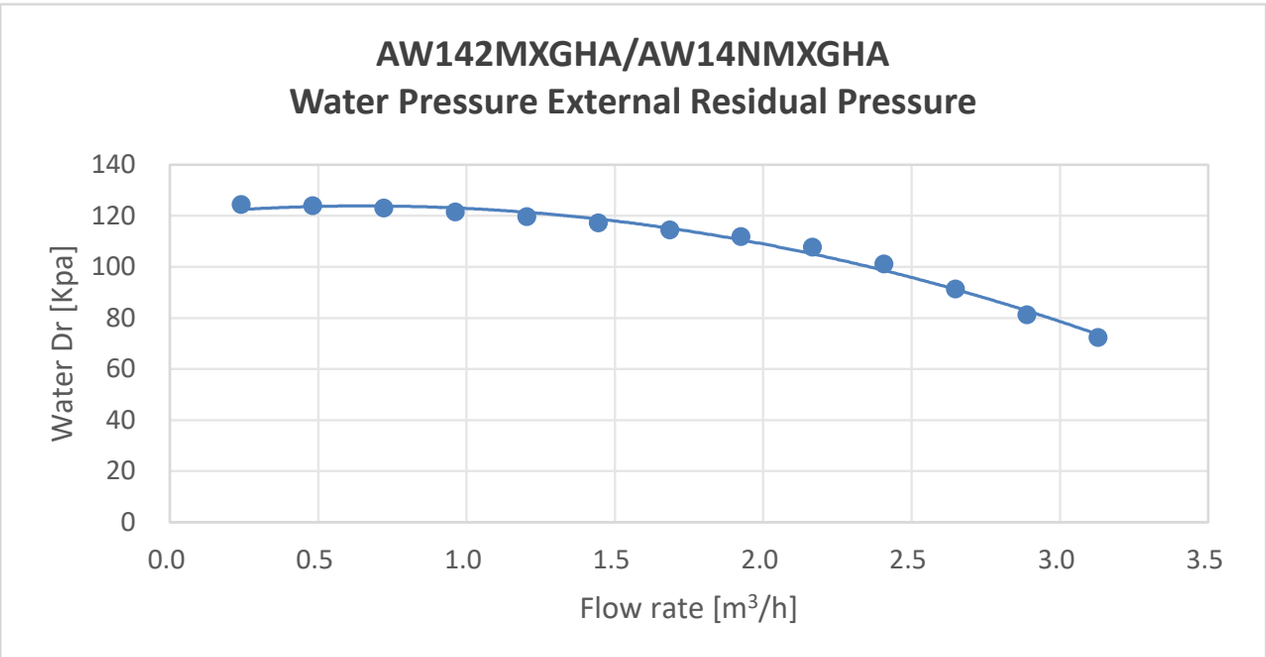

AW102MUGHA/AW10NMUGHA Water Pressure Drop
Water Dr [Kpa]
20
18
16
14
12
10
8
6
4
2
0
0.0
0.5
1.0
1.5
2.0
2.5
Flow rate [m³/h]

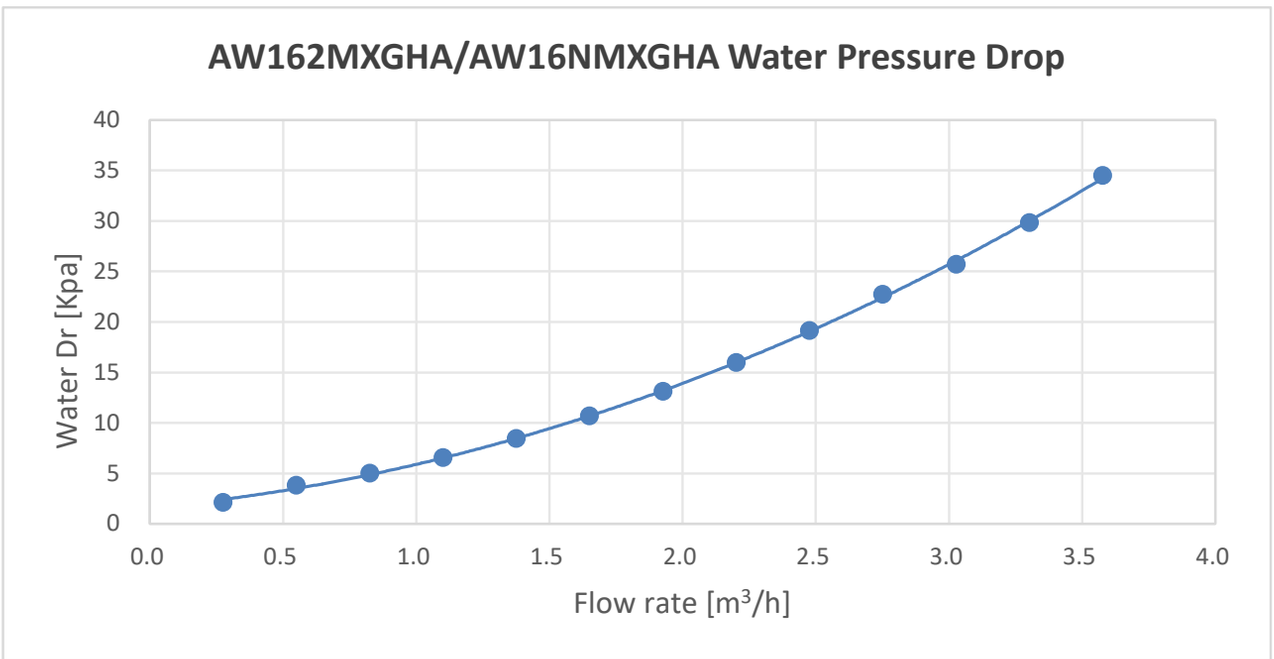

AW102MUGHA/AW10NMUGHA
Water Pressure External Residual Pressure
Water Dr [Kpa]
80
70
60
50
40
30
20
10
0
0.0
0.5
1.0
1.5
2.0
2.5
Flow rate [m³/h]

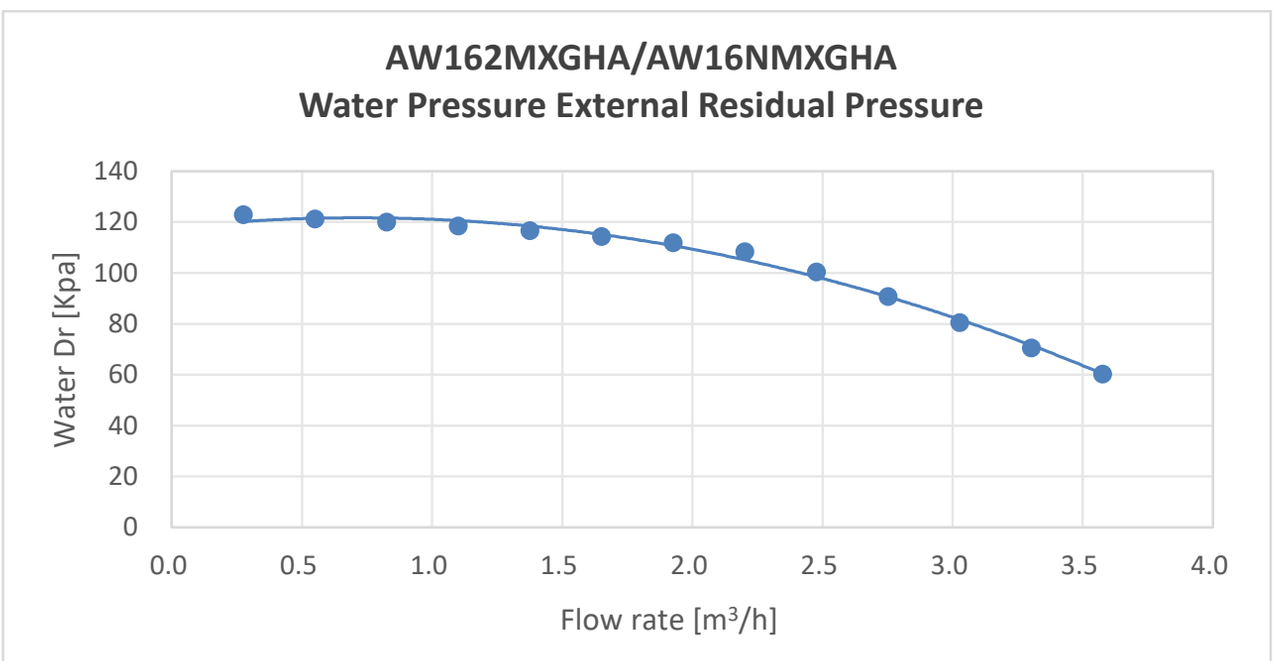

AW122MXGHA/AW12NMXGHA Water Pressure Drop
Water Dr [Kpa]
30
25
20
15
10
5
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
Flow rate [m³/h]

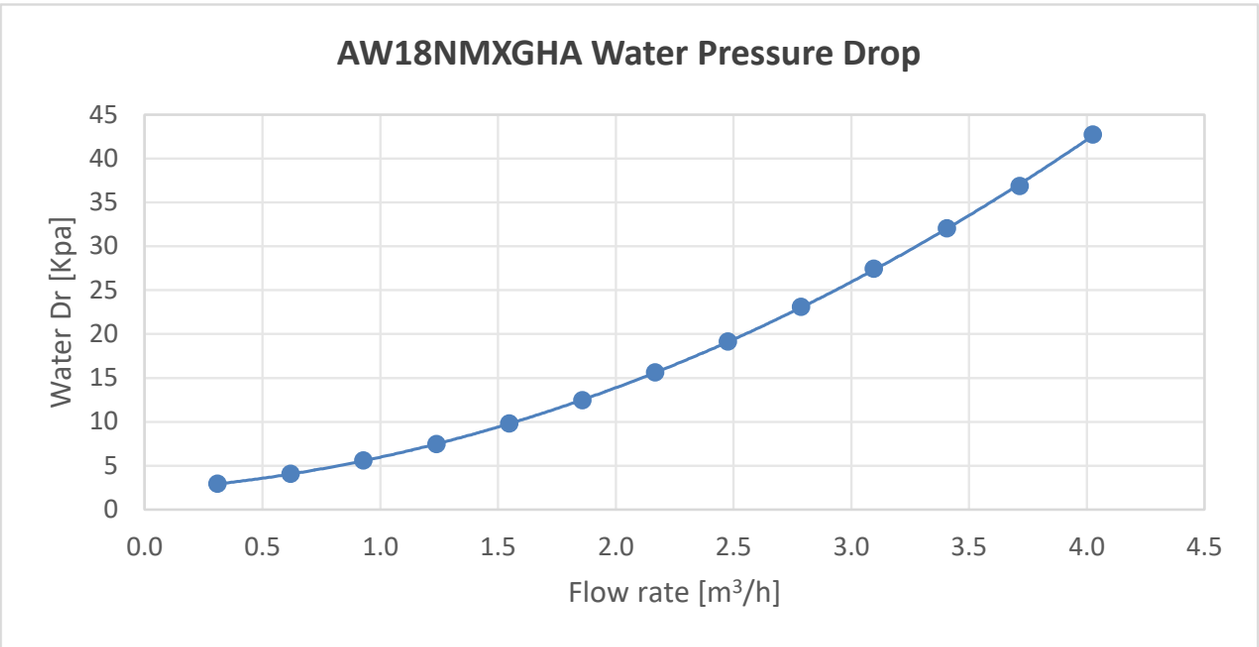

AW122MXGHA/AW12NMXGHA
Water Pressure External Residual Pressure
Water Dr [Kpa]
140
120
100
80
60
40
20
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
Flow rate [m³/h]

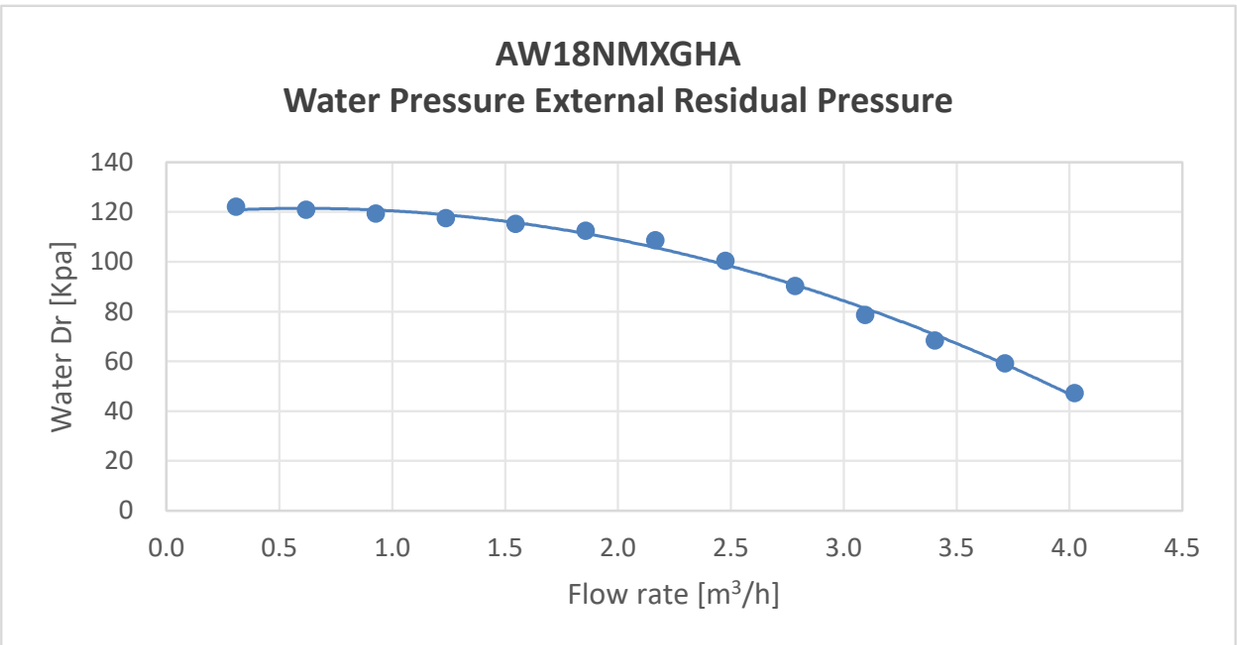

AW142MXGHA/AW14NMXGHA Water Pressure Drop
Water Dr [Kpa]
35
30
25
20
15
10
5
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
Flow rate [m3/h]


AW142MXGHA/AW14NMXGHA
Water Pressure External Residual Pressure
Water Dr [Kpa]
140
120
100
80
60
40
20
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
Flow rate [m3/h]


AW162MXGHA/AW16NMXGHA Water Pressure Drop
Water Dr [Kpa]
40
35
30
25
20
15
10
5
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
Flow rate [m3/h]

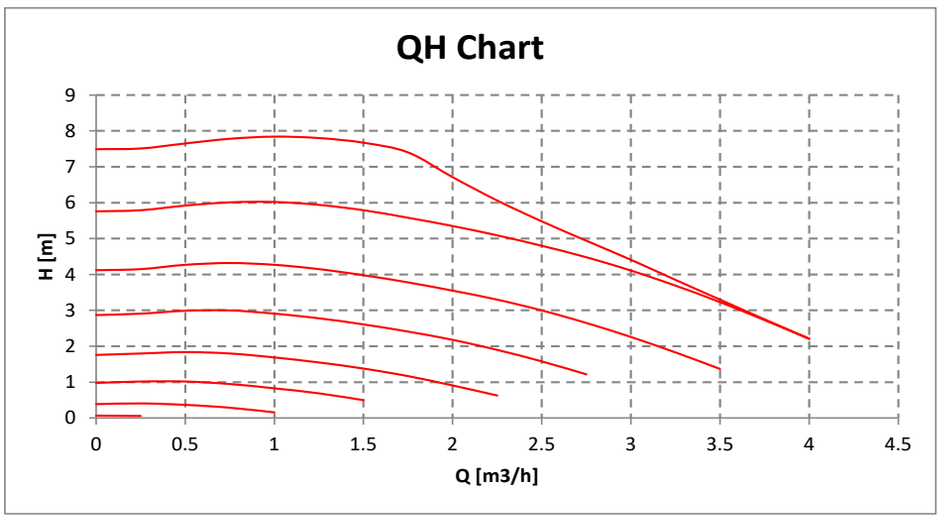

AW162MXGHA/AW16NMXGHA
Water Pressure External Residual Pressure
Water Dr [Kpa]
140
120
100
80
60
40
20
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
Flow rate [m3/h]

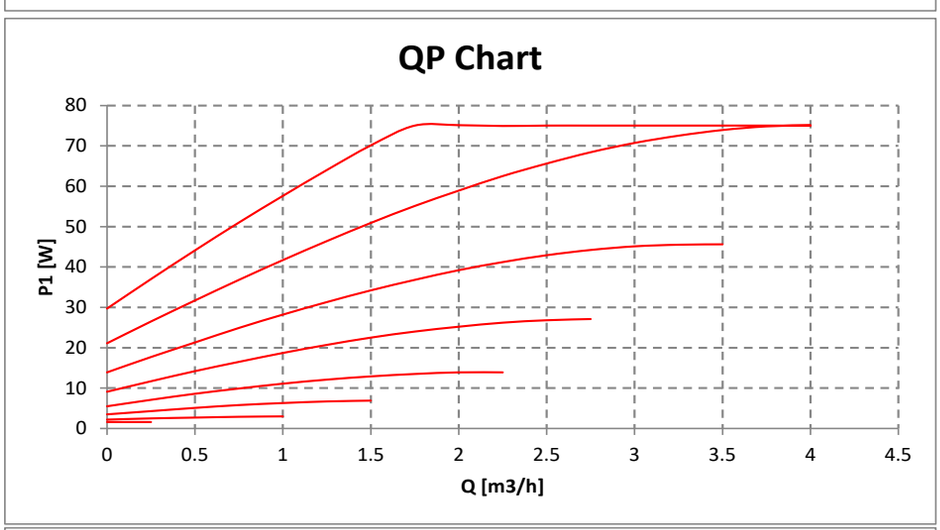

AW18NMXGHA Water Pressure Drop
Water Dr [Kpa]
45
40
35
30
25
20
15
10
5
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
Flow rate [m3/h]

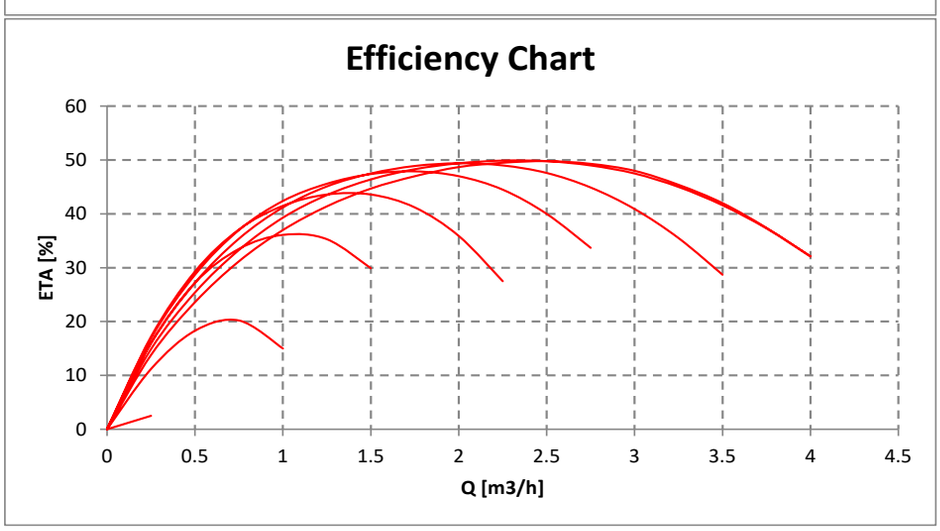

AW18NMXGHA
Water Pressure External Residual Pressure
Water Dr [Kpa]
140
120
100
80
60
40
20
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
Flow rate [m3/h]

13. Water Pump Characteristic Curve

Performance Curve



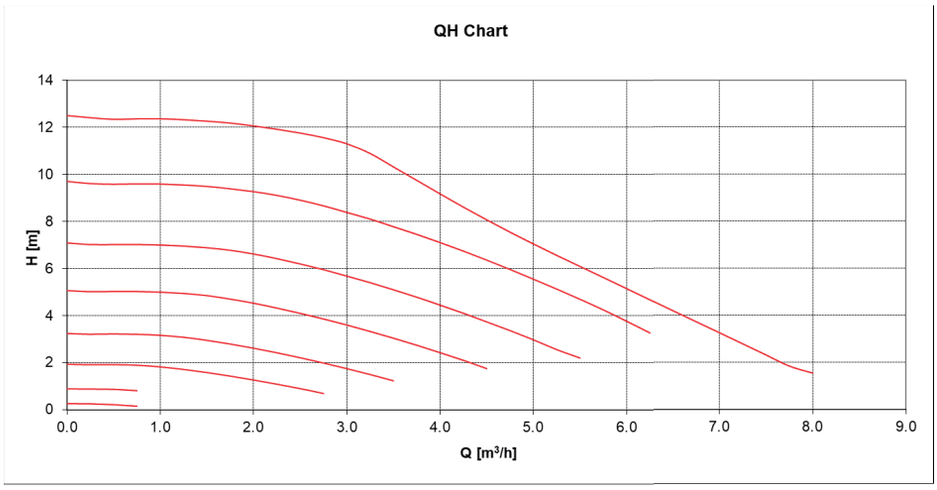


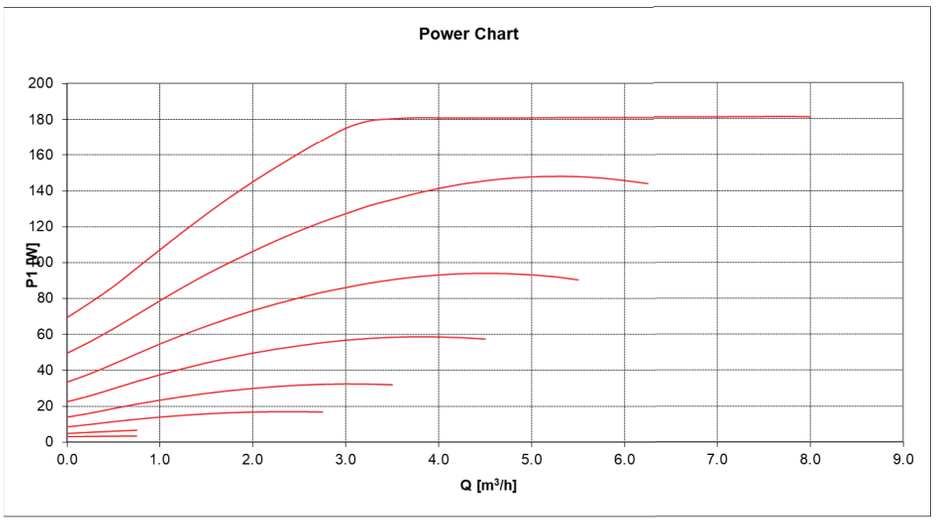


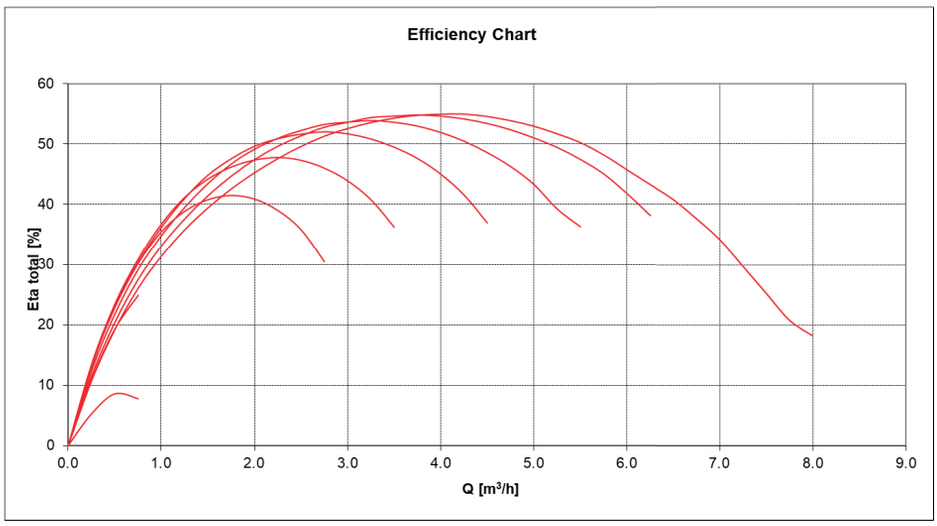
The Performance of PWM was measured under 8 PWM value (heating). 5 % (max.), 20 %, 31 %, 41 %, 52 %, 62 %, 73 %, 88 %(min.).

According to ISO 9906, system 2.0 bar, water temperature 20℃

Performance Curve



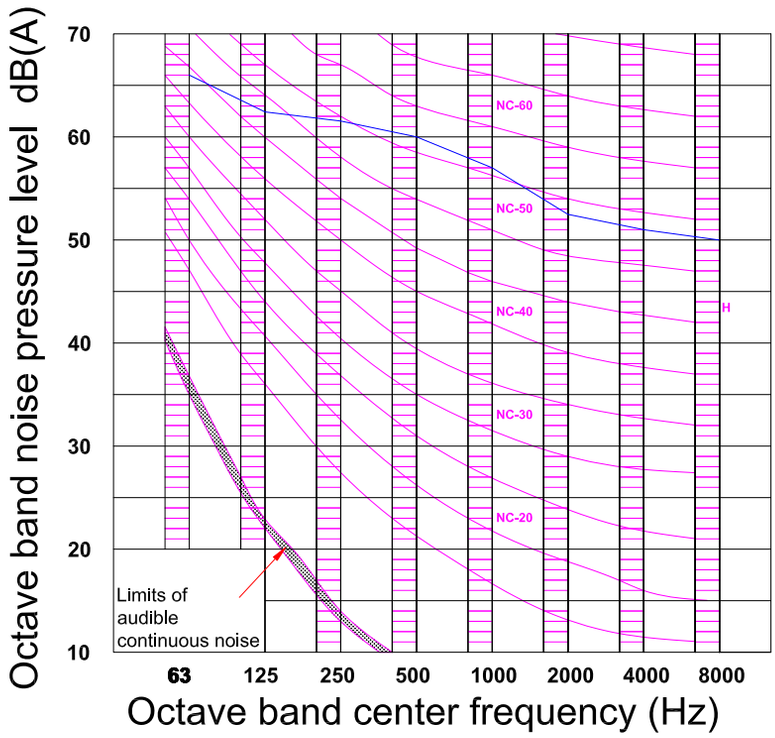




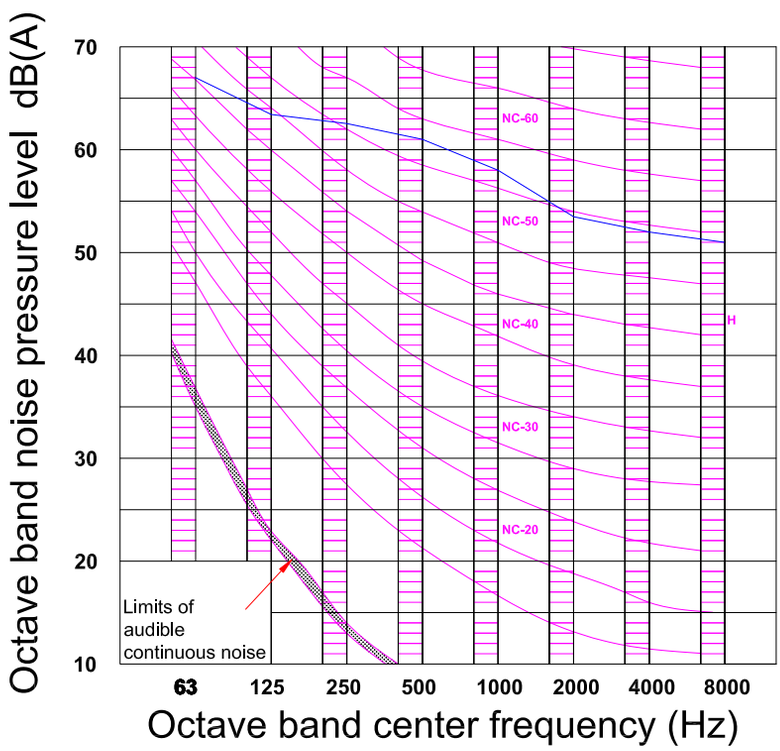
The Performance of PWM was measured under 8 PWM value (heating). 5 % (max.), 20 %, 31 %, 41 %, 52 %, 62 %, 73 %, 88 %(min.).
According to ISO 9906, system 2.0 bar, water temperature 20℃

14. Sound Level

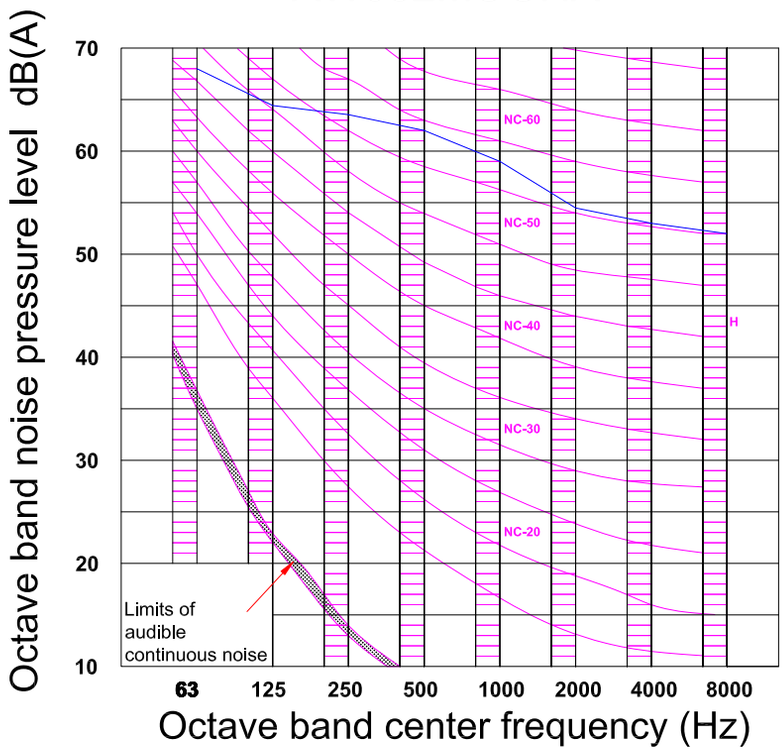
AW042MUGHA



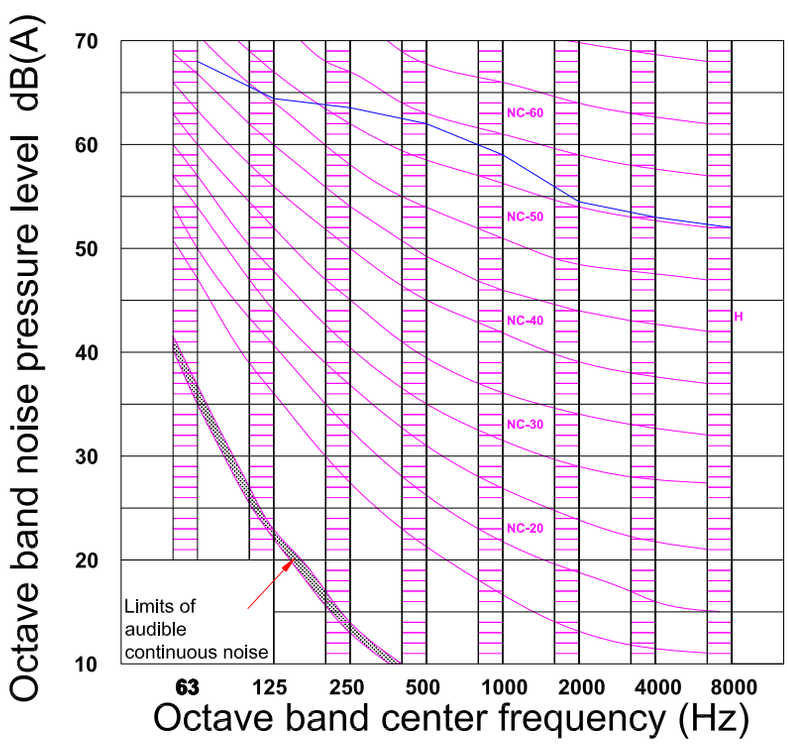
AW062MUGHA



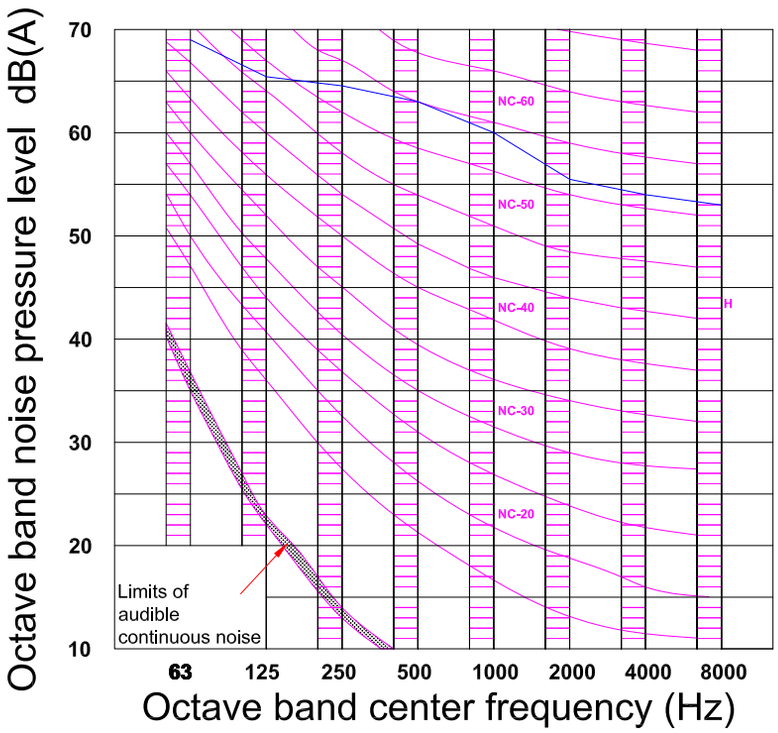
AW082MUGHA



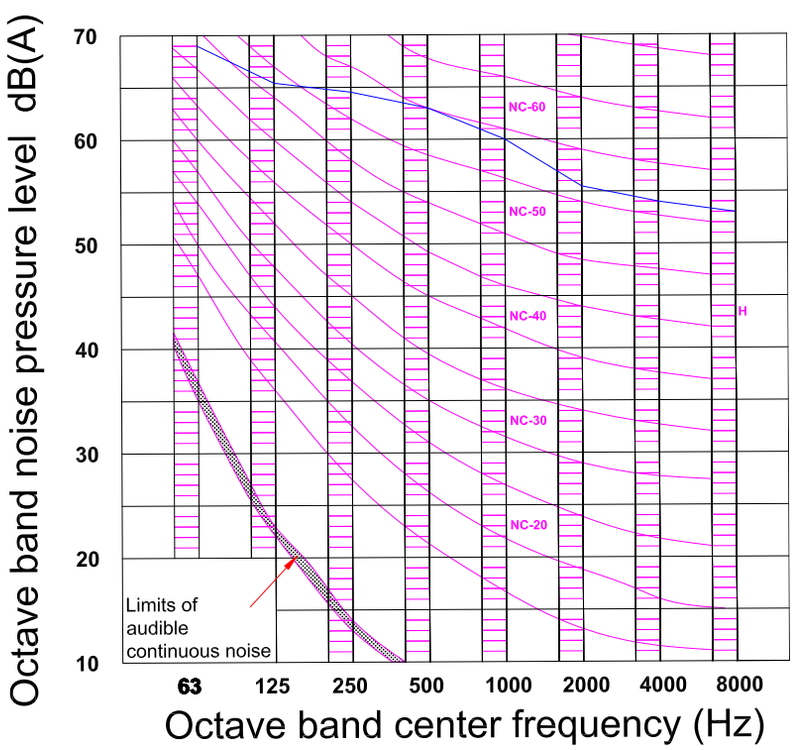
AW102MUGHA/AW10NMUGHA



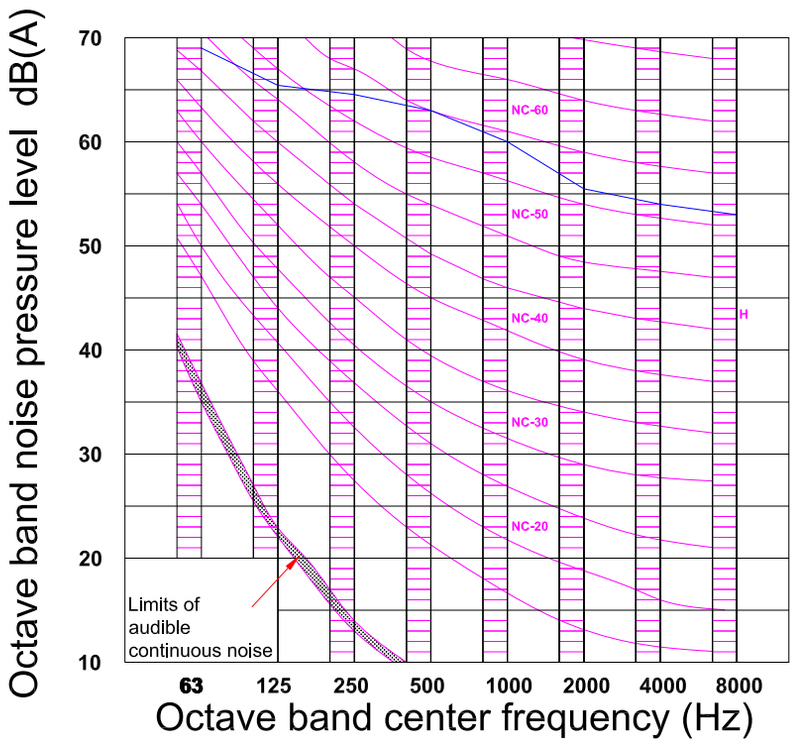
AW122MXGHA/AW12NMXGHA



AW142MXGHA/AW14NMXGHA



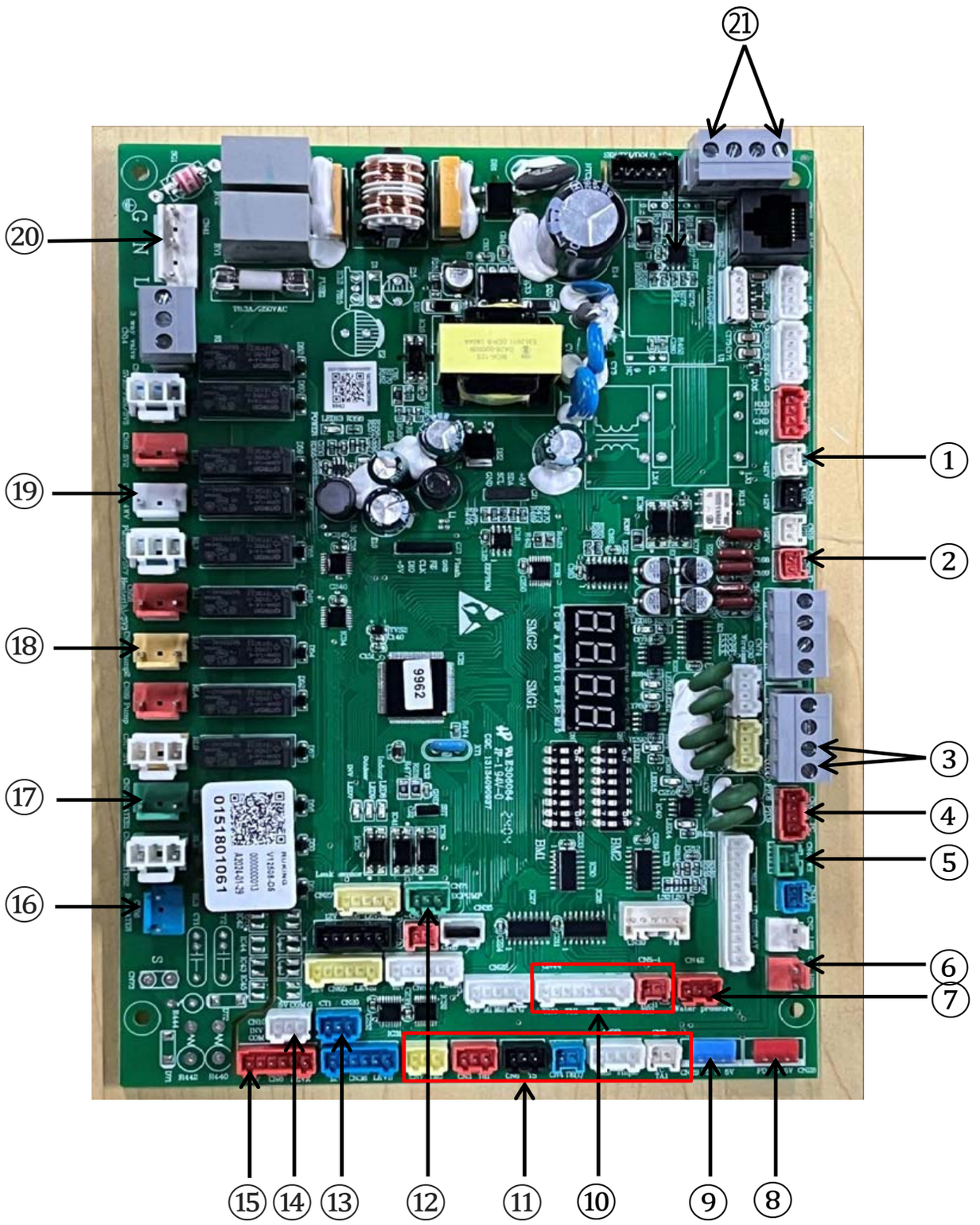
AW162MXGHA/AW16NMXGHA



15. PCB Photos

AW042MUGHA AW062MUGHA AW082MUGHA AW102MUGHA
AW122MXGHA AW142MXGHA AW162MXGHA

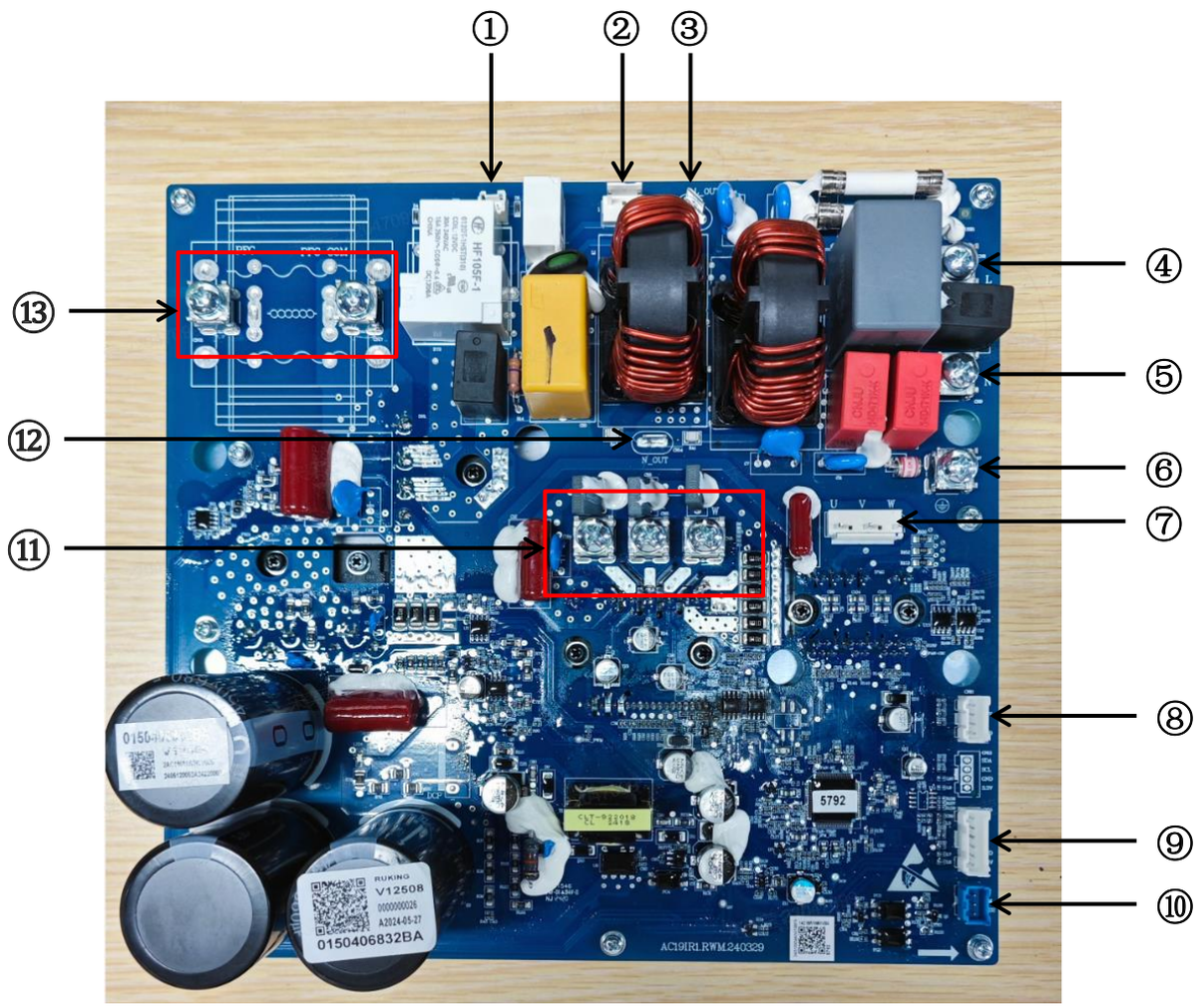
Main PCB Code: 0151801061



No.	Port No.	Silk No.	Full Name Description
1	CN9	HEATER1	Electric Heater Control
2	CN21	Q P	Indoor & Outdoor Units Communication
3	CN31	A B	PC Monitor(Reserved)
4	CN40	PC	PC Monitor
5	CN46	WS	FlowMeter
6	CN1	HPS	High Pressure Switch
7	CN42	Water Pressure	Water Pressure Sensor
8	CN28	PD	High Pressure Sensor
9	CN29	PS	Low Pressure Sensor
10	CN44 CN5-1	THO THI TWO TWI Toci1/TE2	Temperature Sensor
11	CN7 CN3 CN6 CN4 CN23 CN5	TAO Td1 TS TE(1) Tsco Tliqsc TC/TA1	Temperature Sensor
12	CN71	DCPUMP	DC Water Pump Control Signal
13	CN20	CT1	CT PCB
14	CN10	INV COM	Inverter Communication
15	CN8	LEVA	Electronic Expansion Valve
16	CN56	B-HEATER	Chasis Heater
17	CN25	HEATER1	Crankcase Heater
18	CN55	Pump2	DC Water Pump Power Supply
19	CN16	4WV	Four Way Valve
20	CN41	G N L	Power Supply
21	CN32	WIFI/CANDY	Wi-Fi

AW042MUGHA AW062MUGHA

Inverter PCB Code: 0150406832BA

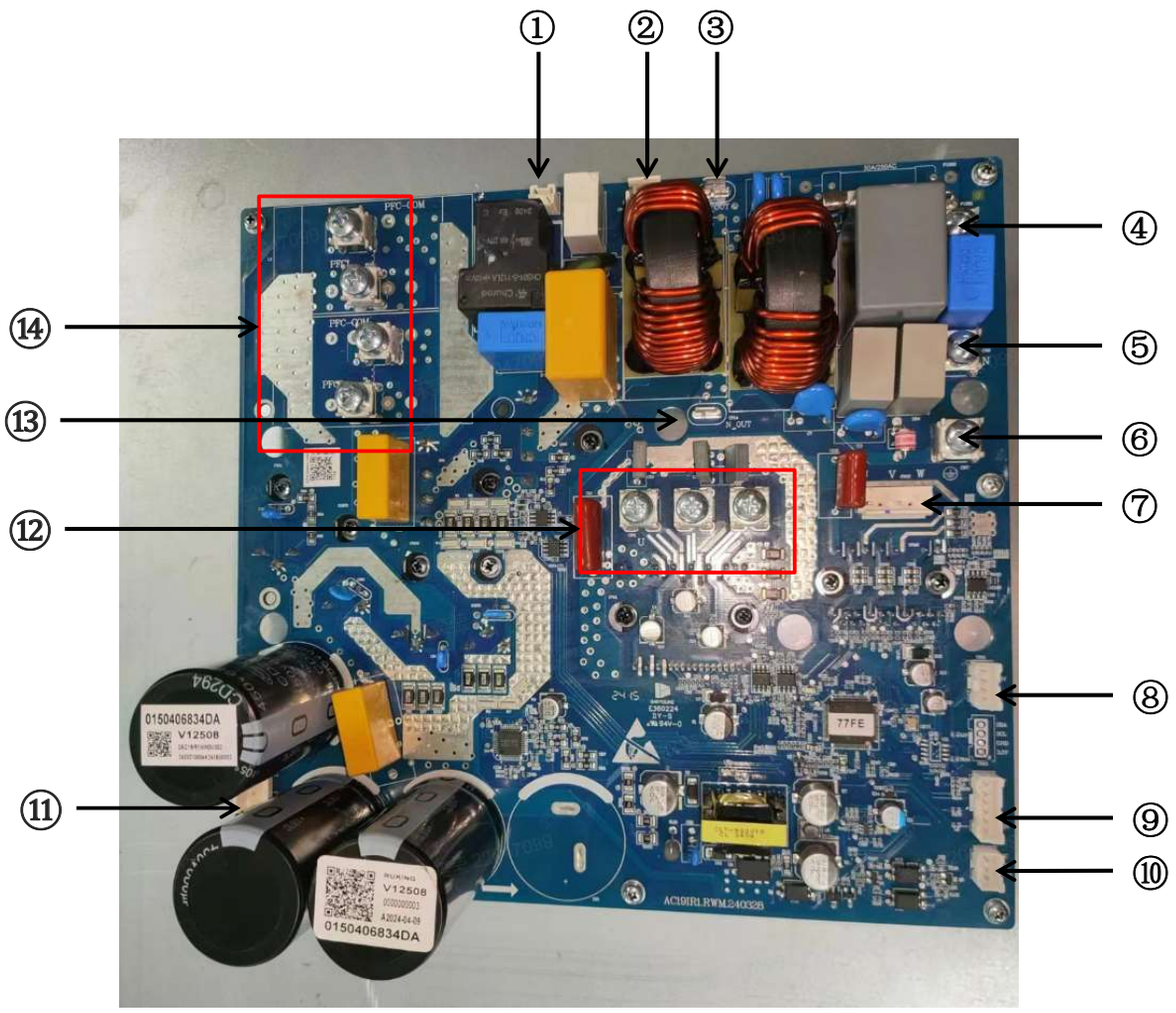


No.	Port No.	Silk No.	Full Name Description
1	CN2	/	12V Standby
2	CN3	/	Jump Wire (Reserved for Standby Function)
3	CN15	L_OUT	L Power Supply
4	CN8	L	L Power Input
5	CN9	N	N Power Input
6	CN7	⏚	Earthing Input
7	CN12	U V W	Fan Motor Input
8	CN11	/	Chip Pgoramming
9	CN10	/	Test Monitoring
10	CN1	/	Main PCB Communication
11	CN4 CN5 CN6	U V W	Compressor Output
12	CN14	N_OUT	N Power Supply
13	CN18 CN17	PFC PFC-COM	External Inductance

AW082MUGHA AW102MUGHA

Inverter PCB Code: 0150406834DA

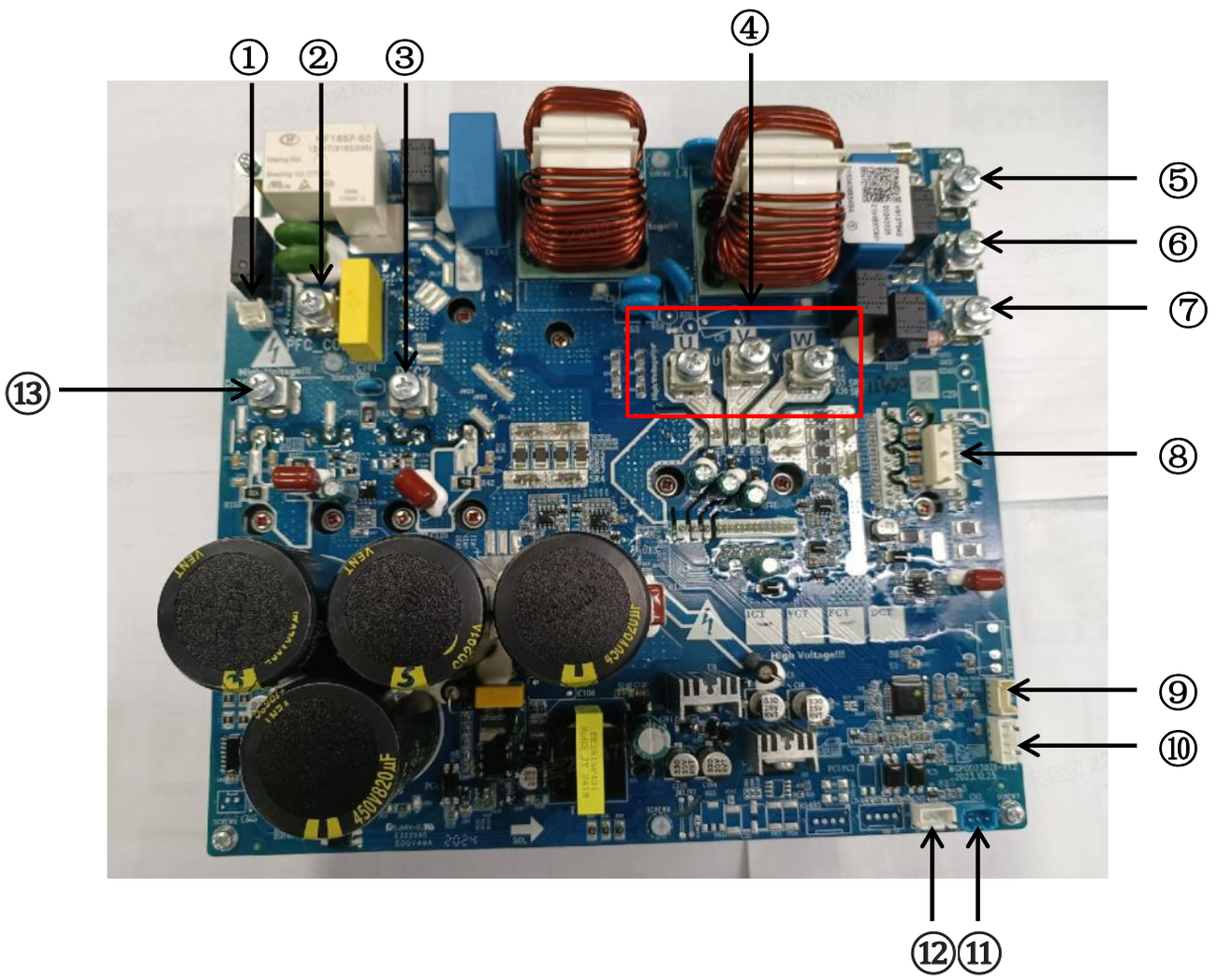
0150406834DA



No.	Port No.	Silk No.	Full Name Description
1	CN8	/	12V Standby
2	CN3	/	Jump Wire (Reserved for Standby Function)
3	CN15	L_OUT	L Power Supply
4	CN2	L	L Power Input
5	CN1	N	N Power Input
6	CN7	⏚	Earthing Input
7	CN12	U V W	Fan Motor Input
8	CN11	/	Chip Programming
9	CN10	/	Test Monitoring
10	CN9	/	Mian PCB Communication
11	CN16	N P	Compressor Output
12	CN4 CN5 CN6	U V W	DC Bus Voltage Output
13	CN14	N_OUT	N Power Supply
14	P1 P2 P3 P4	PFC-COM PFC1 PFC-COM PFC2	External Inductance

AW122MXGHA AW142MXGHA

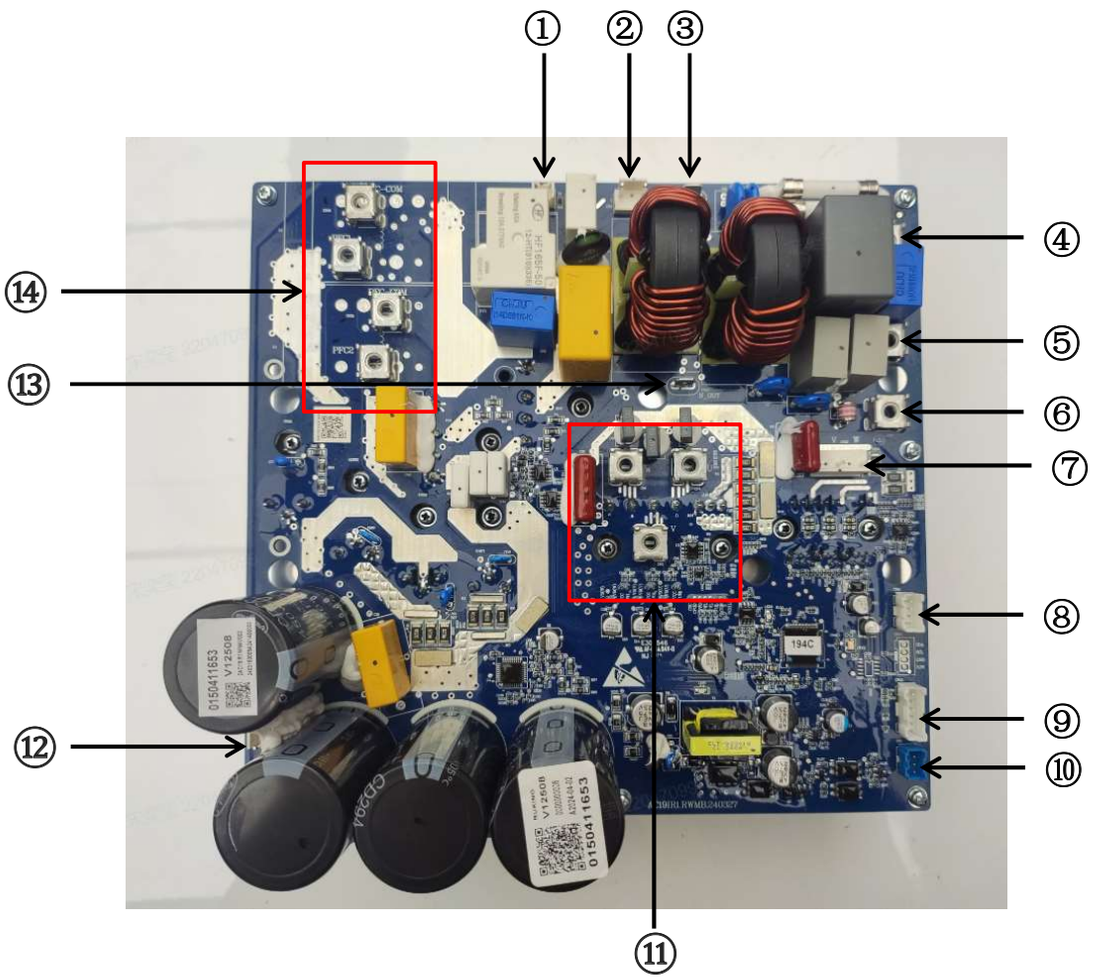
Inverter PCB Code: 0150406834BA



No.	Port No.	Silk No.	Full Name Description
1	CN2	/	12V Standby
2	PFC_COM	PFC_COM	External Inductance
3	PFC2	PFC2	External Inductance
4	U V W	U V W	Compressor Output
5	AC-L	AC-L	L Power Input
6	AC-N	AC-N	N Power Input
7	EARTH	EARTH	Earthing Input
8	DCFAN1	U V W	Fan Motor Output
9	CN-PC	CN-PC	Test Monitoring
10	ISP	ISP	Chip Pgoramming
11	CN1	/	Main PCB Communication
12	CN3	/	Main PCB Communication
13	PFC1	PFC1	External Inductance

AW162MXGHA

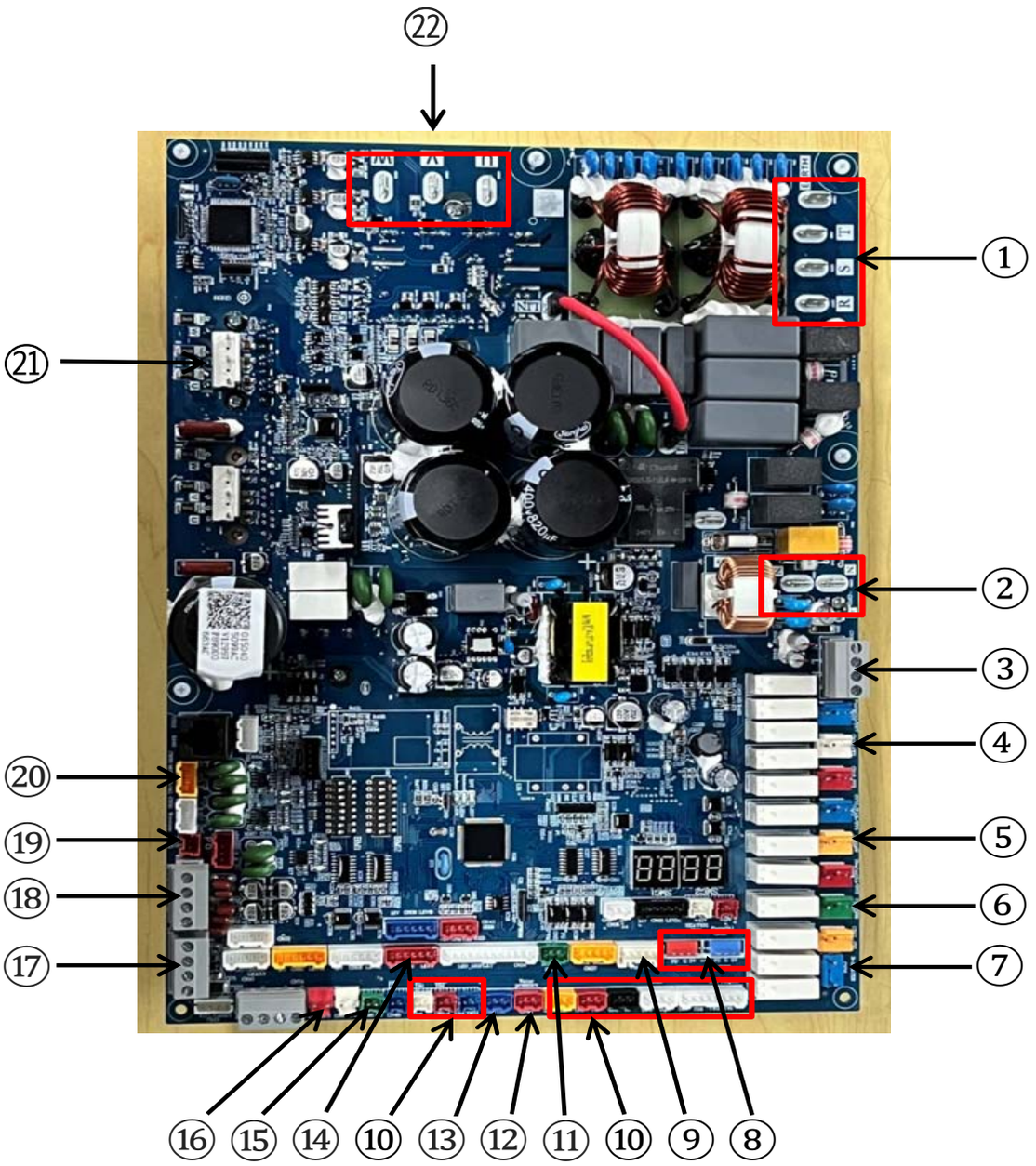
Main PCB Code: 0150411653



No.	Port No.	Silk No.	Full Name Description
1	CN2	/	12V Standby
2	CN3	/	Jump Wire (Reserved for Standby Function)
3	CN15	L_OUT	L Power Supply
4	CN8	L	L Power Input
5	CN9	N	N Power Input
6	CN7	⏚	Earthing Input
7	CN12	U V W	Fan Motor Output
8	CN11	/	Chip Pgoramming
9	CN10	/	Test Monitoring
10	CN1	/	Main PCB Communication
11	CN4 CN5 CN6	U V W	Compressor Output
12	CN16	N P	DC Bus Voltage Output
13	CN14	N_OUT	N Power Supply
14	CN18 PFC1 CN21 PF2	PFC-COM PFC1 PFC-COM PFC2	External Inductance

AW10NMUGHA AW12NMXGH AW14NMXGHA AW16NMXGHA

Main PCB Code: 0150405099AC 0150405099AD 0150405099AE



No.	Port No.	Silk No.	Full Name Description
1	CN77 CN79 CN81 CN82	R S T EARTH	Driver PCB Power Supply
2	CN93 CN90	N N	Main PCB Power Supply
3	CN14	3 way valve	Three Way Valve(Reserved)
4	CN16	4WV	Four Way Valve
5	CN55	Pump2	Water Pump
6	CN25	HEATER1	Crankcase Heater
7	CN56	B-HEATER	Chasis Heater
8	CN28 CN29	PD PS	Pressure Sensor
9	CN39	FM	Flowmeter
10	CN7 CN3 CN6 CN23 CN44	TAO Td1 TS Tsco Tliqsc THO THI TWO TWI	Temperature Sensor
11	CN71	DCPUMP	DC Water Pump Control Signal
12	CN42	Water pressure	Water Pressure Sensor
13	CN20	CT1	CT PCB
14	CN8	LEVA	Electronic Expansion Valve
15	CN46	WS	Flow Switch
16	CN1	HPS	Pressure Switch
17	CN15	/	Wi-Fi(Reserved)
18	CN31	/	PC Monitor(Reserved)
19	CN21	P Q	Indoor & Outdoor Communication
20	CN70	MODBUS/4G	Modbus(Reserved)
21	CN76	U V W	Fan Motor Output
22	CN86 CN87 CN88	U V W	Compressor Output

16. Dip Switch Setting

Must power off before opening the cover of the electrical control box and setting the dip switch.
In the following table, 1 is for ON and 0 is for OFF.
(1) BM1 dip switch definition:

BM1_1	Capacity control mode option	[1]	Capacity control mode option			
		0	Normal control (default)			
		1	IO board 0-10V control			
BM1_2 BM1_3 BM1_4 BM1_5	Outdoor unit models option	[2]	[3]	[4]	[5]	Outdoor unit models option
		0	0	0	0	AW042MUGHA
		0	0	0	1	AW062MUGHA
		0	0	1	0	AW082MUGHA
		0	0	1	1	AW102MUGHA/AW10NMUGHA
		1	0	0	0	AW122MXGHA/AW12NMXGHA
		1	0	0	1	AW142MXGHA/AW14NMXGHA
		1	0	1	0	AW162MXGHA/AW16NMXGHA
BM1_6	Power supply option	[6]	Power supply option			
		0	Single phase (default)			
		1	Three-phase			
BM1_7 BM1_8	Outdoor unit modes option	[7]	[8]	Outdoor unit modes option		
		0	0	Normal mode (default)		
		0	1	Power mode		
		1	0	Quiet mode		
		1	1	Performance test mode.		

(2) BM2 dip switch definition:

BM2_1 BM2_2 BM2_3	Outdoor unit model option	[1]	[2]	[3]	Outdoor unit model
		0	0	0	MONOBLOC (default)
		0	0	1	Hydro split
		0	1	0	All in One
BM2_4	Refrigerant type option	[3]	Refrigerant type option		
		0	R290 (default)		
		1	R32(Reserved)		
BM2_5~8	Reserved	Reserved (default as 0)	Reserved (default as 0)		

17. Sensor Resistance Table

1. Reference Table

No.	Spare Parts Code	Sign	Parameter	Note
1	0004000046	Ts	25°10 kΩ	Sheet 1
2	0004000047	Te1	25°10 kΩ	Sheet 1
3	0004000052	Tout2	25°10 kΩ	Sheet 1
4	0004000053	Tai	25°10 kΩ	Sheet 1
5	0004000049	T-tank	25°10 kΩ	Sheet 1
6	0004000050	T-tank2	25°10 kΩ	Sheet 1
7	0004000048	Twi, Two	25°10 kΩ	Sheet 1
8		Thi, Tho	25°10 kΩ	Sheet 1
9	0150409004	Tao	25°10 kΩ	Sheet 1
10	0004000045	Td1	80°50 kΩ	Sheet 2

2. Sensor Resistance Table (Sheet 1)

25°10 kΩ

R25=10.00KΩ±3% B25/50= 3700K±3%

T(°C)	Rnom(KΩ)	T(°C)	Rnom(KΩ)
-40	250.4931	34	6.9733
-39	235.5181	35	6.7067
-38	221.5962	36	6.4516
-37	208.6378	37	6.2076
-36	196.5621	38	5.9740
-35	185.2972	39	5.7503
-34	174.7781	40	5.5362
-33	164.9457	41	5.3311
-32	155.7471	42	5.1346
-31	147.1341	43	4.9463
-30	139.0630	44	4.7659
-29	131.4940	45	4.5929
-28	111.8705	46	4.4271
-27	117.7198	47	4.2681
-26	111.4512	48	4.1155
-25	105.5570	49	3.9692
-24	100.0117	50	3.8287
-23	94.7917	51	3.6947
-22	89.8755	52	3.5660
-21	85.2430	53	3.4424
-20	80.8759	54	3.3237
-19	76.7571	55	3.2096
-18	72.8709	56	3.1000
-17	69.2025	57	2.9946
-16	65.7385	58	2.8933
-15	62.4662	59	2.7959
-14	59.3739	60	2.7022
-13	56.4507	61	2.6121
-12	53.6864	62	2.5253
-11	51.0715	63	2.4419

T(°C)	Rnom(KΩ)	T(°C)	Rnom(KΩ)
-10	48.5972	64	2.3615
-9	46.2552	65	2.2842
-8	44.0377	66	2.2097
-7	41.9376	67	2.1380
-6	39.9480	68	2.0689
-5	38.0627	69	2.0024
-4	36.2756	70	1.9383
-3	34.5812	71	1.8765
-2	32.9744	72	1.8169
-1	31.4500	73	1.7595
0	30.0037	74	1.7042
1	28.6310	75	1.6508
2	27.3278	76	1.5994
3	26.0904	77	1.5497
4	24.9152	78	1.5018
5	23.7987	79	1.4556
6	22.7377	80	1.4110
7	21.7294	81	1.3680
8	20.7707	82	1.3265
9	19.8592	83	1.2864
10	18.9922	84	1.2477
11	18.1673	85	1.2103
12	17.3825	86	1.1742
13	16.6355	87	1.1393
14	15.9243	88	1.1057
15	15.2472	89	1.0731
16	14.6023	90	1.0417
17	13.9879	91	1.0113
18	13.4024	92	0.9819
19	12.8445	93	0.9535
20	12.3126	94	0.9261
21	11.8055	95	0.8996
22	11.3218	96	0.8739
23	10.8604	97	0.8491
24	10.4201	98	0.8251
25	10.0000	99	0.8019
26	9.5989	100	0.7794
27	9.2160	101	0.7577
28	8.8503	102	0.7366
29	8.5010	103	0.7163
30	8.1673	104	0.6966
31	7.8483	105	0.6775
32	7.5435	106	0.6591
33	7.2520	107	0.6412

80°50 kΩ (Sheet 2)
R80=50KΩ±3% B25/80=4450±3% M470-2

T(°C)	Rnom(KΩ)	T(°C)	Rnom(KΩ)
-40	24087.7290	33	349.3720
-39	22367.9580	34	333.5280
-38	20789.5510	35	318.5030
-37	19338.8110	36	304.1920
-36	18003.4710	37	290.5980
-35	16772.8000	38	277.7190
-34	15637.1890	39	265.4530
-33	14588.0520	40	253.8000
-32	13617.8260	41	242.6590
-31	12719.6600	42	232.1310
-30	11887.4240	43	222.0110
-29	11115.5970	44	212.4030
-28	10399.1710	45	203.3060
-27	9733.7500	46	194.6180
-26	9115.2460	47	186.3380
-25	8539.8760	48	178.3660
-24	8004.3710	49	170.9040
-23	7505.5610	50	163.6470
-22	7040.7880	51	156.8770
-21	6607.3950	52	150.3850
-20	6203.1340	53	144.1920
-19	5825.8580	54	138.2840
-18	5473.5220	55	132.6470
-17	5144.3890	56	127.2660
-16	4836.8240	57	122.1290
-15	4549.1900	58	117.2230
-14	4280.2620	59	112.5390
-13	4028.5060	60	108.0630
-12	3792.9000	61	103.7870
-11	3572.3190	62	99.6990
-10	3365.7420	63	95.7930
-9	3172.0450	64	92.0570
-8	2990.6130	65	88.4850
-7	2820.4240	66	85.0680
-6	2660.7640	67	81.7990
-5	2511.0190	68	78.6710
-4	2370.4730	69	75.6770
-3	2238.5130	70	72.8110
-2	2114.5260	71	70.0670
-1	1998.1030	72	67.4390
0	1888.7330	73	64.9210
1	1785.8020	74	62.5100
2	1689.1060	75	60.1980
3	1598.1350	76	57.9840
4	1512.5810	77	55.8600
5	1432.0350	78	53.8250

T(°C)	Rnom(KΩ)	T(°C)	Rnom(KΩ)
6	1356.1910	79	51.8720
7	1284.7430	80	50.0000
8	1217.4850	81	48.2040
9	1154.1120	82	46.4800
10	1094.3160	83	44.8260
11	1037.9950	84	43.2390
12	984.8440	85	41.7140
13	934.7580	86	40.2510
14	887.4320	87	38.8450
15	842.7640	88	37.4950
16	800.6520	89	36.1980
17	760.7880	90	34.9520
18	723.1730	91	33.7550
19	687.6020	92	32.6030
20	653.9730	93	31.4960
21	622.0820	94	30.4320
22	592.0300	95	29.4090
23	563.5120	96	28.4250
24	536.6300	97	27.4770
25	511.0760	98	26.5660
26	486.8510	99	25.6890
27	463.9550	100	24.8450
28	442.2850	101	24.0330
29	421.7400	102	23.2500
30	402.2170	103	22.4970
31	383.6140	104	21.7720
32	366.0330	105	21.0730

18. Accessories

	AW042MUGHA AW062MUGHA AW082MUGHA AW102MUGHA AW10NMUGHA	AW122MXGHA AW142MXGHA AW162MXGHA AW12NMXGHA AW14NMXGHA AW16NMXGHA	Description	Spare Parts No.
Drainage elbow	9	10	Water drainage of outdoor unit drain pan.	0010207576
Rubber cushion	6	6	Reduce vibration.	0150205886
Wired controller	1	1		0150402285F
Water filter	1	1	Filter water	0150751113
Installation manual	1	1	Refer to this manual for installation.	/
Temperature sensor	3	3	To detect Zone1 and Zone2 water tank temperature.	0150408957
ATW-A03	1	1	Electrial control box, to connect other devices, such as radiator, floor heating, pool and so on.	0151046447



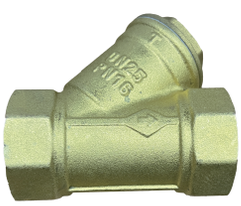
Drainage elbow



Rubber cushion



Wired controller



Water filter



Temperature sensor



ATW-A03

19. Recommended External Device Specification

No.	Part		Specifications
1	Two way valve kit *Cooling model	Electromotoric Actuator	AC230V, 12 VA
		2-port Valve	
2	Room thermostat	Wired	AC230V
		Wireless	
3	Mixing valve	-	AC230V, 6VA
4	Pump	-	AC 230V, 0.6 A max

20. Manual Updates Versions

This part will show the update versions of this Maual.

Version Code	Description	Date
SYJS-07-2024 REV.B Edition: 2024-07-29	Change Certificates and Regulations	2024/7/31
SYJS-07-2024 REV.B Edition: 2024-07-31	Add All in One dip switch	2024/7/31
SYJS-07-2024 REV.B Edition: 2024-07-31	Change Wiring Diagrams	2024/7/31
SYJS-07-2024 REV.B Edition: 2024-07-31	Change Heating Capacity	2024/7/31
SYJS-07-2024 REV.B Edition: 2024-07-31	Change PCB Photos and Port No.	2024/7/31
SYJS-07-2024 REV.B Edition: 2024-07-31	Modify the Operation Limits delivery leaving curve	2024/7/31
SYJS-07-2024 REV.B Edition: 2024-07-31	Modify the format of the sensor resistance table	2024/7/31

Haier Commercial Air Condition

ADDRESS: No.1 Haier Road, Hi-tech Zone,Qingdao 266101 P.R.China

Web: Http://www.haier.com

Haier reserves the right to make change without any notice.