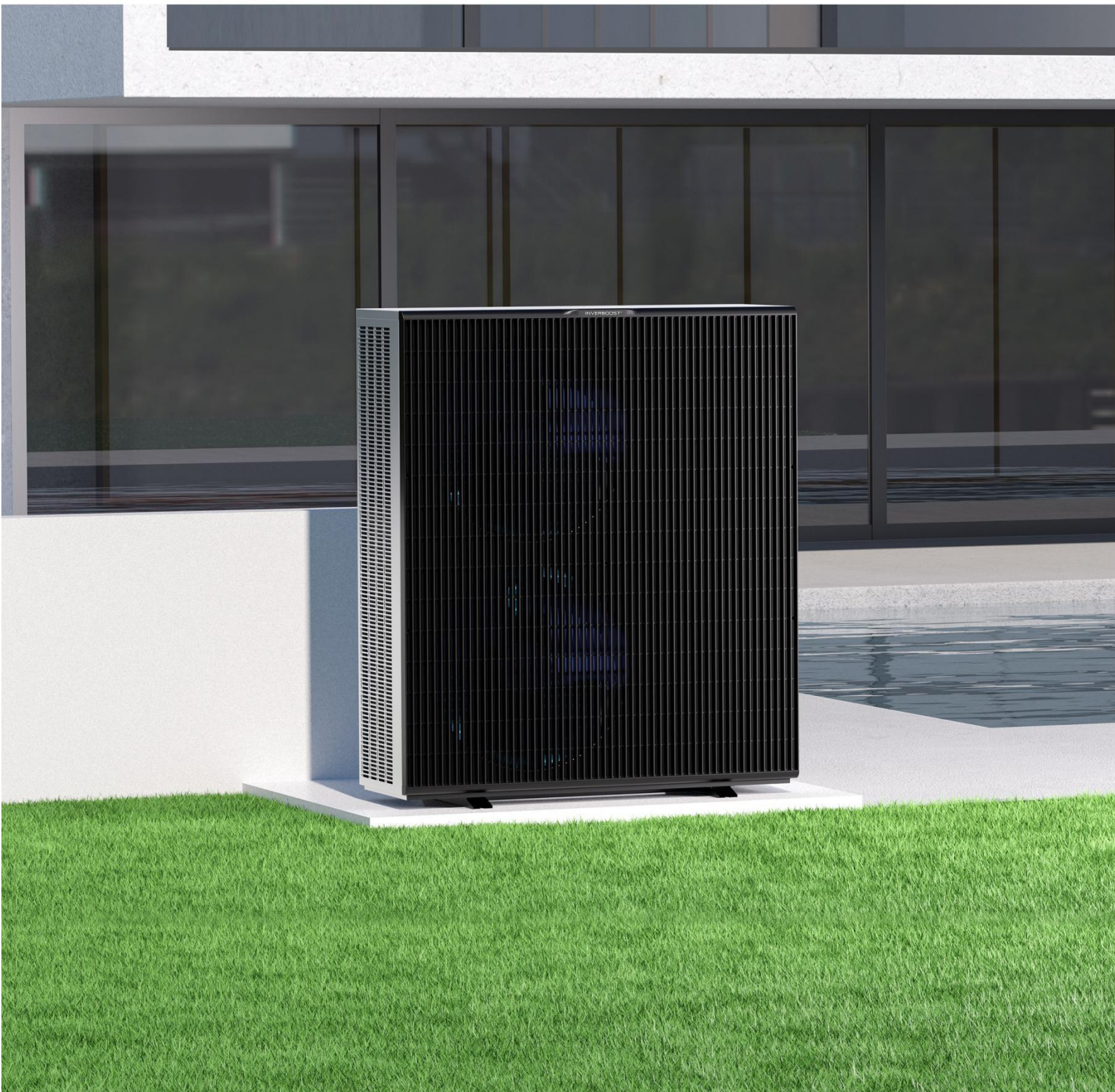
Zealux®
365Days GreenHome

INSTALLATION GUIDE

AIR TO WATER HEAT PUMP

GRID DESIGN R32



Index

Index 1
1. PLEASE READ BEFORE INSTALLATION 3
1.1. Documents Management 3
1.2. Running General Function 3
Heat pump operation water temp. range: 12°C to 65°C 3
1.3. Transport Information 3
1.3.1. Delivery of the Unit 3
1.3.2. Stock Advice 4
1.3.3. Transfer to the Final Position 4
1.4. Gaz Regulation and Manipulation 4
1.5. Safety Conditions 5
2. Monobloc Unit Installation 8
2.1. Installation Location and Space Requirements 8
2.2. Dimensions 9
3. Connection guide 11
3.1. Electrical Requirements 11
3.2. Wiring 12
3.3. Primary Pipework Sizing Guide 13
3.4. Expansion Vessel & Buffer Tank Selection 13
3.5. Flow Rate 14
3.6. Secondary Circulation Pump Selection 14
4. System Quick Installation Schematic 14
4.1. Single Circulation - Auto Bypass Install 14
4.2. Dual Circulation Pump - Low Loss Header (Retrofit of Old System) 14
4.3. Dual Circulation Pump - Buffer Tank 15
4.4. Dual Circulation Pump - Swimming Pools 16
4.5. Water System Evacuation 16
4.5.1. Air Evacuation 16
4.5.2. Function of the Air Venting Valve 16
4.6. Water Pump Jamming Repair Guide 17
5. TUYA APP Introduction 18
5.1. TUYA Wifi APP "Download" 18
5.2. Controller WIFI Module 18
5.3. App Connection 18
5.4. Connection Share 19
5.5. Operating mode, target temperature and work status control 19
5.5.1. Status of the heat pump 19
5.5.2. Timer set up 20
5.5.3 Smart or Silent Model 20
6. Controller 20
6.1. User Interface Overview 20
6.2. Turn on / off the controller 22
6.3. Basic Operation 22
6.3.1 Screen Unlock 22
6.3.2 Room heating & cooling Area with Controller 23

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6.3.3 Wire Controller Switch for Domestic Hot Water 23
6.3.4 Adjust Temperature 23
6.3.5 Mode Setting 23
6.3.6 Parameter Settings 24
6.3.7 “Mode selection” the main Interface setting. 26
6.3.8 “Display” setting. 26
6.3.9 “Date and Time” setting. 26
6.3.10 “Timer settings” setting. 26
6.3.11 “User parameter” setting. 26
6.4. Query menu 27
6.4.1 “Fault inquiry” inquiry 27
6.4.2 “Status inquiry” inquiry 27
6.4.3 “Version inquiry” inquiry 28
7. Installation Zone System 29
7.1. DHW Tank Settings 29
7.1.1DHW Tank Electric Heating Settings 29
7.2 Heating Settings 29
7.2.1 Recommended Setting Temperature for Terminal Equipment 29
7.2.2 Weather Compensation Mode 29
7.2.2.1Weather Compensation Mode Introduction 29
7.2.2.2 ON/OFF of the Weather Compensation Mode 29
7.2.2.3 Weather Compensation Operating Logic 29
7.2.2.4 Direct Heating Mode (user-specified target water temperature) 30
7.3 DHW Tank Heating Settings 30
7.3.1 DHW Tank Heating Priority Settings 30
7.3.2 DHW Tank Reheating Temperature and Maximum Heating Time Settings 30
7.3.3 DHW Tank Sterilization Mode Settings (target serialization temperature 60-75°C, default 65°C) 31
73.4 Water Tank High Temperature Sterilization Function 31
7.3.5 Corresponding Controller Parameters 31
8. Pool Heating Function Setting 31
9.External Backup Heating Function Settings 32
10. Common Faults During Installation and Solutions 34
11. Advanced Installations 38
11.1Two Zone Setup 38
11.2Two Zone Wiring 39
11.3Mixing Valves Introduction 40
12 Bivalent Heating Setup 41
12.1Basic Layout 41
12.2 Independent Buffer Connection 41
12.3 Bivalent Wiring 42
13. SG - Ready Solution 42
14. Accessories and Options 43
14.1 Standard Accessories 43
14.2 Optional Water System Accessories 43
15. General Warranty and Disclaimer Policy 44
16. Installation Check List 46

1. PLEASE READ BEFORE INSTALLATION

1.1. Documents Management

Compliance with documents

The installer must comply with the installation and operating instructions described in the manual.

Documentation management

The installer provides the user with the manual for reference and safekeeping.

1.2. Running General Function

Heat pump running function

It is a low carbon way to heat your house, the heat pump takes the energy on the air, the heat pump absorbs heat from the outside air into a liquid refrigerant at a low temperature. The compressor heats the liquid refrigerant to increase the temperature in the circuit and heat the water.

House heating

The hot water pass first in water tank and the circulation pump will push the water to go through convector, radiators or floor heating make the room heated.On heating function the unit can run with ambient temperature:

Normal Temperature series: -15˚C to 43˚C

Ultra-low Temperature series: -35˚C to 43˚C

House cooling

By reverse the cycle of running on the heat pump we can cool the water. To do that the installation must be equipped of convector and we can cool the house.On cooling function, the unit can run with ambient temperature from 10°C to 43°C.

Domestic hot water

By using an enamel water tank, we can hot the sanitary water. The water sanitary stored is warm and supply the hot water for your hot taps, showers and baths.

Pool heating

This heat pump is also an ideal choice for pool heating. Via heat ex-changer it can heat your private pool anytime, extend your swimming season.

Anti-freezing protection

The heat pump as a protection anti-freezing function in running, but it was preconized to added glycol on the water circuit. This is why do not disconnect electricity and shut down the heat pump during the winter season other way the function do not apply. The circulator starts if the ambient temperature is below 2°C and heat the water for anti-freezing protection.

Operating range

To provide you comfort and pleasure, please set water temperature efficiently and economically.

Heat pump operation ambient temp. range:

Normal Temperature series: -15˚C to 43˚C

Ultra-low Temperature series: -35˚C to 43˚C

Heat pump operation water temp. range: 12°C to 65°C

1.3. Transport Information

1.3.1. Delivery of the Unit





For transportation, the heat pumps are fixed on the pallet and covered with a cardboard box.

To protect from any damage, the heat pump must be **transferred in its package**.

Even if transport is at the supplier's expense, any material may be damaged on its way to the customer, and it is the recipient's responsibility to ensure that the delivery conforms to specifications.

The recipient must note any damage to the packaging on the carrier's delivery slip.

DO NOT FORGET TO SEND A REGISTERED LETTER TO THE CARRIER WITHIN 48 HOURS.

1.3.2. Stock Advice



The warehouse should be bright, spacious, open, well-ventilated, have ventilation equipment, and no fire source.

Heat pumps must be **stored and transferred in a vertical** position in their original packaging. If it is not the case, it cannot be operated until a minimum period of 24H has passed before the unit can have the electrical power turned on.



FORBIDDEN

1.3.3. Transfer to the Final Position

During the unpacking of the product and the transfer from the pallet to the final place of installation, it is necessary to maintain the heat pump in a vertical position.

Smoking and the use of flames are prohibited near the R32 machine.

1.4. Gaz Regulation and Manipulation

Regulation (EU) 2024/573 of 2024.02.07 on fluorinated greenhouse gases, amending Directive (EU) 2019/1937 and repealing Regulation (EU) No 517/2014 (Text with EEA relevance)

Leakage control

Operators of equipment containing fluorinated greenhouse gases in quantities of 5 tonnes of CO_2 equivalent or more (excluding gases contained in foams) shall ensure that the equipment is checked for leaks.

Under Regulation (EU) 2024/573, this requirement applies to equipment that is not hermetically sealed, and also extends to certain types of refrigeration, air conditioning and heat pump equipment, including mobile equipment.

The obligation to check for leaks does not apply if the equipment is proven to contain only ultra-low GWP (GWP < 10) fluorinated greenhouse gases or gases listed in Annex I, Section 2.

Frequency of test

For equipment containing fluorinated greenhouse gases in quantities equal to or above 5 tonnes CO_2 equivalent but below 50 tonnes CO_2 equivalent:

The equipment shall be checked at least every 12 months.

Where a permanently installed leak detection system is in place and functioning, the frequency may be extended to every 24 months.

If the equipment contains gases with a GWP below 10, these regular leak checks may not be required.

Training and certification

The operator shall ensure that all persons involved in the installation, servicing, maintenance, repair or decommissioning of equipment containing fluorinated greenhouse gases are certified in accordance with Article 10 of Regulation (EU) 2024/573.

Certification must cover:

Sufficient knowledge of the regulation, relevant technical standards, and safety procedures.

Competence in handling, preventing emissions, recovery and reuse of fluorinated gases for the specific type and size of equipment.

Member States shall ensure certification bodies are accredited, and mutual recognition of certificates across Member States is maintained.

Record keeping

Operators of equipment subject to leak checks must establish and maintain records for each piece of such equipment. These records must include:

a) The quantity and type of fluorinated greenhouse gases installed;

b) The quantities added during installation, maintenance, servicing, or due to leakage;

c) Whether added gases were recycled or reclaimed, including source facility details and certificate number if available;

d) The quantity of gas recovered during servicing or at end-of-life;

e) The identity and certification number of the company or person that installed, maintained, serviced, repaired or decommissioned the equipment;

f) The dates and results of leak checks;

g) If decommissioned, the recovery and disposal measures taken for the gases;

h) The operator shall retain these records for at least five years; parties performing work for the operator must also keep copies for five years.

1.5. Safety Conditions

Please read this manual carefully before installing, modifying, or adjusting the heating system. This manual contains all the information you need to use and install the heat pump. The installer must read the manual and carefully follow the operating and maintenance instructions.

The installer is responsible for the installation of the product and must follow all the manufacturer's instructions and application rules. Failure to follow the instructions in this manual, or incorrect installation, will automatically invalidate the warranty.

Incorrect installation and use may result in serious injury or death, as well as damage to persons and property.

ZEALUX accepts no responsibility for damage to persons, property or errors caused by installations which do not follow the instructions in this manual. Any improper use will be considered dangerous.

WARNING: If you wish to remove the panels to gain access to the interior of the heat pump, be sure to switch off the power supply and avoid any risk of live contact.

WARNING: When not using the heat pump, to prevent the risk of freezing in sub-zero temperatures, you must :

- Leave the heat pump switched on, as it will operate at low temperatures and avoid any risk of freezing.

- In the event of a total power cut, drain the heat pump, otherwise the plate heat exchanger will be damaged by frost.

- The hot water circuit must be mixed with a maximum of 50% propylene or ethylene glycol. The mixture must provide frost protection for the heat pump's hydraulic circuit. It is forbidden to discharge glycol water into drains or the environment.

Failure to comply with these instructions will result in total loss of warranty.

WARNING: Install the controller in a dry location, preferably indoors and always under cover, to avoid damage caused by humidity.

Installation must be carried out by qualified personnel in strict compliance with ZEALUX recommendations.

The precautions listed here are divided into the following categories.

Meaning of DANGER, WARNING AND CAUTION icons.

DANGER 

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING 

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

ATTENTION 

Indicates a potentially hazardous situation that may result in minor or moderate injury.
We recommend that you read and follow the recommendations below before operating the unit.

1.5.1. DANGER 

- Risk of electric shock due to incorrect connection to the mains supply.
  - Non-compliance with the rules of the art when making electrical connections can lead to the risk of electric shock and material damage.
- Be sure to install protective circuit breakers in accordance with local laws and regulations.
  - Failure to install a protective device may result in a risk of electric shock and fire.
- Before working on the heat pump, switch off the power supply via the circuit breaker.
- When the service panels are removed, the user must take all necessary precautions to avoid any incident.
- Never leave the unit unattended during installation or maintenance when the service panel is removed.
- Do not touch the water pipes during and immediately after operation, as they may be hot. To avoid injury, allow the pipes to cool to normal temperature, or wear protective gloves.
- Do not touch any switch with wet fingers. Touching a switch with wet fingers can cause an electric shock.
- Before touching electrical parts, switch off the power supply to the unit.
- To avoid burns, do not touch the machine's inlet and outlet pipes while the machine is running.
- To avoid cuts, do not touch the machine's radiator fins directly with your hands.
- Ask your dealer or a qualified person to follow the instructions in this manual for installation work. Do not install the unit yourself. Incorrect installation may lead to water leakage, electric shock or fire, resulting in injury, death or property damage.
- Be sure to use the accessories and parts supplied by the manufacturer during installation. Incorrect use of other parts can lead to water leaks, electric shock and product malfunction.
- Ensure that all electrical work is connected by a qualified person using a separate mains supply in accordance with local laws and regulations and this manual. Insufficient circuit capacity or incorrect electrical construction can lead to fire and malfunction.
- Be sure to install earth leakage circuit breakers in accordance with local laws and regulations. Failure to install an RCD may result in electrocution in the event of malfunction or water leakage in the system

1.5.2. WARNING 

- Work on the heat pump (such as installation, repair, connection and initial commissioning) may only be carried out by authorized personnel who have successfully completed a qualified technical or vocational training course and attended a refresher course. This applies to heating engineers and air-conditioning technicians who, by

virtue of their technical training and knowledge of heat pumps, are experienced in the installation and maintenance of heating, air-conditioning and cooling equipment, as well as heat pumps. However, due to the different designs of different brands of heat pumps, it is essential to read this manual carefully and to use the unit in accordance with the instructions.

- **The heat pump must be kept permanently under powered, especially during the winter season, to protect it from freezing.**

Installation Precautions

- Safely dispose of packaging materials such as staples and other metal or wooden parts that could cause injury.
- Mount the unit on a base or stand capable of supporting its weight and elevate it to allow condensate to drain easily.
- An unstable base or support may cause the unit to fall, resulting in injury.
- During installation, it is necessary to take into account the impact of strong winds and hurricanes on the installation, to adjust the position and to reinforce its stability.

Electrical Wiring Safety

- Electrical installation must be carried out by professionals in accordance with current electrotechnical guidelines and the regulations of the relevant energy supply company.
- Prior to any intervention, disconnect the power supply (turn off the main switch, break the circuit breaker) and secure against unintentional restart.
- Ensure that all wiring is correctly dimensioned. Ensure that terminal connections and cables are protected from water and moisture. Incomplete connections or fastenings can cause fires.
- Connect the device to earth, in compliance with local laws and regulations. Do not connect the earth cable to the gas or water pipe, or to the lightning protection cable. This could cause a fire. Incomplete grounding may result in electric shock.
- When wiring the power supply, ensure that the terminal block is securely fastened. If the terminal block is not tightened sufficiently, the terminals may overheat and cause a fire.

HFC Gaseous Refrigerant

- After completing the installation work, check that there are no refrigerant leaks.
- There is refrigerant in the refrigeration circuit, which can be very cold or very hot. Do not touch the refrigeration circuit during and immediately after operation. Burns or frostbite may occur if the copper pipes in the refrigeration circuit are touched. To avoid injury, allow the pipes to return to normal temperature, or wear protective gloves if you must touch them.
- Never touch leaking refrigerant directly, as this can cause serious injury.
- When working on the refrigerant circuit, make sure the workplace is well ventilated. Never work on the refrigerant circuit in closed rooms or confined spaces.
- Do not allow HFC refrigerant gas to encounter flames, embers or hot objects, otherwise there is a risk of flashover.
- Never allow HFC refrigerant gas to escape into the atmosphere (this is prohibited and is harmful to the environment).
- When removing service hoses from fill fittings, never hold the fittings in the direction of your body. Residual HFC refrigerant gas could escape.

Water Connection

- **We recommend dosing the water circuit with "glycol" to protect the heat pump exchanger from any risk of freezing during the cold season. Despite the frost protection, leaving the machine switched on may result in a power failure, which may result in the water circuit not being protected.**
- Always wear safety glasses and protective gloves.
- Contact with internal parts may cause burns. To avoid injury, allow internal parts to cool down to normal temperature, or wear protective gloves if you must touch them. And to avoid electric shock, please disconnect

the unit from the power supply before working on it.

- Seals must not be damaged or removed during assembly.
- The domestic water connection must comply with local drinking water standards.

More Generals Information

- Do not touch internal parts (pump, etc.) during and immediately after operation.
- This device must not be used by minors. Before using it, please undergo appropriate training and read this manual to understand the hazards involved.
- Children must be supervised to ensure that they do not play with the equipment, and that they stay away from the site during installation.
- Equipment covers and service panels must be replaced as soon as work is completed.
- Original spare parts are strongly recommended, as components and spare parts must at least meet the technical requirements defined by the manufacturer.

1.5.3. ATTENTION 

Do not install this device in the following locations:

- Where oil mist or vapor is present, plastic components may age and loosen or leak.
- The use of a corrosive gas (such as sulfuric acid) can corrode copper tubes or soldered parts and lead to refrigerant gas leaks.
- In an area where electromagnetic waves are emitted, they can interfere with control systems and electronic boards and cause equipment failure.
- Where there may be leaks of flammable gases or combustible dust suspended in the air, or where volatile flammable products such as paint thinner, or gasoline are handled. These volatile products can cause fires.
- Places where air salinity is very high, such as near the ocean, cause corrosion and premature ageing.
- Power grids with high voltage fluctuations.
- In a vehicle or on a boat.
- In the presence of acidic or basic vapors.

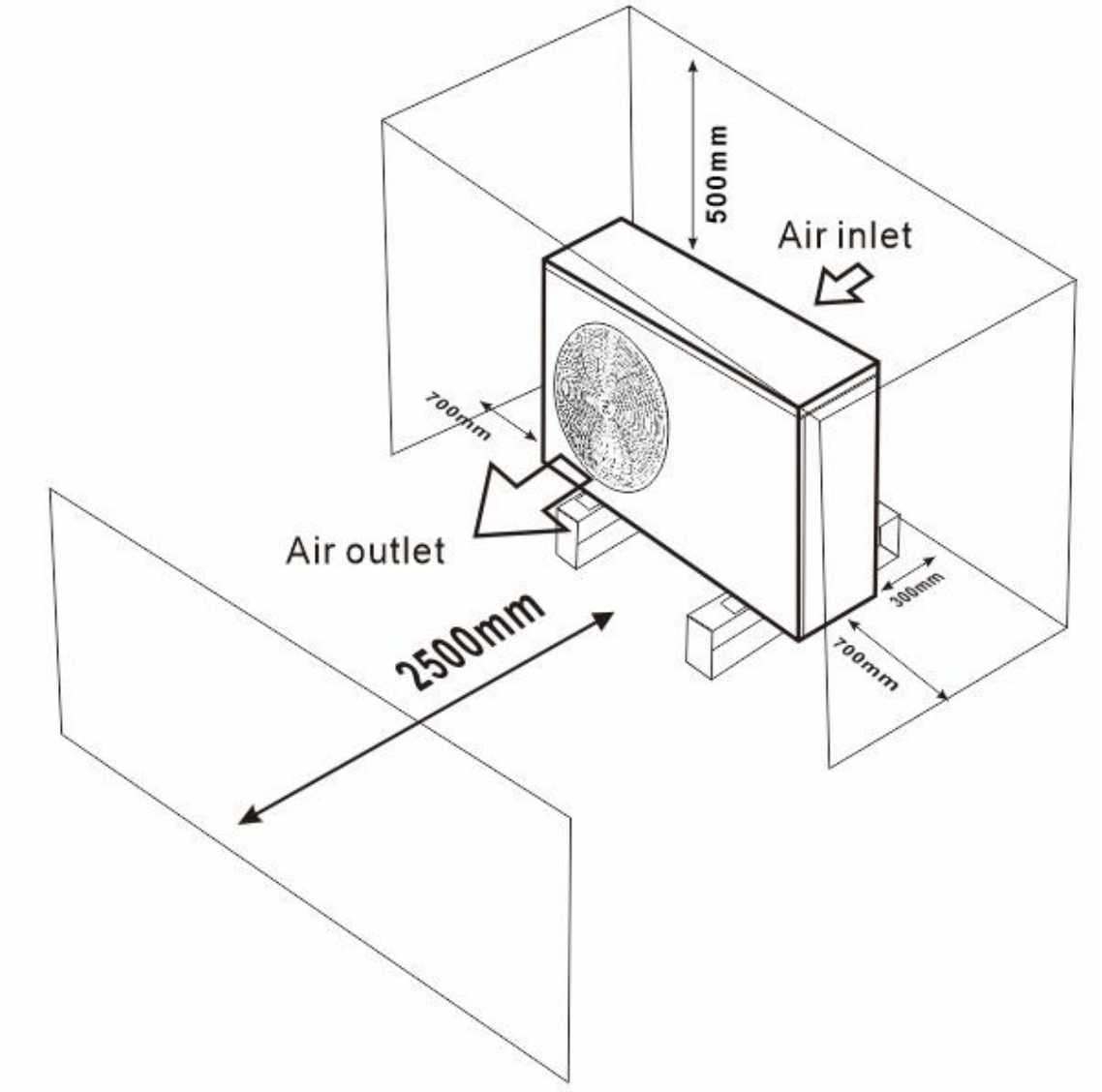
End of Product Life

Do not dispose of this product at the municipal landfill like any other common product. It is mandatory to collect this product separately for special treatment. Do not dispose of electrical appliances at the municipal landfill, use a designated collection area, contact your local authority for information on available collection systems. If appliances are disposed of in landfill sites, hazardous substances may seep into groundwater and enter the food chain, harming human health.

2. Monobloc Unit Installation

2.1. Installation Location and Space Requirements

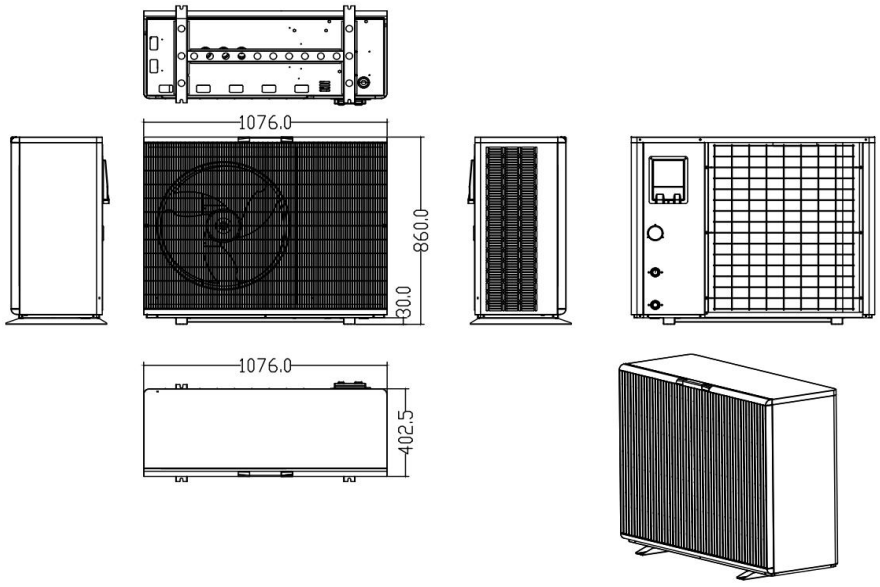
Providing the required clearance around the outdoor unit allows the system to operate properly, since this is the renewable input energy for the system (free air).



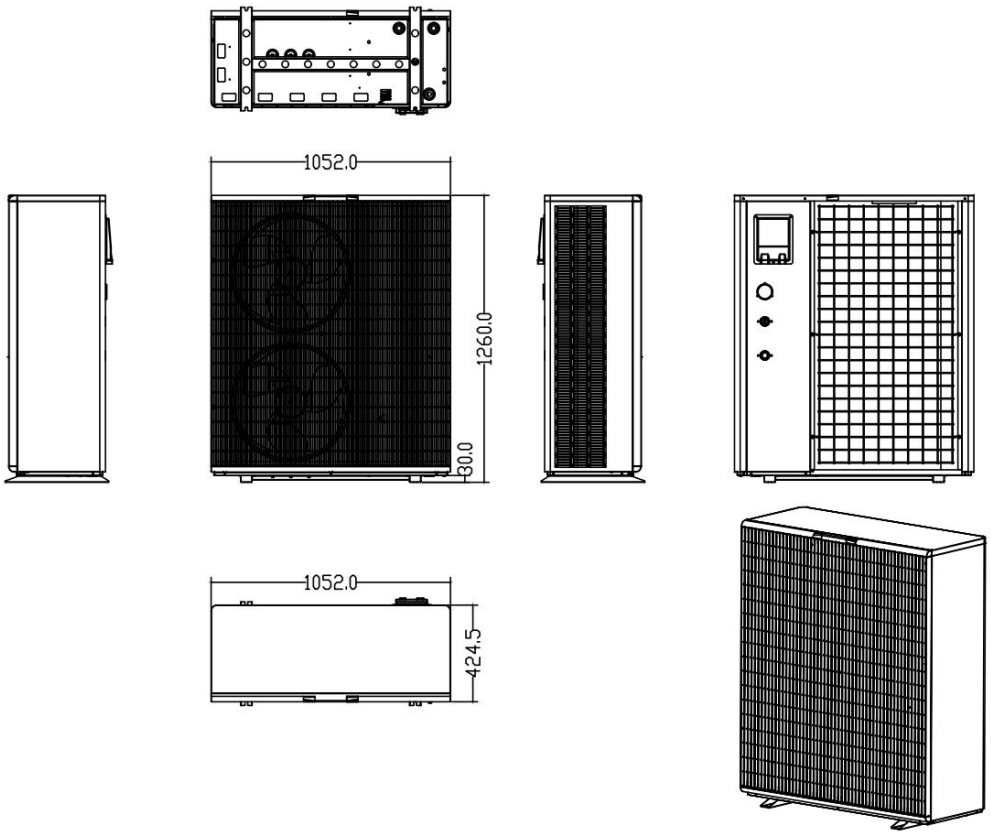
*The distance mentioned in the drawing is the minimum request.

2.2. Dimensions

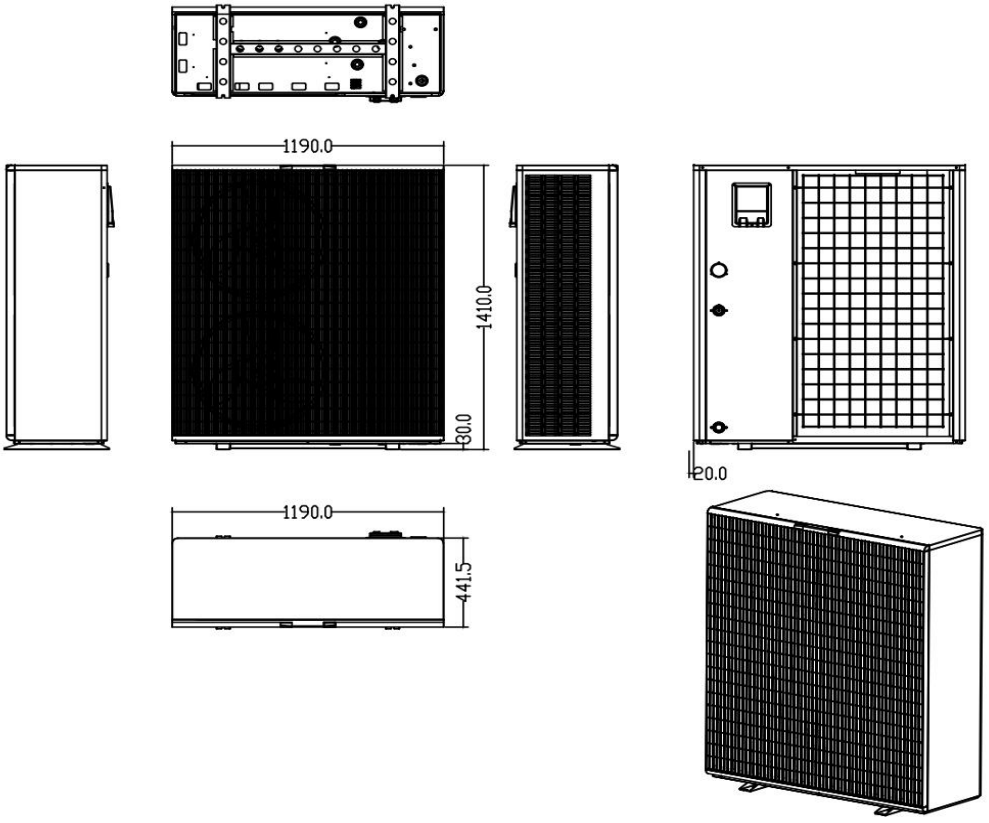
XAH07Csi32-G/XAH10Csi32-G/XAH10Csiu32-G



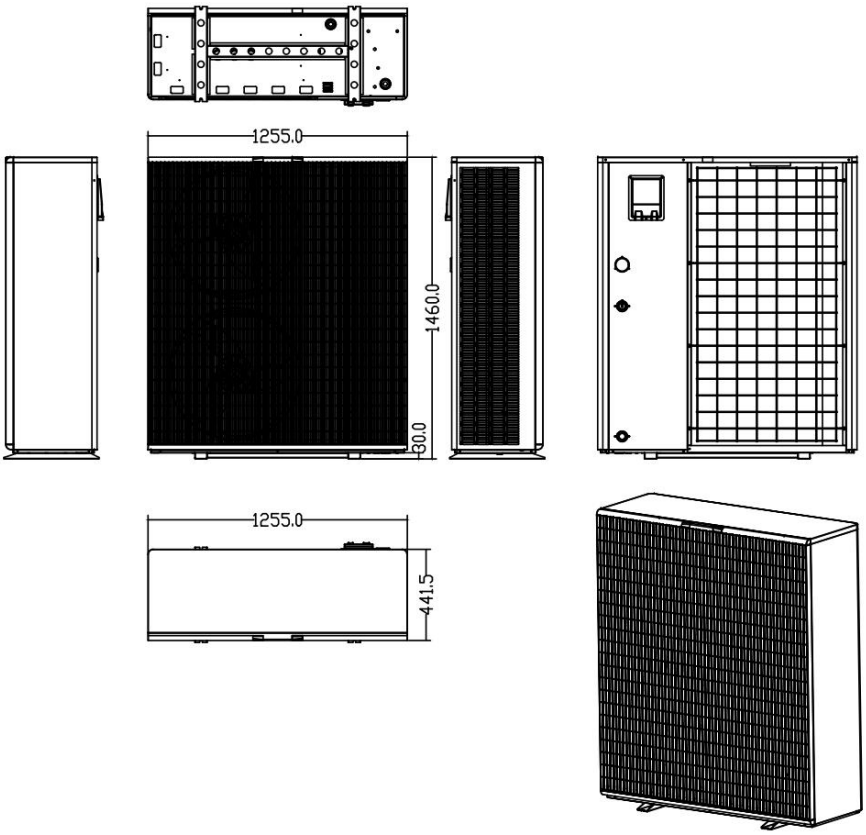
XAH12Csi32-G/XAH16Csi32-G/XAH12Csi32T-G/XAH16Csi32T-G/XAH12Csiu32T-G



XAH19Csiu32T-G



XAH26Csiu32T-G



3. Connection guide

3.1. Electrical Requirements

References for protecting devices and cable specification

Normal Temperature series:

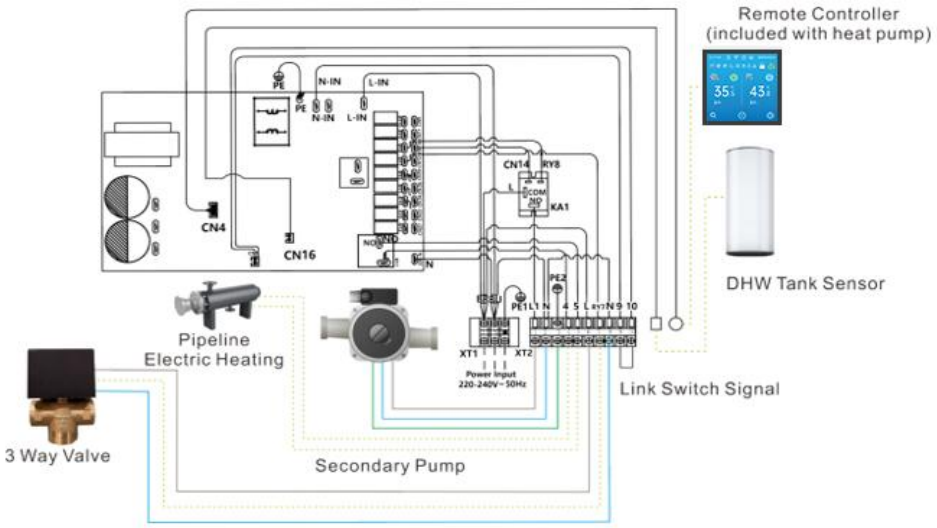
Model	Maximum current	Power Cord			Circuit breaker
		Live Wire	Naught wire	Earth	
XAH07Csi32-G	14A	1X2.5mm^2	2.5mm^2	2.5mm^2	18A/30mA
XAH10Csi32-G	16A	1X4mm^2	4mm^2	4mm^2	20A/30mA
XAH12Csi32-G	23A	1X4mm^2	4mm^2	4mm^2	29A/30mA
XAH16Csi32-G	26A	1X6mm^2	6mm^2	6mm^2	32A/30mA
XAH12Csi32T-G	12A	3 x 2.5mm^2	2.5mm^2	2.5mm^2	15A/30mA
XAH16Csi32T-G	12A	3 x 2.5mm^2	2.5mm^2	2.5mm^2	15A/30mA

Ultra-low Temperature series:

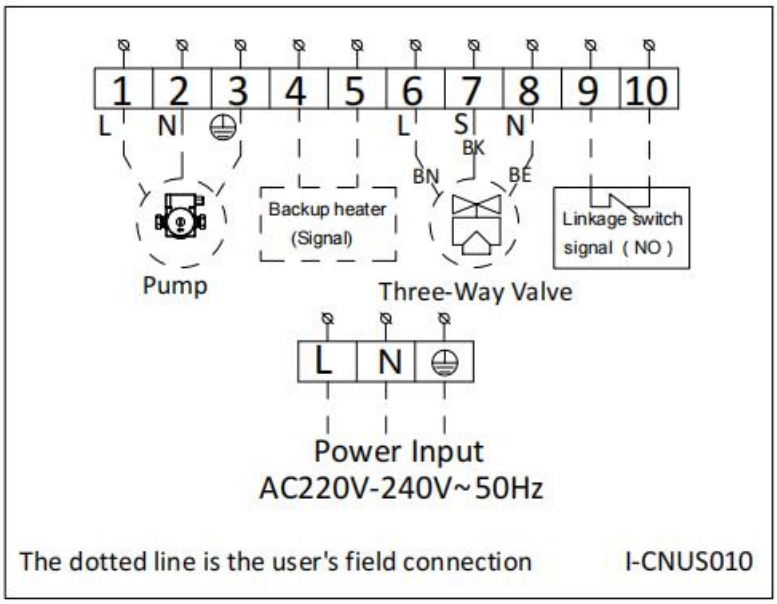
Model	Maximum current	Power Cord			Circuit breaker
		Live Wire	Naught wire	Earth	
XAH10Csiu32-G	20.5A	1 x 4mm^2	4mm^2	4mm^2	25A/30mA
XAH12Csiu32T-G	9.0A	3 x 2.5mm^2	2.5mm^2	2.5mm^2	12A/30mA
XAH19Csiu32T-G	13.0A	3 x 2.5mm^2	2.5mm^2	2.5mm^2	16A/30mA
XAH26Csiu32T-G	18.5A	3 x 4mm^2	4mm^2	4mm^2	24A/30mA

※ Above data is subject to modification without notice.

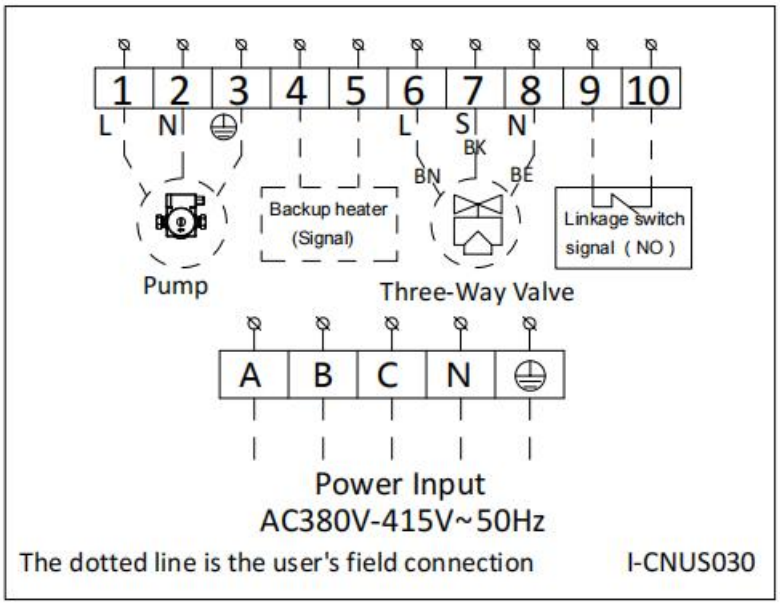
3.2. Wiring



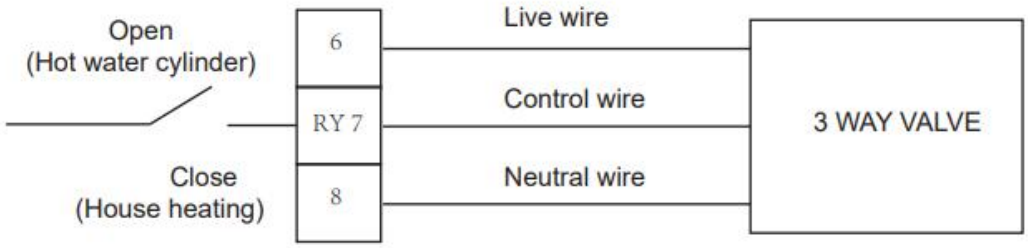
Single phase series:



Tri-phase series:



1. For terminals 1 to 3, they are connected to circulator pump. For the models integrated with circulator pump, they are already connected in default. If you have secondary circulator pump, you can also connect to these terminals.
2. For the terminal 4 & 5, they are control signal for the pipeline electric heating.
3. For terminals 6 to 8, they are for the three way valve. (6: Live wire, 7: Control wire, 8: Neutral wire)



4. For terminal 9 to 10, they work as a switch to control the heat pump. They are connected in default. If you need to control the heat pump by additional switch, you can connect your device to these terminals.

3.3. Primary Pipework Sizing Guide

Table of recommendations for pipework

Normal Temperature Series:

Model	Pipe Metal	Pipe PPR	Pipe Copper
XAH07Csi32-G	DN25	DE32	28mm
XAH10Csi32-G	DN25	DE32	28mm
XAH12Csi32-G	DN25	DE32	28mm
XAH12Csi32T-G	DN25	DE32	28mm
XAH16Csi32-G	DN25	DE32	28mm
XAH16Csi32T-G	DN25	DE32	28mm

Ultra-low Temperature Series:

Model	Pipe Metal	Pipe PPR	Pipe Copper
XAH10Csiu32-G	DN25	DE32	28mm
XAH12Csiu32T-G	DN25	DE32	28mm
XAH19Csiu32T-G	DN25	DE32	35mm
XAH26Csiu32T-G	DN25	DE32	35mm

*Please note that these sizes are for guidance only and may differ dependant on pipe run, pressure losses within the system and number of bends.

3.4. Expansion Vessel & Buffer Tank Selection

Normal Temperature Series:

Model	Expansion vessel	Buffer tank
XAH07Csi32-G	5L	60L
XAH10Csi32-G	5L	60L
XAH12Csi32-G	8L	60L/80L
XAH12Csi32T-G	8L	60L/80L
XAH16Csi32-G	12L	80L/100L
XAH16Csi32T-G	12L	80L/100L

Ultra-low Temperature Series:

Model	Expansion vessel	Buffer tank
XAH10Csiu32-G	5L	60L
XAH12Csiu32T-G	8L	80L

XAH19Csiu32T-G	12L	100L
XAH26Csiu32T-G	12L	100L

If the system volume exceeds that shown in the table, or if the head height exceeds 7 meters, an additional expansion vessel must be installed.

3.5. Flow Rate

Normal Temperature Series:

Model	XAH07Csi32-G	XAH10Csi32-G	XAH12Csi32-G	XAH16Csi32-G	XAH12Csi32T-G	XAH16Csi32T-G
Advise water flux（m3/H）	1.0~1.5	1.5~2.0	2.0~2.5	2.5~3.0	2.0~2.5	2.5~3.0

Ultra-low Temperature Series:

Model	XAH10Csiu32-G	XAH12Csiu32T-G	XAH19Csiu32T-G	XAH26Csiu32T-G
Advise water flux（m3/H）	1.5~2.0	1.5~2.0	3.0~3.5	3.5~4.0

3.6. Secondary Circulation Pump Selection

Please consult to the technician according to the real installation.

4. System Quick Installation Schematic

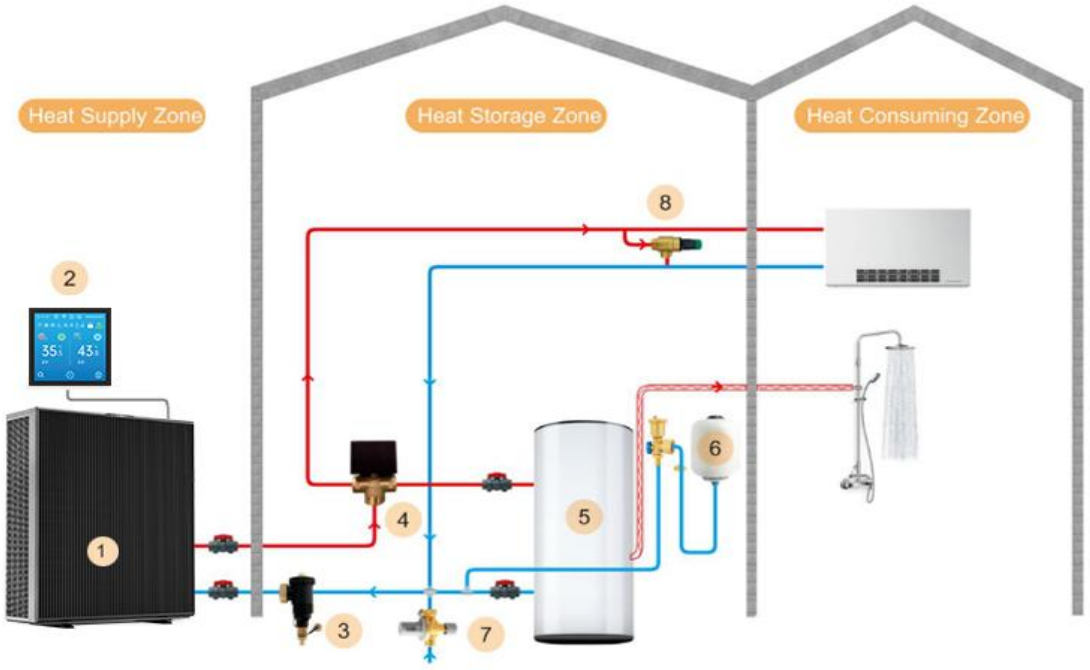
4.1. Single Circulation - Auto Bypass Install

Applicable:

Selection DHW Tank Heating + Space Heating ☀

Selection DHW Tank Heating + Space Cooling ❄

Selection DHW Tank Heating + Space Heating & Cooling ☀ ❄



1.Monobloc Unit
2.Controller (Monobloc Unit)
3.Magnetic Particle Filter
4.3 Way Valve
5.DHW Cylinder
6.Expansion Vessel
7.Aotumatic water refill valve
8.Differential pressure bypass valve

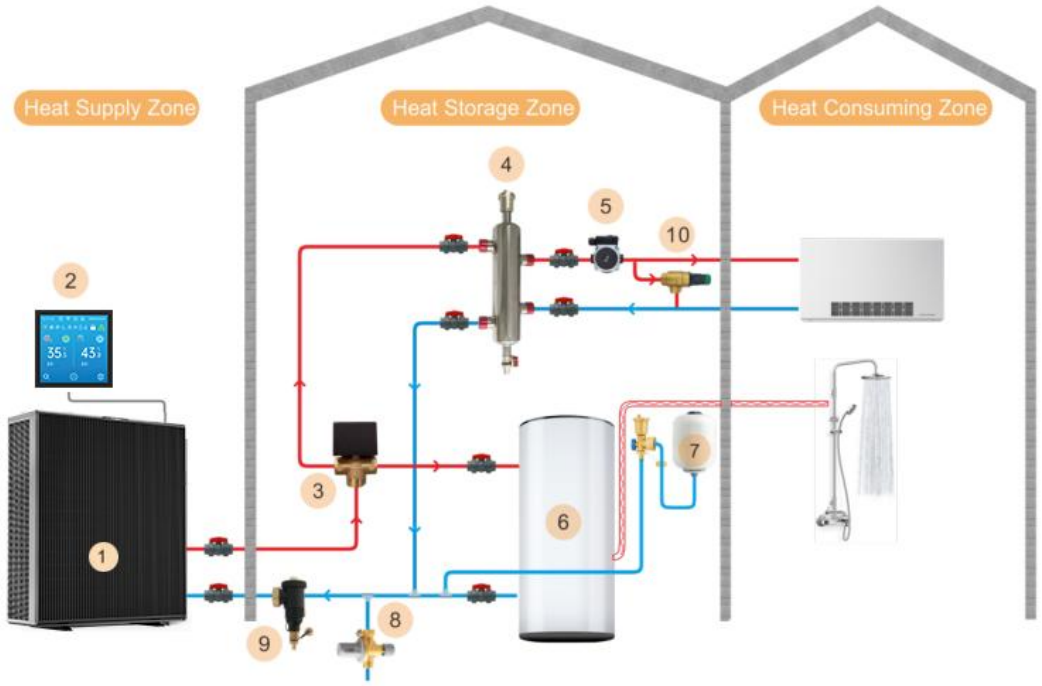
4.2. Dual Circulation Pump - Low Loss Header (Retrofit of Old System)

Applicable:

Selection DHW Tank Heating + Space Heating ☀

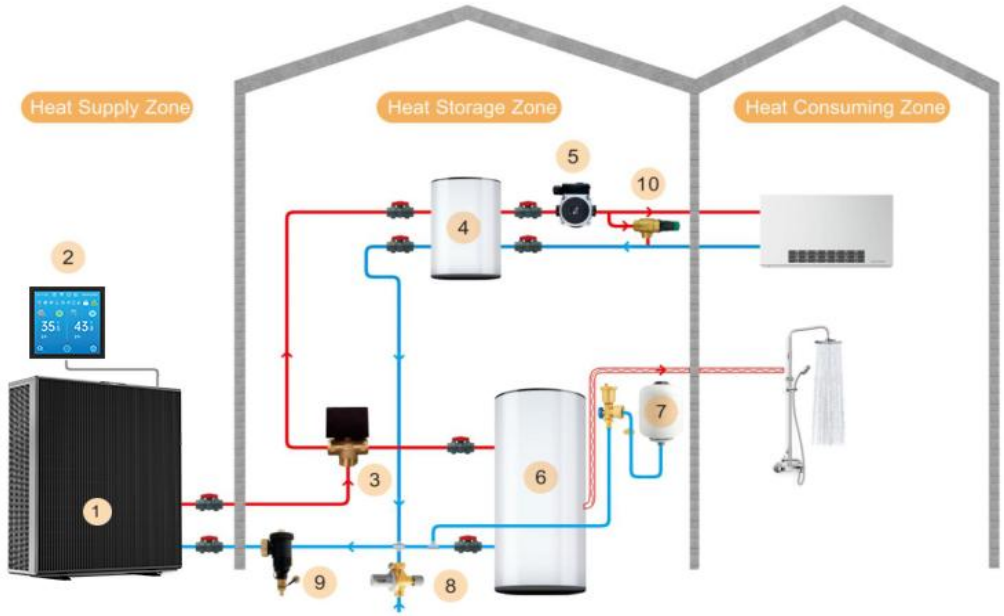
Selection DHW Tank Heating + Space Cooling ❄

Selection DHW Tank Heating + Space Heating & Cooling ☀ ❄



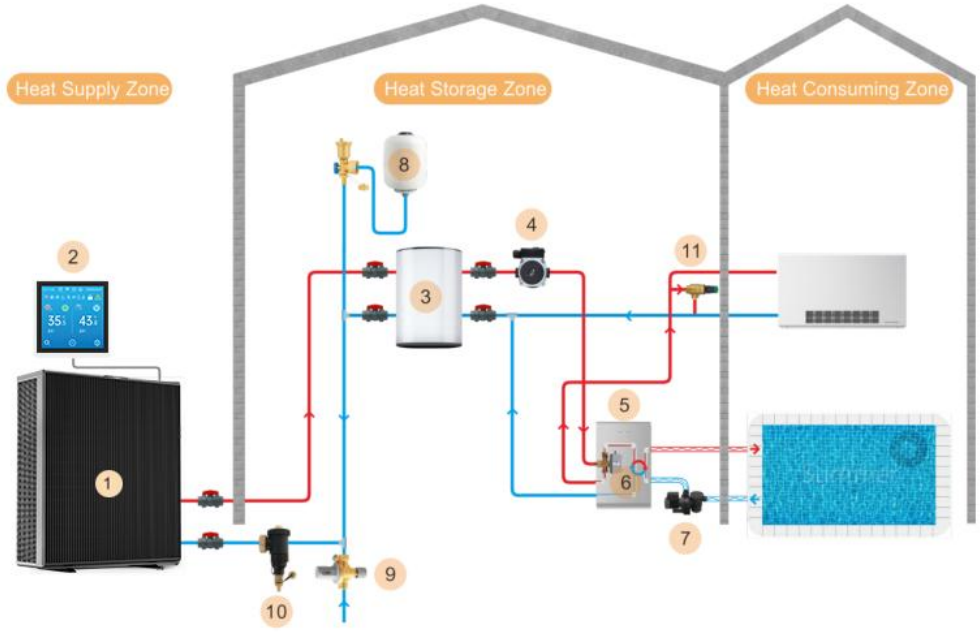
1.Monobloc Unit
2.Controller (Monobloc Unit)
3.3 Way Valve
4.Low Loss Header
5.Circulation Pump
6.DHW Cylinder
7.Expansion Vessel
8.Aotumatic water refill valve
9.Magnetic Particle Filter
10.Differential pressure bypass valve

4.3. Dual Circulation Pump - Buffer Tank



1.Monobloc Unit
2.Controller (Monobloc Unit)
3.3 Way Valve
4.Buffer Tank
5.Circulation Pump
6.DHW Cylinder
7.Expansion Vessel
8.Aotumatic water refill valve
9.Magnetic Particle Filter
10.Differential pressure bypass valve

4.4. Dual Circulation Pump - Swimming Pools



1.Monobloc Unit
2.Controller (Monobloc Unit)
3.Buffer Tank
4.Circulation Pump
5.Heat Exchange for pool
6.3 Way Valve
7.Circulation water pump
8.Expansion Vessel
9.Aotumatic water refill valve
10.Magnetic Particle Filter
11.Differential pressure bypass valve

4.5. Water System Evacuation

4.5.1. Air Evacuation

There is an automatic air venting valve to evacuate the air in heat pump. The external water system can be emptied by installing an air vent at the highest point according to the user's actual situation.

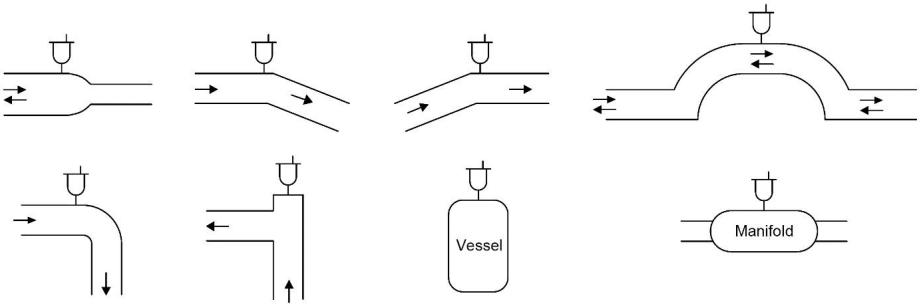
4.5.2. Function of the Air Venting Valve

When there is air in the system, the air gathers in the upper part of the exhaust valve, the air accumulates in the valve, the pressure rises, when the air pressure is greater than the system pressure, the air will make the water surface in the cavity drop, the float drops with the water level, opening the exhaust port; after the air is exhausted, the water level rises, the float rises with it and closes the exhaust port.

4.5.3. Installation Position of the Air Venting Valve in the Water Recycling System

Automatic air venting valve must be installed vertically, that is, must ensure that its internal float in a vertical state, so as not to affect the exhaust. Installation of automatic air venting valve at the time, it is best to install with the isolation valve, so that when the need to remove the air venting valve for maintenance, the system is confined, the water does not flow out.

Common installation locations are the following: the highest position, positions where the descending slope becomes large and small, and long ascending or descending pipe sections with no bends. For vertical piping, it is recommended to be installed at the highest point of the piping; for horizontal piping, it is recommended to be installed at the very end of the piping, which is conducive to improving the exhaust efficiency.



4.6. Water Pump Jamming Repair Guide

△ **Prerequisites for operation:**

The machine needs to be disconnected from the power supply

② Remove the top cover

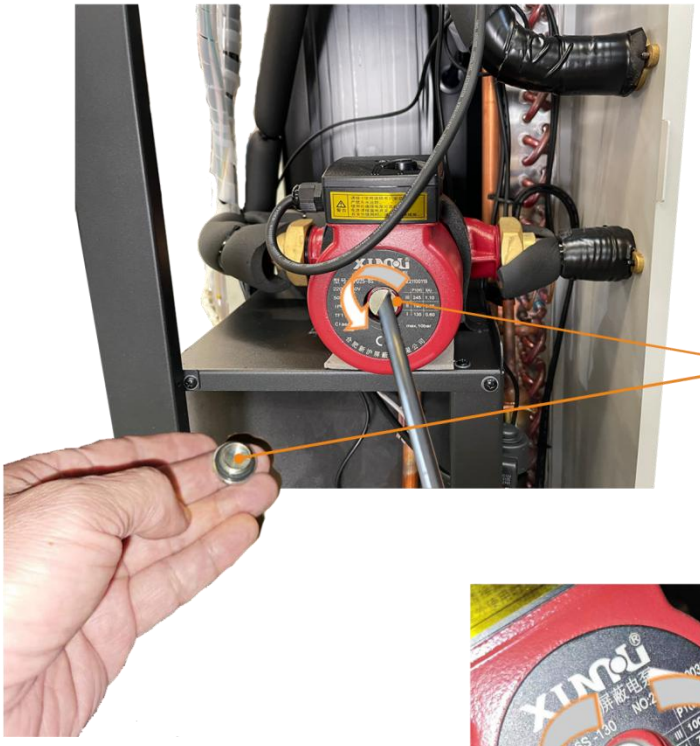


③ Remove the right panel

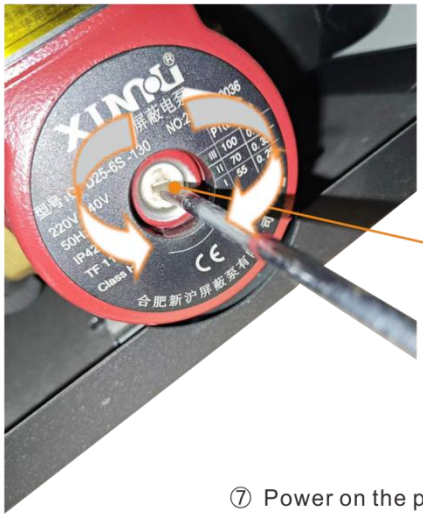
① Remove the front panel



④ Locate the water pump



⑤ Use a screwdriver to unscrew the water pump sealing screw counterclockwise



⑥ Use a screwdriver to align the screw slot inside the water pump and turn it clockwise and counterclockwise several times until it can turn smoothly

⑦ Power on the pump to confirm that the pump can rotate normally

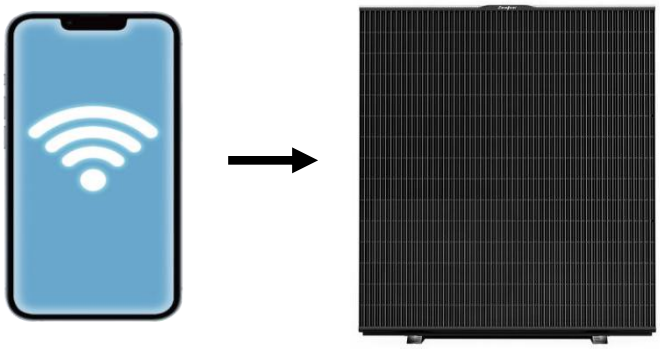
⑧ Install the water pump sealing screws, right side panel, top cover, and front panel back in order

5. TUYA APP Introduction

5.1. TUYA Wifi APP "Download"

Download "Tuya Smart" APP from GOOGLE PLAY for Android or APP STORE for iPhone.



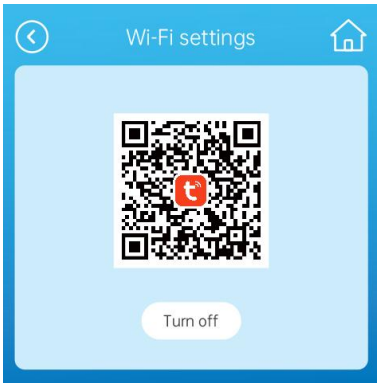


5.2. Controller WIFI Module

This controller has a built-in WIFI module, which can establish communication with the mobile phone APP and use the mobile phone APP to operate the unit. When configuring the WIFI network with the wire controller for the first time, you must first ensure that the wire controller and the mobile phone are in the same WIFI signal, and the signal cannot be too weak.

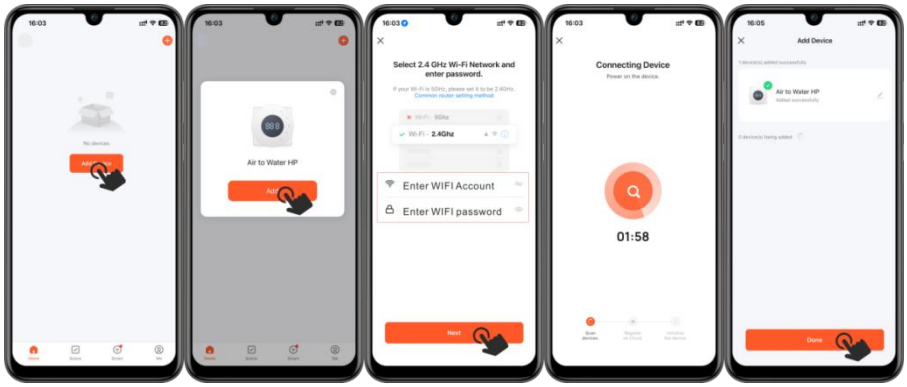
Go to ''Home''>''Parameter configure''>''WIFI Setting'. The interface of controller displays the current WIFI status, MAC address, and network configuration method instructions.





5.3. App Connection

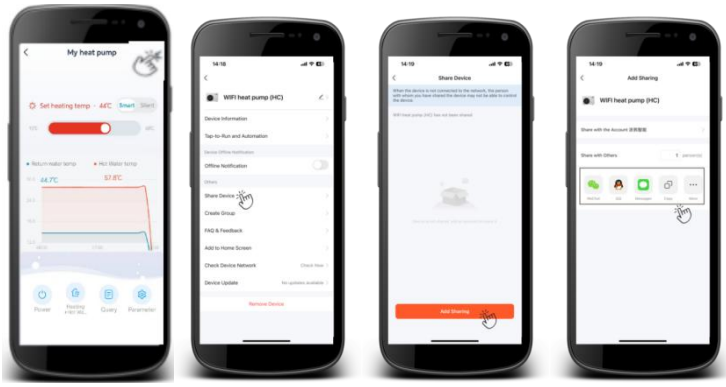
Go to ''Home''>''Parameter configure''>''WIFI Setting'>”Reset wifi”>Use TUYA APP on the smart phone to connect(scan QR code/add device by TUYA APP). 2.4Ghz/5Ghz network is required for connectio.



5.4. Connection Share

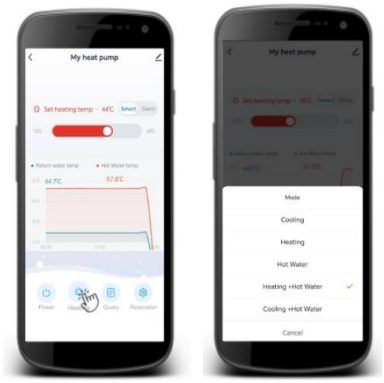
Users who have successfully connected can freely share the link of the machine, so that other members can also control it through their mobile phone.

Use "Share Device" function and create a group to share the connection.



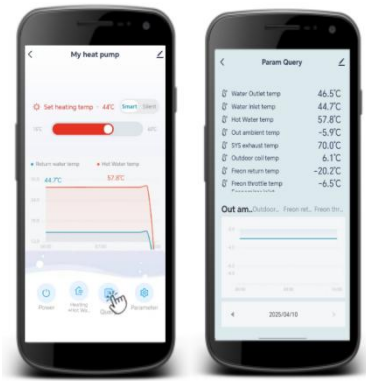
5.5. Operating mode, target temperature and work status control

- Turn on/off the heat pump by pressing "power".
- Adjust the target temperature by dragging the right end of the temperature bar around the temperature dial. Temperature regulation accuracy is ±0.5℃.
- Changing work status by choosing “Cooling”“Heating”“Hot Water”“Heating+Hot Water”“Cooling+Hot water”.



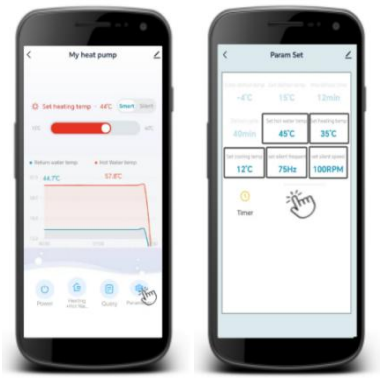
5.5.1. Status of the heat pump

The real-time status of heat pump can be queried through the "status" interface.



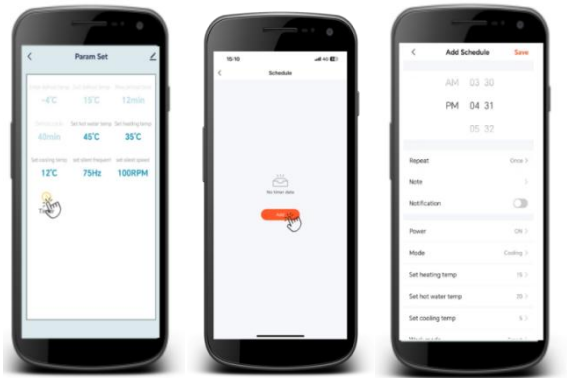
Press the "setting" button and enter the setting interface.

Only "Tank temperature" “Heating temperature” “Cooling temperature” “Set silent frequent” “Set silent speed” can be adjusted.



5.5.2. Timer set up

Press the "Timer" to set a timer.



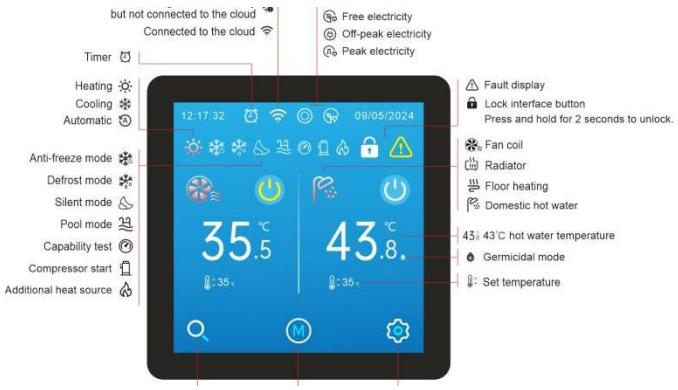
5.5.3 Smart or Silent Model

Press the "Smart" or"Silent" to set “Smart” or “Silent” Model.



6. Controller

6.1. User Interface Overview



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Icon	Function	Description
12:17:32	Display the current day's time	Sorted as hour/minute/second
09/05/2024	Display the current date	Sorted as day/month/year
	Timer icon	The icon lights up when any timer function is turned on for the day
	WiFi operation status	Displayed when the WiFi is in the network configuration state. Displayed when the WiFi is not connected to the cloud. Displayed when the WiFi is connected to the cloud
	Water pump operation status	The icon lights up after the water pump starts running
	SG-Ready status	Displayed when it is currently peak electricity consumption. Displayed when it is currently off-peak electricity consumption. Displayed when it is currently free electricity consumption
	Current left/single zone mode icon display	Displayed when it is currently in the heating mode. Displayed when it is currently in the cooling mode. Displayed when it is currently in the single zone and domestic hot water mode
	Anti-freeze mode	The icon lights up when it is currently in the anti-freeze mode
	Defrost mode	The icon lights up when it is currently in the defrost state
	Silent mode	The icon lights up after the silent mode is turned on
	Pool mode	The icon lights up after the pool mode is turned on (P26)
	Capability test	The icon lights up after the Capability test is turned on
	Compressor status	The icon lights up after the compressor starts
	Additional heat source	The icon lights up after the additional heat source is started
	Lock screen function	The icon lights up after entering the lock screen state when the lock screen function is set to on Note:Press and hold for 2 seconds to unlock.

	Fault query	Icon lights up when a fault occurs
	Germicidal mode	The icon lights up after the Germicidal mode is started
	Temperature setting	1. Click to enter the temperature of the corresponding mode. If "heating" is displayed, when the dual temperature is shown, pressing the left button will jump to the heating temperature setting, and changing the right temperature will be fixed as the hot water temperature setting. 2. When the icon is displayed as (i.e., without up and down arrows), the system is in a certain mode and the temperature setting cannot be adjusted currently
	Query status button	Click to enter the system query selection page
	Mode selection button	Click to enter the mode selection, and the cooling/heating mode can be changed
	Parameter setting button	Click to enter the parameter setting selection interface

6.2. Turn on / off the controller

Press the top cover button to turn on the controller.

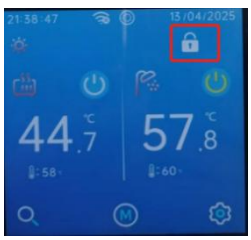
Press and hold the top cover button for 2 seconds to turn off the controller.



6.3. Basic Operation

6.3.1 Screen Unlock

If the lock screen icon appears on the screen, the wired remote control will be inoperable, as shown in the figure



Press and hold the button for two seconds, the lock screen icon will disappear and the remote controller can be operated, as shown in the figure

.



Lock screen enable/disable settings:

On the main interface, click  to enter the Parameter configure interface, find "Display setting" and click [Lock screen settings] to setting.

6.3.2 Room heating & cooling Area with Controller

Click Room heating & cooling Area button on the main interface to turn on/off the Room heating & cooling.Then click to  confirm to turn on the the room heating & cooling, as shown in the figure:



6.3.3 Wire Controller Switch for Domestic Hot Water

The hot water area button  on the main interface, and then click  to turn on/off hot water, as shown in the figure :



6.3.4 Adjust Temperature

Click the button on the main interface  to set the temperature, the temperature setting box will appear, at this time, slide to select the temperature value, and then click  to save the adjusted temperature value, as shown in the figure:



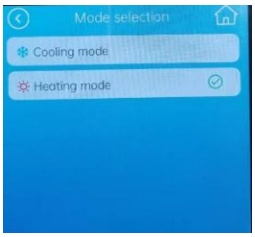
6.3.5 Mode Setting

There are 2 modes: Cooling mode, Heating mode

Click the button on the main interface  to pop up the space mode setting window, click the mode option button

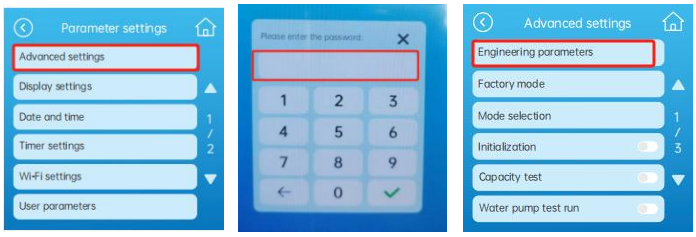
.

you want to set.,as shown in the figure:



6.3.6 Parameter Settings

On the main interface, click  to enter the Parameter configure interface.“Advanced settings ”requires a password to enter. Password is “0000”.”Engineering parameters” and “Mode selection” can be set, if other parameters need to be set, please consult a professional or manufacturer.



Click ”Engineering parameters” to enter the Parameter configure interface.The parameters are as follows:

Parameter No.	**Function Description**	**Optional range**	**Factory default**
P6	Constant Temp Mode Start Differential	0 ~ 6℃	2℃
P7	Backup Heat Source Control Mode	0 Off 1 Energy-saving heating 2 Rapid heating	0
P8	Upper Ambient Temp Limit for Elec. Heating	-30 ~ 15℃	-7℃
P9	Elec. Heating Start Delay	2 ~ 90 min	30 min
P10	Max Outlet Temp (Space Heating)	（MAX.TEMP） 25 ~ 67℃	67℃
P11	Low Ambient Critical Temp	-40 ~ 0℃	-15℃
P12	Defrost Mode	0: Smart Defrost 1: Periodical Defrost	1
P13	Defrost Temp Setting	-15 ~ 2℃	-4℃
P14	Defrost Exit Temp Setting	8 ~ 30℃	15℃
P15	Defrost Program Interval	25 ~ 70 min	40 min
P16	Duration of Defrosting Process	2 ~ 20 min	12 min
P17	DHW Tank Temp Compensation	-10 ~ 10℃	0℃

.

P18	Inlet/Outlet Water Temp Compensation	-10 ~ 10℃	0℃
P19	Pump Mode at Target Temp	0: Pump Continuous On 1: Pump Interval Cycling 2: Pump Off	0
P22	Phase Sequence Protection	0：Off 1：On	1
P26	Heating Type	0：Normal Mode 1：Pool Mode	0
P27	Maximum Frequency Limit for Pool Heating	30 ~ 100Hz	75
P28	Pool Heating Return Air Overheat Temp	-10 ~ 10℃	3℃
P29	Power Compensation Value	-40 ~ 200(*10W)	20
P30	Design Water Flow Rate	0.1 ~ 5.0 m^3/H	1.2
P31	Correction Parameter for Temp Difference Between Inlet and Outlet Water	-9.9 ~ 9.9℃	0.0℃
P32	Cycle Day Setting for Sterilization Function	0 ~ 30 days	14 days
P33	Sterilization Operation Period	0 ~ 23 o'clock	1 o'clock
P34	Target Water Temp Setting for Sterilization	60 ~ 75℃	65℃
P35	SG-Ready	0：Off 1：On	0
P36	Main Interface Water Temp Display Selection	0：Inlet Water Temp 1：Outlet Water Temp	1
P37	Silent Mode Compressor Frequency	30 ~ 80Hz	75Hz
P38	Silent Mode Fan Speed	40 ~ 70 (*10RPM)	50 (*10RPM)

Note:

The difference between the normal Temperature Series and the Ultra-low Temperature Series lies in the parameter P11 (Critical temperature for the outdoor ambient temperature to be too low)

Normal Temperature Series:P11. Factory default is -15℃.

Ultra-low Temperature Series:P11. Factory default is -35℃.

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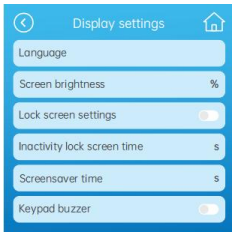
6.3.7 “Mode selection” the main Interface setting.

Click “Mode selection” to enter the main Interface setting.



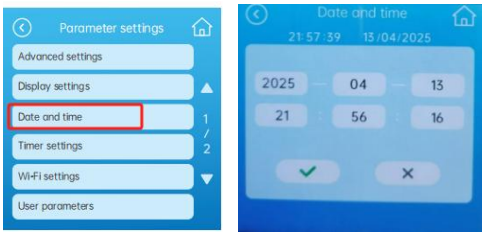
6.3.8 “Display” setting.

Click “Display” to enter the'Language” 'Screen brightness” 'Lock screen settings” 'Inactivity lock screen time” 'Screensaver time” ”Keypad buzzer” setting.



6.3.9 “Date and Time” setting.

Click “Date and Time” to enter the”Date and Time” setting.



6.3.10 “Timer settings” setting.

Click “Timer settings” to enter the ”Timed power on/off” ”Timed sterilization””Timed silent mode” setting.



6.3.11 “User parameter” setting.

Click “User parameter” to enter the ”user parameter” setting.



The parameters are as follows:

Parameter No.	Function Description	Optional range	Factory default
P1	DHW Tank Set Temp	20 ~ 60℃	45℃

.

P2	Space Heating Mode Set Temp	15～65℃	35℃
P3	Space Cooling Mode Set Temp	12～35℃	12℃
P4	DHW Heating Start Differential	3～15℃	5℃
P5	Room Mode Start Differential	2～15℃	3℃
P23	Temp Compensation Mode	0：Off 1：On	0
P24	Curve Offset Adjustment Parameter 1	0～10℃	0℃
P25	Curve Slope Adjustment Parameter 2	30～45℃	30℃

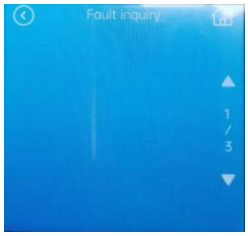
6.4. Query menu

On the main interface, click  to enter the Query menu interface.

6.4.1 “Fault inquiry” inquiry

Click “Fault inquiry” to enter the ”Fault inquiry”





6.4.2 “Status inquiry” inquiry

Click “Status inquiry” to enter the ”Status inquiry”



Parameters are as follows:

Parameter	Parameter Description
d01	Compressor Frequency
d02	Compressor Current
d03	Water Inlet Temp
d04	DHW Tank Temp
d05	Water Outlet Temp
d06	Sterilization Countdown Days
d07	Discharge Temp

.

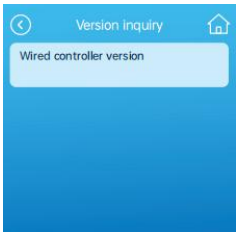
d08	Outdoor Ambient Temp
d09	Evaporator Temp
d10	Compressor Return Gas Temp
d11	Temp After Throttling
d12	EEV Opening
d13	Protection Code
d14	Shutdown Code
d15	Last Standby Time
d16	Unit Fan Speed
d17	Compressor Target Frequency
d18	EVI EEV Opening
d19	IPM Module Temp
d20	Wi-Fi Connection Status 0, 1, 6: Configuration in Progress; 2: Configured; 3: Router-connected; 4: Cloud-connected; 5: low Power Mode
d21	Economizer Inlet Temp
d22	Economizer Outlet Temp
d23	AC Input R Phase Voltage
d24	Main Return Gas Overheat
d25	Operating Hours
d26	Operating Days
d27	DC Voltage
d28	AC Input Voltage
d29	Compressor Output Power
d30	Compressor Phase Voltage
d31	Compressor Phase Current
d32	Remote Signal Strength
d33	System High Pressure Values
d34	System Low Pressure Values
d35	System Low-Pressure Evap Temp
d36	Unit Input Power
d37	Cumulative Power Consumption
d38	Overall Energy Efficiency (COP)
d39	Inlet/Outlet Water Temp Difference
d40	Smart Grid Operating Status 0: off; 1: Operation Status 1; 2: Operation Status 2; 3: Operation Status 3; 4: Operation Status 4

6.4.3 “Version inquiry” inquiry

Click “Version inquiry” to enter the ”Version inquiry”

.





7. Installation Zone System

7.1. DHW Tank Settings

7.1.1DHW Tank Electric Heating Settings

The electric heating settings of the domestic water tank provided by the heat pump can be adjusted in the ”Engineering parameters” settings.

Parameter	Function Description	Optional range	Factory default
P8	Upper Ambient Temp Limit for Elec. Heating	-30 ~ 15℃	-7℃
P9	Elec. Heating Start Delay	2 ~ 90 min	30 min

7.2 Heating Settings

7.2.1 Recommended Setting Temperature for Terminal Equipment

Equipment	Suggest setting temperature
Floor heating	30℃
Fan coil	40℃
Heating radiator	50℃

7.2.2 Weather Compensation Mode

7.2.2.1Weather Compensation Mode Introduction

This mode automatically adjusts the target water inlet temperature of the unit according to the change of the outdoor ambient temperature in the heating mode. The lower the outdoor ambient temperature is, the higher the target water inlet temperature is set (Maximum not to exceed the maximum water outlet temperature in room heating P10 - 5°C); the higher the outdoor ambient temperature is, the lower the target water inlet temperature is set (when the outdoor ambient temperature is 18°C, the target water inlet temperature is 18°C).

When the weather compensation mode is on, adjusting the P24 parameter (curve translation adjustment parameter 1). This value is 0℃ by default, and the adjustable range is 0 to 10℃. The higher this value is, the higher the target inlet water temperature of the unit is.

7.2.2.2 ON/OFF of the Weather Compensation Mode

Weather compensation mode is off by default.

Set through the line controller parameter P23, when P23=1, the weather compensation mode is on; when P23=0, the weather compensation mode is off. (Default value P23=0, i.e. weather compensation mode is off by default)

7.2.2.3 Weather Compensation Operating Logic

$$Ts = \frac{P25 - 18}{28} * (18 - Tout) + 18 + P24$$

➢ Formula code parsing:

Ts: Target temperature under weather compensation mode(maximum limit value is P10-5℃)

P25: Curve adjustment parameter 2, adjustment range: 30-45, default: 30

P24: Curve adjustment parameter 1, adjustment range: 0-10, default: 0

Tout: Ambient temperature(measured value, round figure)

Target water temp in Weather Compensation Mode							
Temp outdoor / P24 Range / P25 value	-10°C	-7°C	2°C	7°C	12°C	16°C	18°C
	0-10	0-10	0-10	0-10	0-10	0-10	0-10
30	30-40°C	28.7-38.7°C	24.9-34.9°C	22.7-32.7°C	20.6-30.6°C	18.9-28.9°C	18-28°C
31	31-41°C	29.6-39.6°C	25.4-35.4°C	23.1-33.1°C	20.8-30.8°C	18.9-28.9°C	18-28°C
32	32-42°C	30.5-40.5°C	26-36°C	23.5-33.5°C	21-31°C	19-29°C	18-28°C
33	33-43°C	31.4-41.4°C	26.6-36.6°C	23.9-33.9°C	21.2-31.2°C	19.1-29.1°C	18-28°C
34	34-44°C	32.3-42.3°C	27.1-37.1°C	24.3-34.3°C	21.4-31.4°C	19.1-29.1°C	18-28°C
35	35-45°C	33.2-43.2°C	27.7-37.7°C	24.7-34.7°C	21.6-31.6°C	19.2-29.2°C	18-28°C
36	36-46°C	34.1-44.1°C	28.3-38.3°C	25.1-35.1°C	21.9-31.9°C	19.3-29.3°C	18-28°C
37	37-47°C	35-45°C	28.9-38.9°C	25.5-35.5°C	22.1-32.1°C	19.4-29.4°C	18-28°C
38	38-48°C	35.9-45.9°C	29.4-39.4°C	25.9-35.9°C	22.3-32.3°C	19.4-29.4°C	18-28°C
39	39-49°C	36.8-46.8°C	30-40°C	26.3-36.3°C	22.5-32.5°C	19.5-29.5°C	18-28°C
40	40-50°C	37.6-47.6°C	30.6-40.6°C	26.6-36.6°C	22.7-32.7°C	19.6-29.6°C	18-28°C
41	41-51°C	38.5-48.5°C	31.1-41.1°C	27-37°C	22.9-32.9°C	19.6-29.6°C	18-28°C
42	42-52°C	39.4-49.4°C	31.7-41.7°C	27.4-37.4°C	23.1-33.1°C	19.7-29.7°C	18-28°C
43	43-53°C	40.3-50.3°C	32.3-42.3°C	27.8-37.8°C	23.4-33.4°C	19.8-29.8°C	18-28°C
44	44-54°C	41.2-51.2°C	32.9-42.9°C	28.2-38.2°C	23.6-33.6°C	19.9-29.9°C	18-28°C
45	45-55°C	42.1-52.1°C	33.4-43.4°C	28.6-38.6°C	23.8-33.8°C	19.9-29.9°C	18-28°C

➢ Examples of Applications of Weather Compensation Mode

When P25 is set to 30 and P24 to 0, the target water inlet temperature is set to 30°C under the -10°C ambient temperature correspondence, and the corresponding target water inlet temperature is 18°C at 18°C ambient temperature, which is highly energy efficient and the comprehensive energy efficiency is close to A+++.

7.2.2.4 Direct Heating Mode (user-specified target water temperature)

P23 parameter is set to 0 (weather compensation mode is off), user can adjust the target inlet water temperature by directly from the controller.

7.3 DHW Tank Heating Settings

7.3.1 DHW Tank Heating Priority Settings

When Water tank & Tank + Room Heating & Tank + Room Cooling & Tank +Room Heating & Cooling, it is DHW tank heating priority.

7.3.2 DHW Tank Reheating Temperature and Maximum Heating Time Settings

Parameter	Function Description	Optional range	Factory default
P1	DHW Tank Set Temp	20～60℃	45℃
P4	DHW Heating Start Differential	3-15℃	5℃

* If the user requires domestic hot water above 50°C, domestic hot water can be heated to 65°C once a day through the operation of setting the serialization function in section 4.6.3.1 (P32 is set to 1, P33 is set to set the heating time period for electric heating according to the user's needs, and P34 is set to set the target domestic hot water temperature to be

heated by electric heating).

7.3.3 DHW Tank Sterilization Mode Settings (target serialization temperature 60-75°C, default 65°C)

73.4 Water Tank High Temperature Sterilization Function

➢ Motion Activation

The first time it is enabled, each time the unit is powered up and recognizes that P32 is a non-zero value, it is programmed to set d06 to 1 once and to select a serialization operating period close to the current point in time to heat the tank temperature (achieved through the output of the relay controlling the electric heating of the tank) to P34 Setting temperature once.

When the water tank is heated to P34 Setting temperature, end the last timer and restart the timer (d40=P32); when the countdown of the day (d06 can be checked) is 1 and the serialization operation period is reached, perform the water tank temperature heating to P34 Setting temperature once.

➢ Motion Completion

When the unit identifies that the temperature of the water tank is ≥ P34 Setting temperature (parameter adjustable), the relay stops the output, completes the serialization function of the current time, and enters the next serialization cycle timing.

7.3.5 Corresponding Controller Parameters

Controller Parameters	**Parameters Explanation**	**Adjustment Range**	**Unit**	**Default Value**	**Minimum Adjustment Value**	**Remark**
P32	Cycle Day Setting for Sterilization Function	0-30	Day	14	±1	When set to 0, the Sterilization function does not run; When set to 1, the Sterilization function runs on a daily cycle.
P33	Sterilization Operation Period	0-23	Hour	1	±1	When set to 1, means that the water tank heat by using the water tank electric heating from 1:00 a.m., and ends when the water tank temperature reaches P34 Setting temperature, and enters the next timing cycle
P34	Target Water Temp Setting for Sterilization	60-75	℃	65	±1	
D06	Sterilization countdown days	30-0	Day	P32 set value	Decreasing by 1 per day	

The Sterilization function is not performed when the tank temperature sensor is faulty.

8. Pool Heating Function Setting

Pool Heating Function

When P26=1, operation is based on the operation target frequency set by P27.

Mode Introduction

.

The house heat pump as a heat source can be adapted to the client's pool heat exchanger, and the pool water is heated through the pool heat exchanger.

Mode Open

When the parameter P26 is set to value 1, it is selected to be heated according to the frequency limitation of the swimming pool mode.

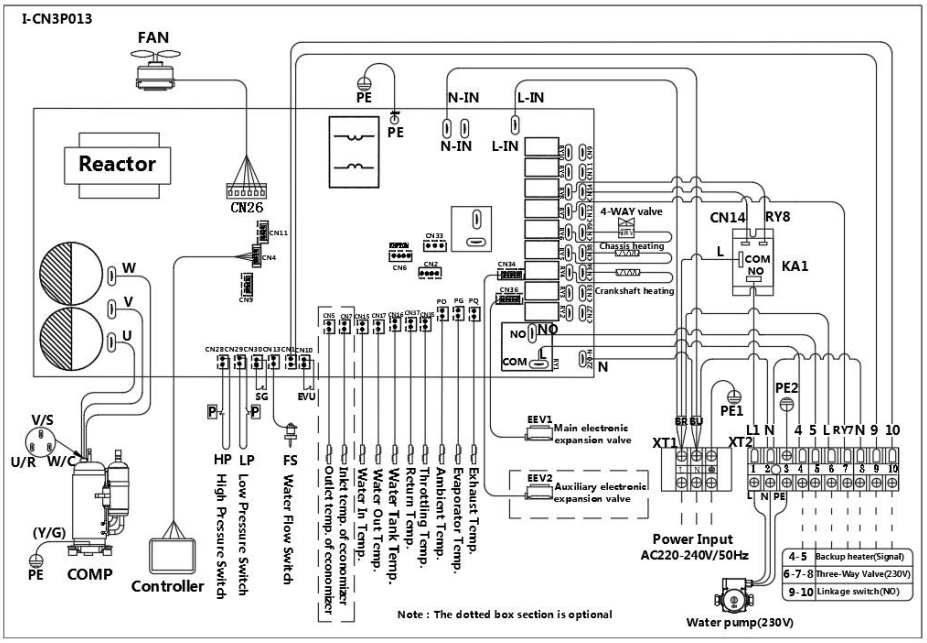
Parameter P27 is the highest frequency limiting parameter in swimming pool mode (to ensure that the optimal capacity output of the unit is achieved to ensure the heating effect of the swimming pool mode.

If the pool mode is not turned on, it will run according to the default frequency table of heating when heating the swimming pool, and after it is turned on, it will run according to the optional frequency limiting of the capacity.

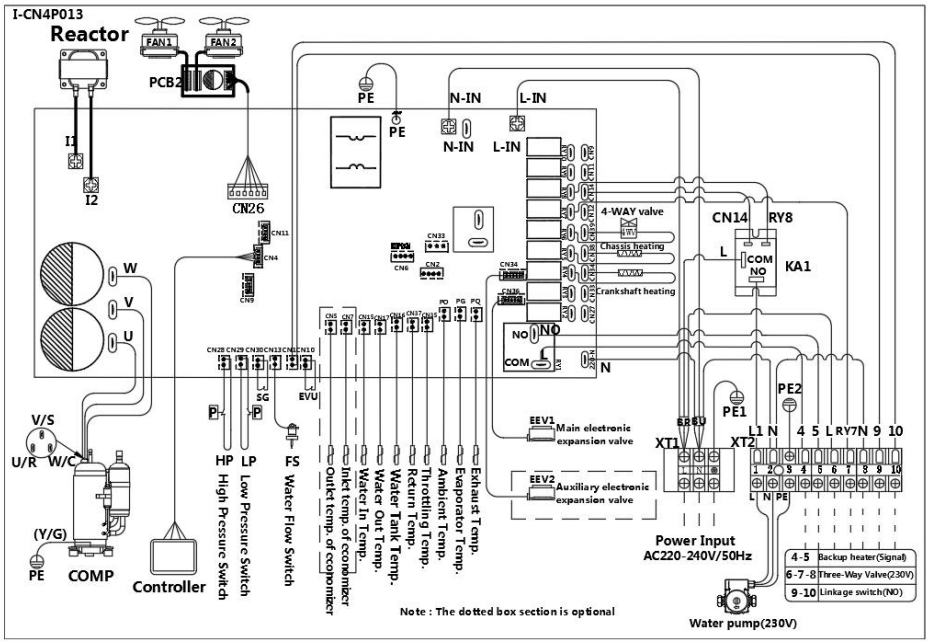
9.External Backup Heating Function Settings

Wiring Diagram of Backup Electric Heating in Domestic Water Tank Heating Mode and Backup Electric Heating in Sterilization mode

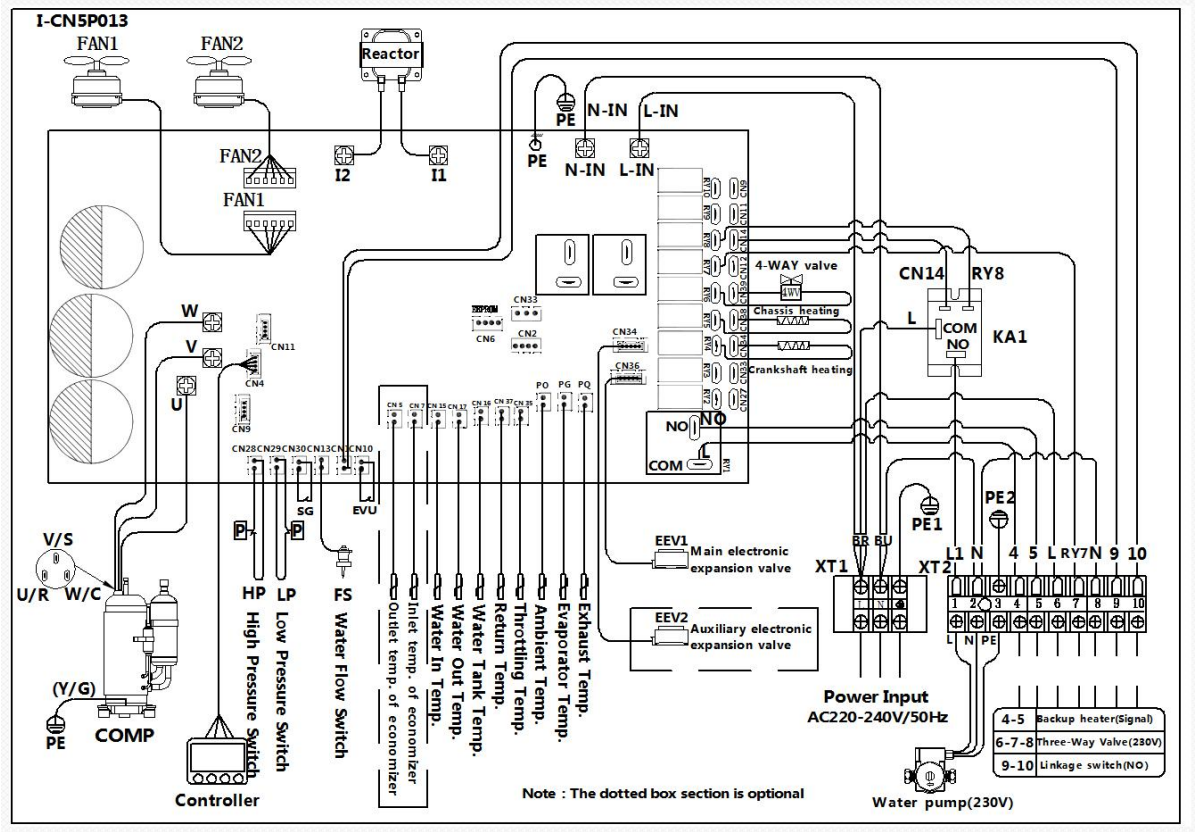
XAH07Csi32-G, XAH10Csi32-G



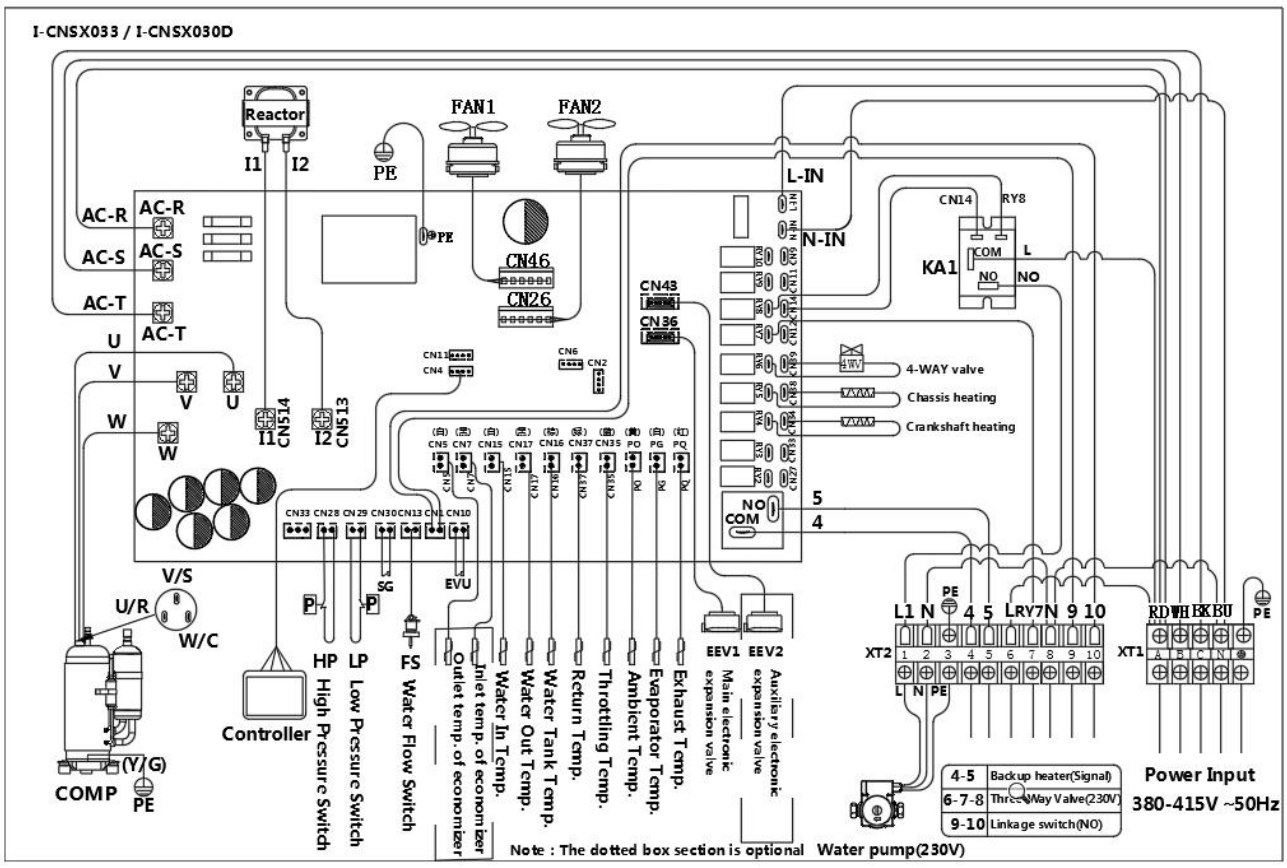
XAH12Csi32-G



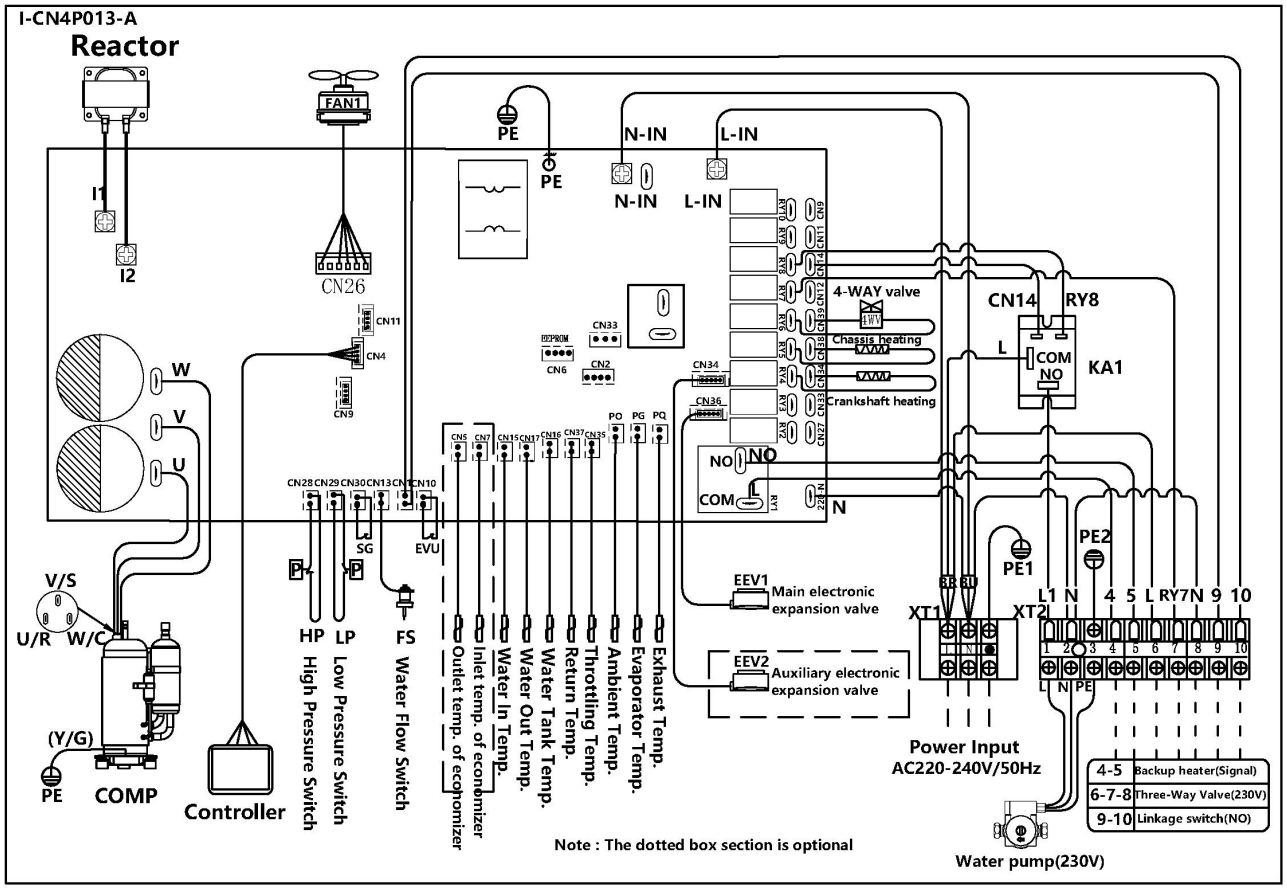
XAH16Csi32-G



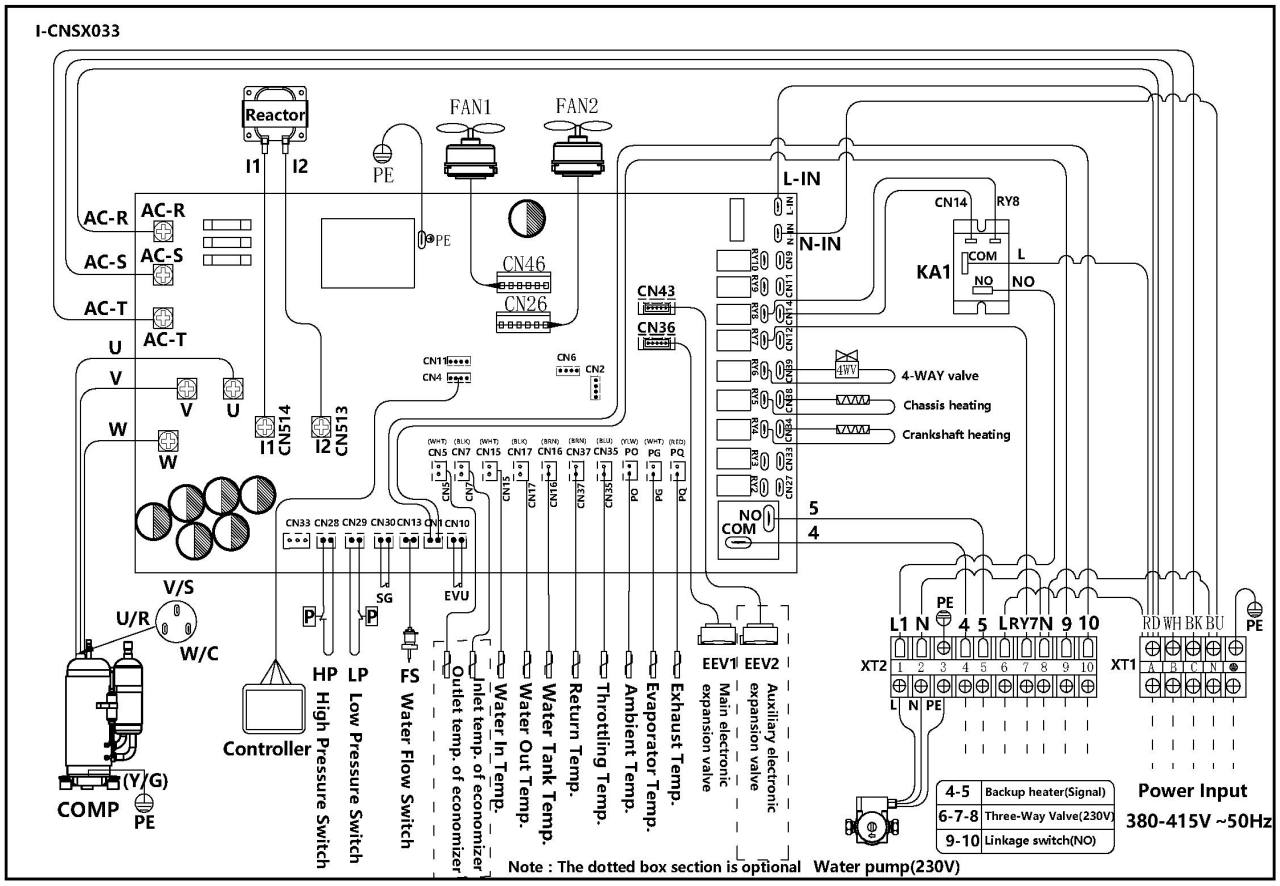
XAH12Csi32T-G, XAH16Csi32T-G



XAH10Csiu32-G



XAH12Csiu32T-G, XAH19Csiu32T-G, XAH26Csiu32T-G



10. Common Faults During Installation and Solutions

Error Code	Code Definitions	Reasons	Solutions
E14	Water Flow Protection	1. The primary or secondary side of the water resistance is too large, resulting in the inability to normal water circulation or circulation abnormally slow, unable to achieve the required normal water flow; there is air into the circulating water pipe. 2. The water system is dirty and clogged. 3. Water flow switch is damaged. 4. Circulating water pump is damaged or stuck. 5. The water system is built too long or the pump capacity is insufficient 6. Water flow switch terminal on the PCB is damaged.	1. The air in the water system need to be emptied, please set the air exhaust valve at the highest point of the water system and check that it can vent properly. 2. Check filter condition and clean regularly. 3. Replace a new water flow switch 4. Resolve water pump jamming issue according to pump maintenance practices; replace damaged pumps. 5. The distance between the buffer tank/DHW cyliner and the house heat pump is too far, and the head of the circulation pump is not enough, if necessary, add additional circulation pumps, used to help the water circulation of the water tank 6. Short-circuiting the water flow switch terminal on the PCB to check if the PCB is damaged, if damaged, replace the PCB.
E02	DHW Cylinder Temp. Sensor Failure	1. The DHW cylinder temperature sensor terminal CN16 on the PCB is not plugged in properly. 2. The tank temperature sensor is not installed deep enough in the tank and is not filled with thermally conductive silicone grease. 3. DHW cylinder temperature sensor resistance drift. 4. DHW cylinder actual outlet water temperature exceeds 67°C. 5. The CN16 detection terminal on the PCB is damaged.	1. Check the sensor wiring and CN16 terminal; the actual distance between the DHW cylinder and the house heat pump needs to be within 5m (sensor wire length is 5m). 2. The sensor needs to be completely submerged in the water of the DHW cylinder and filled with thermally conductive silicone grease. 3. Replace the DHW cylinder temperature sensor. 4. Reduce the target temperature of the DHW cylinder appropriately. 5. Replace the PCB.
E08	Communication Failure Between Controller and PCB	1. The controller terminal CN4 on the PCB is not plugged in properly. 2. Communication line wiring sequence error. 3. Transformers, inverters, and other interferences near the installation of line controllers,	1. Checking and correcting poor contact conditions on communication cables. 2. Check whether the wiring sequence of the 2 ends of the communication cable is the same. 3. Try to keep the signal line away from the strong electricity, frequency converter, transformer vicinity.

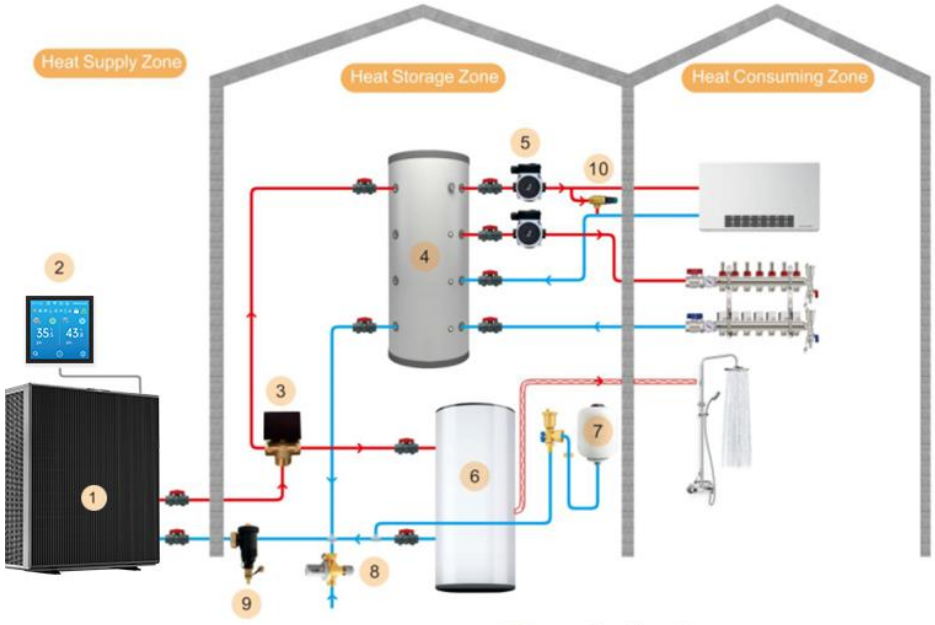
		or near strong wires and grounding wires. 4. Signal cable is damaged. 5. Abnormalities in the hardware ports of the PCB or controller.	4. Replace signal cable. 5. Confirm the situation of the wiring port, if there is no abnormality, then replace the controller to try to run, if E08 communication failure occurs within 3 minutes, it is presumed that the controller or the PCB failure, replace the controller or the PCB.
E13	Over/Under Voltage Protection	1. Supply voltage above or below the operating voltage range of the machine, A/B/C to N input voltage below 150V or above 265V. 2. Single-phase units were required to be 230VAC, but 380VAC power was actually utilized.	Check whether the voltage is consistent with the power requirements on the nameplate: single-phase measurement of the L, N input terminal voltage is 230VAC, three-phase ABCN measurement of the input terminals whether the voltage between the fire line is 380VAC, the voltage between the fire line and the zero line 230VAC (three-phase units must be connected to the zero line). If the voltage is normal then the driver board voltage detection circuit is damaged. Confirm whether the grid voltage is dropping after startup.
E15	System Pressure Overload Protection	1. Water resistance of the water circulation system is too large, the house heat pump is unable to maintain and continue to output and circulate heat properly. 2. The installation environment of the house heat pump is not ventilated, resulting in the inability to normal heat transfer; dirty evaporator affects the heat transfer; fan abnormality (low wind speed, reduced airflow). 3. Electronic expansion valve out of adjustment (coil loose or valve not operating). 4. Voltage switch loose or damaged high. 5. PCB is damaged.	1. Check if the water flow is normal, regularly clean the filter or replace with clean water. 2. Improve the ventilation environment and clean the evaporator regularly if it becomes fouled. Observing fan operation. 3. Touch the valve body of the electronic expansion valve by hand and then feel whether the electronic expansion valve is rotating or not. 4. If the detection pressure has reached 4.2Mpa as soon as the power is turned on, then the PCB is damaged or the pressure switch is loose/damaged, you need to check whether the high-pressure switch terminal on the PCB is loose/check whether the pressure switch is damaged-measurement of the pressure switch under the state of shutdown to see whether the pressure switch operates, and if there is an action, then it is damaged and needs to be replaced. 5. If there is no problem with the pressure switch then the PCB is suspected to be abnormal, the alternative method of replacing the PCB can be used for

			confirmation.
E23	Excessive Temperature Difference Between Inlet and Outlet Water Protection	1. Insufficient water flow and high water resistance in the water circuit system. 2. Resistance drift of inlet/outlet temperature sensors. 3. Water inlet and outlet sensors are reversed. 4. Abnormal pump operation.	1. Clean the filter if the water line is dirty and clogged, check the water system(water pressure, criculation pump operation, whether the air is emptied). 2.Measure the actual inlet and outlet water temperature, replace the sensor to measure the temperature is not normal, then the PCB detection circuit is damaged. If poor sensor insulation is detected, the temperature will deviate more than the actual temperature.
Application Failure	WiFi Connection Failure	1. It is not under the 2.4Ghz frequency WiFi signal or it is not well connected to the smart phone. 2. The WiFi protocol is not WiFi5. 3. Smart phone does not authorize Bluetooth functionality and location and storage permissions. 4. WiFi module failure in controller. 5. Cell phone system update, APP connection appeared flashback.	1. Connection need to be under 2.4Ghz frequency WiFi signal. 2. The WiFi protocol need to be WiFi5. 3. Bluetooth functionality and location and storage permissions need to be authorized on the smart phone. 4. Replace the controller. 5. Check for updates, wait for the vendor to update the app and upload it to APP Store and google play.
Application Failure	Heating Failure When Heat Conditions are Met	Linkage switch CN1 signal disconnection.	Check the CN1 port so that the linkage switch signal is a closed signal.
Application Failure	Unit Inside Water Pump Jammed	The unit has not been running for a long time.	Refer to Section “3.9. Pump Clogging Repair Guide”.

11. Advanced Installations

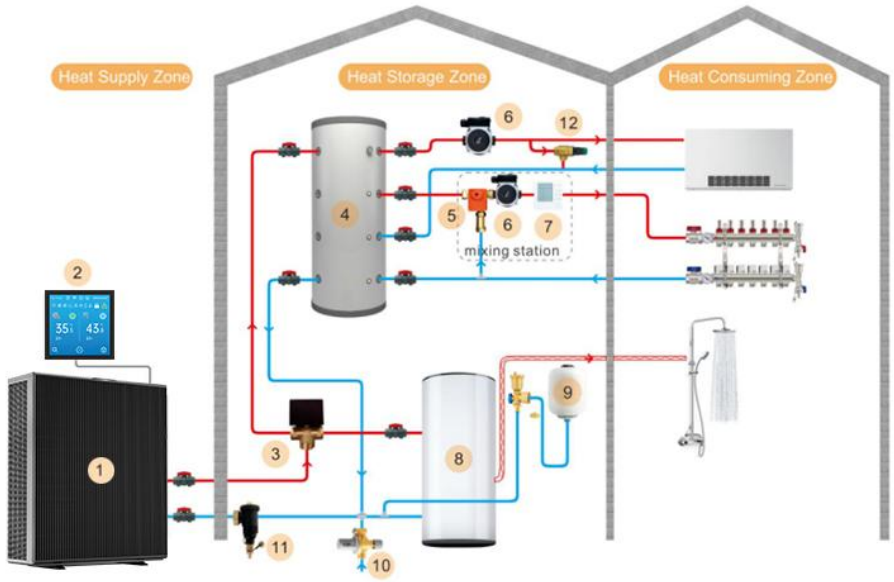
11.1Two Zone Setup

11.1.1Two Zone - Direct Flow Temperatures



1.Monobloc Unit
2.Controller (Monobloc Unit)
3.3 Way Valve
4.Buffer Tank
5.Circulation Pump
6.DHW Cylinder
7.Expansion Vessel
8.Aotumatic water refill valve
9.Magnetic Particle Filter
10.Differential pressure bypass valve

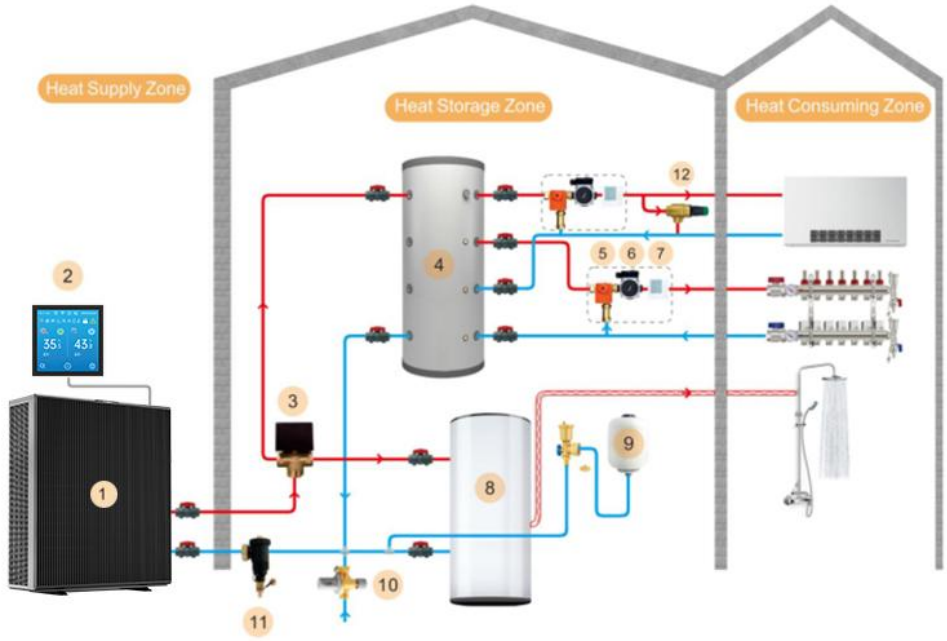
11.1.2Two Zone I



1.Monobloc Unit
2.Controller (Monobloc Unit)
3.3 Way Valve
4.Buffer Tank
5.Mixer Valve
6.Circulation Pump
7.Controller
8.DHW Cylinder
9.Expansion Vessel
10.Aotumatic water refill valve
11.Magnetic Particle Filter
12.Differential pressure bypass valve

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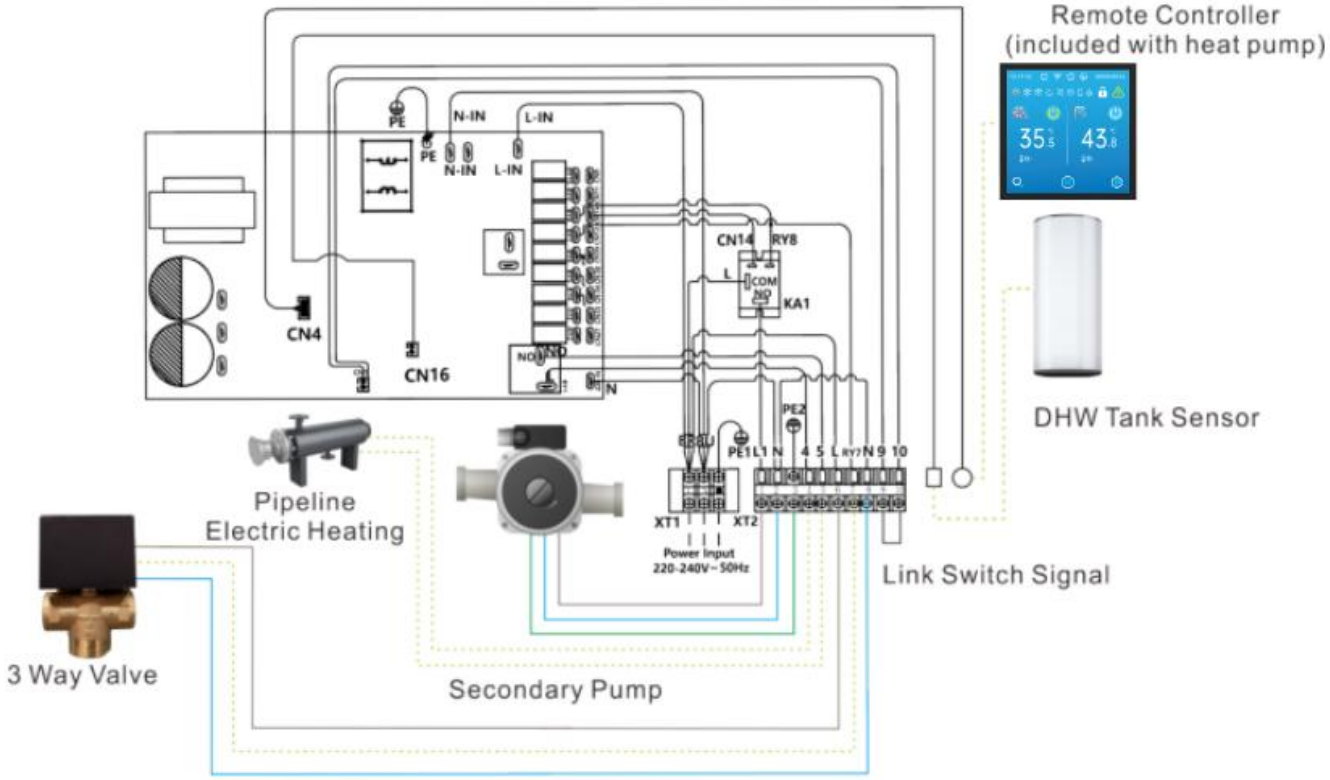
11.1.3Two Zone Layout - Both Mixed



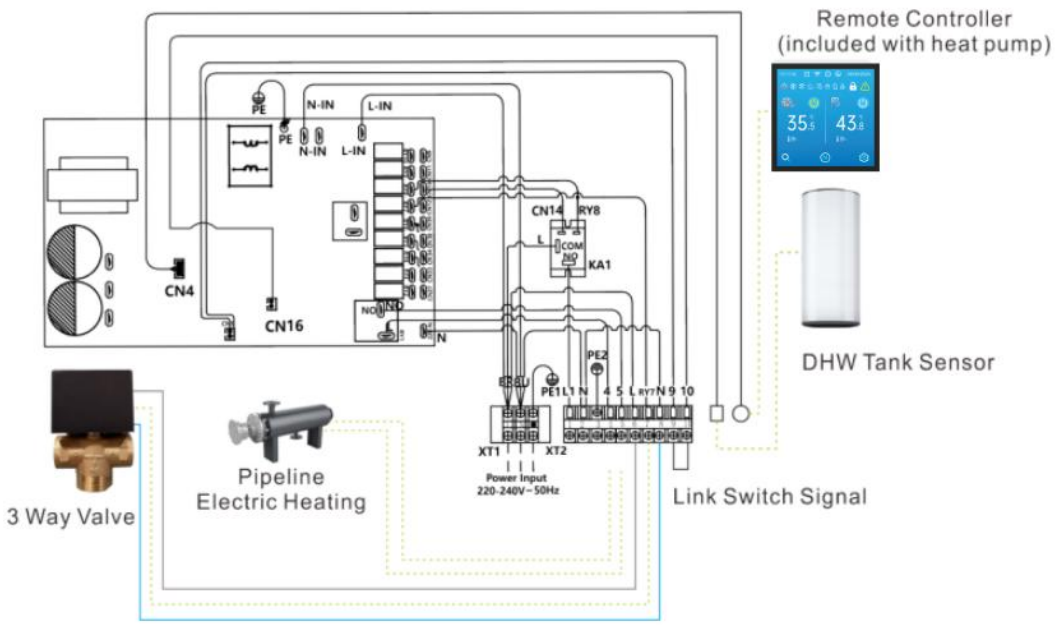
1.Monobloc Unit
2.Controller (Monobloc Unit)
3.3 Way Valve
4.Buffer Tank
5.Mixer Valve
6.Circulation Pump
7.Controller
8.DHW Cylinder
9.Expansion Vessel
10.Aotumatic water refill valve
11.Magnetic Particle Filter
12.Differential pressure bypass valve

11.2Two Zone Wiring

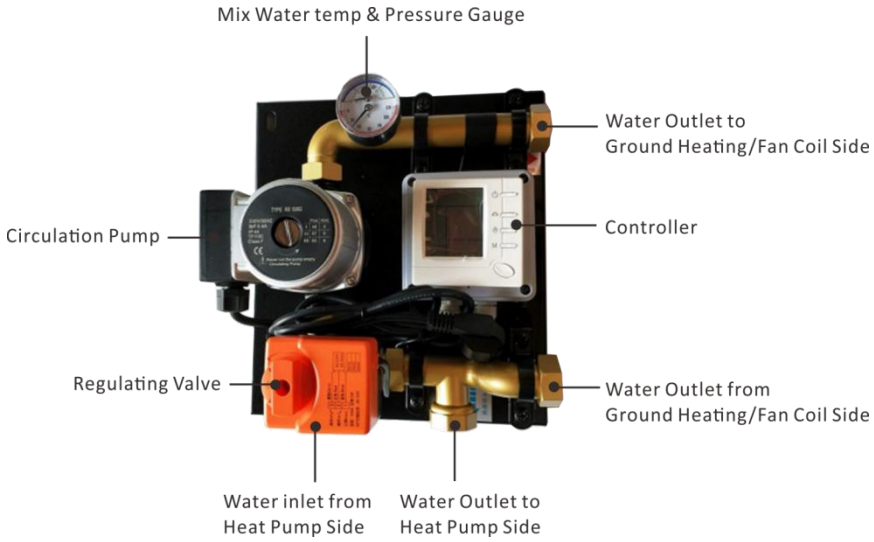
Direct Flow Temperatures & Direct & Mixed



Both Mixed:



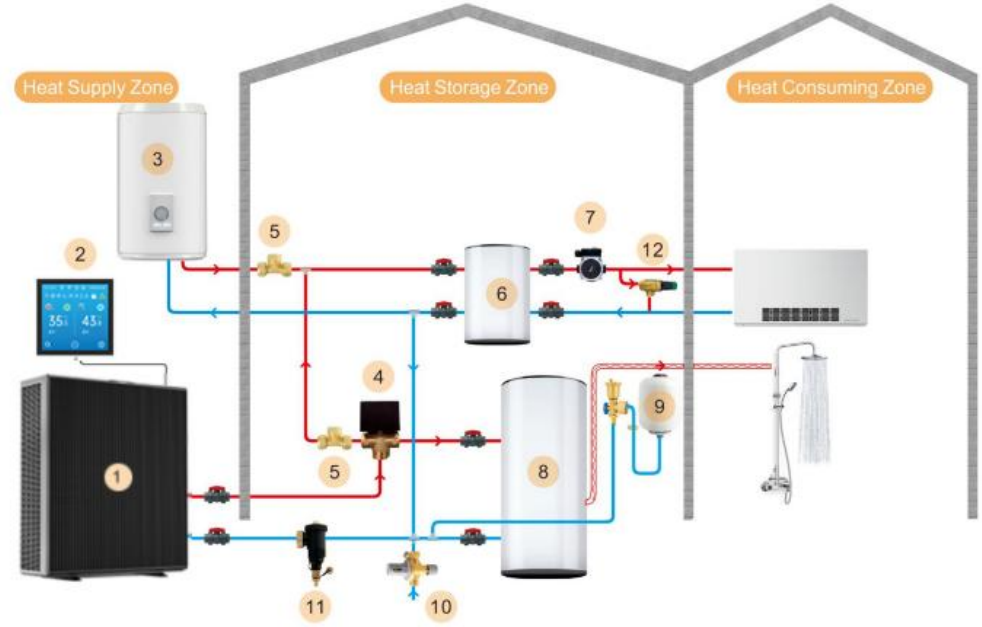
11.3Mixing Valves Introduction





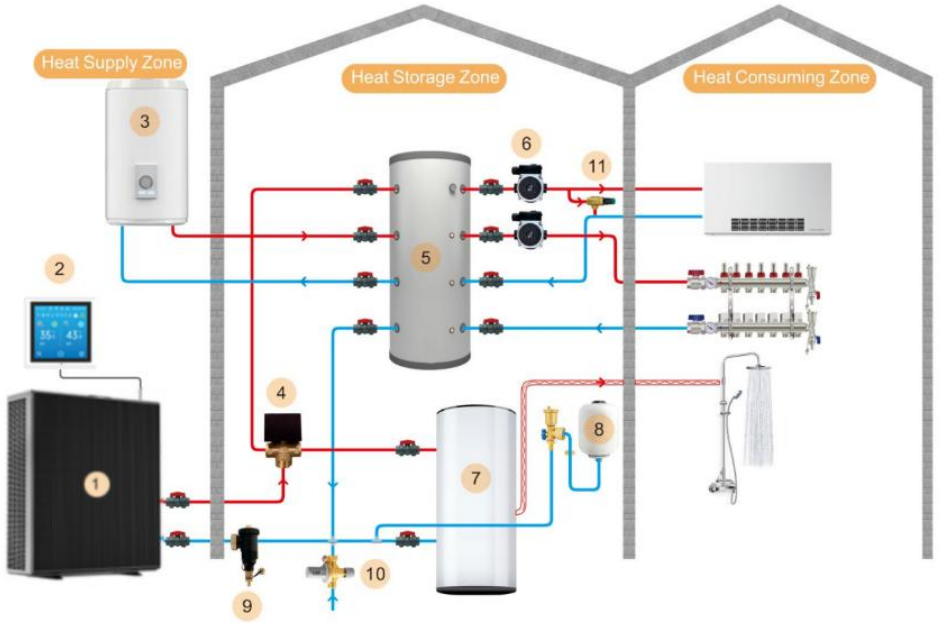
12 Bivalent Heating Setup

12.1Basic Layout



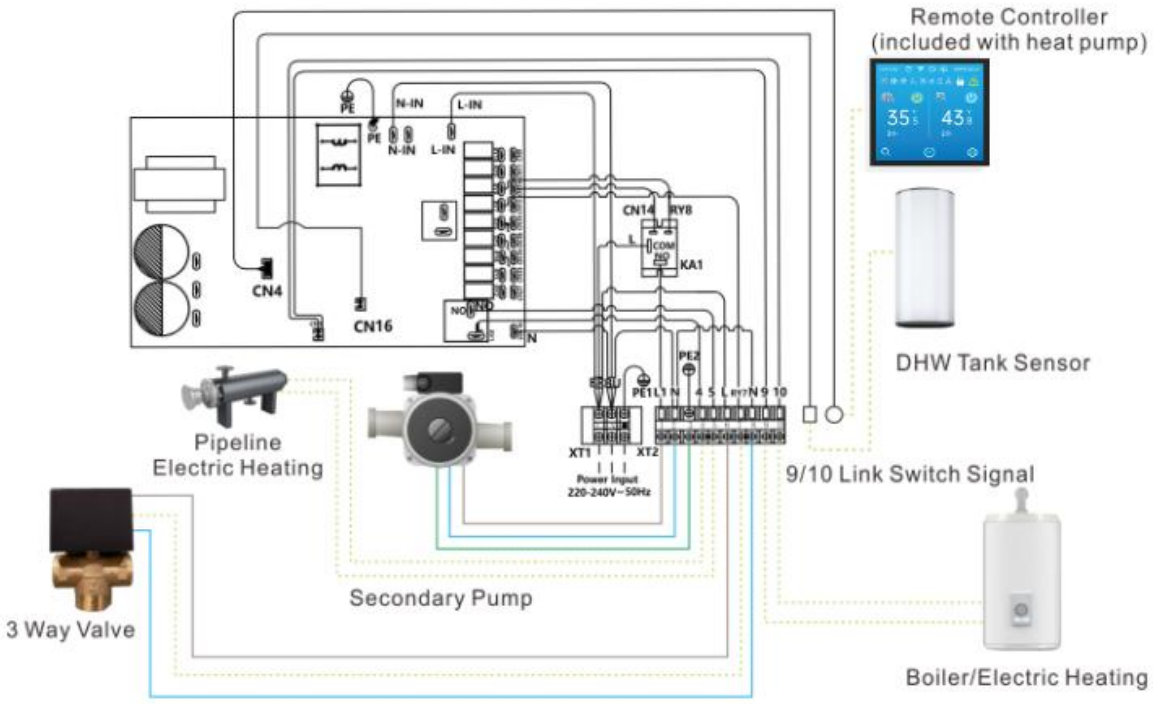
1.Monobloc Unit
2.Controller (Monobloc Unit)
3.Boiler/Electric Heating
4.3 Way Valve
5.Non Return Valve
6.Buffer Tank
7.Circulation Pump
8.DHW Cylinder
9.Expansion Vessel
10.Aotumatic water refill valve
11.Magnetic Particle Filter
12.Differential pressure bypass valve

12.2 Independent Buffer Connection



1.Monobloc Unit
2.Controller (Monobloc Unit)
3.Boiler/Electric Heating
4.3 Way Valve
5.Buffer Tank
6.Circulation Pump
7.DHW Cylinder
8.Expansion Vessel
9.Magnetic Particle Filter
10.Aotumatic water refill valve
11.Differential pressure bypass valve

12.3 Bivalent Wiring



13. SG - Ready Solution

This function is only available for power supply networks that support the "SG-Ready" standard, which is a smart power grid management solution in which the heat pump can operate economically at the current grid load via a digital signal provided by the grid. SG-Ready function is only available for heat pump heating mode and hot water mode function.

Display Status	Operation Mode	Input Signal		Control Logic
		EVU	SG	Heating Mode/Hot Water Mode
SG-Ready	1	1	0	When the received state is SG signal connected and EVU signal disconnected: After the heating/hot water mode has been continuously off for a maximum of 2 hours, it automatically switches to the operation mode 2. The above control is operated up to 3 times in a day, each time running time is not less than 10 minutes, when the cumulative running time exceeds 2 hours, it will be automatically switched to operation mode 2.
	2	0	0	When the received state is both SG and EVU signals are disconnected: （1）The system automatically disables hot water mode operation. （2）The system automatically turns off the sterilization mode, water tank electric heating （3）The heat pump automatically stops running for 1 hour after the maximum running time of the heating mode ≥ SG running time (this time can be set).

	3	0	1	When the received state is SG signal disconnected and EVU signal connected: （1）The system hot water mode is active and the heat pump automatically prioritizes the operation of the hot water mode. （2）The electric heating is turned on when the water tank temperature < water tank setting temperature -5℃. （4）The electric heating is turned off when the water tank temperature ≥ water tank setting temperature +5℃.
	4	1	1	When the received state is both SG and EVU signals are connected: （1）The system hot water mode is active and the heat pump automatically runs hot water mode as a priority. The hot water tank target temperature is automatically set to 75°C. （2）The electric heating function of the water tank is executed as follows, when the hot water tank temperature ≤65℃, the electric heating will turn on. When the hot water tank temperature ≥75℃, the electric heating will turn off. （3）The heat pump automatically switches to the operating heating mode and performs according to the normal control logic state.

14. Accessories and Options

14.1 Standard Accessories

ITEM	PHOTO	SPECIFICATION	REMARK
Controller & Controller installation base		XKCN03V1-ASL	Standard
Controller extension cable		10m	Standard

14.2 Optional Water System Accessories

ITEM	PHOTO	SPECIFICATION	REMARK
Buffer tank		60/80/100/200/300L	Optional
Buffer tank security kit		Air release valve DN20（0.8Mpa） Pressure gauge (0-0.4MPa) Pressure release valve (0.3Mpa)	Optional

Hot water cylinder		300L	Optional
Electric heater		3kW	Optional
Expansion vessel		5/8/12/19/24L	Optional
Electromagnetic 3 way valve		VC4013	Optional
Rubber feet		600*163*98mm	Optional
Inverter water circulation pump		GPA25-7.5H/GPA25-9H	Optional
Differential pressure bypass valve		DN25	Optional
Magnetic Particle Filter		545003 CST	Optional

15. General Warranty and Disclaimer Policy

We are offering a 3-year warranty for the whole unit.

The heat pump product sold by the manufacturer is covered by a limited warranty for a period of 3 years from the date of purchase. This warranty covers any defects in materials, including the compressor, coil, and refrigerant leaks, and any parts or components that fail due to normal use.

Notice:

1)We recommend that you retain the pallet and packaging that the heat pump was delivered with in case you need to return the unit to us for repairs under the warranty.

2)Read the instructions carefully before you open, use and maintain the device. Failure to comply with these instructions will void the warranty. The manufacturer of this product will not be held responsible if someone comes to harm, or the unit is damaged as a result of faulty installation, troubleshooting or unnecessary maintenance.

1. DETAIL POLICY:

1)The warranty covers only material or manufacturing defects that prevent the product from being able to be installed or operated in a normal way. Defective parts will be replaced or repaired.

2)The warranty does not cover transportation damage, any use other than what is intended, damage caused by incorrect assembly or improper use, damage caused by impact or other error, damage caused by frost cracking or by improper storage.

3)The warranty becomes void if the user modifies the product.

4)The warranty does not include product-related damage, property damage or general operational loss.

5)The warranty is limited to the initial retail purchase and cannot be transferred and it does not apply to products moved from their original location.

6)The manufacturer's liability cannot exceed the repair or replacement of defective parts and does not include labour costs to remove and reinstall the defective part, transportation costs to and from the service centre, and all other materials necessary to carry out the repair.

2. SPARE PARTS AND REPAIRS

We provide spare parts for our air source heat pumps.

For the defects within warranty, we will offer the spare parts to replace.

For the defects out of warranty, please contact us for a quotation.

3. RETURNS

1)If the cause of a reported fault is found to be due to incorrect installation or operation by the customer, then we reserve the right to charge the customer for the cost of any investigation work, call-out charges, travel costs and parts used to repair the fault.

2)The relevant manufacturer's warranty conditions will also apply and should be read in conjunction with these terms.

3)Should a fault arise with a heat pump under the warranty period, then we will take our best endeavors to resolve the problem within a reasonable time frame. This may include telephone advice, sending spare parts for the customer to install, sending an engineer to site, or replacing the complete heat pump depending on the circumstances.

4)We may ask that the defective unit is returned to us whereby it will be inspected, repaired if possible and returned to the customer. The customer is responsible for the cost of returning the defective item to us. If a fault is found which is covered under the warranty, then transport charges may then be reimbursed to the customer.

5)If it is decided to replace the heat pump on site, the customer must disconnect and pack the old heat pump in suitable packaging to prevent damage during transit. A replacement heat pump will then be delivered and the old unit collected at a later date. Should the customer fail to return the faulty items, then the cost of the goods will be invoiced to the customer and payment will become due.

6)If a heat pump or goods are returned to us, they must be suitably packed to prevent damage during transit.

7)Should the customer not adequately pack the defective unit being returned and damage occurs during transit as a result, then we reserve the right to charge the customer for the cost to repair the damage for a deduction for the damage or for the complete cost of the unit if it is damaged beyond economic repair.

8)The heat pump warranty does not include the cost for labour or parts for swapping over and installing the replacement heat pump if a replacement unit is supplied.

9)Should a product be replaced under warranty, then the warranty does not restart. The warranty will continue to run from the original date of purchase.

4. PROCEDURE:

To make a claim under this warranty, the customer must contact the manufacturer's customer service department and provide proof of purchase and a description of the problem. The manufacturer will provide instructions for returning the defective product or parts and will either repair or replace the product or parts in accordance with the terms of this warranty.

1)Once the customer found a ERROR CODE on the units or defective part, please contact us for solution.

2)Fill in the warranty sheet in detail and we will find the best way to help the customer to solve it. This may include telephone advice, sending spare parts for the customer to install, sending an engineer to site, or replacing the complete heat pump depending on the circumstances.

16. Installation Check List

This Checklist is to be completed in full by the competent person who commissioned the heat pump and associated equipment as a means of demonstrating compliance with the appropriate Building Regulations and Manufactures Requirements then handed to the customer to keep for future reference.
Failure to install and commission this equipment to the manufactures instructions will invalidate the warranty, but does not affect your statutory rights.

Customer Name: _____

Address: _____

Heat Pump Model: _____ Serial Number: _____

Buffer Tank Model: _____ Serial Number: _____

Domestic Hot Water Tank Model: _____ Serial Number: _____

Heat Pump Checking (If applicable, please check the appropriate box)

Sited in correct, agreed location (covering planning & noise requirements)	☐	Secured to a solid base	☐
Is the unit installed according to manufactures clearance around unit for operation	☐	All external pipes insulated	☐
Has suitable consideration been made for waste water i.e. discharge on defrost	☐	Isolator fitted by unit	☐

Water System Checking

Buffer Tank Model: _____（L） Domestic Hot Water Tank Model: _____（L）

Primary Pipe water flow: _____（L/min） Primary Pipe water pressure: _____（Bar）

Pipe diameter: _____ （mm）

NOTE:



This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.

ZGHHPEN-P-V1.1



ZEALUX France

8 Allée du Piot
30660 GALLARGUES LE MONTUEUX
France

ZGHHPEN-P-V1.1

English