

## R290 All in one heat pump water heater Manual



# ALL IN ONE HEAT PUMP

## Features

- R290 low GWP(GWP=3).
- CMEV: Central mechanical extract ventilation.
- WIFI smart control.
- Microchannel heat exchanger.



## Stable silent operation



## Technical Data



Model	YT-200TD2	YT-270TD2
Heating Capacity at Air 20°C /15°C, Water Temperature from 15 °C to 55°C		
Heating Capacity(kW)	2.78	2.78
COP	4.15	4.15
Max Input Power(W)	3000	3000
Max Input Current(A)	14	14
Power Supply	220-240V/50Hz	220-240V/50Hz
Heat Pump	Rated Power (W)	670
	Rated Current (A)	3.1
Electric Heater	Rated Power (W)	1800
	Rated Current (A)	7.5
Refrigerant	R290	R290
Compressor	GMCC	GMCC
Net Dimension(mm)	F620X1520	F620X1840
OPackage Dimension(mm)	700X700X1565	700X700X1885
Net Weight (KG)	104	118
Gross Weight (KG)	120	136
Noise(dB)	43	43
Water tank volume (L)	200	270
Working temperature range (°C)	-7~43	-7~43
Testing condition: * Heating Capacity at Air temp. 20 °C / 15 °C		

# CONTENTS

Carefully read these operating and installation instructions and keep them safe. Should this system change hands, pass these instructions to the subsequent owner. Additionally, provide this document to any trained contractor for servicing

Symbols used in these instructions:



Important Information and Tips.



Important information regarding flammable materials.



Warnings about possible dangers



Australian Standard  
AS/NZS2712:2007  
SMK41332  
SAI Global



Water Mark  
AS 3498 Lic WMK 26823

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# 1.0 SAFETY WARNINGS



## INSTALLATION & OPERATION

For outdoor use only.

DO NOT install or operate this system before reading the manufacturer's instructions.

This appliance must be installed, commissioned, and serviced by an authorized person in accordance with all applicable local rules and regulations.

Removing access covers and/or water heating system components will expose 240V wiring and MUST only be removed by an authorized person.

The unit is rated at 10 amps (2 core and earth) so the power mains supplying the unit must have a 10-amp minimum double pole circuit breaker fitted.

If the system's power supply cord is damaged, it MUST BE replaced by an authorized person in order to avoid a hazard. Take care not to touch the power connections or plugs with wet hands.

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Children should be supervised to ensure they DO NOT play with the appliance.

For continued safety of this appliance it must be installed, operated and maintained in accordance with the manufacturer's instructions.

Caution should be taken not to touch the pipework as it may be HOT! DO

NOT place articles on or against this appliance.

DO NOT store chemicals or flammable materials near this appliance.

DO NOT operate with collectors or covers removed from this appliance.

DO NOT activate heat pump unless cylinder is full of water.

NEVER use a flammable spray such as hair spray, paint, etc near this unit as this may cause a fire.



## INSTALLATION & OPERATION

This appliance uses R290 (propane) refrigerant, which is a flammable gas class 3 according to AS 1677 and must be handled by a refrigeration mechanic with appropriate Australian refrigerant handling license.

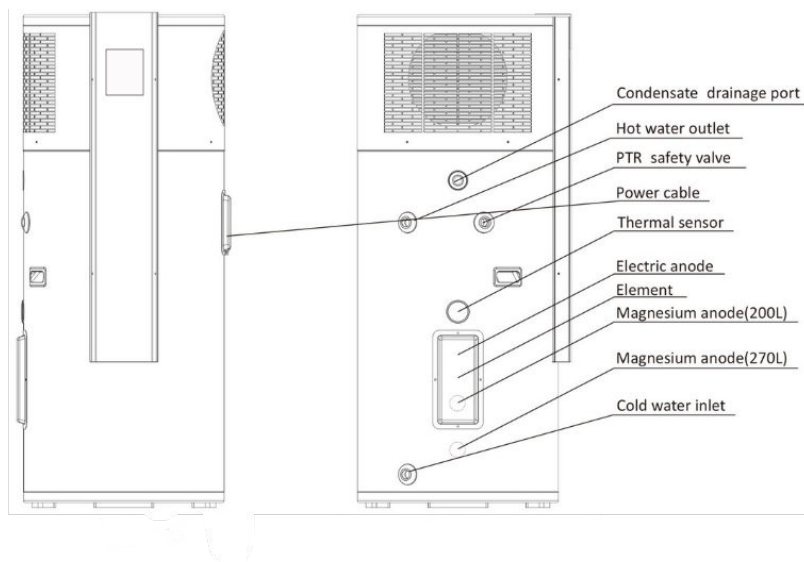
WARNING Risk of fire/flammable material. If the refrigerant is leaked, together with an external ignition source, there is a possibility of ignition.

DO NOT store chemicals or flammable materials near this appliance.

NEVER use a flammable spray such as hair spray, paint, etc near this unit as this may cause a fire.

## 2.0 PARTS&CONSTRUCTIONSCHEMATICS

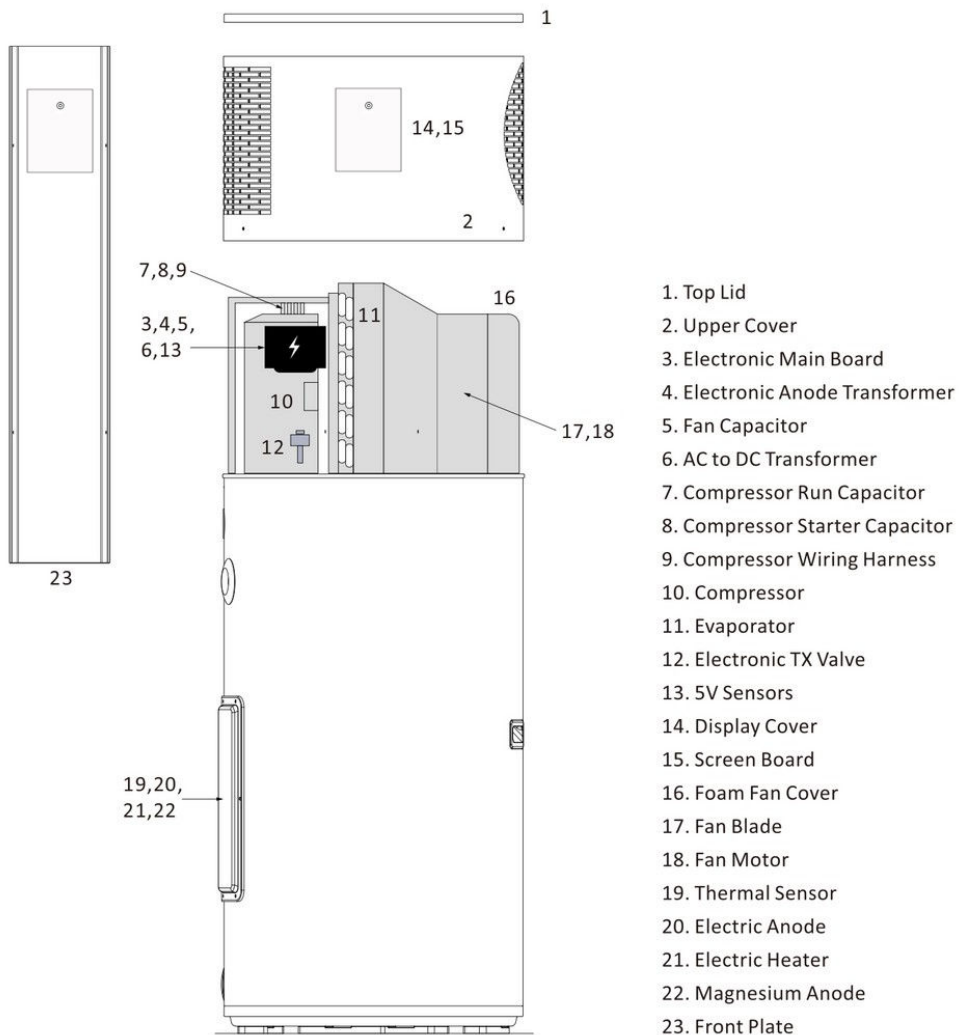
### 2.1 Heat pumpPARTS



The Heat pump use a R290 (propane) refrigerant which is a flammable gas class 3 according to AS 1677 and must be handled by a refrigeration mechanic with an appropriate Australian refrigerant handling license.

Warning - Risk of fire due to flammable material. If the refrigerant is leaked and there is an external ignition source, there is a possibility of ignition.

## 2.2 Heat pumpSCHEMATICS

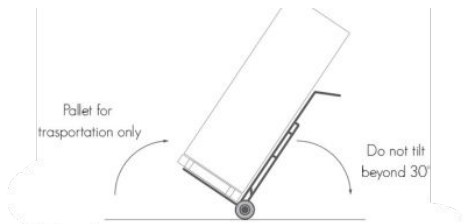


1. Top Lid
2. Upper Cover
3. Electronic Main Board
4. Electronic Anode Transformer
5. Fan Capacitor
6. AC to DC Transformer
7. Compressor Run Capacitor
8. Compressor Starter Capacitor
9. Compressor Wiring Harness
10. Compressor
11. Evaporator
12. Electronic TX Valve
13. 5V Sensors
14. Display Cover
15. Screen Board
16. Foam Fan Cover
17. Fan Blade
18. Fan Motor
19. Thermal Sensor
20. Electric Anode
21. Electric Heater
22. Magnesium Anode
23. Front Plate

## 3.0 INSTALLATION INSTRUCTIONS

All Heat Pumps are designed for installation by a licensed plumber in accordance with standards set out in AS/NZS 3500.2 "National Plumbing and Drainage Code Hot Water Supply Systems - AcceptableSolutions".

### 3.1 DELIVERY



The Heat Pumps must be stored and transported in a near vertical position at all times with a tilt ratio of no more than 30°. Transporting or storing the unit in a horizontal position will void warranty.

The system should always be transported in its packaging. The weight of the package systems are:

- 200L - NW. 104 kg; GW.120 kg
- 270L - NW.118 kg; GW.136 kg

The system must be handled by two people at all times to avoid unnecessary strain and damage.

Please note the outer casing of the unit is susceptible to denting and damage. Care and consideration should be taken into account when moving the unit as any marks caused by inappropriate handling are not deemed as defects and are not covered under warranty.

The Heat pump uses a flammable gas, therefore:



- The appliance should not be stored or transported in an area with an ignition source (e.g. open flame).
- Do not pierce or burn the appliance.
- Be aware that the refrigerant may not cause an odour.
- Compliance with AS/NZS 5601 must be observed while storing the appliance.



National and state regulations exist for the storage, transportation and handling of hazardous goods including flammable gasses. The maximum number of and configuration of the equipment permitted to be transported or stored together will be determined by the appliance regulations.

### 3.2 BASE

The following should be observed when selecting a base for a Heat pump:

- The unit should be installed on a concrete plinth or stable structure capable of sustaining weights in excess of 400 kg. The supporting structure must not shift over time (due to water drainage etc.). A concrete base of at least 50mm thick or a well-seasoned hardwood slat at least 25mm is required. If a concrete base paver is being used, a minimum dimension of 600mm x 600mm is required.
- Please ensure that all four feet are supported by the base being used otherwise warranties may be voided.
- Proper drainage should be observed for any overflow in accordance with AS/NZS 3500.2.
- When installed the Heat pump unit must be completely vertical and level as to ensure that condensate can be properly drained. If the system is installed at a level with a tilt of more than 3 degrees, warranties may be voided.
- If property damage can occur due to water leakage, a safe tray (overflow tray) must be installed.

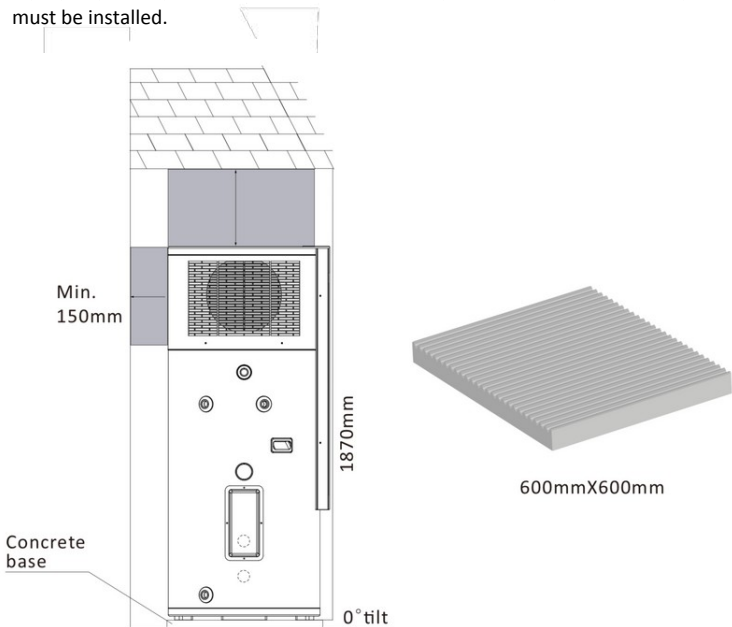


Figure 1: Side profile installation requirements and an example concrete base.



### 3.3 AIR FLOW

- This unit is designed for external operation only and requires a continuous supply of air to operate efficiently.
  - Avoid installation in areas where falling debris such as leaves is prevalent, as this may result in air vents being blocked or the unit being damaged.
  - Avoid placing the system in locations with multiple walls or structures (See Figure 1 & 2). Always maintain optimum perimeter from all structures.
  - If installed under fixtures or home eaves, there must be a minimum 300mm clearance between the top of the unit, 600mm on the right-hand side of the system (when facing unit) and 150mm on the left-hand side of the system (when facing system) (see section 2.3 AIR FLOW). The Heat pump must be installed a minimum of 150mm off your home's wall so that the entire unit can be accessed during any servicing work as well as to prevent circulation of cold air (see section 2.3 AIR FLOW). If the system cannot be properly serviced due to the system being installed outside of these specifications, the owner will be liable for the associated plumbing costs of draining and moving the system.
- The system should be installed so that the control interface is accessible to users and that there is clear access to the electrical panel at the back of the system.

Where incorrect installation has occurred, warranties may be void or additional charges may be required to ensure that the system is compliant and/or serviceable.

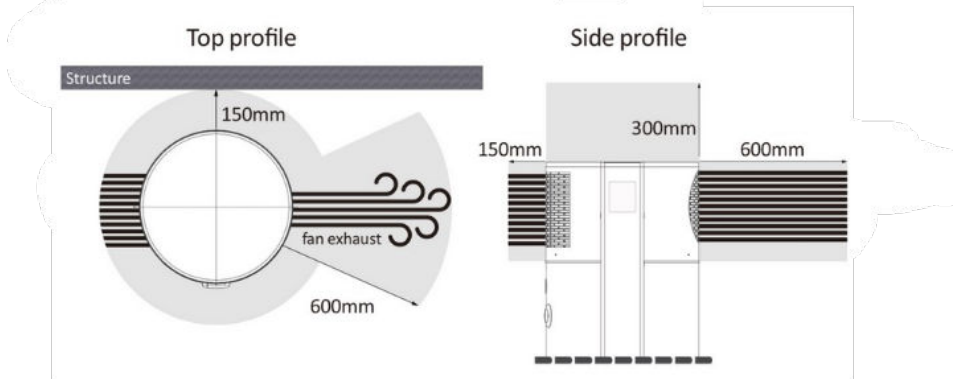


Figure 2: Front profile of Heat pump installation requirements.



Heat pump systems are designed for external use only with a minimum of 20m<sup>3</sup> of unobstructed space surrounding the unit.



Please ensure that the installation location complies with the requirements of AS/NZS 5601 with regard to a heat pump containing a flammable refrigerant.



The electrical access panel and display panels should always be accessible.

### 3.4 POWER SUPPLY TARRIFS

Electricity companies across the states and territories of Australia have different usage rates, naming conventions and even available tariffs. Always be sure to check with your electricity provider that the system is connected to a compatible tariff.

#### COMPATIBLE TARIFFS:

- **Continuous tariff** - 24 hours a day.  
The Continuous tariff is what every household connected to the grid has as a minimum. If you would like to utilize a Solar PV system to run your Heat pump system on, this is usually the only tariff available to do so.
- **Shoulder tariff** - Min. 16 hours a day  
The Shoulder tariff typically runs during the day and will turn off at night. The cost per kWh is cheaper than a Continuous tariff. If your household has more than 4 people or are heavy users of hot water, we recommend placing the Heat pump system on a Continuous tariff instead.

#### INCOMPATIBLE TARIFFS:

- **Off-Peak/Night time tariff** - Min. 8 hours a day  
Heat pump systems are not compatible on Off-Peak/Night time tariffs.

Heat pump systems should not to be installed on an Off-Peak 8-10 hour supply tariff for the following reasons:

- Heat Pumps work up to 25% more efficiently during the daytime when ambient air temperatures are at their highest. The cost of running the system is actually cheaper running on a Shoulder tariff or Continuous tariff as the system will take considerably longer to heat on an Off-Peak tariff.
- You may run out of hot water. If your system needs to heat twice a day, it will unlikely be able to do some on an Off-Peak tariff.
- Servicing cannot be done outside business hours (the only hours an Off-Peak tariff has power). If the system needs to be changed onto another tariff, the Heat pump owner will be liable for the associated electrical costs.

If you would like further information regarding tariffs, we recommend speaking with your electrician and energy service provider before your Heat pump is installed.

### 3.5 NOISECONSIDERATIONS

All customers are recommend to set the system onto TIMER Mode to utilize the in-built timer function. Setting the in-built timers to have the system run during the day is far more efficient and will also limit any potential disturbances. The TIMER mode's factory setting limits system operating time between 09:00-18:00, which is compliant with EPA prohibited operating hours.



Do not install less than 3 metres from a neighbour's window or door (aside from garage door or shed).



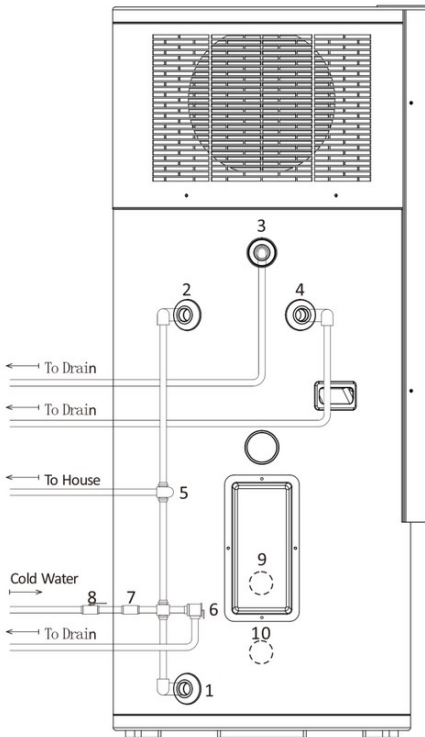
If you are experiencing noise issues with your Heat pump system, please contact your supplier directly. There are means to mitigate the sound produced when the system is operational.

## 4.0 PLUMBING SCHEMATICS



The following instructions and schematics have taken into account standards AS4324, AS4020, AS1056.1, AS/NZS2712, AS/NZS350.240/30/30.2, AS3498 and represents an optimum installation procedure for this unit however to ensure minimum requirements are met all local regulations should be adhered too.

### 4.1 HEATPUMP CONNECTION DIMENSIONS AND COMPONENTS



Detailed Plumbing diagram

1. Cold water supply outlet  
(G3/4" female thread)
2. Hot water outlet  
(G3/4" female thread)
3. Condensing drainage elbow\*
4. P&T relief valve\*  
(G1/2" female)(850kPa)
5. Tempering valve\*  
(High performance recommended)
6. Expansion Control Valve  
(ECV if required by council 700kF)
7. Pressure valve (500kPa)
8. Non-return/isolation valve
9. Anode (200L)
10. Anode (270L)

\*Supplied with the system

# 5.0 PLUMBING INSTALLATION

## 5.1 PLUMBING CONNECTIONS

### 5.1.1 Cold water supply outlet

- The cold water supply connection is a G 3/4" female thread. The cold water supply should be connected to G 3/4" socket.
- The cold water supply outlet can also act as a drainage point for emptying the system.

### 5.1.2 Hot water connection

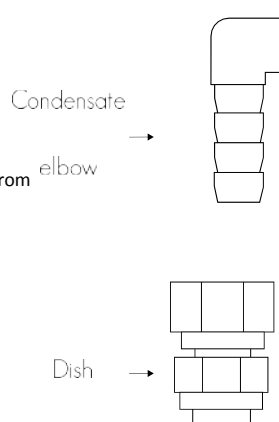
- The hot water supply connection is a G 3/4" female thread. The hot water supply should be connected to G 3/4" socket.
- To ensure thermal efficiency all hot water lines and connections must be insulated with a minimum 13mm closed cell insulation.
- All hot water supply parts must be constructed from copper. If using pipe of other material please refer to local authorities for further instructions.

### 5.1.3 Condensate Drain

- The process of heat extraction from the atmosphere through evaporator coils results in the production of water in the form of condensation. More humid environments will produce higher rates of condensation.
- To collect this water by-product a Condensate Tray is

drainage located on top of the water storage tank. Overflow from this tray runs out through the Condensate Drain.

- The system comes with a pre-installed condensate drain connection elbow. Drainage of condensate from elbow to nearest storm water to be done by the collection of condensate into an open dish and drained via copper piping. If not drained properly, the condensate line will attract termites as well produce algae and moss growth.
- The Condensate line should be free of kinks and as the water is gravity fed, should only be running down to ensure the free flow of water.



A PVC tube is supplied which can be used to bridge the air gap between the condensate elbow and dishes. The PVC tube can also be used to drain condensate directly from condensate elbow to a storm water drainage point, if copper pipe drainage is not required by local council regulations.



Connecting any line to the condensate line without an air gap will void warranties.

#### 5.1.4 Pressure & Temperature Relief (PTR) Valve

- The system is supplied with a loose PTR valve appropriate to the pressure rating of the water heater tank. If the PTR valve is not present please contact your supplier. The valve Rated capacity: 850kPa;10kW; Set temperature: 93-99°C.
- The supplied PTR valve must be installed at Point 4 in section 3.2 Heat pump Connection Dimensions and Components under the socket marked "RELIEF VALVE".
- The PTR valve must be insulated with a minimum 13mm closed coupled insulation, to minimize heat lost.
- The relief valve must be installed so that the drain line is facing downwards at all times with the discharge point remaining open to the atmosphere.



A discharge pipe connected to the pressure relief device is to be installed in a continuously downward direction and in a frost-free environment. **Do not connect any pressure-relief device to the condensate drain pipe.** The water may drip from the discharge pipe of the pressure-relief device. This pipe must be left open to the atmosphere. The pressure-relief device is to be operated regularly to remove lime deposits and to verify that it is not blocked.

#### 5.1.5 Tempering Valve

- Heat pump systems are automatically programmed to produce hot water in excess of 50°C. As such, in accordance with AS/NZS3500, it is mandatory that a Tempering Valve is installed. We recommend a high performance or solar rated tempering valve is used to ensure a more accurate hot water delivery temperature.
- Your old hot water system might not have had a tempering valve installed before and therefore you will notice a change in the temperature of the hot water. This is normal and required under new legislation. Should you have any concerns, please contact your installer.

#### 5.1.6 Expansion Control Valve

- Please observe local requirements with regard to the installation of an ECV (optional in most councils).
- When installing an ECV, ensure that the connecting pipe has a diameter no greater than that of the safety valve. Ensure the drain is sized to allow for water runoff, even in incidents where the safety valve has been fully opened.
- The drain outlet must remain open to the atmosphere at all times and must not have a closing function.
- The ECV should be rated at no more than 700kPa.

#### 5.1.7 Pressure Reducing Valve

- This water heater is supplied with a PTR valve rated at 850kPa and is designed for direct connection to mains water supply with a pressure not exceeding this rating.

- Should main pressure fluctuate above this rating, a pressure limiting device (AS1357) should be connected at Point 8 in section 3.2 Heat pump Connection Dimensions and Components.

#### 5.1.8 Non-return/Isolating Valve

- It is compulsory that a non-returning/isolation valve is installed directly into the cold-water supply line feeding the system. This will allow the hot water system to be isolated from the rest of the homes water supply, making servicing, draining and replacing the uniteasy.Ahose-setmustnotbeusedtoconnectthesystemtowatersupply.
- The non-return/isolation valve can be combined with a PRV valve to form a duo valve.

#### Filling the System:



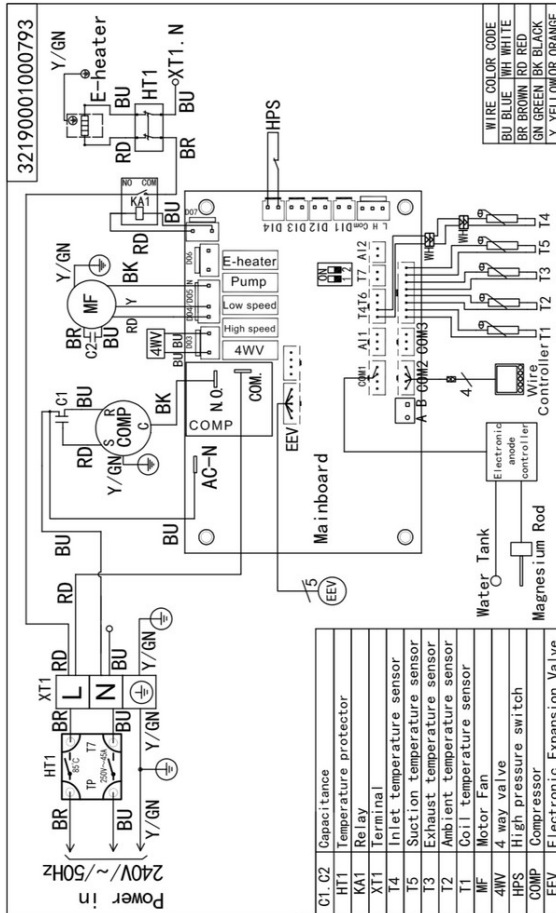
- Once the Heat pump has been connected in accordance to Section 3.0 and 4.0 of this handbook, the tank can be filled and pressurized.
- Open the non-return valve on the cold-water inlet to begin filling the system with water. At the same time, ensure at least one hot water tap is open inside the property. While the system begins filling with water you will hear air being expelled from the open hot water tap. This is called "bleeding the system"and it ensures that no air pockets remain. Once water begins running out of the hot water tap, the system is completely bled and you can then turn the tap off.
- Always ensure that the tank is completely full before connecting and turning

# 6.0 ELECTRICAL CONNECTION



Only qualified electricians may carry out the installations of the Heat pump HeatPumptomainpowerinaccordancewiththefollowinginstructions.

## 6.1 ELECTRICALSCHEMATICS

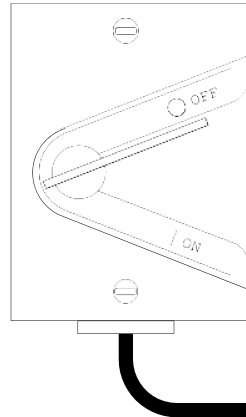


## 6.2 PRE-CONNECTION & REGULATIONS

- Before any work can commence, ensure that the heater is isolated from the power supply at the control panel.
- The heat pump is designed for permanent fixed wiring to either a Continuous Tariff (single phase 240V AC supply) or a Shoulder Tariff (single phase 240V AC supply).
- When connecting the unit, electrical work must comply with the local supply authority regulations as well as AS3000.
- The power rating of the unit is set at 10 amps as such the mains power supplying the unit must have a 10 amp minimum circuit breaker fitted.
- To gain access the electrician may remove the four connecting screws and raise the cover upwards off the unit base exposing electrical works (see section 3.2 Heat pump Connection Dimensions And Components).
- Note this device is fitted with an over-temperature control cut-out. Under no circumstances must the water heater be in operation without this safety device connected to the circuit. Re-setting and replacement of this device must only be carried out by a qualified electrical contractor.
- (AS/NZS 60335-1 Clause 7.12.2): disconnection must be incorporated in the fixed wiring in accordance with the wiring rules.
- FUSE: 250V, T3.15A

## 6.3 HARDWIRING THESYSTEM

- The Heat pump system is supplied with a 3 point earthed plug and may be run off a standard power socket or extension cord. Running the unit off the plug should only be temporary (e.g. when an electrician is delayed to your home).
- For continued long term operation, the system must be hard wired into an isolated 10 amp circuit.
- A qualified electrician should remove the units plug and utilize the power supply cord to wire the system into a junction box.
- The junction box must be rated for outdoor use and should be fitted with an isolating switch as shown in the diagram to the right.



Depending on the installation address, the Heat pump must be connected to either a Continuous or Shoulder Tariff power supply. Please refer to section 2.4 for further information.



If the supply cord is damaged, it must be replaced by either the manufacturer, a service agent or similarly qualified person in order to avoid hazard.



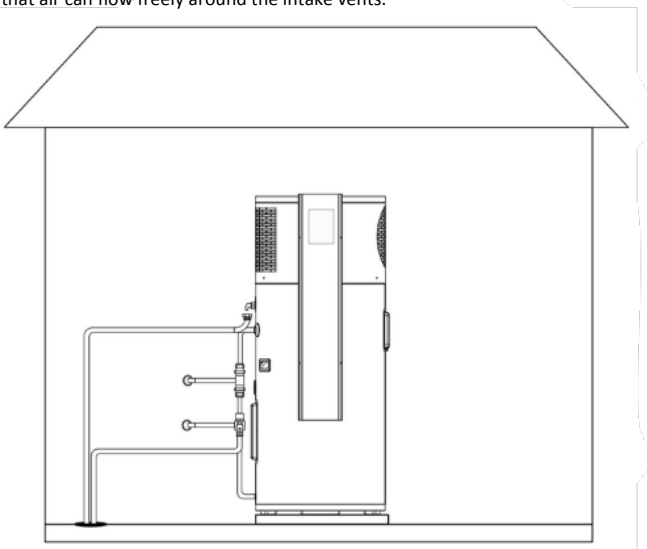
This appliance shall be installed in accordance with National wiring regulations AS.3000.



## 7.0 COMMISSION THE SYSTEM

### 7.1 PRE-START PROCEDURES AND CHECKS

- Once both the electrical and plumbing connections have been completed by qualified trades person, the system is now ready for operation.
- Before turning the system on it is essential that you ensure the heat pump storage tank is full and the unit thoroughly flushed.
- Air pockets must be bled from the system via a hot water tap. Do not use the PTR valve alone to bleed the system.
- Ensure the device is resting on a smooth flat concrete plinth and that a condensate drain is installed from the condensate port to an appropriate drainage point.
- Ensure that your plumber has insulated with high temperature closed cell insulation to prevent heat loss.
- Ensure that air can flow freely around the intake vents.



This appliance is not intended for use by persons (including children) with reduced physical sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance. The appliance shall be installed in accordance with national wiring regulations.

## INSTALLATION CHECKLIST

- The Heat pump system is level.
- The Heat pump system is installed on a concrete plinth or stable structure capable of sustaining weights in excess of 400 kg.
- A minimum distance of 300mm is present above the Heat pump system, to allow the lid to be removed for maintenance (see section 2.3 Air Flow).
- A minimum distance of 600mm is present on the fan discharge side and 150mm on the air in take sides of the system for airflow (see section 2.3 Air Flow).
- A minimum distance of 150mm is present between the exterior of the tank and wall for air circulation and servicing (see section 2.3 Air Flow).
- The condensate drainage elbow has only been hand tightened (see Section 4.0 Plumbing Installation).
- The condensate drainage elbow is free flowing (i.e. gravity fed) and not directly connected to the PTR or any other line (see section 4.0 Plumbing Installation).
- The unit is connected to either a Continuous 24 hour supply or a Shoulder Tariff Minimum 16 hour supply. (not connected to the Off-peak 8-10 hour supply).
- The plumber has explained the purpose of the tempering valve.

Once the system has been installed, the installing plumber should sign below to ensure that all procedures have been complied to otherwise warranties may be voided.

Installer'sFullName:

Date:

---

Installer's Signature:

---

**Once you have carried out all these checks, you are ready to switch on your Heat pump.**

## Controller Instruction

### 1. Features

#### (1) Operating condition

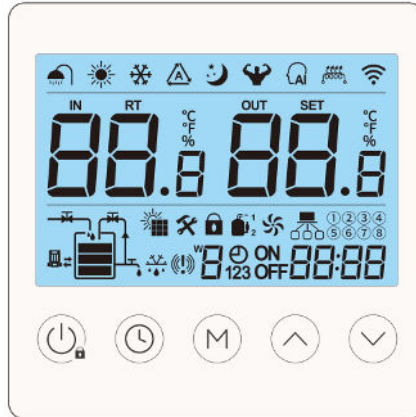
- Voltage: 220V  $\sim \pm 10\%$ , 50Hz  $\pm 1$ Hz.
- Ambient temperature:  $-7 \sim +43^{\circ}\text{C}$
- Storage temperature:  $-20 \sim +75^{\circ}\text{C}$
- Relative humidity: 0  $\sim 95\%$  RH
- Temperature accuracy:  $\pm 1^{\circ}\text{C}$




#### (2) Main function










- Display the pool temperature and setting temperature, and also can query the coil temperature, ambient temperature and exhaust temperature and soon.
- Power cut memory function.
- When power cut, the clock will still work.
- Timing on/off.
- Automatic defrosting.
- Forced to defrost.
- Large LCD display.
- Has perfect protection function.
- The error code display and query
- Key-Lock Function
- Anti-freezing function
- When there is no wire controller or wire controller is broken, the system can recognize it, and control the heat pump to run automatically.


## 2. Home page illustration
















### 2.1 Interface Display and instruction of icons


















Name	Symbol	Function
On/off key		<ol style="list-style-type: none"> <li>1.On/off key (hold for 1 second)</li> <li>2.Return key</li> <li>3. Escapekey</li> <li>4.Unlock key (hold for 3seconds)</li> </ol>
Clock key		<ol style="list-style-type: none"> <li>1. Setting the clock, press the key will enter into clock setting interface, and then press one time to switch the hour and minute area</li> <li>2. Setting the timer (press the key and hold for 3s)</li> <li>3. During timer setting, press the key and hold for 3s, cancel the current timer setting</li> <li>4. During clock setting, press the key and hold for 3s, enable or disable the week function</li> </ol>
Mode key		<ol style="list-style-type: none"> <li>1. Press the key and hold for 5s, enter into parameter setting interface</li> <li>2. Press the key to change operation mode</li> <li>3. In parameter query interface, press the key enter into value setting or save the setting</li> </ol>


Up key		<ol style="list-style-type: none"> <li>1.Press the key to change temperature setting value or parameter value or change hour and minutevalue</li> <li>2.Press the key and hold for 3s to query the system status/ parameter</li> <li>3.Pageup</li> </ol>
Down key		<ol style="list-style-type: none"> <li>1.Press the key to change temperature setting value or parameter value or change hour and minutevalue</li> <li>2.Press the key and hold for 3s to query the system status/ parameter</li> <li>3.Pagedown</li> </ol>
Combination key		Press and hold the two keys for 5s, enter into manual intelligent distribution networkconnection by manual
		Press and hold the two keys for 5s, enter into manual AP distribution network connection
		When heat pump running in heating mode, press the two keys and hold for 3s, turn ON/OFF Boost mode (turn ON/OFF heating element)
		<ol style="list-style-type: none"> <li>1. When heat pump run, press the two keys and hold for 5s, start/exit defrostingmode</li> <li>2. In the turn-off state, within 5 minutes of plugging in, press the two keys and hold for 10 seconds to enter refrigerant recovery,and press Mode key to exit.</li> </ol>
		When power on the heat pump, press the two keys and hold for 5s, enter into Ventilation mode, runinhighspeed,pressthetwokeysfor3s,runin lowspeed,pressthetwokeysfor3sagain,exit Ventilation mode
		Press the three keys and hold for 5s, turn ON/OFF sterilization mode
		Power on within 5 minutes and don't turn on the heat pump, press the four keys and hold for 5s, restore the factory setting

Symbol	Status	Meaning
	Not bright	Heat pump OFF or not in heating mode


	Light up	In heating mode
	Light up	Heating element ON
	Flash for 1s	Run in Boost mode
	Flash for 2s	Run in sterilization mode
	Flash	WiFi distribution network
	Light up	WiFi connect successfully
	Light up	Water temperature
	Light up	Setting temperature
	Light up	degree centigrade
	Light up	degree Fahrenheit (reserved)
	Light up	Percent(reserved)
	Light up	Low/middle/high water level(reserved)
	Flash	Heat pump OFF and refrigerant recovery mode
	Light up	In defrosting mode
	Light up	Maintenance mode

	Light up	There is error
	Light up	Lock screen
	Light up	Compressor running
	Light up	High fan speed
	Light up	Low fan speed
	Flash for 1s	Ventilation mode: high fan speed
	Flash for 2s	Ventilation mode: low fan speed
	Display	Error code display
	Light up	Timer ON
	Display	In timing ON period
	Flash	Setting timing ON
	Display	In timing OFF period
	Flash	Setting timing OFF
	Light up/Not bright	Timer number 1/2/3
	Display	Week

1) Lock and unlock:

When the controller is in the normal display mode and there is no button operation for more than 60 seconds it will get automatically locked. Press the key " for 3 seconds to unlock, it will beep.

2) Turn ON/OFF the heatpump:

When the controller is in the normal display mode, press " button for more than 1 second to switch the controller to the power ON or OFF mode.

3) Operation mode selection:

When the controller is in normal display mode, press "M" key to show the existing operation mode, it will display constantly for 8 seconds, before it disappears, press "M" again to switch between different operating modes;

The mode name will show at the clock area for 8 seconds each time when you touch "M" key, when unlocked, the area will show clock, pressing "M" key one time will query the existing operation mode.

The system default mode is STAN mode; When the unit is switched on for the first time, the system will operate under STAN mode, later on the unit will always start as per previous setting mode. For changing the mode, refer below instructions:


Operation Modes Chart With Symbols

S.No.	Mode	Symbol	Setting Range
01.	Standard Mode	STAN	15°C~60°C
02.	Hybrid Mode 1	HyB1	15°C~70°C
03.	Electric Mode	ELE	15°C~70°C

STAN mode (Standard mode):

In STAN mode, the controller will display "", in this mode only heat pump operates, setting range is 15°C~60°C, restart temperature difference is 5°C.

HYB1 mode (Hybrid mode 1):

Under HYB1 mode, the controller will display "", in this mode, the heat pump and the heating element will work together to heat the water. Water temperature setting range is 15°C~75°C, restart temperature difference is 5°C (default value).



ELE mode (Heating element mode)

Under ELE mode, the controller will display "ELE", in this mode only the heating element will work to heat the water. Water temperature setting range is 15°C~75°C, restart temperature difference is 5°C(default value).

#### 4) Water temperature set

Unlock the controller, in the main interface, press the "^" or "v" button to increase or decrease the water temperature setting value

#### 5) Clock settings:

In the main interface, click the "🕒" button to enter the clock setting interface;

During clock setting, when hour part flash, press and hold the "🕒" button for 3 seconds, enable/disable the week function. If enable the week function, it will show weekday (Monday: 1, Tuesday: 2... Sunday: 7).

If enabled the week function, then in the real-time clock setting interface, press the "🕒" button, the weekday part of the number flashes first, press "^" or "v", you can set the weekday of the clock; if disabled the week function, press the "🕒" button, will set the hours first. the hour part of the number flashes, press "^" or "v", you can set the hour of the clock;

when the hour part is set, press the "🕒" button again, the number of minutes will flash, press "^" or "v" to set the minutes of the clock;

After the minutes part is set, press the "🕒" button again to confirm the real-time clock setting and return to the main interface;










In the real-time clock setting interface, if there is no button operation for 60 seconds, the current clock setting value will be confirmed and return to the main interface;


In the clock setting interface, press the "🕒" button to confirm the clock setting value and return to the main interface.

#### 6) Work time settings

Press and hold the "🕒" button for 3 seconds in the main interface to enable or disable the timer working mode. Then press "^" or "v" to choose the timer No. 1 or No.2 or No.3 period.

When the timer No. 1 period is selected, the symbol flashes, press and release "🕒" to switch the hour of the start time(ON), the hour part of the number flashes, press "^" or "v",

you can set the hour. When the hour part is set, press the "" button again, the number of minutes will flash, press "" or "" to set the minutes. After the minutes part is set, press the "" button again to set the hour of the end time (OFF), the hour part of the number flashes, press "" or "", you can set the hour. When the hour part is set, press the "" button again, the number of minutes will flash, press "" or "" to set the minutes.

After the minutes part is set, press the "" button again to confirm the setting and then switch to next period (No. 2 or No. 3) timer working set, the setting method is the same as above.



If the start time of a certain working period is greater than the end time, the end time is considered to be of the next day.

When all time periods are canceled, it is considered to be in working hours throughout the day.


When the start time and end time of a certain working period are the same, it discards the time period



When enabled the week function, the timing work cycle time is week, if disabled the week function, the cycle time is 24 hours.

#### 7) Forced defrosting:

When the controller is in the normal display mode and the heat pump is ON. Press "M" and "" buttons together for more than 5 seconds to activate or deactivate the "Forced Defrost" function. The symbol "" will light up when the "Forced Defrost" is ON.

#### 8) Boost mode:

When the controller is in the normal display and the heat pump in heating mode. Press "M" and "" buttons together for more than 3 seconds to enable or disable the boost mode, when enable the boost mode, the compressor will stop running or never run, heating element ON,

the symbol "" will flash for 1 second then light up, when the temperature reach at these temperature, heating element off, the symbol "" will flash, means it is operate in boost mode.

When turn off the heat pump, will exit boost mode.

#### 9) Sterilization:

Manual Sterilization Mode:

When the controller is in the normal display mode and the heat pump is ON. Press "" and




"and"∨"buttonstogetherformorethan5secondstosterilizethewatertank,thesymbol"



"willflashfor2secondsthenlightup,andthewaterwillbeheatedupto70°Candkeepat 65°C~70°C, after 30 minutes, exit sterilization mode. If the water can not reach at 70C, the heat pump will run in sterilization mode for 2 hours then exit the sterilization mode. If user set the water temperature≥70°C, then never start sterilization mode

Auto Sterilization Mode: Parameter F67=0 (Default)

If user set the water temperature<70°C, and cumulative time over 7 days, will start Sterilization Mode automatically; finish sterilizing, will re-clock.

In Sterilization Mode, the symbol "  " will flash for 2 seconds then light up, and thewater will be heated up to 70°C and keep at 65°C~70°C, after 30 minutes, exit sterilization mode. If the water can not reach at 70C, the heat pump will run in sterilization mode for 2 hours then exit the sterilization mode.

If user set the water temperature≥70°C, then never start sterilization mode

## Trouble Shooting

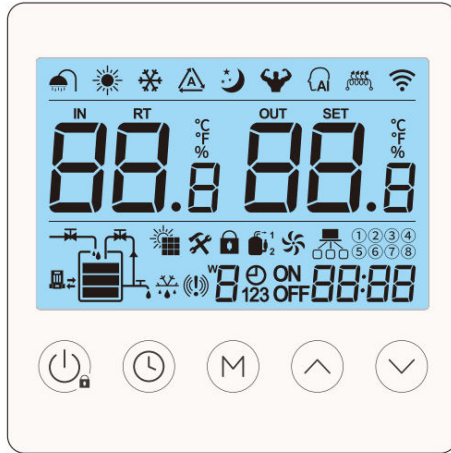
Error code	Error Description	Possible Causes	Solution
E05	High pressure protection	High pressure switch is broken/Connection is loose	Contact Customer Care
E09	Communication failure	Signal wire connection loose/There is Strong magnetic field/PCB is broken/Signal wire is broken	
E12	Exhaust temperature too high	Lack of refrigerant/Fluorine system leak	
E14	Tank temperature sensor failure	Sensor failure/Connection is loose	
E16	Coil temperature sensor failure	Sensor failure/Connection is loose	
E18	Exhaust temperature sensor failure	Sensor failure/Connection is loose	
E21	Ambient temperature sensor failure	Sensor failure/Connection is loose	
E29	Suction temperature sensor failure	Sensor failure/Connection is loose	




## Operation Parameter Query

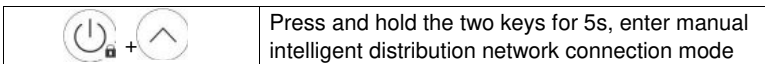
When power on, press "^" or "v" button for 3 seconds, will enter into status query interface, press "^" or "v" button to query each status; Press "⏻" button will exit status query interface.

No	Name	Note
00	Fluorine Cycle/Water Cycle system	0=Water Cycle; 1=Fluorine Cycle
01	High pressure switch	0=Open; 1=Close
02	Low pressure switch	0=Open; 1=Close
03	Water flow switch	0=Open; 1=Close
04	EEV open	Measured value
05	Coil temp.	Measured value
06	Ambient temp.	Measured value
07	Suction temp.	Measured value
08	Exhaust temp.	Measured value
09	Water inlet temp.(Water tank)	Measured value
10	Water outlet temp.	0=OFF; 1=ON
11	Compressor	0=OFF; 1=ON
12	4 way valve	0=OFF; 1=ON
13	High fan speed	0=OFF; 1=ON
14	Low fan speed	0=OFF; 1=ON
15	Circulation pump	0=OFF; 1=ON
16	Heating element	0=OFF; 1=ON
17	Compressor working time before defrosting	Measured value
18	Link switch	0=Open; 1=Close
19	Program code	Show the code
20	Dial switch	0=Open; 1=Close
21	Dial switch	0=Open; 1=Close
22	Phase detecting value	0=OK; 3=Lack phase; 4=Phase fault; 5=No connection

## Wifi function instruction



When connecting Wi-Fi, the symbol "  " will flash, when connect Wi-Fi successfully, the symbol "  " will light up, disconnect Wi-Fi, the symbol "  " not lightup.



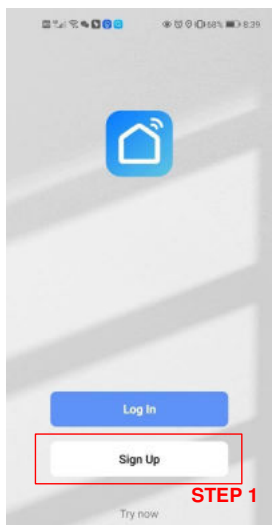
### 1. Download and Install theApp

1.1 Scan the QR code to download the "Smart Life" application or download the application in the application store by mobile phone, and then install the application. (Available for Android and iOSsystem)

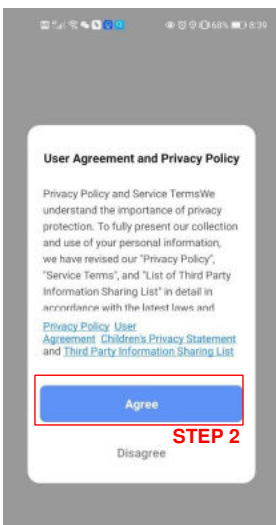


## 1.2 Sign up

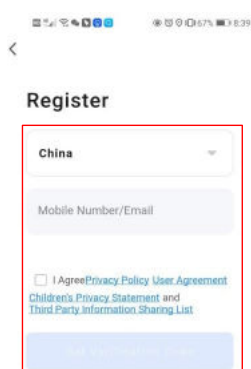
After installing the app, press the "🏠" icon and open the Smart Life app, if there is no account, should sign up at first time, refer to following process:



**STEP 1**



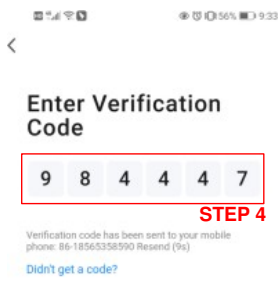
**STEP 2**



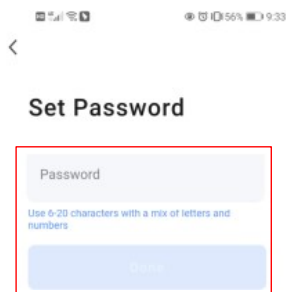
**STEP 3**

select country, input mobile number

select I Agree then et the verification code



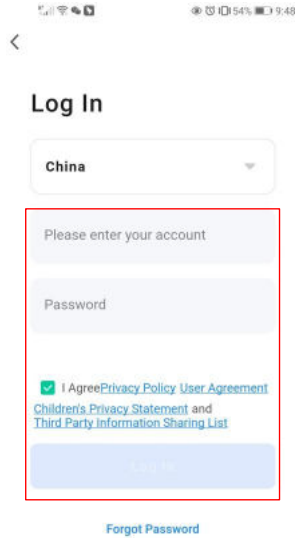
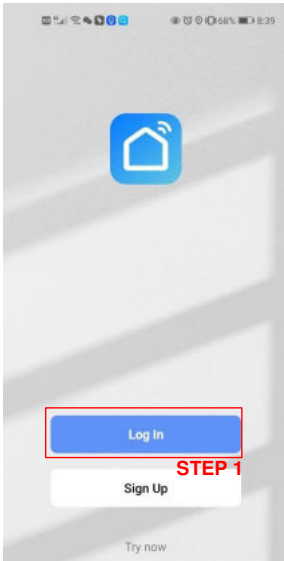
**STEP 4**



**STEP 5**

### 1.3 Log in

After signing up, log in the application refer to following process:

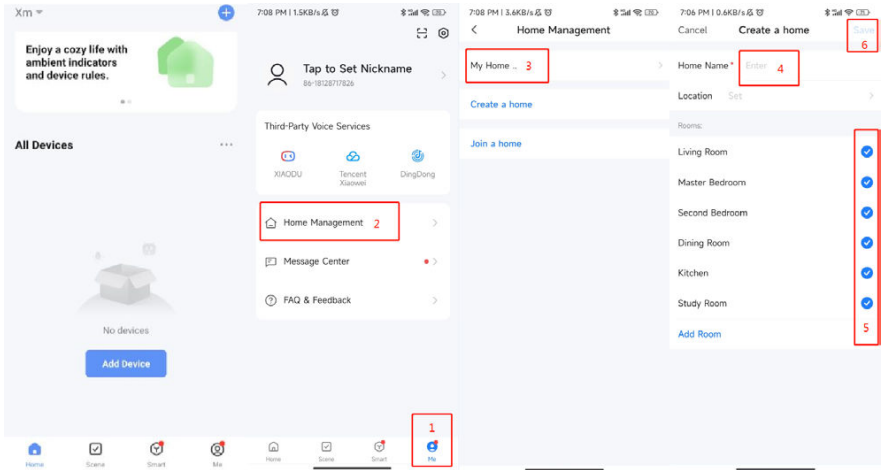


**STEP 2**  
Input account and password and log in




### 1.4 Create home

After signing up, should create " home ", refer to following process:

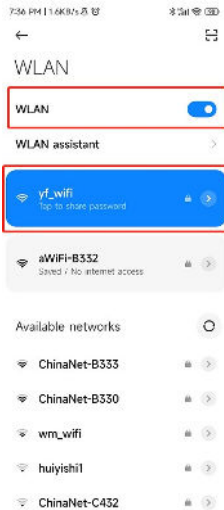
Home Management → Set home name → Set location → Add room → Save



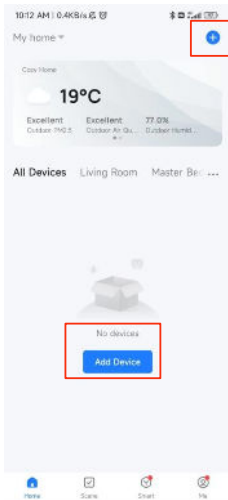
## 2. WIFI connection


- 2.1 Prepare a Wi-Fi wireless router that can access the Internet, The Wi-Fi frequency band is required to be 2.4 Ghz and it should be placed within 10 meters of the water heater to ensure that a strong Wi-Fi signal is available.
- 2.2 Turn on Wi-Fi and Bluetooth on your mobile phone. After the connection is successful, you can turn off Bluetooth and operation will not be affected.
- 2.3 Press and hold the two keys  and  for 5s, enter manual intelligent distribution network connection mode, within 3 minutes, wait for connecting, the symbol "  " will flash, after three minutes, exit connecting automatically if failed in connecting.
- 2.4 Use mobile phone connect the WIFI, the WIFI should be available for internet.

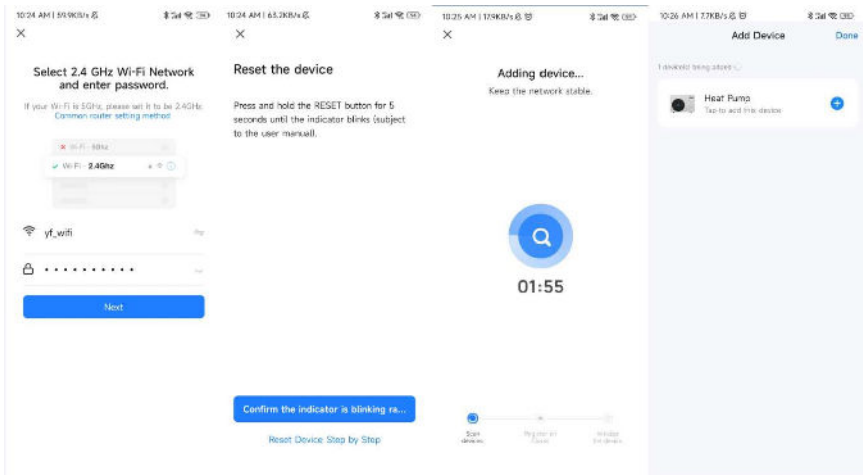





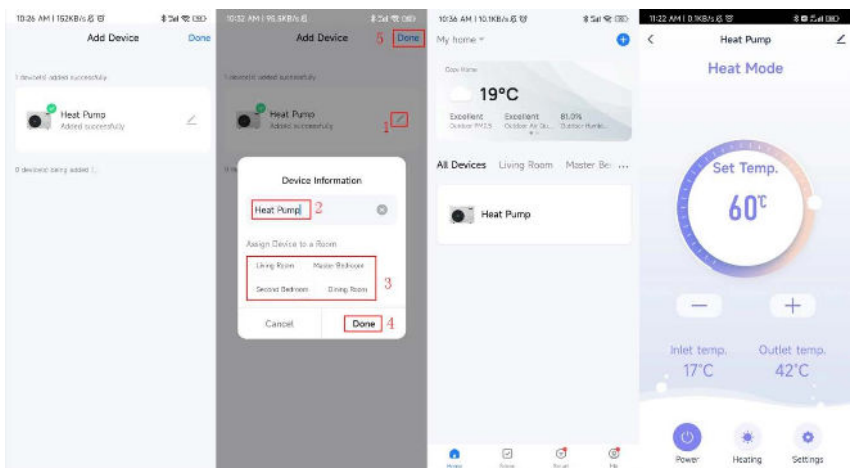
2.5 Open the app Smart Life and log in, press the icon "+", or press " Add Device " → find " Large Home Appliance " → select the “ Smart Heat Pump (Wi-Fi)”



2.6 Enter into the WIFI connecting interface, input the WIFI password ( the WIFI account must be the same as the WIFI which mobile phone connected), → press " next " → press the " Confirmtheindicatorisblinkingra..."→press"+"toaddthedevice.Whenconnected successfully,thesymbolwillremaincontinuouslylitup.



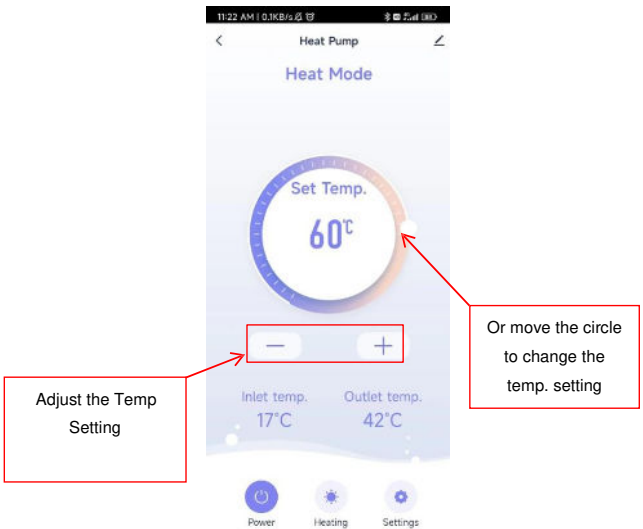
2.7 If the system prompts "Successfully added device", the WiFi is successful. Click the icon  to change the device name, select the device installation location (living room, master bedroom...), and then click Done to directly enter the device operation main interface;



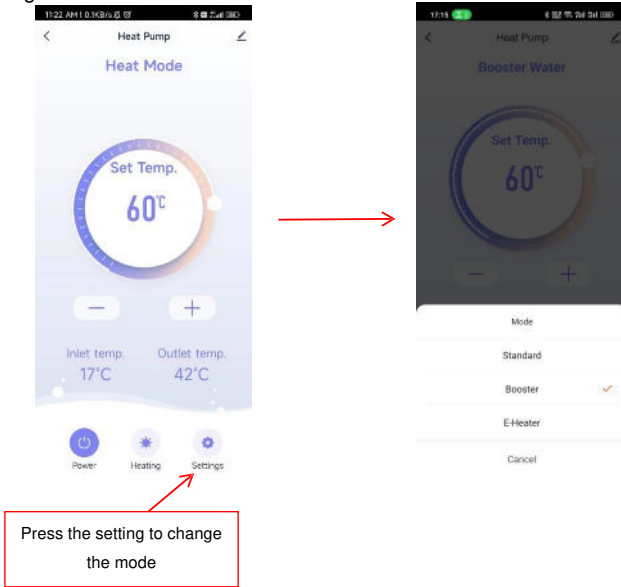
3. Operation  
3.1 Operation interface



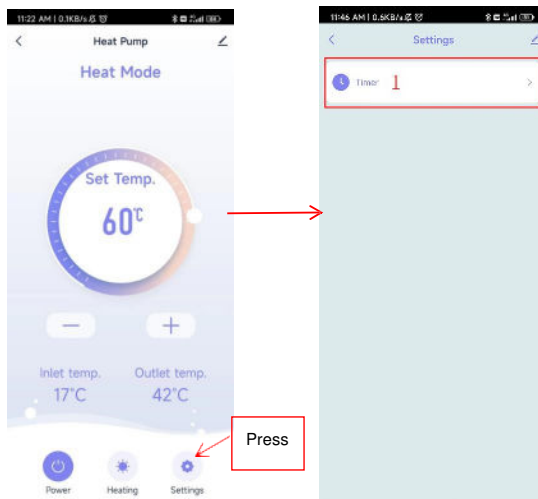
1) Set water temperature.

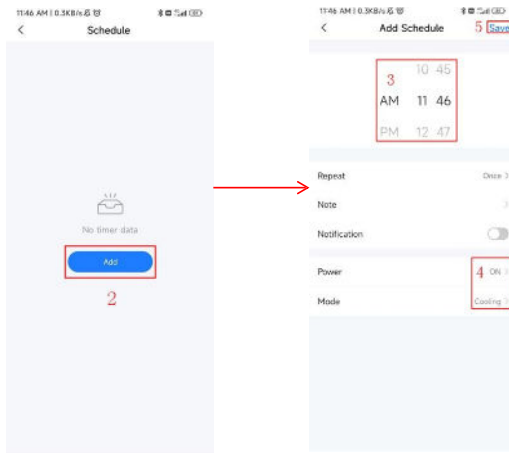


## 2) Mode change



## 3) Set timer





## 12.0 PILOT RUN OF HEAT PUMP

Please confirm the following before pilot run of Heat Pump

1. The heat pump has been finished well;
2. Assemble pipe and wire are all correct;
3. Drain water is smooth;
4. Insulation materials are complete;
5. Ground wire is installed well;
6. Power voltage is equivalent to rated voltage of heat pump;
7. Inlet and outlet air port have no obstacle;
8. Air attached to water pipe is drained out, and all valve have been opened;
9. Leakage protection device works well;
10. Input water pressure is less than 0.6Mpa;

## 13.0 MAINTAINANCE AND SOLUTION

### Maintenance

1. Frequently check power plug and sockets and make sure both of them have been connected well and reliably, and have no over-heating effect;
2. When not used for a long time, especially where temperature is below 0 °C , water filled in the water tank must be drained out to prevent from damaging inner tank; (operation shown the above contents)
3. To make heat pump to keep a long-term and high efficiency working state, we suggest you should clean inner tank up every half a year to remove accumulated sediment, please obey the following rules to clean inner tank:

- (1). Turn off power supply of heatpump;
  - (2). Turn off cold water inlet valve, and open hot water tap water;
  - (3) Connect drainage water with drain outlet through a soft pipe; (temperature resist of drainage pipe is less than 93°C. if drainage pipe do not meet demands, please turn on cold water inlet valve, and turn hot water tap water until water is not hot);
  - (4). Turn on drainage water port of heat pump, clean water tank attached to inner tank up, if needed, you will wash inner tank for many times to clear sediment;
  - (5). Turn off drainage water port, re-fill water into inner tank and recover power supply;
4. Each device has been matched with one anode rod, and anode rod will be slowly consumed during the process of protecting inner tank and extending use life. Under some water circumstance, anode rod and water can rise reaction, hot water will be quickly corroded and rise leakage when anode rod has been used up. We suggest check insulation materials every one year, if anode rod is used up, you can inquiry local server center or specific technical department to change a new one;
  5. Used for enough hot water where we suggest user turn down set temperature, which can reduce heat loss and avoid incrustation, meanwhile this work can help you save more electric energy and extend use life;
  6. Filters should be cleaned up every one month to make sure heating effect;
  7. If used for those regions which the temperature is below 0 °C, you can take suitable measures to protect pipes in case the heat pump is installed outdoors for purpose of protecting connection pipe and keeping your normal life;

## Error and Approaches

Error	Reason	Approach
The outlet water is cold; The screen is dark	The plug is not plugged properly. The temperature controller is on the lowest temperature control state; The temperature controller is damaged; The circuit board of the indicator lamp is damaged.	Plug in properly. Set the temperature of the controller in higher state. Inform the service man.
No water out from the hot water outlet	The tap water is cut off; The water pressure is too low; The tap water inlet valve is closed.	Waiting for the restore of the tap water. Wait and use when the water pressure is raised. Open the tap water inlet valve.
Water leakage	Bad tightness in the connecting points between pipes.	Improve the tightness of the connecting points

## 14.0 AFTER-SALE SERVICE

If your hot water heater can not operate normally, please turn off the unit and cut off the power supply at once, then contact with the service center or technical department.

## 15.0 FAQ

### What maintenance does the heat pump need?

The heat pump water heater is designed to eliminate system maintenance other than that detailed in this Owner's Manual. The PTR valve and ECV should be checked for adequate performance or replaced at intervals not exceeding 5 years or less if local regulations apply. The lever on these relief valves should be pulled to operate at least once every 6 months. Personally inspecting or servicing any other part of the system is not recommended.

Every 5 years you should contact the local service agent or licensed plumber to replace all safety valves and Magnesium Anodes to ensure continued system life and operational safety.

In locations where the potable water has a TDS greater than 600 ppm, this service is recommended every 3 years.

### What safety features does the Heat pump have?

If installed correctly, the Heat pump system has the following

- safety features: An over-temperature energy cut-out thermostat.
- A Pressure & Temperature Relief (PTR) valve and Expansion Control Valve (ECV).
- A 3 minutes delay from powering the system to prevent any damage from electrical surges

### What should I do to the Heat pump if I go away on holiday?

Leave the system as per normal. The heat pump has built in safety features which will prevent Legionnaires' disease from occurring while you are away. The amount of electricity used by the system while there is no hot water being used is minimal.



If the hot water system is not used for two weeks or more a quantity of highly flammable hydrogen gas may accumulate in the water heater. To dissipate this gas safely, it is recommended that a hot tap be turned on for several minutes or until discharge of gas ceases, use a sink, basin, bath outlet, but not a dishwasher, clothes washer or other appliance. During this procedure, there must be no smoking, open flame or any electrical appliance operating nearby. If hydrogen is discharged through the tap, it will probably make an unusual sound as with air escaping.

# WARRANTY DETAILS

## CUSTOMER'S DETAILS

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Email Address: \_\_\_\_\_

Model: \_\_\_\_\_

Serial Number: \_\_\_\_\_

Installation Date:                /                /

Scope of works:

<input type="checkbox"/>	New home	<input type="checkbox"/>	Replacement HWS
--------------------------	----------	--------------------------	-----------------

## INSTALLER'S DETAILS

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Email Address: \_\_\_\_\_

License Number: \_\_\_\_\_

## SYSTEM DETAILS



