

Swimming Pool Heat Pump.

User and Service Manual

Model: CHP055_Trad_C



Please read and understand ALL the instructions
before installation and use.

***Please note*:**

This is for information purposes only as our Trad C model is below the 7kgs threshold of R32 Gas. Regulation (EU) n° 517/2014 of 16/04/14 on fluorinated greenhouse gases and repealing Regulation (EC) n° 842/2006

Leak checks

1. Operators of equipment that contains fluorinated greenhouses gases in quantities of 5 tons of CO₂, equivalent or more and not contained in foams shall ensure that the equipment is checked for leaks.
2. For equipment that contains fluorinated greenhouse gases in quantities of 5 tons of CO₂ equivalent or more, but of less than 50 tons of CO₂ equivalent: at least every 12 months.

Picture of the equivalence CO₂

1. Load in kg and Tons amounting CO₂.

Load and Tons amounting CO ₂	Frequency of test
From 7 at 75 kg load = from 5 at 50 Tons	Each year

Do no release R32 coolant liquid into the atmosphere. This is a fluoride greenhouse effect gas covered by the Kyoto agreement with a global warming potential (GWP) = 675 - (see the European Community regulations on fluoride greenhouse effect gases Regulation (EU) No 517/2014).

Concerning the Gas R32, 7.40kg amounting at 5 tons of CO₂, commitment to check each year.

Training and certification

1. The operator of the relevant application shall ensure that the relevant personnel have obtained the necessary certification, which implies appropriate knowledge of the applicable regulations and standards as well as the necessary competence in emission prevention and recovery of fluorinated greenhouse gases and handling safety the relevant type and size of equipment.


Record keeping

1. Operators of equipment which is required to be checked for leaks, shall establish and maintain records for each piece of such equipment specifying the following information:
 - a) The quantity and type of fluorinated greenhouse gases installed;
 - b) The quantities of fluorinated greenhouse gases added during installation, maintenance or servicing or due to leakage;
 - c) Whether the quantities of installed fluorinated greenhouse gases have been recycled or reclaimed, including the name and address of the recycling or reclamation facility and, where applicable, the certificate number;
 - d) The quantity of fluorinated greenhouse gases recovered
 - e) The identity of the undertaking which installed, serviced, maintained and where applicable repaired or decommissioned the equipment, including, where applicable, the number of its certificate;
 - f) The dates and results of the checks carried out;
 - g) If the equipment was decommissioned, the measures taken to recover and dispose of the fluorinated greenhouse gases.
2. **The operator shall keep the records for at least five years, undertakings carrying out the activities for operators shall keep copies of the records for at least five years.**

Thank you for choosing our CHP- 5.5_Trad_C range for your swimming pool heat pump for your pool heating needs, it will heat your water and keep the temperature constant when ambient temperatures are at -5°C to 43°C. As long as the H/P unit purchased has been sized correctly to your specific requirements, with adequate pool & plumbing, insulation and an insulated cover is used. Please call supplier to discuss.

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 **ATTENTION: This manual includes all the necessary information for the use and the installation of your heat pump.**

1.The installer must read the manual and attentively follow the instructions for implementation and maintenance.

2.The installer is responsible for the installation of the product and should follow all the instructions ANY errors due to an installation that does not follow the manual guidelines will VOID the Warranty.

The manufacturer has "NO" responsibility for the damage caused to people, objects and errors due to incorrect installation. It is the owners responsibility to ensure that the pond, pool or spa water maintains correct water chemistry balance as bad water chemistry can damage the heat pumps internal components which will not be covered under this warranty. Any usage outside of what is stated within this manual or its designed purpose of manufacturing will be regarded as dangerous and is not recommended and will VOID any Warranties.

WARNING: Please always shut off the power supply if you need to open the heat pump cabinet to work inside the heat pump. As this is an electrical product there is high voltage electricity inside. Any electrical connections and/or repairs should be conducted by a licensed electrician.

WARNING: When using the 10mtr external control panel extension please ensure the display controller is located in a dry area. Also keep the insulation cover closed to protect the display on the controller from being damaged by humidity and possible rain. Such damage will VOID the Warranty for the display.

1. Specifications

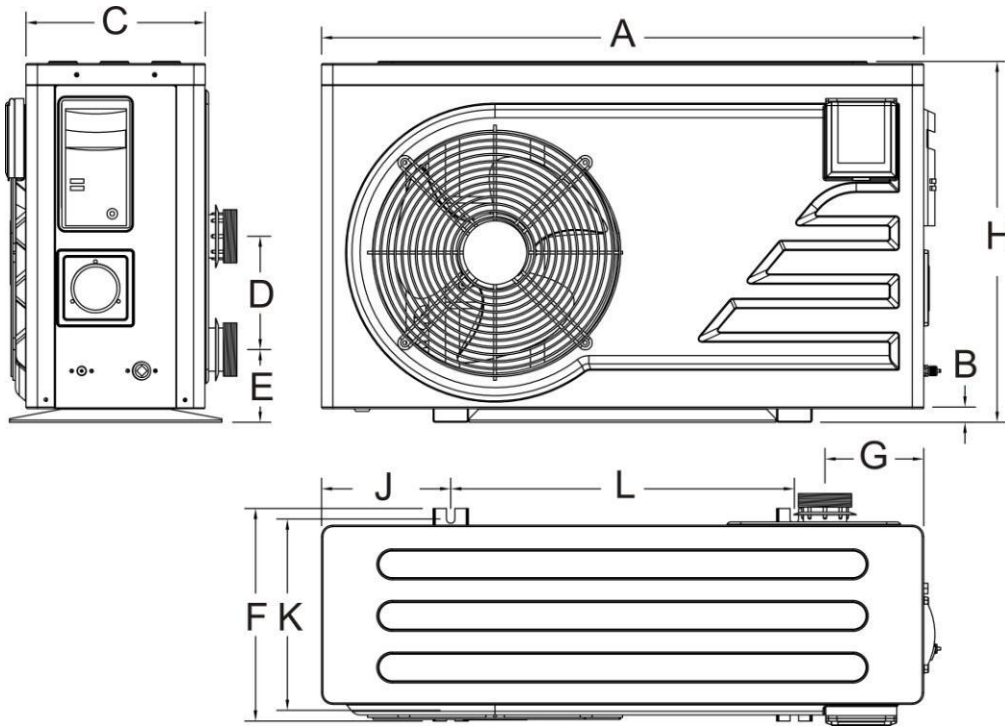
CE Standard, R32, ABS Cabinet, UK plug fitted.

MODEL		CHP055_Trad_C
* Performance at Air 28°C. Water 28°C. Humidity 80%		
Heating capacity	kW	5.5
Power consumption	kW	1.00
COP		5.5
* Performance at Air 15°C. Water 26°C. Humidity 70%		
Heating capacity	kW	3.7
Power consumption	kW	0.88
C.O.P.		4.2
* General data		
Compressor type		Rotary / R32
Voltage	V	220~240V/50Hz/1PH
Rate current (A)	A	4.4
Minimum fuse	A	13
Advised pool volume *With pool cover	m ³	10-20
Advised water flow	m3/h	2.5~3.2
Water pressure drop	Kpa	12
Condenser		Twist-Titanium tube in PVC
Water connection	mm	48.3 / 50
Set Temperature Heating	°C	6°C - 41°C
Set Temperature Cooling	°C	6°C - 35°C
Ambient operation Temps	°C	-5°C - 43°C
Fan quantity		1
Fan speed	RPM	830~870
Power input of fan motor	W	68
Noise level at 10m	dB(A)	40
Noise level at 1m	dB(A)	49
*Dimension/ Weight		
Net weight	kg	36
Gross weight	kg	38
Net dimension	mm	850*300*510
Packaging dimension	mm	915*345*535

*Above data are subjects to modification without notice.

2. Dimensions

Model: CHP055Trad_C



Unit: mm

Model	CHP055DCs32
A	850
B	21.5
C	253
D	160
E	103
F	300
G	139
H	509.5
J	182.5
K	270
L	485

3. Installation and connection:

3.1 Notes: Upon purchase you will receive your complete Heat Pump. All other components, including a bypass if necessary, must be provided by the user or the installer.

Attention:

Please observe the following rules when installing the heat pump:

1. Any addition of automated chemicals must take place in the piping located **downstream** from the heat pump.
2. Install a bypass if the water flow from the swimming pool pump is more than 20% greater than the allowable flow through the heat exchanger of the heat pump.
3. Install the heat pump below the water level of the swimming pool. Unless a one way check valve is used in the plumbing circuit to avoid siphoning back and air locks.
4. Always place the heat pump on a solid foundation and use the included rubber mounts to avoid vibration and noise.
5. Always hold the heat pump upright. If the unit has been held at an angle, wait at least 24 hours before starting the heat pump.

3.2 Heat pump location

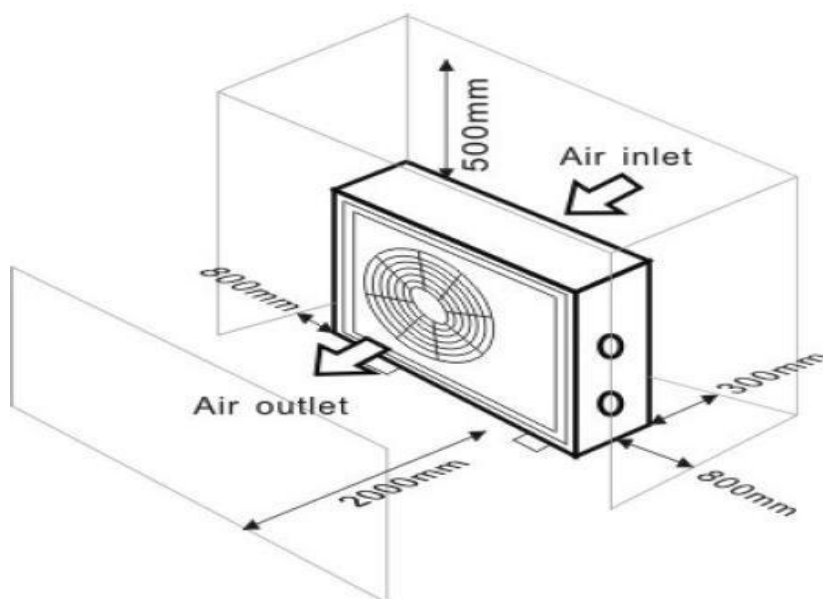
The unit will work properly in any desired location as long as the following three items are present:

- 1. Fresh air – 2. Electricity – 3. Swimming pool filtration**

The unit may be installed in virtually any **outdoor** location as long as the specified minimum distances to other objects are maintained (see drawing below). Please consult your installer for installation with an indoor pool. Installation in a windy location does not present any problem at all, unlike the situation with a gas heater (including pilot flame problems).

ATTENTION: Never install the unit in a closed room with limited air volume in which, the air expelled from the unit will be reused, or close to shrubbery/plant life that could block the air inlet. Such locations impair the continuous supply of fresh air, resulting in reduced efficiency and possibly preventing sufficient heat output. Heat Pumps require fresh air & maximum ventilation to be more productive.

See the drawing below for **"ABSOLUTE" minimum dimensions.**



3.3 Distance from your swimming pool

The heat pump is normally installed within a perimeter area extending 7.5 m from the swimming pool. But, at least 2m away from the pool so a person cannot touch the pool and the heat pump at the same time, as this would lead to electrical safety concerns.

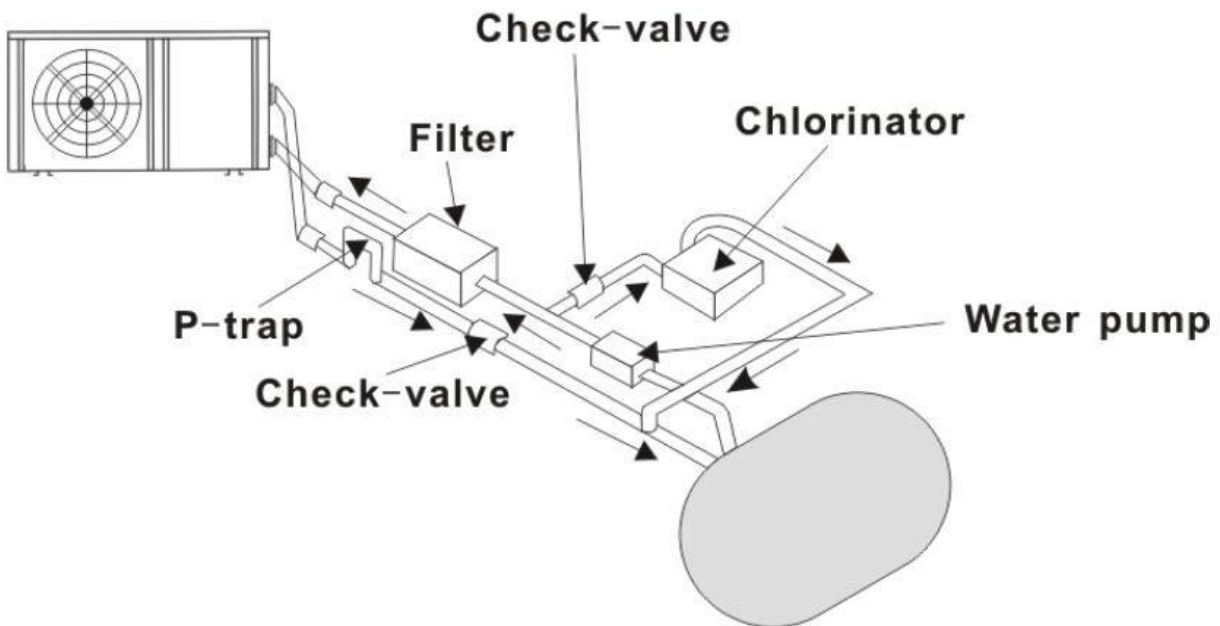
The greater the distance from the pool, the greater the heat loss in the pipes. As the pipes are mostly underground, the heat loss is low for distances up to 30 m (15 m from and to the pump; 30 m in total) unless the ground is wet or the groundwater level is high. A rough estimate of the heat loss per 30 m is 0.6 kWh (2,000 BTU) for every 5 °C difference between the water temperature in the pool and the temperature of the soil surrounding the pipe. This increases the operating time by 3% to 5%.

3.4 Check-valve installation

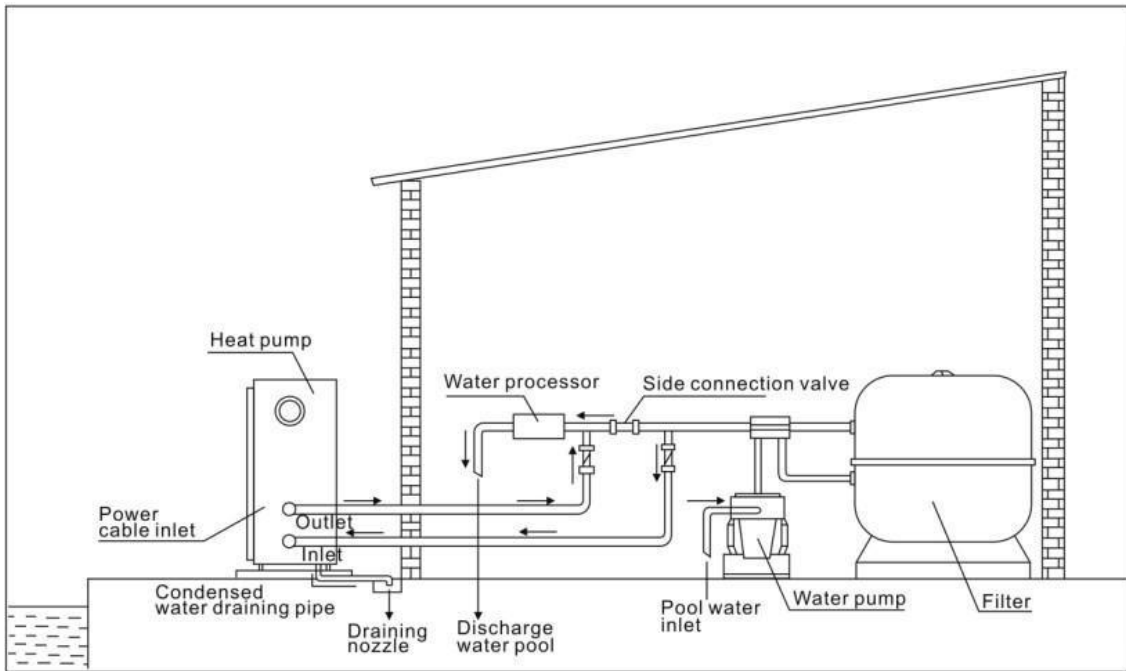
Note: If automatic dosing equipment for chlorine and acid (pH) is used, it is essential to protect the heat pump against excessively high chemical concentrations which may corrode the heat exchanger. For this reason, equipment of this sort must always be fitted in the piping on the **downstream** side of the heat pump, and it is recommended to install a check-valve to prevent reverse flow in the absence of water circulation.

Damage to the heat pump caused by failure to observe this instruction is not covered by the **WARRANTY**.

Pressure-type Chlorinator or Brominator

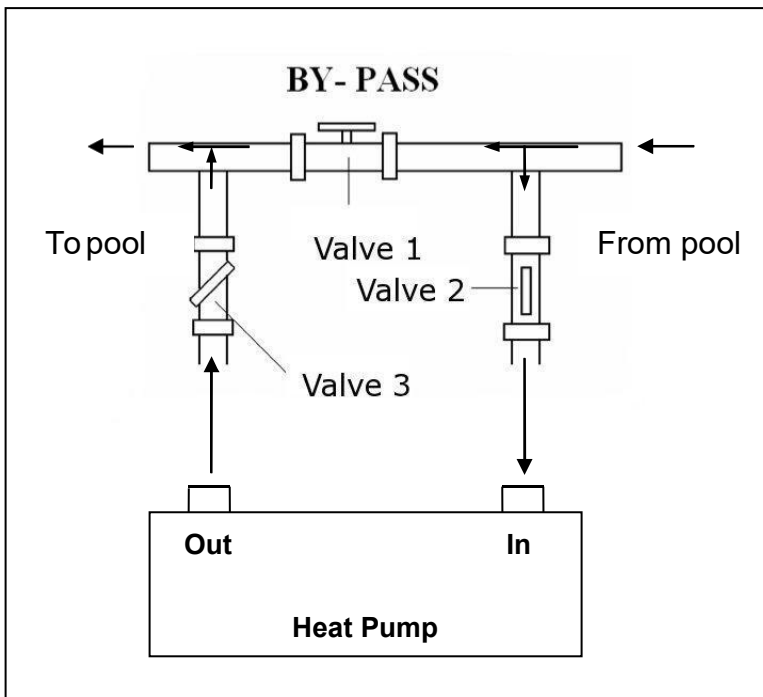


3.5 Typical arrangement



Note: This arrangement is only an illustrative example.

3.6 Adjusting the bypass



Use the following procedure to adjust the bypass:

1. Valve 1 wide open. Valve 2 & valve 3 closed.
2. Slowly open valve 2 & valve 3 by half, then close the valve 1 slowly to increase the water flow to valve 2 & valve 3.
3. If it shows 'ON' or 'EE3' on display, it means the water flow into heat pump is not enough, then you need to adjust the valves to increase the water flow through the heat pump.

Note: Operation without a bypass or with improper bypass adjustment may result in sub-optimal heat pump operation and possibly damage to the heat pump, which renders the warranty null and void.

3.7 Electrical connection

Note: Although the heat pump is electrically isolated from the rest of the swimming pool system, this only prevents the flow of electrical current to or from the water in the pool. Earthing is still required for protection against short-circuits inside the unit. Always provide a good earth connection.

We also recommend that electrical installation is conducted by a licensed electrician.

Before connecting the unit, verify that the supply voltage matches the operating voltage of the heat pump. It is recommended to connect the heat pump to a circuit with its own fuse or circuit breaker and adequate wiring.

Connection: Open the terminal box on the side panel.

Connect the electrical wires to the terminal block marked 'POWER SUPPLY'

A second terminal block marked 'WATER PUMP' is located next to the first one. If you are using a secondary pump to circulate water from the pool to the heat pump this pump can be connected to the second terminal block here. This allows the filter pump operation to be controlled by the heat pump.


NOTE: Any damage caused or PCB's damaged by doing this will VOID the warranty. Filtration and Sanitisation may be adversely affected if ambient temperature are higher than set water temperature, thus no need for the heat pump to come on so no need for the filtration to come on. We strongly recommend that the pump is not connected to the heat pump for control.

3.8 Initial operation

Note: In order to heat the water in the pool (pond or spa), the filtration pump must be running to cause the water to circulate through the heat pump.

The heat pump will not start up if the water is not circulating through it.

After all connections have been made and checked, carry out the following procedure:

1. Switch on the filtration pump. Check for leaks and verify that water is flowing from and to the swimming pool at an adequate flow rate.
2. Connect power to the heat pump and press the On/Off button  on the electronic control panel. The unit will start up, after the time delay expires (see below).
3. After a few minutes, check whether the air blowing out of the unit is cooler.
4. When turning off the filtration pump, the unit should also turn off automatically, if not, then adjust the flow switch.
5. Allow the heat pump and the filtration pump to run 24 hours a day until the desired water temperature is reached. The heat pump will stop running at this point. After this, it will restart automatically (as long as the filter pump is running) whenever the swimming pool water temperature drops 2 degree below the set temperature.

Depending on the initial temperature of the water in the swimming pool and the air temperature, it may take several days to heat the water to the desired temperature. A good swimming pool cover can dramatically reduce the required length of heating time & is highly recommended as standard.

Water Flow Switch:

The heat pump is fitted with an automatic flow switch to protect the heat pump from inadequate water flow. If the pool water level is higher than 1m above or below the heat pump's automatic adjustment knob, your dealer may need to adjust its initial start up.

Time delay:

The heat pump has a built-in 3-minute start-up delay to protect the circuitry and avoid excessive contact wear. The unit will restart automatically after this time delay expires. Even a brief power interruption will trigger this time delay and prevent the unit from restarting immediately. Additional power interruptions during this delay period do not affect the 3-minute duration of the delay.

3.9 Condensation


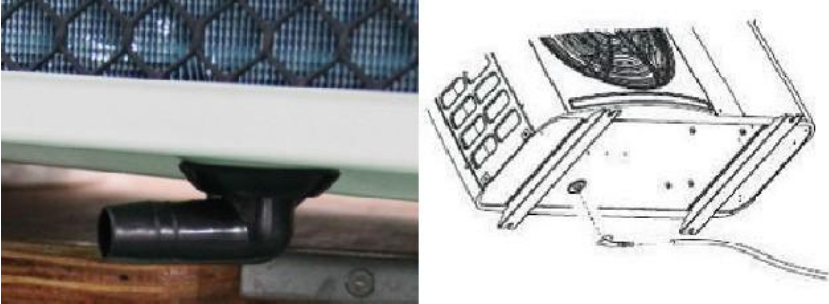
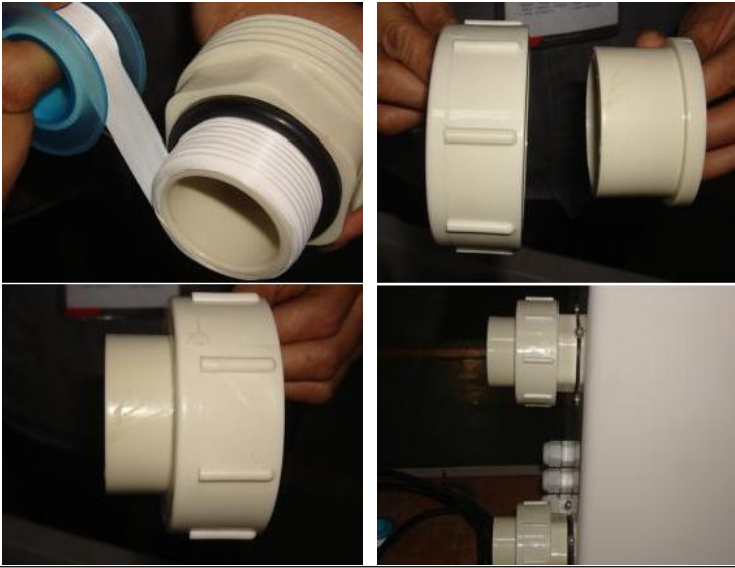
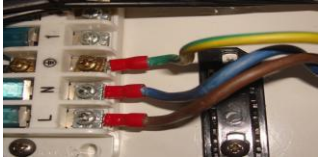
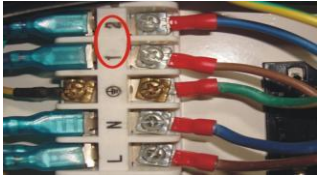
The air drawn into the heat pump is strongly cooled by the operation of the heat pump for heating the pool water, this may cause condensation on the fins of the evaporator. The amount of condensation may be as much as several litres per hour at high relative humidity. This is sometimes mistakenly regarded as a water leak. If there is excessive water coming from your heat pump please see your installer.

4. Accessories

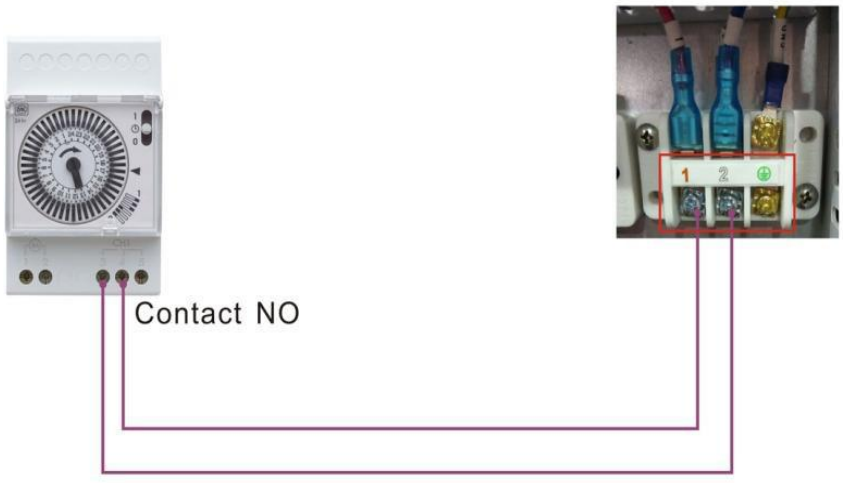
4.1 Accessories list

 <p>Anti-vibration base, 4 pcs</p>	 <p>Draining jet, 2 pcs</p>	 <p>Water drainage pipes, 2 pcs</p>
 <p>10M Signal wire, 1 pc</p>	 <p>Water connection assembly, 4 sets (2 sets 48.3mm, 2 sets 50mm)</p>	 <p>Winter cover, 1pc</p>

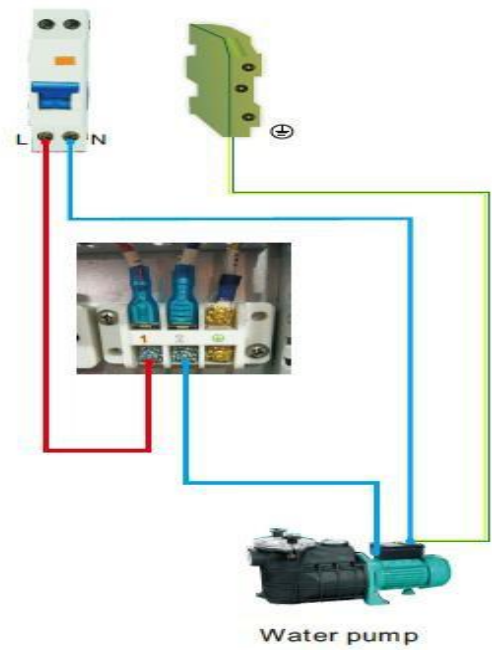
4.2 Accessories installation

	<p>Anti-vibration bases</p> <ol style="list-style-type: none"> 1. Take out 4 Anti-vibration bases 2. Put them on one by one the bottom of machine feet like the picture.
	<p>Draining jet</p> <ol style="list-style-type: none"> 1. Install the draining jet under the bottom panel 2. Connect with a water pipe to drain the water. <p>Note: Lift the heat pump to install the jet. Never overturn the heat pump as it could damage the compressor.</p>
	<p>Water Inlet & outlet junction</p> <ol style="list-style-type: none"> 1. Use the pipe tape to connect the water Inlet & outlet junction onto the heat pump 2. Install the two joints like the picture shows 3. Screw them onto the water Inlet & outlet junction
	<p>Mains cable wiring</p> <p>Please refer to the photo</p>
 <p>NOTE: Any damage caused or PCB's damaged by doing this will VOID the warranty.</p>	<p>Water pump wiring</p> <ol style="list-style-type: none"> 1. With the connector 1 and 2 you can pilot the water filtration through the timer of the filtration (dry contact)

4.3 Connection to pilot the water pump Dry contact timer connection



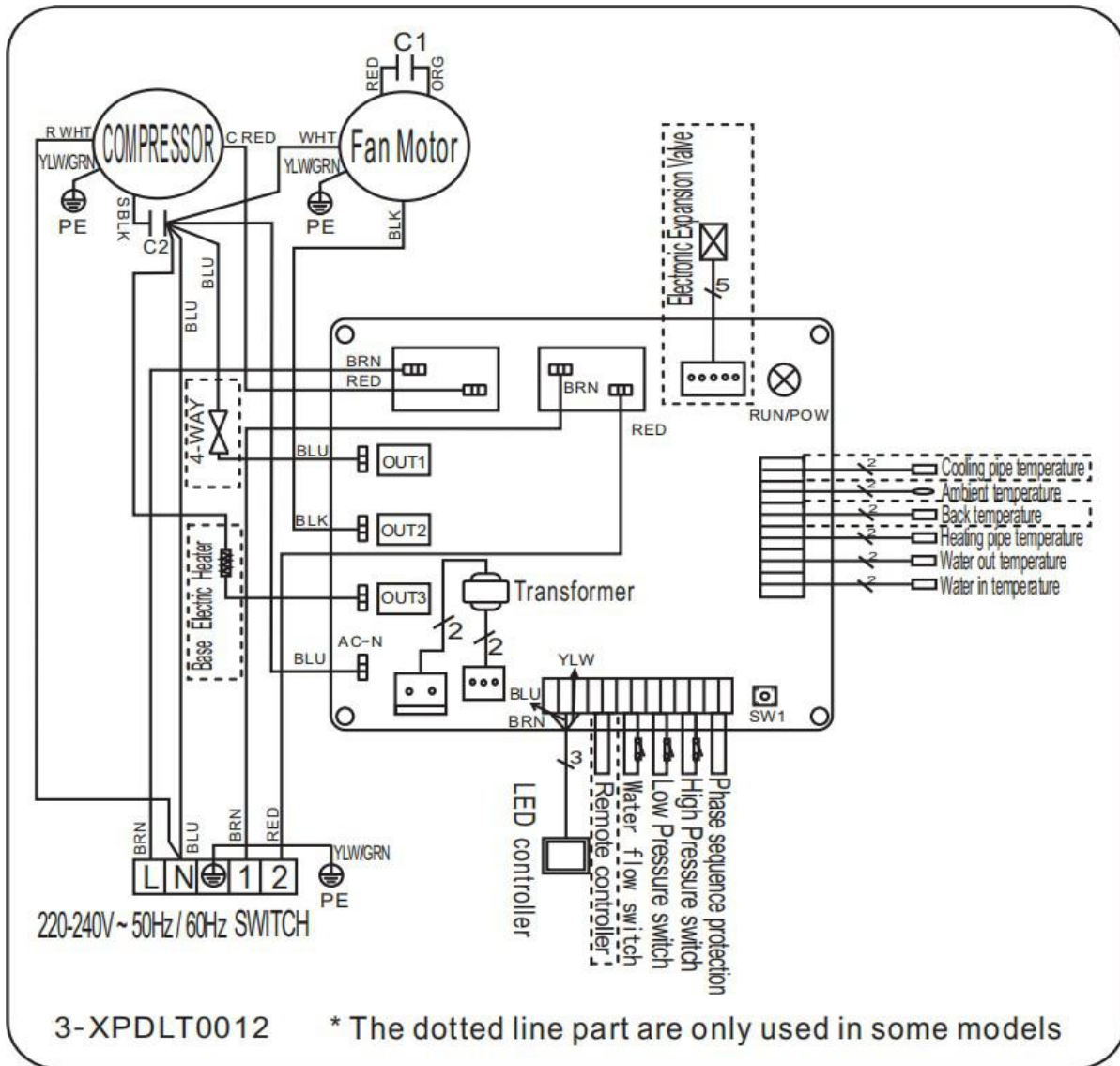
Dry contact pump connection



5. Electrical Wiring

5.1 Electrical wiring diagram

Model CHP055_Trad_C



NOTE:

(1) Above electrical wiring diagram is only for your reference, please consult the manufacturer for repair advice.

(2) The swimming pool heat pump must be connected to earth, although the units heat exchanger is electrically isolated from the rest of the unit. Grounding the unit is still required to protect you against short circuits inside the unit. Bonding is also required.

Disconnect: A disconnect means (circuit breaker, fused or un-fused switch or un-plug) should be located within sight of and readily accessible from the unit. This is common practice on commercial and residential heat pumps. It prevents remotely-energizing unattended equipment and permits turning off power at the unit while the unit is being serviced.

5.2 Installation of the control panel & external cable extension (to be completed prior to electrical connection)

5.2.1 Take out the LED controller firstly.

Step 1: Stop and cut off power supply of heat pump

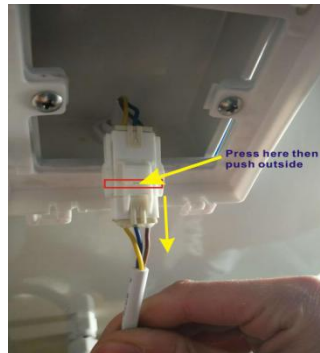
Step 2: Open the Top cover

Step 3: Open the controller box cover

Step 4: Disconnect the wiring of controller on the PCB. See attached photo.



Step 5: Disconnect the quick connector of controller, and take it out from the water-proof box. See attached photo.



5.2.2 10m cable connection

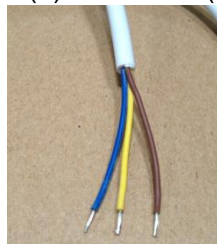
Photo(1)



Photo(2)



Photo(3)



Photo(4)



Photo(5)



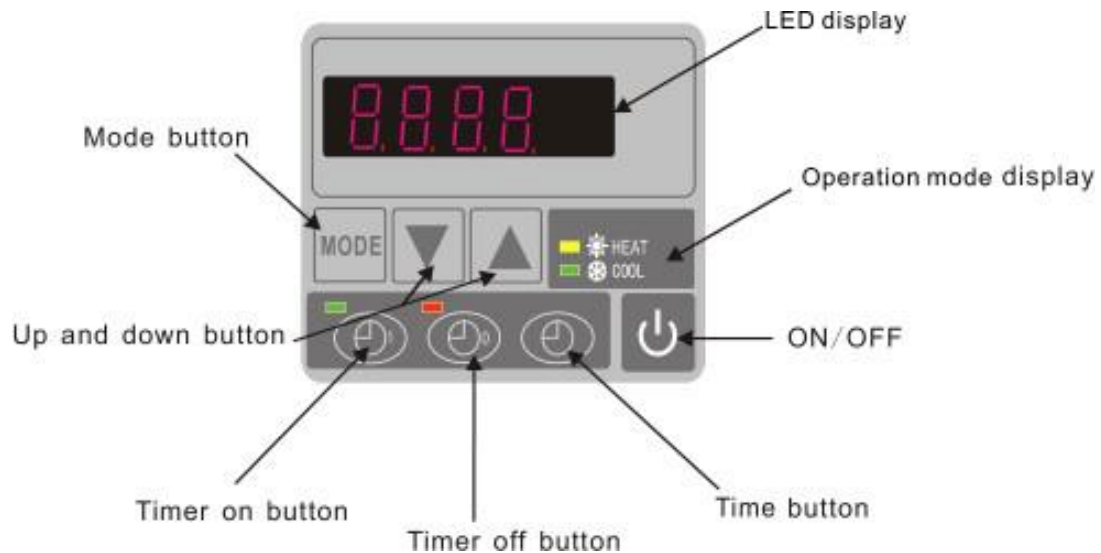
Photo(6)



- 10 Meters signal wire with one plug (photo1)
- The side with plug connects to connect with the controller(photo2)
- The other side of the signal wire. (photo3)
- Open the wiring terminals cover and put the side without plug through the holes. (you can see some holes on the top after opening the cover, photo 4&5)
- Insert the wiring into the designated position on the PC board. (photo6)


6. Display Controller Operation


6.1 The buttons of the LED wire controller




When the heat pump is running, the LED display shows the inlet water temperature.


6.2 Start or stop the heat pump.

Press  to start the heat pump unit, the LED display shows the desired water temperature for 5 seconds, then shows the inlet water temperature.




Press  to stop the heat pump unit.

6.3 Choose heating, cooling or Auto mode.

Press  until "Heat" or "Cool" light is on.

Press  for 5s enter into Auto mode.

6.4 Setting the real time

On standby or running mode, press , then press  or  to adjust hour/minute.

Then press the  again to store the new data.

When setting the time,  and  cannot work.

6.5 Water temperature setting:


On standby or running mode, press  or  to adjust the desired water temperature

Note : The heat pump will only run if the water circle/filtration system is running and it has adequate

6.6 Automatic start/stop the heat pump


To set the time to start the unit

Press  to set the time to start the unit, then press  or  to adjust the time (set the time for start 5 minutes after the water pump).

Press  again to store the new data.

To set the time to stop the unit

Press  to set the time to stop running, then press  or  to adjust the time (set the time for stop 5 minutes before the water pump).

Press  again to store the new data.

6.7 Cancel the automatic start/stop

To cancel the automatic starter

Press , then press ,  light off and the automatic start is off.

To cancel the automatic stop.

Press , then press ,  light off and the automatic stop is off.

Note : If the water filtration system is stopped before the heat pump, the unit will shut down (safety feature) and the code EE3 or ON will display on the controller.




It is important to program the heat pump to come on after the pool filtration/pump.

Also program the heat pump to go off before the filtration and pump. The heat pump will then "NOT" go into error coding.

If the heat pumps does go into this error coding, due to lack of flow, to restart the heat pump, turn off and turn on the electrical power supply to restart the unit.

7. Running data setting



7.1 How to check the parameters

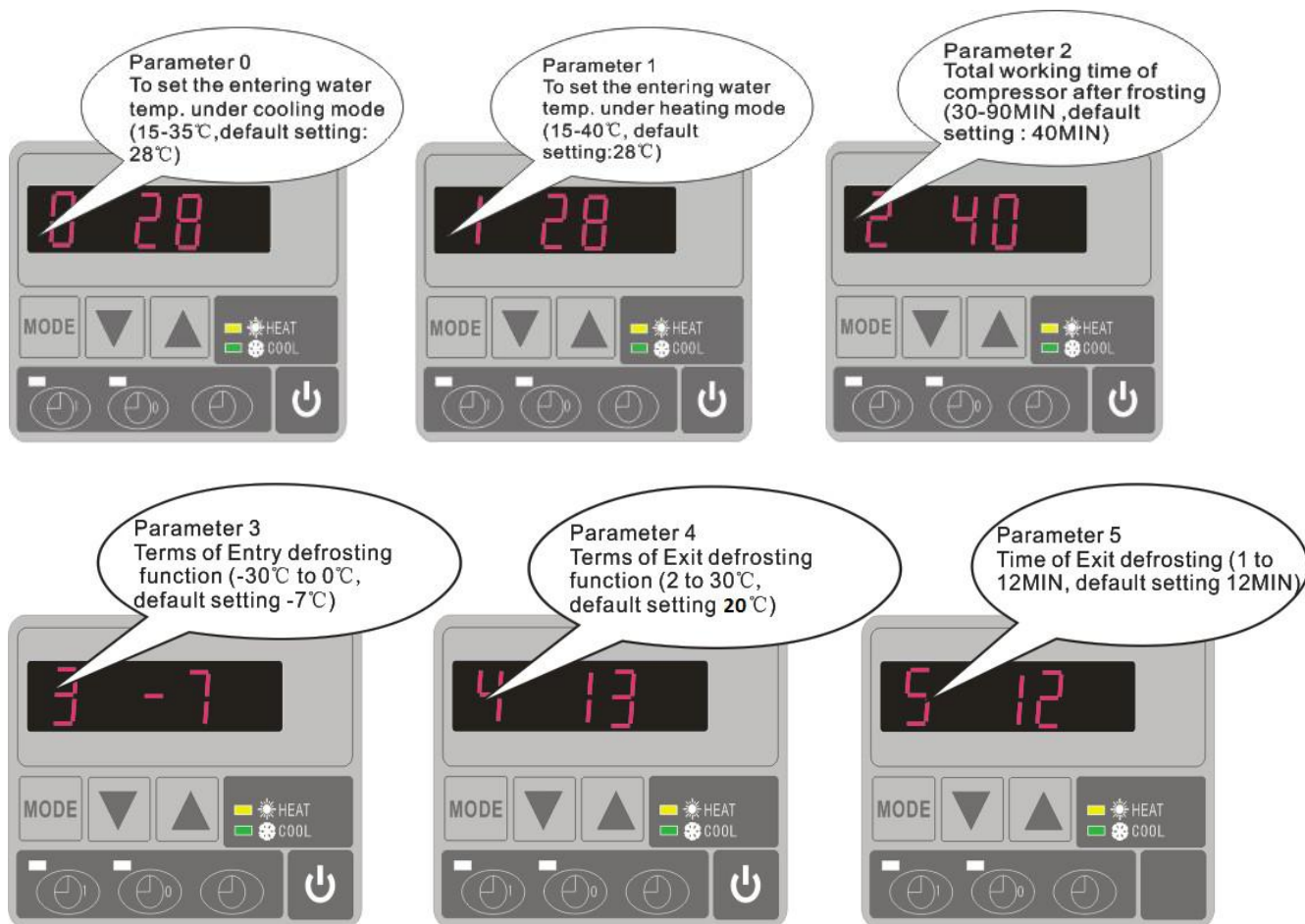
On standby or running mode, long press “” for 10 seconds, then press  or  to check the parameters (from 0 to H, see operation parameter table).

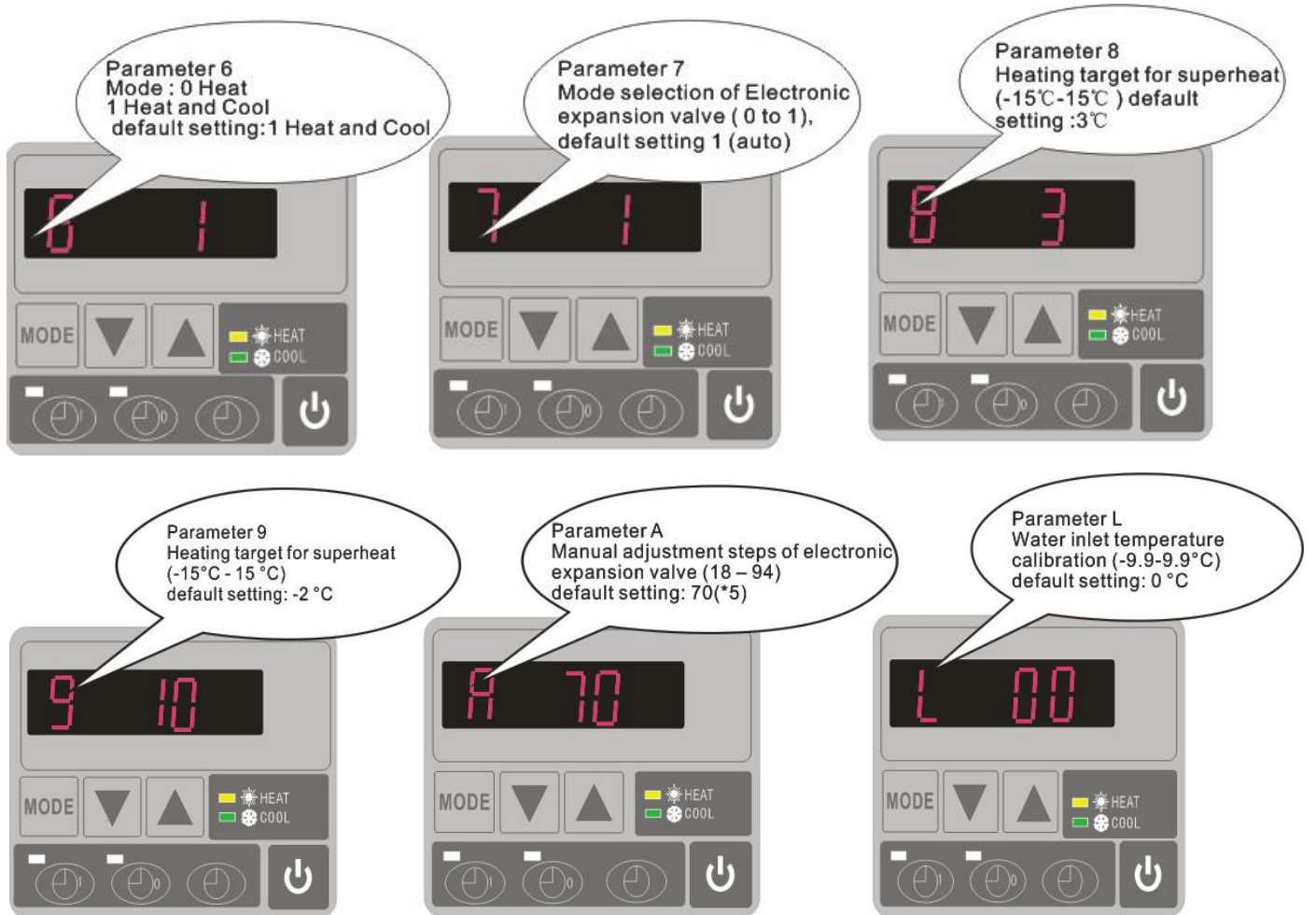
7.2 How to adjust the parameters (Can only adjust these when the unit is in "Standby Mode")

1) Long press “” for 10 seconds, press “” again to select the data (from 0 to L, see operation parameter table) you want to adjust.

2) Then press  or  to adjust the parameter, press “” again to store the new data.

3) Then press  or  select the other data's you want to adjust, repeat above operation.

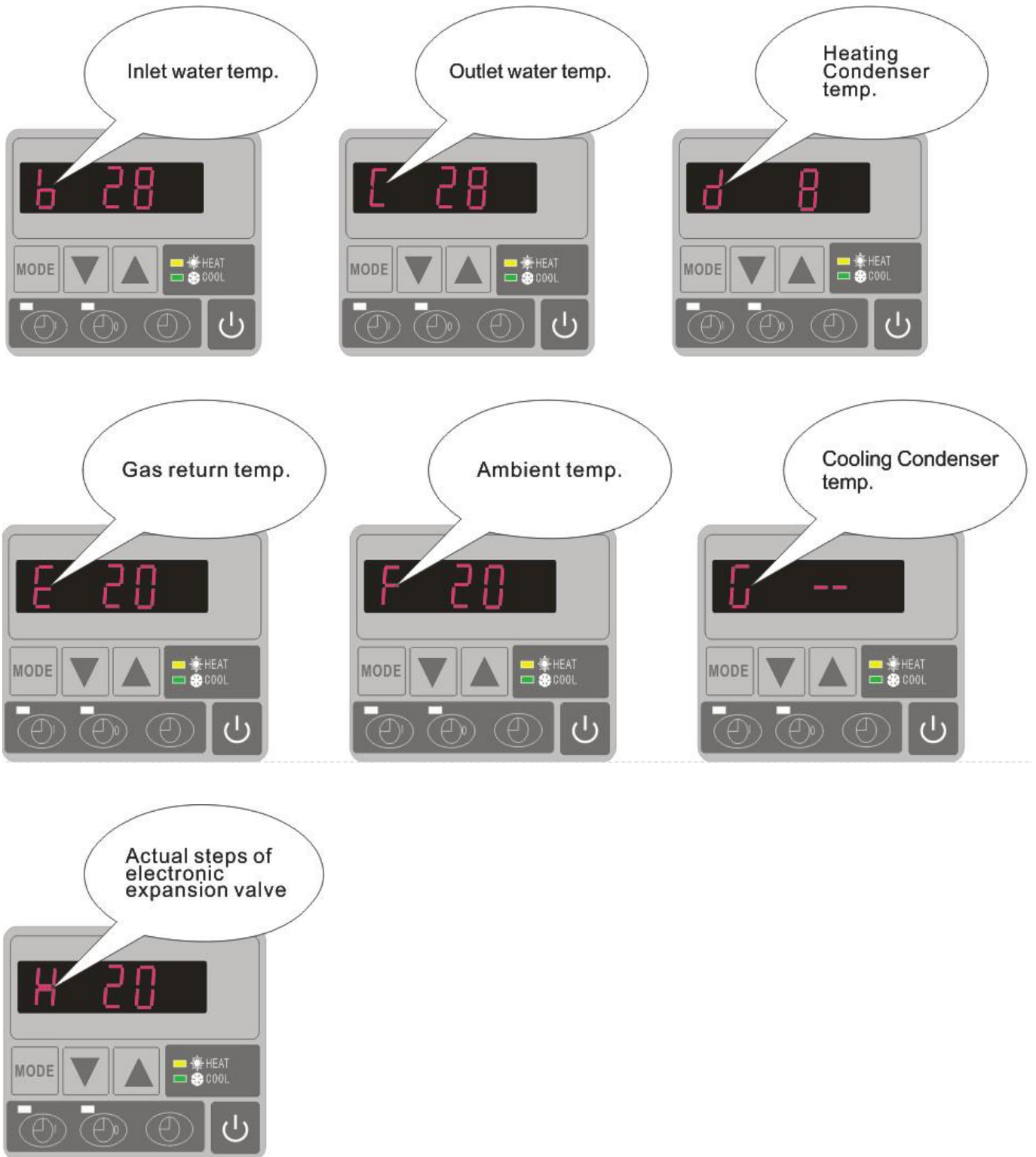




Please kindly noted:

- A) Press "MODE" to choose mode (Mode can only be changed for "1" or "2" setting of parameter 6)
- B) Mode can be changed whilst running
- C) Auxiliary electrical heating is not applicable to these modes.

7.3 How to know the current status



Parameter	Meaning	Range	Default	Remarks
0	To set the entering water temp. under cooling mode	6-35°C	28°C	Adjustable
1	To set the entering water temp. under heating mode	6-41°C	28°C	Adjustable
2	Entry into defrosting time period	30-90MIN	40MIN	Adjustable
3	Terms of Entry defrosting function	-30°Cto0°C	-7°C	Adjustable
4	Terms of Exit defrosting	2 to 30°C	20°C	Adjustable
5	Time of Exit defrosting	1 to 12MIN	12MIN	Adjustable
6	Mode: 0 Heat 1 Heat and Cool	0-1	1(Heat and Cool)	Adjustable
7	Mode selection of Electronic expansion valve	0-1	1(auto)	Adjustable
8	Superheat for heating target	-15°C-15°C	3°C	Adjustable
9	Superheat for cooling target	-15°C-15°C	-2 °C	Adjustable
A	Manual adjustment steps of electronic expansion valve	18-94	70	Adjustable
B	Inlet water temperature	-9-99°C		Exact testing by value
C	Outlet water temperature	-9-99°C		Exact testing by value
D	Condenser temperature under heating mode	-9-99°C		Exact testing by value
E	Gas return temperature	-9-99°C		Exact testing by value
F	Ambient temperature	-9-99°C		Exact testing by value
G	Condenser temperature under Cooling mode	-9-99°C		Exact testing by value
H	Actual steps of electronic expansion valve	N*5		Exact testing by value
L	Entering water temperature calibration	-9.9-9.9°C	0°C	Adjustable

Remarks:

- (1) When HP stops running, in 30 seconds the water pump will shut off automatically.
- (2) LED wire controller can operate the water pump after connected additional cable to the pump device in the position of "PUMP" terminal accurately.
- (3) It is necessary to put an extra 3-phase transfer device for 3 phase water pump.

8. Troubleshooting

8.1 Error code display on controller

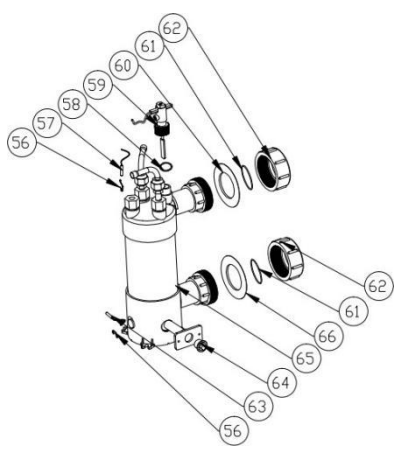
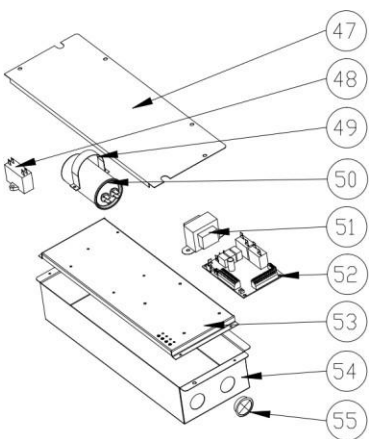
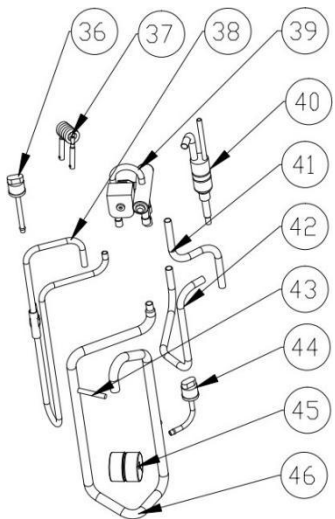
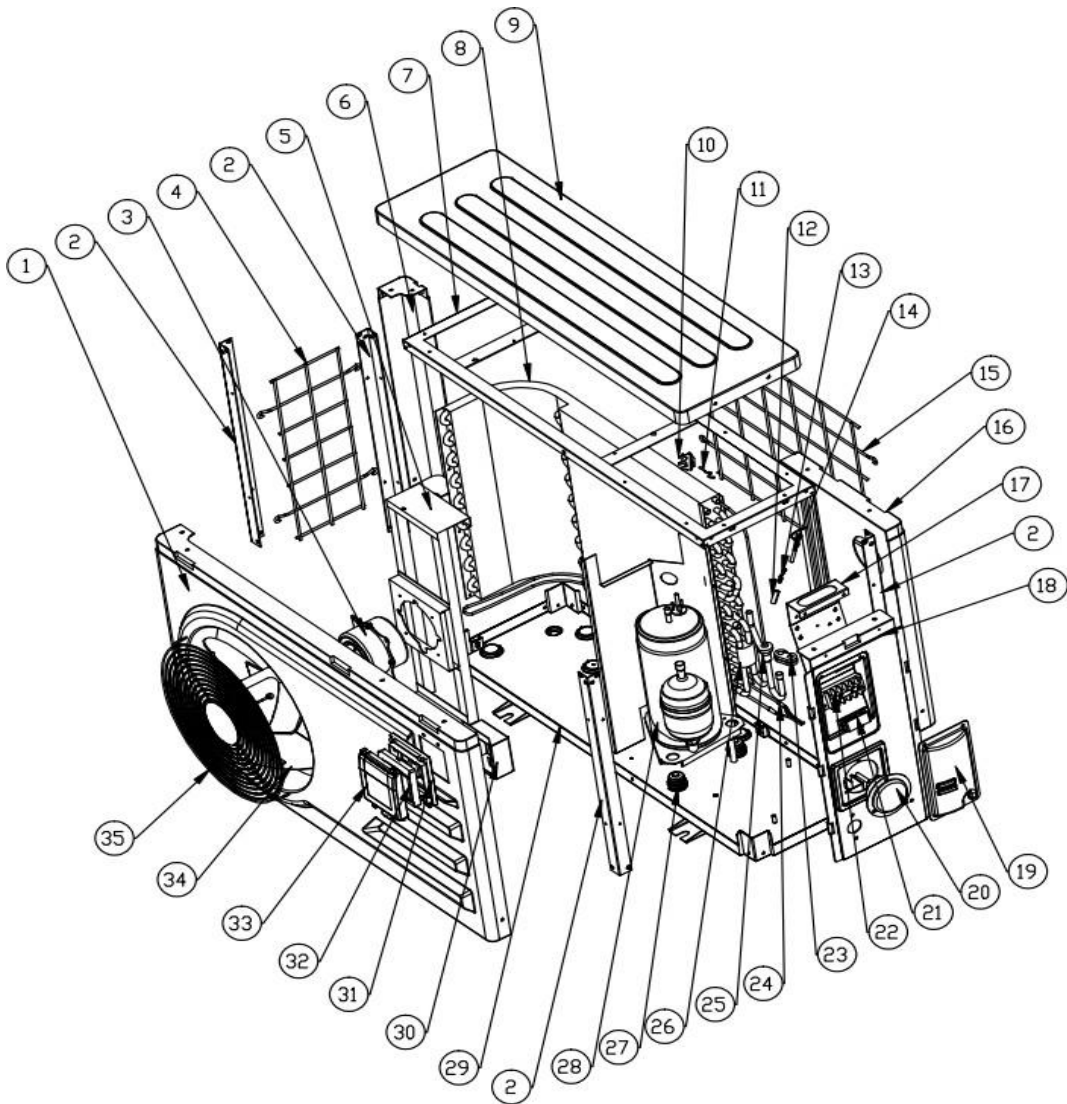
Malfunction	Error code	Reason	Solution
Inlet water temperature sensor failure	PP1	The sensor in open or short circuit	Check or change the sensor
Outlet water temperature sensor failure	PP2	The sensor in open or short circuit	Check or change the sensor
Heating condenser sensor failure	PP3	The sensor in open or short circuit	Check or change the sensor
Gas return sensor failure	PP4	The sensor in open or short circuit	Check or change the sensor
Ambient temperature sensor failure	PP5	The sensor in open or short circuit	Check or change the sensor
Temperature difference between water inlet and outlet is too much	PP6	Water flow volume not enough, water pressure difference is too low.	Check the water flow volume, backwash filter & check baskets etc for debris
Cooling outlet water temperature is too low	PP7	Water flow volume is not enough	Check the water flow, backwash filter & check baskets
First grade antifreeze protection in Winter	PP7	Ambient temperature or water inlet temperature is too low	Water pump will run automatically for first grade antifreeze
Second grade antifreeze protection in Winter	PP7	Ambient temperature or water inlet temperature is too low	Heat pump will start heating for second grade antifreeze
Cooling condenser sensor failure	PP8	The sensor in open or short circuit	Check or change the sensor
High pressure protection	EE1	1. Refrigerant is too high 2. Air flow is not enough	1. Discharge redundant refrigerant from HP gas system 2. Clean the air exchanger
Low pressure protection	EE2	1. Refrigerant is low 2. Water flow is not enough 3. Filter jammed or pump jammed	1. Check if there is any gas leakage ,re-fill the refrigerant 2. Clean the air exchanger 3. Check filter & pump
Flow switch closed	EE3 or 'ON'	Low water flow, wrong flow direction, or flow switch failure.	Check if the water flow is enough and flow in right direction, or check flow switch itself.
Power supply connections wrong (for 3 phase unit)	EE4	Wrong connection	Check the connection of power cable
Inlet and outlet water temperature difference malfunction	EE5	Water flow volume is not enough, water pressure difference is too low	Check the water flow rate, backwash filter & check baskets etc for debris
Communication failure	EE8	Wire connection is not good	Check the wire connection

8.2 Other Malfunctions and Solutions (no display on LED controller)

Malfunctions	Observing	Reasons	Solution
Heat pump is not running/ compressor is on but fan is off	LED controller shows no display.	No power supply	Check cable and circuit breaker if it is connected
	LED wire controller displays the actual time.	Heat pump under standby status	Startup heat pump to run.
	LED wire controller displays the actual water temperature.	<ol style="list-style-type: none"> 1. Water temperature is reaching to setting value, HP under constant temperature status. 2. Heat pump just starts to run. 3. Under defrosting. 	<ol style="list-style-type: none"> 1. Verify water temperature setting. 2. Startup heat pump after a few minutes. 3. LED wire controller should display "Defrosting".
Water temperature is cooling when HP runs under heating mode	LED wire controller displays actual water temperature and no error code displays.	<ol style="list-style-type: none"> 1. Chosen the wrong mode. 2. Figures show defects. 3. Controller defect. 	<ol style="list-style-type: none"> 1. Adjust the mode to proper running mode. 2. Replace the defect LED controller, and then check the status after changing the running mode, verifying the water inlet and outlet temperature. 3. Replace or repair the heat pump unit
Short running	LED displays actual water temperature, no error code displays.	<ol style="list-style-type: none"> 1. Fan NOT running. 2. Air ventilation is not enough. 3. Refrigerant is not enough. 	<ol style="list-style-type: none"> 1. Check the cable connections between the motor and fan, if necessary, it should be replaced. 2. Check the location of heat pump unit, and eliminate all obstacles to make good air ventilation. 3 Replace or repair the heat pump unit.
water stains	Water stains on heat pump unit.	<ol style="list-style-type: none"> 1. Concreting. 2. Water leakage. 	<ol style="list-style-type: none"> 1. No action. 2. Check the Titanium heat exchanger carefully for any leaks.
Too much ice on evaporator	Too much ice on evaporator.		<ol style="list-style-type: none"> 1. Check the location of heat pump unit, and eliminate all obstacles to make good air ventilation. 2. Replace or repair the heat pump unit.

9.Exploded Diagram

Model: CHP055_Trad_C



Spare part list

No.	Part name	No.	Part name
1	Front panel	34	Fan blade
2	Pillar	35	Ventilation grid
3	Fan motor	36	High pressure switch
4	Left grid	37	Capillary
5	Fan motor bracket	38	Discharge pipe
6	Pillar	39	Four-way valve
7	Top frame	40	Exchanger to capillary
8	Evaporator	41	Exchanger to capillary
9	Top cover	42	Exchanger to 4-way valve
10	Ambient temp. sensor clip	43	Pipe
11	Ambient temp. sensor	44	Low pressure switch
12	Sensor holder	45	Anti-vibration rubber hammer
13	Clip	46	Gas return piping
14	Evaporator temperature sensor	47	Electric box cover
15	Back grid	48	Fan capacitor
16	Back panel	49	Capacitor clip
17	Terminal block	50	Compressor capacitor
18	Right panel	51	Transformer
19	Wiring cover	52	PCB
20	High pressure gauge	53	Liner
21	Clip	54	Electric box
22	5- ways terminal block	55	Wire ring
23	Rubber fixing block	56	Exchanger temperature sensor clip
24	Evaporator heating belt	57	Water outlet temp. sensor
25	Distribution pipe	58	Sealing ring
26	Manifold assembly	59	Water flow switch
27	Compressor feet	60	Red rubber ring
28	Compressor	61	Exchanger seal ring
29	Base tray	62	Nut of water connection
30	Waterproof controller box	63	Water inlet temp. sensor
31	Waterproof box seat	64	Drainage outlet
32	Controller	65	Titanium heat exchanger
33	Controller box cover	66	Blue rubber ring

10. Maintenance

- (1) You should check the water supply system regularly to avoid any air entering the system and occurrence of low water flow, because it would reduce the performance and reliability of HP unit.
- (2) Clean your pools and filtration system regularly to avoid damage of the unit as a result of a clogged/dirty filter causing reduction in water flow.
- (3) Pond users, depending on your system, may find debris/algae build up in/on your Titanium Exchanger causing LOW flow problems or High pressure interrupter actuating due to the buildup hindering proper heat dispersion from the heat exchanger. This is normal and requires cleaning and maintaining the cleanliness but care should be taken with the flow switch when this maintenance is being completed.
- (4) You should discharge the water from the bottom of the water pump if the HP unit is intended to be shut down for a long period (during the winter season).
- (5) Upon start up, after a long period of having the HP switched off, you should check the unit is full of water and purged of air before the unit is switched on again.
- (6) When the unit is running, there will always be a little water discharge under the unit which is due to the process of taking heat out of the surrounding air – THIS IS NORMAL.

11. WIFI function- ‘Alsavo Pro’ APP operation

11.1 Heat-Pump with WIFI function

Thank you for choosing the WIFI application to control your heat pump via your smart phone. The information control is synchronized with "Alsavo Pro" APP and works through a connection (WIFI or 3G / 4G). During the **FIRST** connection, your smart phone and the Wi-Fi controller must be on the same WIFI network. Subsequently, your smart phone you can then control your heat pump on 3G / 4G.

With "Alsavo Pro" APP, you can turn your heat pump on/off, adjust the water temperature, change the operating mode, adjust the clock and operating parameters in cases of malfunction you will be alerted.

Several heat pumps can be connected to the APP and several smart phones can control the same heat pump.

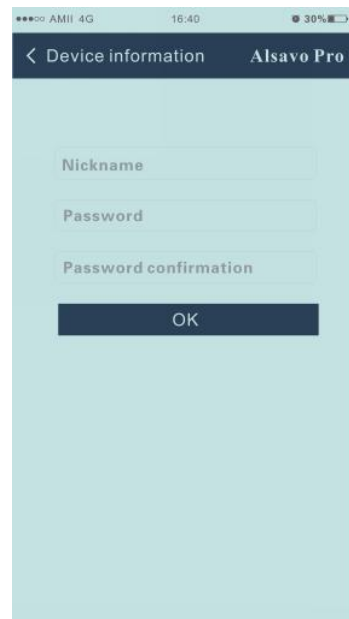
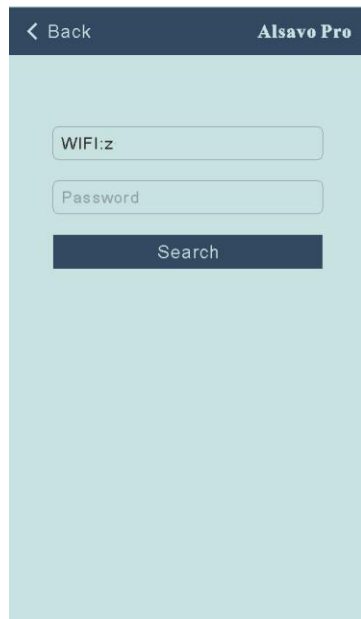
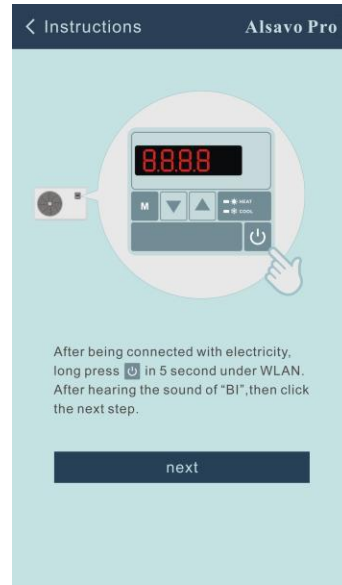
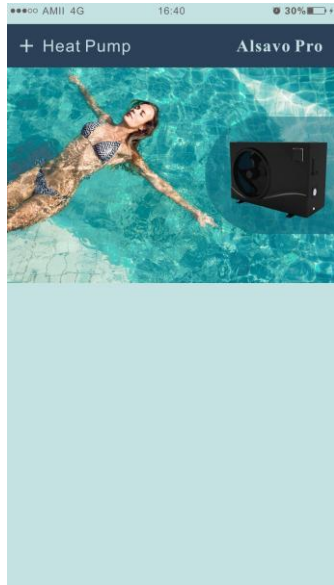
11.2. “Alsavo Pro” APP Operation

2.1 Firstly download the "Alsavo Pro" APP from App store or Google play on your smart phone.

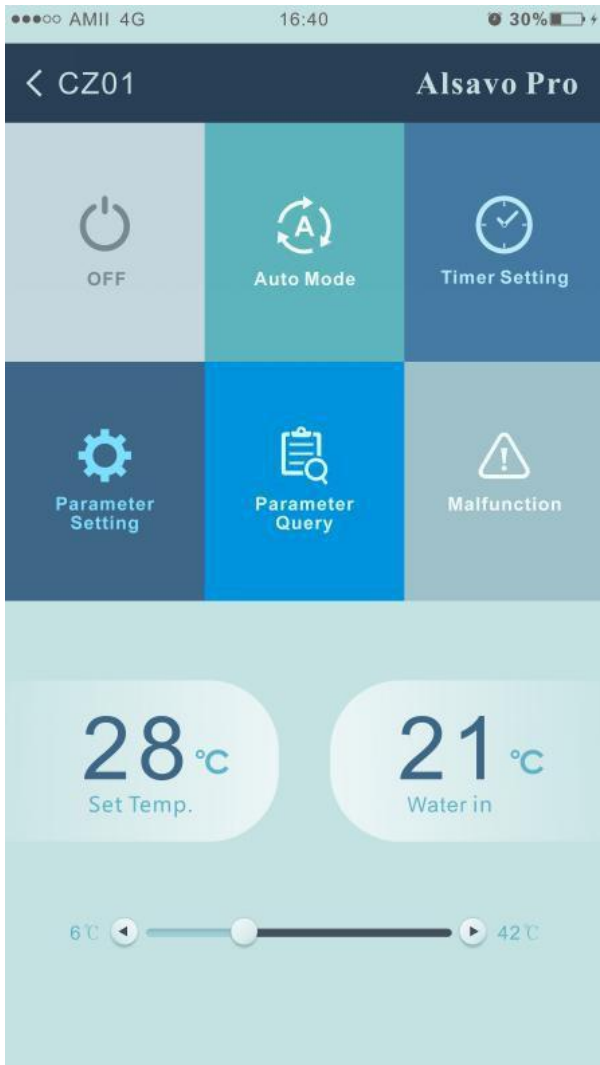
2.2 Open the "Alsavo Pro" APP, then Click "+" on the upper left and select the "New device". Then Click "Next" and Enter the current Wi-Fi password to connect. Then press "⏻" 5S on the display no matter it's ON or OFF. Or you can press "⏻" 5S on the display firstly, then enter the current WiFi password. The display will show F1 1,F1 2,until F1 6,which means the connect is OK. If the connection fails, the APP will indicate "Failed to connect device".

"Nickname and password" interface only appear one time when new heat pump first successful connection. You can name and encrypt this unit. (If unsteady Wi-Fi network, this interface may be missing. You will miss a chance to name and encrypt it. In this case, default password "123456" is available).


If someone's app is on the same Wi-Fi network as yours, his APP could automatically identify your heat pump. He can operate your heat pump after inputting your password.



2.3 The main interface



1) Turn ON/OFF



Click the  to turn on or off the heat pump.


2) Switch the mode

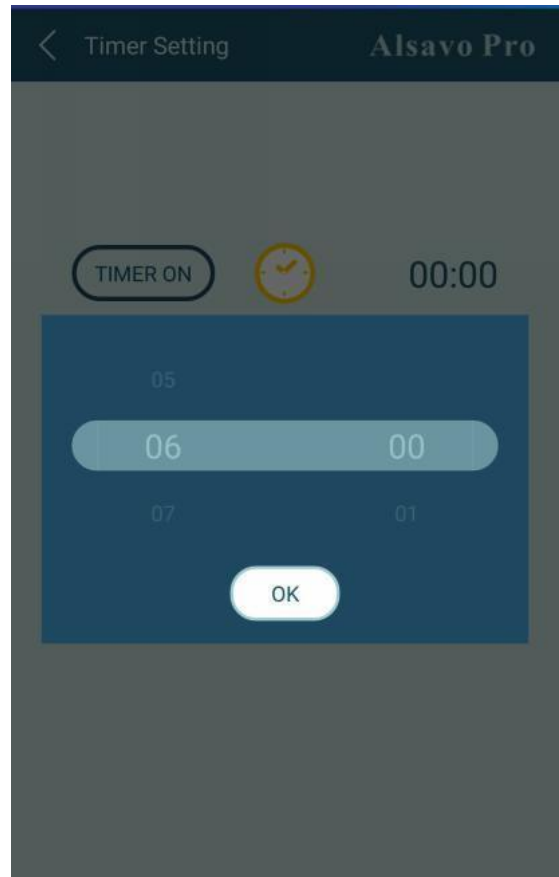
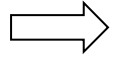
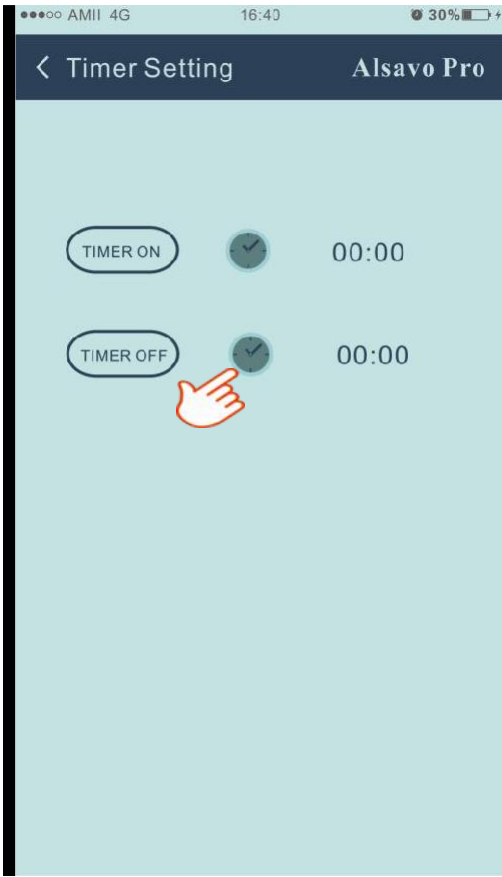
There are three modes (Auto mode, heating or cooling) for the ON/OFF unit. Click its icons to switch (Auto

mode , heating , cooling )

3) Timer Setting

Click  at first time, it turns . Timer on and off will be activated together. Then choose desired time on "timer on" and "timer off", lastly click "OK" to confirm.

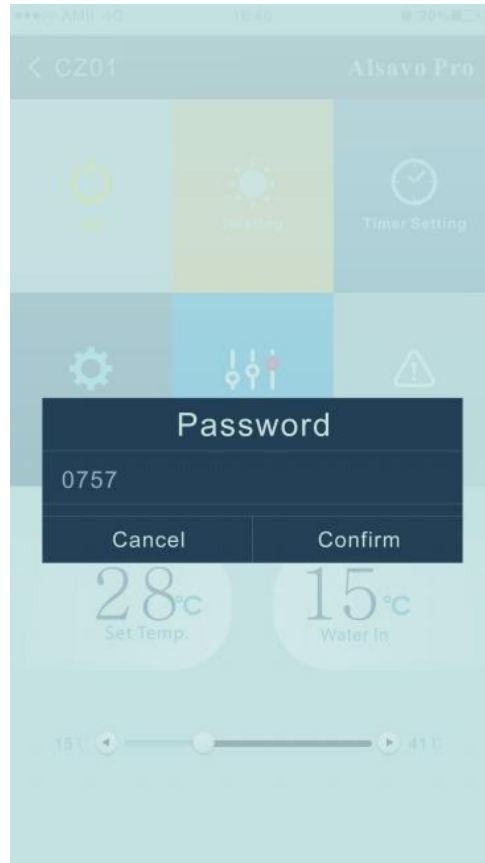
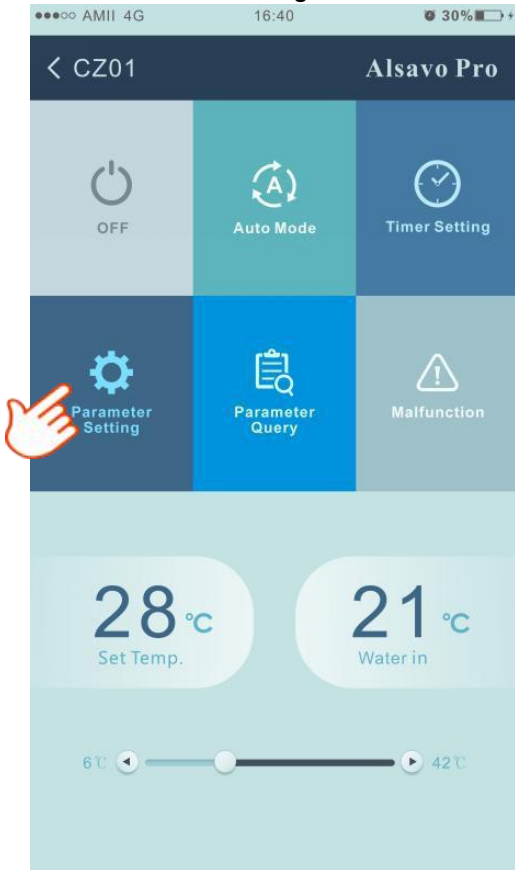
Click  again, timer on and off will be disable.



4) Parameter setting



Click Parameter Setting , then enter the Password "0757".



Parameter setting:

Name	Range	Setting
Entry into defrosting time period	30~90Min	Adjustable
Terms of enter defrosting function	0~-30°C	Adjustable
Terms of exit defrosting	2~30°C	Adjustable
Time of exit defrosting	1~12Min	Adjustable
Inlet water temp. calibration	-9.9~9.9 °C	Adjustable
Temperature unit		°C or °F

Parameter Setting		Alsavo Pro	
	Range	Setting value	
Entry into defrosting time period	30-90Minute	40Minute	>
Terms of Entry defrosting function	-30-0°C	-7°C	>
Terms of Exit defrosting	2-30°C	20°C	>
Time of Exit defrosting	1-12Minute	12Minute	>
Inlet water temperature calibration	-9.0-9.0°C	0.0°C	>
Temperature Unit		°C	>
Re-set to factory default setting			>

When doing the re-set to factory default setting, pop-up tips whether you want to reset it.



5) Parameter setting



Click Parameter query

Parameter Query		Alsavo Pro
Water In	24°C	
Water Out	42°C	
Heating pipe temperature	24°C	
Gas return temperature	0°C	
Ambient temperature	0°C	
Exhaust temperature	0°C	
Water temperature setting under cooling mode	7°C	
Water temperature setting under Heating mode	41°C	
Entry into defrosting time period	40Minute	
Terms of Entry defrosting function	-7°C	
Terms of Exit defrosting	20°C	
Time of Exit defrosting	12Minute	
Mode selection of Electronic expansion valve	0	
Superheat for heating target	3°C	
Superheat for cooling target	-2°C	
Manual adjustment steps of electronic expansion valve	90	
Actual steps of electronic expansion valve	90	
Inlet water temperature calibration	0.0°C	

6) Malfunction



If an error occurs, the Malfunction icon

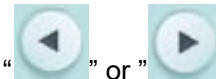
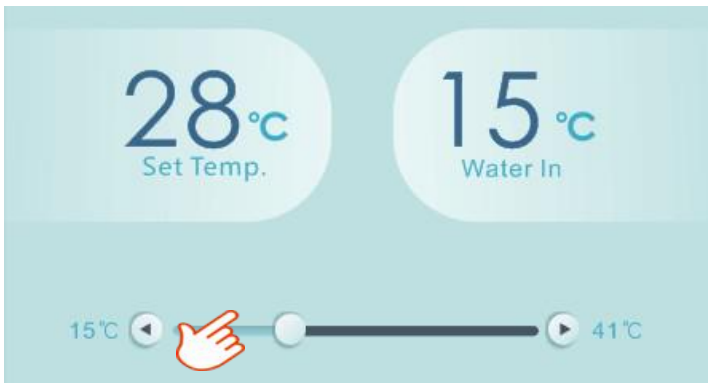
turns red





. Click it to check the Error.

Error code	Malfunction
PP1	Inlet water temperature sensor failure
PP2	Outlet water temperature sensor failure
PP3	Heating piping sensor failure
PP4	Gas return sensor failure
PP5	Ambient temperature sensor failure
PP6	Temperature difference between water in and water out malfunction
PP7	Cooling water too cold ; Antifreeze protection in Winter
PP8	Exhaust temperature sensor failure
EE1	High pressure failure
EE2	Low pressure failure
EE3/ON	No water flux or Water flow switch failure
EE4	The input power failure
EE5	Exhaust temperature (T6) too high protection
EE8	Communication failure between the controller and the main board

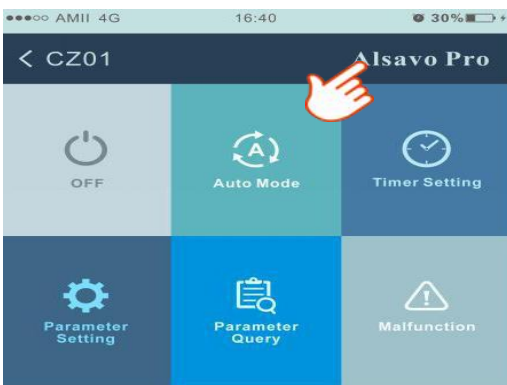
7) Set the desired temperature



You can set the target water temperature by adjusting the slider or press “” or “”. The setting water temperature on the controller display, correspondingly changes after letting go. When the setting water temperature on the display changes, it will be synchronised and updated to the APP.


8) Check device information.

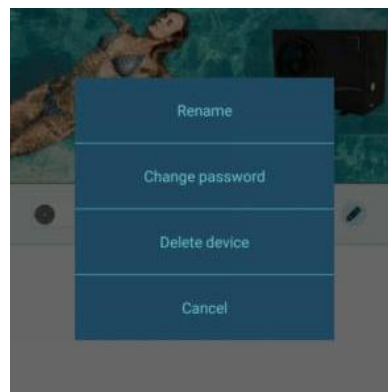
In the main interface, click the upper right “Alsavo Pro”. The Device info will show up.



Device information		Alsavo Pro
Serial number	8245 0000 0006	
Firmware Version	2.0.1(svn39)	
Upgrade package	2.0.1	
WLAN SSID	OFFICE	
Version	V1.0.59463(59164)	

9) Revise the heat pump info in the homepage

Click “”, you could rename, change its password and delete the device.



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