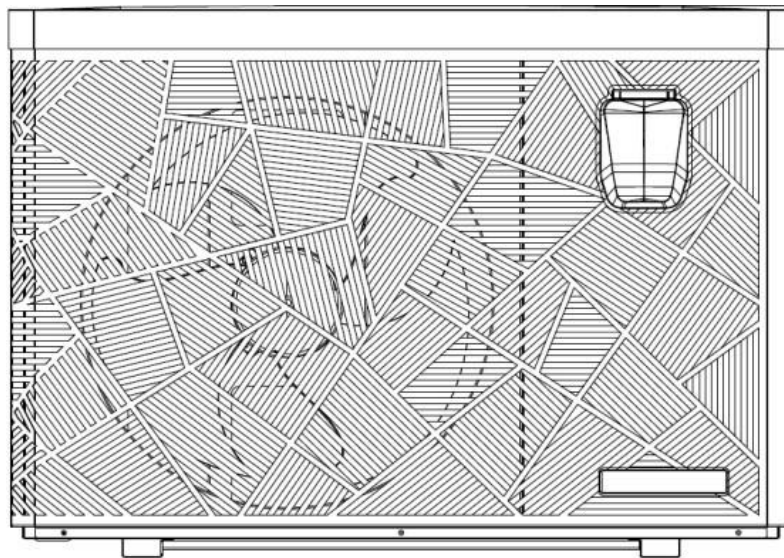


SWIMMING POOL HEAT PUMP USER MANUAL.

CRYSTAL PX "FULL" INVERTER (CHP-PX) HEAT PUMP MODELS.



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

***Please note*:**

This is for information purposes only as all our PX models are 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 greenhouse 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 to 75 kg load = from 5 at 50 Tons	Each year

Do not 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, undertakes to carry out the activities for operators and shall keep records for at least five years.**

Thank you for choosing our CHP-PX 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 -20°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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1. Specification
2. Dimension
3. Stock advice
4. Installation
5. Adjust the by-pass kit
6. Initial operation
7. Controller Operation
8. Electrical Wiring
9. Malfunction and Trouble shooting
10. Exploded view
11. Maintenance
12. WIFI function



ATTENTION: This manual includes all the necessary information for the use and 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.

Any use that does not conform to its manufacturing purpose will be regarded as dangerous and will VOID any Warranties.

WARNING :

- Please always keep heat pump in well ventilated place and away from anything which could cause fire.
- Do not braze or weld the pipe if there is refrigerant inside machine. Please do not charge the gas when in a confined space.
- Please always empty the water in the heat pump during winter time if not in use or when the ambient temperature drops below 3°C , the Titanium Exchanger will be damaged by being frozen, in such cases, your warranty will be VOID.
- Please always turn off & isolate the power supply if you want to open the cabinet to reach inside the heat pump.
- Please keep the display controller in a dry area to protect the display controller from being damaged by humidity, such damage will VOID the Warranty for the display.
- The action of filling gas must be conducted by a professional with an R32 operating license.

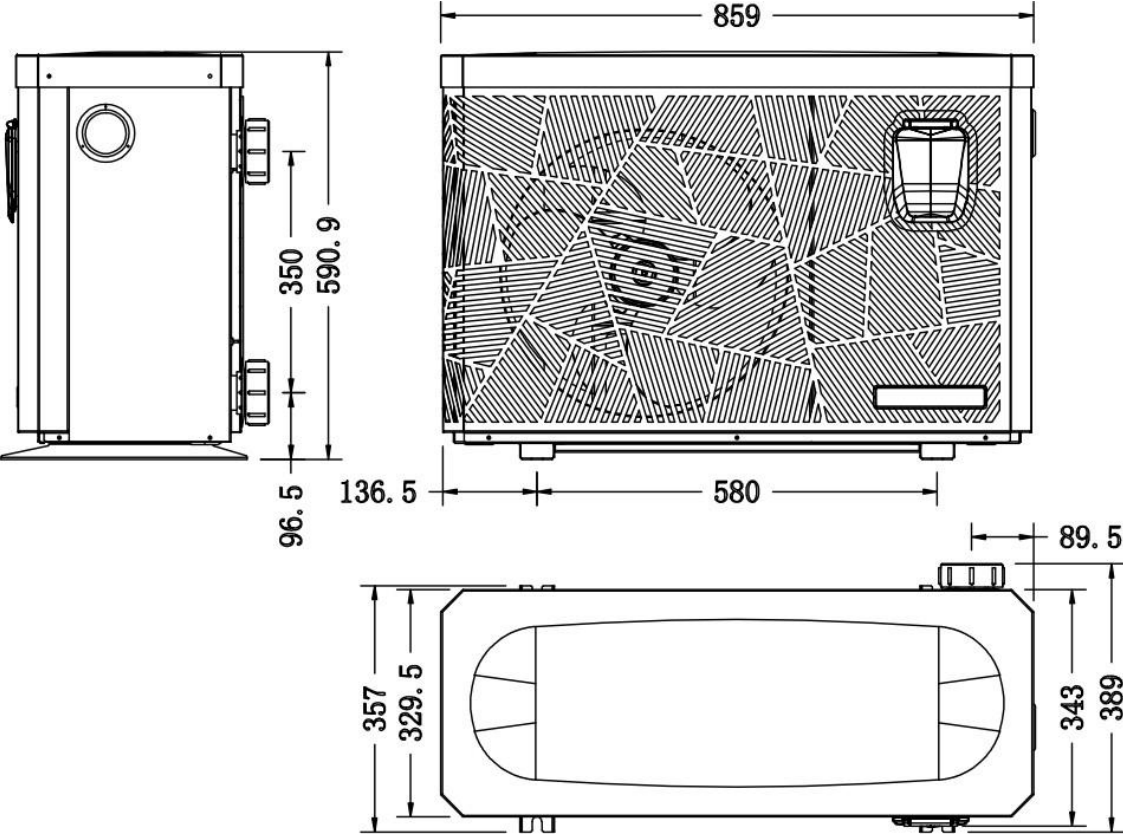
1. Specification

Model		CHP075PX	CHP095PX	CHP115PX	CHP135PX	CHP165PX	CHP205PX	CHP255PX	CHP305PX
* Performance at Air 28°C, Water 28°C, Humidity 80%									
Heating capacity	kW	7.5-2.3	9.5-2.4	11.5-2.9	13.5-3.2	17.1-3.7	20-4.6	25.5-5.9	30-6.7
Power consumption	kW	1.19-0.15	1.51-0.15	1.83-0.18	2.14-0.2	2.76-0.23	3.28-0.29	4.18-0.37	4.91-0.42
C.O.P.		16-6.3	16-6.3	16-6.3	16-6.3	16-6.2	16-6.1	16-6.1	16-6.1
* Performance at Air 15°C, Water 26°C, Humidity 70%									
Heating capacity	kW	5-2.1	6.8-2.2	8.2-2.3	10.1-2.4	12-3.2	15-3.9	19-4.8	23.5-5.5
Power consumption	kW	1.11-0.26	1.45-0.28	1.74-0.29	2.15-0.3	2.55-0.4	3.19-0.49	4.04-0.6	5.0-0.69
C.O.P.		8-4.5	8-4.7	8-4.7	8-4.7	8-4.7	8-4.7	8-4.7	8-4.7
Voltage	V	220V-240V/50Hz or 60Hz/1PH							
Rated current	A	5.0	6.7	8.2	9.5	11.5	14.9	18.6	22.3
Min. MCB fuse	A	16	16	16	25	25	30	30	40
Main cable	mm ²	1.5	2.5	2.5	2.5	4	4	4	6
Advised pool volume (with pool cover)	m ³	11-26	12-34	14-62	16-65	24-86	54-118	63-132	70-182
Advised waterflux	m ³ /h	2.6	2.9	3.8	4.2	4.7	5.2	8.2	10.3
Water pressure drop	Kpa	12	12	14	15	15	18	18	18
Water connection	mm	48.3/50							
No. of Fan		1							2
Noise level(10m)	dB(A)	≤ 25	≤ 25	≤ 27	≤ 28	≤ 30	≤ 32	≤ 32	≤ 33
Noise level(1m)	dB(A)	32-45	32-46	33-46	34-48	34-48	35-50	35-50	36-52
* Dimension/ Weight									
Net weight	kg	56	68	73	78	98	117	128	130
Gross weight	kg	68	73	78	83	113	135	146	148
Net dimension	mm	855*325*565		986*352*672			1040*355*895		1040*355*1295
Packing dimension	mm	925*417*616		1051*435*717			1140*480*917		1105*470*1322

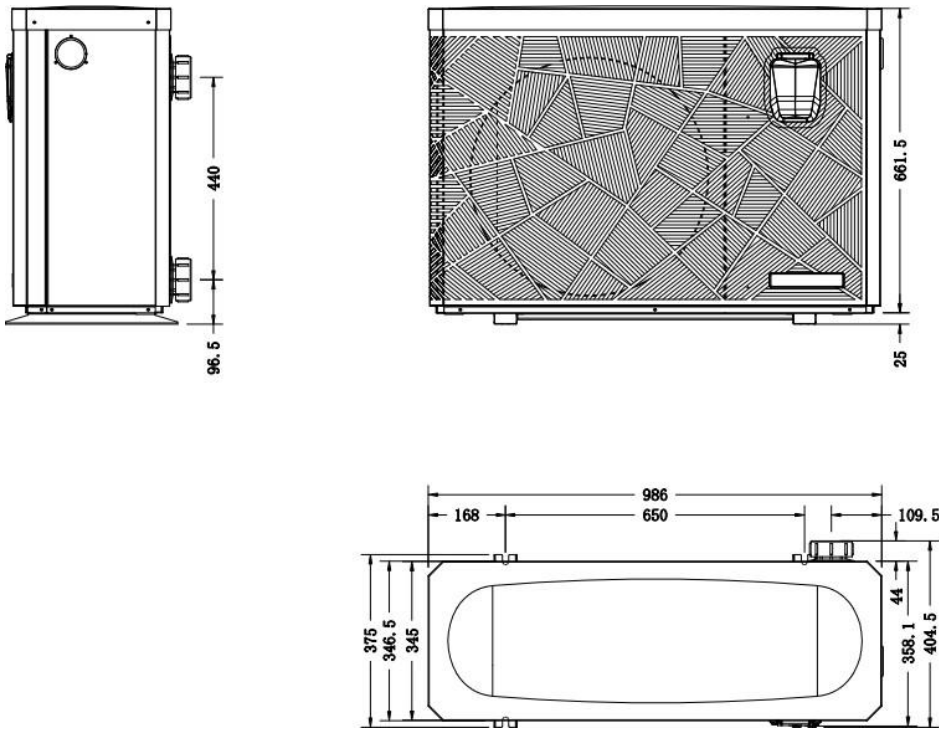
* Above data may be modified without notice.

2. Dimension (unit: mm)

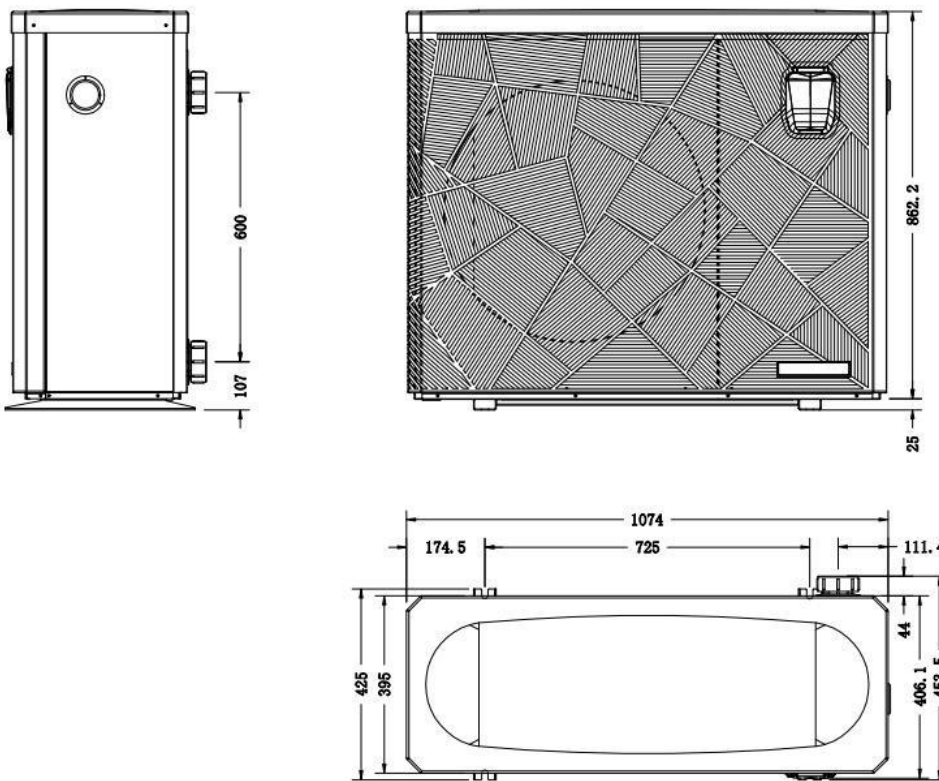
2.1 Model: CHP075PX, CHP095PX



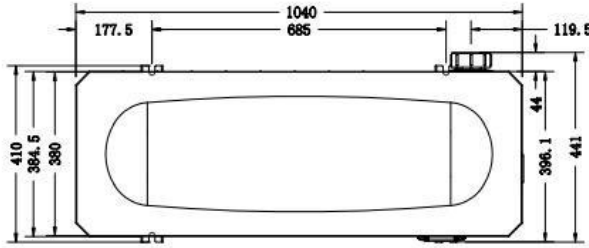
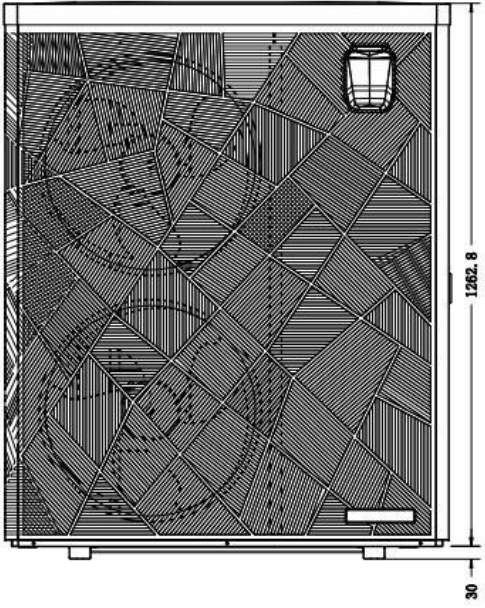
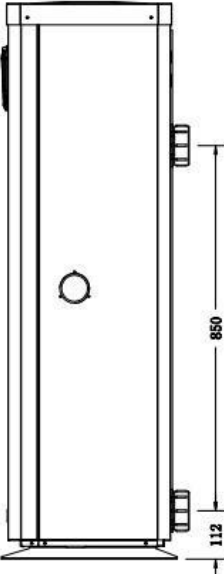
2.2 Model: CHP115PX, CHP135PX, CHP165PX.



2.3 Model: CHP205PX, CHP255PX



2.4 Model: CHP305PX.







3. Stock advice for R32 models





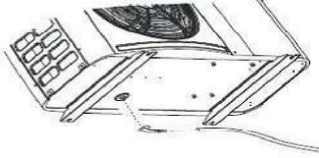
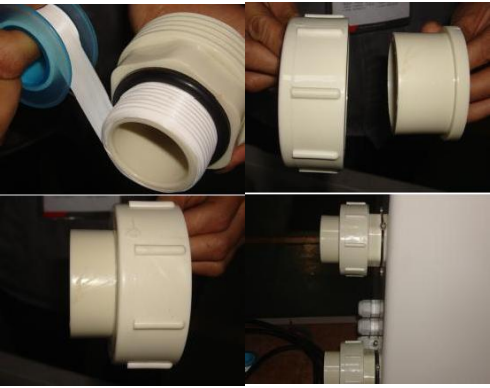

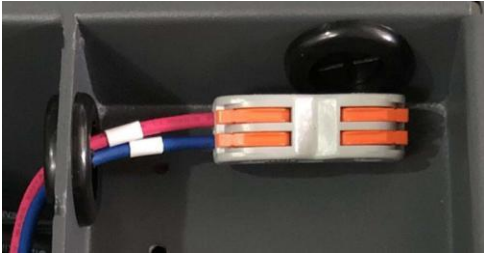
- The warehouse should be bright, spacious, open, well ventilated, have ventilation equipment and no fire source.
- ***VERY IMPORTANT*** Heat pumps must be stored and transferred in a vertical position in its original packaging. If this is not the case, the heat pump cannot be operated until a minimum period of 24hrs has passed with the unit upright, before the unit can have the electrical power turned on.
- Smoking and the use of flames are prohibited near R32 machine.
- Water connections are not to be used as load bearing handles. The manufacturer does not accept "ANY" responsibility for "ANY" damage to the water pipes.

4. Installation

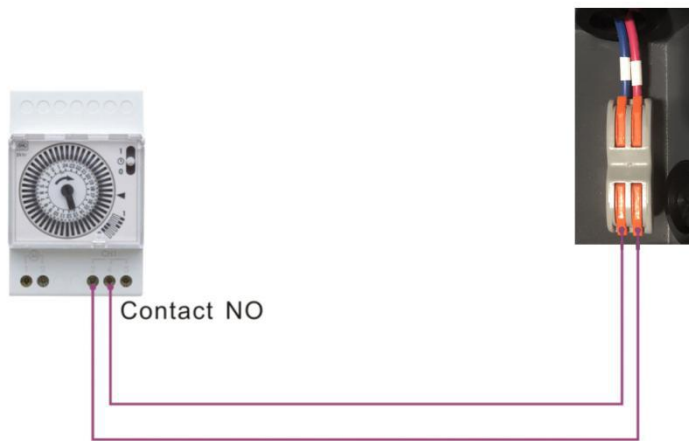
4.1 Accessories list

 <p>Anti-vibration base, 4 pcs</p>	 <p>Draining plug, 2 pcs</p>	 <p>Water drainage pipes, 2 pcs</p>
 <p>Winter Cover, 1 pc</p>	 <p>Water connection assembly, 4 sets (2 sets 48.3mm, 2 sets 50mm)</p>	

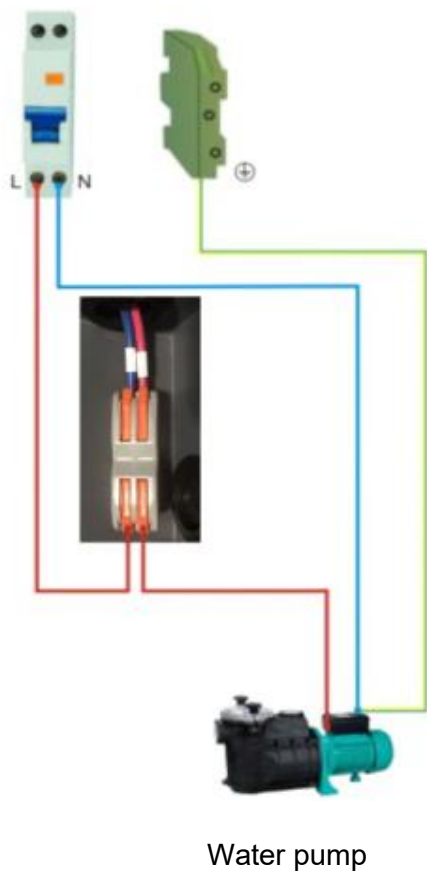
4.2 Accessories Installation

	<p>Anti-vibration bases</p> <ol style="list-style-type: none"> 1. Take out 4 Anti-vibration bases 2. Install them on the bottom of machine.
  <p>Note: Lift the heat pump to install the draining plug. Never overturn the heat pump, it could damage the compressor.</p>	<p>Draining plug (NOT winter use see further info regarding winter use)</p> <ol style="list-style-type: none"> 1. Install the draining plug under the bottom panel 2. Connect with a water pipe to drain out the water.
	<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>NOTE: Please check for any shipping moved/damaged pipe work etc. that is too close to other items that may cause vibration and rubbing as this would be classed as shipping damage and "NOT" a warranty issue.</p>	<p>Mains Cable wiring</p> <ol style="list-style-type: none"> 1. Open the top cover of the heat pump. 2. Connect the cables in the correct terminal according to electric diagram. 3. Please take note of length of cable runs and possibly upgraded cable requirement.
 <p>NOTE: Any damage caused or PCB's damaged by doing this will VOID the warranty.</p>	<p>Filtration pump wiring (Dry contact)</p> <ol style="list-style-type: none"> 1. Open the top cover of the heat pump. 2. Connect the cables in the correct terminal according to electric diagram.

Dry contact timer connection Timer



Dry contact pump connection



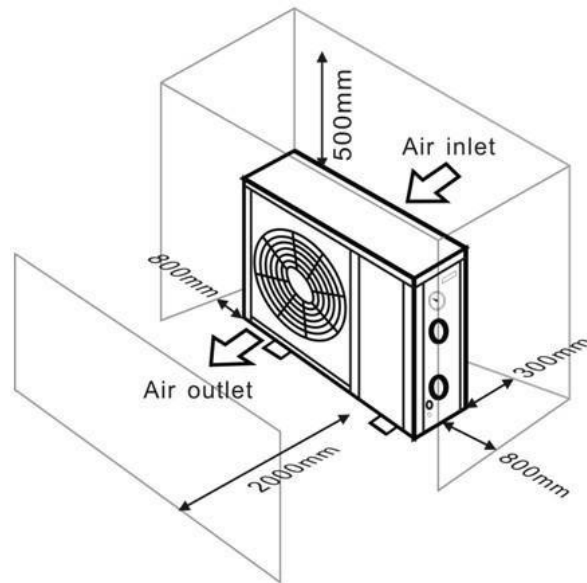
4.3 Installation of heat pump

- (1) The heat pump must be installed by professional technicians, otherwise it may be damaged or even broken.
- (2) The unit is designed for outdoor location with good ventilation. Recirculation of cold discharge air back into evaporator coil will greatly reduce heating capacity and efficiency of the unit, which will void the compressor warranty.
- (3) The unit can be installed almost anywhere in the outdoors. To get a good performance ,it needs to meet the three factors :
 - a) Good ventilation
 - b) Stable and reliable power supply
 - c) Recycled water systemThe difference from a gas water heater is, it should not bring environmental pollution or have any installation problems in-windy areas.
- (4) The unit should not be installed in a limited air ventilation area or placed in or near vegetation that will block the air inlet.

These locations would deny the unit a continuous source of fresh air. When seasons change, leaves maybe sucked onto the evaporator coil, thereby reducing its efficiency and impact on its service life.
- (5) For indoor installation, please request more instructions from your supplier and technicians.
- (6) When a bypass is installed, flow should not exceed 30% of the nominal flow rate.
- (7) Installer must make the water level higher than the circulation pump location. Unless a One-Way Check Valve is used in the plumbing circuit.
- (8) Typically, the pool heat pump unit should be installed aside a pool, less than 7.5 meters distance. 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.
- (9) To get the best from the heat exchanger of the heat pump unit, it should be matched with the nominal flow rate of water flow recommended in the specification sheet.
- (10) We consider it good practice to place a discharge pipe in the lowest pipe to prevent freezing in cold season. Put "T" fitting and ball valve to facilitate discharging the water in winter or emptying the water out of the system to prevent freezing when the HP stops operating at the ambient temperature below 3c, otherwise the unit may be damaged.
- (11) It is suggested to install the quick adapter in front of the water in-out connection, which could discharge water easily to prevent water freezing. This would be convenient for maintenance and servicing.
- (12) When the unit is running, there will be some condensation water discharged from the bottom. For Summer Spring and Autumn use, please hold the drainage nozzle (accessory) into the hole and clip well, then connect a pipe to drain the condensation water out. This tube and drain "IF" used must be checked for blockages regularly as leaves and debris will block this.

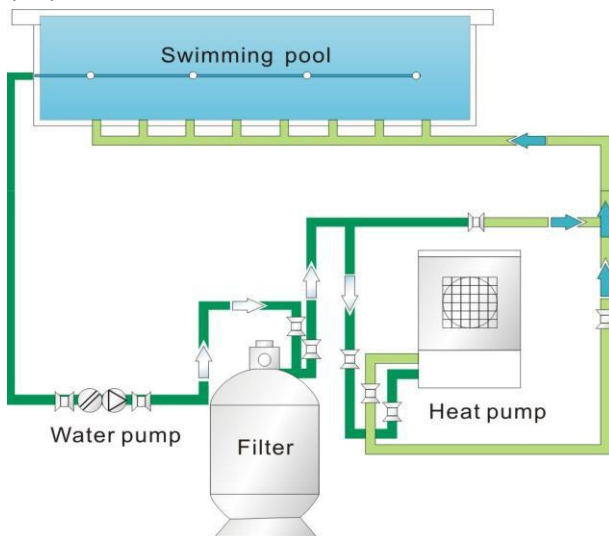
(13) The below picture shows the minimum required distances on each side of the heat pump.

Absolute Minimum Clearance dimensions



(14) If water pressure is over 10 KPA, or water flow rate is more than 11 cubic meters through heat exchanger, it is necessary to install the by-pass pipe in water system.

(15) Installation illustration



NOTE: The factory only provides the heat pump unit. The other items in the illustration are necessary spare parts for the water system which are provided by users or installers.

▲ ATTENTION:

Please follow these steps when operating for the first time :

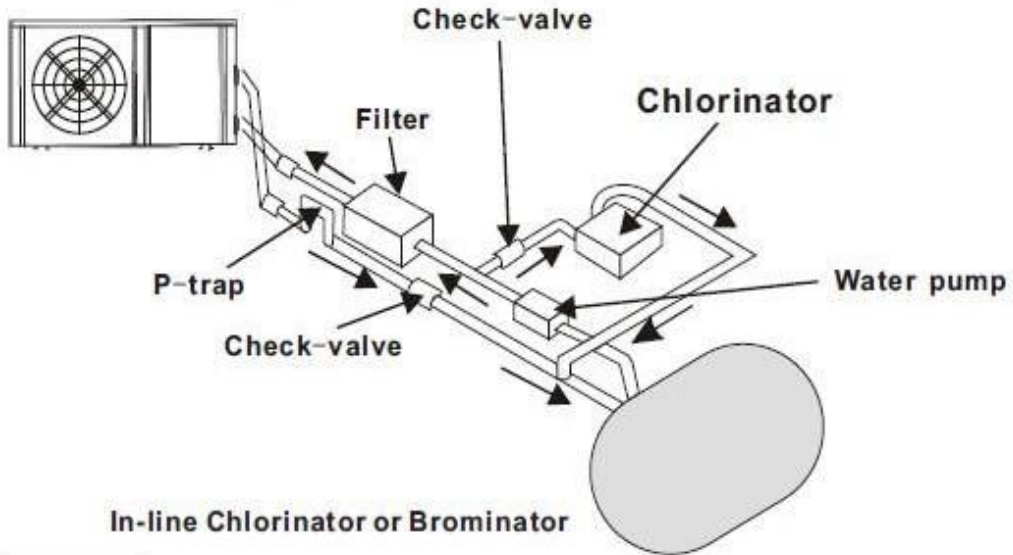
1. Open the diversion heat pump valves to charge H/P with water and close the by-pass valve (direct line)
2. Make sure that the pump and the water-in pipe have been filled with water.

Make sure there are no Air-Locks.

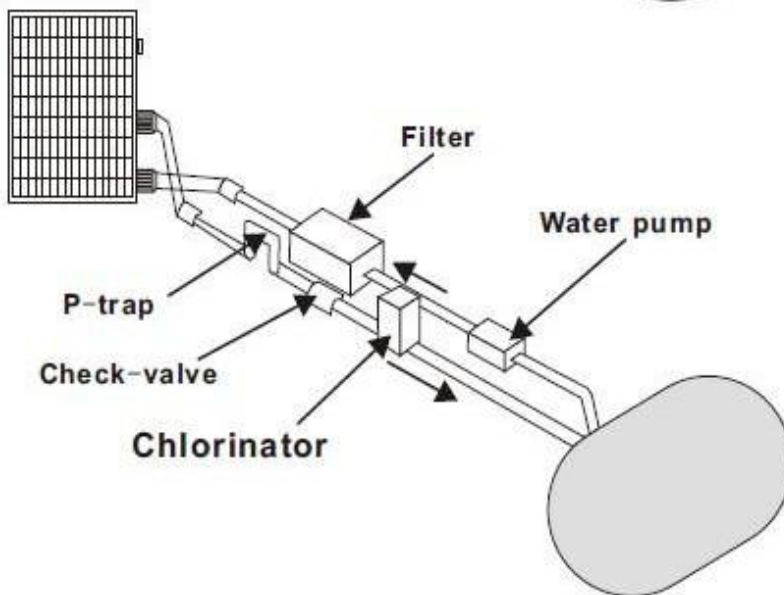
3. Start the unit

(16) The location of a chemical introducer into your system is also critical to the heater's life. If an automatic chlorinator or brominator is used, it must be located downstream of the heater. A "ONE" way check valve must be installed between the chlorinator and the heater to prevent chlorine returning into the heat pump. (See below pictures)

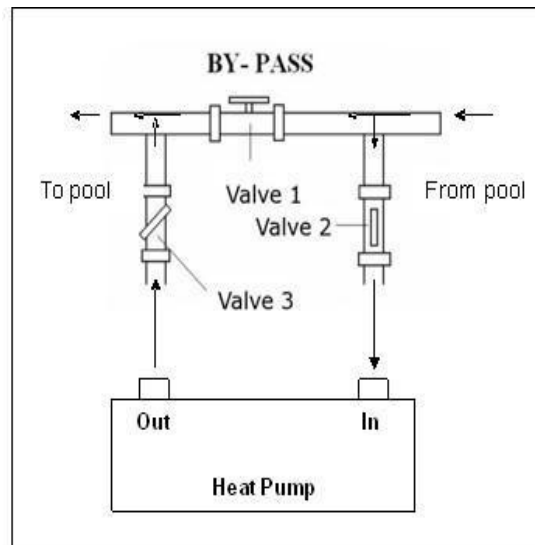
Pressure-type Chlorinator or Brominator



In-line Chlorinator or Brominator



5. Adjusting the bypass



Use the following procedure to adjust the bypass:

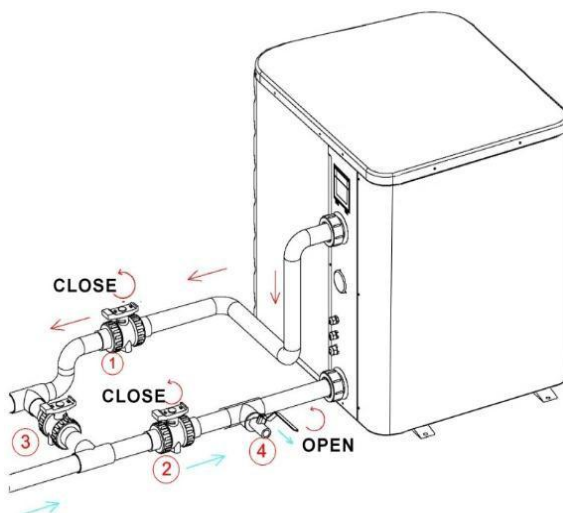
1. Valve 1 wide open. Valve 2 & valve 3 closed.
2. Slowly open valve 2 & valve 3 by half, then close the valve 1 slowly to increase the water flow to valve 2 & valve 3.
3. If it shows 'ON' or 'EE3' on the display, it means the water flow into the heat pump is not enough, then you need to adjust the valves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

How to get the optimum water flow:

Please turn on the heat pump under heating function, firstly close the by-pass then open it slowly to start the heat pump (the machine can't start running when the water flow is insufficient).

Continue to adjust the by-pass slowly, at this time check the Inlet water temp. & Outlet water temp., it will be optimum when the difference is around 2 degree.

Drain out the water in winter for the units without drainage outlet in heat exchanger



Turn off the heat pump and be sure that it is disconnected from power Turn off the water pump

- Close the valves 1 and 2
- Open the valve 4


Allow water to drain out over a long period until the heat pump is fully drained.

NOTE: Close the valve 4 before turn on the heat pump.

6. Initial operation

Note: In order to heat the water in the pool (pond or hot tub), the filter 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.

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

- 1) Switch on the filter pump. Check for leaks and verify that adequate water is flowing from and to the swimming pool.
- 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 the filter pump is turned off, the unit should also turn off automatically, if not, then adjust the flow switch.
- 5) Allow the heat pump and the filter 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 time.

Water Flow Switch:

Your heat pump is equipped with a flow switch for protecting the HP unit running with adequate water flow rate. The heat pump will turn on when the pool pump runs and shut the heat pump off when the pool pump shuts off. 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.

Condensation

The air drawn into the heat pump is strongly cooled by the operation of the heat pump for heating the pool water, which 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.

Pressure gauge display (R32)

Examine the pressure gauge which indicates the refrigerant gas pressure of the unit, the below table shows the normal value of the gas pressure (R32) when the machine is in power off or running conditions.

Unit Condition	Power Off			
Ambient (°C)	-5~5	5~15	15~25	25~35
Water temp (°C)	/	/	/	/
Pressure gauge (Mpa)	0.59~0.85	0.85~1.18	1.18~1.59	1.59~2.1

Unit Condition	Running				
Ambient (°C)	/	/	/	/	/
Water temp (°C)	10~15	15~20	20~25	25~30	30~35
Pressure gauge (Mpa)	1.1~1.6	1.3~1.8	1.5~2.1	1.7~2.4	1.9~2.7


7. Controller Operation


7.1 Guide for operation



7.2 The keys and their operations

7.2.1 button



Press  to start the heat pump unit.

Press  to stop the heat pump unit.


7.2.2 and button

Water temperature setting:


Press  or  to set the water temperature.




Press  and  at the same time to check water in temperature, water out temperature and set temperature.

7.2.3 button

Press  to change the working mode, Powerful, silent and smart. The default mode is smart mode.

7.2.4 button


Press  for 2 seconds to enter secondary page.

Press  and  to select the functions and press  to enter.

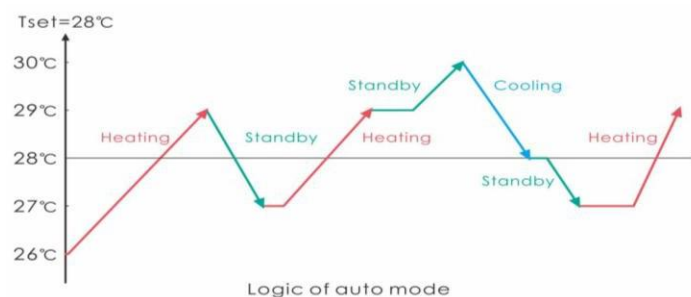


7.2.5 Heating/Cooling/Auto mode






Select  and press  to enter, press  and  to choose Heating/ Cooling/

Auto mode, press  again to exit. The default mode is Heating mode.

Logic of auto mode : T_1 =Water inlet temperature / T_{set} = set temperature=28c



7.2.6 Parameter checking

Select  and press  to enter, press  and  to check d0-d11 value. Press  to exit checking.

Code	Condition	Scope	Remark
d00	IPM mould temperature	0-120°C	Real testing value
d01	Inlet water temp.	-9°C~99°C	Real testing value
d02	Outlet water temp.	-9°C~99°C	Real testing value
d03	Ambient temp.	-30°C~70°C	flash if Real value<-9
d04	Frequency limitation code	0,1,2,4,8,16	Real testing value
d05	Piping temp.	-30°C~70°C	flash if Real value<-9
d06	Gas exhaust temperature	0°C~C5°C (125°C)	Real testing value
d07	Step of EEV	0~99	N*5
d08	Compressor running frequency	0~99Hz	Real testing value
d09	Compressor current	0~30A	Real testing value
d10	Current fan speed	0-1200 (rpm)	Real testing value
d11	Error code for last time	All error code	

Remark:

d4: Frequency limitation code,

0: No frequency limit;

1: Coil pipe temperature limit;






2: Overheating or overcooling frequency limit;


4: Drive Current frequency limit;

8: Drive voltage frequency limit;

16: Drive high temperature frequency limit

7.2.7 Parameter setting

Select  and press  to enter, press  and  to choose P0-P18 value and press  to set.

Note: Long press  for 10s to set P8, P12, P13, P14, P15, P17, P18.

Code	Name	Scope	Default	Remark
P00	Mandatory defrosting	0-1	0	0: Default normal operation 1: Mandatory defrosting.
P03	Water pump	0-1	0	1: Always running; 0: Depends on the running of compressor
P07	Water temp. calibration	-9~9	0	Default setting: 0
P08	Adjustable for P9-P11	0~1	0	1: Adjustable for P9, P10, P11 0: Not adjustable for P9, P10, P11
P09	Compressor Frequency	18~110	50	Adjustable if P08=1
P10	Opening degree of EEV	0~470	350	Adjustable if P08=1
P11	Fan motor rotate speed	300~1000	500	Adjustable if P08=1
P12	Communication port of modbus	0~5	0	Only available for HP with modbus
P13	ID NO. of modbus protocol	1~88	9	Only available for HP with modbus
P14	Restore to factory settings	0~1	0	0: Default 1: Restore to factory settings (restore P00, P03, P07, P08, P09, P10, P11 to factory setting)
P15	Model code in modbus			Only available for HP with modbus
P16	Product code	/	/	Depend on the machine
P17	Modules selection	0~1	0	Only available for HP with modbus or wifi 1: Modbus module 0: Wifi module
P18	Mode	0~1	0	1: Heating only 0: Heating/Cooling/Auto mode

Remark: Logic of filtration pump control

We do NOT recommend the heat pump is used to control the filtration system.

Reasons: If ambient temperatures keep the body of water above or at the set temperature, Filtration/pump will not come on, the ability to filter and/or sanitize that body of water will be lost.

Also, the WARRANTY will not cover "blown" mother boards (PCB`s) due to faulty wiring of water pump OR a water pump becoming defective also causing damage to the heat pump.

Option 1; P3=0 Filtration pump is related to heat pump operation to start and stop.

Filtration pump starts 60s before compressor, filtration pump start 30s and then the water flow switch detect flow. Before the heat pump enters into Standby mode, the compressor stops first and after 5 minutes filtration pump stops.

Mode	Condition	Example	Water pump working logic	
Heating mode	P3=0, T1≥Tset-0.5°C, last for 30 minutes	P3=0, T1≥27.5°C last for 30 minutes	1. Then it enters into standby mode for 1 hour (It will not restart except turn it on manually.)	2. After 1 hour, the filtration pump will restart for 5 minutes. If the T1≤27°C, the heat pump will start to work until T1≥27.5°C and last for 30 minutes to go into standby
Cooling mode	P3=0, T1≤Tset+0.5°C, last for 30 minutes	P3=0, T1≤28.5°C, last for 30 minutes	1. Then it enters into standby mode for 1 hour (It will not restart except turn it on manually.)	2. After 1 hour, the filtration pump will restart for 5 minutes. If it tests T1≥29°C, the heat pump will start to work until T1≤28.5°C and last for 30 minutes to go into standby

Option 2; P3=1 Filtration pump is always on, P2=0 the timer function is no active

Under condition P3=1, when T1≥Tset+1°C (T1≥29°C) last for 3 minutes, heat pump will be in standby, while filtration pump is always on.

Under option 2, with activation of the timer; P2=1 to start and stop the filtration pump according the programming of the P4 (time), P5 (Timer ON) and P6 (Timer OFF)

Condition for the heat pump start, timer ON actives;

When the timer reaches the set time of TIMER ON, the filtration pump will start and after 5 minutes the heat pump start. The heat pump stays in stop if the water in temperature is ≥ Tset+1°C, before the TIMER OFF, the filtration still activated.

Condition to stop the heat pump, timer OFF actives;

Before the TIMER OFF, the heat pump stops and the filtration is still activated. When timer reaches the set time of the TIMER OFF, the heat pump will stop and after 5 minutes the filtration pump stops.




NOTE:

Tset = Tsetting water temperature, for example: Tset = 28°C Tsetting water temperature in your pool heat pump

Tset-0.5 = less 0.5°C than Tsetting temperature, Tset- 0.5 = 28-0.5=27.5°C

Tset+0.5= more 1°C than Tsetting temperature, Tset+ 0.5 = 28+0.5=28.5°C

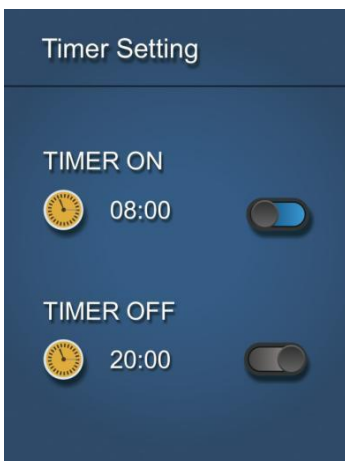
7.2.8 Error code

Select  and press  to check the error code. If the HP is normal,  button is invalid. For example,







7.2.9 Time setting/Timer setting

Select  and press  to enter, press  again to Timer on/Timer off setting.



Press  to enter and  and  to select Timer on or Timer off.

Press  to select on/off and press  or  to set the time. Press  to save the setting.

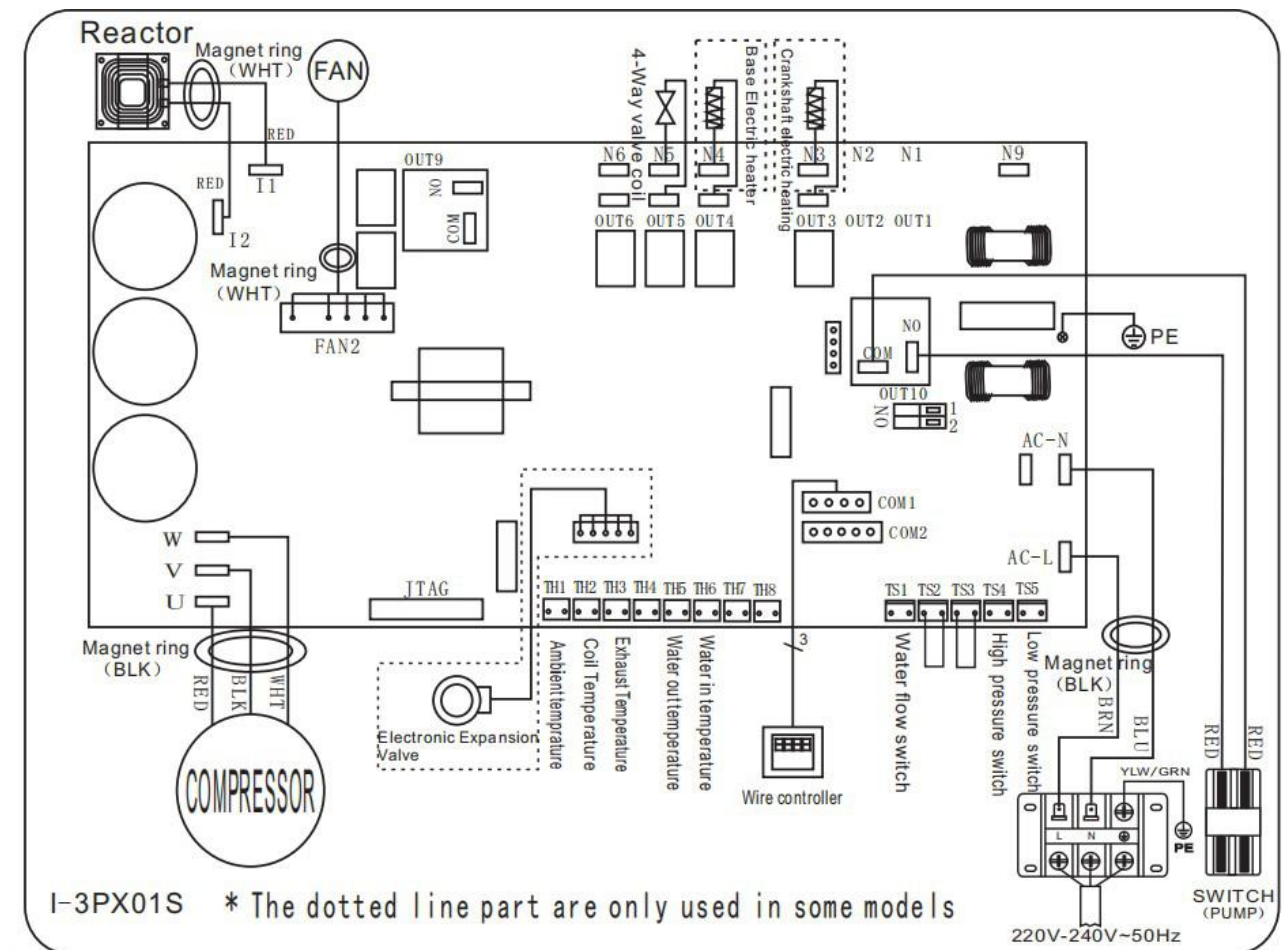
Setting Time

12 : 36

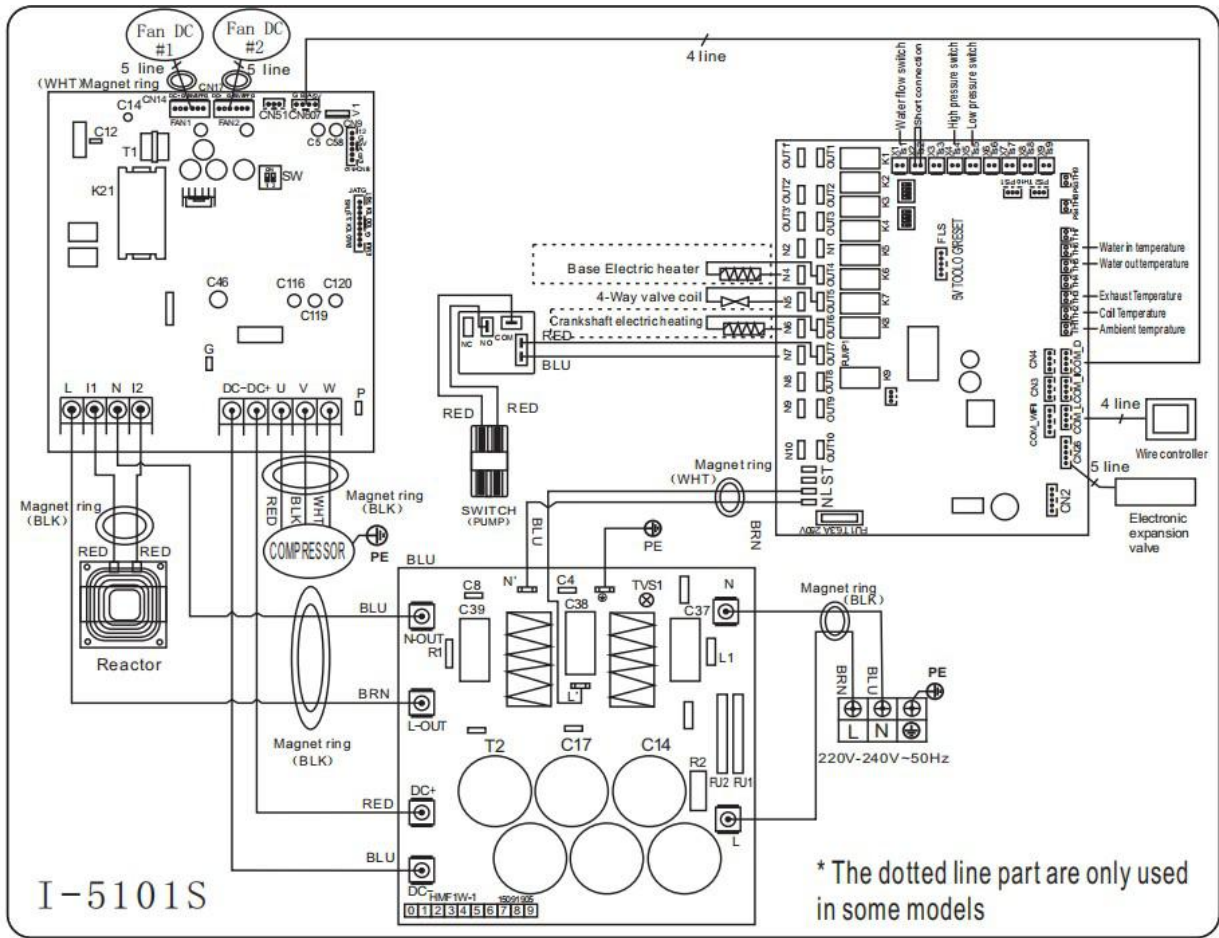
Long press  for 5 seconds, press  and  to set the current local time, then confirm the setting by pressing . Finally exit by .

8. Electrical Wiring

8.1 Model: CHP075PX, CHP095PX, CHP115PX, CHP135PX, CHP165PX, CHP205PX, CHP255PX



8.2 Model: CHP305PX



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.

Before connecting the unit, verify that the supply voltage matches the operating voltage of the heat pump as NO WARRANTY can be given for a defective compressor due to voltage drop.

NOTE:

(1) Above electrical wiring diagram are only for your reference, please Study and take photos of the particular units board/s before attempting any work on the unit as the wiring diagram or unit wiring may have changed.

(2) The swimming pool heat pump must have a GOOD earth connection and WELL grounded. Although the units heat exchanger is 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) 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.

9. Troubleshooting

9.1 Error code display on LED wire controller

Malfunction	Error code	Reason	Solution
Inlet water temperature sensor failure d1-TH6	PP01	1. The sensor in open or short circuit 2. The wiring of sensor is loose	1. Check or change the sensor 2.Re-fix the wiring of the sensors
Outlet water temperature sensor failure d2-TH5	PP02	1. The sensor in open or short circuit 2. The wiring of sensor is loose	1. Check or change the sensor 2.Re-fix the wiring of the sensors
Heating piping sensor failure d5-TH2	PP03	1. The sensor in open or short circuit 2. The wiring of sensor is loose	1. Check or change the sensor 2.Re-fix the wiring of the sensors
Ambient temperature sensor failure d3-TH1	PP05	1. The sensor in open or short circuit 2. The wiring of sensor is loose	1. Check or change the sensor 2.Re-fix the wiring of the sensors
Exhaust piping sensor failure d6-TH3	PP06	1. The sensor in open or short circuit 2. The wiring of sensor is loose	1. Check or change the sensor 2.Re-fix the wiring of the sensors
Antifreeze protection in Winter	PP07	Ambient temperature or water inlet temperature is too low	1. Check the d1 and d3. (d1 inlet water temp., d3 outlet water temp.) 2. Normal protection
Low ambient temperature protection	PP08	1. Out of the normal operating ambient temperature for this machine by checking d3 2. Sensor abnormality d3-TH1	1. Stop using, beyond the scope of use. 2.Change the sensor
Piping temperature too high protection under cooling mode d3-TH2	PP10	1. Ambient or the water temperature is too high in cooling mode 2. Refrigeration system is abnormal 3. Pipe temperature sensor(TH2) failure	1. Check the ambient temperature 2. Check refrigeration system 3. Change the pipe temperature sensor (TH2)
Over low protection for outlet water temperature in cooling mode	PP11	1. Low water flow 2. Outlet water temperature sensor d2-TH5 abnormal 3. The difference of outlet water temperature and set temperature is 7°C or above in cooling mode	1. Check filtration pump and plumbing system. 2. Change outlet water temperature sensor d2-TH5 3. Change the set temperature.

High pressure failure TS4	EE01	<ol style="list-style-type: none"> 1. Ambient temperature is too high 2. Water temperature is too high 3. Water flow is too low 4. Fan motor speed is abnormal or fan motor is damaged under cooling mode 5. Gas system blocked. 6. High pressure wire is loose or damaged 7. Too much refrigerant 	<ol style="list-style-type: none"> 1. Choose the silent mode. 2. Check the water flow or filtration pump 3. Check the fan motor under cooling mode, replace a new one if it is abnormal. 4. Check and repair the refrigerating system. 5. Reconnect the high pressure wire or replace a new high pressure switch 6. Check and repair the refrigerating system
Low pressure failure TS5	EE02	<ol style="list-style-type: none"> 1. EEV has blocked or pipe system is blocked 2. Fan motor speed is abnormal or fan motor is damaged under heating mode 3. Gas leakage 4. Low pressure wire is loose or damaged 	<ol style="list-style-type: none"> 1. Check the EEV and piping system. 2. Check the fan motor under heating mode, replace a new one if it is abnormal 3. Check refrigeration system or check the pressure value through the high-pressure gauge. 4. Reconnect the low pressure wire or replace a new low pressure switch
Water flow failure TS1	EE03 Or "ON"	<ol style="list-style-type: none"> 1. The wiring of water flow switch is loose or water flow switch damaged 2. No or Insufficient water flow. 	<ol style="list-style-type: none"> 1. Check the wiring of water flow switch. 2. Check the filtration pump or the plumbing system, see if there is air or is a blockage inside.
Over heating protection for water temperature (d2- TH5) in heating mode	EE04	<ol style="list-style-type: none"> 1. Low water flow 2. Water flow switch is stuck and the water supply stops 3. TH5 outlet water temperature sensor is abnormal 4. The difference of outlet water temperature and set temperature is 7°C or above in heating mode 	<ol style="list-style-type: none"> 1. Check the water flow switch if it works well 2. Check the filtration pump or the plumbing system, see if there is air or is a blockage inside 3. Check TH5 outlet water temperature sensor or replace with a new one. 4. Change the set temperature.
d6-TH3 Exhaust too high protection	EE05	<ol style="list-style-type: none"> 1. Lack of gas 2. Low water flow 3. Piping system has been blocked 4. Exhaust temp. sensor failure d6-TH3 5. Ambient temperature is too high 	<ol style="list-style-type: none"> 1. Check the pressure gauge, fill with some gas if it is lacking gas. 2. Check the filtration pump or the plumbing system, see if there is air or is a blockage inside. 3. Check the piping system if any blockage.

			<p>4. Change a new exhaust temp. sensor d6-TH3</p> <p>5. Check whether the current ambient temp. and water temp. are beyond the running temp. of the machine</p>
Controller failure	EE06	<p>1. Signal is not well connected or damaged</p> <p>2. Controller failure</p>	<p>1. Stop the power supply and restart.</p> <p>2. Re-connect the signal wire or replace with a new one.</p> <p>3. Replace with a new controller</p>
Compressor current protection	EE07	<p>1. The compressor current is too large instantaneously</p> <p>2. Wrong connection for compressor phase sequence.</p> <p>3. Compressor accumulations of liquid and oil lead to the current becomes larger</p> <p>4. Compressor or driver board damaged</p> <p>5. The water flow is abnormal</p> <p>6. Power fluctuations within a short time.</p>	<p>1. Check if the power is in the normal range</p> <p>2. Check the compressor</p> <p>3. Check the compressor phase</p> <p>4. Check the phase sequence connection</p> <p>5. Check the waterway system and filtration pump</p> <p>6. Check mains power input</p>
Communication failure between controller and main board	EE08	<p>1. Signal wire is not well connected or damaged</p> <p>2. Controller failure</p> <p>3. Driving failure</p>	<p>1. Stop the power supply and restart. Re-connect the signal wire or replace with a new one.</p> <p>2. Check the controller or replace with a new one.</p> <p>3. Check the driving system or update it.</p>
Communication failure between Main control board and Driving board	EE09	<p>1. Poor connection of communication wire</p> <p>2. PCB failure</p> <p>3. The wire is damaged</p>	<p>1. Stop the power supply and restart.</p> <p>2. Reconnect the communication wire or replace a new one</p> <p>3. Check the wirings according to the electric diagram</p> <p>4. Replace a new PCB</p>
VDC voltage too high protection	EE10	<p>1. Line voltage is too high</p> <p>2. Driver board is damaged.</p>	<p>1. Check whether the power supply is normal</p> <p>2. Change driver board or main board</p>

IPM module protection	EE11	<ol style="list-style-type: none"> 1. Data mistake 2. Wrong compressor phase connection 3. Compressor liquid and oil accumulation lead to the current becomes larger 4. Poor heat dissipation of drive module or high ambient temperature 5. Compressor or driver board damaged 	<ol style="list-style-type: none"> 1. Program error, turn off electricity supply and restart after 3 minutes 2. Check compressor sequence connection 3. Check the pressure of system by pressure gauge 4. Check if the ambient and water temperature is over high 5. If it is the refrigeration system failure, send it to the service center 6. Change driver board
VDC voltage too low protection	EE12	<ol style="list-style-type: none"> 1. Mother line voltage is too low 2. Driver board is damaged. 	<ol style="list-style-type: none"> 1. Check if the power supply is in the normal range 2. Change driver board
Input current over high protection.	EE13	<ol style="list-style-type: none"> 1. The compressor current is too large momentary 2. The water flow is abnormal 3. Power fluctuations within a short time 4. Wrong reactor 	<ol style="list-style-type: none"> 1. Check the compressor if it works normally 2. Check the plumbing system 3. Check if the power is in the normal range 4. Check if the reactor is used correctly.
IPM module thermal circuit is abnormal	EE14	<ol style="list-style-type: none"> 1. Output abnormality of IPM module thermal circuit 2. Fan motor is abnormal or damaged 3. Fan blade is broken 	<ol style="list-style-type: none"> 1. Check if the motor speed is too low or fan motor is damaged, replace with a new one. 2. Replace a new driver board 3. Change the fan blade if it is broken.
IPM module temperature too high protection	EE15	<ol style="list-style-type: none"> 1. Output exception of IPM module thermal circuit 2. Fan motor is abnormal or damaged 3. Fan blade is broken 4. The screw on driver board is loose 	<ol style="list-style-type: none"> 1. Check the main board or replace the driver board 4. Check if the motor speed is too low or fan motor is damaged, replace it by a new one if there is any failure. 5. Change the fan blade if it is broken 2. Check the screw on driver board
PFC module protection	EE16	<ol style="list-style-type: none"> 1. Output exception of PFC module 2. Fan motor is abnormal or damaged 3. Fan blade is broken 4. Input voltage leap, input power is abnormal 	<ol style="list-style-type: none"> 1. Check the main board or replace the driver board. 2. Check if the motor speed is too low or fan motor is damaged, replace it by a new one. 3. Change the fan blade 4. Check the input voltage

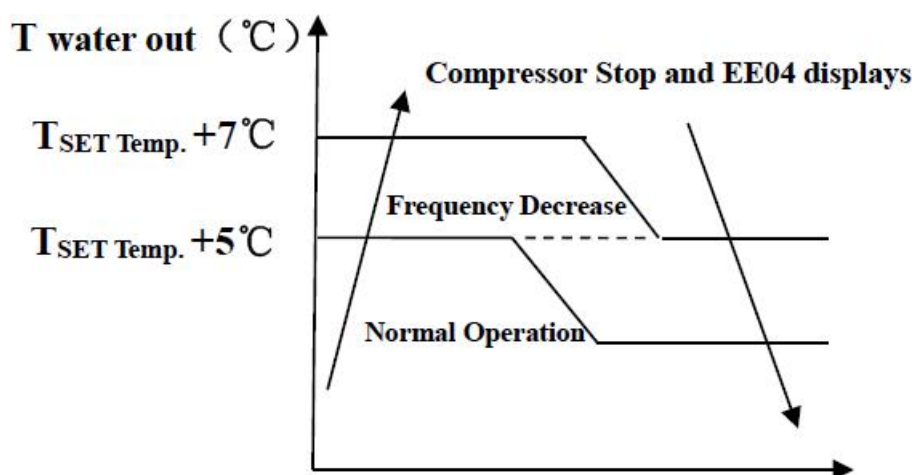
DC fan motor failure	EE17	<ol style="list-style-type: none"> 1. DC motor is damaged 2. For the tri-phase check if the neutral is connected 3. Main board is damaged 4. The fan blade is stuck 	<ol style="list-style-type: none"> 1. Detect DC motor for mono phase machine, replace a new one if any failure 2. Check the wiring connection for tri-phase machine 3. Check the board, replace a new driver board or main board if any failure 4. Check if there is any barrier in front of fan blade and remove it
PFC module thermal circuit is abnormal	EE18	The driver board is damaged	<ol style="list-style-type: none"> 1. Check if the motor speed is too low or fan motor is damaged, replace it by a new one. 2. Change a new driver board
PFC module high temperature protection	EE19	<ol style="list-style-type: none"> 1. PFC module thermal circuit output abnormal 2. Fan motor is abnormal or damaged 3. Fan blade is broken 4. The screw in the driver board is not tight 	<ol style="list-style-type: none"> 1. Check the main board or replace the driver board 2. Check if the motor speed is too low or fan motor is damaged, replace it by a new one if any failure. 3. Change the fan blade if it is broken 4. Check the screw on driver board
Input power failure	EE20	The supply voltage fluctuates too much	Check whether the voltage is stable
Software control exception	EE21	<ol style="list-style-type: none"> 1. Compressor runs out of step 2. Wrong program 3. Impurity inside compressor causes the unstable rotate speed 	<ol style="list-style-type: none"> 1. Check the main board or change a new one 2. Update the correct program 3. Check the refrigeration system
Current detection circuit failure	EE22	<ol style="list-style-type: none"> 1. Voltage signal abnormal 2. Driver board is damaged 3. Main board failure 	<ol style="list-style-type: none"> 1. Change a new main board 2. Change a new driver board
Compressor start failure	EE23	<ol style="list-style-type: none"> 1. Main board is damaged 2. Compressor wiring error or poor contact or unconnected. 3. Liquid accumulation inside 4. Wrong phase connection for compressor 	<ol style="list-style-type: none"> 1. Check the main board or change a new one 2. Check the compressor wiring according to the circuit diagram 3. Check the compressor or change a new one
Ambient Temperature device failure on Driver board	EE24	Ambient Temperature device failure	Change driver board or main board
Compressor phase failure	EE25	Compressors U, V, W are just connected to one phase or two phases.	Check the actual wiring according to the circuit diagram

Four-way valve reversal failure	EE26	1. Four-way valve reversal failure 2. Lack of refrigerant (no detect when TH2 or TH1 malfunction)	1. Switch to Cooling mode to check the 4-way valve if it has been reversed correctly 2. Change a new 4-way valve 3. Fill with gas
EEPROM data read malfunction	EE27	1. Wrong EEPROM data in the program or failed input of EEPROM data 2. Main board failure	1. Re-enter correct EEPROM data 2. Change a new main board
The inter-chip communication failure on the main control board	EE28	Main board failure	1. Stop electricity supply and restart it 2. Change a new main board

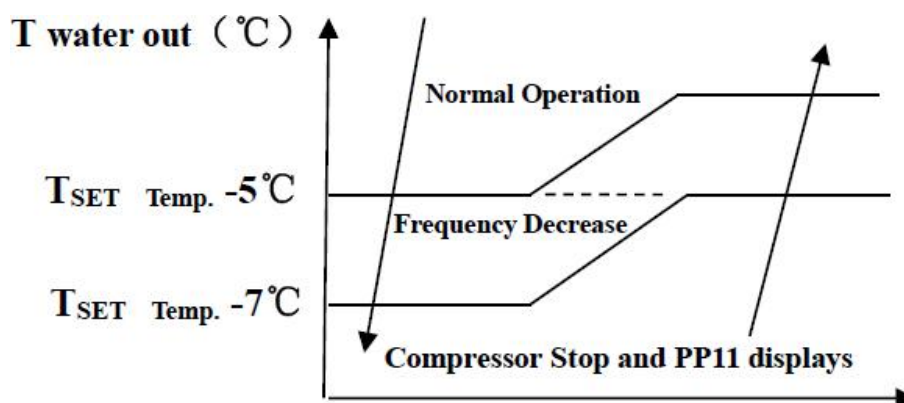
Remarks:

1. In heating mode, if the water out temperature is higher than the set temperature over 7 degree, the LED controller displays EE04 for water over-heating protection.

1. In cooling mode, if the water out temperature is lower than the set temperature over 7 degree, the LED controller displays PP11 for water over-cooling protection.



EE04 Water Overheating Protection



PP11 Water Overcooling Protection

For example as below:

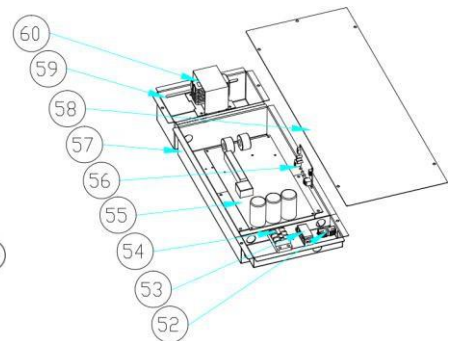
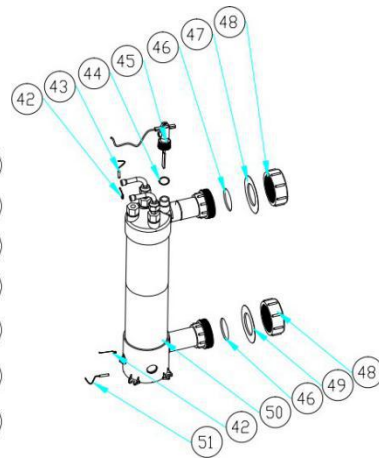
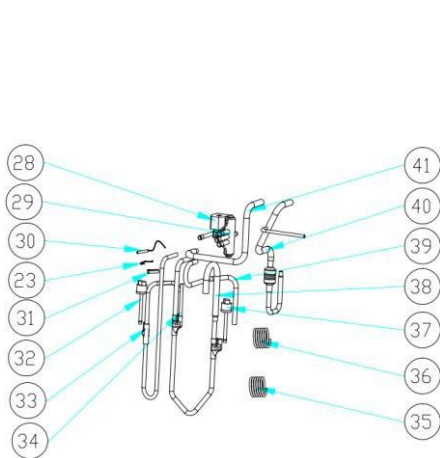
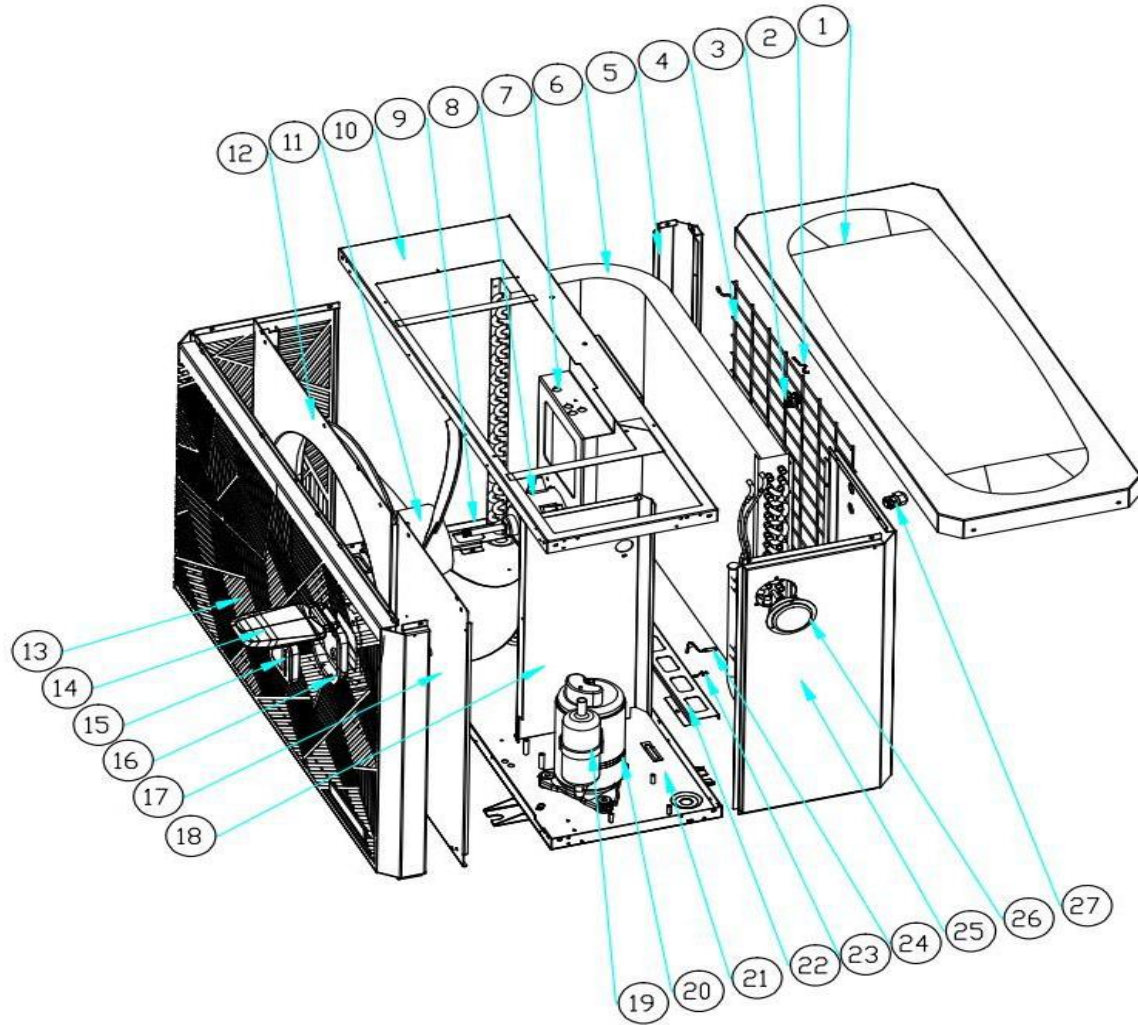
Mode	Output water temperature	Set point temperature	Condition	Malfunction
Heating mode	36°C	29°C	$T_{out} - T_{set} \geq 7^{\circ}\text{C}$	EE04 Overheating protection for water temperature (T2)
Cooling mode	23°C	30°C	$T_{set} - T_{out} \geq 7^{\circ}\text{C}$	PP11 Too low protection for water temperature (T2)

9.2 Other Malfunctions and Solutions (No display on LED wire controller)

Malfunctions	Observing	Reasons	Solution
Heat pump is not running	LED wire controller 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.	1. Water temperature is reaching to setting value, HP under constant temperature status. 2. Heat pump just starts to run. 3. Under defrosting.	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.	1. Choose the wrong mode. 2. Figures show defects. 3. Controller defect.	1. Adjust the mode to proper running 2. Replace the defect LED wire 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.	1. Fan NOT running. 2. Air ventilation is not enough. 3. Refrigerant is not enough.	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.	1. Concreting. 2. Water leakage.	1. No action. 2. Check the Titanium Heat Exchanger carefully to see if there is any defect.
Too much ice on evaporator	Too much ice on evaporator.		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.

10. Exploded view

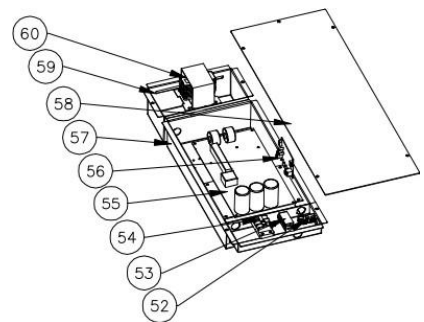
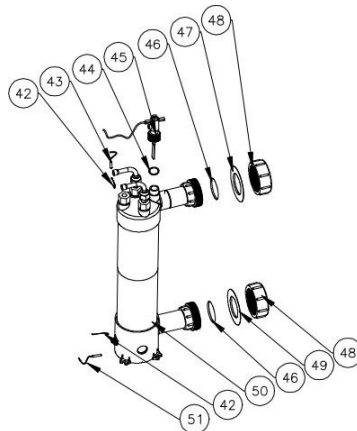
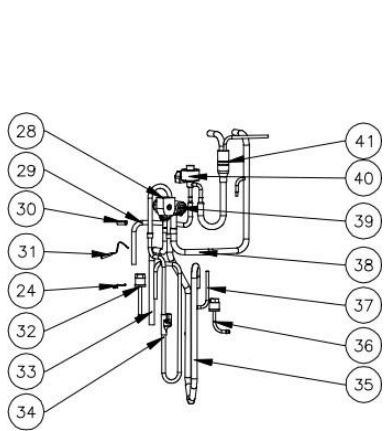
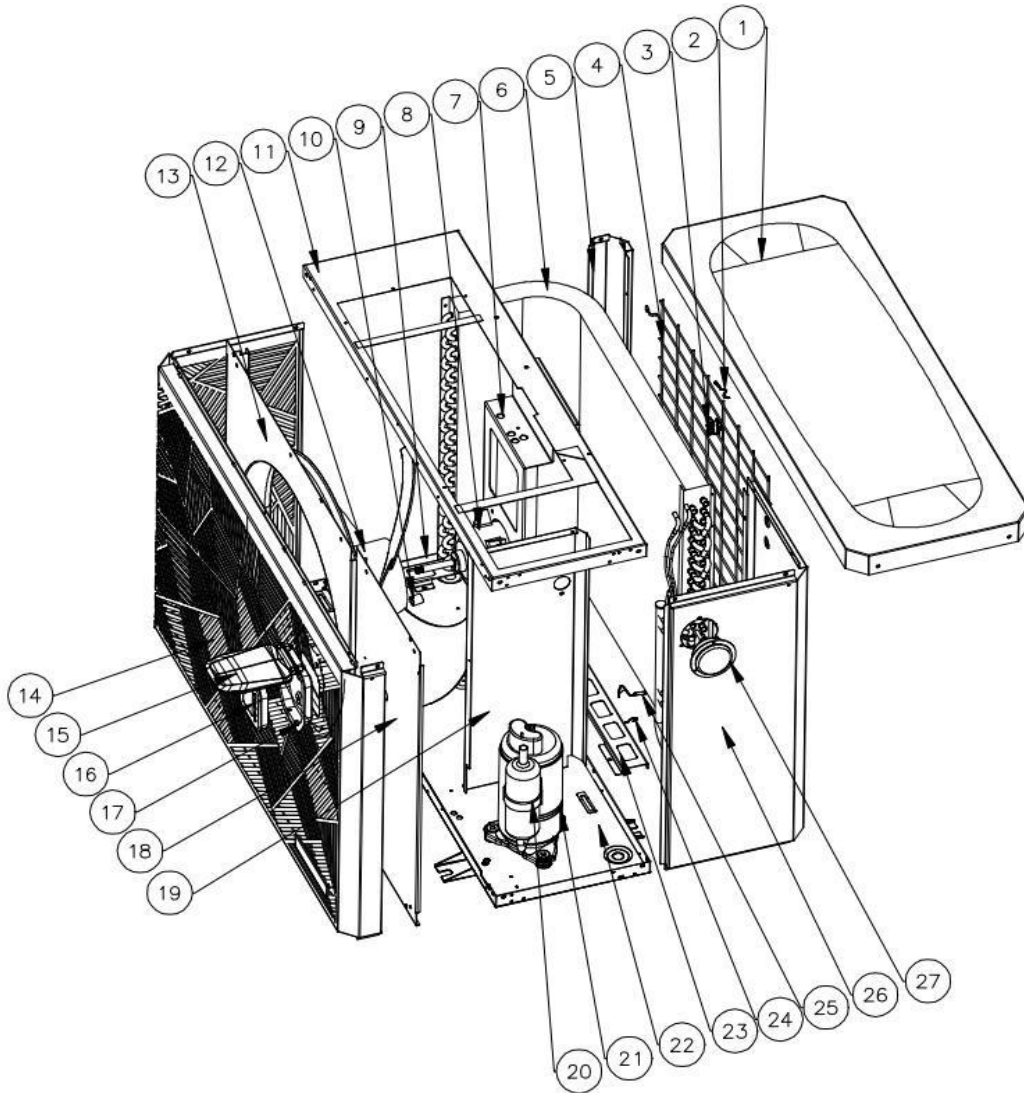
10.1 Model: CHP075PX, CHP095PX



Spare parts list

NO	CHP-075-095PX Spare parts list	NO	Spare parts list
1	Top cover	31	Sensor holder
2	Ambient temp. sensor	32	High pressure switch
3	Temperature sensor clip	33	Discharge pipe
4	Back grill	34	Pipe
5	Pillar	35	Capillary
6	Evaporator	36	Capillary
7	Fan motor bracket	37	Low pressure switch
8	Fan motor	38	Gas return piping
9	Evaporator plate	39	4-way valve to evaporator piping
10	Top Frame	40	Exchanger to EEV
11	Fan blade	41	4-way valve to exchanger
12	Ventilation panel	42	Exchanger temperature sensor clip
13	Front panel	43	Water outlet temp. sensor
14	Display cover	44	Rubber ring on water connection
15	Controller	45	Water flow switch
16	Controller box	46	Sealing ring
17	Service panel	47	Red rubber ring
18	Isolation panel	48	Nut of water connection
19	Compressor	49	Blue rubber ring
20	Compressor heating resistor	50	Titanium heat exchanger
21	Base tray	51	Water inlet temp. sensor
22	Evaporator plate	52	2 ways terminal blocks
23	clip	53	Clip
24	Evaporator temperature sensor	54	3-ways terminal blocks
25	Back panel	55	PCB
26	Pressure gauge	56	WIFI module
27	Cable connector	57	Electric box
28	4 way valve coil	58	Electric box cover
29	4 way valve	59	Electric reactor box
30	Discharge temp. sensor	60	Electric reactor

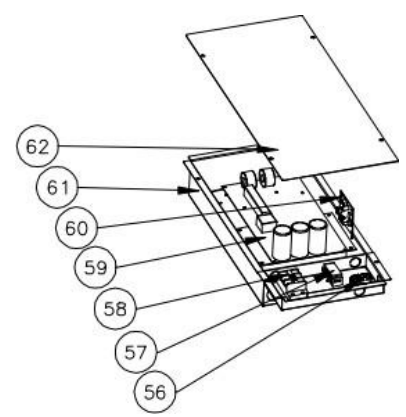
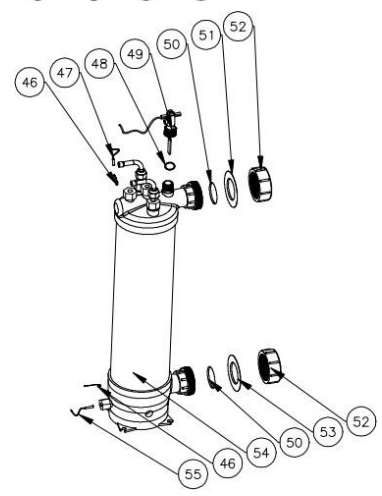
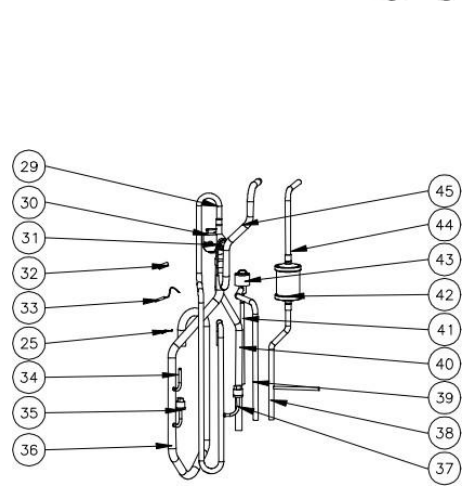
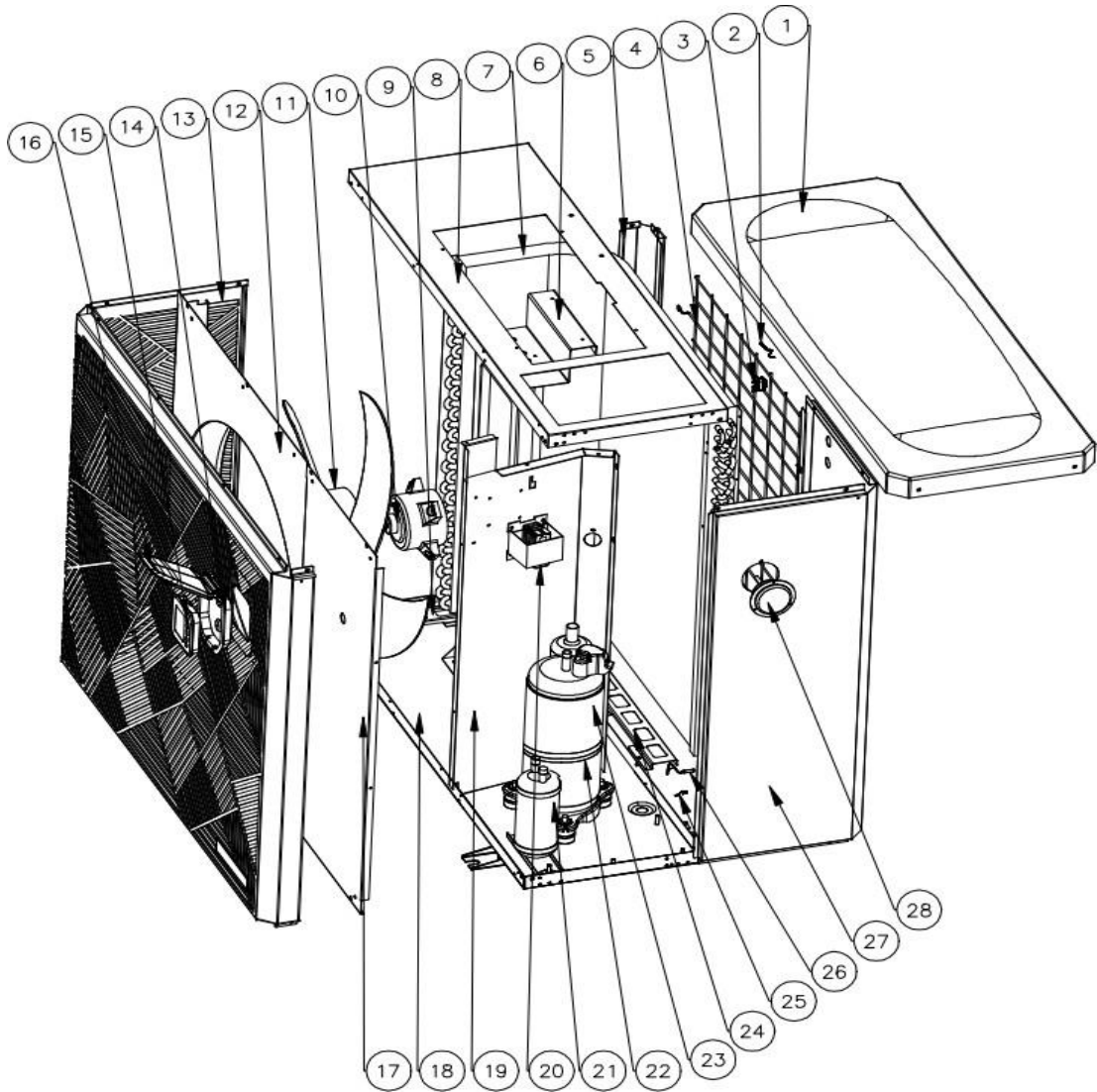
10.2 Model: CHP115PX, CHP135PX, CHP165PX



Spare parts list

NO	CHP-115-135-165PX Spare parts list	NO	Spare parts list
1	Top cover	31	Discharge temp. sensor
2	Ambient temp. sensor	32	High pressure switch
3	Temperature sensor clip	33	4-way valve to evaporator piping
4	Back grill	34	Discharge pipe
5	Pillar	35	Gas return piping
6	Evaporator	36	Low pressure switch
7	Fan motor bracket	37	Pipe
8	Fan motor	38	4-way valve to exchanger
9	Evaporator plate	39	4 way valve
10	DC motor bushing	40	EEV
11	Top Frame	41	Exchanger to EEV
12	Fan blade	42	Exchanger temperature sensor clip
13	Ventilation panel	43	Water outlet temp. sensor
14	Front panel	44	Rubber ring on water connection
15	Display cover	45	Water flow switch
16	Controller	46	Sealing ring
17	Controller box	47	Red rubber ring
18	Service panel	48	Nut of water connection
19	Isolation panel	49	Blue rubber ring
20	Compressor	50	Titanium heat exchanger
21	Compressor heating resistor	51	Water inlet temp. sensor
22	Base tray	52	2 ways terminal blocks
23	Evaporator plate	53	Clip
24	clip	54	3-ways terminal blocks
25	Evaporator temperature sensor	55	PCB
26	Back panel	56	WIFI module
27	Pressure gauge	57	Electric box
28	4 way valve coil	58	Electric box cover
29	EEV to distribution pipe	59	Electric reactor box
30	Sensor holder	60	Electric reactor

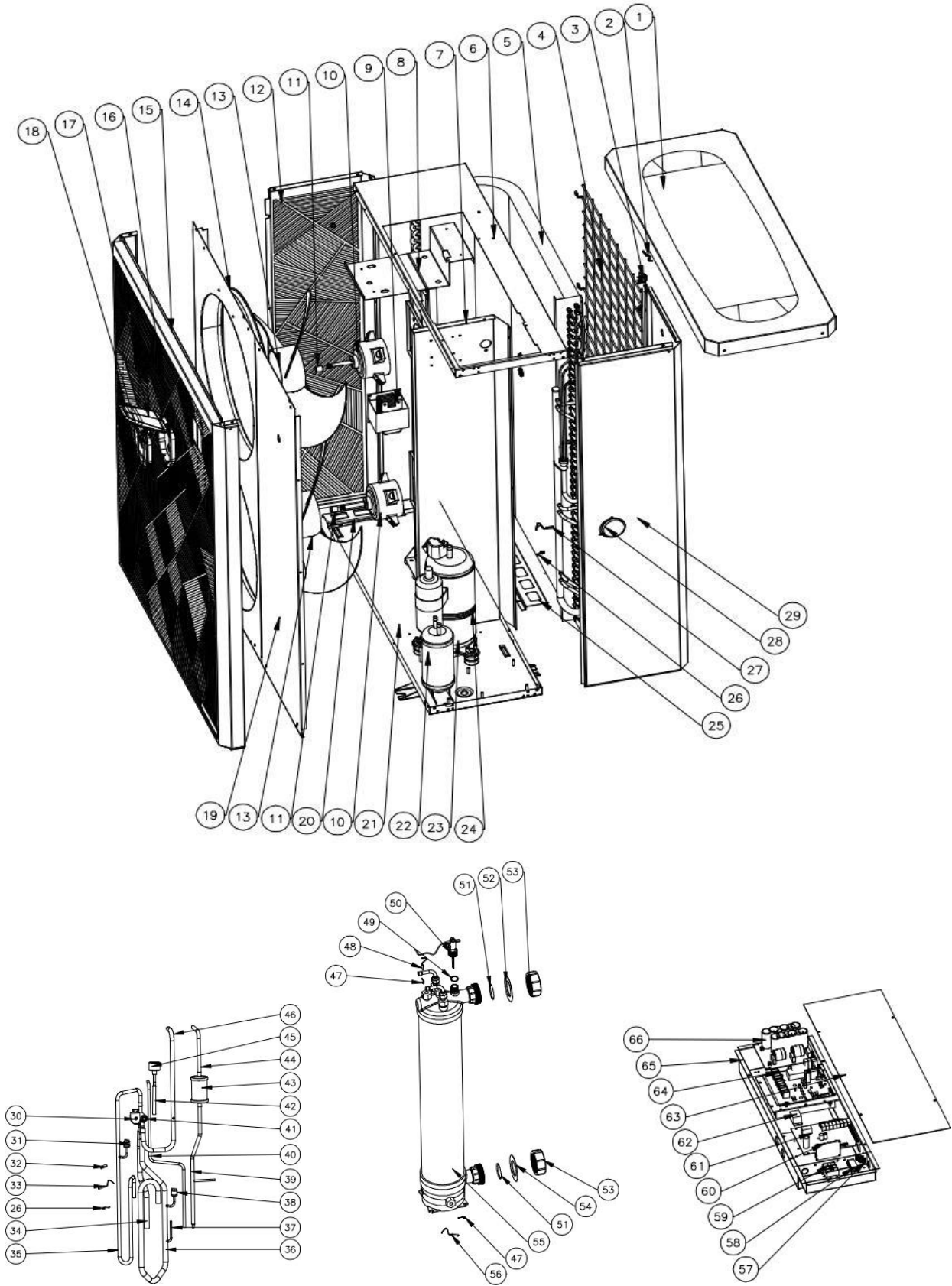
10.3 Model: CHP205PX, CHP255PX



Spare parts list

NO	CHP-205-255PX Spare parts list	NO	Spare parts list
1	Top cover	32	Sensor holder
2	Ambient temp. sensor	33	Discharge temp. sensor
3	Temperature sensor clip	34	Pipe
4	Back grill	35	Low pressure switch
5	Pillar	36	Gas return piping
6	Fan motor bracket	37	High pressure switch
7	Evaporator	38	Filter to liquid storage tank
8	Top Frame	39	EEV to distribution pipe
9	Evaporator plate	40	4-way valve to evaporator piping
10	Fan motor	41	liquid storage tank to EEV
11	Fan blade	42	Filter
12	Ventilation panel	43	EEV
13	Front panel	44	Exchanger to filter
14	Controller box	45	4-way valve to exchanger
15	Controller	46	Exchanger temperature sensor clip
16	Display cover	47	Water outlet temp. sensor
17	Service panel	48	Rubber ring on water connection
18	Base tray	49	Water flow switch
19	Isolation panel	50	Sealing ring
20	Electric reactor	51	Red rubber ring
21	Liquid storage tank	52	Nut of water connection
22	Compressor heating resistor	53	Blue rubber ring
23	Compressor	54	Titanium heat exchanger
24	Evaporator plate	55	Water inlet temp. sensor
25	clip	56	2 ways terminal blocks
26	Evaporator temperature sensor	57	Clip
27	Back panel	58	3-ways terminal blocks
28	Pressure gauge	59	PCB
29	Discharge pipe	60	WIFI module
30	4-way valve coil	61	Electric box
31	4-way valve	62	Electric box cover

10.4 Model: CHP305PX



Spare parts list

	CHP-305PX Spare parts list	NO	Spare parts list
1	Top cover	34	4-way valve to evaporator piping
2	Ambient temp. sensor	35	Discharge pipe
3	Temperature sensor clip	36	Gas return piping
4	Back grill	37	Pipe
5	Evaporator	38	Low pressure switch
6	Top Frame	39	Filter to liquid storage tank
7	Isolation panel	40	liquid storage tank to EEV
8	Fan motor bracket	41	4-way valve
9	Electric reactor	42	EEV to distribution pipe
10	Fan motor	43	Filter
11	DC motor bushing	44	Exchanger to filter
12	Left panel	45	EEV
13	Fan blade	46	4-way valve to exchanger
14	Ventilation panel	47	Exchanger temperature sensor clip
15	Front panel	48	Water outlet temp. sensor
16	Controller box	49	Rubber ring on water connection
17	Display cover	50	Water flow switch
18	Controller	51	Sealing ring
19	Service panel	52	Red rubber ring
20	Evaporator plate	53	Nut of water connection
21	Base tray	54	Blue rubber ring
22	Liquid storage tank	55	Titanium heat exchanger
23	Compressor	56	Water inlet temp. sensor
24	Compressor heating resistor	57	2 ways terminal blocks
25	Evaporator plate	58	Clip
26	clip	59	3-ways terminal blocks
27	Evaporator temperature sensor	60	WiFi module
28	Pressure gauge	61	PCB
29	Back panel	62	Relay
30	4-way valve coil	63	Electric box cover
31	High pressure switch	64	Driving board
32	Sensor holder	65	Electric box
33	Discharge temp. sensor	66	Filter board

11. Maintenance

- (1) You should check the water supply system regularly to avoid air entering the system and any occurrence of low water flow, because it would reduce the performance and reliability of the HP unit.
- (2) Clean your pool and filtration system regularly to avoid damage of the unit as a result of dirt/debris blocking the filter flow.
- (3) You should drain the water from the bottom of the water pump if the HP unit is to stop running for a long time (specially during the winter season).
- (4) Likewise, you should check the unit and plumbing system is fully charged with water before the unit is turned on and expected to run again.
- (5) After the unit is prepared and conditioned for the Winter season, it is recommended to cover the heat pump with the special winter heat pump cover.
- (6) Pond users must periodically inspect the Titanium Heat Exchanger for any blockages, debris or algae which will interfere with the correct operation of the unit and the correct transfer of heat to the pond water. A back wash may be required now and then, depending on your set up, be careful not to break the flow switch when doing this maintenance.

IMPORTANT:

- (7) The action of filling the unit with gas must be conducted by a Professional Refrigeration Engineer with an R32 operating license.

12. WIFI function- 'Alsavo Pro' APP operation

12.1 Heat-Pump with WIFI function

Thank you for using our heat pump with WIFI function, you can remotely control your pool heat pump from your Smart phone. The controller information can sync to "Alsavo Pro" APP via an internet connection (WIFI or 3G/4G). For the first time connection, your smart phone and the WIFI controller must be under the same WIFI network. From then on, the Smart phone can use the 3G/4G network to control the pool heat pump remotely from anywhere in the world as long as you have a good signal and your HP is connected to its Wi-Fi.

By "Alsavo Pro" APP, you can turn heat pump on or off, adjust water temperature, change mode, set time and timer on/off, check malfunction right at your finger tips.

"Alsavo pro" APP is compatible with Android system (6.10 version or above) and IOS system (8.0 version or above). Currently 10 languages (English, Swedish, French, Spanish, Italian, Czech, Polish, German, Russian, Chinese) available. Several heat pumps with WiFi controller could connect to one phone's app, and several phones' app could connect to one heat pump.


12.2. "Alsavo Pro" APP operation

2.1 Firstly, please confirm the Parameter P17 =1 (WIFI function) in the controller.

Parameter	Description	Scope	Default value	Remarks
P17	WIFI or Modbus	0-1	1	0:Modbus 1:WIFI

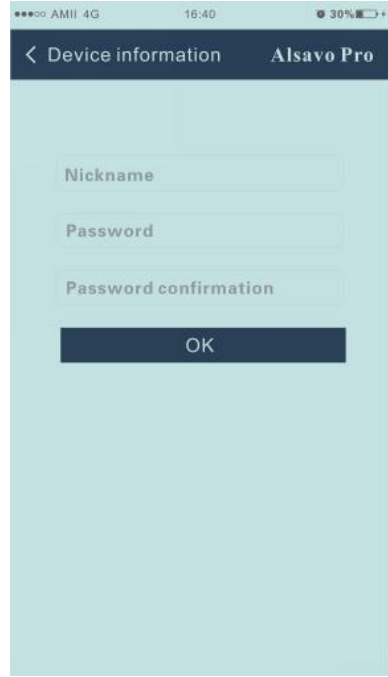
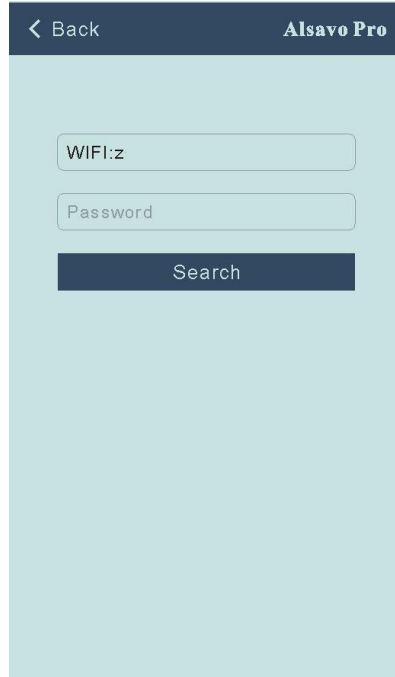
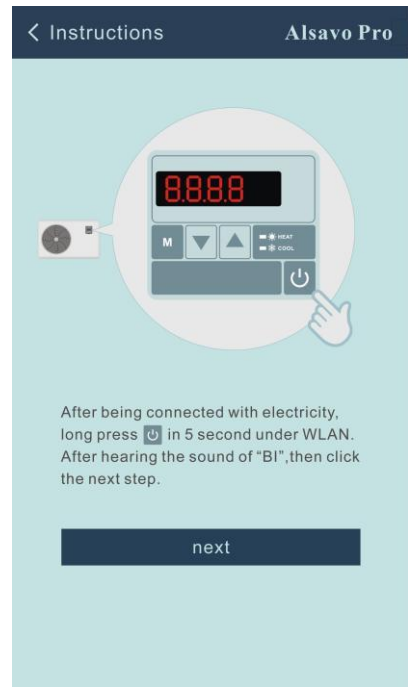
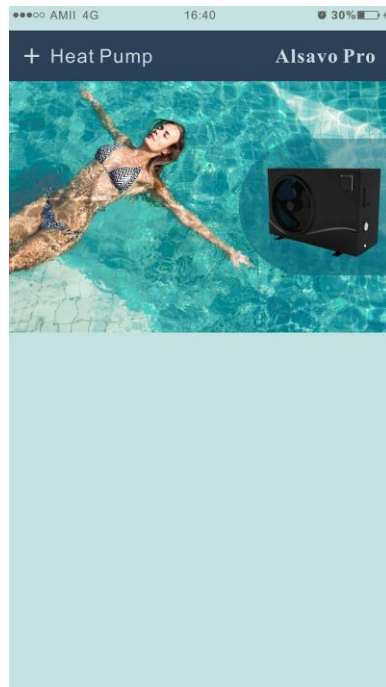
then download "Alsavo Pro" APP from App store or Google play in your smart phone.

2.2 Open "Alsavo Pro" APP, click "+" on the upper left and select "New device". Then Click "Next" and enter the current WIFI password to connect. Press "⏻" 5S on the display no matter it's ON or OFF. Or you can press "⏻" 5S on the controller first, then enter the current WIFI password. The

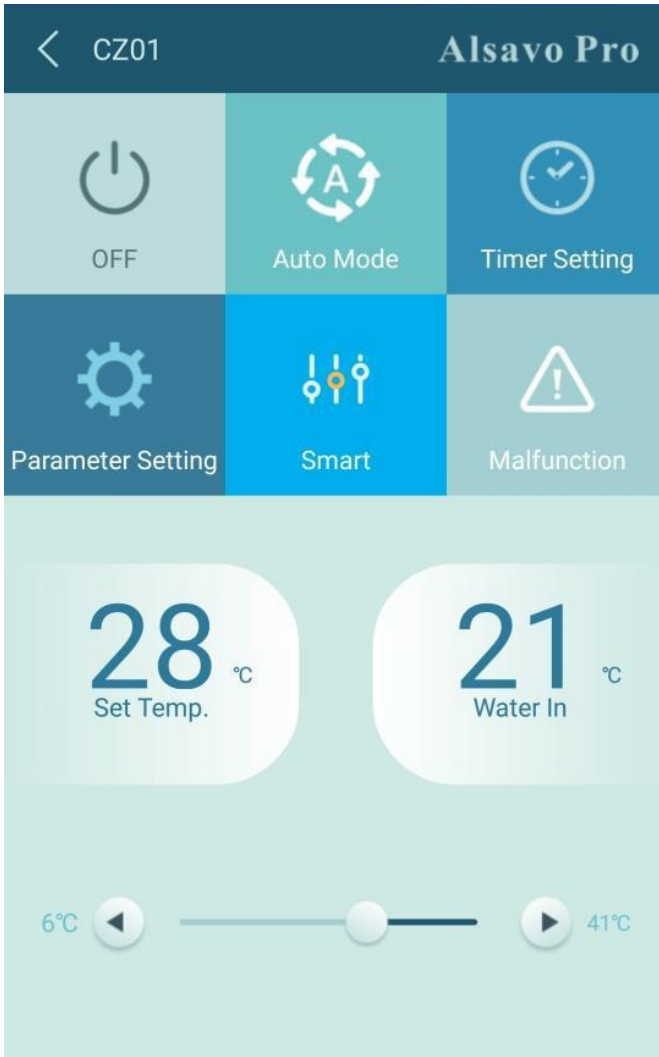
WIFI icon  on the controller will flash, a steady light will confirm good connection. If the connection fails, the APP will indicate "Failed to connect device".

"Nickname and password" interface only appear one time when a new heat pump is connected successfully. You can name and add encrypt this unit. (This interface may be missing if the wifi network is not steady. You will miss the chance to name and encrypt it. In this case, default password "123456" is available.)

If someone's APP is on the same WIFI network as yours, his APP could automatically identify your heat pump, he can then operate your heat pump after inputting your password in.




2.3 The main interface



1) Turn ON/OFF





Click “” to turn on or off heat pump.


2) Switch mode

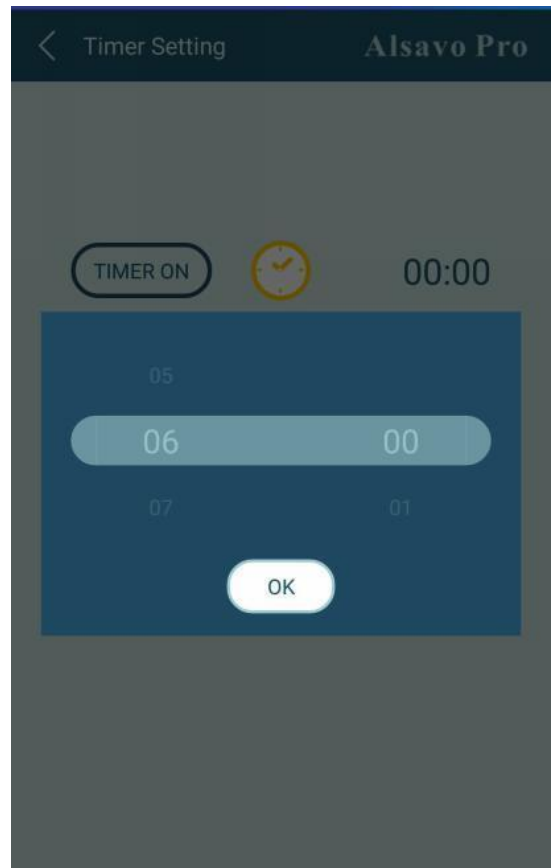
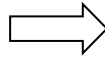
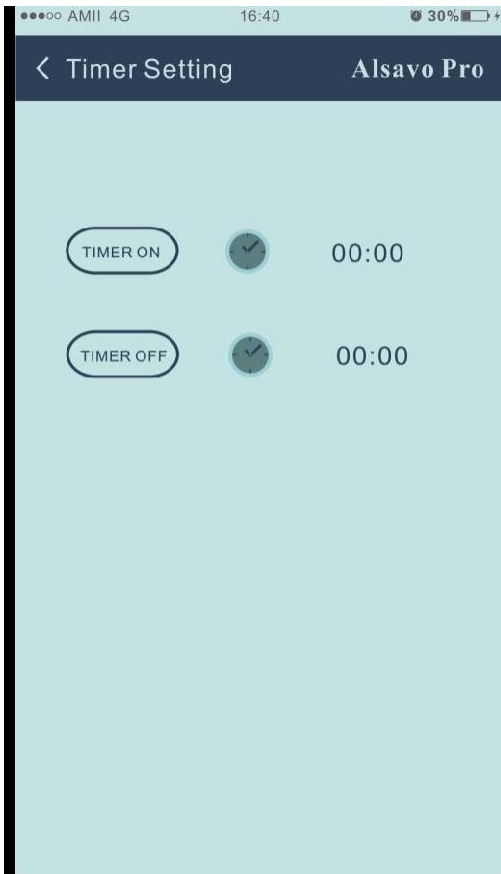
There are three modes (Auto mode, cooling or heating) for the CHP-PX unit. Click its icon to switch

between modes, (Auto mode , heating , cooling )


3) Timer setting

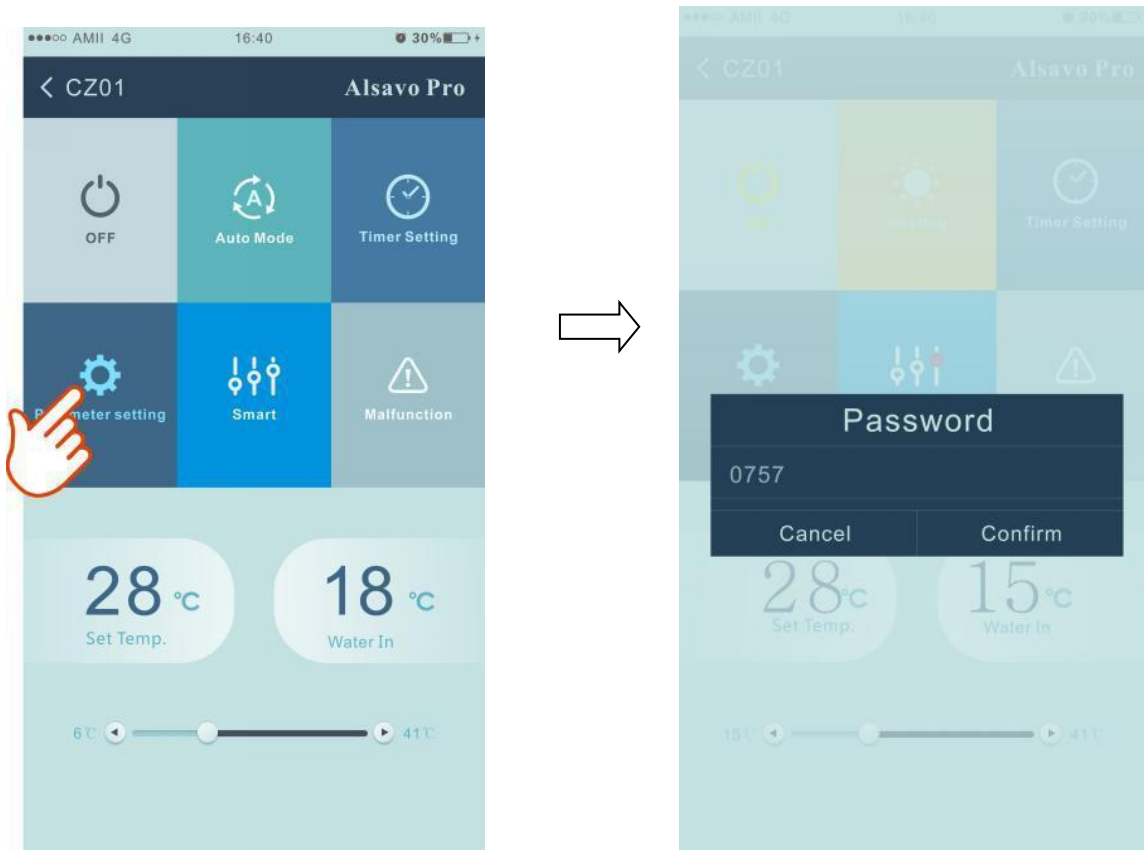
Click , it turns . Timer on and off will be activated together. Then choose desired time in “timer on” and “timer off”, lastly click “OK” to confirm.

Click“” again to cancel.



4) Parameter checking and setting

Click Parameter , then enter the password "0757".



Parameter Query		Default
Water In		22 °C
Water Out		22 °C
Heating piping temperature		22 °C
Limited frequency code		0
Ambient temperature		23 °C
Exhaust temperature		21 °C
Actual steps of electronic expansion valve		350
IPM module temperature		25 °C
Compressor running frequency		0Hz
Compressor current		0A
DC fan motor speed		0RPM
Parameter Setting		Range
Water Pump Operating Mode		0 (0~1)
Water Temperature Calibration		8.5 °C (-9.9 °C~9.9 °C)
Re-set to factory default setting		

Parameter setting:

1. There are 2 modes optional for water pump operation (1: Always running, 0: Depends on the running of compressor)
2. Inlet water temperature calibration. (-9.0 to 9.0°C)
3. Temperature unit: °C or °F.
4. When you want to reset to factory default setting, tips as below pop up .



4) Switch running modes

In heating or cooling mode, there are 3 running modes(Silent, Smart, Powerful) for options



While in Auto mode, its default running mode is Smart.

5) Malfunction



If an error occurs, the malfunction icon  turns red . Click it to check the error.

< Malfunction		Alsavo Pro
Error code	Malfunction	
PP01	Inlet water temperature sensor failure	
PP02	Outlet water temperature sensor failure	
PP03	Heating coil pipe sensor failure	
PP04	Gas return sensor failure	
PP05	Ambient temperature sensor failure	
PP06	Exhaust temperature sensor failure	
PP07	Anti-freezing protection in Winter	
PP08	Low ambient temperature protection	
PP10	Coil pipe temperature too high protection under Cooling mode	
PP11	T2 too low water temperature protection under cooling mode	
EE01	High pressure failure	
EE02	Low pressure failure	
EE03	Water flow failure	
EE04	Water temperature overheating protection under heating mode	
EE05	Exhaust temperature too high failure	
EE06	Controller malfunction or communication failure	
EE07	Compressor current protection	
EE08	Communication failure between controller and PCB	

EE09	Communication failure between PCB and driver board
EE10	VDC Voltage too high protection
EE11	IPM Module protection
EE12	VDC Voltage too low protection
EE13	Input current too strong protection
EE14	IPM module thermal circuit is abnormal
EE15	IPM module temperature too high protection
EE16	PFC module protection
EE17	DC fan failure
EE18	PFC module thermal circuit is abnormal
EE19	PFC module high temperature protection
EE20	Input power failure
EE21	Software control failure
EE22	Current detection circuit failure
EE23	Compressor start failure
EE24	Ambient temperature device failure on Driving board
EE25	Compressor phase failure
EE26	4-way valve reversal failure
EE27	EEPROM data reading failure in Transfer board
EE28	The inter-chip communication failure on the main control board

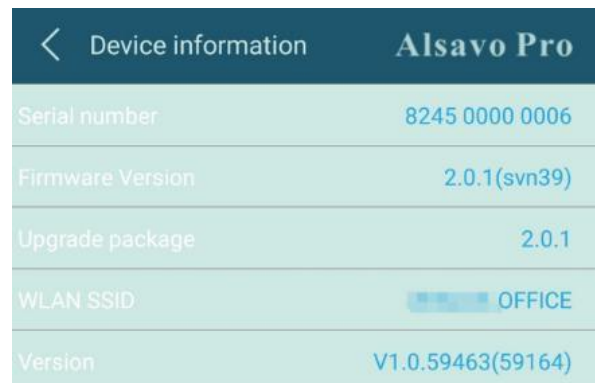
6) Temperature setting




You can set the target water temperature by adjusting the slider or press “” or “”. The set water temperature on the controller display, correspondingly changes after letting go. When the set water temperature on the display changes, it will be synched and updated to the APP and thus the HP will follow suit if it has a good and steady connection to the Wi-Fi.

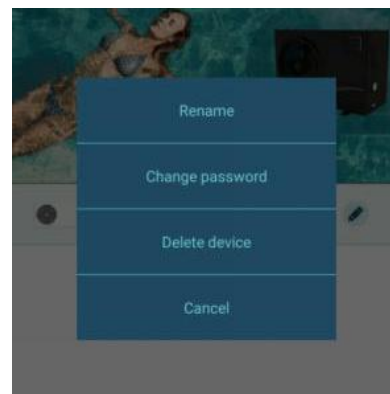
7) Check device information

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



8) Revise the heat pump info in the homepage

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



NOTE:

Please also see Further "Terms and Conditions" on the suppliers websites to be read alongside these Manufacturer's instructions.

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