swimmax

PBS Pool Heat Pump

User and Service Manual

EN

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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 CO_2, 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 CO_2 equivalent or more, but of less than 50 tons of CO_2 equivalent: at least every 12 months.

Picture of the equivalence CO_2

1. Load in kg and Tons amounting CO_2.

Load and Tons amounting CO_2	**Frequency of test**
From 7 at 75 kg load = from 5 at 50 Tons	Each year

Concerning the Gas R32, 7.40kg amounting at 5 tons of CO_2, 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.

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Thank you for using INVERBOOST INVERTER swimming pool heat pump for your pool heating, it will heat your pool water and keep the constant temperature when the air ambient temperature is at -12 to 43℃.

⚠ **ATTENTION: This manual includes all the necessary information with the use and the installation of your heat pump.**
The installer must read the manual and attentively follow the instructions in implementation and maintenance.
The installer is responsible for the installation of the product and should follow all the instructions of the manufacturer and the regulations in application. Incorrect installation against the manual implies the exclusion of the entire guarantee.
The manufacturer declines any responsibility for the damage caused with the people, objects and of the errors due to the installation that disobey the manual guideline. Any use that is without conformity at the origin of its manufacturing will be regarded as dangerous.

WARNING: Please always empty the water in heat pump during winter time or when the ambient temperature drops below 0℃, or else the Titanium exchanger will be damaged because of being frozen, in such case, your warranty will be lost.

WARNING: Please always cut the power supply if you want to open the cabinet to reach inside the heat pump, because there is high voltage electricity inside.

WARNING: Please well keep the display controller in a dry area, or well close the insulation cover to protect the display controller from being damaged by humidity.

1. Specification

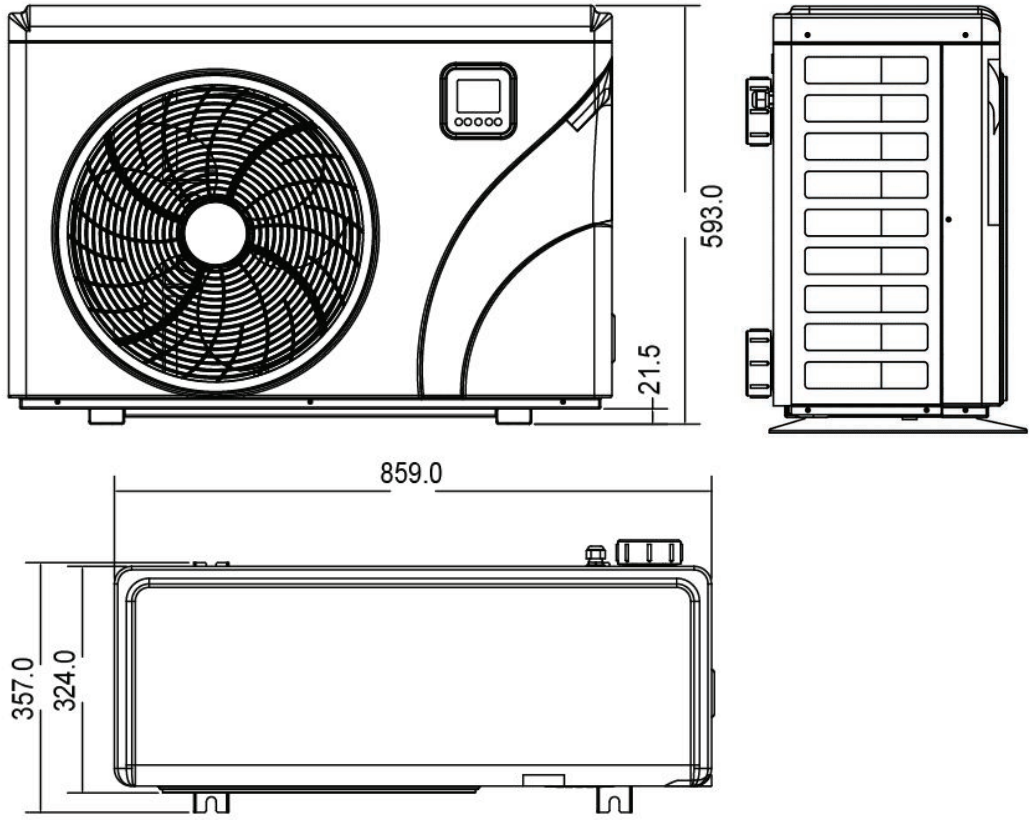
Model		INVERBOOST 075P	INVERBOOST 095P	INVERBOOST 125P	INVERBOOST 145P	INVERBOOST 165P
*** Performance at Air 28℃, Water 28℃, Humidity 80%**						
Heating capacity	kW	7.5-2.2	9.5-2.3	12.5-2.9	14.5-3.2	16.5-3.8
Power consumption	kW	1.3-0.14	1.64-0.14	2-0.18	2.34-0.2	2.75-0.24
C.O.P.		16-5.6	16-5.8	16-6.2	16-6.2	16-6
*** Performance at Air 15℃, Water 26℃, Humidity 70%**						
Heating capacity	kW	4.7-2.5	6.6-1.9	8.5-2	9.5-2.2	11.2-3
Power consumption	kW	1.02-0.35	1.43-0.27	1.89-0.28	2.07-0.31	2.43-0.42
C.O.P.		7.1-4.5	7.1-4.5	7.2-4.5	7.2-4.5	7.2-4.5
*** General data**						
Compressor type		Inverter Compressor				
Voltage	V	220~240V / 50Hz to 60Hz /1PH				
Rated current	A	5.8	6.9	8.9	10	12.2
Minimum fuse	A	9	10	14	15	18
Advised water flux	m3/h	2.5	2.8	3.7	4	4.6
Water pressure drop	Kpa	12	12	14	15	15
Heat exchanger		Twist-titanium tube in PVC				
Water connection	mm	50				
Fan quantity		1				
Ventilation type		Horizontal				
Noise level(10m)	dB(A)	≤41	≤42	≤42	≤43	≤43
Noise level(1m)	dB(A)	40-50	40-52	40-52	40-54	41-54
*** Dimension/ Weight**						
Net weight	kg	44	47	54	57	62
Gross weight	kg	51	54	61	64	69
Net dimension	mm	859*357*593			986*375*693	
Packing dimension	mm	925*440*738			1095*410*838	

Model		INVERBOOST 215P	INVERBOOST 255P	INVERBOOST 305P	INVERBOOST 305PT
*** Performance at Air 28℃, Water 28℃, Humidity 80%**					
Heating capacity	kW	19.5-4.7	24.5-5.9	28.5-6.8	28.5-6.8
Power consumption	kW	3.25-0.29	4.08-0.37	4.75-0.43	4.75-0.43
C.O.P.		16-6	16-6	16-6	16-6
*** Performance at Air 15℃, Water 26℃, Humidity 70%**					
Heating capacity	kW	14-3.9	17.2-4.5	22.2-5.6	22.2-5.6
Power consumption	kW	3.11-0.54	3.74-0.63	4.82-0.78	4.82-0.78
C.O.P.		7.2-4.5	7.2-4.5	7.2-4.6	7.2-4.6
*** General data**					
Compressor type		Inverter Compressor			
Voltage	V	220~240V / 50Hz to 60Hz /1PH			380-415V/50Hz/3PH
Rated current	A	14.4	18.1	21	8.5
Minimum fuse	A	22	27	34	13
Advised water flux	m3/h	5	8	10	10
Water pressure drop	Kpa	18	20	25	25
Heat exchanger		Twist-titanium tube in PVC			
Water connection	mm	50			
Fan quantity		1			2
Ventilation type		Horizontal			
Noise level(10m)	dB(A)	≤45	≤46	≤49	≤49
Noise level(1m)	dB(A)	41-54	42-60	42-60	42-60
*** Dimension/ Weight**					
Net weight	kg	78	84	112	112
Gross weight	kg	85	91	119	119
Net dimension	mm	1074*379*894			1040*369*1297
Packing dimension	mm	1140*495*1038			1155*435*1440

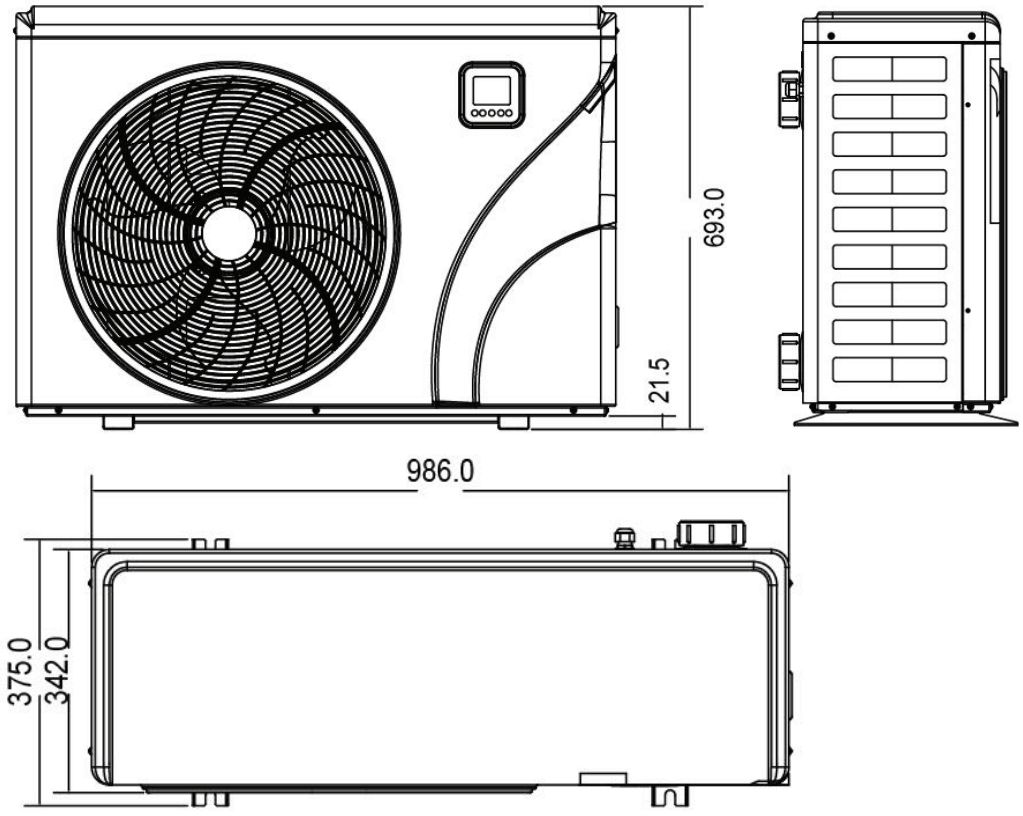
* Above data may be modified without notice.

2. Dimension

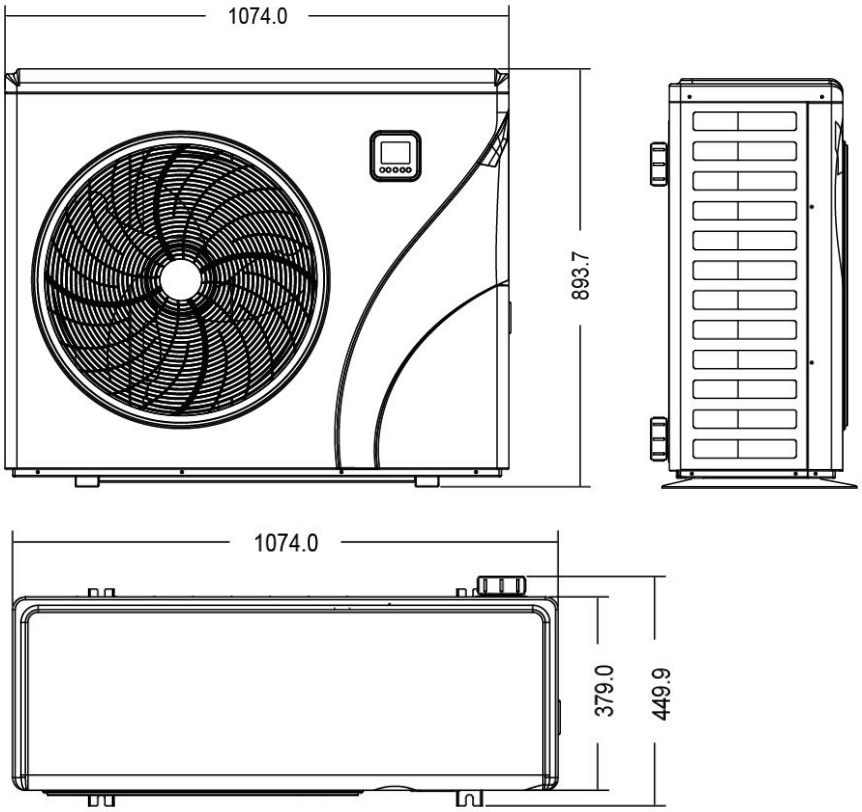
INVERBOOST 075P/INVERBOOST 095P



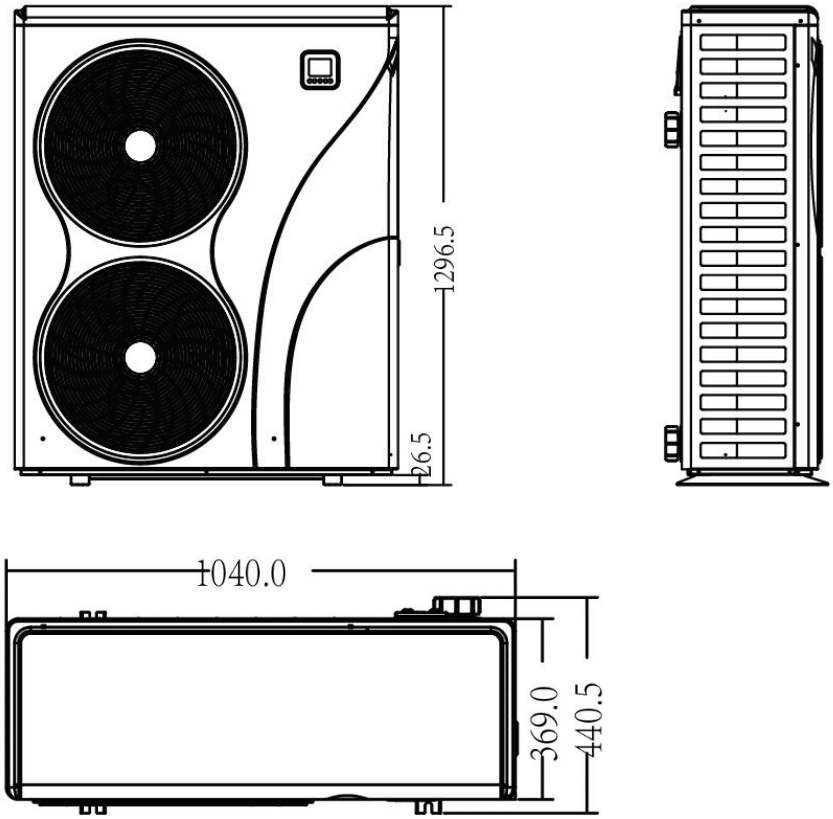
INVERBOOST 125P/INVERBOOST 145P/INVERBOOST 165P



INVERBOOST 215P/INVERBOOST 255P



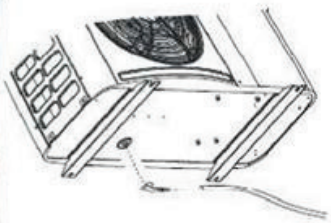
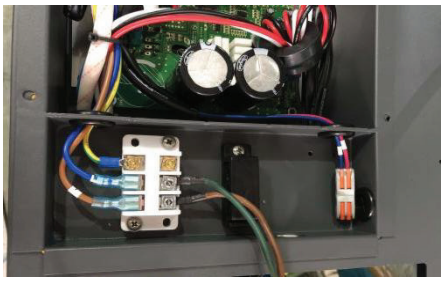
INVERBOOST 305P/INVERBOOST 305PT

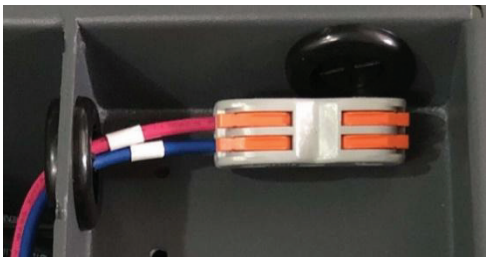


Unit: mm

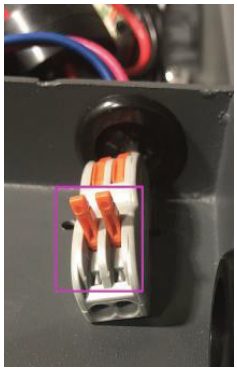
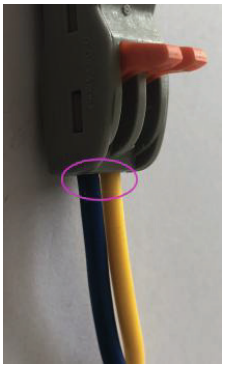
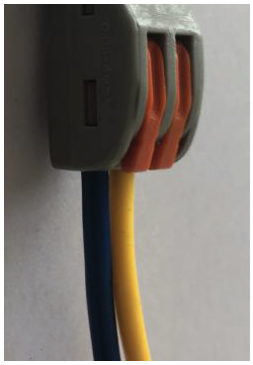
3. Installation and connection

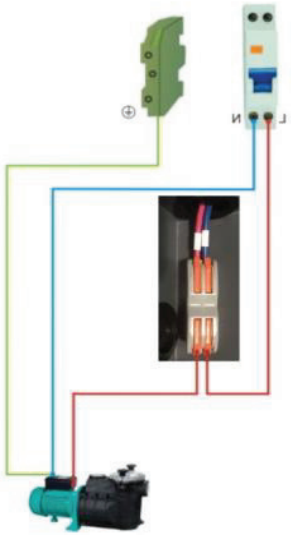
3.1 Installation

	**Anti-vibration bases** 1. Take out 4 Anti-vibration bases 2. Put them one by one on the bottom of machine like the picture.
 	**Draining jet** 1. Install the draining jet under the bottom panel 2. Connect with a water pipe to drain out the water. Note: Lift the heat pump to install the jet. Never overturn the heat pump, it could damage the compressor.
	**Water Inlet & outlet junction** 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
	**Mains Cable wiring** 1. Open the cover of the electric box inside the machine 2. Connect the cables in the correct terminal according to electric diagram.

	**Filtration pump wiring (Dry contact)** 1. Open the cover of the electric box inside the machine 2. Connect the cables in the correct terminal according to electric diagram.

Connection to pilot the water pump



Notes

The factory supplies only the 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 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 above the water level of the swimming pool.
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.

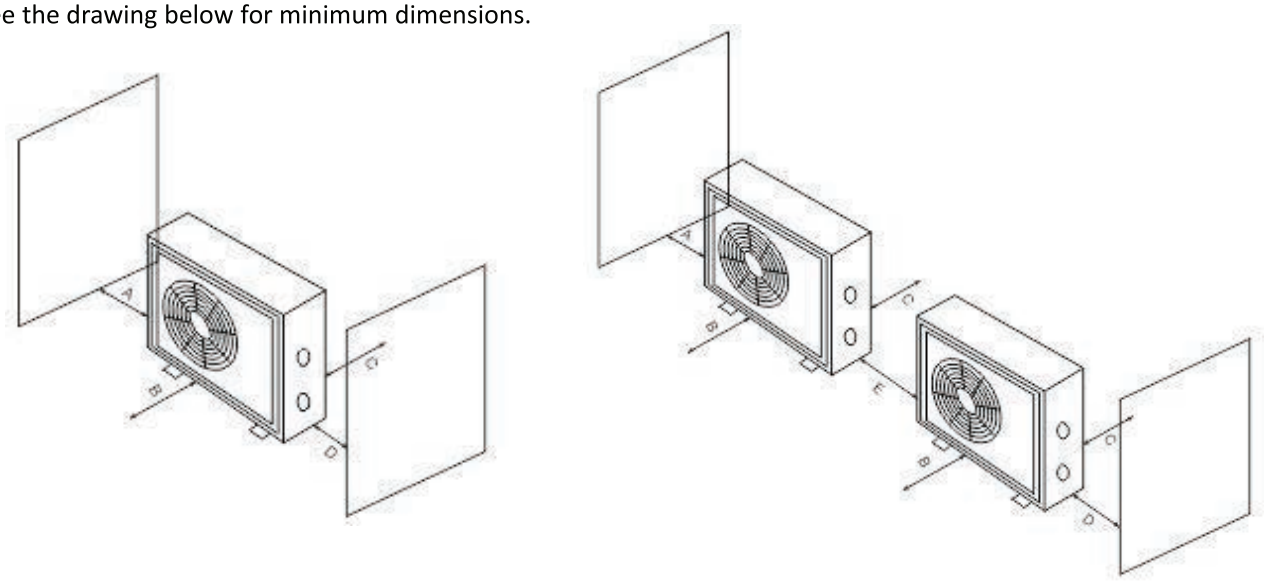
3.2 Heat pump location

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 filters

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 a limited air volume in which the air expelled from the unit will be reused, or close to shrubbery 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.
See the drawing below for minimum dimensions.



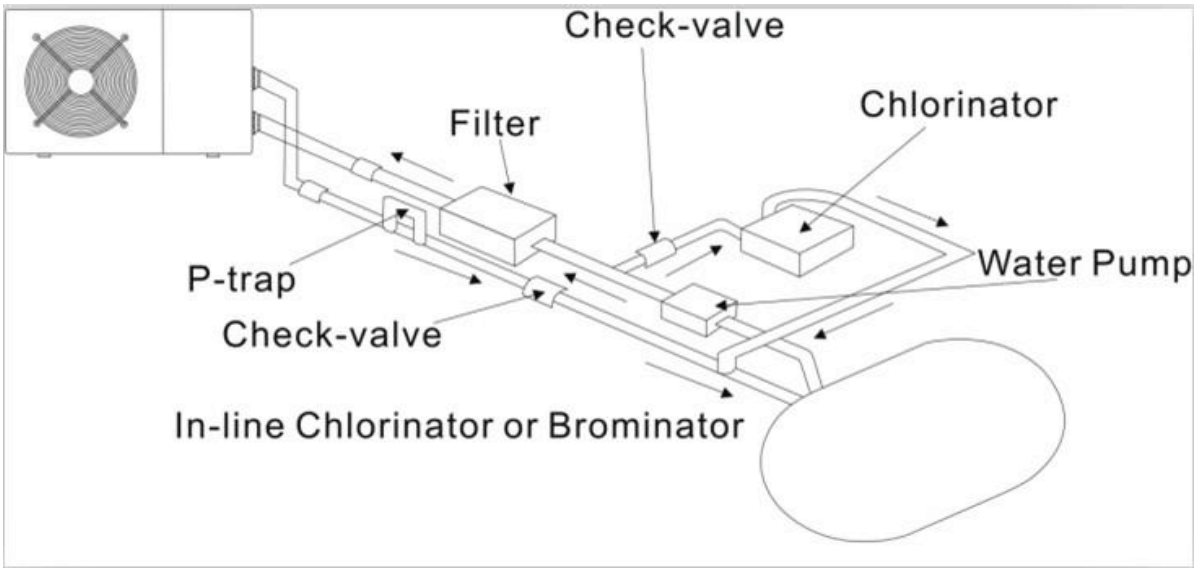
Model	Recommended minimum installation distance					Recommended distance for special cases	
	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	B Reserve space to operate controller	B Reserve space for maintenance
INVERBOOST 075P	300	1500	300	600	600	1500	1500
INVERBOOST 095P	300	1500	300	600	600	1500	1500
INVERBOOST 125P	300	1500	300	600	600	1500	1500
INVERBOOST 145P	300	1500	300	600	600	1500	1500
INVERBOOST 165P	300	1500	300	600	600	1500	1500
INVERBOOST 215P	300	1500	300	600	600	1500	1500
INVERBOOST 255P	300	1500	300	600	800	1500	1500
INVERBOOST 305P	500	2000	500	800	800	2000	2000
INVERBOOST 305PT	500	2000	500	800	800	2000	2000

3.3 Distance from your swimming pool

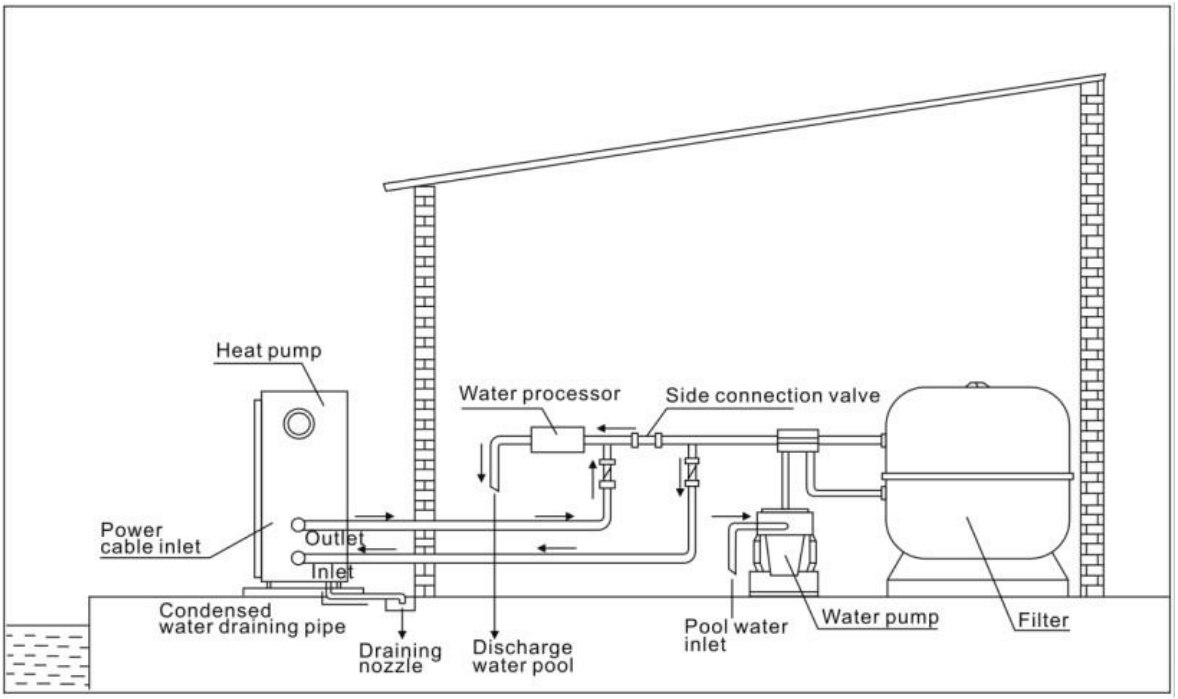
The heat pump is normally installed within a perimeter area extending 7.5 m from the swimming pool. The greater the distance from the pool, the greater the heat loss in the pipes. As the pipes are mostly underground, the heat loss is low for distances up to 30 m (15 m from and to the pump; 30 m in total) 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 ºC 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 acidity (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.



3.5 Typical arrangement



Note: This arrangement is only an illustrative example.

3.6 Initial operation

Note: In order to heat the water in the pool (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:

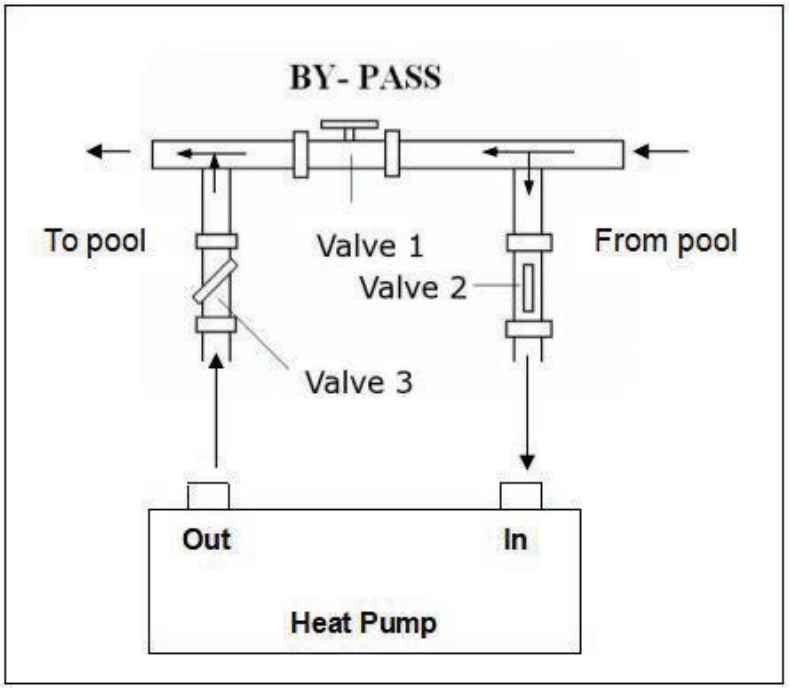
1. Switch on the filter pump. Check for leaks and verify that water is flowing from and to the swimming pool.
2. Connect power to the heat pump and press the On/Off button ⏻ on the electronic control panel. The unit will start up after the time delay expires (see below).
3. After a few minutes, check whether the air blowing out of the unit is cooler.
4. When turn off the filter pump , 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.

3.7 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 liters per hour at high relative humidity. This is sometimes mistakenly regarded as a water leak.

4. Adjusting the bypass kit



Use the following procedure to adjust the bypass:

- fully open all three valves
- slowly close valve 1 until the water pressure is increased by approximately 100 to 200 g
- Close valve 3 approximately half-way to adjust the gas pressure in the cooling system
- If the display shows "ON" or error code EE03, close step by step the valve 2, to increase water flow and stop when the code disappear.

Optimal operation of the heat pump occurs when the cooling gas pressure is 22 ±2 bar.
This pressure can be read on the pressure gauge next to the control heat pump panel. Under these conditions the water flow through the unit is also optimal.

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.

Water Flow Switch:
It is equipped with a flow switch for protecting the HP unit running with adequate water flow rate .It will turn on when t he pool pump runs and shut it off when the pump shuts off. If the pool water level higher than 1 m 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.

5. Display Controller Operation

5.1. Guide for operation



When the heat pump connects to the power, the display shows a code for 3 seconds which indicates the heat pump model.

5.2 The keys and their operations

5.2.1  button

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

Press  to stop the heat pump unit and show “OFF”

Notice : During the parameter checking and setting, press the  to quick-exit and save the current setting .

Press  again to turn on/off the machine.

5.2.2  and  button

Lock/unlock the display:

Hold  and  for 5 seconds to lock/Unlock the display.

The display will lock automatically after 30s of standby. (when the display is locked, the "locker  " icon is lighted ON)

Water temperature setting:

Press  or  to set the water temperature directly.

Heating mode and Auto mode setting range: 6-41℃

Cooling mode setting range: 6-35℃

5.2.3 button working mode

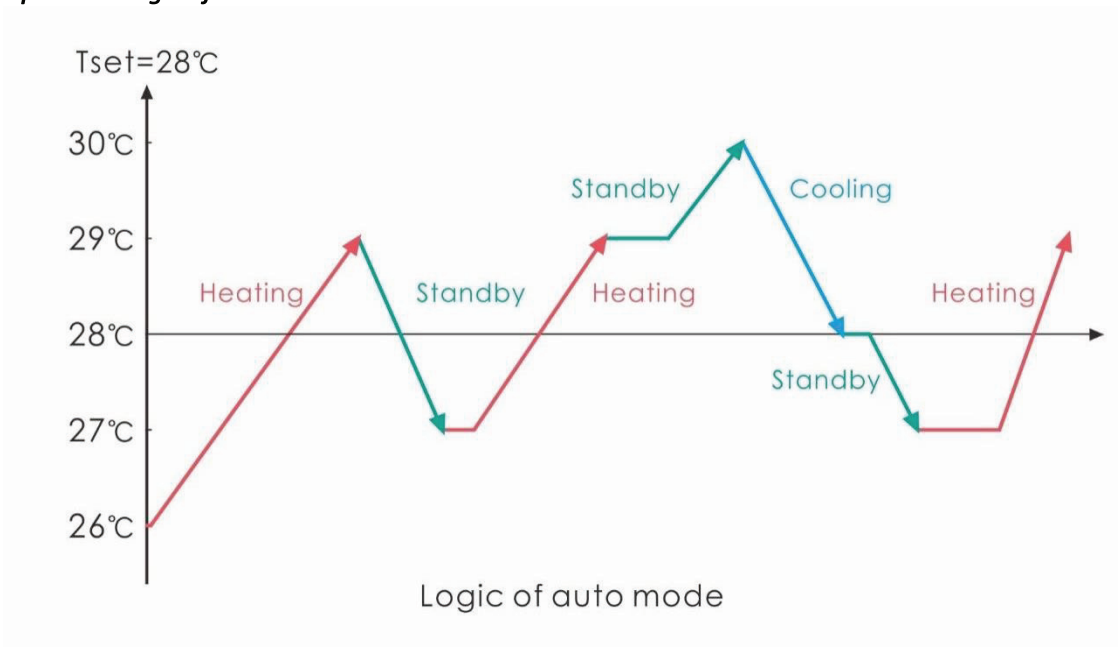
Press to change the working mode, Turbo, Smart and silent .The default mode is smart mode.
While you choose the ***Turbo***, the word "**Turbo"** will be lit, the heat pump will operate in 'Full output' only.
Choose the ***Smart***, the word **"Smart"** will be lit, the heat pump will operate in 'Medium and Full output'.
*C*hoose the ***Silent,*** the word **"Silent"** will be lit, heat pump will operate in 'Medium and Small output'.

5.2.4 button mode

Press for 5S to switch the heating mode ,cooling mode and auto mode .

Remark: When defrosting, the heating symbol will flash.

Operation logic of Auto Mode:



5.2.5 Parameter checking

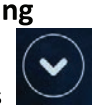
Press , then press to check d0-d14 value.



Code	Condition	Scope	Remark
d0	IPM mould temperature	0-120℃	Real testing value
d1	Inlet water temp.	-9℃～99℃	Real testing value
d2	Outlet water temp.	-9℃～99℃	Real testing value
d3	Ambient temp.	-30℃～70℃	flash if Real value<-9
d4	Frequency limitation code	0,1,2,4,8,16	Real testing value
d5	Piping temp.	-30℃～70℃	flash if Real value<-9
d6	Gas exhaust temperature	0℃～C5℃ (125℃)	Real testing value
d7	Step of EEV	0～99	N*5
d8	Compressor running frequency	0～99Hz	Real testing value
d9	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

5.2.6 Parameter setting

Press  ,then press  to choose P0-P18 value, and press  again to enter the setting interface,in which parameter will flash.



Code	Name	Scope	Default	Remark
P0	Mandatory defrosting	0-1	0	0: Default normal operation 1: mandatory defrosting
P1	Working mode	0-1	1	1:Heating mode, 0:cooling mode
P2	Timer on/off	0-1	0	1 Timer on/off is under function，0 Timer on/off is out of function (The setting of P5 and P6 won't work)
P3	Water pump	0-1	0	1: Always running; 0: Depends on the running of compressor
P4	Current time	HH:MM	00：00	0-23:0-59

P5	Timer on	HH:MM	00：00	0-23:0-59
P6	Timer off	HH:MM	00：00	0-23:0-59
P7	Water temp. calibration	-9～9	0	Default setting: 0
P14	Restore to factory settings	0-1	0	1-Restore to factory settings， 0- default（restore P0, P1, P2, P3, P5, P6, P7, P8, P9, 10, P11 to factory setting)
P16	Product code	/	/	Depends on the machine
P18	Mode	0-1	0	1—Heating only， 0—Heating/Cooling/Auto mode

Note:

1). Long press  for 20s to set P14, P16, P18.
2). P8,P9,P10,P11,P19,P20 parameter is only for factory setting.

5.2.7 System reset function

Press  , then press  to choose P14, and enter into the value setting interface by long press  for 20s, in which parameter will flash. Press  or  to set the value **1**, finally press  to save settings.

5.2.8 

Symbol of TIMER ON, the light will be on when the value of P2 is 1, which means TIME ON & OFF function is working. Then set the current time(Parameter P4), TIMER ON (Parameter P5) and TIMER OFF (Parameter P6). All the symbols (except symbol ) on the display will be off when TIMER is OFF.

Note: The symbol  keeps on when restart the heat pump after TIME OFF, unless the value of P2 is set to 0.

5.2.9 System filtration pilot function

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.

	Condition	Example	Water pump working logic	
Heating mode	P3=0, d1≥Tset-0.5℃, last for 30 minutes	P3=0, d1≥27.5℃, 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 d1≤27℃, the heat pump will start to work until d1≥27.5℃ and last for 30 minutes to go into standby
Cooling mode	P3=0, d1≤Tset+0.5℃, last for 30 minutes	P3=0, d1≤28.5℃, 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 d1≥29℃, the heat pump will start to work until d1≤28.5℃ 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, whend1≥Tset+1℃(d1≥29℃) 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℃, before the TIMER OFF, the filtration is still activated.

Condition to stop the heat pump, timer OFF actives;

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

If heat pump is turned ON/OFF manually, the filtration pump will start and stop accordingly.

NOTE :

Tset = Tseting water temperature

For example : Tset = 28℃ Tseting water temperature in your pool heat pump

Tset-0.5 = less 0.5℃ than Tseting temperature, Tset- 0.5 = 28-0.5=27.5℃

Tset+0.5= more 1℃ than Tseting temperature, Tset+ 0.5 = 28+0.5=28.5℃

5.3 Heating operation logic

Working status		Working mode	Water in temperature-d1	For example, water in temperature-d1	Heat pump working level
1	Start-up of heat pump	When you select the "Smart working mode "	d1< Tset-1	d1< 27℃	Powerful mode-frequency F9
2			Tset-1≦d1 < Tset	27℃≦d1 <28℃	Frequency： F9 -F8-F7,...,-F2
3			Tset≦ d1 <Tset+ 1	28℃≦ d1 <29℃	Silent mode-frequency F2
4			d1≧Tset+1	d1≧29℃	HP will be in Standby, stop working until the water temperature drops to less 28℃.
5		When you select the "Silent working mode".	d1< Tset	d1< 28℃	Smart mode -frequency F5.
6			Tset≦d1 < Tset+1	28℃≦d1 < 29℃	Silent mode-frequency F2/F1.
7			d1≧Tset+1	d1≧29℃	HP will be in Standby, stop working until the water temperature drops to less 28℃.
8		When you select the "Powerful working mode."	d1<Tset+1	d1<29℃	Powerful mode-frequency F10/F9
9			d1≧ Tset+1	d1≧29℃	HP will be in Standby, stop working until the water temperature drops to less 28℃.
10	Re-start to heat water in standby status	When HP is working at " Smart mode"	d1≧Tset	d1≧28℃	Standby
11			Tset＞d1≧Tset-1	28℃＞d1≧27℃	Silent-frequency F2
12			Tset-1＞d1≧Tset-2	27℃＞d1≧26℃	Frequency： F2 -F3-F4,...,-F9
13			<Tset-2	<26℃	Powerful-frequency F9
14		When HP is working at " Silent mode"	≧Tset	≧28℃	Standby
15			Tset＞d1≧Tset-1	28℃＞d1≧27℃	Silent mode-frequency F2/F1
16			d1<Tset-1	d1<27℃	Smart -frequency F5
17		When HP is working at " Powerful mode"	d1<Tset-1	d1<27℃	Powerful -frequency F10/F9

5.4 Cooling operation logic

Working status		Working mode	Water in temperature	For example, water in temperature	Heat pump working level
1	Start-up of heat pump	When you select the "Smart working mode "	d1≦Tset-1	d1≦27℃	Standby.
2			Tset-1<d1 ≦Tset	27℃< d1 ≦ 28℃	Silent mode-frequency F2
3			Tset<d1≦Tset+1	28< d1 ≦29℃	frequency： F9 -F8-F7,...,- F2
4			d1≧Tset+1	d1≧29℃	Powerful mode-F9
5		When you select the "Silent working mode".	d1≦Tset-1	≦27℃	Standby
6			Tset-1<d1 ≦Tset	27℃< d1≦28℃	Silent mode - frequency F2/F1
7			d1>Tset	d1>28℃	Smart mode -frequency F5
8		When you select the "Powerful working mode."	d1>Tset-1	d1>27℃	Powerful mode-frequency F10/F9
9			d1≦Tset-1	d1≦27℃	Standby
10	Re-start to cool water in standby status	Smart	d1≦Tset-1	d1≦27℃	Standby
11			Tset ≦d1 <Tset+1	28 ≦d1 <29℃	Silent- frequency F2
12			Tset+1 ≦d1 <Tset+2	29 ≦d1 <30℃	Frequency: F2 -F3-F4,...,- F9
13			d1≧Tset+2	d1≧30℃	Powerful mode -frequency F9
14		Silent	Tset<d1≦Tset+1	28< d1≦29℃	Silent mode-frequency F2/F1
15			d1＞Tset+1	d1＞29℃	Smart mode-frequency F5
16		Powerful	d1＞Tset+1	d1＞29℃	Powerful mode-frequency F10/F9
17			d1≦Tset-1	d1≦27℃	Standby

6. Malfunction and Trouble Shooting

6.1 Error code display on LED wire controller

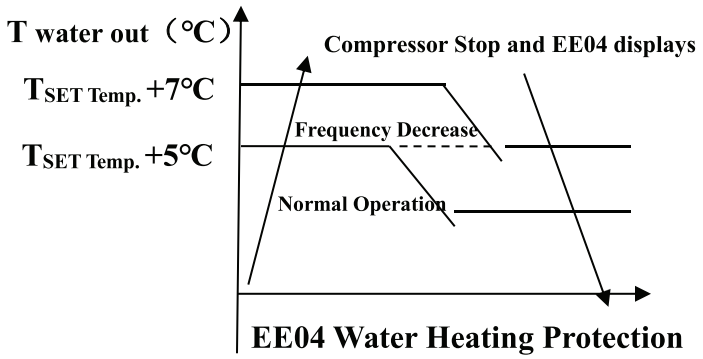
Malfunction	Error code	Reason	Solution
Inlet water temperature sensor failure	PP01	1. The sensor in open or short circuit 2. The wiring of sensor is loose	1. Check or change the sensor 2.Re-fix the wiring of the sensors
Outlet water temperature sensor failure	PP02	1. The sensor in open or short circuit 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	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
Gas return sensor failure	PP04	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	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	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	Normal protection
Low ambient temperature protection	PP08	1.Beyond the scope of using environment 2. Sensor abnormality	1. Stop using, beyond the scope of using 2.Change the sensor
Piping temperature too high protection under cooling mode	PP10	1. Ambient temperature is too high or the water temperature is too high in cooling mode 2. Refrigeration system is abnormal	1. Check the scope of using 2. Check refrigeration system
d2-TH5 water temp. Too low protection under cooling mode	PP11	1. Low water flow 2. d2-TH5 temperature sensor abnormal	1. Check water pump and waterway system 2. Change d2-TH5 temperature sensor
High pressure failure	EE01	1. Ambient temperature is too high 2. Water temperature is too high 3. Water flow is too low Fan motor speed is abnormal or fan motor has damaged	1. Check the water flow or water pump 2. Check the fan motor 3. Check and repair the piping system
Low pressure failure	EE02	1. EEV has blocked or pipe system is jammed 2. Motor speed is abnormal or motor has damaged 3. Gas leakage	1. Check the EEV and piping system Check the motor 2. Through the high pressure gauge to check the pressure value
Water flow failure	ON	1. Water flow switch is damaged 2. No/ Insufficient water flow.	1. Change the water flow switch 2. Check the water pump or the waterway system
Over heating protection for water temperature (d2-TH5) in heating mode	EE04	1. Low water flow 2. Water flow switch is stuck and the water supply is cut off 3. d2-TH5 sensor is abnormal	1. Check the water way system 2. Check the water pump or water flow switch 3. Check d2-TH5 sensor or change another one
d6-TH3 Exhaust too high protection	EE05	1.Lack of gas 2.Low water flow 3.Piping system has been blocked 4.Exhaust temp. Sensor failure	1. Check the high pressure gauge, if too low, fill with some gas 2. Check the waterway system and water pump 3. Check the piping system if there was any block 4. Change a new exhaust temp. sensor
Controller failure	EE06	1. Wire connection is not good, or damaged signal wire 2. Controller failure	1. Check and re-connect the signal wire 2. Change a new signal wire

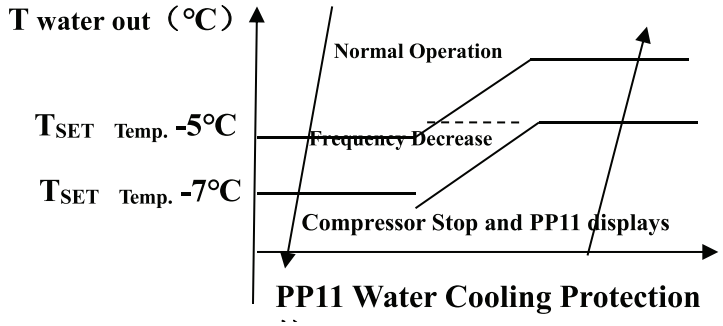
			3. Turn off electricity supply and restart machine 4. Change anew controller
Compressor current protection	EE07	1. The compressor current is too large instantaneously 2. Wrong connection for compressor phase sequence 3.Compressor accumulations of liquid and oil lead to the current becomes larger 4. Compressor or driver board damaged 5. The water flow is abnormal 6. Power fluctuations within a short time	1. Check the compressor 2. Check the waterway system 3. Check if the power in the normal range 4. Check the phase sequence connection
Communication failure between controller and main board	EE08	1. Poor signal wire connection or damaged signal wire 2. Controller malfunction	1. Check and re-connect the signal wire 2. Change a new signal wire 3. Turn off electricity supply and restart machine 4. Change anew controller
Communication failure between Main control board and Driving board	EE09	1. Poor connection of communication wire 2. The wire is damaged	1. Check the wire connection 2. Change a new wire
VDC voltage too high protection	EE10	1. Mother line voltage is too high 2. Driver board is damaged.	1. Check if the power is in the normal range 2. Change driver board or main board
IPM module protection	EE11	1. Data mistake 2. Wrong compressor phase connection 3. Compressor liquid and oil accumulation lead to the current becomes larger 4. Compressor or driver board damaged	1. Program error, turn off electricity supply and restart after 3 minutes 2. Change driver board 3. Check compressor sequence connection
VDC voltage too low protection	EE12	1. Mother line voltage is too low 2. Driver board is damaged.	1. Check if the power is in the normal range 2. Change driver board
Input current over high protection.	EE13	1. The compressor current is too large momentary 2. The water flow is abnormal 3. Power fluctuations within a short time 4. Wrong PFC inductor	1. Check the compressor 2. Check the waterway system 3. Check if the power is in the normal range 4. Check if the correct PFC inductor is used
IPM module thermal circuit is abnormal	EE14	1. Output enormity of IPM module thermal circuit 2. Fan motor is abnormal or damaged Fan blade is broken	1. Change a driver board 2. Check if the motor speed is too low or fan motor damaged, change another one 3. Change another fan blade
IPM module temperature too high protection	EE15	1. Output exception of IPM module thermal circuit 2. Motor is abnormal or damaged 3. Fan blade is broken	1. Change a driver board 2. Check if the fan motor speed is too low or fan motor damaged, change another one 3. Change another fan blade
PFC module protection	EE16	1. Output exception of PFC module 2. Motor is abnormal or damaged 3. Fan blade is broken 4. Input voltage leap, input power is abnormal	1. Change a driver board 2. Check if the motor speed is too low or fan motor damaged, change another one 3. Change another fan blade 4. Check the input voltage
DC fan motor failure	EE17	1. DC motor is damaged 2. Main board is damaged 3. The fan blade is stuck	1. Detect DC motor, replace with a new one 2. Change a new main board 3. Find out the barrier and work it

			out
PFC module thermal circuit is abnormal	EE18	The driver board is damaged	1. Change a new driver board 2. Check if the fan motor speed is too low or fan motor damaged, change another one
PFC module high temperature protection	EE19	1. PFC module thermal circuit output abnormal 2. Motor is abnormal or damaged 3. Fan blade is broken 4. The screw in the driver board is not tight	1. Change a new driver board 2. Check if the motor speed is too low or fan motor damaged, change another one 3. Change another fan blade 4. Check if the screw is loose
Input power failure	EE20	The supply voltage fluctuates too much	Check whether the voltage is stable
Software control exception	EE21	1.Compressor runs out of step 2. Wrong program 3. Impurity inside compressor causes the unstable rotate speed	1. Check the main board or change a new one 2. Enter correct program
Current detection circuit failure	EE22	1. Voltage signal abnormal 2. Driver board is damaged	1. Check the main board or change a new one 2. Change a new driver board
Compressor start failure	EE23	1. Main board is damaged 2. Compressor wiring error or poor contact or unconnected 3. Liquid accumulation inside 4. Wrong phase connection for compressor	1. Check the main board or change a new one 2. Check the compressor wiring according to the circuit diagram 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 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 d5-TH2 or d3-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 boar
The inter-chip communication failure on the main control board	EE28	Main board failure	1. Turn off 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℃, controller displays EE04 for water over-heating protection.
2. In cooling mode, if the water out temperature is lower than the set temperature over 7℃, controller displays PP11 for water over-cooling protection.





For example below:

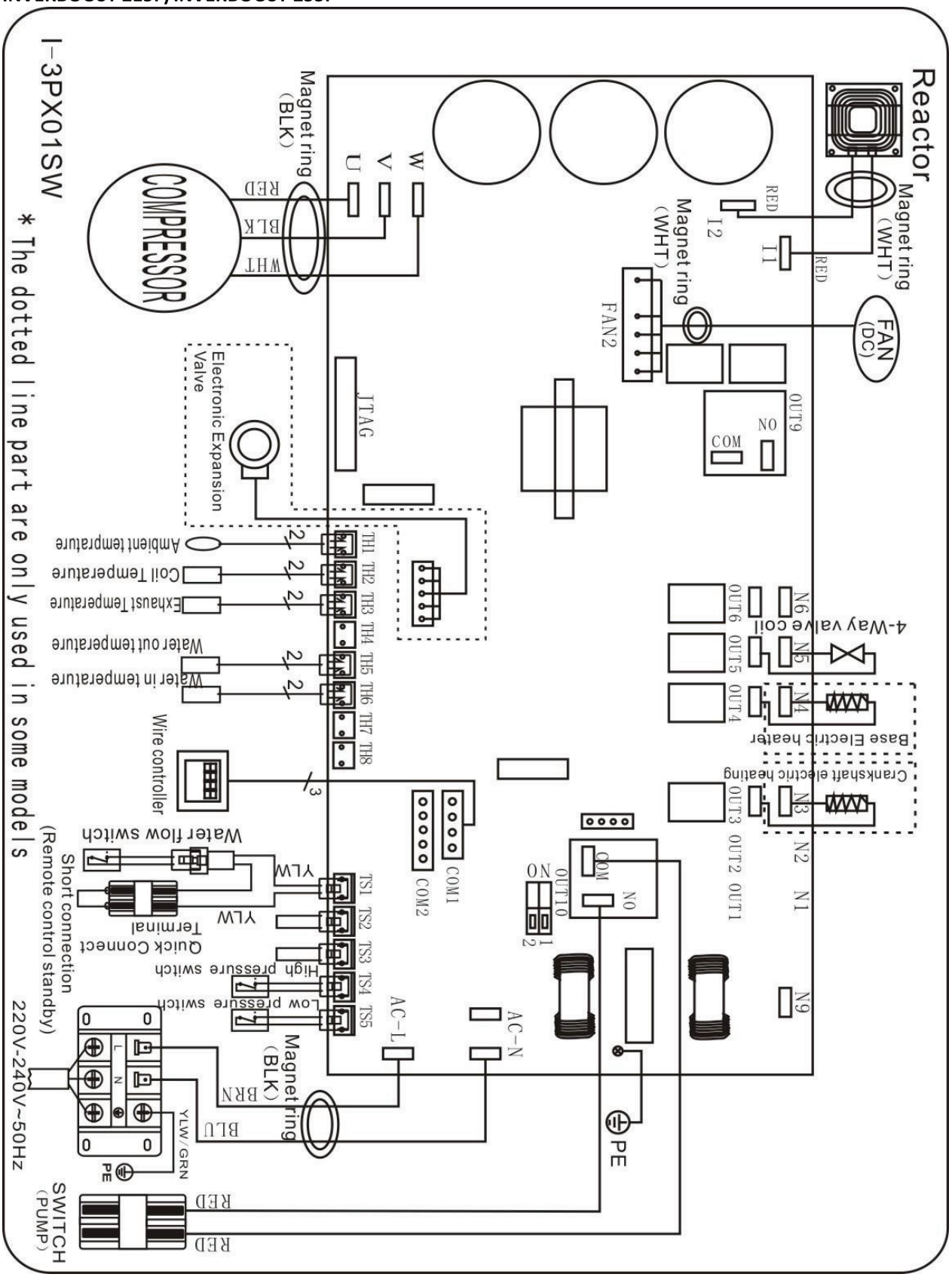
Mode	Water out temperature	Setting temperature	Condition	Malfunction
Heating mode	36℃	29℃	Tout - Tset ≧7℃	EE04 Over heating protection for water temperature (d2-TH5)
Cooling mode	23℃	30℃	Tset - Tout ≧7℃	PP11 Too low protection for water temperature (d2-TH5)

6.2 Other Malfunctions and Solutions (No display on wire controller)

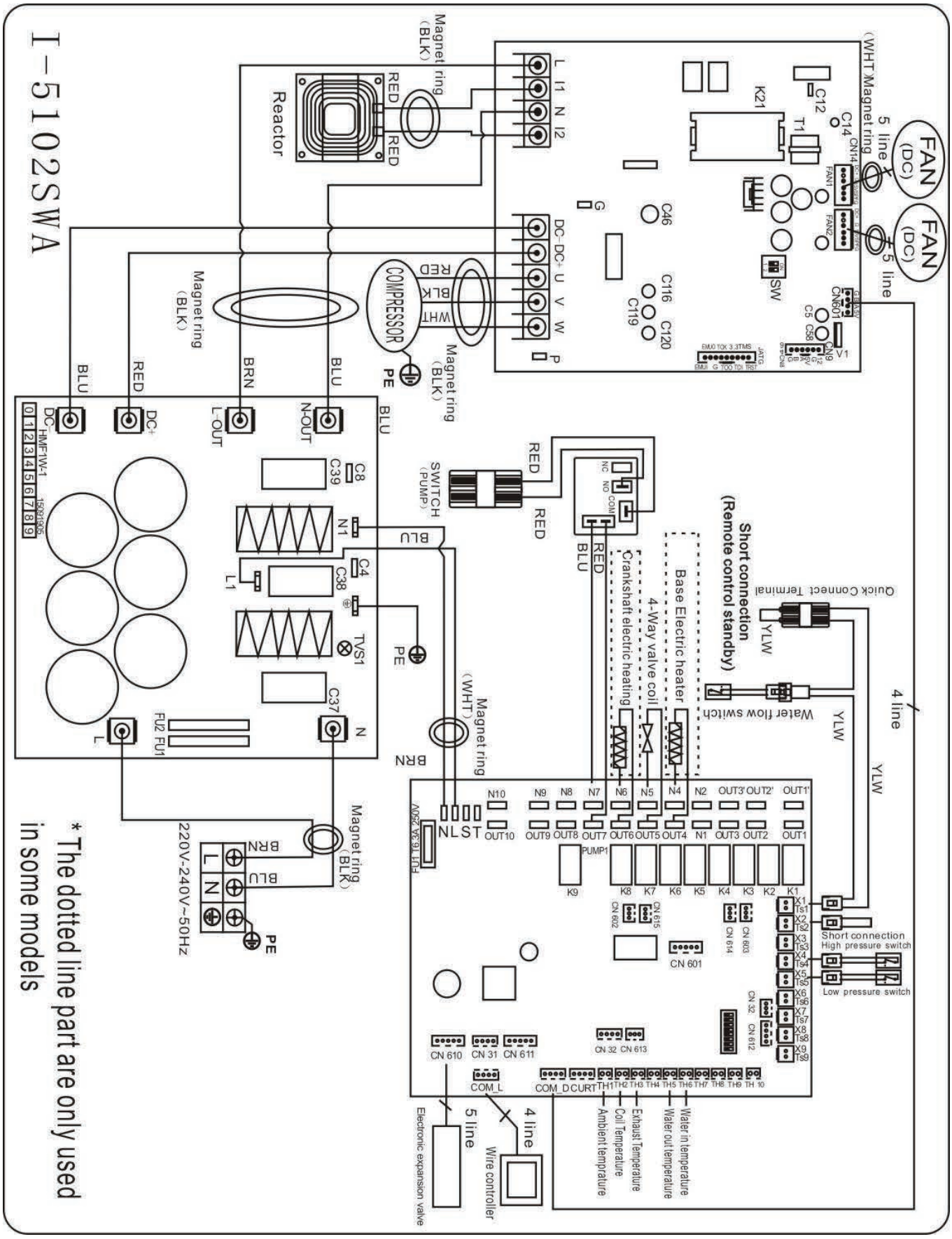
Malfunctions	Observing	Reasons	Solution
Heat pump is not running	LED wire controller no display.	No power supply	Check cable and circuit breaker if it is connected
	LED wire controller. displays the actual time.	Heat pump under standby status	Startup heat pump to run.
	LED wire controller displays the 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 NO 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 if it 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.

7. Electrical Wiring

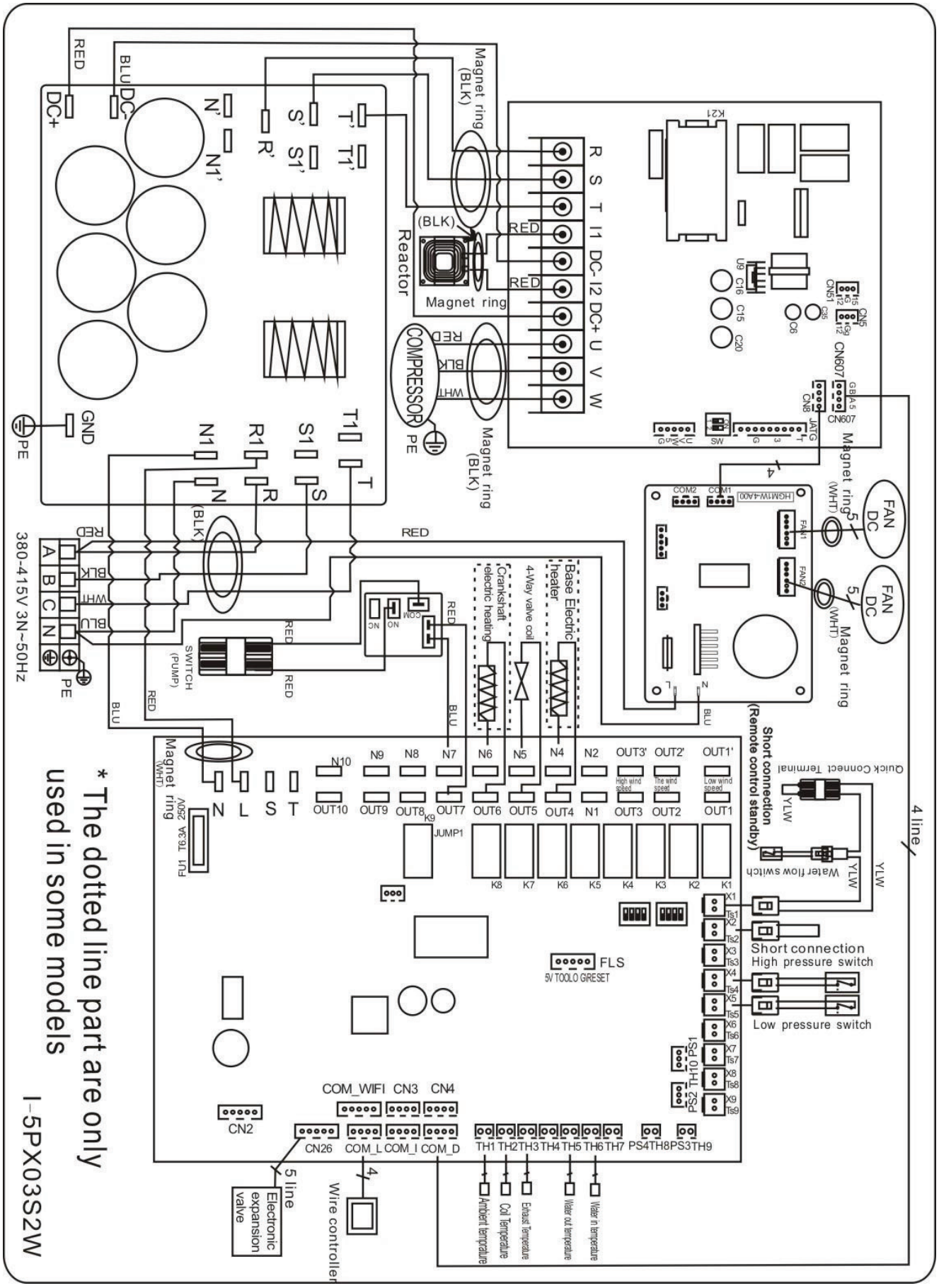
INVERBOOST 075P/INVERBOOST 095P/INVERBOOST 125PINVERBOOST 145P/INVERBOOST 165P/ INVERBOOST 215P/INVERBOOST 255P



INVERBOOST 305P



INVERBOOST 305PT



NOTE:
(1)Above electrical wiring diagram only for your reference, please subject machine posted the wiring diagram.
(2)The swimming pool heat pump must be connected ground wire well, although the unit 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) 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.

8. Maintenance

(1) You should check the water supply system regularly to avoid the 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 the damage of the unit as a result of the dirty of clogged filter.

(3) You should discharge the water from bottom of water pump if HP unit will stop running for a long time (specially during the winter season).

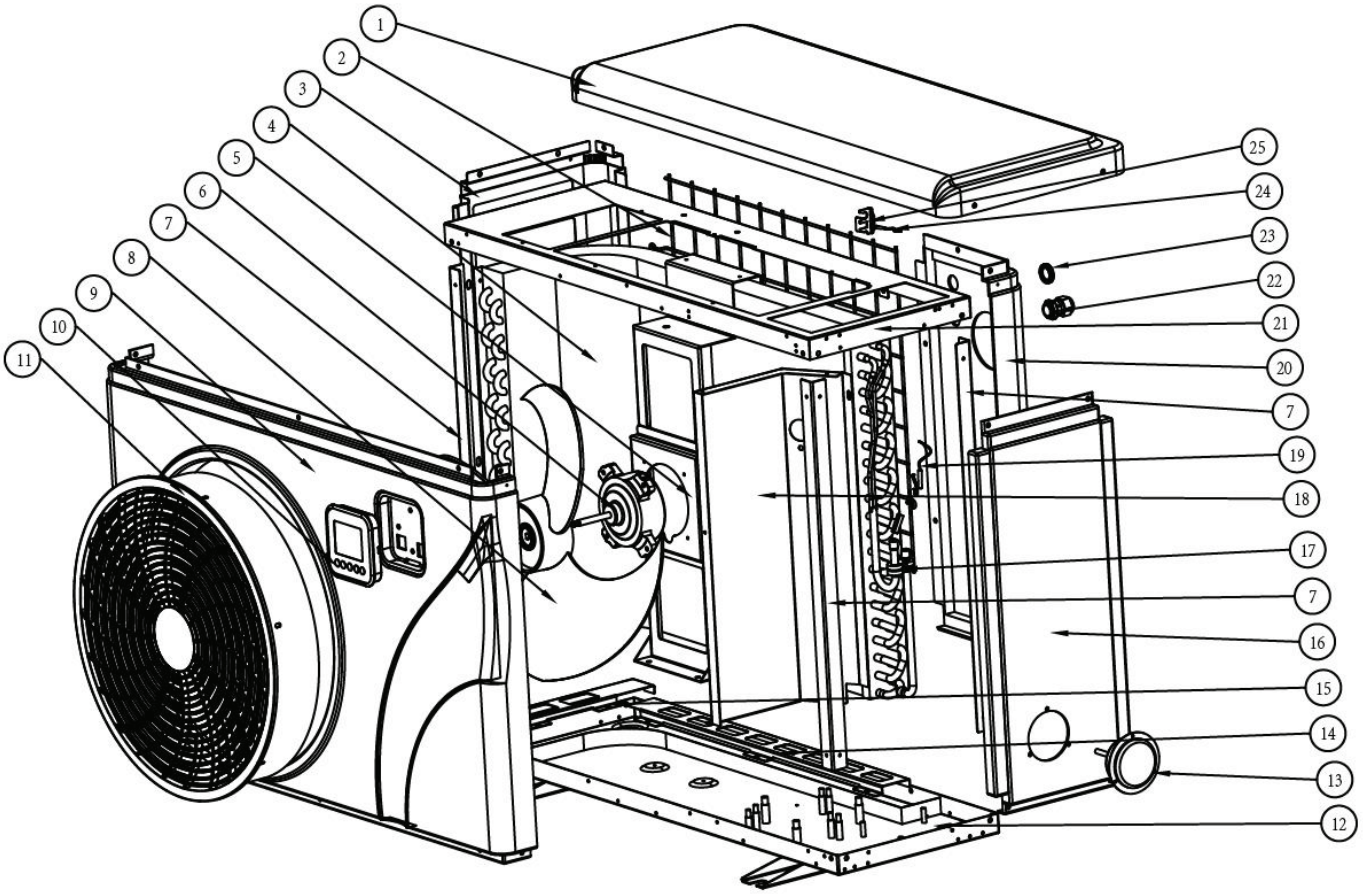
(4) In another way, you should check the unit is water fully before the unit start to run again.

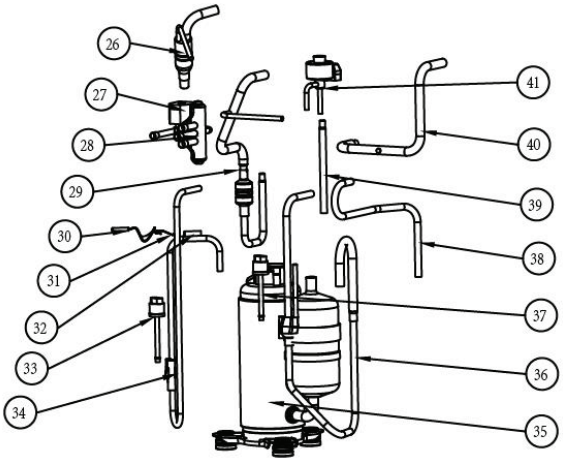
(5) After the unit is conditioned for the winter season, it is recommended to cover the heat pump with special winter heat pump.

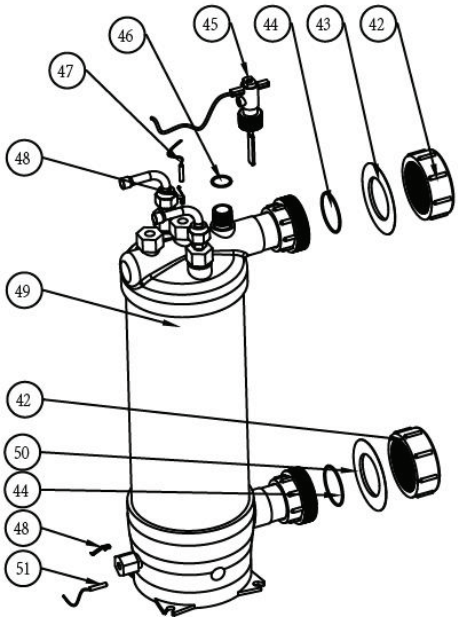
(6) When the unit is running, there is all the time a little water discharge under the unit.

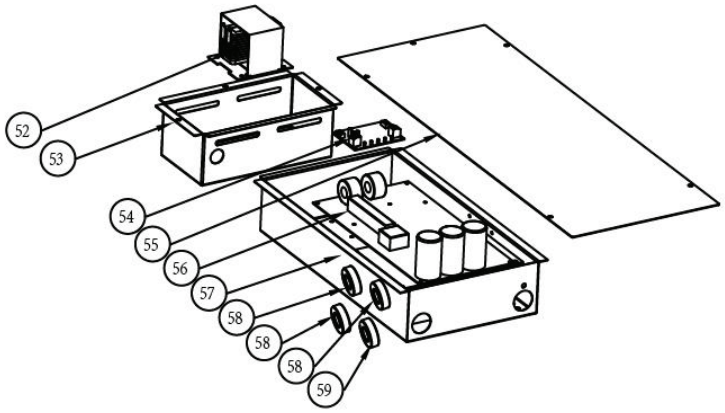
9. Exploded view

INVERBOOST 075P/INVERBOOST 095P









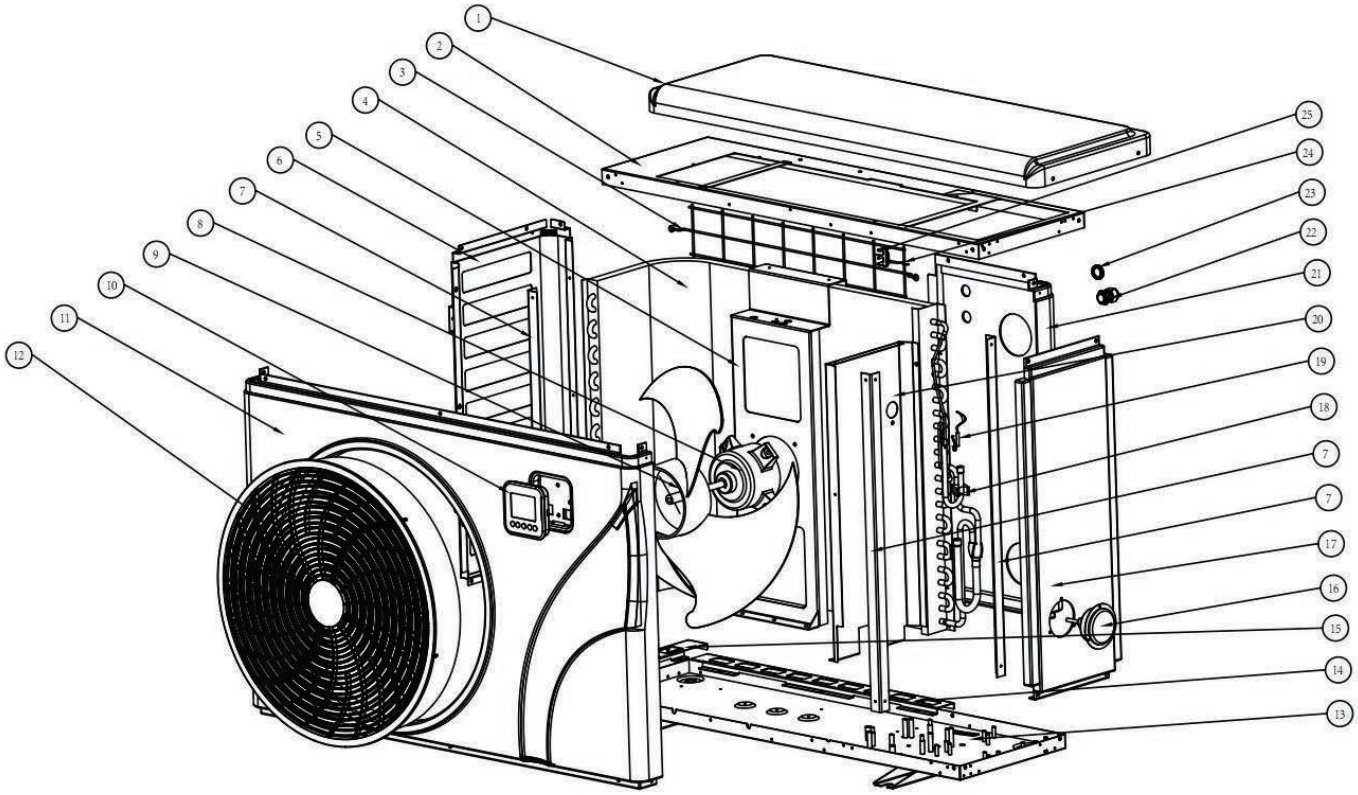
INVERBOOST 075P

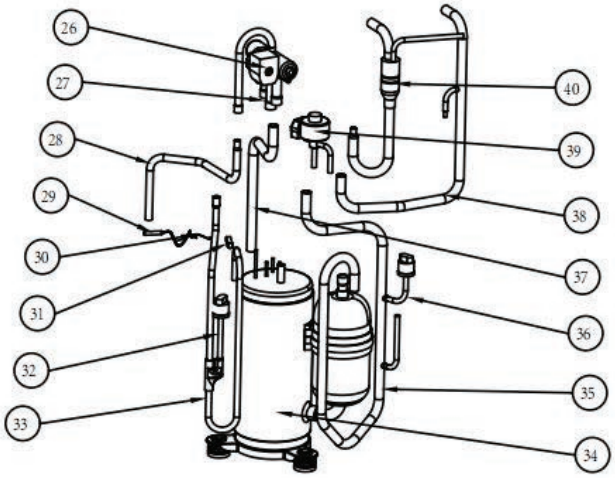
NO.	ERP	Part name	NO.	ERP	Part name
1	133340023	Top cover	31	113190007	Sensor clip
2	108830014	Back grill	32	113190001	Sensor holder
3	108830084	Left panel	33	112100030-4	High pressure switch
4	103000274	Evaporator	34	113010382	Discharge pipe
5	108830006	Fan motor bracket	35	101000221	Compressor
6	112000041	Fan motor	36	113020532	Gas return piping
7	108830018	Pillar	37	116000069	Low pressure switch
8	132000026	Fan blade	38	113060157	4-way valve to evaporator piping
9	133340024	Front panel	39	/	/
10	117020293	Controller	40	113030150	4-way valve to exchanger
11	133020077	Fan grill	41	/	/
12	108830017	Base tray	42	102050004	Water connection sets
13	106000012	Pressure gauge	43	133020012	Red rubber ring
14	108830004	Evaporator support panel	44	133020007	PVC cover
15	108830005	Evaporator support panel	45	1121000213	Water flow switch
16	133340025	Right panel	46	136010089	Rubber ring on water flow switch
17	136020018	Rubber block	47	117110011	Water outlet temp. sensor d2-TH5
18	108830085	Isolation panel	48	108010025	Exchanger temperature sensor clip
19	117110050	Evaporator temperature sensor d5-TH2	49	102041171	Titanium heat exchanger
20	133340005	Back panel	50	133020011	Blue rubber ring
21	108830029	Top frame	51	117110012	Water inlet temp. sensor d1-TH6
22	110000039	Cable connector	52	117230003	Reactor
23	110000013	Cable passing hole	53	108830026	Reactor box
24	117110020	Ambient temp. sensor d3-TH1	54	117020327	TUYA 5GHz Wifi module
25	133020010	Sensor clip	55	108830031	Electric box cover
26	113090098	Exchanger to capillary	56	117100091	PCB
27	121000037	4 way valve coil	57	108830030	Electric box
28	121000035	4 way valve	58	136020119	Cable passing hole
29	/	/	59	136020151	Cable passing hole
30	117110021	Discharge temp. sensor d6-TH3			

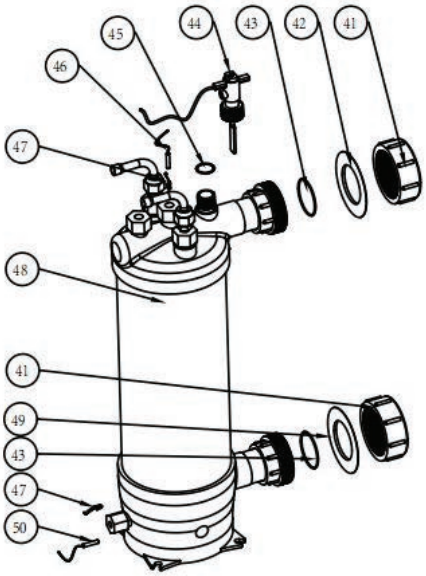
INVERBOOST 095P

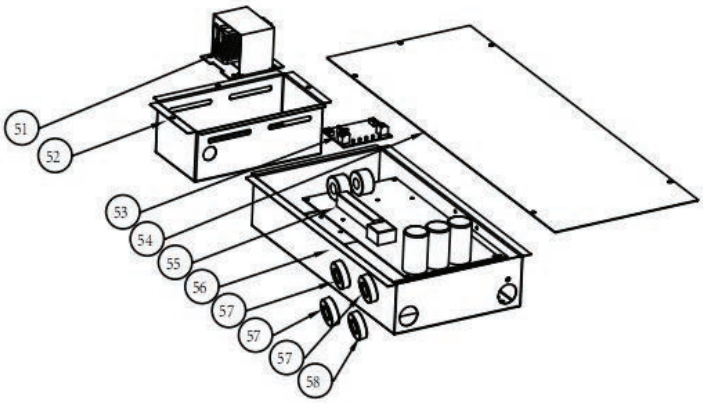
NO.	ERP	Part name	NO.	ERP	Part name
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2	108830014	Back grill	32	113190001	Sensor holder
3	108830084	Left panel	33	112100030-4	High pressure switch
4	103000271	Evaporator	34	113010382	Discharge pipe
5	108830006	Fan motor bracket	35	101000221	Compressor
6	112000041	Fan motor	36	113020532	Gas return piping
7	108830018	Pillar	37	116000069	Low pressure switch
8	132000026	Fan blade	38	113060157	4-way valve to evaporator piping
9	133340024	Front panel	39	113080136	EEV to distribution piping
10	117020293	Controller	40	113030162	4-way valve to exchanger
11	133020077	Fan grill	41	119000058	EEV
12	108830017	Base tray	42	102050004	Water connection sets
13	106000012	Pressure gauge	43	133020012	Red rubber ring
14	108830004	Evaporator support panel	44	133020007	PVC cover
15	108830005	Evaporator support panel	45	1121000213	Water flow switch
16	133340025	Right panel	46	136010089	Rubber ring on water flow switch
17	136020018	Rubber block	47	117110011	Water outlet temp. sensor d2-TH5
18	108830003	Isolation panel	48	108010025	Exchanger temperature sensor clip
19	117110050	Evaporator temperature sensor d5-TH2	49	102041172	Titanium heat exchanger
20	133340005	Back panel	50	133020011	Blue rubber ring
21	108830029	Top frame	51	117110012	Water inlet temp. sensor d1-TH6
22	110000039	Cable connector	52	117230003	Reactor
23	110000013	Cable passing hole	53	108830026	Reactor box
24	117110020	Ambient temp. sensor d3-TH1	54	117020327	TUYA 5GHz Wifi module
25	133020010	Sensor clip	55	108830031	Electric box cover
26	/	/	56	117100091	PCB
27	121000037	4 way valve coil	57	108830030	Electric box
28	121000035	4 way valve	58	136020119	Cable passing hole
29	113070069	Exchanger to EEV	59	136020151	Cable passing hole
30	117110021	Discharge temp. sensor d6-TH3			

INVERBOOST 125P/INVERBOOST 145P/INVERBOOST 165P









INVERBOOST 125P

NO.	ERP	Part name	NO.	ERP	Part name
1	133300032	Top cover	30	113190007	Sensor clip
2	108790071	Top frame	31	113190001	Sensor holder
3	108790049	Back grill	32	112100030-4	High pressure switch
4	103000283	Evaporator	33	113020616	Discharge pipe
5	108790027	Fan motor bracket	34	101000222	Compressor
6	108790176	Left panel	35	113020702	Gas return piping
7	108790035	Pillar	36	112100046-4	Low pressure switch
8	112000102	Fan motor	37	113060156	4-way valve to evaporator piping
9	132000015	Fan blade	38	113030155	4-way valve to exchanger
10	117020293	Controller	39	119000058	EEV
11	133300029	Front panel	40	113070054	Exchanger to EEV
12	133020078	Fan grill	41	102050004	Water connection sets
13	108790175	Base tray	42	133020012	Red rubber ring
14	108790025	Evaporator support panel	43	133020007	PVC cover
15	108790026	Evaporator support panel	44	1121000213	Water flow switch
16	106000012	Pressure gauge	45	136010089	Rubber ring on water flow switch
17	133300030	Right panel	46	117110011	Water outlet temp. sensor d2-TH5
18	136020005	Rubber block	47	108010025	Exchanger temperature sensor clip
19	117110050	Evaporator temperature sensor d5-TH2	48	102041173	Titanium heat exchanger
20	108790024	Isolation panel	49	133020011	Blue rubber ring
21	133300031	Back panel	50	117110012	Water inlet temp. sensor d1-TH6
22	110000039	Cable connector	51	117230003	Reactor
23	110000013	Cable passing hole	52	108790073	Reactor box
24	117110020	Ambient temp. sensor d3-TH1	53	117020327	TUYA 5GHz Wifi module
25	133020010	Sensor clip	54	108790072	Electric box cover
26	121000037	4 way valve coil	55	117100091	PCB
27	121000034	4 way valve	56	108790075	Electric box
28	113080110	EEV to distribution piping	57	136020119	Cable passing hole
29	117110021	Discharge temp. sensor d6-TH3	58	136020151	Cable passing hole

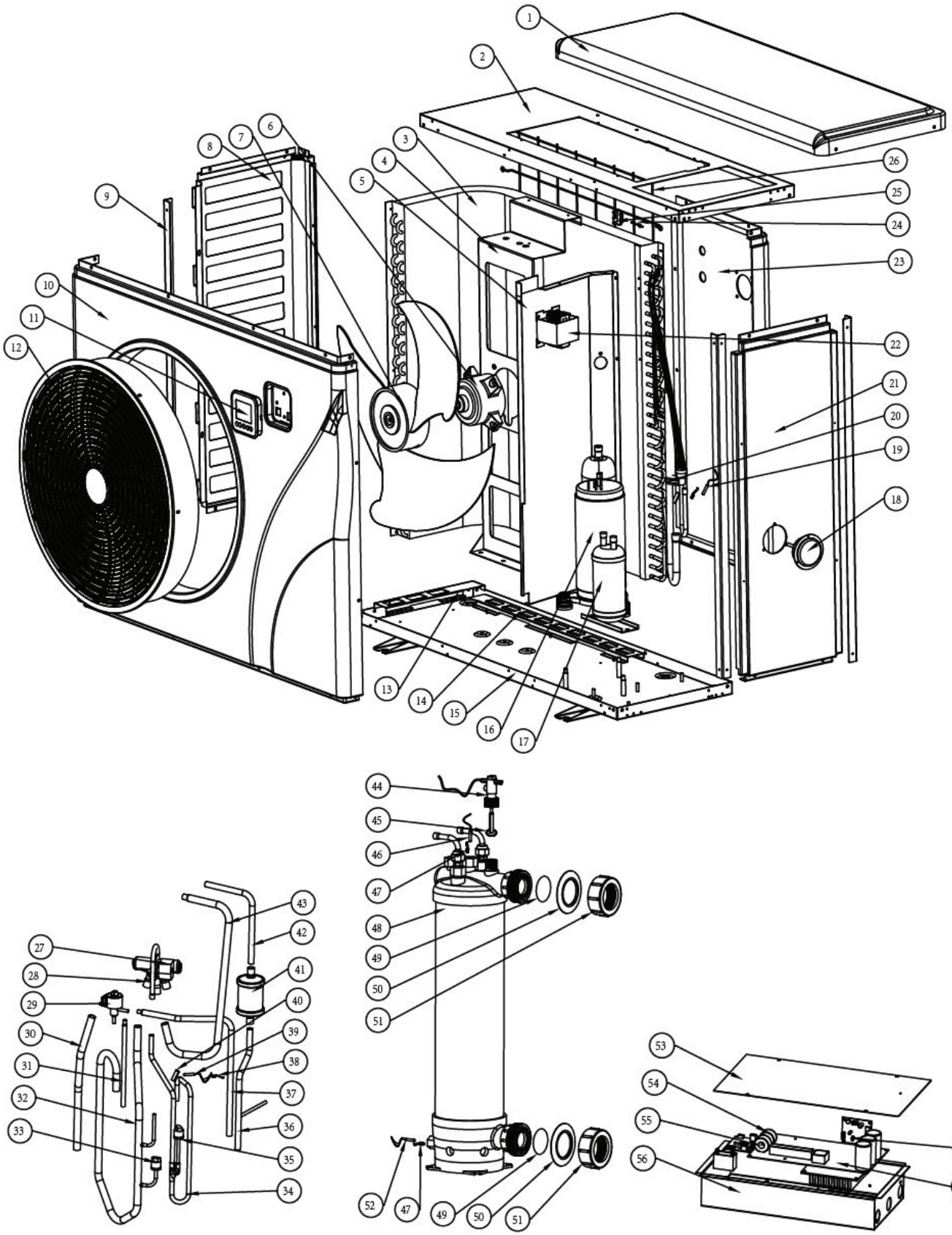
INVERBOOST 145P

NO.	ERP	Part name	NO.	ERP	Part name
1	133300032	Top cover	30	113190007	Sensor clip
2	108790071	Top frame	31	113190001	Sensor holder
3	108790049	Back grill	32	112100030-4	High pressure switch
4	103000290	Evaporator	33	113020616	Discharge pipe
5	108790027	Fan motor bracket	34	101000222	Compressor
6	108790176	Left panel	35	113020702	Gas return piping
7	108790035	Pillar	36	112100046-4	Low pressure switch
8	112000031	Fan motor	37	113060156	4-way valve to evaporator piping
9	132000015	Fan blade	38	113030155	4-way valve to exchanger
10	117020293	Controller	39	119000058	EEV
11	133300029	Front panel	40	113070054	Exchanger to EEV
12	133020078	Fan grill	41	102050004	Water connection sets
13	108790175	Base tray	42	133020012	Red rubber ring
14	108790025	Evaporator support panel	43	133020007	PVC cover
15	108790026	Evaporator support panel	44	1121000213	Water flow switch
16	106000012	Pressure gauge	45	136010089	Rubber ring on water flow switch
17	133300030	Right panel	46	117110011	Water outlet temp. sensor d2-TH5
18	136020005	Rubber block	47	108010025	Exchanger temperature sensor clip
19	117110050	Evaporator temperature sensor d5-TH2	48	102040865	Titanium heat exchanger
20	108790024	Isolation panel	49	133020011	Blue rubber ring
21	133300031	Back panel	50	117110012	Water inlet temp. sensor d1-TH6
22	110000039	Cable connector	51	117230003	Reactor
23	110000013	Cable passing hole	52	108790073	Reactor box
24	117110020	Ambient temp. sensor d3-TH1	53	117020327	TUYA 5GHz Wifi module
25	133020010	Sensor clip	54	108790072	Electric box cover
26	121000037	4 way valve coil	55	117250014	PCB
27	121000034	4 way valve	56	108790074	Electric box
28	113080110	EEV to distribution piping	57	136020119	Cable passing hole
29	117110021	Discharge temp. sensor d6-TH3	58	136020151	Cable passing hole

INVERBOOST 165P

NO.	ERP	Part name	NO.	ERP	Part name
1	133300032	Top cover	30	113190007	Sensor clip
2	108790071	Top frame	31	113190001	Sensor holder
3	108790049	Back grill	32	112100030-4	High pressure switch
4	103000291	Evaporator	33	113010390	Discharge pipe
5	108790027	Fan motor bracket	34	101000181	Compressor
6	108790176	Left panel	35	113020594	Gas return piping
7	108790035	Pillar	36	112100046-4	Low pressure switch
8	112000102	Fan motor	37	113060156	4-way valve to evaporator piping
9	132000015	Fan blade	38	113030196	4-way valve to exchanger
10	117020293	Controller	39	119000058	EEV
11	133300029	Front panel	40	113070054	Exchanger to EEV
12	133020078	Fan grill	41	102050004	Water connection sets
13	108790140	Base tray	42	133020012	Red rubber ring
14	108790025	Evaporator support panel	43	133020007	PVC cover
15	108790026	Evaporator support panel	44	1121000211	Water flow switch
16	106000012	Pressure gauge	45	136010089	Rubber ring on water flow switch
17	133300030	Right panel	46	117110011	Water outlet temp. sensor d2-TH5
18	136020005	Rubber block	47	108010025	Exchanger temperature sensor clip
19	117110050	Evaporator temperature sensor d5-TH2	48	102041174	Titanium heat exchanger
20	108790024	Isolation panel	49	133020011	Blue rubber ring
21	133300031	Back panel	50	117110012	Water inlet temp. sensor d1-TH6
22	110000039	Cable connector	51	117230003	Reactor
23	110000013	Cable passing hole	52	108790073	Reactor box
24	117110020	Ambient temp. sensor d3-TH1	53	117020327	TUYA 5GHz Wifi module
25	133020010	Sensor clip	54	108790072	Electric box cover
26	121000037	4 way valve coil	55	117100085	PCB
27	121000034	4 way valve	56	108790074	Electric box
28	113080127	EEV to distribution piping	57	136020119	Cable passing hole
29	117110021	Discharge temp. sensor d6-TH3	58	136020151	Cable passing hole

INVERBOOST 215P/INVERBOOST 255P



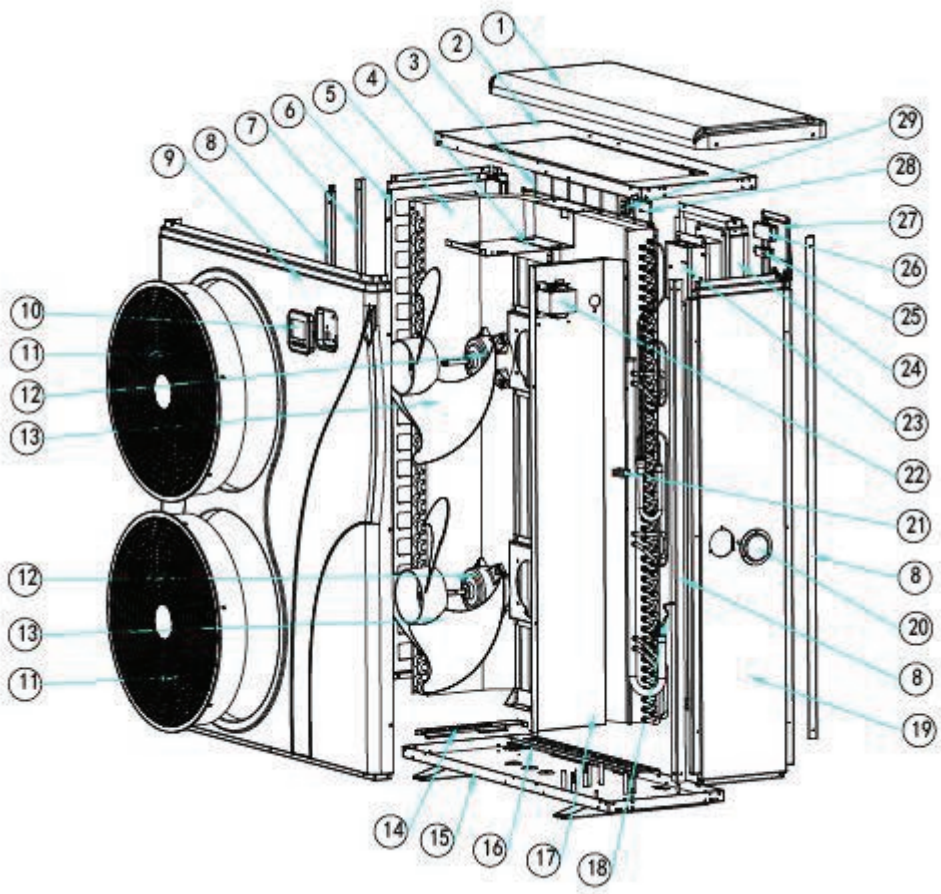
INVERBOOST 215P

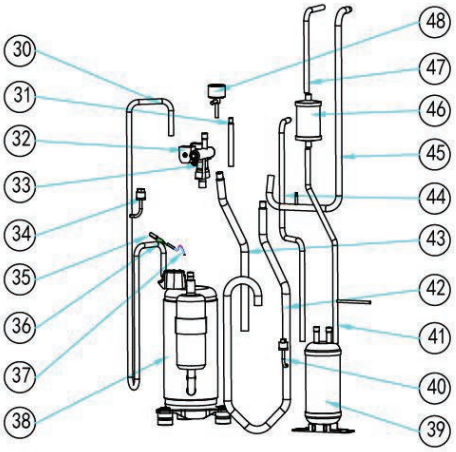
NO.	ERP	Part name	NO.	ERP	Part name
1	133350031	Top cover	30	113060224	4-way valve to evaporator piping
2	108840002	Top frame	31	113080107	EEV to distribution piping
3	103000292	Evaporator	32	113020716	Gas return piping
4	108840104	Fan motor bracket	33	112100046-3	Low pressure switch
5	108840106	Isolation panel	34	113010470	Discharge pipe
6	112000102	Fan motor	35	112100030-4	High pressure switch
7	132000023	Fan blade	36	113130027	Filter to liquid tank
8	108840107	Left panel	37	113120064	Liquid tank to EEV
9	108840021	Pillar	38	113190007	Sensor clip
10	133350028	Front panel	39	117110021	Discharge temp. sensor d6-TH3
11	117020293	Controller	40	113190001	Sensor holder
12	133020079	Fan grill	41	120000066	Filter
13	108840004	Evaporator support panel	42	113170054	TT exhanger to Filter
14	108840005	Evaporator support panel	43	113030227	4-way valve to exchanger
15	108840105	Base tray	44	1121000211	Water flow switch
16	101000267	Compressor	45	133020006	Rubber ring on water flow switch
17	105000004	Liquid tank	46	117110011	Water outlet temp. sensor d2-TH5
18	106000012	Pressure gauge	47	108010025	Exchanger temperature sensor clip
19	117110134	Evaporator temperature sensor d5-TH2	48	102041175	Titanium heat exchanger
20	136020005	Rubber block	49	133020007	PVC cover
21	133350029	Right panel	50	133020012	Red rubber ring
22	117230002	Reactor	51	102050004	Water connection sets
23	133350030	Back panel	52	117110012	Water outlet temp. sensor d1-TH6
24	117110020	Ambient temp. sensor d3-TH1	53	108840008	Electric box cover
25	133020010	Sensor clip	54	117240002	Magnet ring
26	108840014	Back grill	55	117240003	Magnet ring
27	121000037	4 way valve coil	56	108840007	Electric box
28	121000024	4 way valve	57	117100093	PCB
29	119000066	EEV	58	117020327	TUYA 5GHz Wifi module

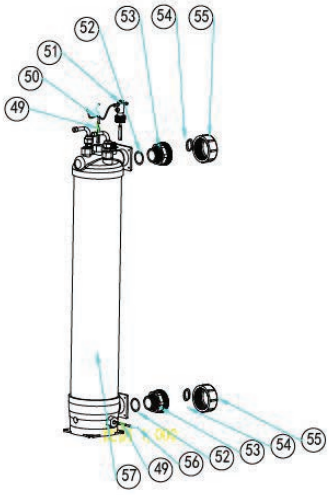
INVERBOOST 255P

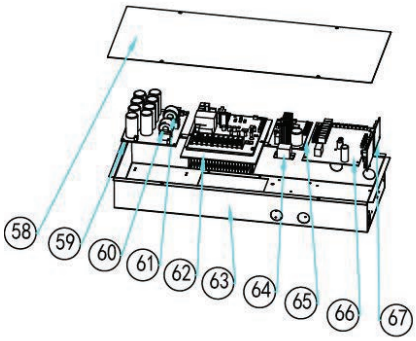
NO.	ERP	Part name	NO.	ERP	Part name
1	133350031	Top cover	30	113060159	4-way valve to evaporator piping
2	108840002	Top frame	31	113080162	EEV to distribution piping
3	103000288	Evaporator	32	113020713	Gas return piping
4	108840006	Fan motor bracket	33	116000073	Low pressure switch
5	108840106	Isolation panel	34	113010346	Discharge pipe
6	112000031	Fan motor	35	116000068	High pressure switch
7	132000023	Fan blade	36	113130027	Filter to liquid tank
8	108840107	Left panel	37	113120090	Liquid tank to EEV
9	108840021	Pillar	38	113190007	Sensor clip
10	133350028	Front panel	39	117110151	Discharge temp. sensor d6-TH3
11	117020332	Controller	40	113190001	Sensor holder
12	133020079	Fan grill	41	120000066	Filter
13	108840004	Evaporator support panel	42	113170054	TT exhanger to Filter
14	108840005	Evaporator support panel	43	113030149	4-way valve to exchanger
15	108840105	Base tray	44	116000065	Water flow switch
16	101000225	Compressor	45	133020006	Rubber ring on water flow switch
17	105000004	Liquid tank	46	117110011	Water outlet temp. sensor d2-TH5
18	106000012	Pressure gauge	47	108010025	Exchanger temperature sensor clip
19	117110153	Evaporator temperature sensor d5-TH2	48	102041180	Titanium heat exchanger
20	136020005	Rubber block	49	133020007	PVC cover
21	133350029	Right panel	50	133020012	Red rubber ring
22	117230002	Reactor	51	102050004	Water connection sets
23	133350030	Back panel	52	117110012	Water outlet temp. sensor d1-TH6
24	117110147	Ambient temp. sensor d3-TH1	53	108840008	Electric box cover
25	133020010	Sensor clip	54	117240002	Magnet ring
26	108840014	Back grill	55	117240003	Magnet ring
27	121000037	4 way valve coil	56	108840007	Electric box
28	121000028	4 way valve	57	117250015	PCB
29	119000079	EEV	58	117020327	TUYA 5GHz Wifi module

INVERBOOST 305P









INVERBOOST 305P

NO.	ERP	Part name	NO.	ERP	Part name
1	133360025	Top cover	35	113190001	Sensor holder
2	108850068	Top frame	36	113190007	Sensor clip
3	108850020	Back grill	37	117110050	Evaporator temperature sensor d5-TH2
4	108850087	Fan motor bracket	38	101000239	Compressor
5	103000406	Evaporator	39	105000015	Liquid tank
6	108850095	Left panel	40	112100046-3	Low pressure switch
7	108850023	column	41	113130045	Filter to liquid tank
8	108850077	Left support plate	42	113020680	Gas return piping
9	133360026	Front panel	43	113060160	4-way valve to evaporator piping
10	117020293	Controller	44	113120061	Liquid tank to EEV
11	133020078	Fan grill	45	113030161	4-way valve to exchanger
12	112000102	Fan motor	46	120000066	Filter
13	132000015	Fan blade	47	113170052	TT exhanger to Filter
14	108850005	Evaporator support	48	119000061	EEV
15	108850054	Base tray	49	108010025	Exchanger temperature sensor clip
16	108850006	Evaporator support	50	117110011	Water outlet temp. sensor d2-TH5
17	108850086	Isolation panel	51	1121000211	Water flow switch
18	117110051	Discharge temp. sensor d6-TH3	52	133020006	Sealing ring on water connection
19	133360028	Right panel	53	/	Water connection
20	106000012	Pressure gauge	54	/	Water connection sealing ring
21	136020005	Rubber block	55	/	Water connection sets
22	117230002	Reactor	56	117110012	Water inlet temp. sensor d1-TH6
23	108010104	Terminal board	57	102041190	Titanium heat exchanger
24	133360027	Back panel	58	108850011	Electric box cover
25	136010004	Clip	59	117260002	Filter board
26	115000006	Power terminal	60	117240002	Magnet ring
27	133360029	Terminal board cover	61	117240003	Magnet ring
28	117110020	Ambient temp. sensor d3-TH1	62	117140026	Driver board 3 phase
29	133020010	Ambient temp. sensor clip	63	108850009	Electric box
30	113010398	Discharge pipe	64	142000038	Relay
31	113080106	EEV to distribution piping	65	117140006	Driver board 3 phase
32	121000037	4 way valve coil	66	117250022	PCB
33	121000028	4 way valve	67	117010123	TUYA 5GHz Wifi module
34	116000068	High pressure switch			

Guide for Wi-Fi connection

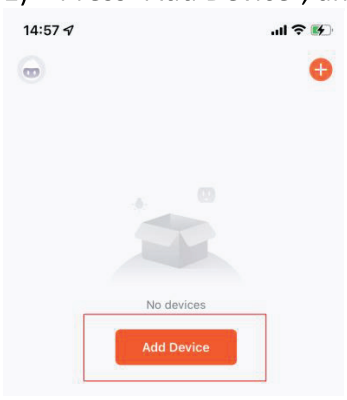
1. INVERBOOST APP Download

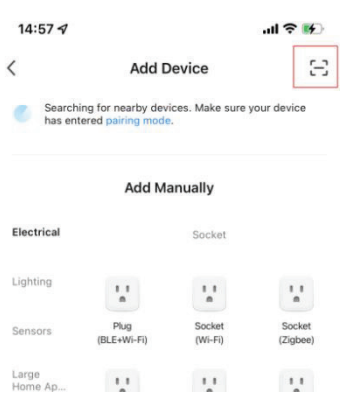
   Download “INVERBOOST” APP from GOOGLE PLAY or APP STORE with smart phone.

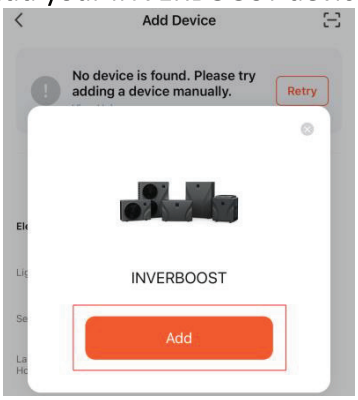
2. Connection

   Make sure your smart phone is under 2.4 GHz/5 GHz wireless network signal and your INVERBOOST device is on to use INVERBOOST APP, and follow instruction as below.

1) Press “Add Device”, and scan below QR code to add your INVERBOOST device.

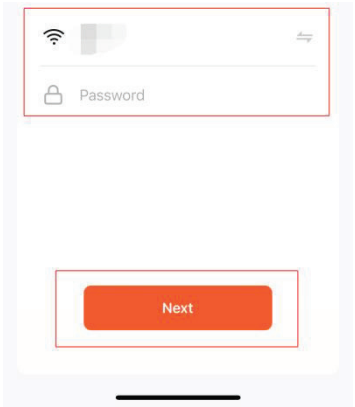






(INVERBOOST device QR code)

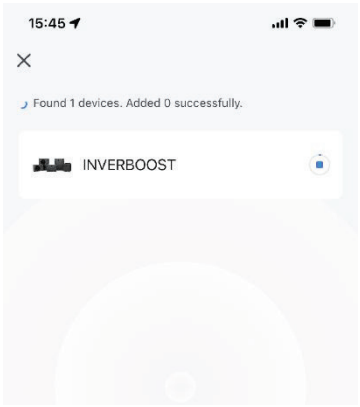
2) Select 2.4 Ghz/5 Ghz Wi-Fi Network and enter password. If your device is on, press ”Next” directly, and no need to restart it.

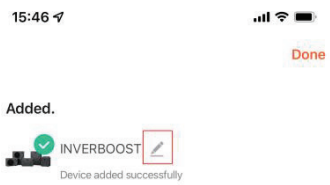


3) Keep pressing the on/off button of the machine controller for 5s.



4) Connection succeeded, and the name of the device could be modified.



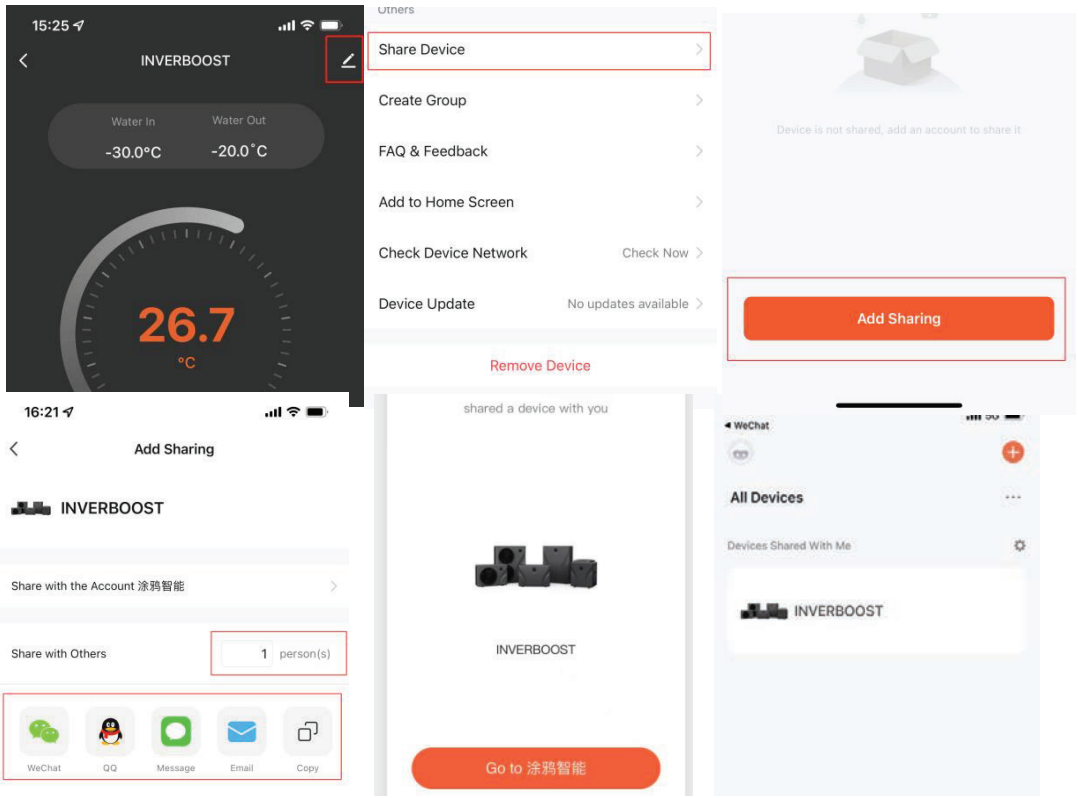


3. Function of INVERBOOST APP

1) Connection share

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

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

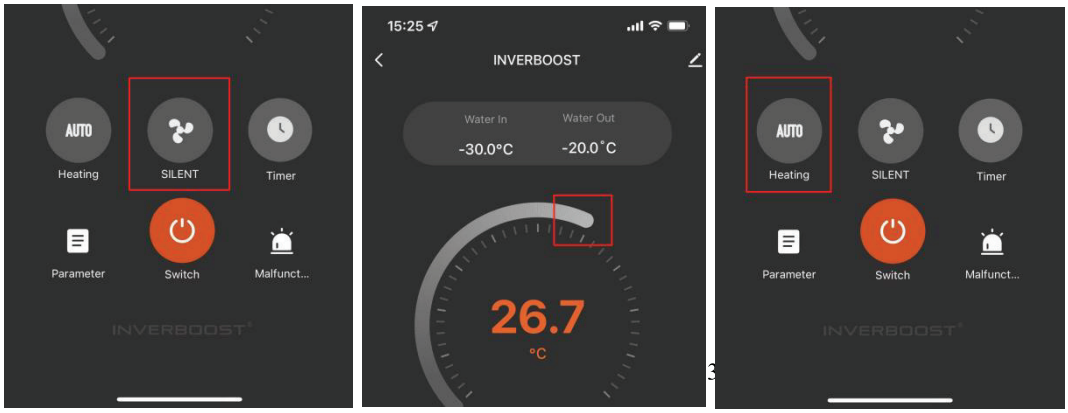


2) Operating mode, target temperature and work status control

A/ Changing operating mode by choosing “TURBO””SMART””SILENT”.

B/ Adjust the target temperature by dragging the right end of the temperature bar around the temperature dial. Temperature regulation accuracy is ±0.1℃.

C/ Changing work status by choosing ”Heating”“Auto””Cooling ”.

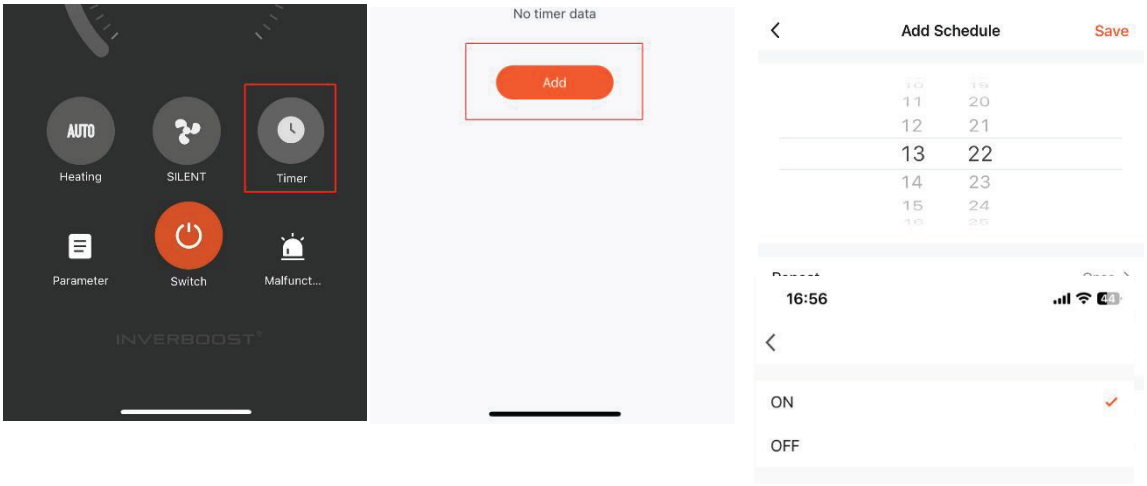


Mode	Temperature adjustment range	Temperature regulation accuracy
Heating	6-41℃	±0.1℃
Auto	6-41℃	±0.1℃
Cooling	6-35℃	±0.1℃

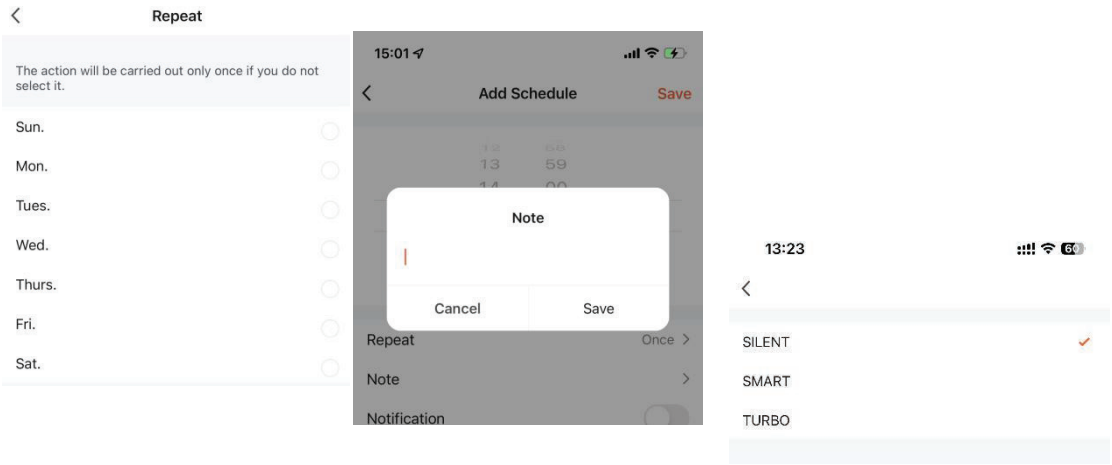
3) Timer setting

Through the timer function, the machine can be turned on or off at a specified time.

A/ And multiple sets of target times can be set at the same time.

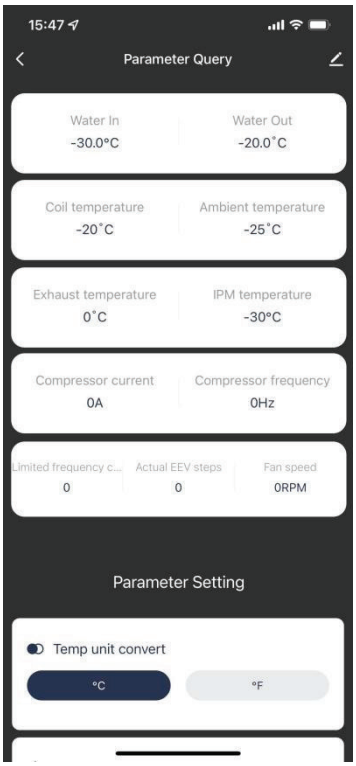


B/ INVERBOOST machine can be controlled on/off and SILENT/SMART/TURBO operating mode according to the specified day or a fixed period user set.

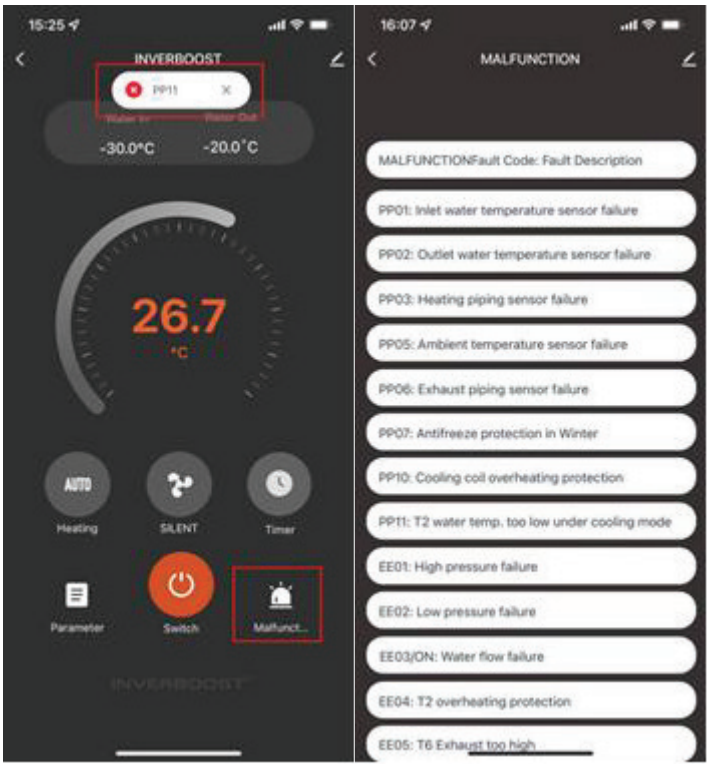


4. Parameter and fault query

The real-time parameters of machine operation can be queried through the parameter interface.



1) When the machine is not operating in a normal state, a pop-up window will appear on the interface to prompt the fault code. The fault code can be queried through ”MALFUNCTION”.



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