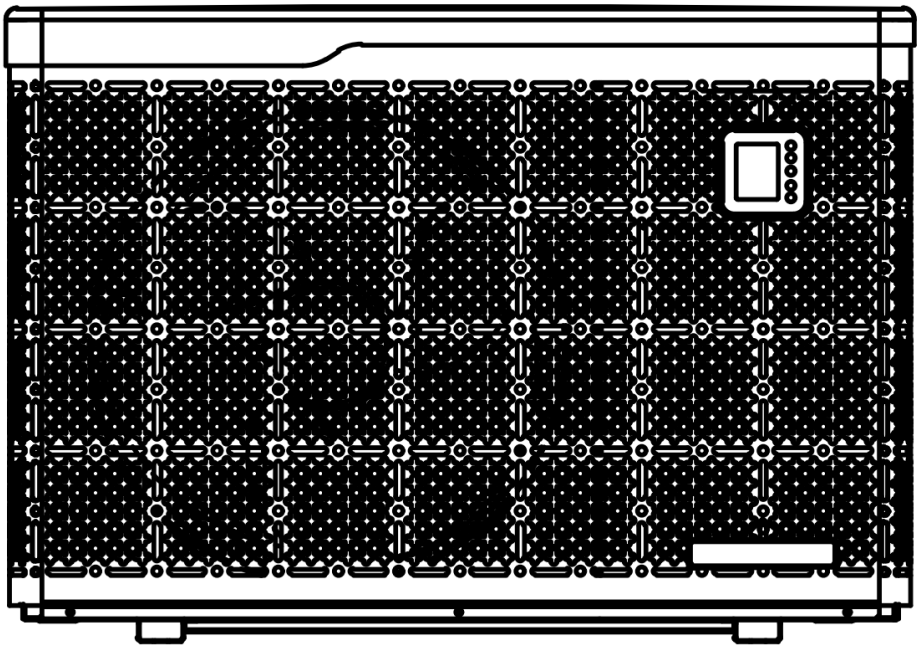
LUXURY BLACK

SWIMMING POOL HEAT PUMP

User and Service Manual



INDEX FOR DIFFERENT LANGUAGES

Verordnung (EU) Nr. 517/2014 vom 16/04/14 über fluorierte Treibhausgase und die Verordnung (EG) zur Aufhebung Nr. 842/2006

Dichtheitsprüfung

1. Die Betreiber von den Geräte, die die fluorierte Treibhausgase in Mengen von 5 Tonnen CO_2-Äquivalent oder mehr enthalten und nicht in Schäumen enthalten, müssen sicherstellen, dass das Gerät auf Dichtheit überprüft wird.

2. Für die Geräte, die fluorierte Treibhausgase in Mengen von 5 Tonnen 5 Tonnen CO_2-Äquivalent oder mehr enthalten aber weniger als 50 Tonnen CO2-Äquivalent enthalten: mindestens alle 12 Monate.

Bild der Gleichwertigkeit CO_2

1. Belastung von CO2 in kg und Tonnen.

Belastung und Tonnen von CO2	**Häufigkeit der Prüfung**
Von 7 bei 75 kg Belastung = von 5 bei 50 Tonnen	Jedes Jahr

In Bezug auf die Gaz R32, 7,40 kg in Höhe von 5 Tonnen CO2, Engagement für die Überprüfung jedes Jahr.

Ausbildung und Zertifizierung

1. Die Betreiber der betreffenden Anwendung sollen dafür Sorge tragen, dass die zuständige Person die erforderliche Zertifizierung erlangt hat, die die angemessene Kenntnisse der geltenden Vorschriften und Normen sowie die notwendige Kompetenz in Bezug auf die Emissionsvermeidung und - verwertung von fluorierten Treibhausgasen und der Handhabungssicherheit der betreffenden Typen und Größe der Ausrüstung beinhaltet.

Aufbewahrung der Aufzeichnungen

1. Die Betreiber von den Geräte, die auf Dichtheit überprüft werden müssen, müssen für jedes Gerät, das die folgenden Angaben enthält, Aufzeichnungen erstellen und verwalten:

a) Die Menge und Art der installierten fluorierten Treibhausgase;

b) Die Mengen an fluorierten Treibhausgasen, die während der Installation, Wartung oder Service oder aufgrund von Leckagen hinzugefügt werden;

c) Ob die Mengen der installierten fluorierten Treibhausgase wiederverwandt oder zurückgefordert wurden, einschließlich der Name und Anschrift der Wiederverwendung oder Rückgewinnungsanlage und gegebenenfalls der Bescheinigungsnummer;

d) Die Menge der fluorierten Treibhausgase wiederhergestellt wird;

e) Die Identität des Unternehmens, das die Ausrüstung installiert, gewartet und gegebenenfalls repariert oder außer Betrieb hat, gegebenenfalls einschließlich der Nummer des Zertifikats;

f) Datum und Ergebnisse der Prüfung durchgeführt werden;

g) Wenn das Gerät außer Betrieb hat, wurden die Maßnahmen zur Rückgewinnung und Beseitigung der fluorierten Treibhausgase getroffen.

2. Die Betreiber bewahrendie Aufzeichnungen für mindestens fünf Jahre lang auf, wobei die Unternehmen, die die Tätigkeiten für die Betreiber ausführen, die Aufzeichnungen für mindestens fünf Jahre lang aufbewahren soll.

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.

Règlement (UE) n° 517/2014 du 16/04/14 relatif aux gaz à effet de serre fluorés et abrogeant le règlement (CE) n° 842/2006

Contrôles d'étanchéité

1. Les exploitants d'équipements qui contiennent des gaz à effet de serre fluorés dans des quantités supérieures ou égales à 5 tonnes équivalent CO_2, veillent à ce que ces équipements fassent l'objet de contrôles d'étanchéité.
2. Au 1 janvier 2017 les contrôles d'étanchéité sont à effectuer au moins tous les douze mois, pour les équipements dans des quantités supérieures ou égales à 5 tonnes équivalent CO_2 mais inférieures à 50 tonnes équivalent CO_2.

Tableau des équivalences CO_2

1. Charge en kg et Tonnes équivalant CO_2.

Charge et Tonnes équivalant CO2	Fréquence du contrôle
De 7 à 75 kg de charge soit de 5 à 50 Tonnes	Tous les ans

Pour le Gaz R32, 7.40kg équivalences à 5 tonnes de CO2 donc devoir de vérifier tous les ans.

Formation et certification

1. L'exploitant veille à ce que le personnel concerné ait obtenu la **certification nécessaire**, qui implique une connaissance appropriée des règlements et des normes applicables ainsi que la compétence nécessaire en termes de prévention d'émission, de récupération des gaz à effet de serre fluorés, de manipulation sans danger pour les contrôles d'étanchéité de l'équipement.

Tenue de registres

1. Les exploitants d'équipements qui doivent faire l'objet d'un contrôle d'étanchéité établissent et tiennent à jour, pour chaque pièce de ces équipements, des registres dans lesquels ils consignent les informations suivantes :

a) La quantité et le type de gaz à effet de serre fluorés installées;
b) Les quantités de gaz ajoutées pendant l'installation, la maintenance ou l'entretien ou à cause d'une fuite;
c) La quantité de gaz installés qui a été éventuellement recyclée ou régénérée, y compris le nom et l'adresse de l'installation de recyclage ou de régénération et, le cas échéant, le numéro de certificat;
d) La quantité de gaz récupérée;
e) L'identité de l'entreprise qui a assuré l'installation, l'entretien, la maintenance et, le cas échéant, la réparation ou la mise hors service de l'équipement, y compris, le cas échéant, le numéro de son certificat;
f) Les dates et les résultats des contrôles effectués;
g) Si l'équipement a été mis hors service, les mesures prises pour récupérer et éliminer les gaz.

2. Les exploitants conservent les registres visés audit paragraphe pendant au moins cinq ans, les entreprises exécutant les activités pour le compte des exploitants conservent des copies des registres visés au paragraphe 1 pendant au moins cinq ans.

controlli di perdite

1. Gli operatori delle apparecchiature che contengono gas fluorurati ad effetto serra con quantità di 5 tonnellate di CO2, equivalenti o superiore e non contiene nelle schiume, devono garantire che il materiale sia stato verificato la presenza di perdite.

2. Per le apparecchiature che contengono gas fluorurati ad effetto serra con quantità di 5 tonnellate di CO2 equivalente o superiore, ma inferiore a 50 tonnellate di CO2 equivalente: controllare almeno ogni 12 mesi.

Immagine del CO2 dell'equivalenza

1. Caricare il totale CO2 in chili e tonnellate.

Caricare il totale CO2 in chili e tonnellate	**Frequenza di test**
Dal 7 a 75 chili di carico = dal 5 a 50 tonnellate	**Annuale**

Per quanto riguarda la Gaz R32, 7.40 chili pari a 5 tonnellate di CO2, l'obbligo a controllare ogni anno.

Formazione e certificazione

1. Il gestore della relativa domanda deve assicurare che il personale interessato abbia ottenuto la certificazione necessaria, che implica una conoscenza appropriata dei regolamenti e delle norme vigenti, nonché la necessaria competenza in materia di prevenzione delle emissioni e di recupero dei gas fluorurati ad effetto serra e la sicurezza la gestione dell'apparecchiatura del relativo tipo e dimensioni.

Conservazione di registri

1. Gli operatori di attrezzatura che è necessario per controllare la presenza di perdite, deve stabilire e mantenere i record per ogni pezzo di tali attrezzature specificando le seguenti informazioni:

a) La quantità e il tipo di gas fluorurati ad effetto serra installati;
b) Le quantità di gas fluorurati ad effetto serra aggiunte durante l'installazione, manutenzione o assistenza o a causa di perdite;
c) Se la quantità di gas fluorurati ad effetto serra installate sono state riciclate e rigenerate, insieme al nome e l'indirizzo del centro di riciclaggio o recupero e, se del caso, il numero del certificato;
d) la quantità di gas fluorurati ad effetto serra recuperata
e) L'identità dell'impresa che ha installato, servito, manutenuto e, se del caso riparato o decommissionato le attrezzature, include, se del caso, il numero del proprio certificato;
f) Le date ei risultati dei controlli effettuati;
g) Se l'apparecchiatura è stata decommissionata, le misure adottate per recuperare e sistemare i gas fluorurati ad effetto serra.

2. L'operatore deve conservare i registri per almeno cinque anni, le imprese che svolgono le attività per gli operatori devono tenere copie dei registri per almeno cinque anni.

Swimming Pool Heat Pump
User and Service Manual

INDEX

Thank you for using LUXURYBLACK 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.

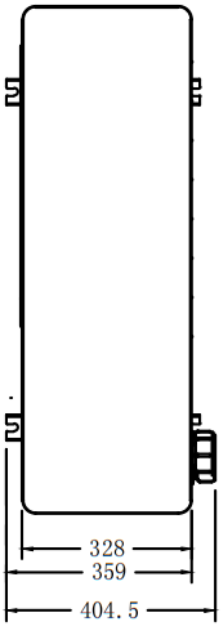
1. Specifications

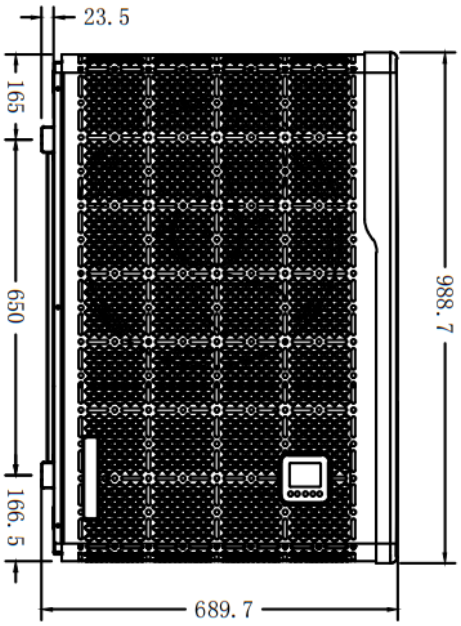
Model		LuxuryBlack i14	LuxuryBlack i16	LuxuryBlack i20	LuxuryBlack iV26	LuxuryBlack iV30
* Performance at Air 28℃,Water 28℃,Humidity 80%						
Turbo Heating capacity	kW	14	16	20	26	30
Smart Heating capacity	kW	11	14	16	20	26
Power consumption	kW	2.18-0.18	2.5-0.2	3.17-0.24	4.12-0.29	4.84-0.37
C.O.P.		16-6.7	16-6.7	16-6.7	16-6.7	16-6.6
C.O.P. in Turbo Mode		6.4	6.4	6.3	6.3	6.2
C.O.P. at 50% capacity		10.4	10.4	10.4	10.3	10.3
* Performance at Air 15℃,Water 26℃,Humidity 70%						
TURBO Heating capacity	kW	9.5	11.2	15	18	22
SMART Heating capacity	kW	7.9	9.5	11.2	15	18
Power consumption	kW	2.02-0.25	2.38-0.29	3.26-0.38	3.91-0.49	4.78-0.68
C.O.P.		8.0-5	8.0-5	8.2-5	8.2-5	8.2-5
C.O.P. in Turbo Mode		4.6	4.6	4.5	4.6	4.5
C.O.P. at 50% capacity		6.8	6.8	6.7	6.8	6.7
* General data						
Compressor type		Inverter compressor				
Voltage	V	220-240V/50Hz/1PH			380-415V/50Hz/3PH	
Rated current	A	7.2	9.2	10.5	5.9	7.0
Max current	A	9.7	11.1	14.1	7.2	8.8
Minimum fuse	A	15	16	22	11	13
Advised water flux	m^3/h	3.7	4	5	6	8
Water pressure drop	Kpa	14	15	15	18	20
Heat exchanger		Twist-titanium tube in PVC				
Water connection	mm	50				
Fan quantity		1				
Ventilation type		Horizontal			Vertical	
Noise level(10m)	dB(A)	≤28	≤29	≤30	≤32	≤33
Noise level(1m)	dB(A)	40-52	40-54	40-54	41-56	42-60
* Dimension/ Weight						
Net weight	kg	73	78	98	128	130
Gross weight	kg	78	83	113	146	148
Net dimension	mm	989*405*690		1078*396*890	760*700*1152	
Packing dimension	mm	1060*440*835		1145*490*1035	810*750*1280	

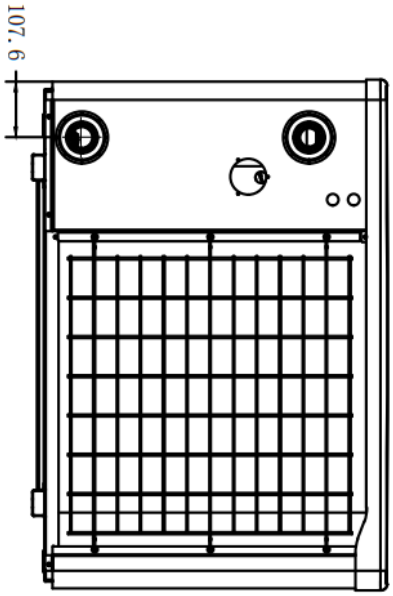
* Above data may be modified without notice.

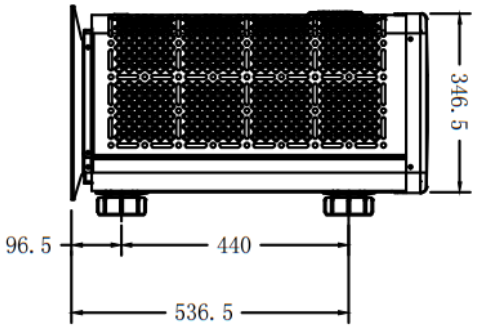
2. Dimension

LuxuryBlack i14/LuxuryBlack i16

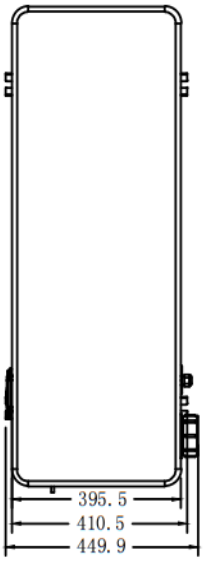


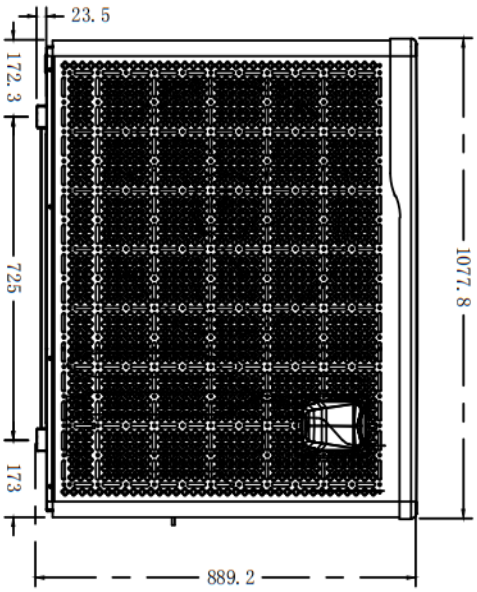


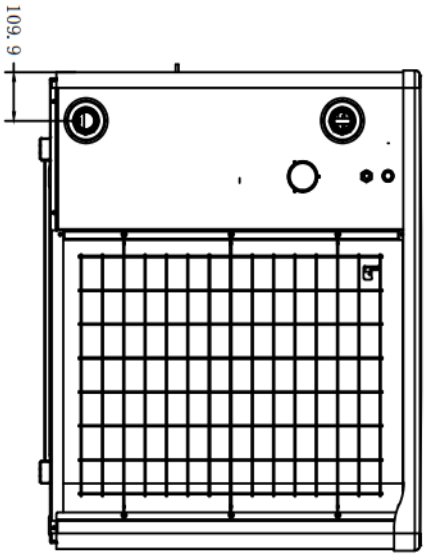


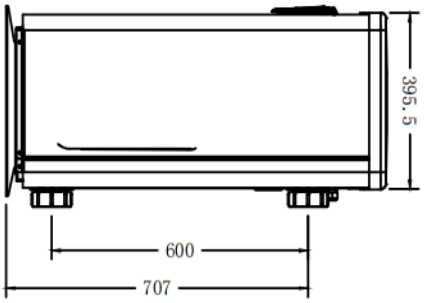


LuxuryBlack i20

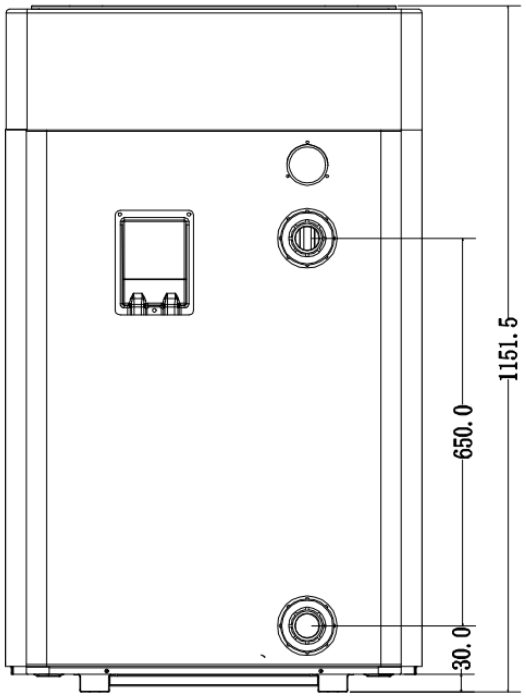


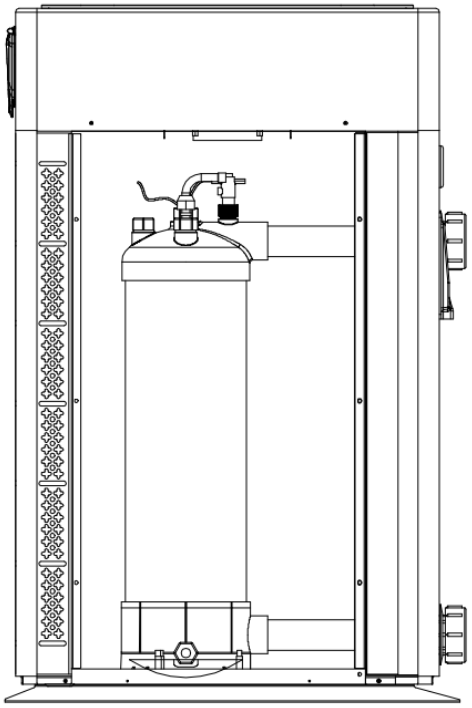


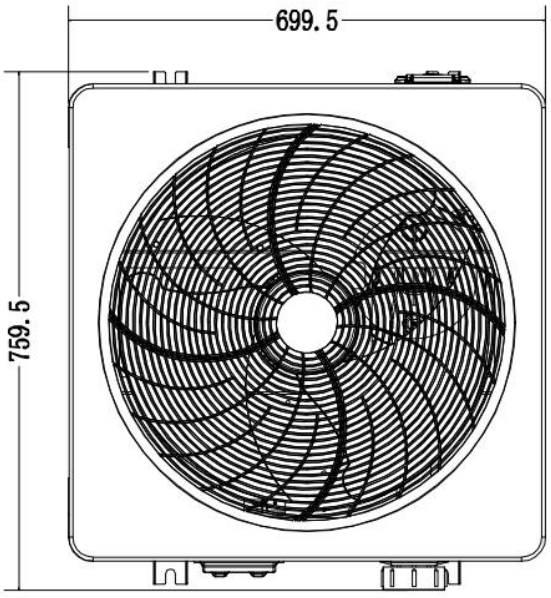




LuxuryBlack iV26/LuxuryBlack iV30



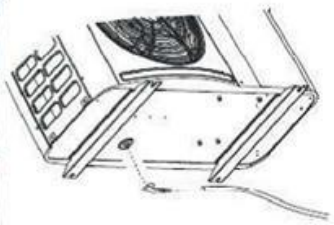


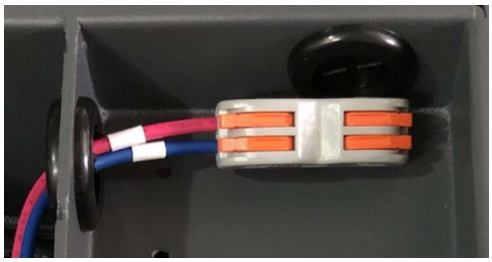


Unit: mm

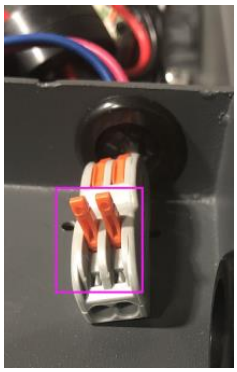
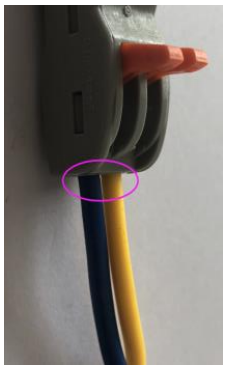
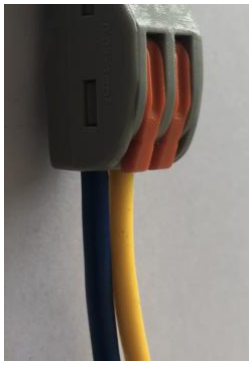
3. Installation and connection

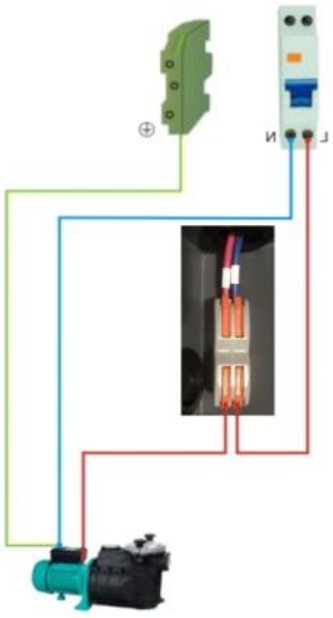
3.1 Installation

	**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.

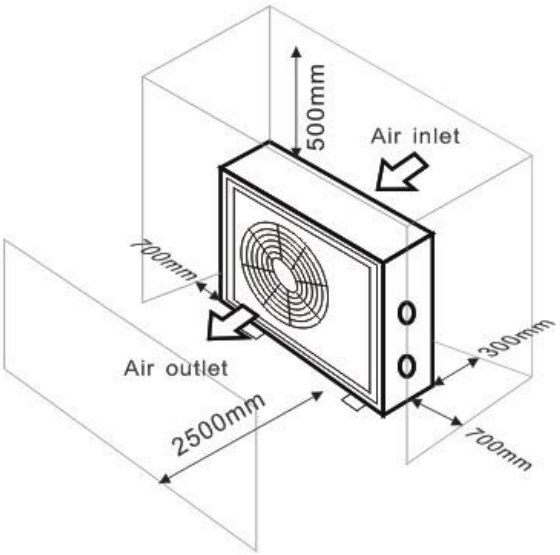
3.2 Heat pump location

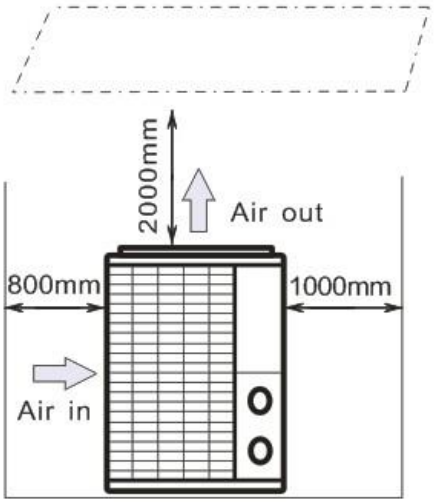
The unit will work properly in any desired location as long as the following three items are present:

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.



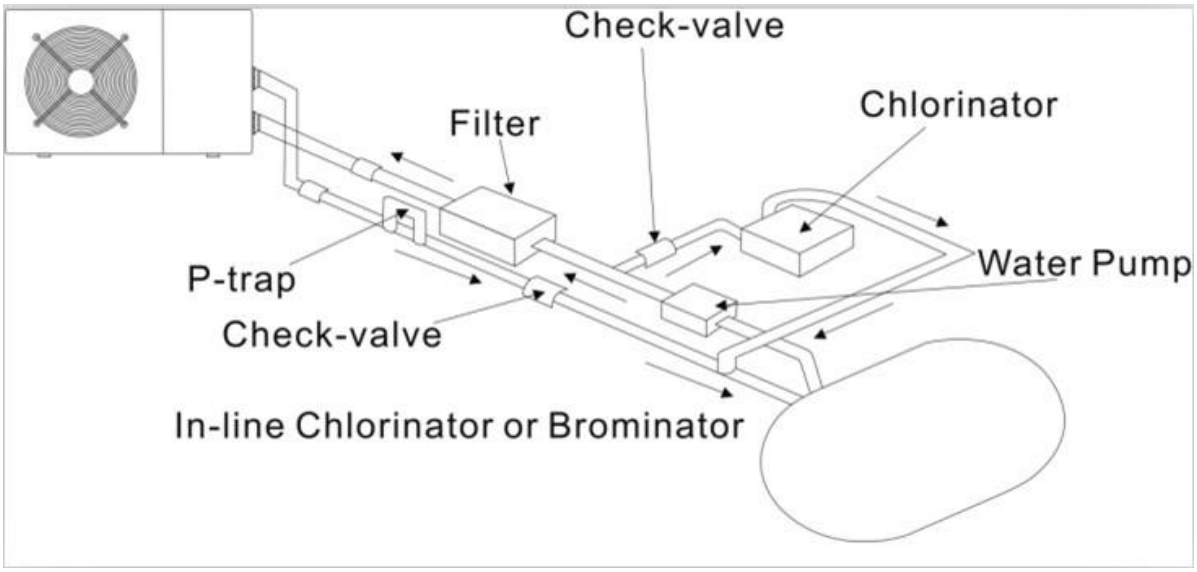


3.3 Distance from your swimming pool

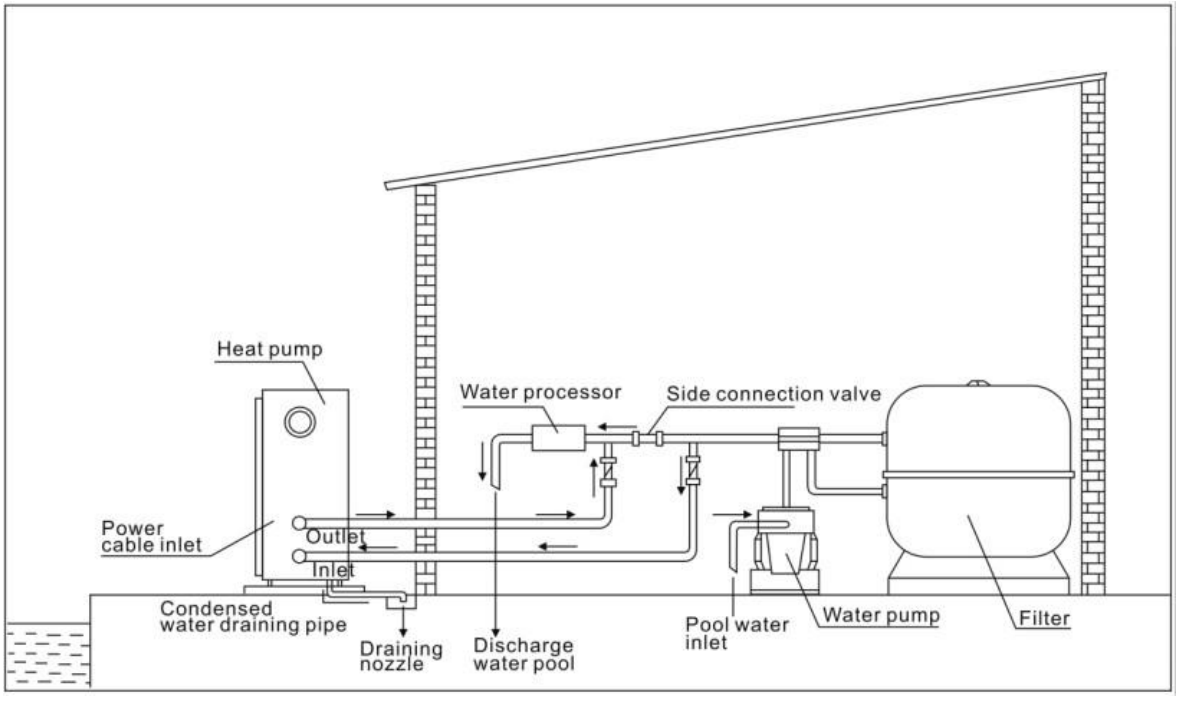
The heat pump is normally installed within a perimeter area extending 7.5 m from the swimming pool. The greater the distance from the pool, the greater the heat loss in the pipes. As the pipes are mostly underground, the heat loss is low for distances up to 30 m (15 m from and to the pump; 30 m in total)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

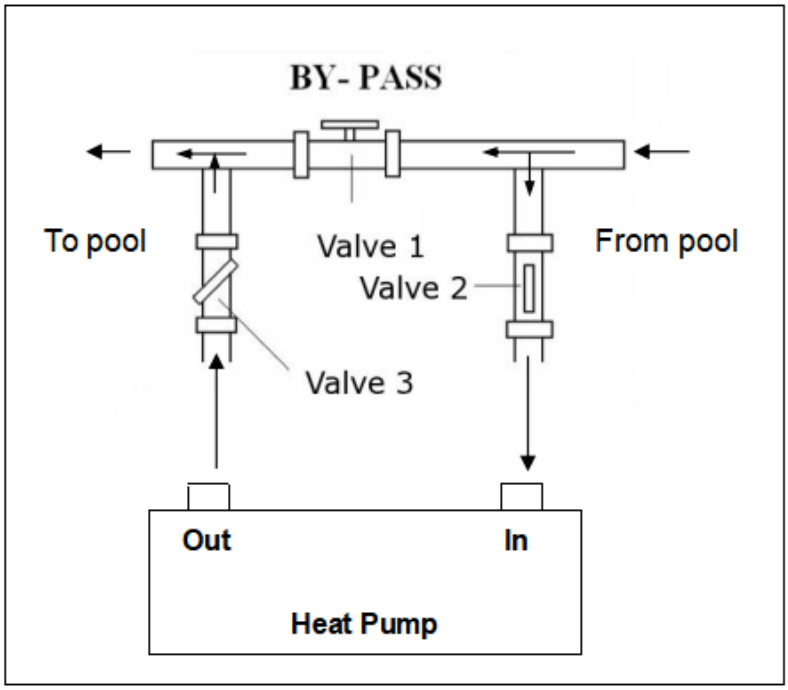
After all connections have been made and checked, carry out the following procedure:
1. Switch on the filter pump. Check for leaks and verify that water is flowing from and to the swimming pool.
2. Connect power to the heat pump and press the On/Off button ⏻ on the electronic control panel. The unit 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 wh en the pool pump runs and shut it off when the pump shuts off. If the pool water level higher than 1 m above or b elow 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

5.2 The keys and their operations

5.2.1  button

Press  to start the heat pump unit.

Press  to stop the heat pump unit.

5.2.2  and  button (Screen will be locked when 30 seconds without operation)

Water temperature setting:

Press  or  to set the water temperature directly.

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

*** Long press**  **and**  **for 5 seconds at the same time to unlock the screen.**

5.2.3  button

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

5.2.4 button

Press for 2 seconds to enter secondary page.

Press and to select the functions and press to enter.

5.2.5 Heating/Cooling/Auto mode

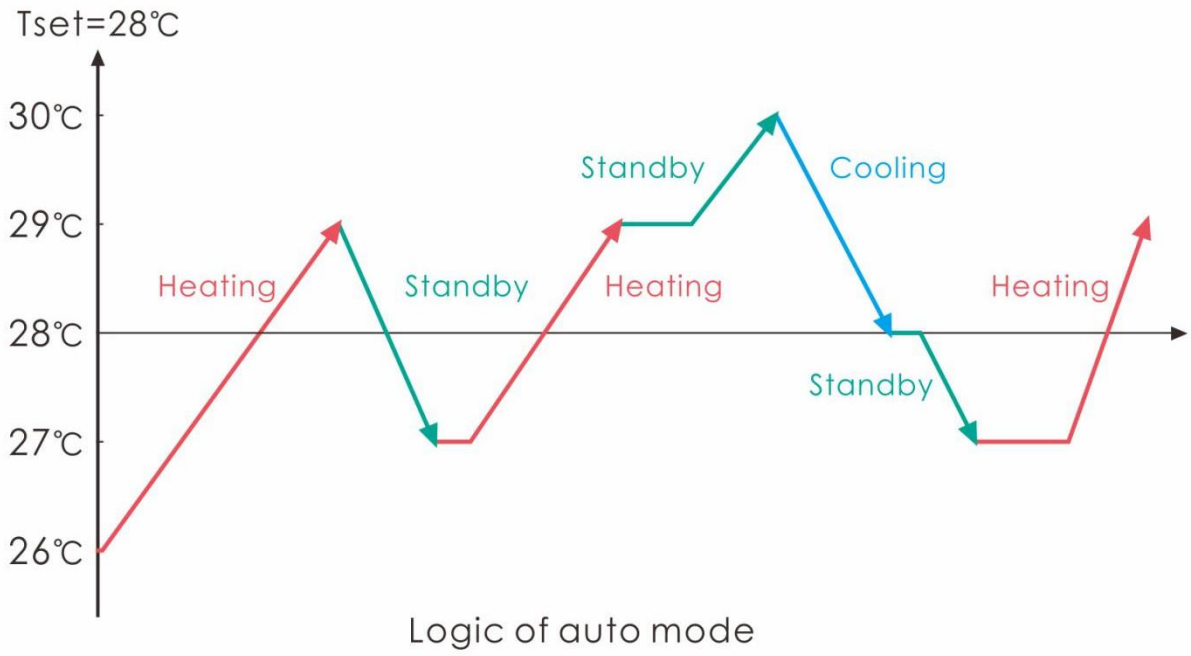
Select and press to enter, press and to choose Heating/ Cooling/ Auto mode, press again to exit. The default mode is Heating mode.

Working mode	Set temperature range
Heating/Auto	6-41℃
Cooling	6-35℃

Logic of auto mode

T1=Water inlet temperature /Tset= set temperature=28℃

NO	Condition	Current working Status	Water inlet Temperature	Working mode
1	When the heat pump starts	Startup	T1≤27℃	Heating mode
	When the heat pump is running	Heating mode	T1≥29℃,last for 3 minutes	Standby
		Standby	T1≥30℃	It switches to cooling mode
		Cooling mode	T1=28℃,last for 3 minutes	Standby
		Standby	T1≤27℃,last for 3 minutes	It switches to heating mode
2	When the heat pump starts	Startup	27℃≤T1≤29℃	Heating mode
	When the heat pump is running	Heating mode	T1≥29℃,last for 3 minutes	Standby
		Standby	T1≥30℃	It switches to cooling mode
		Cooling mode	T1=28℃,last for 3 minutes	Standby
		Standby	T1≤27℃,last for 3 minutes	It switches to heating mode



Logic of auto mode

5.2.6  Parameter checking

Select  and press  to enter, press  and  to check d0-d11 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**

5.2.7  Parameter setting

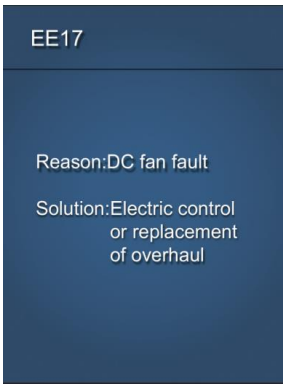
Select  and press  to enter, press  and  to choose P0-P18 value and press  to set.

Note: Long press  for 15s to set P14, P18.

Code	Name	Scope	Default	Remark
P0	Mandatory defrosting	0-1	0	0: Default normal operation 1: mandatory defrosting.
P3	Water pump	0-1	0	1:Always running; 0:Depends on the running of compressor
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、P3、P7、P8、P9、P10、P11 to factory setting)
P16	Product code	/	/	Depend on the machine
P18	Mode	0-1	0	1—Heating only，0—Heating/Cooling/Auto mode

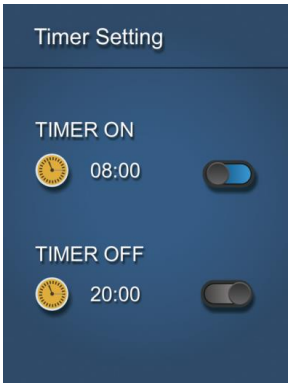
5.2.8 Error code

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



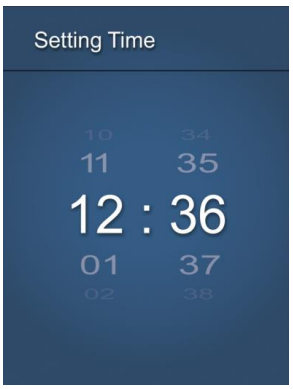
5.2.9 Time setting/Timer setting

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.



Long press for 5 seconds to set the current time.

6. Troubleshooting

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
T2 water temp. Too low protection under cooling mode	PP11	1. Low water flow 2. T2 temperature sensor abnormal	1. Check water pump and waterway system 2. Change T2 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 (T2) in heating mode	EE04	1. Low water flow 2. Water flow switch is stuck and the water supply is cut off	1. Check the water way system 2. Check the water pump or water flow switch

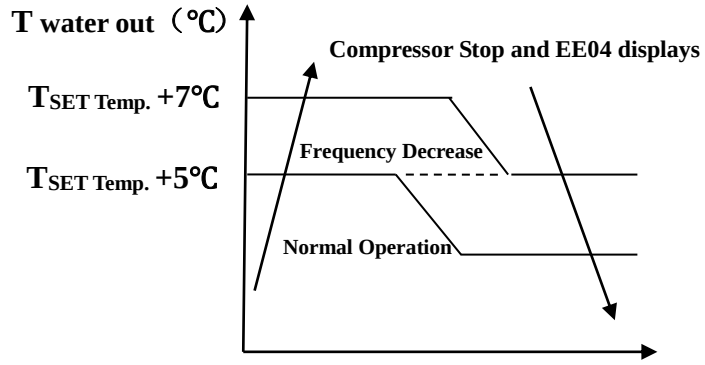
		3. T2 sensor is abnormal	3. CheckT2 sensor or change another one
T6 Exhaust too high protection	EE05	1.Lack of gas 2.Low water flow 3.Piping system has been blocked 4.Exhaust temp. Sensor failure	1. Check the high pressure gauge, if too low, fill with some gas 2. Check the waterway system and water pump 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	1. Program error, turn off electricity supply and restart after 3 minutes 2. Change driver board 3. Check compressor sequence connection

		4. Compressor or driver board damaged	
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

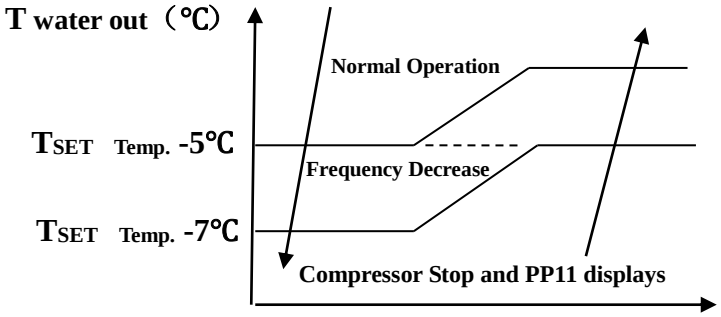
Software control exception	EE21	1.Compressor runs out of step 2. Wrong program 3. Impurity inside compressor causes the unstable rotate speed	1. Check the main board or change a new one 2. Enter correct program
Current detection circuit failure	EE22	1. Voltage signal abnormal 2. Driver board is damaged	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 T3 or T5 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℃, LED 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℃, LED controller displays PP11 for water over-cooling protection.



EE04 Water Heating Protection



PP11 Water Cooling Protection

For example below:

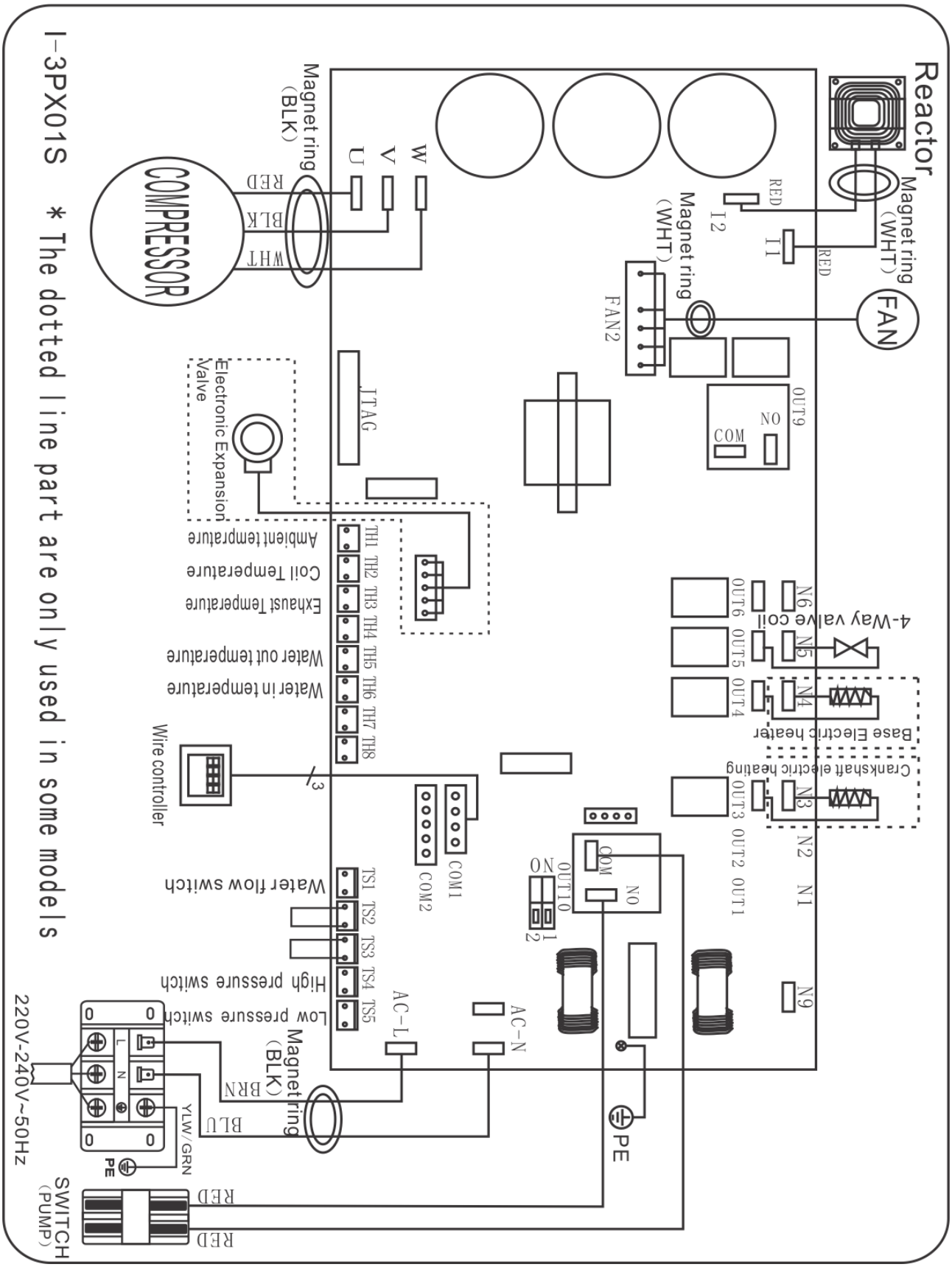
Mode	Water out temperature	Setting temperature	Condition	Malfunction
Heating mode	36℃	29℃	Tout - Tset ≥7℃	EE04 Over heating protection for water temperature (T2)
Cooling mode	23℃	30℃	Tset - Tout ≥7℃	PP11 Too low protection for water temperature (T2)

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

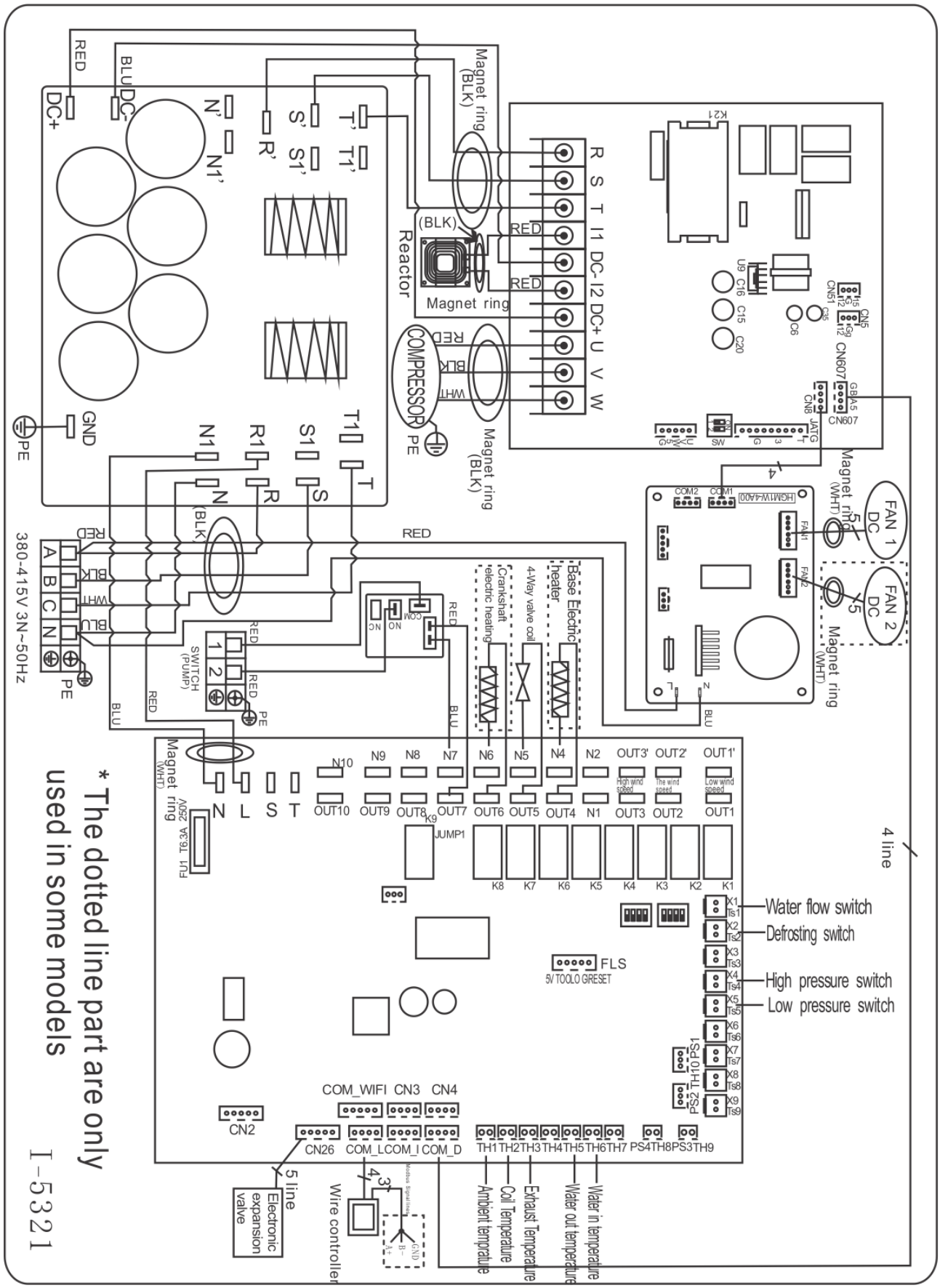
Malfunctions	Observing	Reasons	Solution
Heat pump is not running	LED wire controller no display.	No power supply	Check cable and circuit breaker if it is connected
	LED wire controller. displays the actual time.	Heat pump under standby status	Startup heat pump to run.
	LED wire controller displays the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

LuxuryBlack i14/LuxuryBlack i16/LuxuryBlack i20



LuxuryBlack iV26/LuxuryBlack iV30



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).

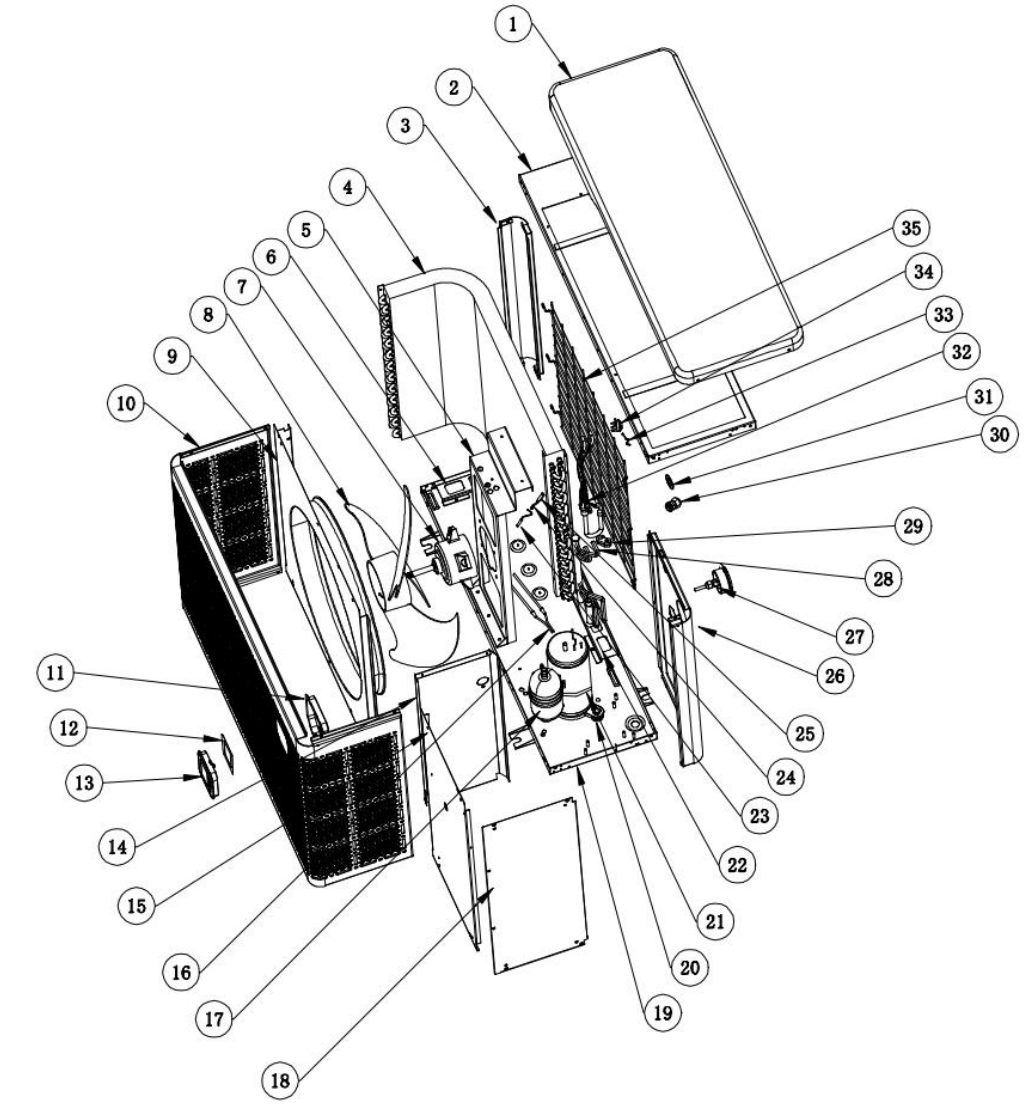
(4) In another way, you should check the unit is water fully before the unit start to run again.

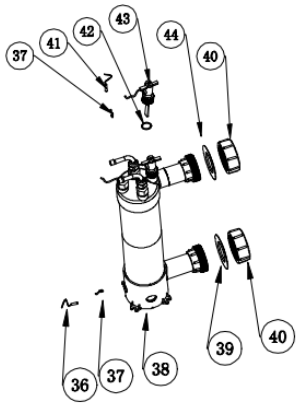
(5) After the unit is conditioned for the winter season, it is recommended to cover the heat pump with special winter heat pump.

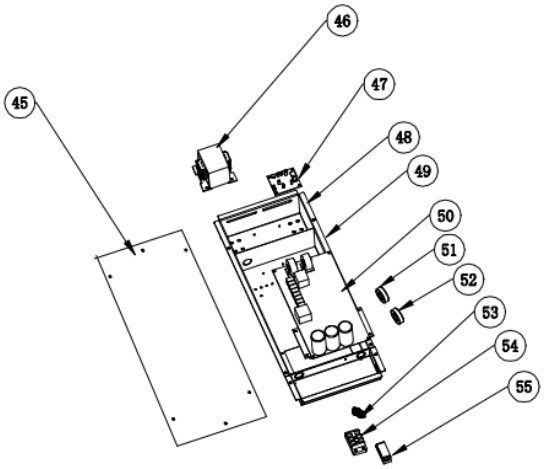
(6) When the unit is running, there is all the time a little water discharge under the unit.

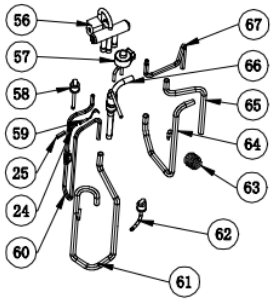
9. Exploded view

LuxuryBlack i14/LuxuryBlack i16





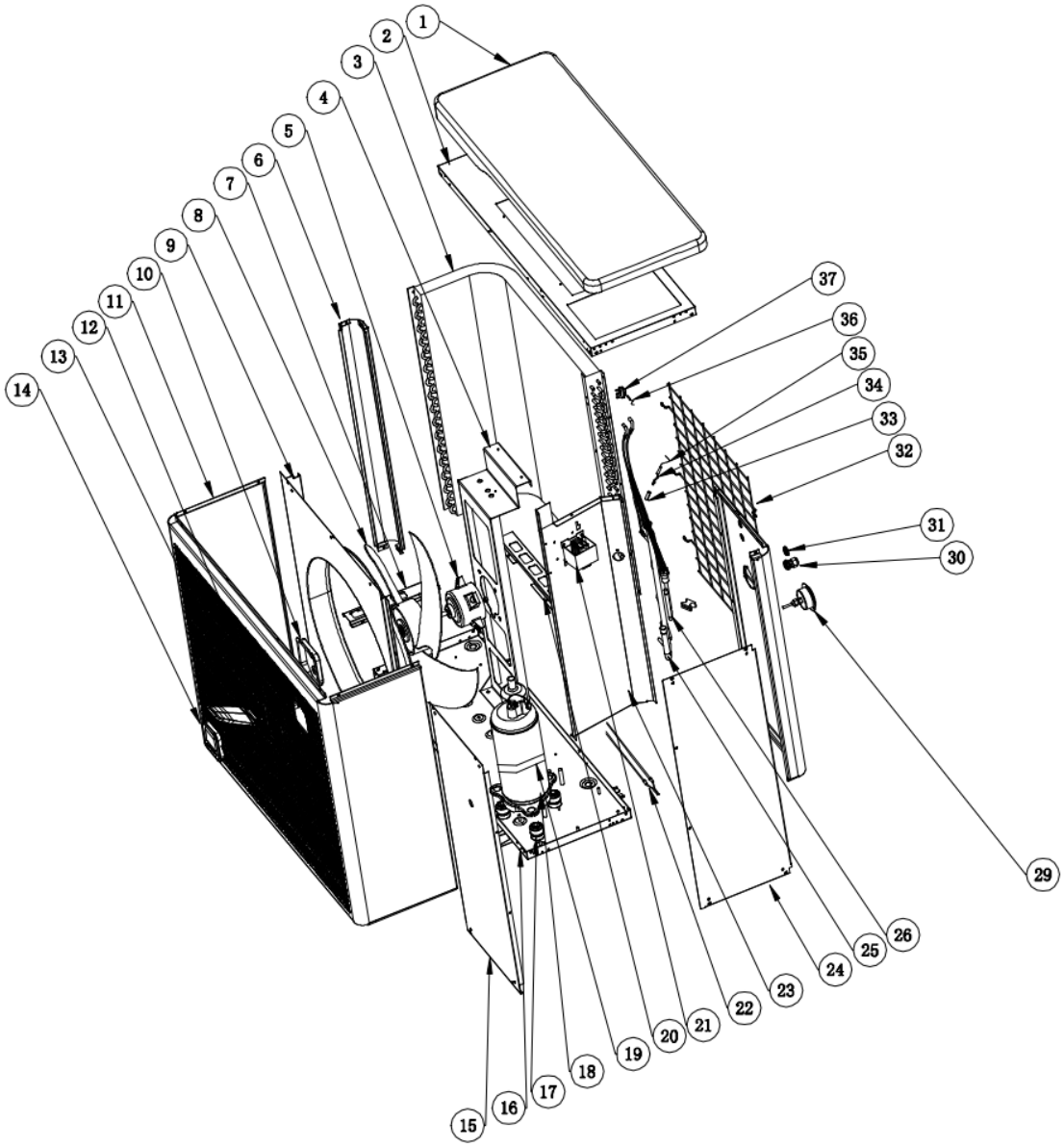


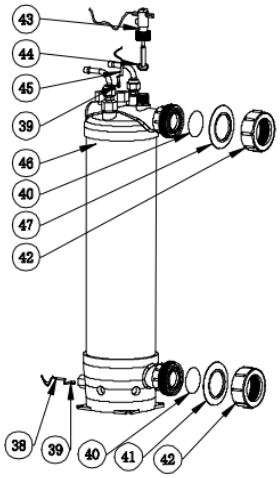


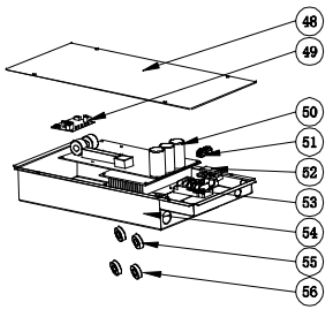
LuxuryBlack i14/LuxuryBlack i16

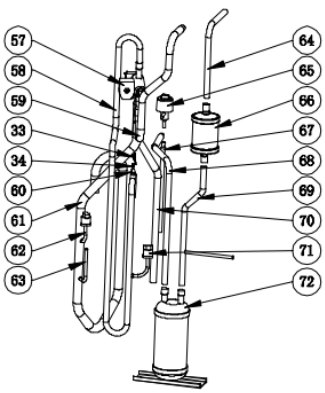
NO.	Part name	NO.	Part name
1	Top cover	35	Back grill
2	Top frame	36	Water inlet temp. sensor T1-TH6
3	Pillar	37	Exchanger temperature sensor clip
4	Evaporator	38	Titanium heat exchanger
5	Fan motor bracket	39	Blue rubber ring
6	Evaporator support	40	Water connection sets
7	Fan motor	41	Water outlet temp. sensor T2-TH5
8	Fan blade	42	Rubber ring on water flow switch
9	Front panel	43	Water flow switch
10	Front panel	44	Red rubber ring
11	Controller installation box	45	Electric box cover
12	Seal ring	46	Reactor
13	Controller	47	Wifi module
14	Isolation panel	48	Reactor box
15	Service panel	49	Electric box
16	Evaporator heating resistor	50	PCB
17	Compressor	51	Magnet ring
18	Right panel	52	Magnet ring
19	Base tray	53	Water pump terminal
20	Compressor rubber feet	54	Power terminal
21	Compressor heating resistor	55	Clip
22	Evaporator support	56	4 way valve
23	Evaporator temperature sensor T3-TH2	57	EEV
24	Sensor clip	58	High pressure switch
25	Sensor holder	59	Discharge temp. sensor T6-TH3
26	Back panel	60	Discharge pipe
27	Pressure gauge	61	Gas return piping
28	Evaporator pipe	62	Low pressure switch
29	Rubber block	63	Capillary
30	Cable connector	64	4-way valve to exchanger
31	Cable passing hole	65	4-way valve to evaporator piping
32	Distribution piping	66	Exchanger to EEV
33	Ambient temp. sensor T5-TH1	67	EEV to distribution piping
34	Ambient temp. sensor clip		

LuxuryBlack i20





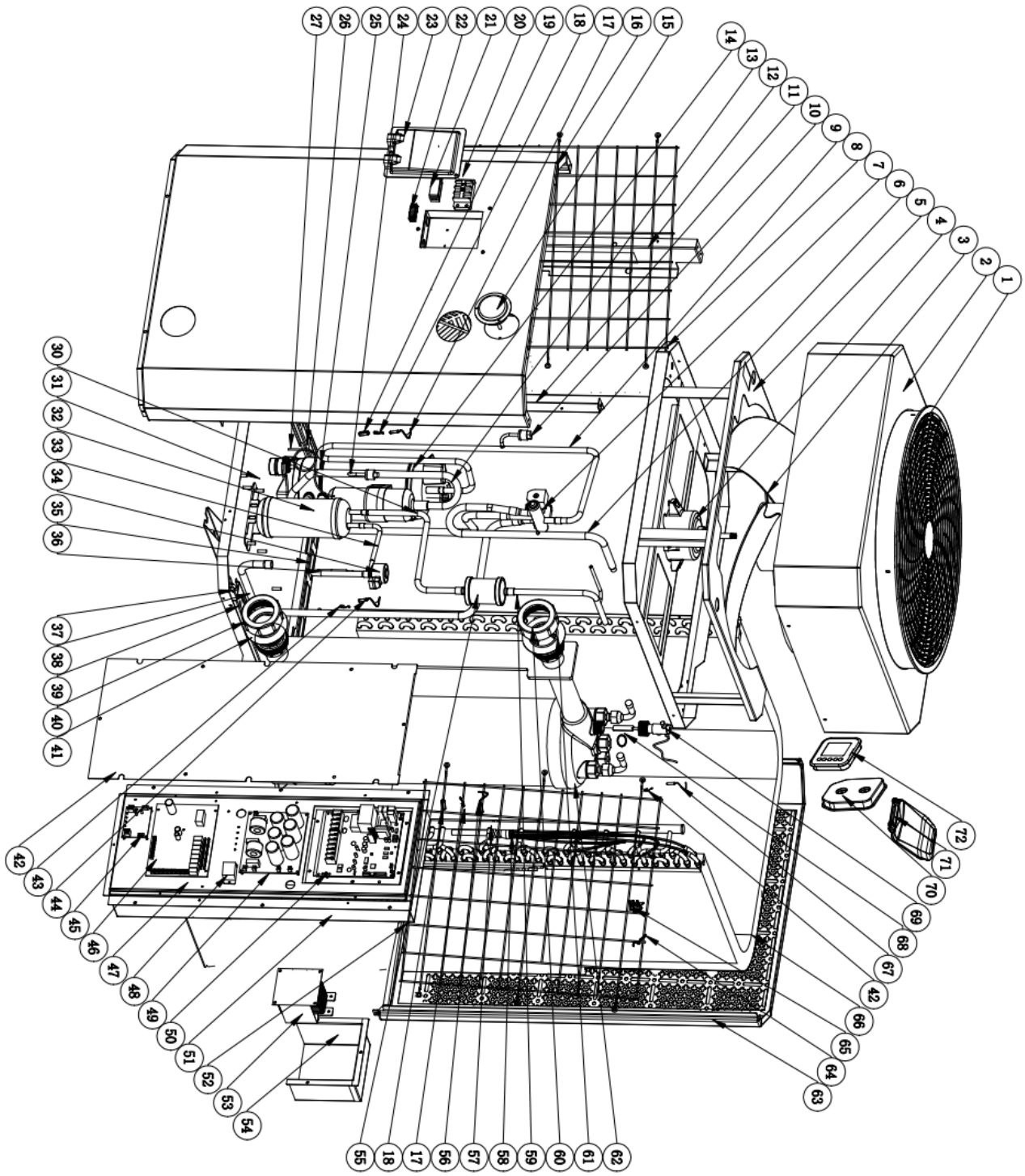




LuxuryBlack i20

NO.	Part name	NO.	Part name
1	Top cover	37	Ambient temp. sensor clip
2	Top frame	38	Water inlet temp. sensor T1-TH6
3	Evaporator	39	Exchanger temperature sensor clip
4	Fan motor bracket	40	PVC cover
5	Fan motor	41	Blue rubber ring
6	Pillar	42	Water connection sets
7	Evaporator support	43	Water flow switch
8	Fan blade	44	Rubber ring on water flow switch
9	Front panel	45	Water outlet temp. sensor T2-TH5
10	Controller installation box	46	Titanium heat exchanger
11	Front panel	47	Red rubber ring
12	Seal ring	48	Electric box cover
13	Controller cover	49	Wifi module
14	Controller	50	PCB
15	Service panel	51	Water pump terminal
16	Base tray	52	Clip
17	Compressor rubber feet	53	Power terminal
18	Compressor	54	Electric box
19	Compressor heating resistor	55	Magnet ring
20	Evaporator support	56	Magnet ring
21	Reactor	57	4 way valve
22	Compressor heating resistor	58	Discharge pipe
23	Isolation panel	59	4-way valve to exchanger
24	Right panel	60	Discharge temp. sensor T6-TH3
25	Evaporator pipe	61	Gas return piping
26	Distribution piping	62	Low pressure switch
27	Rubber block	63	Tube
28	Back panel	64	Exchanger to filter
29	Pressure gauge	65	EEV
30	Cable connector	66	Dehydrator filter
31	Cable passing hole	67	EEV to distribution piping
32	Back grill	68	Liquid storage tank to EEV
33	Sensor holder	69	Filter to storage tank
34	Sensor clip	70	4-way valve to evaporator piping
35	Evaporator temperature sensor T3-TH2	71	High pressure switch
36	Ambient temp. sensor T5-TH1	72	Liquid storage tank

LuxuryBlack iV26/LuxuryBlack iV30



LuxuryBlack iV26/LuxuryBlack iV30

NO.	Part name	NO.	Part name
1	Fan grill	37	Evaporator heating resistor
2	Top cover	38	4-way valve to evaporator piping
3	Fan blade	39	Evaporator support
4	Fan motor	40	Water connection sets
5	Fan motor bracket	41	Blue rubber ring
6	4-way valve to exchanger	42	Electric box cover
7	4 way valve	43	Exchanger temperature sensor clip
8	Side grill	44	Water inlet temp. sensor T1-TH6
9	Discharge pipe	45	Wifi module
10	High pressure switch	46	PCB
11	Electric box support panel	47	Scale panel
12	Electric box support panel	48	Relay
13	Gas return piping	49	Filter board
14	Compressor	50	Driver board 3 phase
15	Pressure gauge	51	Electric box
16	Service panel	52	Side grill
17	Discharge temp. sensor T6-TH3	53	Reactor
18	Clip	54	Reactor box
19	Sensor holder	55	Dehydrator filter
20	Power terminal	56	Evaporator temperature sensor T3-TH2
21	Clip	57	Evaporator pipe
22	Water pump terminal	58	Distribution piping
23	Terminal board cover	59	Exchanger to filter
24	Low pressure switch	60	Water connection sets
25	Compressor heating resistor	61	Red rubber ring
26	Evaporator support	62	Titanium heat exchanger
27	Capillary	63	Back panel
28	Filter to storage tank	64	Ambient temp. sensor T5-TH1
29	Base tray	65	Ambient temp. sensor clip
30	Liquid storage tank	66	Evaporator
31	Liquid storage tank to EEV	67	Water outlet temp. sensor T2-TH5
32	EEV	68	Rubber ring on water flow switch
33	Evaporator support	69	Water flow switch
34	EEV to distribution piping	70	Controller installation box
35	Fan grill	71	Controller cover
36	Top cover	72	Controller

10.Warranty and returns

10.1 Warranty

LIMITED WARRANTY

Thank you for purchasing a heat pump from us.

This warranty covers manufacturing and material defects in all components for a period of two years after the date of purchase.

This warranty is limited to the original purchaser in the retail sector. It is not transferable, and it is not applicable to products that have been removed from their original installation location. The liability of the manufacturer is limited to the repair or replacement of defective components and does not include the cost of labour for removing and replacing the defective component(s), the cost of transporting component(s) from or to the factory, or costs associated with other materials necessary for carrying out repairs. This warranty does not cover any defects attributable to the following causes:

1. Installation, operation or maintenance of the product other than in accordance with the guidelines and/or instructions in the Installation and Operation Manual supplied with the product.
2. Faulty or deficient work performed on the product by an installer.
3. Failure to maintain the correct chemical balance in the swimming pool **[pH between 7.0 and 7.8; total alkalinity (TA) between 80 and 150 ppm; free chlorine concentration between 0.5 and 1.2 mg/l; total dissolved solids (TDS) less than 1,200 ppm; maximum salt concentration 8 g/l]**.
4. Improper use, modification, accident, fire, flood, lighting strike, rodents, insects, negligence, neglect, or force injure.
5. Deposits, freezing, or other conditions that impair proper water flow through the product.
6. Operating the product with a flow rate outside the published minimum and maximum specifications.
7. Use of components or accessories not designed or made for this product.
8. Chemical contamination of the air used by the product or improper use of decontaminating chemicals, such as the addition of decontaminating chemicals through the skimmer or in the pipes or lines located upstream of the heat pump and the cleaning hose.
9. Overheating, improper electrical connections, improper power supply, secondary damage attributable to defective O-rings, diatomaceous filters or filter cartridges, or damage caused by putting the pump into operation in the absence of sufficient water.

LIMITATIONS ON LIABILITY
This is the sole warranty provided by the manufacturer. Nobody is authorized to grant other warranties in our name.
THIS WARRANTY REPLACES ALL OTHER EXPLICITLY GRANTED OR IMPLICIT WARRANTIES, INCLUDING BUT NOT LIMITED TO ANY FORM OF IMPLICIT WARRANTY OF SUITABILITY FOR A PARTICULAR PURPOSE OR FITNESS FOR SALE. WE EXPLICITLY DISAVOW ANY LIABILITY FOR INDIRECT, INCIDENTAL OR CONSEQUENTIAL LOSS OR DAMAGE OF A PUNITIVE NATURE RESULTING FROM THE VIOLATION OF AN EXPLICITLY GRANTED OR IMPLICIT WARRANTY.
This warranty gives you specific legal rights, which may vary depending on the country.

WARRANTY CLAIMS
To ensure prompt handling of your warranty claim, please contact your dealer and provide the following information to the dealer: proof of purchase, model number, serial number and date of installation. The installer will contact the factory to obtain instructions regarding the procedure for making warranty claims and to find out the location of the closest service centre.

All returned components must be marked with a **RMA number** so that it can be determined whether they are covered by the warranty.

10.2 RMA request form

Company:				Date:	
Street address:					
City/town:		Postal code:		Country:	
Contact:				Phone:	
	E-mail:			Fax:	

Contact:		Date:	

Reserved for internal use			
RMA no.:			
Assigned by:		Date:	

Reason for return: Copy of customer invoice included? ☐

RMA request accompanied by other documents? ☐
Description of the documents:

Model no.:		Invoice no.:	
Serial number:		Invoice date:	
Problem:			

Warranty repair policy

1. Shipping costs for returned products must be paid in advance. All shipping costs associated with a return shipment are borne by you.
2. Products may be sent back to us only after prior approval by the company. Return shipments for which approval has not been given by the company will be sent back, with all shipping costs to be borne by you.
3. We will replace or repair the products and return them to you free of charge using the shipping service of your choice.
4. If you choose express shipment (by a shipping service selected by you), you are responsible for paying the shipping costs.

Return procedure

1. Before requesting an RMA number from us, please check whether you have properly observed the installation and use instructions in the manual.
2. Contact our RMA department by phone and ask for an RMA request form.
3. Ensure that **all** fields of the RMA request form are fully completed.
4. In the case of returns during the warranty period, please include the customer copy of your original sales invoice.
5. Send the RMA request form, the sales invoice and any other relevant documents (photos, etc.) to us or provide them by e-mail. An RMA number will be assigned to you within 24 hours after we receive the necessary documents. We may refuse to assign you an RMA number if the information mentioned in points 3 and 4 above is missing.
6. **The RMA number must be marked clearly on the shipping label of the package and noted on the shipping documents.**

7. All products received by us that lack labels or that have incorrect, incomplete or unreadable labels will be refused, with return shipping costs to be borne by you.
8. All packages delivered to us with clearly visible damage will be refused immediately.
9. Before returning products, please check that the products you intend to return to us are the same as the products for which an RMA number was issued. If the received products do not match the products registered under the assigned RMA number, we will return all of the products at your expense.
10. No return shipments at all will be accepted without an RMA number. Absolutely no exceptions to this rule are allowed.
11. **An RMA number remains valid for just 21 calendar days after it is assigned. We reserve the right to refuse to accept products returned to us if they are received more than 21 days after the date when the RMA number was assigned.**

Products not covered or no longer covered by the warranty

The customer is responsible for paying shipping and repair costs The estimated repair costs will be advised after the problem(s) with the returned products have been diagnosed.

The minimum charge of a diagnosis is €50.00.

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