madimack

Powered by invermac TECHNOLOGY

inverECO LITE

Installation and Operation Manual

quick connect technology

CONTENTS

A. Foreword

Congratulations and thank you for choosing the Madimack InverEco Lite pool heat pump.
This manual contains important information that will help you install, operate and maintain the product.

Thank you!

Warning, flammable material

Read operator's manual

Operator's manual, operating instructions

Service indicator, read technical manual

B. Safety precautions

We have provided important safety messages in this manual and on your heat pump.
Please always read and obey all safety messages.
Environmentally friendly R32 Refrigerant is used for this heat pump

1. Warning

The WARNING sign denotes a hazard. It calls attention to a procedure, practice, or the like, which, if not correctly performed or adhered to, could result in personal injury or injury to a third party. These signs are rare but are extremely important.

	a. Keep the heat pump away from fire source.
	b. It must be placed in well-ventilated area, indoor or closed area is not allowed.
	c. Repair and disposal must be carried out by trained service personnel
	d. Vacuumize completely before welding. Welding can only be carried out by professional personnel in service center.

2. Attention

Please read the following instructions before installation, use and maintenance.

a) Installation must be done by professional staff only in accordance with this manual.
b) A leakage test must be performed after installation.
c) Please don't stack obstacles, which will block air flow near the inlet or outlet area, otherwise the efficiency of the heat pump will be reduced or even stopped.
d) Set the proper temperature in order to get a comfortable water temperature to avoid overheating or overcooling.
e) In order to optimise the heating effect, please install heat preservation insulation on pipes between the swimming pool and the heat pump, and please use a recommended cover on the swimming pool.
f) Connecting pipes of the swimming pool and the heat pump should be ≤10m.
g) Except for the methods recommended by the manufacturer, do not use any methods to accelerate the defrosting process or clean the frosted parts.
h) If a repair is required, please contact the nearest after-sales service center. The repair process must be strictly in accordance with the manual. All repair practice by non-professional is prohibited.
i) Don't use or stock combustible gas or liquid such as thinners, paint and fuel to avoid fire.
j) This unit can only be installed outdoors.
k) This unit can only be connected to a power source with a single complete cord.
l) This unit contains fluorinated greenhouse gas.

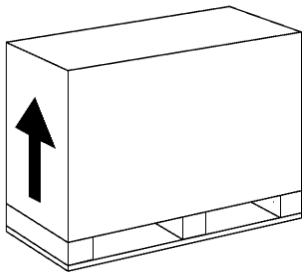
3. Safety

a) Please keep the main power supply switch far away from the children.
b) When a power cut happens during operation, and later the power is restored, the heat pump will start up.
c) Please switch off the main power supply in lightning and storm weather to prevent the machine from damage;
d) Safety inspections must be carried out before the maintenance or repair of heat pumps with R32 gas in order to minimise the risk.
e) Installation and any repairs should be conducted in an area with good ventilation. An ignition source is prohibited during the operation.
f) If R32 gas leaks during the installation process, all operations must be stopped immediately and call the service centre.

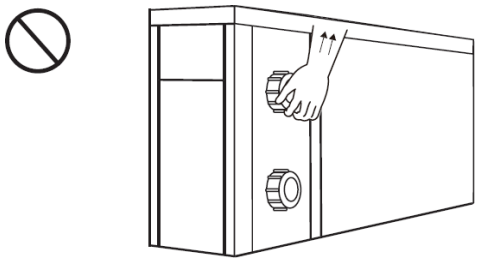
4. About your heat pump

4.1 Transportation

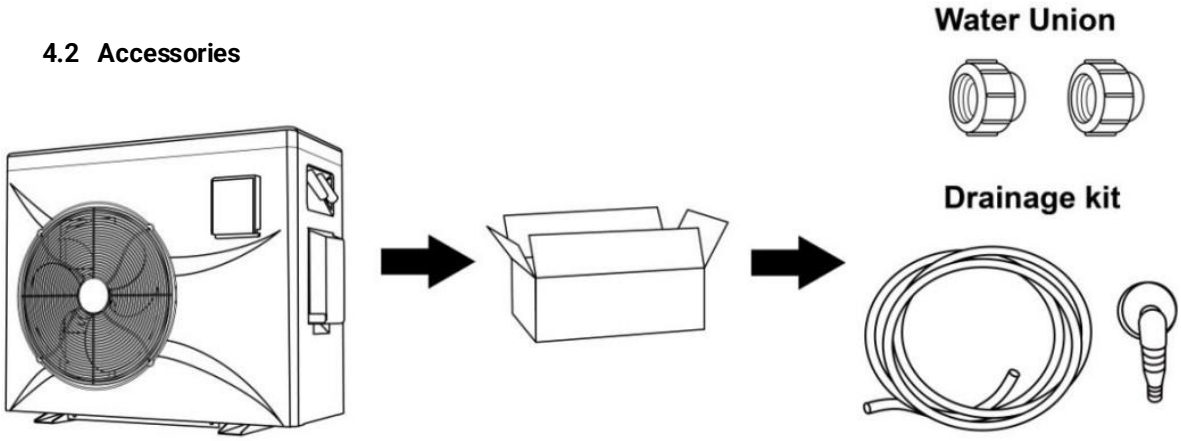
Always keep upright



Do not lift from the water unions. The titanium heat exchanger inside the heat pump may be damaged.



4.2 Accessories



4.3 Features

a. High-efficiency twisted titanium heat exchanger
b. Reverse cycle defrosting
c. High pressure and low pressure protection
d. Soft start & wide voltage application
e. Stable inverter control system

5. Technical parameters

Model	Eco Lite 9kW	Eco Lite 11kW	Eco Lite 14kW	Eco Lite 18kW	Eco Lite 24kW
PERFORMANCE CONDITION: Air 27°C/ Water 27°C/ Humid. 80%					
Heating capacity (kW)	9.5	11	14	18	24.2
COP Range	10.6~5.7	10.8~5.8	11~6	10.8~5.7	10.8~6.3
PERFORMANCE CONDITION: Air 15°C/ Water 26°C/ Humid. 70%					
Heating capacity (kW)	6.6	7.8	9.8	12.4	16.0
COP Range	6.2~4.1	6.2~4.2	6.6~4.3	6.4~4.2	6.6~4.5
PERFORMANCE CONDITION: Air 35°C/ Water 28°C/ Humid. 80%					
Cooling capacity (kW)	3.4	4.3	5.4	6.6	8.8
TECHNICAL SPECIFICATIONS					
Operating air temperature °C	0℃~43℃				
Power supply	230V~/1Ph/50Hz				
Rated input power (kW)	0.45~1.60	0.52~1.86	0.64~2.28	0.83~2.96	0.72~3.81
Rated input current (A)	1.96~6.96	2.26~8.09	2.78~9.91	3.61~12.87	3.13~16.56
Sound level at 1m dB(A)	41.8~53.8	42.9~53.5	44.2~55.0	46.3~58.2	46.9~58.7
Sound level at 10m dB(A)	21.8~33.8	22.9~33.5	24.2~35.0	26.3~38.2	26.9~38.7
Advised water flux (lpm)	40-70	50-80	70-100	100-140	160-200
Water connection (mm)	40				
R32 gas weight (g)	550	600	900	1000	1300

Notes:

This heat pump is able to perform normally within air temperature of 0℃-43°C. Efficiency will not be guaranteed out of this range. Please take into consideration that the pool heat pump performance and parameters are different under various conditions.

Related parameters are subject to adjustment periodically for technical improvement without further notice. For details, please refer to the nameplate.

5.1 Operating condition and range

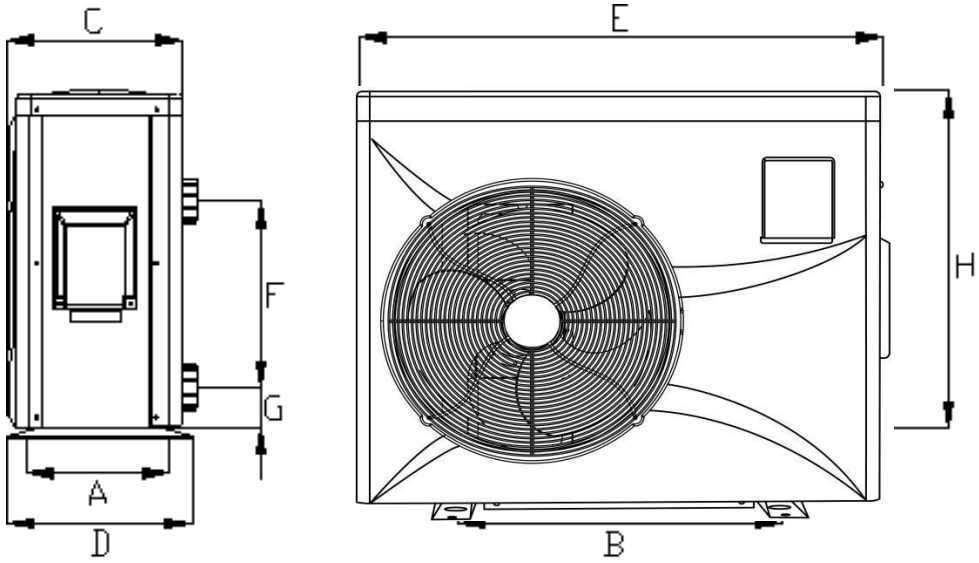
To provide you comfort and pleasure, please set the swimming pool water temperature efficiently and economically.
The heat pump can work between air 0°C～43°C, and its ideal operation range is between air 15°C ~ 25°C.

5.2 Introduction of different modes

a. The heat pump has two modes: Boost and Silence.
b. They have different strengths under different conditions.

Mode	Modes	Strength
	Boost mode	Heating capacity: 20% to 100% capacity Intelligent optimization Fast heating
	Silence mode	Heating capacity: 20% to 80% capacity Sound level: 3dB(A) lower than Boost mode

6. Dimensions



Size (mm) / Name / Model	A	B	C	D	E	F	G	H
ECOLITE09	324	560	347	349	903	250	74	654
ECOLITE11	324	560	347	349	903	250	74	654
ECOLITE14	324	560	347	349	903	320	74	654
ECOLITE18	324	590	347	349	991	350	74	654
ECOLITE24	395	590	415	420	991	460	74	757

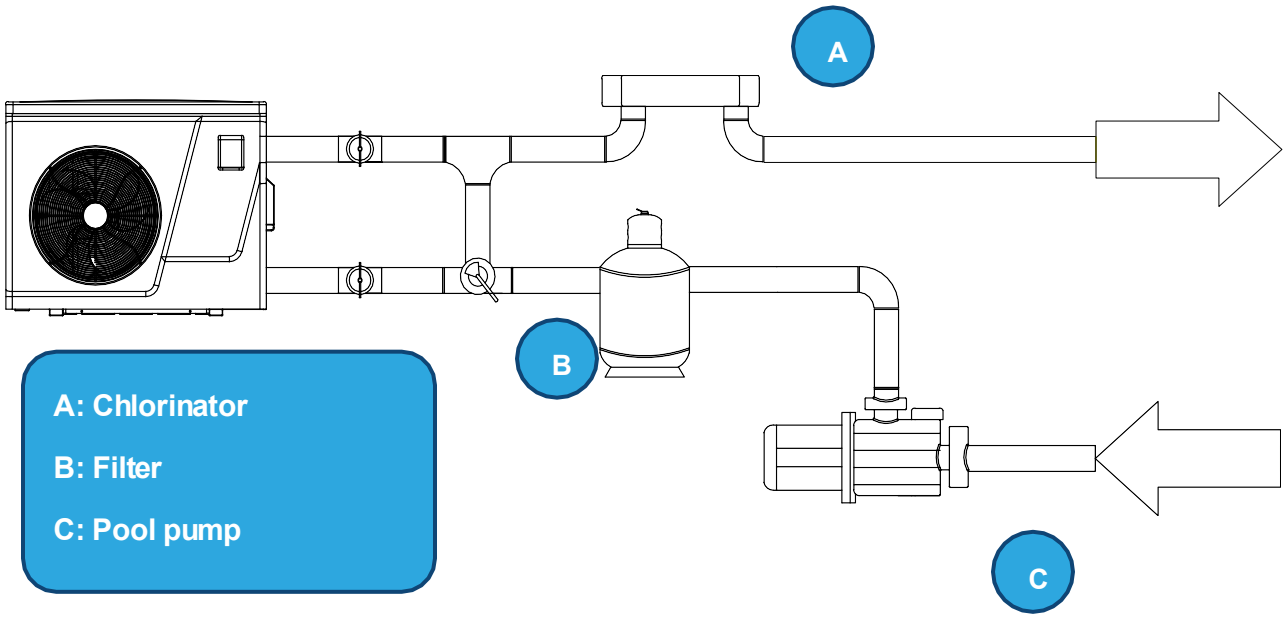
※ Above data is subject to modification without notice.

Note: The picture above is the specification diagram of the pool heat pump, for technician's installation and layout reference only. The product is subject to adjustment periodically for improvement without further notice.

7. Installation options:

7.1. Flow switch activated heating

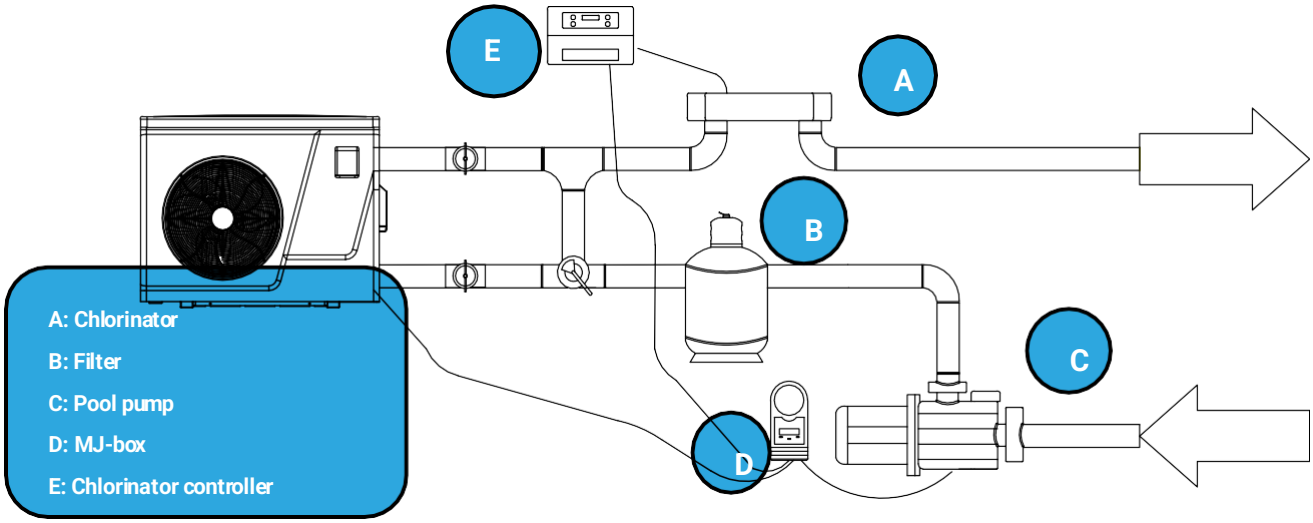
The heat pump is activated by the flow of water initiated from the filtration/circulation pump, if the heater gets to temperature within the timers the unit will first start to use the inverter technology to slow the machine down to maintain the temperature and eventually to a stop.



1. Chlorinator controller initiates the filtration pump.
2. Heat pump's flow switch senses the water flowing through the heat pump.
3. Heat pump starts and will run until temperature is reached or filtration pump switches off
4. No additional internal wiring to the heat pump is required in this set up
5. No additional settings needed to be changed
6. If circulation pump is not running and no flow is detected unit will display E3 – this is normal and an indication the unit is sitting idle waiting for the filtration pump to start again.
7. If the pool temperature is not reached within the filtration times you may need to extend the timers to match the heating requirement.

7.2 Independent Heat pump activation from the chlorinator (additional controller required)

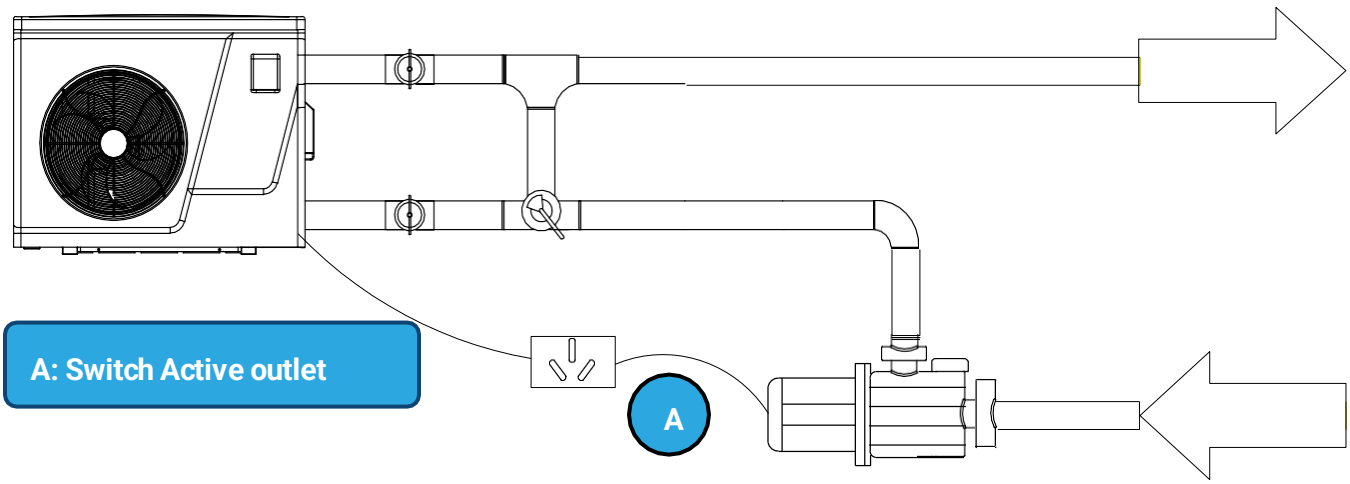
An on-board pump output relay can activate the main filtration pump by using it in combination with a “single pump controller” without using the chlorinator timers needing to be activated which will stop over chlorination but still use a single supply pipework for the pool. This set-up is best when only single pipework is available from pool and doesn’t have individual heating pipework. Efficient with only one pump working.



1. Termination socket is labelled (Pump control output) found on the side of heat pump, and connects to P1 – P2 on the on-board relay and is activated by the timers and pool temperature.
2. Once temperature is reached or the timer is finished the heat pump will switch off the relay output stopping the circulation pump.
3. If the pool reaches temperature but the timer is still active the heat pump will switch off relay to stop the circulation pump. Whilst the timer is still active every hour it will run the circulation pump for 2 minutes to test the water temperature. If the temperature is 1 degree below set point the heat pump will continue to run the circulation pump and start the heating process again.
4. Pump control socket only to be used with low-voltage cable and devices
5. Heat Pump timers are set through the mobile application and required a Wi-Fi connection. If no Wi-Fi is present, then an additional external timer may be required (sold separately)
6. On the single pump controller, connect the black power cable to a 240V GPO, connect the piggyback cord into the chlorinator, and plug the pump into the bottom of the controller.
7. Connect the Fig 8 wire from the single pump controller to the pump control output terminals. (See single pump controller manual for more information)
8. Adjust parameter “P6” to 100 as per section E

7.3 Individual circulation pump installation

An onboard output initiates the circulation pump to start and stop from the heat pump itself based on temperature and timers. For use when there are dedicated heating pipes and to separate from the filtration timers.

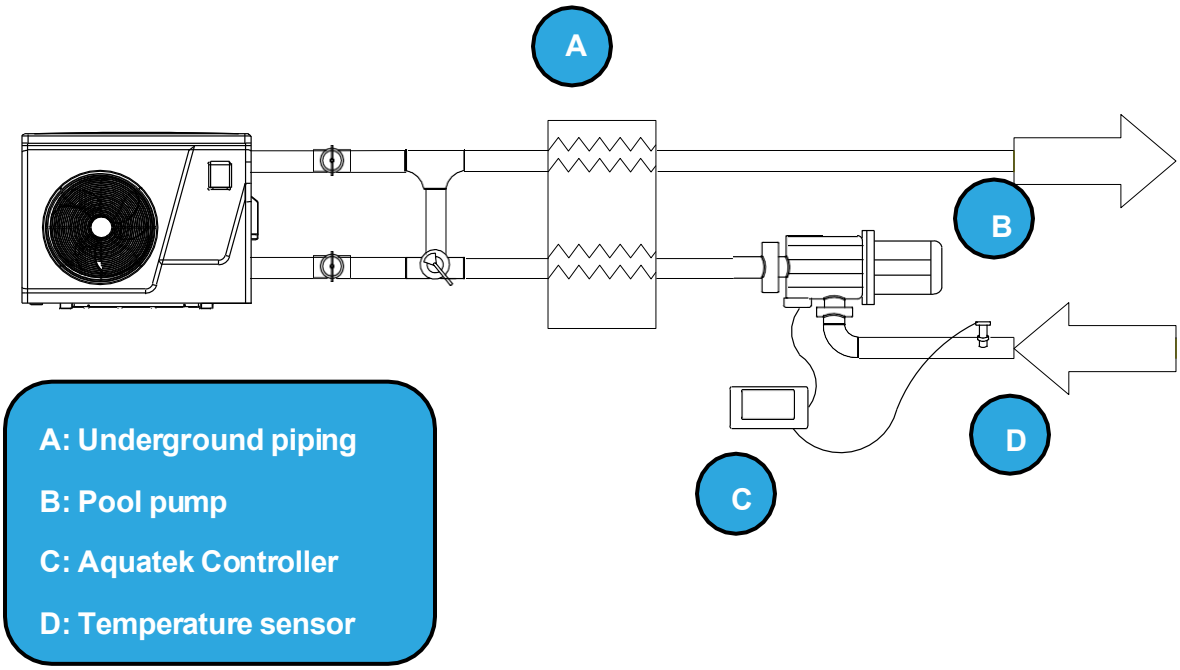


1. Must be completed by a qualified electrician. This adds additional load to the heat pump circuit.
2. Please remove any wiring or terminals within P1-P2 before connecting 230V.
3. Termination points are labelled P1-P2 inside the electrical compartment. The relay is activated by timers and pool temperature.
4. Once the temperature is reached or the timer is finished, the heat pump will switch off the relay output, stopping the circulation pump.
5. If the pool reaches the temperature but the timer is still active, the heat pump will switch off the relay to stop the circulation pump.
6. Whilst the timer is still active, every hour it will run the circulation pump for 2 minutes to test the water temperature.
    1. If the temperature is 1 degree below the setpoint, the heat pump will continue to run the circulation pump and start the heating process again.
7. P1 – P2 relay up to 10A output for circulation pump (check total load on circuit when combined (P1 and P2 is an output relay switch not active neutral terminals, please see wiring diagram for further information.)
8. Heat Pump timers are set through the mobile application and required a Wi-Fi connection. If no Wi-Fi is present then an additional external timer may be required (sold separately)
9. It is recommended to install a power point for the pump to plug into for any future service work to the pump, which may be required.
10. The circulation pump should be sized accordingly to suit the site conditions and flow required. Adjust parameter “P6” to 100 as per section E

Refer to the electrical wiring diagrams in this manual

7.4 Solar retro

In some situations, when a heat pump is replacing a solar heating system, the pipework is available to be used next to the house but there is no way of adding a new electrical circuit to the pool equipment. With the use of an additional temperature sensor, you can use the in-built flow switch to activate the heating. Allowing you to use the existing solar pump and to install the heater closer to the switchboard.



1. In may be impractical to get a new power cable from the house switch board to the pool equipment area due to finished flooring etc., in this case It may be possible to use the existing pipework which connects to the house and install a power cable from there.
2. An external thermostat controller can initiate the existing circulation pump, thus running the heat pump through the flow switch for full temperature control.

Please speak to your installer for more information.

3. No additional wiring to the heat pump is needed internally
4. Timers are set on the external thermostatic controller
5. Set heat pump a couple of degrees above the set point temperature of the external temperature controller.

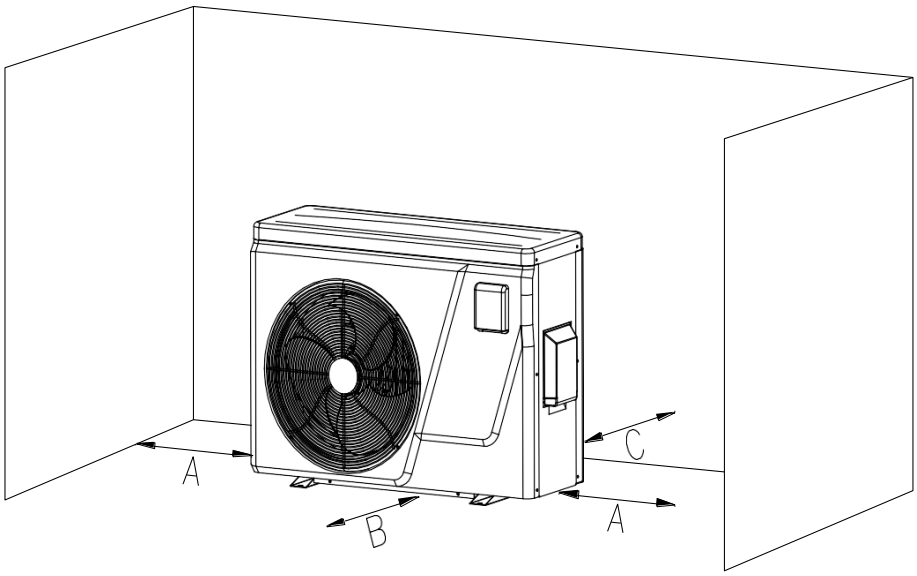
8. Installation guidance

8.1 Location and Ventilation

Only a professional is allowed to install the heat pump.

a. Location and dimension

⚠ The inverter pool heat pump must be installed in a well-ventilated place. Below are the minimum ventilation requirements for performance and serviceability.



Model	InverEco Lite 9kW	InverEco Lite 11kW	InverEco Lite 14kW	InverEco Lite 18kW	InverEco Lite 24kW
A (mm)	300	300	300	300	300
B (mm)	750	750	1000	1000	1000
C (mm)	300	300	300	300	300

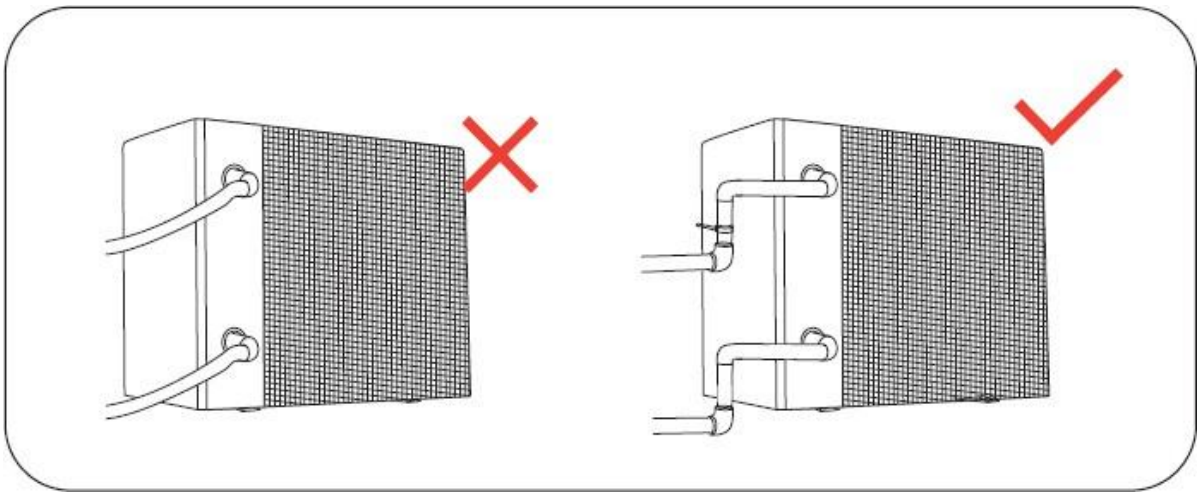
Please note that these are absolute minimum distances and where possible should always have a greater difference. Under no circumstances should any of the distances be reduced as performance will be affected. More ventilation is better.

These units must be installed outdoors in a well-ventilated area, its not approved to be installed in decks, under houses, in sheds, or any sorts of indoor locations.

8.2 Placing Unit and water connections

1) The frame must be fixed by bolts (M10) to concrete foundation or brackets. The concrete foundation must be solid and fastened; the bracket must be strong enough and antirust treated;
2) Please don't stack substances that will block air flow near inlet or outlet area, and there is no barrier within 50cm behind the main machine, or the efficiency of the heat pump will be reduced or even stopped;
3) The machine needs an appended pump (Supplied by the user). The recommended pump specification-flux: refer to Technical Parameter, Max. lift ≥10m;
4) When the machine is running, there will be condensation water discharged from the bottom, please pay attention to it. Please hold the drainage nozzle (accessory) into the hole and clip it well, and then connect a pipe to drain the condensation water out.

b. The inlet and outlet water unions can't stand the weight of soft pipes. The heat pump must be connected with hard pipes!

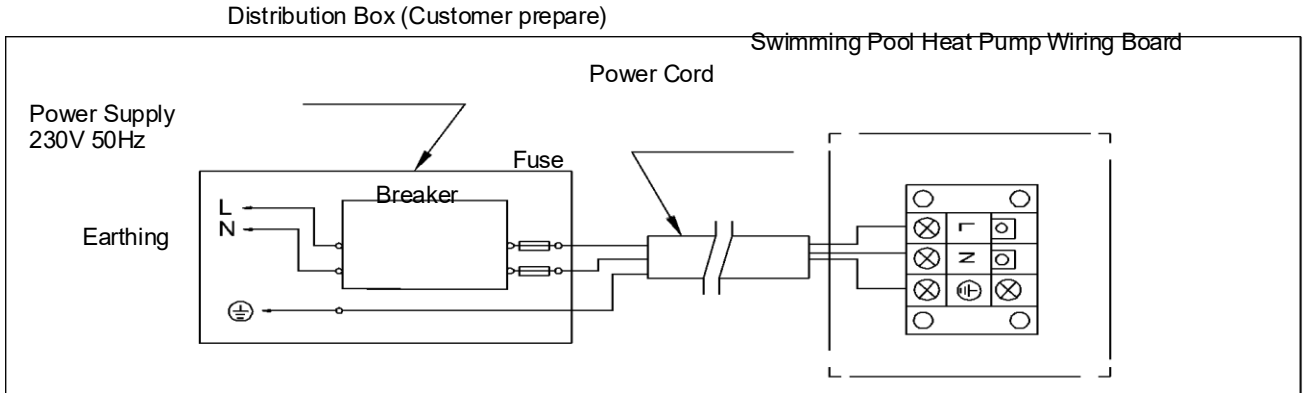


8.3 Wiring

a. Connect to appropriate power supply, the voltage should comply with the rated voltage of the products.
b. Earth the machine well.
c. Wiring must be handled by a professional technician according to the circuit diagram.
d. Set leakage protector according to the local code for wiring (leakage operating current ≤ 30mA).
e. The layout of power cable and signal cable should be orderly and not affecting each other.
f. Please make sure an earth leakage circuit breaker is installed in the circuit.
g. Before use, please make sure the plug is well protected from water.

8.4 Electric wiring diagram

For power supply: 230V 50Hz



Note:

1) must be hard wired, plug is not allowed.
2) The swimming pool heat pump must be earthed well.

8.5 Reference for protecting devices and cable specification

MODEL		InverEco Lite 9kW	InverEco Lite 11kW	InverEco Lite 14kW	InverEco Lite 18kW	InverEco Lite 24kW
Breaker	Rated Current (A)	12	12	12	18	25
	Rated Residual Action Current (mA)	30	30	30	30	30
Power Cord (mm^2)		3×1.5	3×1.5	3×1.5	3×2.5	3×4
Signal cable (mm^2)		3×0.5	3×0.5	3×0.5	3×0.5	3×0.5
Maximum current (A)		10	10	10	15	20.5

※ Above data is subject to modification without notice.

Note: The above data is adapted to power cord ≤ 10m. If power cord is＞10m, wire diameter must be increased. The signal cable can be extended to 50m maximally.

9. Controller and Key Function

Symbol	Designation
M	Mode (Auto/ Heating/ Cooling)
	1. Boost 2. Silence
	Temperature setting (8 – 40°C)
	Timer (1-ON) (2-OFF)
	1. Power on/off 2. Wi-fi setting

10. Operation instruction

10.1 Screen lock

Automatic Lock Period: 30 seconds if no operation.

10.2 Power on & power off

Short press " ⏻ " to power on or power off.

10.3 Temperature setting

Press " ^ " and " v " to display and set temperature.

10.4 Temperature display conversion (Celsius/Fahrenheit)

When the screen is on, Press " ^ " and " v " simultaneously for 5 seconds to switch the display between degrees Celsius and degrees Fahrenheit.

10.5 Mode selection (Heating/Cooling/Auto)

Press " M " to choose heating, cooling and automatic mode.

In heating mode: " ☼ " light is on. Water temperature setting range(18-40°C)

In cooling mode: " ❄ " light is on. Water temperature setting range(8~30°C)

Automatic mode: " ⌂ " light is on. Water temperature setting range(8~40°C)

10.6 Boost/Silence mode selection

Press " ◎ " to switch between boost mode " ▂▄▆ ", silence mode " ▂▄ ".

Please choose boost mode " ▂▄▆ " for initial heating.

10.7 Defrosting

(1) Auto defrost: When machine is defrosting, starts flashing; after defrosting is on continuously.

(2) Forced defrost: When the unit is running, press " " and " " on the controller simultaneously and hold for 5 seconds. When the symbol is flashing, defrost has started, and will continue until the external coil temperature reaches a certain temperature adequate for continued operation. If the symbol stops flashing forced defrost has stopped.

*Note: the interval between forced defrosting should be more than 30 minutes apart.

10.8 'C' Value - Running status checking:

(1) Press " " for 5 seconds, it will enter running status checking.

(2) During this time, the display will show the status symbol "C0" and its corresponding value.

(3) Change status through " " and " ", the corresponding value also changes.

(4) Press " " to quit "Running Status Checking" mode; or it will quit automatically for 30-second no operation.

(5) Running status checking table:

Symbol	**Content**	**Unit**
C0	Inlet water temp	°C
C1	Outlet water temp	°C
C2	Ambient temp	°C
C3	Exhaust gas temp	°C
C4	Evaporator coil pipe temp	°C
C5	Return gas temp	°C
C6	Cooling coil pipe temp	°C
C9	Cooling plate temp	°C
C10	EEV opening angle	P
C11	DC fan speed	r/min

10.9 Time calibration

Press “ ” for 5 seconds to enter “time calibration” status, then the display of “88:88” flashes; press “ ” and “ ” to adjust time.

Press “ ” and “ ” simultaneously to quit “time calibration” status, or automatically quit after 30-second no operation.

10.10 Timer setting

(1) Timer setting

Press “ ” for 10 seconds to enter “timer on setting” status, the “ ” icon lights on, and “ON ” flashes.

Press “ ” again to select single timer “ON ” or cycle timer “ 1-ON ”; press “ ” and “ ” to adjust time needed, then press “ ” to confirm and enter “timer off setting” status; the icon of “ OFF” flashes, press “ ” to select single timer “OFF” or cycle timer “ 2-OFF ”. press “ ” and “ ” to adjust time needed, then press “ ” to confirm timer setting and quit. Or automatically quit “timer setting status” after 30-second no operation.

(2) Cancel timer setting

After entering “ timer setting” status, if you do not adjust the time, just press “ ” to cancel the timer setting.

11. Parameters

(1) Press “ ” and “ ” together for 5 seconds to enter “parameter checking” status, parameter code NO."P0” and default parameter value “2” will display.

Press “ ” Key and “ ” Key to check the parameters.

Press “ ” key to exit "parameter checking" status.

(2) Modify parameters

In "parameter checking" status, press “ ” to enter "parameter setting" status.

In "parameter setting" state, press “ ” and “ ” to change the parameters value.

Press “ ”to confirm and return to the previous status; Or press “ ” key to quit and return to the previous status.

11.1 Parameter table:

No.	Parameter	Adjustment range	Step length	Default
P0	Water pump running way	0：Continuation 1：Water temp control 2：time/water temp control	1	0
P1	Time setting (only available when the water pump running way is set to “2”	10 ~ 120 min	5 min	60 min
P2	Compressor continuously running time in defrosting mode	30 ~ 90min	1min	35 min
P3	Defrosting start temp	-17 ~ 0℃	1℃	-7℃
P4	Defrosting running time	1 ~ 12min	1min	12 min
P5	Defrosting quit temp	8 ~ 30℃	1℃	13℃
P6	Single pump option	50-100	1	off
P10	Compressor speed control	0：Auto，1：Manual	1	0
P12	Electronic expansion valve overheat level (heating)	-10 ~ 20	1	3
P13	Electronic expansion valve overheat level (cooling)	-10 ~ 20	1	5
P14	Electronic expansion valve manual/auto	0：Auto，1：Manual	1	0
P15	Electronic expansion valve opening setting（heating）	30～240×2	2P	175×2
P16	Electronic expansion valve opening setting（cooling）	30～240×2	2P	175×2
P20	Power off memory function	0 — NO，1 — YES	1	1

12. Testing & Maintenance

12.1 Inspect heat pump before use

a. The ventilating device and outlets are operating adequately and are not obstructed.
b. It's prohibited to install refrigeration pipe or components in corrosive environment.
c. Inspect the electric wiring on basis of the electric wiring diagram and earthing connection.
d. Double confirm the main machine power switch should be off.
e. Inspect the air inlet and outlet.

12.2 Leak detection notice and method

a. Leakage checking is prohibited in a closed area.
b. The ignition source is prohibited during the leakage inspection. A halide torch (or any other detector using a naked flame) shall not be used.
c. Leakage detection fluids can be applied with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe.
d. Vacuumize completely before welding. Welding can only be carried out by professional personnel in service center.
e. Please stop using while gas leakage occur, and contact professional personnel in service center.

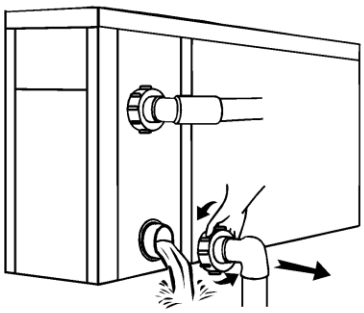
3. Trial

a. The user must "Start the Pump before the Machine, and Turn off the Machine before the Pump", or the machine will be damaged.
b. Before start the heat pump, please check for any leakage of water.
c. In order to protect the swimming pool heat pump, the machine is equipped with a time lag starting function, the fan will run 1 minute earlier than the compressor when starting the machine, and it will stop running 1 minute later than the compressor when power off the machine.
d. After the swimming pool heat pump start up, please kindly checking for any abnormal noise from the machine.

13.
Maintenance

"CUT OFF" power supply of the heat pump before cleaning, examination and repairing

1. In winter season when you don't swim:
   a. Cut off power supply to prevent any machine damage.
   b. Drain water clear of the machine, when using the machine at ambient temperatures below 2°C, please keeping the water flowing.
   c. Before covering the machine with winter cover, please make sure all water on the surface of the heat pump has been wiped and clean.
   d. Cover the machine body when not in use.



Important:
Unscrew the water nozzle of inlet pipe to let the water flow out.
When the water in machine freezes in winter season, the titanium heat exchanger may be damaged.

2. Please clean this machine with household detergents or clean water, NEVER use gasoline, thinners or any similar fuel.
3. Check bolts, cables and connections regularly.
4. If repair or scrap is required, please contact authorized service center nearby.
5. Do not attempt to work on the equipment by yourself. Improper operation may cause danger.
6. In case of risking, safety inspection must be carried before the maintenance or repairing for heat pumps with R32 gas.

14. Troubleshooting

WARNING:

a. If repair or scrap is required, please contact authorized service center nearby.

b. Requirements for Service Personnel

c. Any person who is involved with working on or breaking into a refrigerant circuit should hold a current valid certificate from an industry-accredited assessment authority, which authorizes their competence to handle refrigerants safely in accordance with an industry recognized assessment specification.

d. Do not attempt to work on the equipment by yourself. Improper operation may cause danger.

e. Strictly comply with the manufacturer's requirements when charging R32 gas and equipment maintenance. This chapter focuses on special maintenance requirements for swimming pool heat pump with R32 gas. Please refer to the technical service manual for detailed maintenance operation.

f. Vacuumize completely before welding. Welding can only be carried out by professional personnel in service center.

14.1 Failure solution and codes

Failure	Reason	Solution
When powered on, the controller displays a code	Startup code	This is normal. Please wait until it disappears.
Unresponsive controller	Some models have screen lock function.	Refer to the manual to unlock the screen
Heat pump doesn't run	Improper operation	Refer to the manual
	No power	Wait until the power recovers
	Unit is powered off	Switch on the power
	Burned fuse	Check and change the fuse
	The breaker is off	Check and turn on the breaker
	Voltage anomaly	Inspection by professional
Unit suddenly starts or stops running	The unit may be in defrost. At this point the fan stops spinning and the heat indicator on the controller will flash	Not failure, the unit will switch back after defrosting
	Some models have a timed power on/off function.	Refer to the manual to disable this function
	Once the set temperature is reached, the heat pump will go into standby	This is normal
Air is blowing out, but unit is not heating well	Evaporator blocked	Clear the blockage
	Air inlet and/or outlet blocked	Clear the blockage
	3 minutes start delay protection for compressor	Wait patiently
Display normal, but no heating	Set temperature too low	Set to proper temperature
	3 minutes start delay protection for compressor	Wait patiently
Unit is releasing white smoke	The unit is defrosting	This is normal. Please wait until unit finished defrosting.
Unit is leaking water	In heating mode, condensation will be generated on the evaporator and released through the bottom of the unit	This is normal
If above solutions don't work, please contact your installer with detailed information and your model number. Don't try to repair it yourself.		

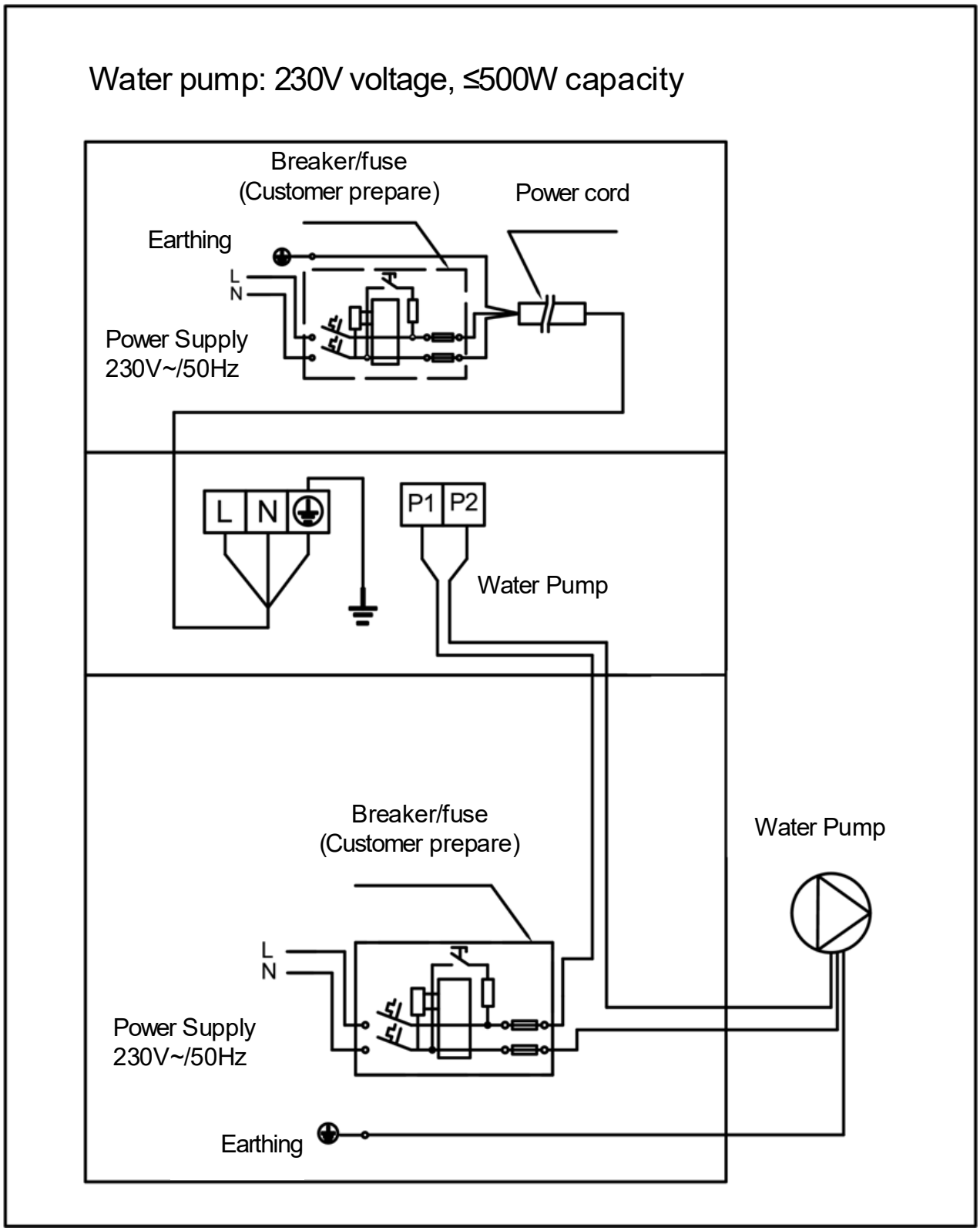
Note: If the following conditions happen, please stop the machine immediately, and cut off the power supply immediately. Then contact your dealer:

1. Unit has stopped running because of external factors
2. The fuse is frequently broken or leakage circuit breaker jumped.

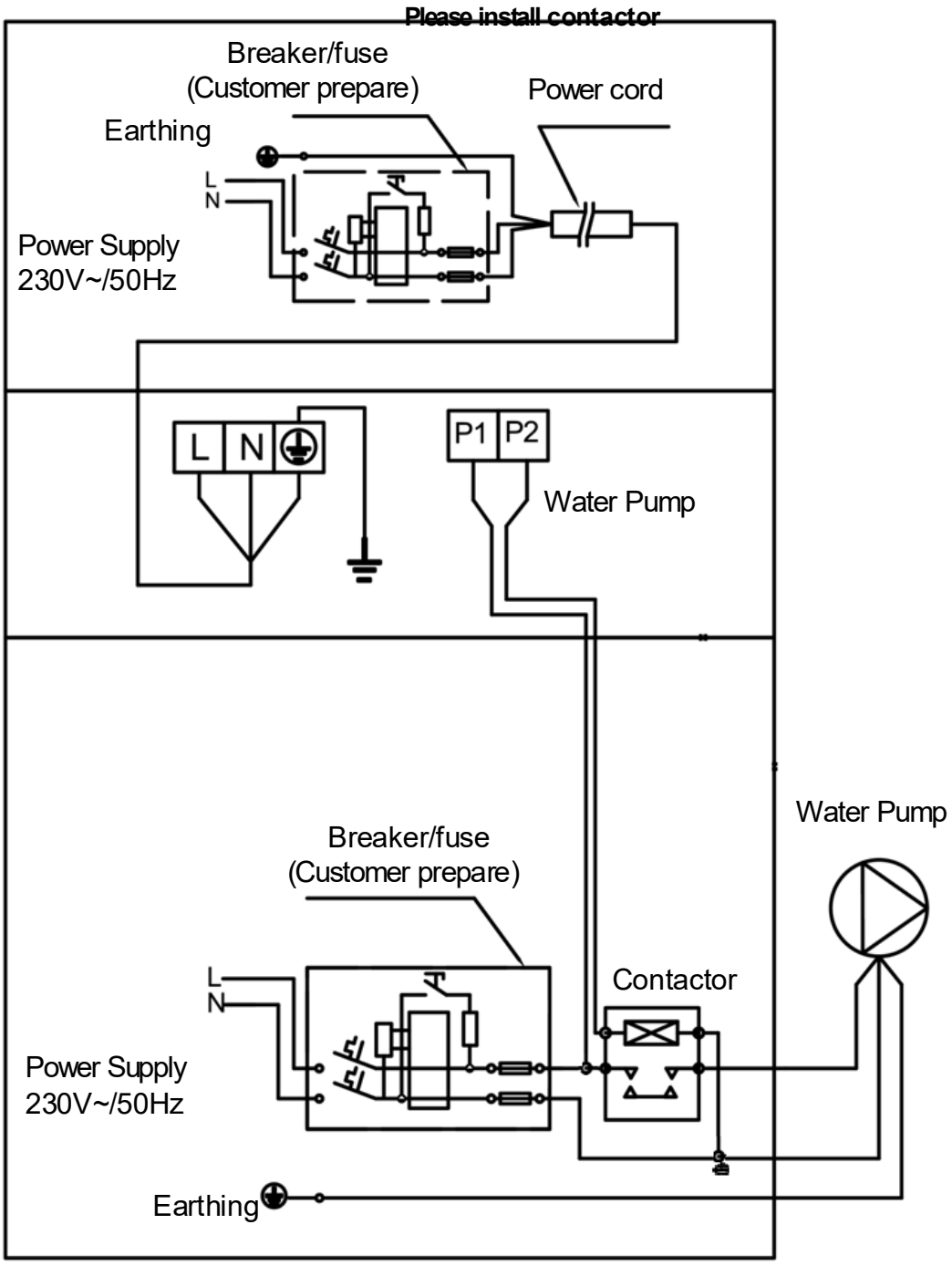
14.2 Protection & Failure codes

NO.	Display	Not failure description
1	E3	No water protection
2	E5	Power supply excesses operation range
3	E6	Excessive temp difference between inlet and outlet water(Insufficient water flow protection)
4	Eb	Ambient temperature too high or too low protection
5	Ed	Anti-freezing reminder
NO.	**Display**	**Failure description**
1	E1	High pressure protection
2	E2	Low pressure protection
3	E4	3 phase sequence protection (three phase only)
4	E7	Water outlet temp too high or too low protection
5	E8	High exhaust temp protection
6	EA	Evaporator overheat protection (only at cooling mode)
7	P0	Controller communication failure
8	P1	Water inlet temp sensor failure
9	P2	Water outlet temp sensor failure
10	P3	Gas exhaust temp sensor failure
11	P4	Evaporator coil pipe temp sensor failure
12	P5	Gas return temp sensor failure
13	P6	Cooling coil pipe temp sensor failure
14	P7	Ambient temp sensor failure
15	P8	Cooling plate sensor failure
16	P9	Current sensor failure
17	PA	Restart memory failure
18	F1	Compressor drive module failure
19	F2	PFC module failure
20	F3	Compressor start failure
21	F4	Compressor running failure
22	F5	Inverter board over current protection
23	F6	Inverter board overheat protection
24	F7	Current protection
25	F8	Cooling plate overheat protection
26	F9	Fan motor failure
27	Fb	Power filter plate No-power protection
28	FA	PFC module over current protection

15. Wiring Diagrams



Water pump: 230V voltage, ＞500W capacity



16. Wi-Fi operation (Optional)

① InverGo Download

Android

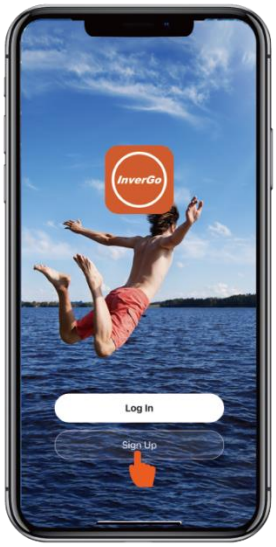
ANDROID APP ON Google play

iOS

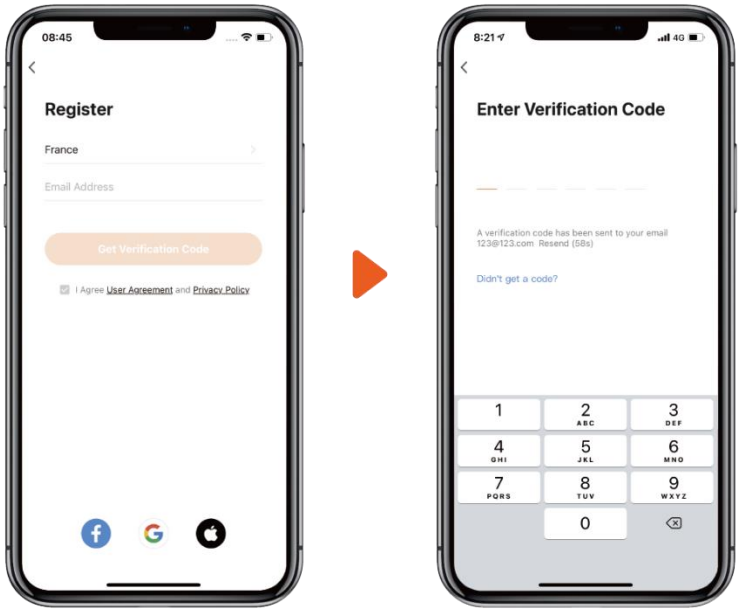
Available on the App Store

② Account Registration

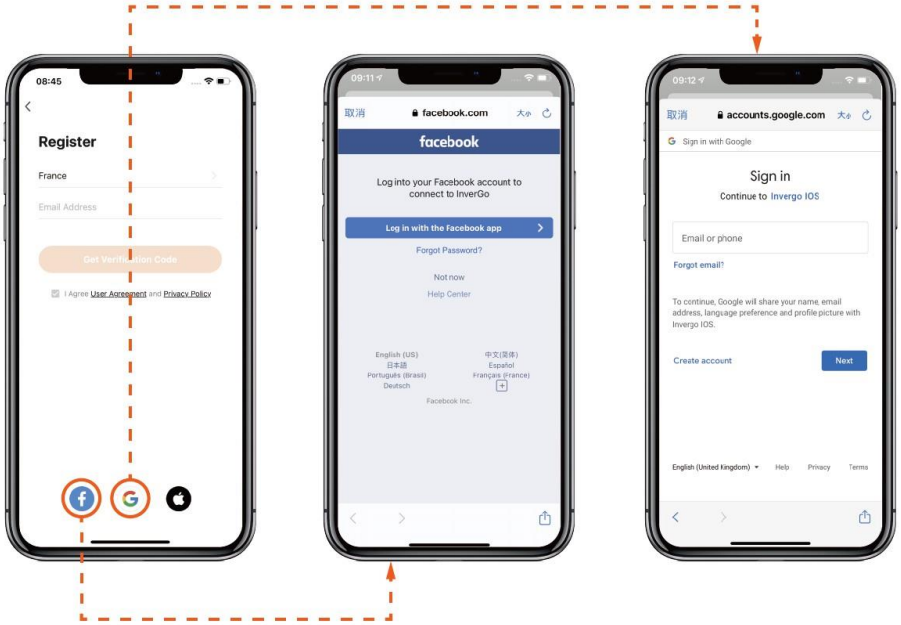
Register by e-mail or third-party application.



a. E-mail registration.

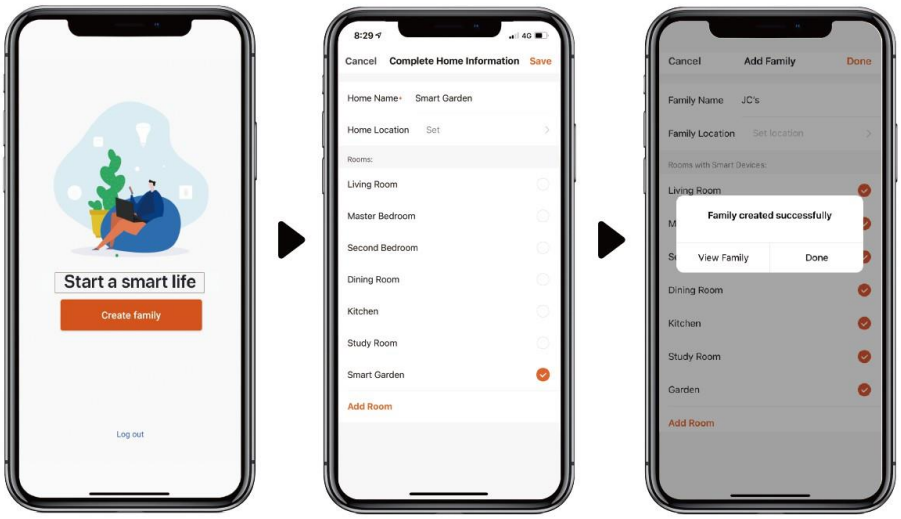


b. Register through third-party application



3 Create Family

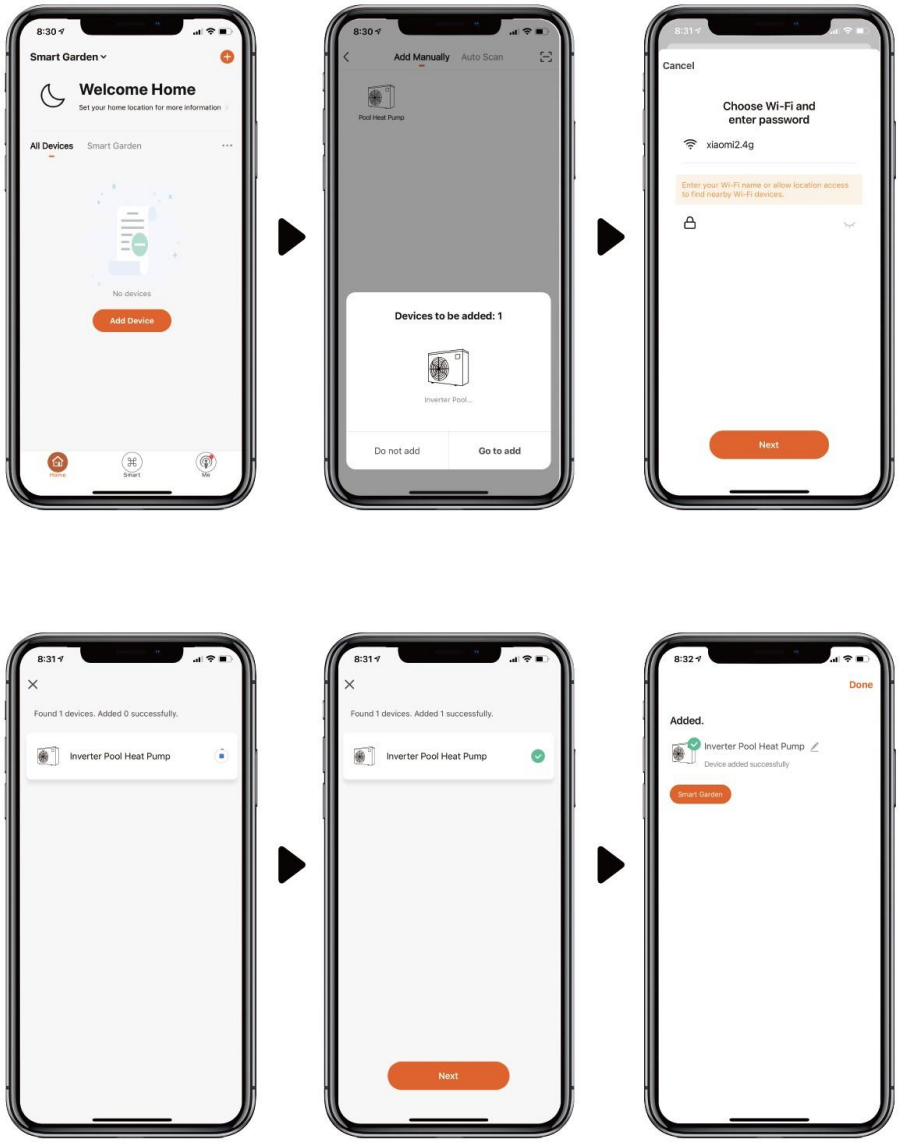
Please set family name and choose location of device.



4 APP Pairing

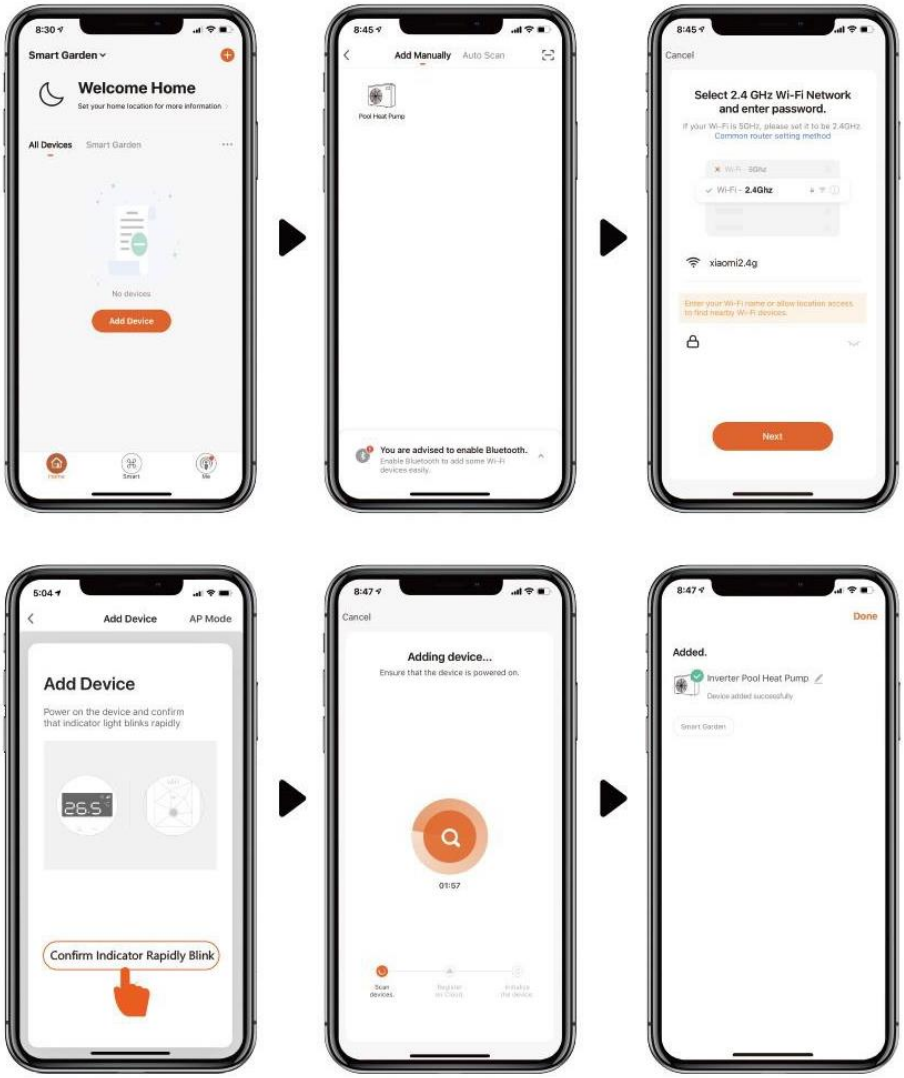
With Bluetooth

1. Please confirm that you're connected to Wi-Fi and your Bluetooth is on.
2. Click "Add Device", and then follow the instructions to pair device.



Pairing With Wi-Fi

1. When the screen is unlocked, hold "⏻" button for 3 seconds, after the 📶 symbol will begin flashing.
2. Wi-Fi connection process has now started on the unit.
3. Now press Bind Device on mobile device.
4. When Wi-Fi is connected the 📶 symbol is displayed.



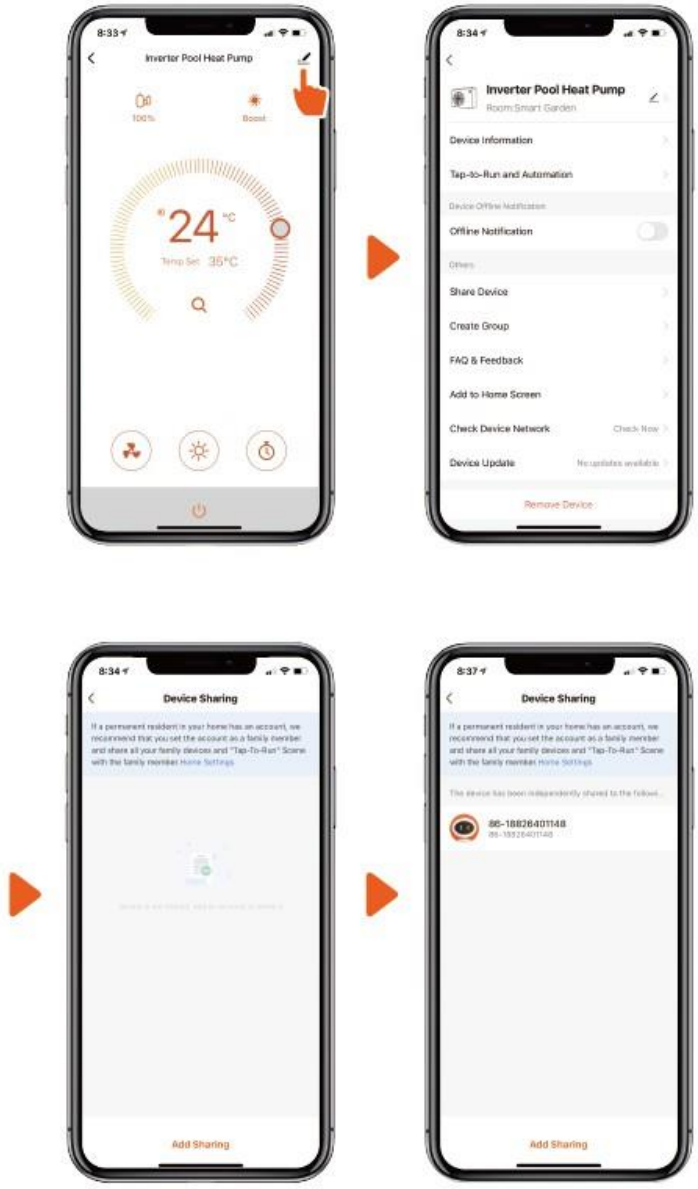
5 Operation

1. For heat pump with Heating function only:

2. For heat pump with Heating & Cooling function:

6 Share Devices to Your Family Members

After pairing, if your family members also want to control the device, please let your family members register “InverGo” first, and then the administrator can operate as below:



Notice:

Weather forecast is just for reference.

App is subject to updates without notice.

This Warranty applies to domestic and commercial products purchased and installed in Australia.

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure. Your Australian Consumer Law guarantees, and similar statutory rights, are called the "Owner's Statutory Rights" in this Warranty.

THE RIGHTS GIVEN BY MADIMACK AUSTRALIA WARRANTY ARE IN ADDITION TO THE OWNER'S STATUTORY RIGHTS.

The Madimack Pty Ltd ("Madimack") equipment listed on the back of this card is warranted by Madimack against defects in design, materials and workmanship for a period of up to 2 Years from the date the equipment is purchased by the original owner.

Equipment defects covered by this Warranty will be repaired or replaced at the discretion of Madimack (subject to the Owner's rights under the Australian Consumer Law with respect to major failures) without cost to the owner for parts or direct repair labour. The repair or replacement shall be performed during normal business hours by Madimack or a repair agent authorised by Madimack.

Any Madimack parts or Madimack equipment replaced under this Warranty will be warranted in accordance with the provisions of this Warranty for the remainder of the original warranty period or 12 months from the completion of the repair, whichever is the greater. Except where inconsistent with the Owner's Statutory Rights and the rights given by this Warranty, all other warranties and all liability of Madimack for any loss or damage direct and consequential is expressly excluded.

This Warranty DOES NOT cover: -

a) Damage or problems or unsatisfactory performance caused to the equipment by faulty or incorrect external electrical wiring, incorrect power supply, voltage fluctuations, overvoltage transients or electromagnetic interference not originating within the equipment.
b) Damage or problems resulting from incorrect or poor installation.
c) Damage or problems caused by the use of an accessory, component or equipment not supplied by Madimack.
d) Damage or problems caused by storm, fire, flood, vandalism, misuse, negligence, Acts of God, earthquake, war, vermin, foreign matter entering the equipment (e.g. dirt and moisture) or any other outside agency.
e) Damage or deterioration to the external surfaces or refrigeration coils caused by normal weathering or corrosive atmospheric conditions.
f) Any costs or additional labor associated with gaining acceptable service access to equipment installed in restricted or unsafe (e.g. high) locations.
g) Freight charges (including insurance) or travelling cost for repairs performed outside the area normally serviced by Madimack or a repair agent authorized by Madimack.
h) Equipment which has been installed in a transportable or mobile application (e.g. caravan or boat).
i) Equipment which has been re-installed in a transportable or mobile application (e.g. caravan or boat).
j) Equipment which has been re-installed at a location other than the original location.
k) Any consumable item (e.g. batteries, filters, and belts) supplied with the equipment, unless the item is shown to be defective at the time of purchase.
l) Damage or problems or unsatisfactory performance resulting from operation in an environment where the climatic comfort of humans is not the primary function of the equipment.
m) Damage or problems or unsatisfactory performance resulting from operations at conditions outside the operating conditions specified in the Madimack technical or sales literature applicable to the equipment.
n) Damage, problems or unsatisfactory performance resulting from misapplication of the equipment.

Where this Warranty does not apply, the Owner's rights are limited to the Owner's non- excludable Statutory Rights.

Owner's Responsibility

The owner is responsible for the correct operation and regular maintenance of the equipment as listed below. The correction of any non-product fault or problem is not covered by this warranty.

a) Operation and maintenance of the equipment in accordance with the operating instructions.
b) Regular cleaning of the air filter(s) and replacement where necessary.
c) Ensuring that the air inlet and outlet on the outdoor unit is kept clear of any obstructions (e.g. dirt, leaves, plants)
d) Ensuring that the condensate drain is kept clean.
e) Replacement of exhausted batteries.
f) The application of additional corrosion protection if the product is installed in a corrosive environment (e.g., Industrial pollution, sea air).

Owner's Statutory Rights

In respect of any goods supplied under the contract which are not of a kind ordinarily acquired for personal domestic or household use or consumption, unless the owner establishes the following limitation of liability would not be fair and reasonable, the liability of Madimack for any defect of design, materials or workmanship will be limited to any of the following as determined by Madimack:

-

a) Replacing the equipment or supplying equivalent equipment;
b) Repairing the equipment;
c) Paying the cost of replacing the equipment or acquiring equivalent equipment;
d) Paying the cost of having the equipment repaired.

Making a claim

The following steps should be taken when making a warranty claim with Madimack Pty Ltd.

1) Owners experiencing issues with their system are to contact Madimack Pty Ltd service departments online portal to and provide the requested information.
2) A service agent will review the provided information and will contact you on the provided phone number to try and solve the issue
3) If the issue cannot be dealt with over the phone, owners will be supplied with details of service agent in their area
4) Owners will need to contact and deal with service agents directly in relation to the booking in and payments of works related to the service or repair of their Madimack Pool Heat Pump
5) Owners can claim reimbursement for costs of works covered under the product warranty when completed by an approved Madimack Service Agent. When making a claim, owners will need to provide the following documents
    - Proof that you are the original system owner – original invoice showing owner name and property address
    - Copy of invoice from an approved Madimack approved service agent
    - For a major defect a copy of the report for major defects from approved Madimack Service agent
    - All Service Claim Submissions will be processed and reimbursement on validated claims paid into owner nominated account within 7 business days.