AQUA FORTE®

User Manual

Mr. Perfect

INVERPAD TURBO POOL HEAT PUMP

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1. Introduction

You have purchased a high quality device that is designed to be silent, energy saving, long lasting and easy to use.

Please read this manual carefully. Become familiar with its operation and maintenance so you can prevent personal injury and/or material damage. This manual belongs to this device and must be given to the new owner in case of resale or trade-in.

⚠ CAUTION

Environmental risk
Although R32 refrigerant used in this heat pump is much more environmentally friendly than other cooling gasses, it should not be vented into the atmosphere!
Installation must be done by a (F-Gas) professional.

1.1. Purpose of this manual

The purpose of this manual is to help users understand the features and functions of the heat pump, and to provide guidance on how to use it safely and effectively.

The manual includes all relevant information on:

- Safety *(on page 8)* provides important information on how to use the heat pump safely, including warnings and precautions that users should be aware of.
- Transportation and storage *(on page 7)* explains how the product can be transported safely.
- Product specifications *(on page 9)* describes the dimensions, features and other relevant information about the product.
- Installation guidance *(on page 13)* provides step-by-step instructions on how to install the heat pump, including information on electrical connections, and positioning.
- Operation *(on page 20)* explains how to use the heat pump, including how to set the temperature, how to turn it on and off, and how to adjust the settings.
- Maintenance *(on page 31)* provides guidance on how to keep the heat pump in good working order, including information on cleaning and regular maintenance tasks.
- Troubleshooting *(on page 32)* provides advice on how to identify and fix common problems that may arise with the heat pump.

Overall, the product manual is an essential resource for anyone who owns or operates a heat pump. By following the instructions and guidance provided in the manual, users can ensure that they can get the most out of their investment.

1.2. Target audience

A swimming pool heat pump is an important investment for pool owners who want to extend their swimming season and enjoy their pool for longer periods of time. The target audience for swimming pool heat pumps:

- **Pool Owners** are the primary target audience for swimming pool heat pumps are pool owners who want to maintain a comfortable swimming temperature in their pool throughout the year. They may be looking for an energy-efficient and cost-effective way to heat their pool water.
- **Pool Contractors** are responsible for installing and maintaining swimming pools, and may recommend heat pumps to their clients as a way to improve the overall swimming experience.
- **Swimming Pool Service Providers** may offer maintenance and repair services for swimming pools, and may recommend heat pumps to their clients as a way to improve the efficiency and effectiveness of their pool heating system.
- **Commercial Pool Owners** have larger pools that require more energy to heat, and may be looking for a cost-effective and energy-efficient way to maintain a comfortable swimming temperature for their guests.

1.3. Intended and non-intended use

⚠ CAUTION

Safety Hazard
Make sure that the heat pump is installed by a certified professional, and according to the procedures described in this manual.

A heat pump is a device that transfers heat from one place to another, and it can be used to heat swimming pools. However, it is important to understand both the intended and non-intended uses of a heat pump for this purpose. In all deviating situations, the manufacturer or an authorized dealer must be consulted in advance.

1.3.1. Intended Use

The intended use of a heat pump for swimming pools is to provide a cost-effective and energy-efficient way to heat the water. The heat pump works by extracting heat from the air or ground and transferring it to the water in the pool. This process is much more efficient than using an electric heater, which can be expensive to operate.

When used as intended, a heat pump can help extend the swimming season and make the pool more comfortable to use, even in cooler weather. It can also help reduce the overall energy consumption of the pool, which is good for the environment and can save money on utility bills.

1.3.2. Non-Intended Use

While a heat pump can be a great way to heat a swimming pool, there are also some non-intended uses that should be avoided. For example, a heat pump should not be used to heat a pool that is not properly insulated or covered. This can cause the heat to escape and make the heat pump work harder than it needs to, which can lead to increased energy consumption and higher utility bills.

Additionally, a heat pump should not be used to heat a pool that is too large for the unit. If the pool is too big, the heat pump may not be able to keep up with the demand, which can lead to inefficient operation and increased energy consumption.

Finally, a heat pump should not be used as a substitute for proper pool maintenance. If the pool is not properly cleaned and maintained, the heat pump may not work as efficiently as it should, which can lead to increased energy consumption and higher utility bills.

By understanding both the intended and non-intended uses of a heat pump for swimming pools, you can ensure that you are using the device in the most efficient and cost-effective way possible.

1.4. Reading guide

This manual contains important warnings and notes that highlight information relevant to the user:

⚠ DANGER

This section warns that there is a major safety hazard
Indicates a hazardous situation that will result in serious injury or death if safety instructions are not followed.

⚠ WARNING

This section warns that there is a safety hazard.
Indicates a hazardous situation that could result in serious injury or death and/or serious damage to the product or environment if the safety instructions are not followed.

⚠ CAUTION

This section warns of a possibly hazardous situation.
Indicates a hazardous situation that could result in minor or moderate injury and/or damage to the product or environment if the safety instructions are not followed.

NOTICE

Product notification
This provides important background information to prevent damage to the machine.

Information that is considered important but is not injury-related (e.g., information related to property damage).

Information that's useful for future use.

Information that is relevant to the context or understanding of the user.

Tips and tricks to make usage easier or more convenient.

1.5. Lifespan

The lifespan of a swimming pool heatpump depends on several factors.

The first factor is the quality of the maintenance. A high-quality heatpump that is well-maintained can last up to 20 years or more. However, a heatpump that is not properly maintained may only last a few years. Regular cleaning and servicing can help to prevent problems and prolong the life of the heatpump.

The second factor is the usage of the heatpump. If it is used frequently, in unfavorable operating conditions or at high load it will have a shorter lifespan. This is because the wear and tear it will experience.

The third factor is the environment in which the heatpump is located. A heatpump that is located in a harsh environment, such as near the ocean or in an area with high levels of pollution, may have a shorter lifespan than one that is located in a more favorable environment.

1.6. Warranty

This product comes with a 2 year general product warranty starting at the date of purchase. The following items have different warranty periods:

- 10 years warranty on the compressor and heat exchanger.
- 7 years warranty on spare parts.

The warranty covers any defects in materials or workmanship under normal use and maintenance. If a defect arises during the warranty period, you should contact your dealer immediately.

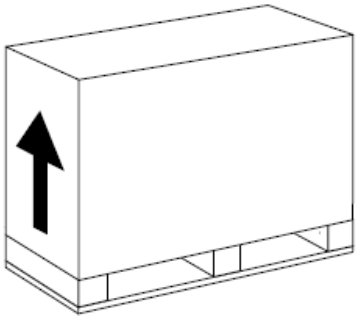
To make a warranty claim, you must provide proof of purchase, the defective product and a description of the problem. The warranty does not cover damage caused by improper installation, unintended use, abuse, or neglect. It also does not cover normal wear and tear, or any damage caused by acts of nature such as lightning.

Any damage caused by frost or freezing is **not** covered by the warranty!

This warranty is the sole and exclusive warranty for this swimming pool heat pump. We make no other warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose. In no event shall we be liable for any incidental, consequential, or special damages arising out of or in connection with the use or inability to use this product, even if we have been advised of the possibility of such damages.

2. Transportation and storage

1. When moving this device, always keep the device in an upright position.



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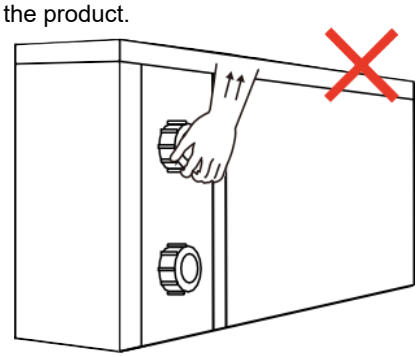
2. Do not lift the device by holding the water inlet/outlet (unions). Doing so can damage the heat exchanger inside the product.



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2.1. Weight

The weight of the product is listed as gross weight (transport/package weight) and net weight (product weight):

Model	SC963	SC964	SC965	SC966	SC967	SC968	SC969
Gross weight (KG)	164	82	90	92	110	141	145
Net weight (KG)	150	66	73	75	91	114	130

2.2. Storing/draining your heat pump

NOTICE
Product safety hazard Failure to drain the machine before storage or <0°C operation can cause the water to freeze. This will damage the product! Drain the water from the machine using the procedure below.

If your product will not be used for a prolonged period of time (e.g. in the winter), or for service, it must be drained of water.

1. Turn off the device.
2. Cut off the power supply to the device.
3. Unscrew the water union of the **inlet pipe** to drain all the water.

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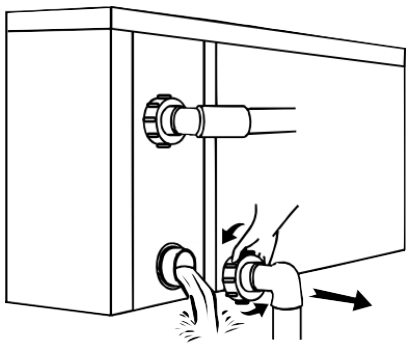

Figure 1. Draining the water from your heat pump

3. Safety

This manual does not include site and/or country specific regulations, the installer of the drum filter is responsible for following the local rules and regulations.

We have provided important safety messages in this manual and on your device. Read all safety information and instructions. Failure to observe the safety information and instructions may result in electric shock, fire and serious injury. Keep all safety information and instructions for future reference.

3.1. Warnings

⚠ DANGER

Electrical hazard
BEFORE cleaning the product, shut off the power!
Normal users MUST NEVER attempt to service or open the product cover!
If the device is malfunctioning, contact your nearest dealer or service center.

⚠ WARNING

Fire hazard
Keep the heat pump away from open flame or any kind of high temperature heat source.

⚠ CAUTION

R32 Gas

Environmental hazard
The flammable R32 refrigerant is used in this heat pump. Although this is gas more environment friendly than others, never vent this into the atmosphere!

⚠ CAUTION

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

NOTICE

Product safety
The heat pump must be installed/placed in well ventilated area (outdoors), indoors or installation in any type of enclosed area is not allowed.

NOTICE

Repair and disposal
Service and/or disposal MUST be carried out by trained service personnel.

3.2. Safety information

⚠ WARNING

Safety hazard
This product may only be installed or disposed of by a trained service technician in accordance with this manual.

- After installing this product, but before using it, a leakage test must be performed.
- Do not accelerate the defrosting process and do not clean frosted product parts in any other way than by following the methods recommended by the manufacturer.
- Repairs may only be carried out by a trained service technician. If repairs are required, please contact the nearest after-sales service centre. Any repairs should be performed in strict accordance with this manual.
- Set the proper temperature in order to get a comfortable water temperature. Avoid over-heating or over-cooling the water.
- Don't block the air flow near the product inlet and/or outlet.
- In order to avoid fire:
  - don't use combustible materials (e.g. fuel, paint or thinner) on the product;
  - don't stock combustible materials near the product.
- In order to increase efficiency:
  - insulate any pipes between the swimming pool and this product;
  - use a recommended cover to cover the swimming pool.
- Make sure the total length of the pipes between the swimming pool and this product is no longer than 10 meters.
- Make sure children are unable to reach the main power supply switch.
- In case of storm/lightning, switch off the main power supply to prevent any damage caused by lightning.
- Install and/or repair this product only in well-ventilated areas (outdoors).
- Switch off the product during installation of and/or repairs to the product.
- Always perform an R32 gas safety inspection prior to any maintenance or repairs to this product.
- If a R32 gas leak occurs during the installation process, immediately stop all operations, and contact the nearest after-sales service centre.

4. Product specifications

This heat pump is able to perform normally within an air temperature range of -10°C~43°C, but the device performance depends on the operating conditions.

The heating/cooling capacity (in kW) and COP range under various conditions can be found below.

Table 1. Heating capacity and COP range

Mode	Specification	SC963	SC964	SC965	SC966	SC967	SC968	SC969
Heating at an air temperature of 27°C, water temperature of 27°C and relative humidity of 80%								
Perfect	Heatingcapacity (kW)	85~160	8.9	10.8	13.3	17.2	20.5	26.7
	COP	34.5	15.1~7.4	15.0~7.3	15.0~7.0	15.3~7.3	15.3~7.2	15.3~7.0

Table 1. Heating capacity and COP range (continued)

Mode	Specification	SC963	SC964	SC965	SC966	SC967	SC968	SC969
	AverageCOP	15.9~7.0	11.5	10.8	11	11.7	11.4	11.3
Power	Heatingcapacity (kW)	11.4	10.9	13.8	16.8	22	26.1	31.5
Heating at an air temperature of 27°C, water temperature of 27°C and relative humidity of 80%								
Perfect	Heatingcapacity (kW)		6	7.5	9	12.3	14.2	17.8
	COP		7.3~5.0	7.4~5.0	7.7~5.0	8.1~5.0	7.8~5.1	8.0~5.0
	AverageCOP		6.5	6.3	6.4	6.9	6.7	7
Power	Heatingcapacity (kW)		7.5	9	11.3	14.8	17.8	22

Table 2. Technical specifications

Model	SC963	SC964	SC965	SC966	SC967	SC968	SC969
Advised pool volume (m3)	85~160	20~45	30~55	35~65	40~80	50~95	60~120
Operating air temperature (°C)	-15~+43						
Power supply	400V 3Ph	230V1Ph					400V 3Ph
Rated input power (kW)	0.77~5.74	0.24~1.79	0.29~2.14	0.36~2.69	0.45~3.36	0.55~4.05	0.59~4.4
Input power at 50% speed (kW)	1.69	0.46	0.6	0.71	0.89	1.06	1.28
Rated input current (A)	1.12~8.32	1.05~7.76	1.26~9.32	1.58~11.7	1.97~14.62	2.37~17.59	0.86~6.38
Soundlevel at 1m dB(A)	40.6~51.3	36.3~44.5	36.5~45.9	39.3~46.7	39.5~49.8	39.8~50.2	40.5~50.9
Soundlevel 50% at 1m dB(A)	45.7	38.4	40.3	42.2	43.1	43	45.6
Sound level at 10m dB (A)	20.6~31.3	16.3~24.5	16.5~25.9	19.3~26.7	19.5~29.8	19.8~30.2	20.5~30.9
Advised water flux (m³/h)	12~18	2~4	3~4	4~6	6~9	8~10	10~12
Water connection (mm)	50						

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

4.1. Features

Your Mr. Perfect heat pump has the following unique features:

- Turbo fan
- DC twin rotary inverter compressor;
- DC brushless fan motor;
- EEV technology;
- Reverse cycle defrosting with a 4-way valve;
- High-efficiency twisted titanium heat exchanger;
- Sensitive and accurate temperature control and water temperature display;
- High- and low-pressure protection;
- Fully protected electrical system.

4.2. Dimensions

NOTE
Data change notice The data and images are subject to adjustment periodically for improvement without further notice. They are included for the technician installing the device (for layout reference only).

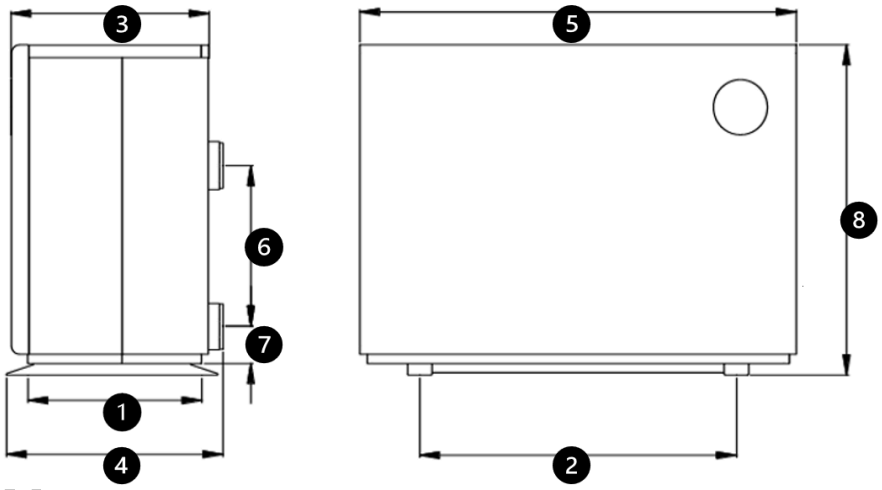

Figure 2. Mr. Perfect dimensions

Table 3. Models and dimensions (in mm)

Model	1	2	3	4	5	6	7	8
SC693	520	760	512	540	1139	650	75	1106
SC964	510	450	504	530	750	300	75	656
SC965	510	450	504	530	750	280	75	656
SC966	510	540	504	530	840	350	75	656
SC967	510	680	504	530	980	460	75	756
SC968	520	760	514	540	1135	460	75	756
SC969	520	760	512	540	1029	640	75	1107

4.3. Operating modes

The heat pump has two modes: **Boost mode** and **Silent mode**. Both modes have different strengths under different conditions. The boost mode provides optimal performance but produces of higher sound levels while the **Silent** mode limits top performance but produces less sound during operation.

Table 4. Operating modes

Mode icon	Mode	Performance
	Power mode	Heating capacity: 20-100% Advantage: fast heating.
	Perfect mode	Heating capacity: 20-80% Advantage: automatic adjustment based on ambient and water temperature, intelligent optimization, energy saving.

Table 4. Operating modes (continued)

Mode icon	Mode	Performance
	Silence mode	Heating capacity: 20-50% Advantage: Reduction in noise, ideal for night time operation.

4.4. Operating condition and range

To provide you comfort and pleasure, please set swimming pool water temperature efficiently and economically.

1. Air temperature operating range: -10°C~43°C
2. Heating temperature setting range: 18°C~40°C
3. Cooling temperature setting range: 12°C~30°C

The heat pump will have ideal performance when the outside air temperature is between -15°C~25°C.

4.5. Accessories

The following accessories are included with this product:

- Accessories Supplied With the Unit *(on page 12)*

4.5.1. Accessories Supplied With the Unit

After unpacking, please check if the following components are present.

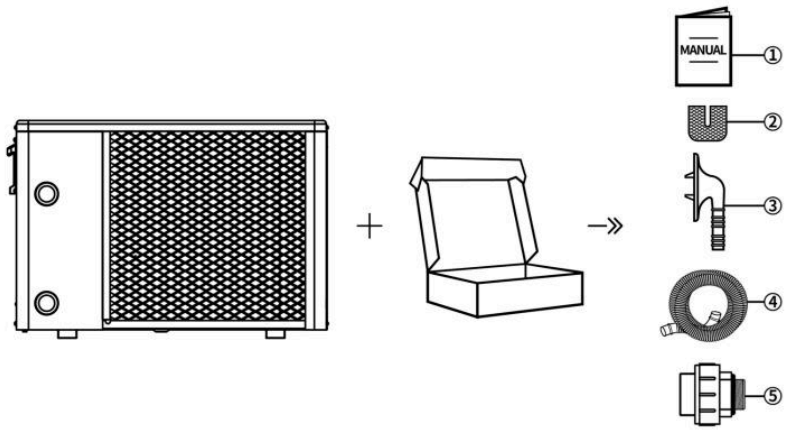

Table 5.

No.	Component	Qantity	No.	Component	Quantity
1	User manual	1	4	Condensate draining hose	1
2	Rubber blanket	4	5	Water pipe joint	2
3	Condensate draining connector	1			

5. Installation guidance

⚠ WARNING

Safety hazard
Only a certified professional is allowed to install the heat pump. A user is not qualified to install this product. This will endanger the users safety and can damage the heat pump.

The inverter pool heat pump should be installed outside or in a well ventilated area (not enclosed).

1. Install the heat pump with sufficient free space:

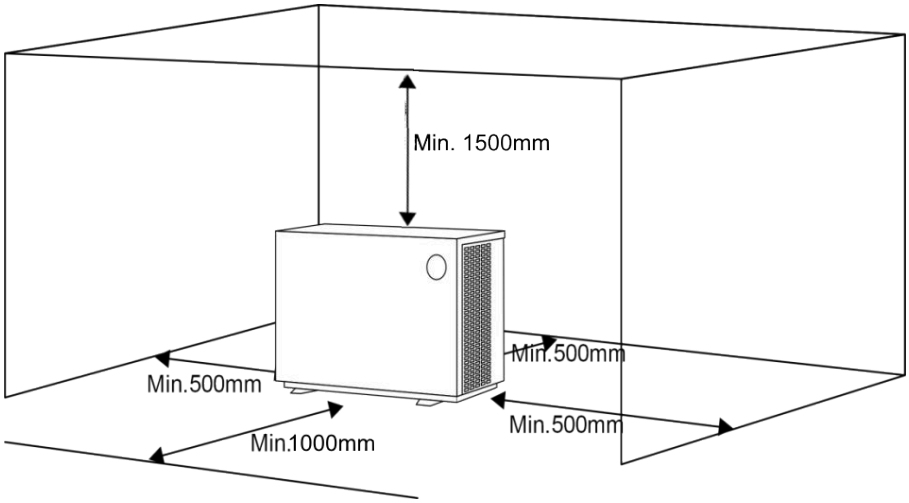

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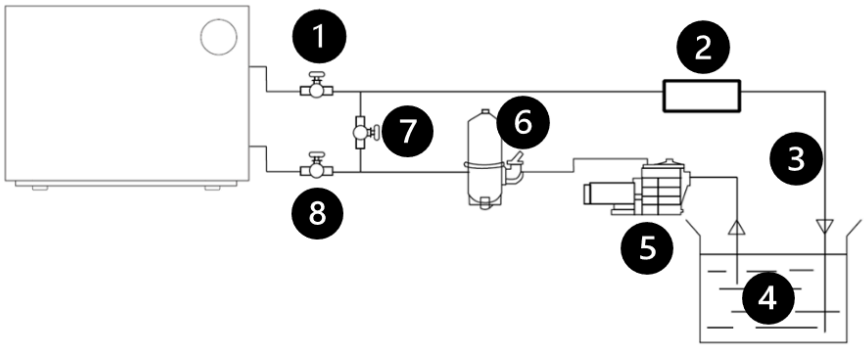
Figure 3. Details for the installation of heat pumps.

2. Connect the waterlines to and from the Mr. Perfect heat pump.



a.

Figure 4. Water line connection

i. Water outlet valve
ii. Chlorination cell (or other treatment)
iii. Water return
iv. Pool Filtration
v. Pump filter
vi. By-pass valve
vii. Water inlet valve

3. Only use pipes made from solid materials (e.g. plastic). Do not use pipes made from flexible materials (e.g. rubber)

a.

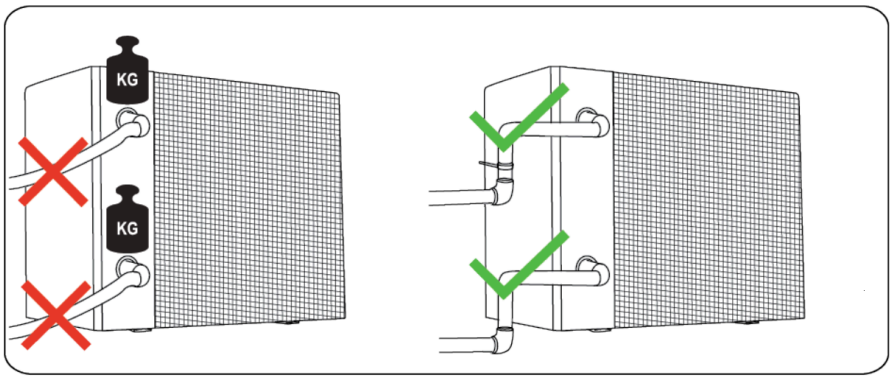


Figure 5. Inlet and outlet water installation

b. **Never** install the pipes over the sides, especially over the side where the cold air is blown out of! This will negatively affect the performance due to both airflow blockage and a temperature drop.

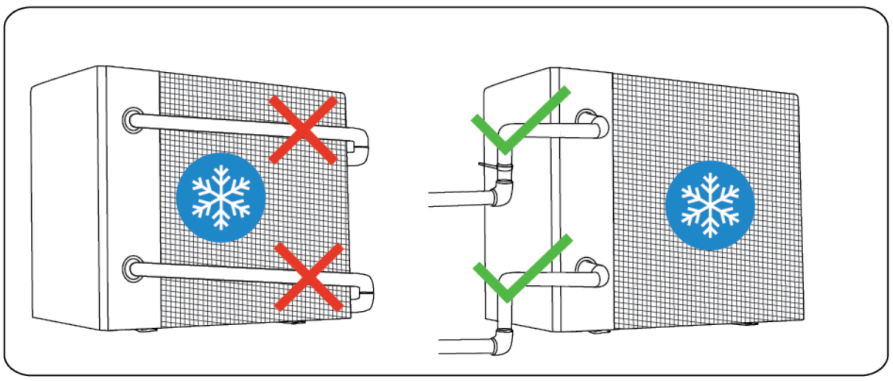


Figure 6. Proper installation

4. The frame must be fixed by bolts (M10) to concrete foundation or brackets.
    a. The concrete foundation must be solid and fastened;
    b. The bracket must be strong, stable and anti-rust treated;

Don’t block air flow near inlet or outlet area, and make sure that there is no barrier within 50cm behind the heat pump. Otherwise the efficiency of the heat pump will be reduced or the product can stop functioning.

5. Install the condensate drainage kit;
    a. Insert the drainage nozzle in the drainage tube;
    b. Connect the drainage nozzle to the device.
    c. Use a clip to firmly attach the drainage nozzle and drainage tube.
    d. Connect a pipe to the drainage tube to ensure that any condensation water is safely drained.

e.

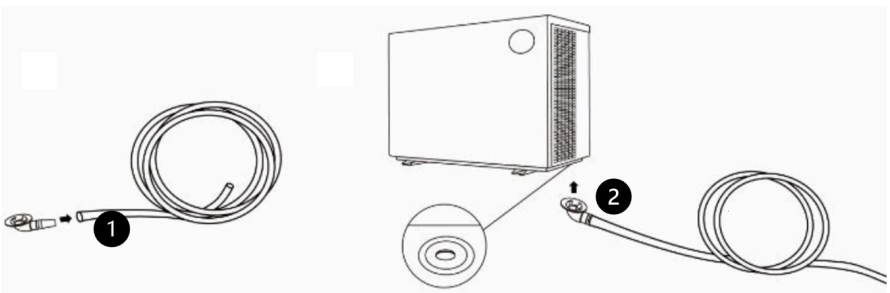


Figure 7. Installing the condensate drainage kit

6. The machine needs an appended pump (not included). Please refer to Table 2: Technical specifications *(on page 10)* for the recommended pump specification flux.

The maximum lift has to be greater than or equal to 10 meters.

7. Connect the device to a grounded power supply, in line with the circuit diagram.
    a. Refer to section Wiring *(on page 15)* for more information.
    b. When using a power cord, please refer to Cable specifications *(on page 19)*.

5.1. Wiring

DANGER

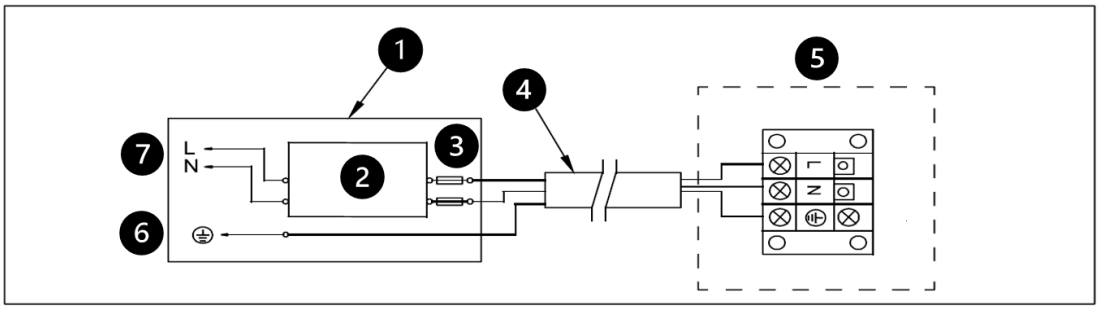
Electrical hazard
Connections must be hardwired, no plug is allowed, and the system must be properly grounded!

WARNING

Electrical hazard
Ensure the voltage complies with the rated voltage of the device.

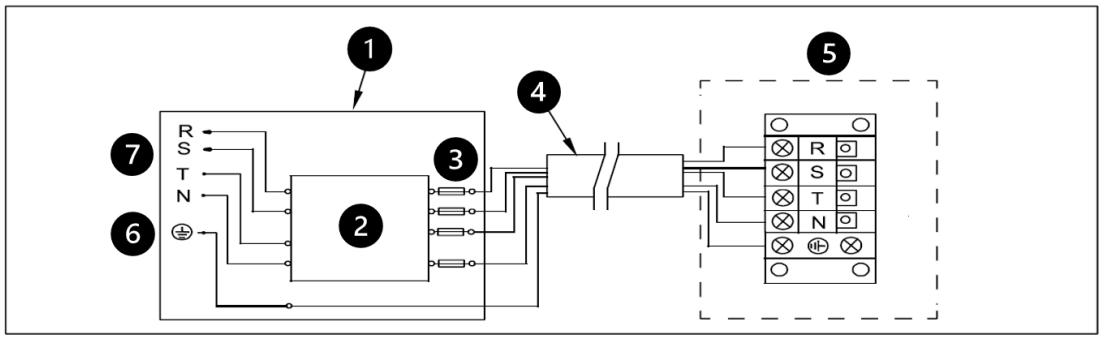
1. Connect to an appropriate power supply, the voltage should comply with the rated voltage of the products.
2. Earth the device properly.
3. Wiring must be handled by a professional technician according to the circuit diagram.
4. Use an earth leakage circuit breaker according to the local regulations.
5. The layout of power cable and signal cable should be orderly and not affecting each other.

5.1.1. Wiring diagrams



1. Distribution box (not included)
2. Breaker
3. Fuse
4. Power cord
5. Wiring Board
6. Earthing
7. Power supply (230 V / 50 Hz)

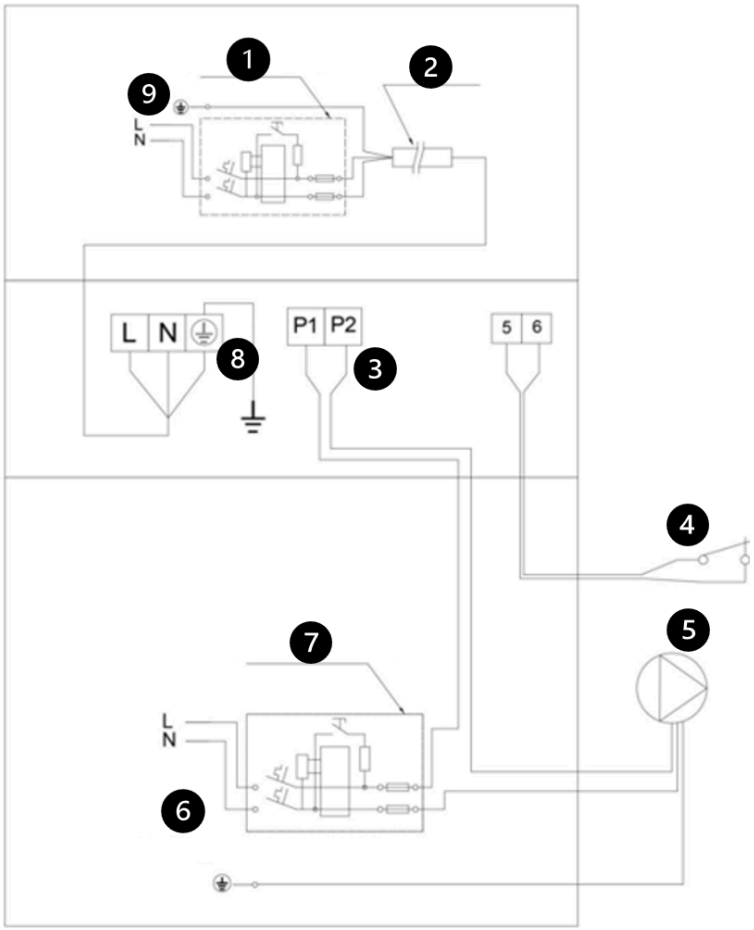
Figure 8. Wiring diagram for 230v 50Hz



1. Distribution box (not included)
2. Breaker
3. Fuse
4. Power cord
5. Wiring Board
6. Earthing
7. Power supply (400 V / 50 Hz)

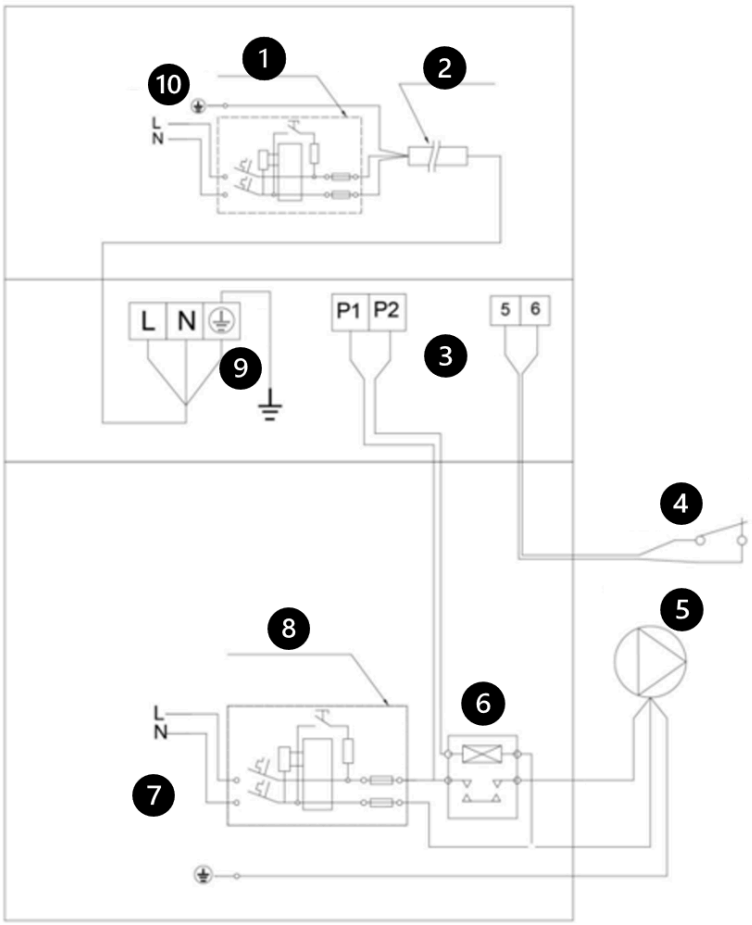
Figure 9. Wiring diagram for 400v 50Hz

5.1.2. Waterpump connection



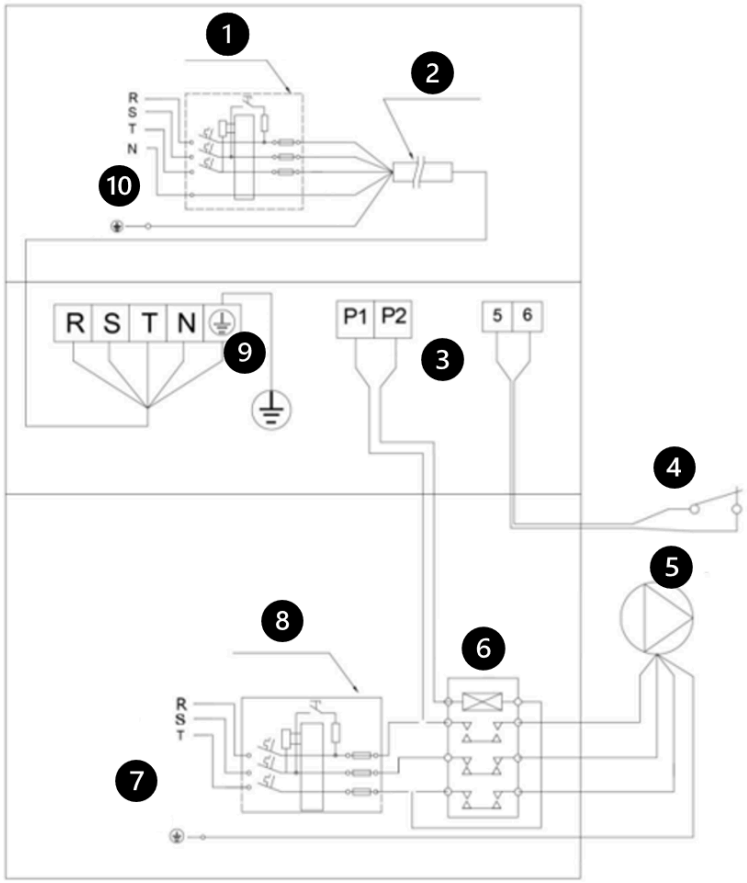
1. Breaker/fuse (not included)
2. Power cord
3. Water pump
4. Customer remote control switch connector
5. Water pump
6. Power supply 230 V / 50 Hz and earthing
7. Breaker/fuse (not included)
8. Yellow/green
9. Earthing and power supply 230 V / 50 Hz

Figure 10. Water pump connection: 230 V, ≤ 500 W



1. Breaker/fuse (not included)
2. Power cord
3. Water pump
4. Customer remote control switch connector
5. Water pump
6. Relay
7. Power supply 230 V / 50 Hz and earthing
8. Breaker/fuse (not included)
9. Yellow/green
10. Earthing and power supply 230 V / 50 Hz

Figure 11. Water pump connection: 230 V, ≥ 500 W



1. Breaker/fuse (not included)
2. Power cord
3. Water pump
4. Customer remote control switch connector
5. Water pump
6. Contactor (coil voltage 400 V)
7. Power supply 230 V / 50 Hz and earthing
8. Breaker/fuse (not included)
9. Yellow/green
10. Earthing and power supply 400 V / 50 Hz

Figure 12. Water pump connection: 400 V

5.1.3. Water pump control and timer connection

The installer should connect the water pump timer parallel with the water pump wiring of the device. To turn on the device, either one of the connections should be made. To turn off the device, both connections should be disconnected.

Table 6. Water pump control and timer connection

1. Water pump timer
2. Water pump wiring of the device

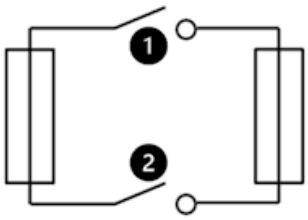


Figure 13. Water pump control and timer connection

5.1.4. Cable specifications

⚠ CAUTION

Electrical hazard
This data is adapted to power cord ≤ 10m. If the power cord is >10m, the wire diameter must be increased.
The signal cable can be extended to 50m maximum.

Table 7. Cable specifications

Specification		SC963	SC964	SC965	SC966	SC967	SC968	SC969
Breaker	RatedCurrent (A)	12	12	13	16	18	21	9
	Rated Residual ActionCurrent (mA)	30						
Fuse (A)		12	12	13	16	18	20	10
PowerCord (mm2)		5×2.5	3×2.5	3×2.5	3×2.5	3×4	3×4	5×2.5
Signal cable (mm2)		3×0.5						
MaximumCurrent (A)		10.5	9	11	13	16	18	8

This information is subject to change without notice.

5.2. Environmental requirements

A swimming pool heat pump is a device that uses electricity to transfer heat from the air to the water in a swimming pool. To ensure optimal performance and longevity, it is important to consider the following environmental requirements:

- **Ambient temperature:** The heat pump works best when the ambient temperature is in the optimal range *(on page 12)*. If the temperature drops below this, it may struggle to heat the water effectively.
- **Airflow:** The heat pump requires good airflow to operate efficiently. It is important to ensure that it is installed in a location where there is adequate airflow *(on page 13)* and that there are no obstructions that could impede the flow of air.
- **Humidity:** The heat pump is designed to operate in a humid environment *(on page 9)*, but excessive humidity can cause problems. If the humidity is too high, it can negatively affect performance and in extreme cases cause damage the unit.
- **Location:** The heat pump should be installed in a location that is sheltered from the wind and rain. Exposure to the elements can cause damage to the unit and reduce its lifespan.
- **Electrical supply:** The heat pump requires a dedicated electrical supply *(on page 15)* to operate. It is important to ensure that the electrical supply is adequate for its power requirements and that it is installed by qualified personnel

5.3. Testing

1. The ventilating device and outlets are operating adequately and are not obstructed.
2. It's prohibited to install refrigeration pipe or components in corrosive environment.
3. Inspect the electric wiring on basis of the electric wiring diagram and earthing connection.
4. Double confirm the main machine power switch should be off.
5. Inspect the temperature setting.
6. Inspect the air inlet and outlet.

5.3.1. Trial

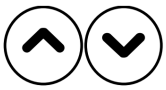
1. Start the pump before the heat pump, and turn off the heat pump before the pump, or risk damage.
2. Check for any leakage of water and set a suitable temperature in the thermostat before you start the heat pump and then switch on the power supply.
3. In order to protect the heat pump, it is equipped with a time lag starting function. The fan will run 1 minute earlier than the compressor when starting the machine and will stop running 1 minute later when turned off.
4. Check for any abnormal noise from the machine after the heat pump starts up.

6. Operation

Figure 14. Display

On Standby mode or Screen lock, only the **Unlock/Mode** icon will light up. When the power is turned OFF, the display will also be turned off.

Table 8. Display functions and icons

Symbol	Heating mode	Cooling and automatic mode
	Power On/Off Wi-Fi settings	
	Lock/Unlock Screen	Lock/Unlock Screen Automatic Heating & Cooling Mode Heating Mode Cooling Mode
	Mode selection (Power, Perfect and Silence)	
	Up/Down (control the temperature setting & display)	
	Wi-Fi activity	Wi-Fi activity
	Heating mode	
	Not applicable	Cooling mode.
	Automatic mode (Heats or cools the pool water based on its settings.)	
	Running speed percentage	
	Water inlet	
	Water outlet	
	Power mode (Maximum performance)	
	Perfect mode (Optimal balance for regular use).	
	Silence mode (Greatly reduced noise but reduced performance. Ideal for nighttime operation)	Not supported

When the power supply to this device is shut off during operation, but restored later on, the device will reboot automatically.

6.1. Screen lock

Press **Unlock/Mode** for 3 seconds to lock or unlock the screen.

The screen is automatically locked after 30 seconds of inactivity.

The screen must be unlocked **BEFORE** the system can be turned on!

6.2. Temperature setting

Press **Up/Down** to display and set the temperature.

6.3. Mode selection

1. Press **Unlock/Mode** to switch between heating, cooling, and automatic mode.
    a. **Heating mode**: Water setting range (18-40°C)
    b. **Cooling mode**: Water setting range (12~30°C)
    c. **Automatic mode**: Water setting range (12~40°C)
        i. When the water inlet temperature is higher than the setting point, automatic cooling mode will start.
        ii. When the water inlet temperature is lower than the setting point, automatic heating mode will start.
2. Press **Mode selection** to switch between boost and silence mode. The default mode is boost.

Use boost mode for the initial heating of the pool.

6.4. Wi-Fi

1. Make sure the system is on and unlocked.
2. Press **On/Off** for 3 seconds.
3. Verify that the Wi-Fi icon is blinking.
4. Enter the Wi-Fi connection.
5. Connect to the selected Wi-Fi network on your mobile phone.
6. Enter the password.
7. Control the equipment using Wi-Fi.
8. If the InverGo App connects to the selected Wi-Fi network successfully, the Wi-Fi lights will stop blinking and stay on.

Wi-Fi reset (Wi-Fi password change or the network configuration change):

1. Make sure the system is on and unlocked.
2. Press **On/Off** for 10 seconds.
3. After the Wi-Fi icon blinks for 10 seconds, it should stop and stay off.

6.5. Defrosting

When the heat pump is using automatic defrosting, the **Heating mode** icon will blink. It will turn off when the defrosting procedure is done.

It is also possible to force the defrosting procedure:

1. Make sure that the machine is in **Heating mode** **and** that the heat pump (compressor) has working continuously for 10 minutes.
2. Press **Mode selection** and **Down** simultaneously for 5 seconds to start forced defrosting.
3. The **Heating mode** icon will start blinking and the defrost procedure will start.
4. When the **Heating mode** icon stops blinking the defrosting procedure is done.

The interval between forced defrosting procedures should be **more** than 35 minutes.

6.6. Status check

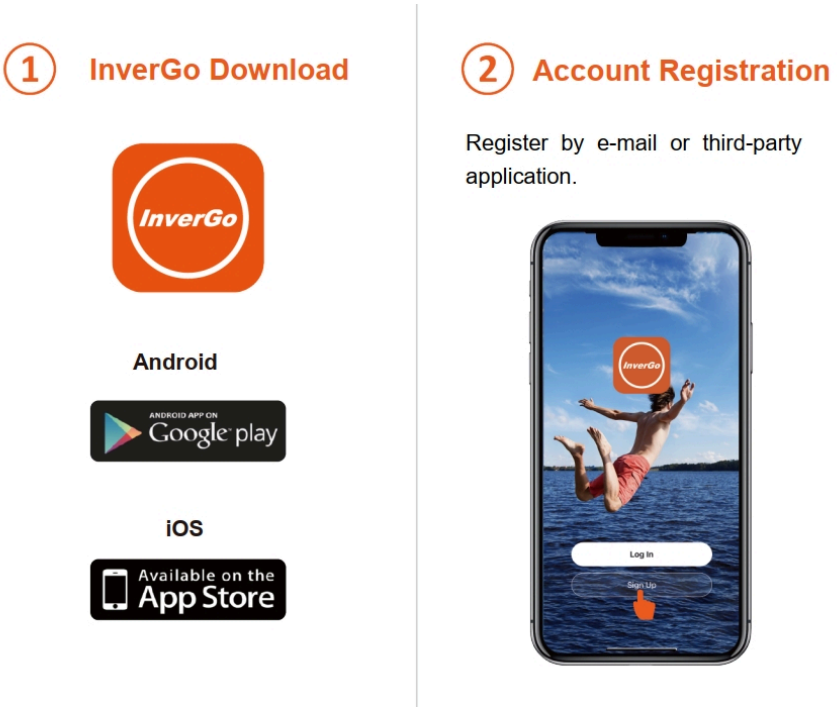
1. Press **Mode selection** for 5 seconds.
2. A sound can be heard and it will enter status check mode.
3. The display will alternately shows status point “C0” and its corresponding value.
4. Cycle through the status points using the **Up/Down** buttons to see all status points and their values.
5. Press **Mode selection** again to stop the status checking mode.

Table 9. Status check codes

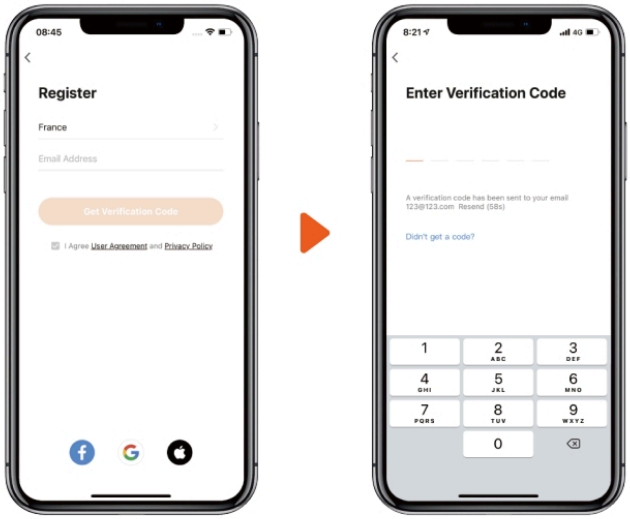
Symbol	Content	Unit
C0	Inlet water temperature	°C
C1	Outlet water temperature	°C
C2	Ambient temperature	°C
C3	Exhaust temperature	°C
C4	Outer coil pipe temperature	°C
C5	Gas return temperature	°C
C6	Inner coil pipe temperature	°C
C9	Radiator temperature (cooling plate)	°C
C10	Electronic Expansion Valve (EEV) opening angle	P
C11	DC motor fan speed	r/min

6.7. Wi-Fi operation

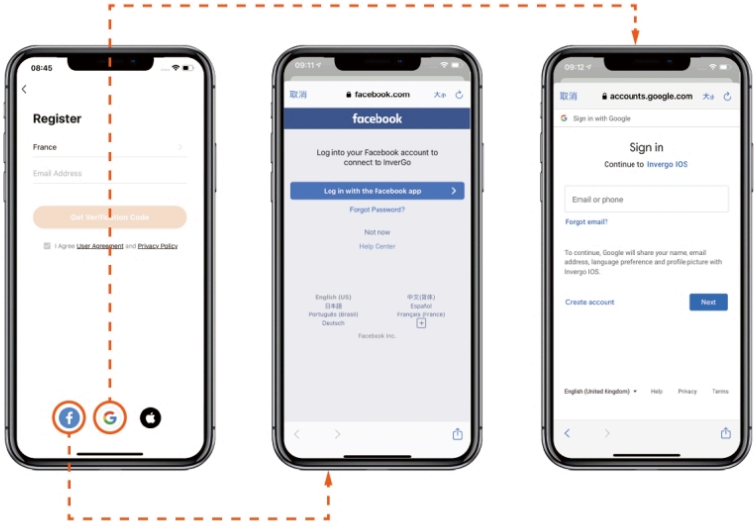
- Weather forecast is just for reference.
- This application is subject to updates without notice.



a. E-mail registration.

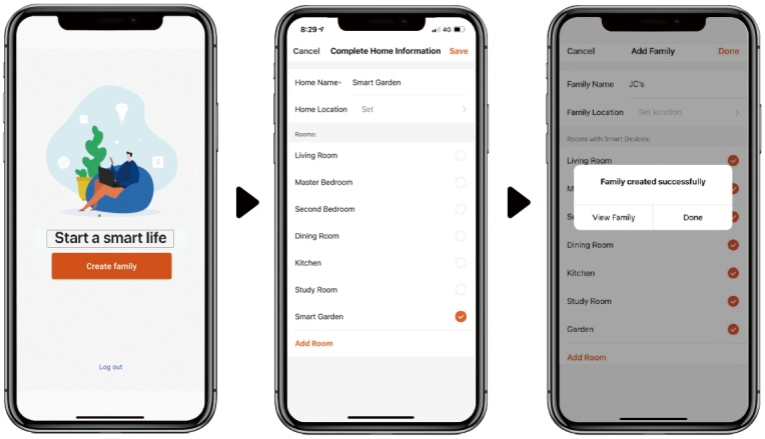


b. Register through third-party application



③ Create Family

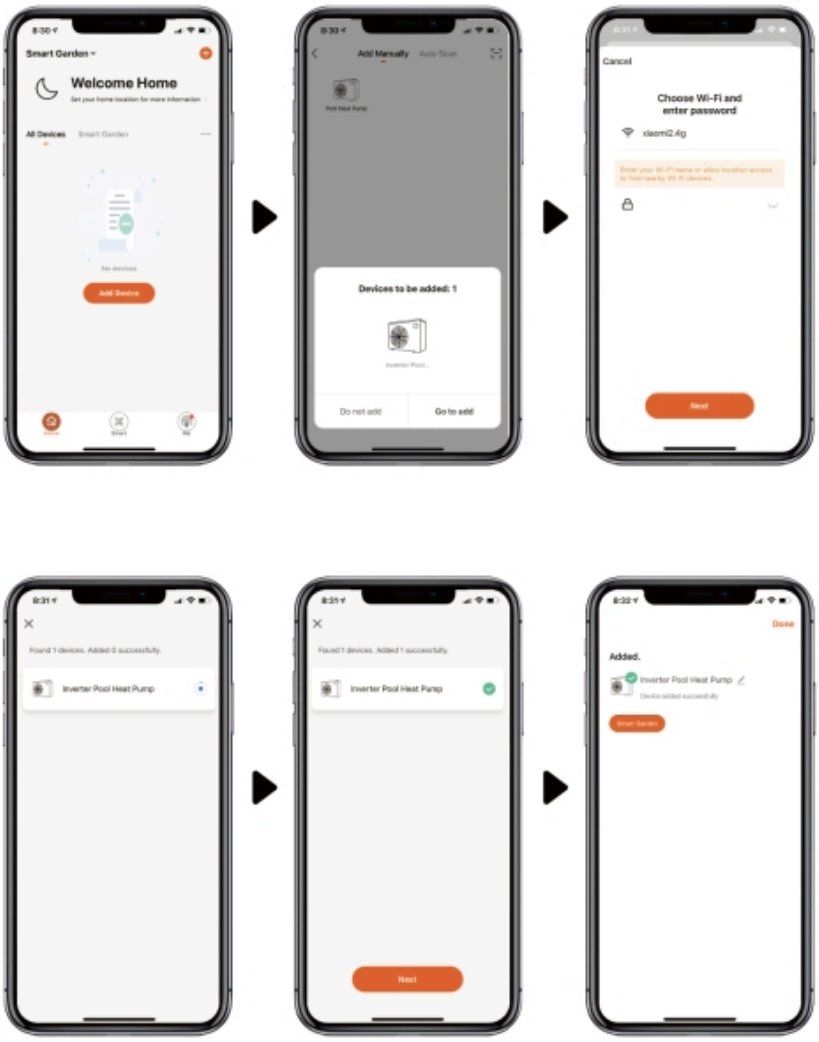
Please set family name and choose location of device.



4 APP Pairing

f. 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.

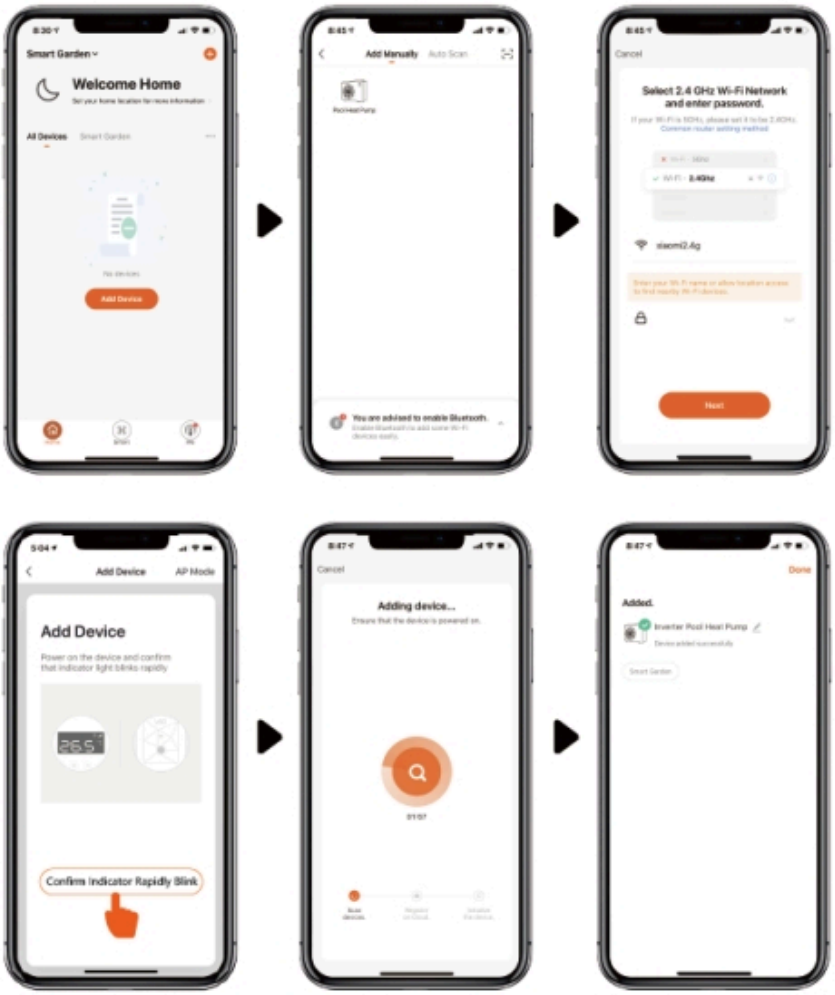


g. With Wi-Fi

1.Please make sure you are connected to Wi-Fi.

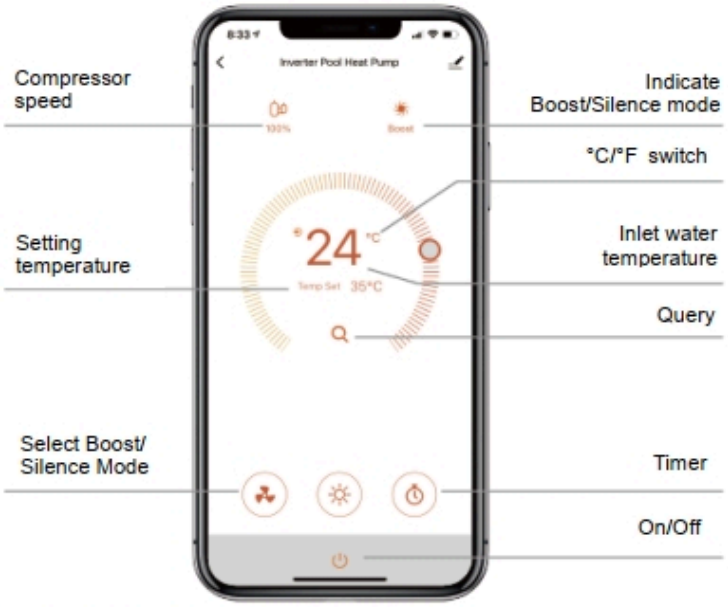
2.Press "" for 3 seconds to unlock the screen. Press "" for 3 seconds and release. After hearing "Beep", enter Wi-Fi password in app. During connection, "" will flash. Once the app connects to Wi-Fi successfully, "" will display.

3.Click "Add Device", and then follow the instructions to pair device.



5 Operation

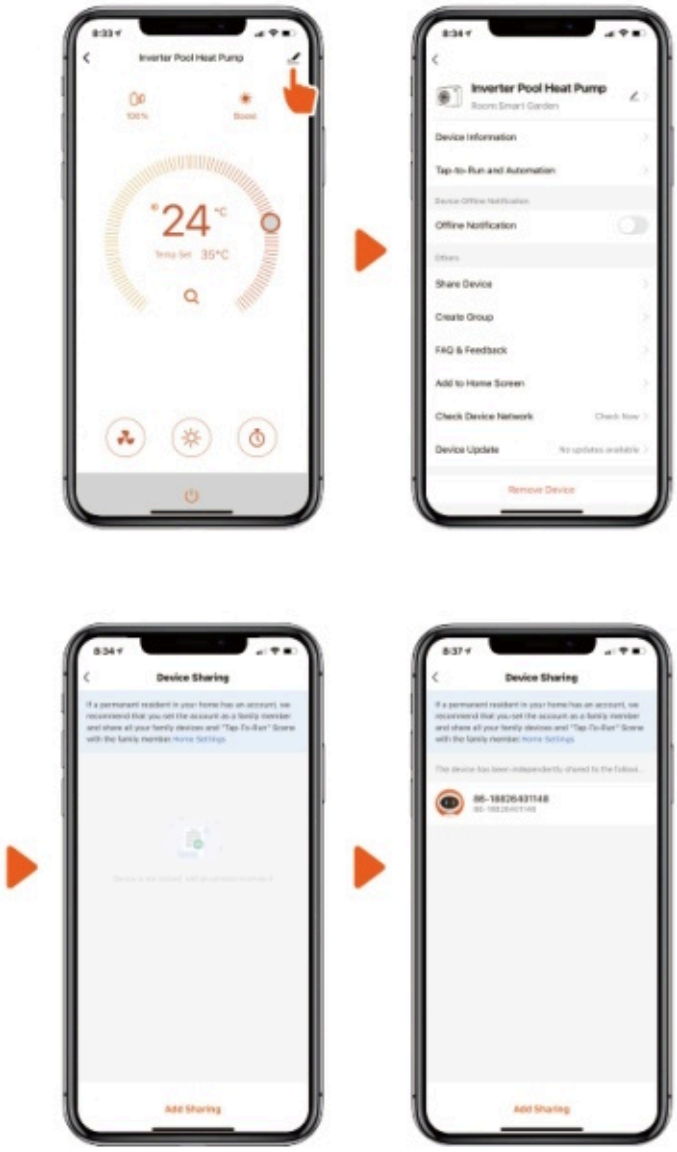
1. For heat pump with Heating function only:



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:



6.8. InverGo App

You can connect the device to the InverGo App by using Bluetooth or Wi-Fi.

6.8.1. InverGo App functions

The InverGo App allows you to configure the following settings on your device:

- Compressor speed
- Boost/Silence mode
- Temperature in °C or °F
- Temperature

- Inlet water temperature
- Query
- Timer
- On/Off
- Heating/Cooling/Auto mode (only available on devices that have both a heating and cooling function)
- Weather forecast

The weather forecast function is only for reference.

6.8.2. Installing and setting up the InverGo App

The InverGo App can be used to manage this device on a smart device (e.g. tablet or smartphone). Follow these steps to install and set up the InverGo App:

1. Download the InverGo App from the App Store (iOS) or Google Play Store (Android) on your smart device (e.g. tablet or smartphone).
2. Tap “Sign Up” and register your account by using your Facebook account, Google account or email address. If you register your device by using your Facebook or Google account, skip steps 3-6.
3. Enter your country and email address.
4. Check “I agree to the **User Agreement** and **Privacy Policy**”.
5. Tap “Get Verification Code”.
6. A six-digit verification code has been sent to the email address you’ve entered. Type over the verification code from the email you’ve received into the InverGo App.
7. Your account has now been registered.

6.8.3. Connecting the device to the InverGo App by using Bluetooth

1. Verify that your smart device is connected to Wi-Fi and that Bluetooth is enabled.
2. Tap “Add Device”.
3. Select your device (e.g. “Inverter Pool Heat Pump”). Tap “Go to add”.
4. Select your Wi-Fi network and enter the Wi-Fi password.
5. Tap “Next”.
6. Select your device (e.g. “Inverter Pool Heat Pump”).
7. Wait until the green check mark appears next to your device.
8. Your device is now connected to the InverGo App.

6.8.4. Connecting the device to the InverGo App by using Wi-Fi

1. Verify that your smart device is connected to Wi-Fi.
2. On your device display, press and hold the Unlock icon for 3 seconds to unlock the screen.
3. Press and hold the Power icon for 3 seconds until you hear a beep.
4. Select your Wi-Fi network and enter the Wi-Fi password.
5. Please wait while the connection is being established. During this process, the Wi-Fi icon will flash.
6. Once the app has connected to Wi-Fi successfully, the Wi-Fi icon will be lit continuously.
7. Tap “Add Device”.
8. Power on your device (e.g. “Inverter Pool Heat Pump”). That indicator light on the device will start to blink rapidly.
9. Tap “Confirm Indicator Rapidly Blink”.
10. Your device is now being connected to the InverGo App.
11. Wait until the green check mark appears next to your device.
12. Your device is now connected to the InverGo App.

6.8.5. Creating a family in the InverGo App

1. Tap “Create family”.
2. Enter your family name and the location of your device (e.g. “Smart Garden”). A “Family created successfully” notification appears.
3. Tap “Done”.
4. You are now the Family Administrator.

6.8.6. Adding family members to your InverGo App Family

1. Let your family member download, install, and register the InverGo App, as described in section 6.3.
2. In the app screen, tap the pencil icon in the top right corner of your screen.
3. Tap “Share Device”.
4. Select the name of the smart device of your family member and tap “Add Sharing”.

7. Maintenance

⚠ WARNING

Risk of severe personal injury through electrocution or skin burns.
- Before undertaking any maintenance work on the unit, disconnect the electrical power supply.

- Frequently verify that the bolts, cables, and connections are undamaged and correctly installed.
- Repairs may only be carried out by a trained service technician, certified to handle refrigerants safely and in accordance with local regulations. If repairs are required, please contact the nearest after-sales service centre.
- Do not attempt to repair the device yourself. This could lead to injuries to the operator or bystanders, light and/or moderate damage to the product or to the environment.
- Always perform an R32 gas safety inspection prior to any maintenance or repairs to this device.
- Strictly comply with the manufacturer's requirements when carrying out maintenance on this device and working with R32 gas. Please refer to the technical service manual for detailed maintenance instructions.
- Welds may only be performed by a trained service technician.
    - Vacuumize completely before performing any welds.

7.1. Cleaning

Over time, the heat pump can become dirty and clogged with debris, which can reduce its efficiency and cause it to malfunction. To keep your heat pump running smoothly, it is important to clean it regularly. Please follow these instructions when cleaning the product.

⚠ WARNING

When cleaning this device, only use gentle household detergents or clean water. Don’t use abrasive, combustible or industrial cleaning materials.

1. Turn off the power to the heat pump.
2. Remove any debris from the exterior of the heat pump using a soft brush or a vacuum cleaner with a soft brush attachment.
3. Remove the top cover of the heat pump.
4. Inspect the interior of the heat pump for any signs of dirt or debris.
    a. If you see any, use a soft brush or a vacuum cleaner with a soft brush attachment to remove it.
5. Clean the evaporator coil and remove any dirt or debris from the coils.
6. Clean the condenser coil and remove any dirt or debris from the coil.
7. Clean the fan blades.
8. Replace the top cover of the heat pump.
9. Secure the top cover it in place.
10. Turn the power back on to the heat pump.

By following these steps, you can keep your swimming pool heat pump running smoothly and efficiently, ensuring that your pool stays warm and comfortable all year round.

8. Troubleshooting

⚠ WARNING

Electrical hazard
Do not attempt to work on the equipment by yourself.
When the fuse in the box is (regularly) triggered or the earth-leakage circuit breaker in the fuse box triggers, **immediately switch off the device, its power supply and contact the nearest after-sales service center or dealer.**

Table 10. Known problems, causes and solutions

Problem	Cause	Solution
The heat pump is not powering on (or running).	There is a power outage.	Wait until the power is restored.
	The power supply is switched off.	Switch on the power supply.
	The fuse in the fuse box has been triggered.	Check and replace the fuse in the fuse box.
	The circuit breaker in the fuse box is switched off.	Reset the circuit breaker in the fuse box.
The fan is powered on, but the amount of heating is insufficient.	The evaporator is blocked.	Remove any obstacles from the evaporator.
	The air outlet is blocked.	Remove any obstacles from the air outlet.
	The 3 minute start delay is not yet over.	Please wait.
Everything on the display seems normal, but the heat pump is not heating the pool.	The temperature in the pool is too low.	Set a higher temperature.
	The 3 minute start delay is not yet over.	Please wait.

NOTE

If these solutions don't work, please contact the nearest after-sales service center or dealer, and share your model's name and problem description.

8.1. Protection & failure codes

Table 11. Protection codes

No.	Display	Protection code description
1	E3	There is no water.
2	E5	The power supply excesses operational range.
3	E6	There is an excessive difference between the inlet and outlet water temperature (the water flow protection is insufficient).
4	Eb	The ambient temperature is too high or too low.
5	Ed	Anti-freezing reminder

Table 12. Failure codes

No.	Display	Protection code description
1	E1	The pressure is too high.
2	E2	The pressure is too low.

Table 12. Failure codes (continued)

No.	Display	Protection code description
3	E4	There is an issue with the three-phase sequence.
4	E7	The water outlet temperature is too high or too low.
5	E8	The exhaust temperature is too high.
6	EA	The evaporator is overheating (only in Cooling mode).
7	P0	There is a controller communication failure.
8	P1	The water inlet temperature sensor is failing.
9	P2	The water outlet temperature sensor is failing.
10	P3	The gas exhaust temperature sensor is failing.
11	P4	The evaporator coil pipe temperature sensor is failing.
12	P5	The gas return temperature sensor is failing.
13	P6	The cooling coil pipe temperature sensor is failing.
14	P7	The ambient temperature sensor is failing.
15	P8	The cooling plate sensor is failing.
16	P9	The current sensor is failing.
17	PA	There is a restart memory failure.
18	F1	There is a compressor drive module failure.
19	F2	There is a PFC module failure.
20	F3	There is a compressor start failure.
21	F4	There is a compressor running failure.
22	F5	The inverter board overcurrent protection was activated.
23	F6	The inverter board overheat protection was activated.
24	F7	The current protection was activated.
25	F8	The cooling plate overheat protection was activated.
26	F9	The fan motor is failing.
27	Fb	The power filter plate no-power protection was activated.
28	FA	The PFC module overcurrent protection was activated.

9. Disposal

If the heat pump is still in working condition, consider selling or donating it to a local organization or individual who may be in need of it.

Swimming pool heat pumps are an efficient way to heat your pool, but eventually, they will need to be replaced. When disposing of your old heat pump, please to do so safely and properly to protect the environment and comply with local regulations.

The first step when disposing products is to check with your local waste management authority to determine the specific regulations in your area. In general, you will need to take your heat pump to a designated recycling center or arrange for a special pickup.

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