

Mini Chiller

Directions for installation and maintenance



CE



***This chiller contains a flammable refrigerant R32.
Any intervention on the refrigerant circuit is
prohibited without a valid authorization.
Before working on the refrigerant circuit, the
following precautions are necessary for safe
work.***

1. Work procedure

The work must be carried out according to a controlled procedure, in order to minimize the risk of presence of flammable gases or vapors during the execution of the works.

2. General work area

All persons in the area must be informed of the nature of the work in progress. Avoid working in a confined area. The area around the work area should be divided, secured and special attention should be paid to nearby sources of flame or heat.

3. Verification of the presence of refrigerant

The area should be checked with a suitable refrigerant detector before and during work to ensure that there is no potentially flammable gas. Make sure that the leak detection equipment used is suitable for flammable refrigerants, i.e. it does not produce sparks, is properly sealed or has internal safety.

4. Presence of fire extinguisher

If hot work is to be performed on the refrigeration equipment or any associated part, appropriate fire extinguishing equipment must be available. Install a dry powder or CO2 fire extinguisher near the work area.

5. No source of flame, heat or spark

It is totally forbidden to use a source of heat, flame or spark in the direct vicinity of one or more parts or pipes containing or having contained a flammable refrigerant. All sources of ignition, including smoking, must be sufficiently far from the place of installation, repair, removal and disposal, during which time a flammable refrigerant may be released into the surrounding area. Before starting work, the environment of the equipment should be checked to ensure that there is no risk of flammability. «No smoking» signs must be posted.

6. Ventilated area

Make sure the area is in the open air or is properly ventilated before working on the system or performing hot work. Some ventilation must be maintained during the duration of the work.

7. Controls of refrigeration equipment

When electrical components are replaced, they must be suitable for the intended purpose and the appropriate specifications. Only the parts of the manufacturer can be used. If in doubt, consult the technical service of the manufacturer.

The following controls should be applied to installations using flammable refrigerants:

- The size of the load is in accordance with the size of the room in which the rooms containing the refrigerant are installed;*
- Ventilation and air vents work properly and are not obstructed;*
- If an indirect refrigeration circuit is used, the secondary circuit must also be checked.*
- The marking on the equipment remains visible and legible. Illegible marks and signs must be corrected;*
- Refrigeration pipes or components are installed in a position where they are unlikely to be exposed to a substance that could corrode components containing refrigerant*

8. Verification of electrical appliances

Repair and maintenance of electrical components must include initial safety checks and component inspection procedures. If there is a defect that could compromise safety, no power supply should be connected to the circuit until the problem is resolved.

Initial security checks must include:

- That the capacitors are discharged: this must be done in a safe way to avoid the possibility of sparks;*
- No electrical components or wiring are exposed during loading, recovery or purging of the refrigerant gas system;*
- There is continuity of grounding.*

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1. Introduction

We thank you for having chosen our chiller.

This installation and maintenance notice contains the necessary information to its installation (delivery control, the installation, the connections) and to its repair. It is a complementary document to the user's manual which describes its instructions for use. We invite you to read it first.

2. Caution

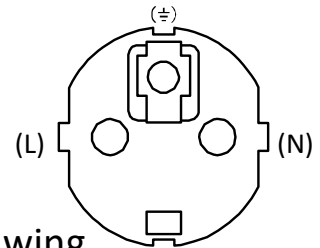


► Please read these instructions carefully before using the chiller and keep them for future reference

1. This chiller is exclusively for heating swimming pools. Any other use not in conformity and random will be considered as dangerous and unsuitable.
2. Always keep the unit upright. If the unit has been tilted or put on its side, wait 24h before starting the chiller.
3. Put the unit on a flat, solid base.
4. Do not drop the chiller.
5. The chiller must always be installed outdoors.
6. Check if the voltage indicated on the RCD of the chiller corresponds to the local mains voltage before you connect the unit.
7. Do not pull the mains plug with unnecessary force. Do not wrap the mains plug around the chiller.
8. Do not use the chiller in combination with a transformer, as this could cause hazardous situations.
9. If the chiller is damaged during transportation, it must be replaced, please contact your service center or similarly qualified persons in order to avoid a hazard.

10. Always make sure the water connections of the chiller are properly locked before you start using the machine.
11. Never insert objects directly into the fan when the chiller is operating, as this will cause it to become blocked and damaged.
12. Suggested water flow speed is $1.5 \sim 4 \text{ m}^3/\text{h}$.
13. In a concern to a constant improvement, our products can be modified without notice; the present pictures in this note or the characteristics which are described are not contractual.

14. When connect plug to socket (power supply), please make sure that live wire, neutral wire, earth wire to plug should be connected as right drawing.



15. If the supply cord is damaged, it must be replaced by the manufacture, its service agent or similar qualified persons in order to avoid a hazard.
16. This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
17. Children shall not play with the appliance.
18. Cleaning and user maintenance shall not be made by children without supervision.

3. Delivery's control

At the delivery time, check the condition of packing; in case of damages, have reservation about them to the carrier, before 48 hours and by registered letter with acknowledged receipt.

Before any manipulation, check the complete state of the machine.

4. Technical description

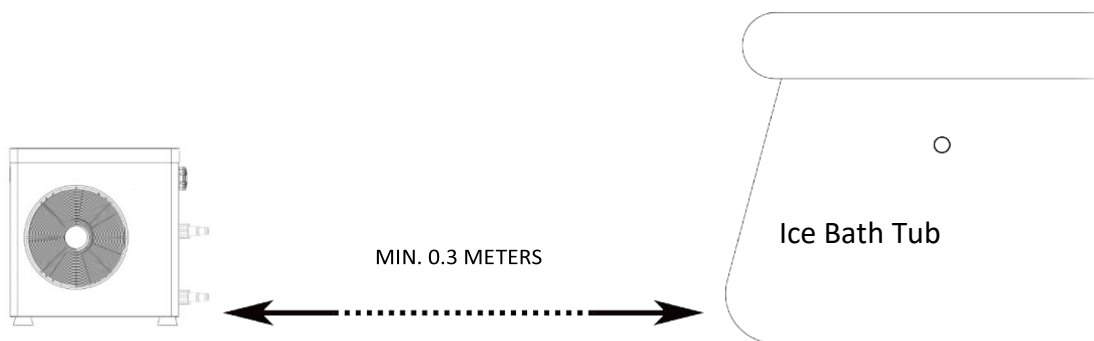
Unit Model	Unit	BP40MXC
Cooling Capacity A35/W28	kW	2.35
Power Input	kW	0.7
EER A35/W28		3.3
Heating Capacity A26/W26	kW	4.1
Power Input	kW	0.67
COP A26/W26	W/W	6.1
Heating Capacity A15/W26	kW	2.8
Power Input	kW	0.6
COP A15/W26	W/W	4.7
Power Supply	V/P/Hz	230/1/50
Current	A	3.3
Advised pool volume (with pool cover)	m3	0-10
Water Flow Volume	m3/h	4.0
Compressor Style		Rotary
Heating Exchanger		Titanium in PVC
Water Connection	mm	32&38
Noise (10m)	dB(A)	37
Noise (1m)	dB(A)	47
Refrigerant -R32	g	390
Co2 weight of the fluorinated greenhouse gases	T	0.26
Net Unit Size (L/W/H)	mm	430x330x350
Carton Size (L/W/H)	mm	510x390x385
Net/Gross Weight	kg	28/31

*** possible variations of value according to climatic conditions**

5. Preparation

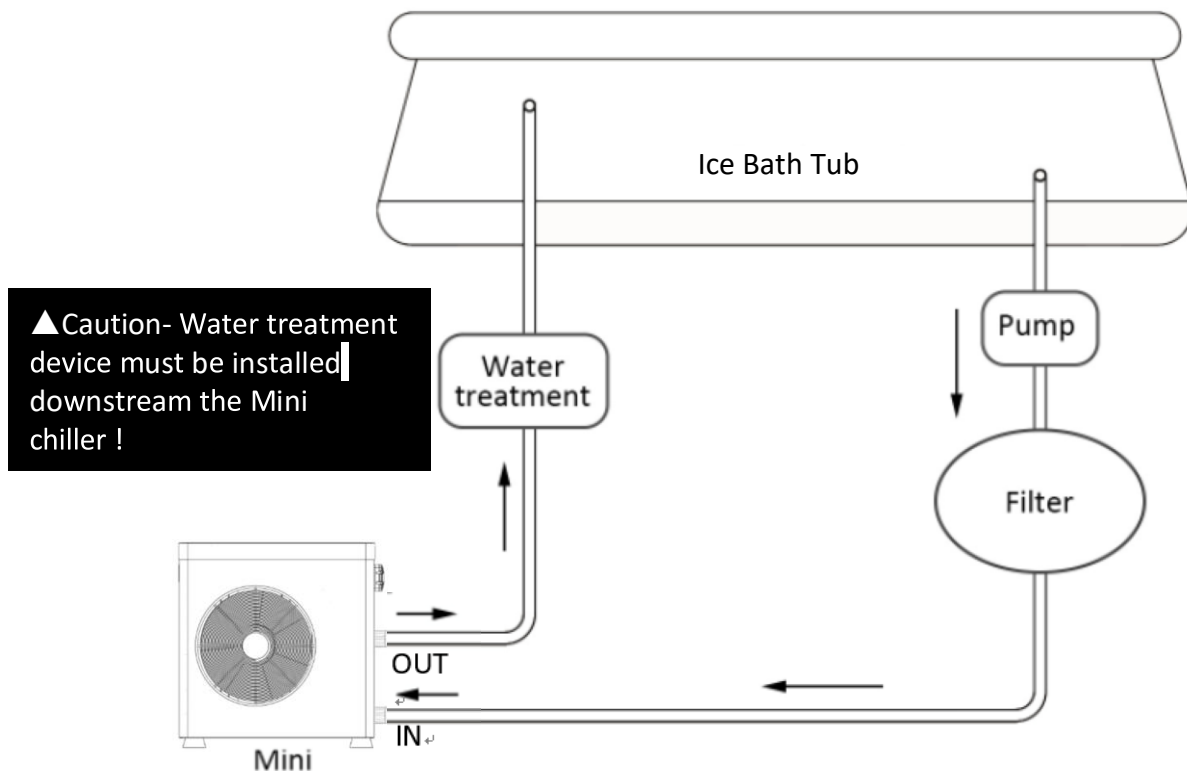
5.1. Distance from the pool

The chiller should be located at least 2m away from the swimming pool.

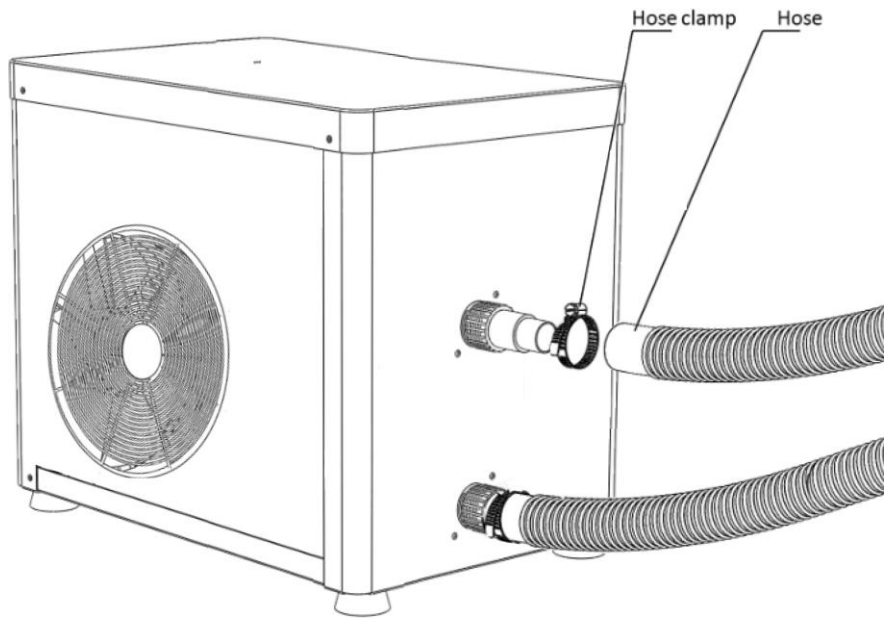


- ▶ A free area of minimum 0,3 meter around the chiller has to be kept clear from any object.
- ▶ Put the chiller on a flat, solid base.
- ▶ Do not obstruct the fan, leave at least 1.5m free unobstructed space in front of the fan.

5.2. Typical configuration



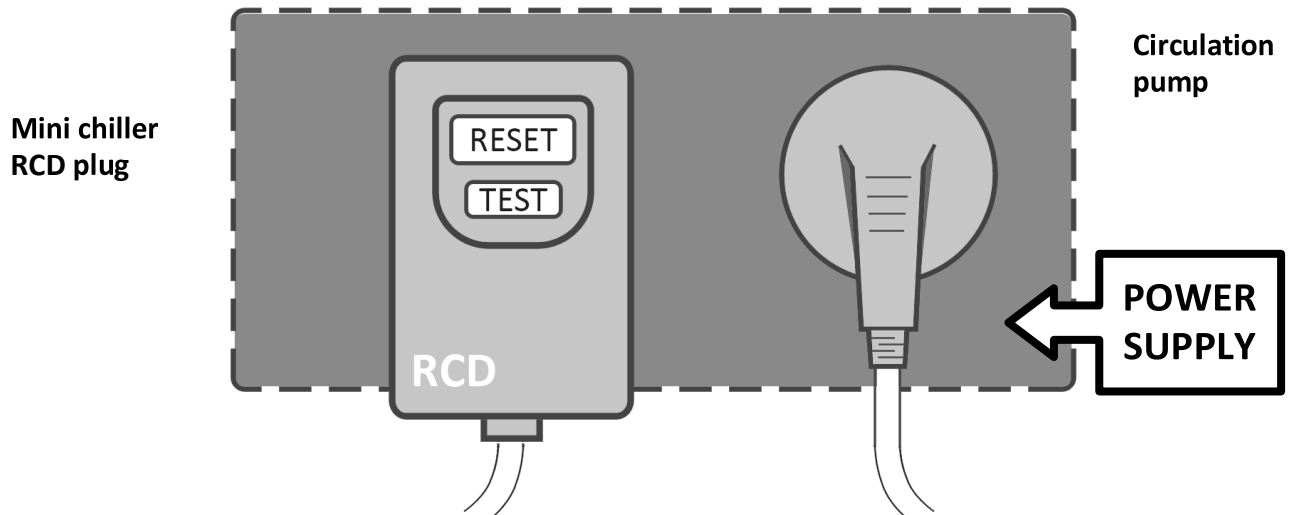
5.3. Hose connection



▲ Caution-It is normal for condensation water to come out of the chiller when it is operating. This is not a fault or leak!

5.4. Electrical connection

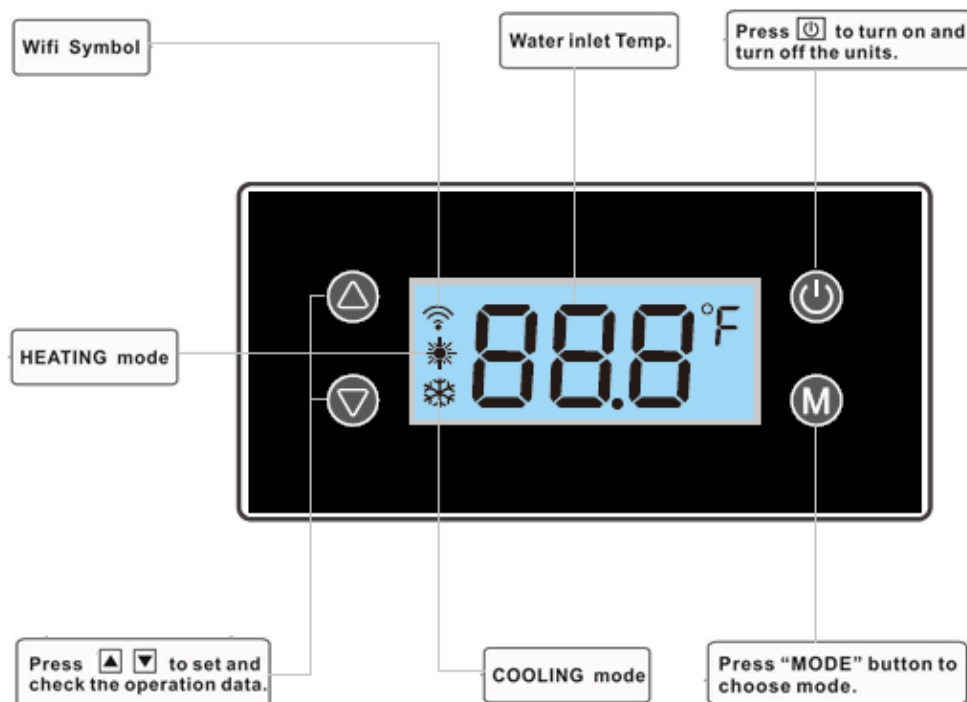
The RCD is available in EU-version and UK-version.



▲ Caution- Make sure your outlet is earthed.
▲ Caution- The pool circulation pump must operate with the chiller. Therefore, connect them to the same circuit used for outdoor.

6. Start up and settings

6.1. Display overview



6.2. Operation Instruction

1. Button and operation

- On/Off button:
 - ◆ Under default interface, press this button to power on/off heat pump;
 - ◆ Exit the setting mode;
- "M" button:
 - ◆ Press "M" button can shift cooling/heating mode.
 - ◆ Press "M" button for 5s to check the setting, press "▲" or "▼" to page up or page down;
 - ◆ Press "M" button again to set the parameter (the parameter starts to flash), press "▲" or "▼" button to adjust the parameter, then press the "Set" button again to confirm the setting;
- "▲" & "▼" button:
 - ◆ Upwards & Downwards;
 - ◆ Under default interface, press "▲" & "▼" button to adjust the desired temperature setting.
 - ◆ Set the parameter at setting mode;
- Parameters reset:
 - Press "On/Off"+"M" button and hold for 10s to reset all the parameters.
- °C/°F Shift:
 - ◆ Press "▲" buttons 3 seconds to Shift °C/°F.
- Lock and unlock the keypad:
 - ◆ Press "▲" + "▼" 3 seconds to lock/unlock keypad;
 - ◆ Without operation 1 minute, keypad will be auto-locked.

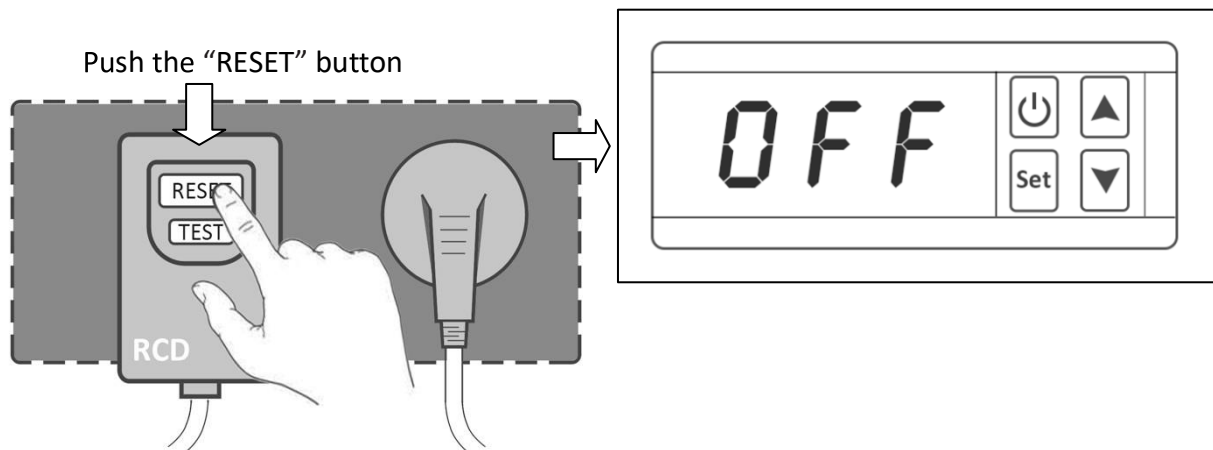
6.3. Starting

STEP1 (Start)

Turn on your pool circulation pump (not included). Check for possible water leaks and for good water flow to and from the swimming pool.

STEP2 (Start)

Push the reset button on the RCD of the chiller. The Red light will turn on, indicating the chiller is ready to start.



STEP3 (Start)

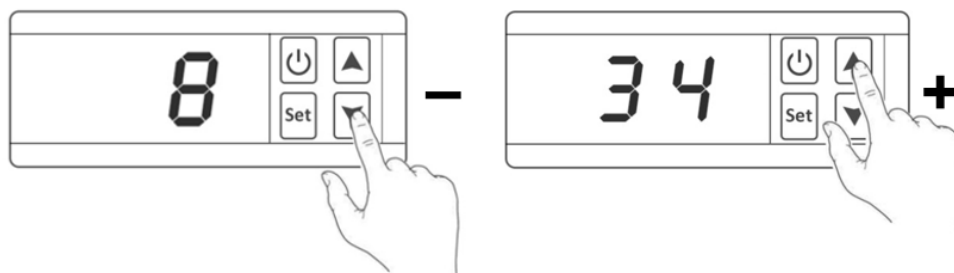
Push the On/Off button to start the chiller. The current water temperature will appear and the chiller will start automatically.



1. Power on- The fan will work first, then the compressor will start to work after 15s.
Power off- The fan will stop after 30s that the compressor stopped.
2. The chiller won't start when the desired water temperature is reached (define set point in step 5). Meanwhile the current water temperature is shown on the display. The chiller will start automatically when the water temperature drops a pre-setting °C (*default is 3°C, available to be set to 1~10°C, refer the 'Operation parameter' on page 12*) below set point.
3. The compressor will NOT stop within 2 minutes after it starts to work.
4. The compressor will stop in 3 minutes after it stops working.

STEP4 (Temperature Setting)

Push the “▲” & “▼” to set the desired temperature.



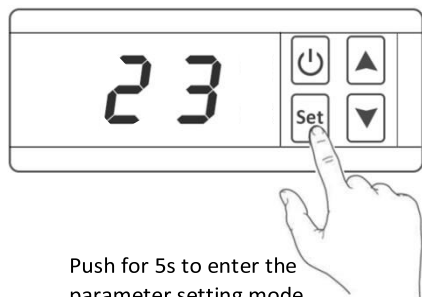
Allow the chiller and filter/water pump to initially run 24 hours a day until the desired water temperature is reached.



- ▶ Several days will be needed to bring the temperature of the swimming pool water to its desired water temperature, depending the initial water temperature, ambient temperature and pool volume.
- ▶ A good pool cover and insulation of the piping to and from the swimming pool can reduce the warming up time considerably.

STEP5 (Parameter Setting)

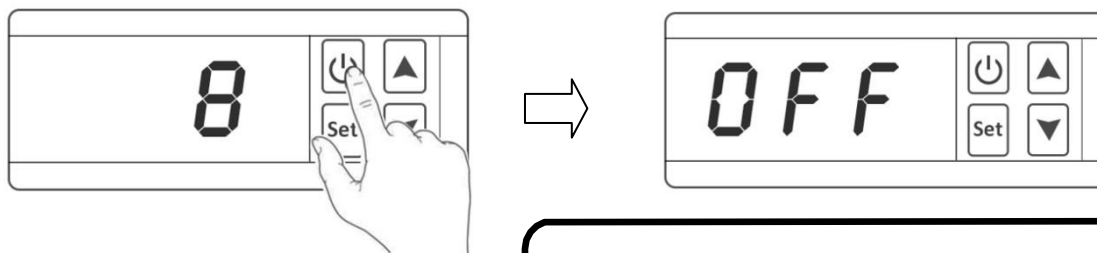
Press “Set” button for 5s to check the setting, press “▲” or “▼” to choose the parameter. Press “Set” button again to set the parameter (the parameter starts to flash), press “▲” or “▼” button to adjust the parameter, then press the “Set” button again to confirm the setting.



Push for 5s to enter the parameter setting mode

STEP6 (Stop)

Push the On/Off button to stop the chiller.



- ▶ The chiller shuts down but the fan keeps on turning for 30 seconds to cool down.

7. Guidelines

7.1. Cold/harsh weather conditions

Your chiller is designed to operate in rainy weather conditions and withstand frost using a specially created antifrost technology. However it is not recommended to leave it outside for long periods of time (eg over winter). After draining down the pool for the winter, store the chiller in a dry place.

7.2. Restarting the chiller after long term storage

If your chiller has been stored for a long time, perform the following steps when re-starting the system:

1. Inspect the system for any debris or damage to the case.
2. Clean the evaporator fins if necessary. Make sure the evaporator fins are clean. Blocking the air intake will cause insufficient operation and will result in lower production of heat.
3. Check the fan for blockages.
4. Connect the water inlet and outlet.
5. Turn on the pool water circulation pump to start the water flow to the chiller.
6. Restore electrical power to the chiller and press the RESET button on the RCD.

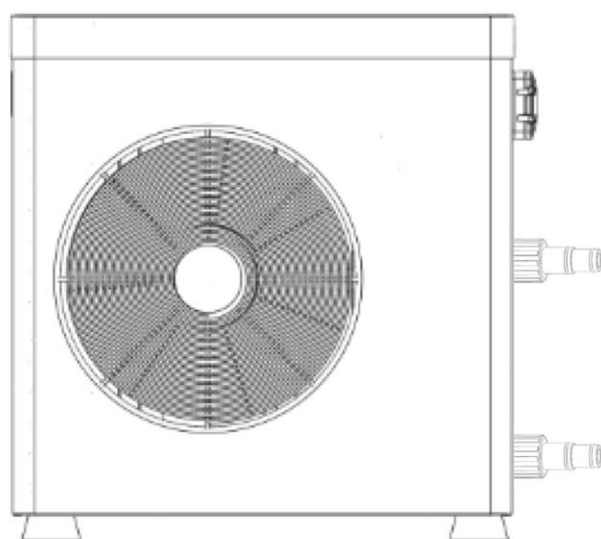
8. Maintenance and error messages

8.1. Maintenance

1. Check the water supply to and from the unit often. Low water flow or air entering into the pipes should be avoided, as this will diminish the chiller performance and reliability. You should clean the swimming pool water regularly to avoid damage to the chiller as a result of dirty pool water.
2. The area around the chiller should be clear and well ventilated. Clean the evaporator and evaporator guard regularly to maintain good air flow and efficiency.
3. Check the power supply and cable connection often. In case of abnormal operation or a smell of burning near the electrical compartment, switch off the chiller and contact your dealer.

8.2. Packaging

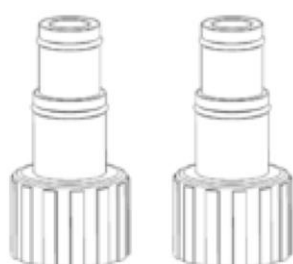
The packaging includes:



Mini heat pump



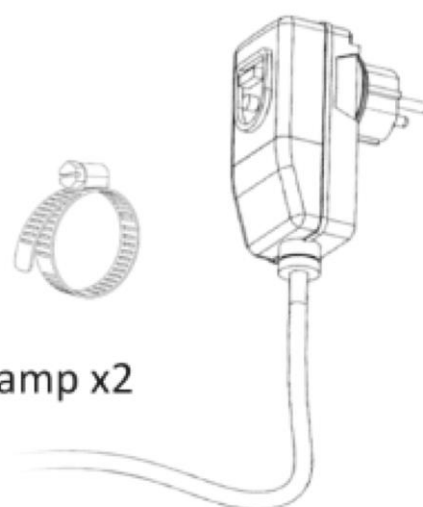
Operation manual



hose connector x2



hose clamp x2



RCD adapter x1

8.3. Error Message and trouble shooting

Error Code	Component	Possibility	Solution
P 1	Water inlet temperature sensor	Sensor disconnected, non supplied or defective	Check the connections, the wires, change it or replace the PCB
P 2	Ambient temperature sensor	Sensor disconnected, non supplied or defective	Check the connections, the wires, change it or replace the PCB
P 3	Water temperature too high or too low	Sensor disconnected, non supplied or defective	Check the connections, the wires, change it or replace the PCB
P 4	Copper sensor	Sensor disconnected, non supplied or defective	Check the connections, the wires, change it or replace the PCB
P 5	High pressure protection	Pressure is too high	No need to do anything
E 5	High pressure error	Insufficient water flow	Check the water flow
		Pressure switch out of order	Replace the pressure switch
		Too much refrigerant gas present	The heat pump checked by a refrigeration technician
P 6	Low pressure protection	Pressure is too low	No need to do anything
nFL	Water flow switch	Flow switch disconnected, non supplied or defective	Check the connections, the wires, change it or replace the PCB
		No flow rate or flow rate is too low.	Check the pump and filtration system to make the flow rate

Operation parameter

No.	Meaning	Range	Default	Changeable
A	Water input temperature (actual)	-19~99°C	-	N/A
b	Condenser temperature (actual)	-19~99°C	-	N/A
c	Ambient temperature (actual)	-19~99°C	-	N/A
d	Heating setting water temperature	3°C~43°C	28°C	YES
E	Automatic defrost cycle time	10~80Min	30min	YES
F	Time of exit auto-defrost mode	5~30Min	10min	YES
G	Cooling setting water temperature	3°C~43°C	28°C	YES
H	Water temperature difference to restart	1°C~10°C	2°C	YES
J	Setting memory	0/1	1	YES
O	Low temperature protection	-10°C~15°C	0°C	YES
P	Auto-defrost condenser temperature	-19°C~0°C	-1°C	YES
U	Condenser temperature of exit auto-defrost	1° C~30° C	20° C	YES
R	Water temperature setting for auto mode	3°C~43°C	27° C	YES

9 – Environment problem

This chiller should not be put into the domestic waste at the end of its useful life, but must be disposed at a central point for recycling of electrical and electronic domestic applications. By doing this you will help to preserve the environment.

