



SWIMMING POOL HEAT PUMP UNIT

Installation & Instruction Manual



Head Office
62 Parkhurst Drive
Knoxfield VIC 3180
T: 03 9887 2131

New South Wales
Unit 1, 20-22 Foundry Road
Seven Hills NSW 2147
T: 02 9838 0000

Queensland
Unit 1, 8 Reichert Drive
Molendinar QLD 4214
T: 07 5679 6821

sales@sunloverheating.com.au
sunloverheating.com.au

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1. PREFACE

In order to provide our customers with quality, reliability and versatility, this product has been made to strict production standards. This manual includes all the necessary information about installation, debugging, discharging and maintenance. Please read this manual carefully before you open or maintain the unit. The manufacture of this product will not be held responsible if someone is injured or the unit is damaged, as a result of improper installation, debugging, or unnecessary maintenance. It is vital that the instructions within this manual are adhered to at all times. The unit must be installed by qualified personnel.

- The unit can only be repaired by qualified installer centre, personnel or an authorised dealer.
- Maintenance and operation must be carried out according to the recommended time and frequency, as stated in this manual.
- Use genuine standard spare parts only.
Failure to comply with these recommendations will invalidate the warranty.
- Swimming Pool Heat Pump Unit heats the swimming pool water and keeps the temperature constant.
For split type unit, the indoor unit can be Discretely hidden or semi-hidden to suit a luxury house.

Our heat pump has following characteristics:

1 Durable

The heat exchanger is made of PVC & Copper Nickle tube which can withstand prolonged exposure to swimming pool water.

2 Installation flexibility

The unit can be installed outdoors or indoors.

3 Quiet operation

The unit comprises an efficient rotary/ scroll compressor and a low-noise fan motor, which guarantees its quiet operation.

4 Advanced controlling

The unit includes micro-computer controlling, allowing all operation parameters to be set. Operation status can be displayed on the LCD wire controller. Remote controller can be chosen as future option.

2. SPECIFICATION

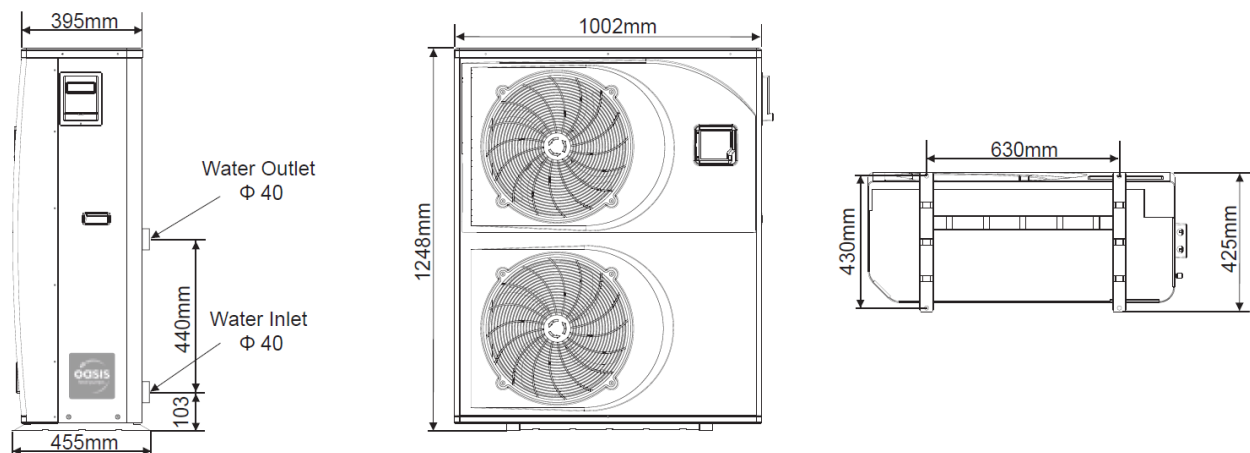
2.1 Performance data of Swimming Pool Heat Pump Unit

*** REFRIGERANT: R410A

Model			
Performance Condition: Air 27°C / Water 26°C			
Heating Capacity	kW	28.8	28.8
Running Current	A	21.3	8.7
Performance Condition: Air 19°C / Water 26°C			
Heating Capacity	kW	25	25
Heating Power Input	kW	4.3	4.3
Cooling Capacity	kW	15.5	15.5
Cooling Power Input	kW	5.8	5.8
Running Current	A	21.3	8.7
Power Supply	V/Ph/Hz	240/1/50	400V/3/50
Compressor Quantity		1	1
Compressor		Scroll	Scroll
Fan Quantity		2	2
Fan Power Input	W	120x2	120x2
Fan Rotate Speed	RPM	850	850
Fan Direction		Horizontal	Horizontal
Noise	dB(A)	56	56
Water Connection	Mm	40	40
Water Flow Volume	l/m	150	150
Water Pressure Drop (max)	kPa	15	15
Unit Shipping Dimensions (L/W/H)	Mm	1130 x 485 x 1270	1130 x 485 x 1270
Net / Shipping Weight	kg	117/135	117/135

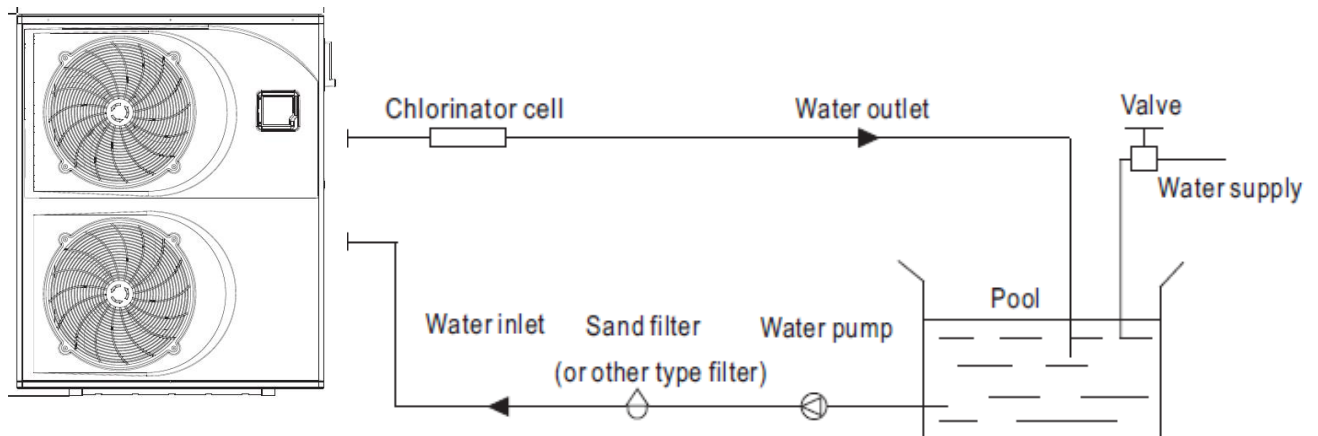
Cooling capacity is based on 19 °C ambient air temperature and 26°C water temperature

2.2 The dimensions for Swimming Pool Heat Pump Unit



3. INSTALLATION AND CONNECTION

3.1 Installation illustration



Installation items:

The factory only provides the main unit and the water unit; the other items in the illustration are necessary spare parts for the water system, that provided by users or the installer.

Attention:

Please follow these steps when using for the first time

1. Open valve and charge water.
2. Make sure that the pump and the water-in pipe have been filled with water.
3. Close the valve and start the unit.

ATTN: It is necessary that the water-in pipe is higher than the pool surface.

3. INSTALLATION AND CONNECTION

3.2 Swimming Pool Heat Pumps Location

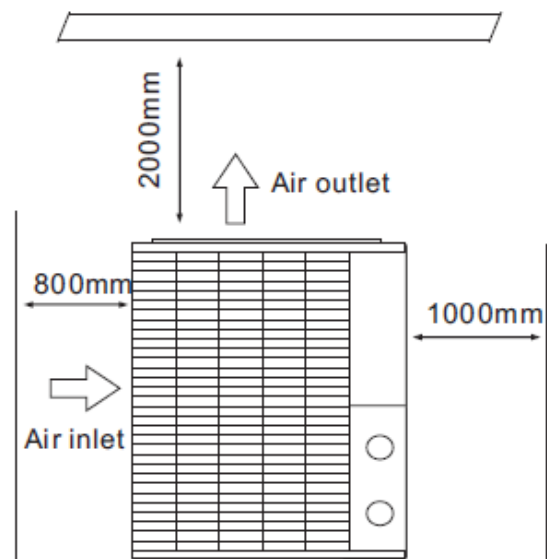
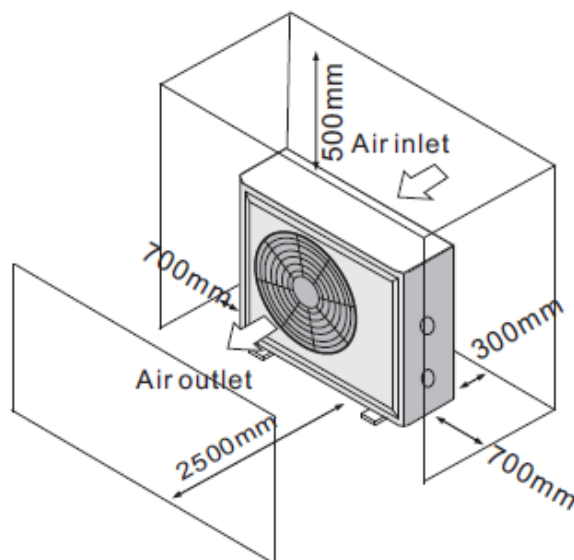
The unit will perform well in any outdoor location provided that the following three factors are presented:

1. Fresh Air
2. Electricity
3. Pool filter piping

The unit may be installed virtually anywhere outdoors. For indoor pools please consult the supplier. Unlike a gas heater, it has no draft or pilot light problem in a windy area.

DO NOT place the unit in an enclosed area with a limited air volume, where the units discharge air will be re-circulated.

DO NOT place the unit to shrubs which can block air inlet. These locations deny the unit of a continuous source of fresh air which reduces its efficiency and may prevent adequate heat delivery.



3.3 How Close to Your Pool?

Normally, the pool heat pump is installed within 7.5 metres of the pool. The longer the distance from the pool, the greater the heat loss from the piping. For the most part, the piping is buried. Therefore, the heat loss is minimal for runs of up to 15 meters (15 meters to and from the pump = 30 meters total), unless the ground is wet, or the water table is high. A very rough estimate of heat loss per 30 meters is 0.6 kW-hour, (2000BTU) for every 5 °C difference in temperature between the pool water and the ground surrounding the pipe, which translates to about 3% to 5% increase in run time.

3. INSTALLATION AND CONNECTION

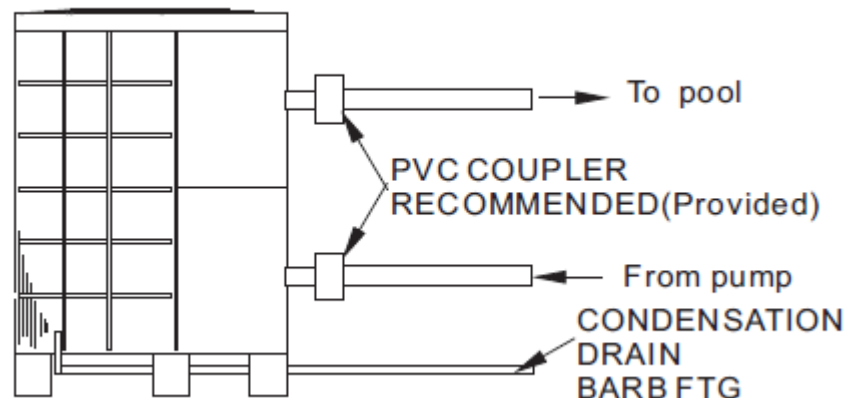
3.4 Swimming Pool Heat Pumps Plumbing

The Swimming Pool Heat Pumps exclusive rated flow titanium heat exchanger requires no special plumbing arrangements except bypass (please set the flow rate according to the nameplate). The water pressure drop is less than 10kPa at max. Flow rate. Since there is no residual heat or flame Temperatures, the unit does not need copper heat sink piping. PVC pipe can be run straight into the unit.

Location: Connect the unit in the pool pump discharge (return) line downstream of all filter and pool pumps, and upstream of any chlorinators, ozonators or chemical pumps.

Standard model have slip glue fittings which accept 32mm or 50 mm PVC pipe for connection to the pool or spa filtration piping. By using a 50 NB to 40NB you can plumb 40NB.

Give serious consideration to adding a quick coupler fitting at the unit inlet and outlet to allow easy draining of unit for winterizing and to provide easier access should servicing be required.



Condensation: Since the Heat pump cools down the air about 4 -5°C, water may condense on the fins of the horseshoe shaped evaporator. If the relative humidity is very high, this could be as much as several litres an hour. The water will run down the fins into the basepan and drain out through the barbed plastic condensation drain fitting on the side of the basepan.

This fitting is designed to accept 20mm clear vinyl tubing which can be pushed on by hand and run to a suitable drain. It is easy to mistake the condensation for a water leak inside the unit.

NB: A quick way to verify that the water is condensation is to shut off the unit and keep the pool pump running. If the water stops running out of the basepan, it is condensation. AN EVEN QUICKER WAY IS to TEST THE DRAIN WATER FOR CHLORINE - if there is no chlorine present, then it's condensation

3. INSTALLATION AND CONNECTION

3.5 Swimming Pool Heat Pumps Electrical Wiring

NOTE: Although the unit heat exchanger is electrically isolated from the rest of the unit, it simply prevents the flow of electricity to or from the pool water. Grounding the unit is still required to protect you against short circuits inside the unit. Bonding is also required.

The unit has a separate molded-in junction box with a standard electrical conduit nipple already in place. Just remove the screws and the front panel, feed your supply lines in through the conduit nipple and wire-nut the electric supply wires to the three connections already in the junction box (four connections if three phase). To complete electrical hook-up, connect Heat Pump by electrical conduit, UF cable or other suitable means as specified (as permitted by local electrical authorities) to a dedicated AC power supply branch circuit equipped with a **D Curve** circuit breaker, disconnect or time delay fuse protection.

Disconnect - A disconnect means (circuit breaker, fused or un-fused switch) should be located within sight of and readily accessible from the unit, this is common practice on commercial and residential air conditioners and heat pumps. It prevents remotely-energizing unattended equipment and permits turning off power at the unit while the unit is being serviced.

3.6 Initial start-up of the Unit

NOTE- In order for the unit to heat the pool or spa, the filter pump must be running to circulate water through the heat exchanger.

Start-up Procedure - After installation is completed, you should follow these steps:

1. Turn on your filter pump. Check for water leaks and verify flow to and from the pool.
2. Turn on the electrical power supply to the unit, then press the key ON/OFF of wire controller, it should start in several seconds.
3. After running a few minutes make sure the air leaving the top(side) of the unit is cooler (Between 5-10 °C)
4. With the unit operating turn the filter pump off. The unit should also turn off automatically,
5. Allow the unit and pool pump to run 24 hours per day until desired pool water temperature is reached. When the water-in temperature reach setting, the unit just shuts off. The unit will now automatically restart (if your pool pump is running) when the pool temperature drops more than 2°C below set temperature.

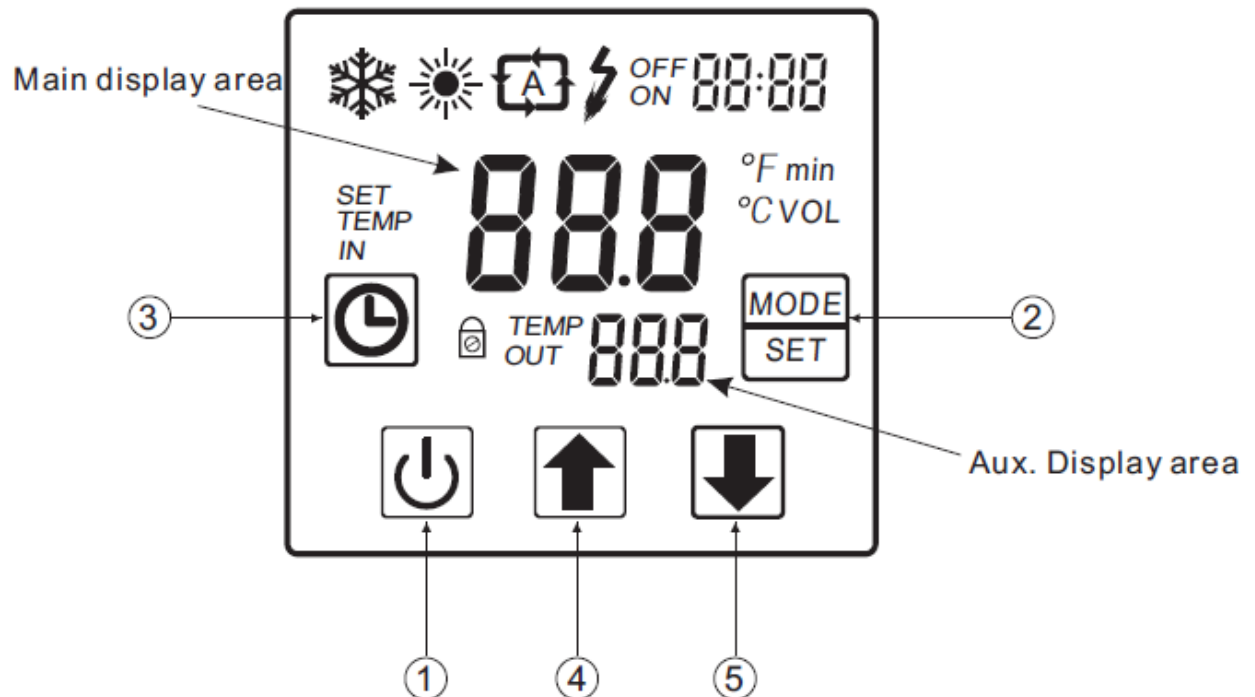
Time Delay- The unit is equipped with a 3-minute built-in solid state restart delay included to protect control circuit components and to eliminate restart cycling and contactor chatter.

This time delay will automatically restart the unit approximately 3 minutes after each control circuit interruption. Even a brief power interruption will activate the solid state 3-minute restart delay and prevent the unit from starting until the 5-minute countdown is completed.






Power interruptions during the delay period will have no effect on the 3-minute countdown.

4. USAGE AND OPERATION






4.1 Function of controller



1) Button function

NO	Symbol	Name	Function
①		On/off	Press this button can start up or shut down the unit, cancel the current operation or back to the upper interface
②		Mode	Press this button can switch modes or save parameter setting.
③		Clock	Press this button can set the clock and timer
④		Up	Press this button can move up or increase parameter value.
⑤		Down	Press this button can move down or decrease the parameter value.



4.USAGE AND OPERATION

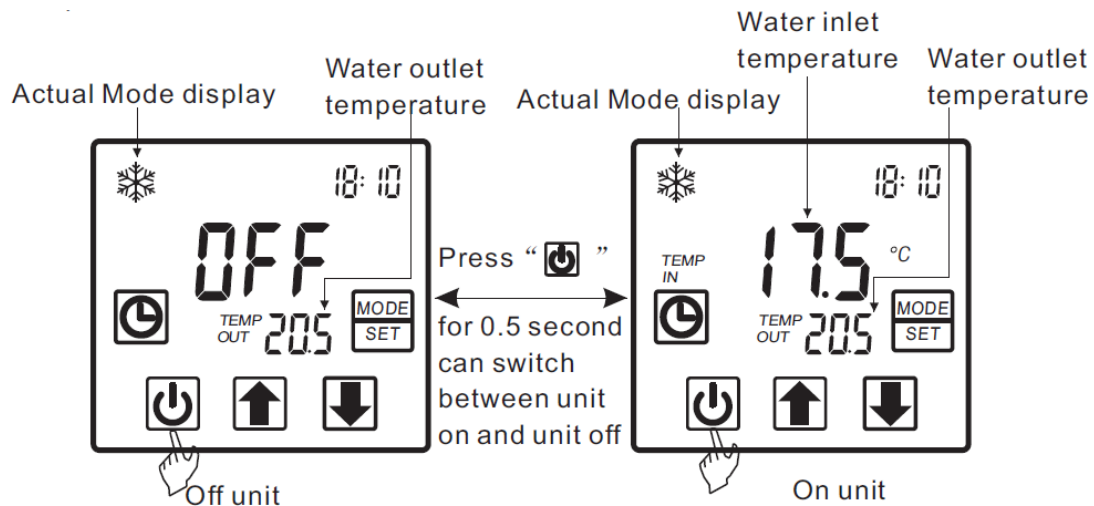
Symbol	Meaning	Function
	Cooling	It is showed when the unit in cooling mode.
	Heating	It is showed when the unit in heating mode and flashed in defrosting.
	Automatic	It is showed when the unit in automatic mode.
	Electric – heating	It is showed when the unit in electric-heating mode. (Swimming pool unit without this display)
<i>ON</i>	Timer on	It is showed when the unit sets the timer on
<i>OFF</i>	Timer off	It is showed when the unit sets the timer off
<i>IN</i>	Inlet water	It is showed when the main display area gives the inlet water temperature.(measured value)
<i>OUT</i>	Outlet water	It is showed when the AUX display area gives the outlet water temperature.(measured value)
<i>TEMP</i>	Temperature	It is showed when the main/ AUX display area gives temperature
<i>VOL</i>	Flow	It is showed when the main display area gives the water flow value
<i>Min</i>	Minute	It is showed when the main display area gives minute value
<i>°F</i>	Fahrenheit	It is showed when the main/AUX display area gives Fahrenheit value
<i>°C</i>	Centigrade	It is showed when the main/AUX display area gives centigrade value
<i>SET</i>	Parameter setting	It is showed when the parameter can be setted
	Lock	It is showed when the keyboard is locked.

4. USAGE AND OPERATION

4.2 The controller usage


4.2.A - Starting up and shutting down

In the off interface, press "  " for 0.5s can start up the unit, and aux. display-area shows water outlet temperature; In the running interface, press "  " for 0.5s can shut down the unit and aux. display-area shows "OFF" .
Attention: the operation of Starting up and shutting down can only be done in the main interface.
For example:

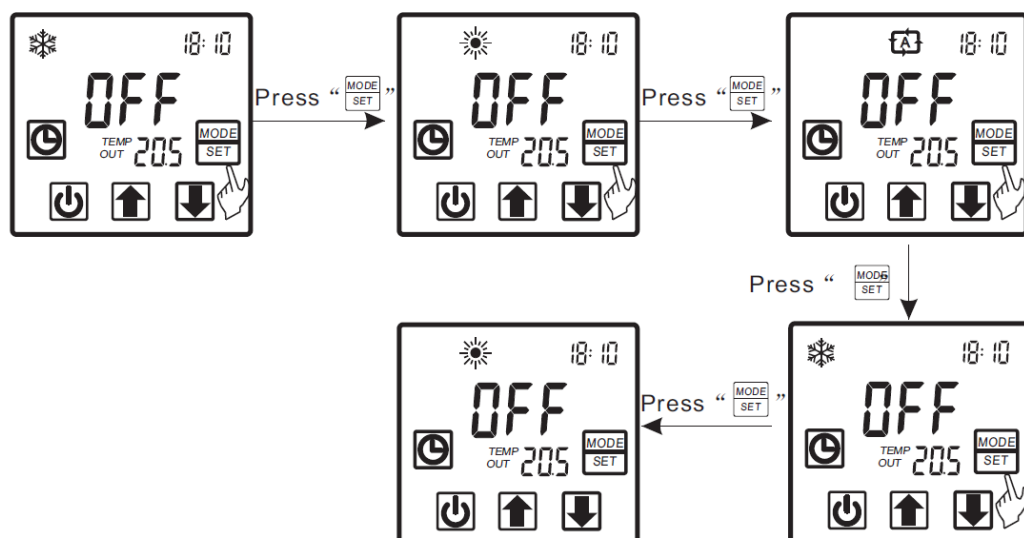


4.2.B - Modes switching

If it is cold/ heat unit, in the main interface, you can switch different modes of cooling,

heating, auto mode by pressing "  " .

Attention : The modes switching is useless if the unit you buy is single-cold/ single-heat unit.
For example:



4. USAGE AND OPERATION

4.2.C - Temperature setting

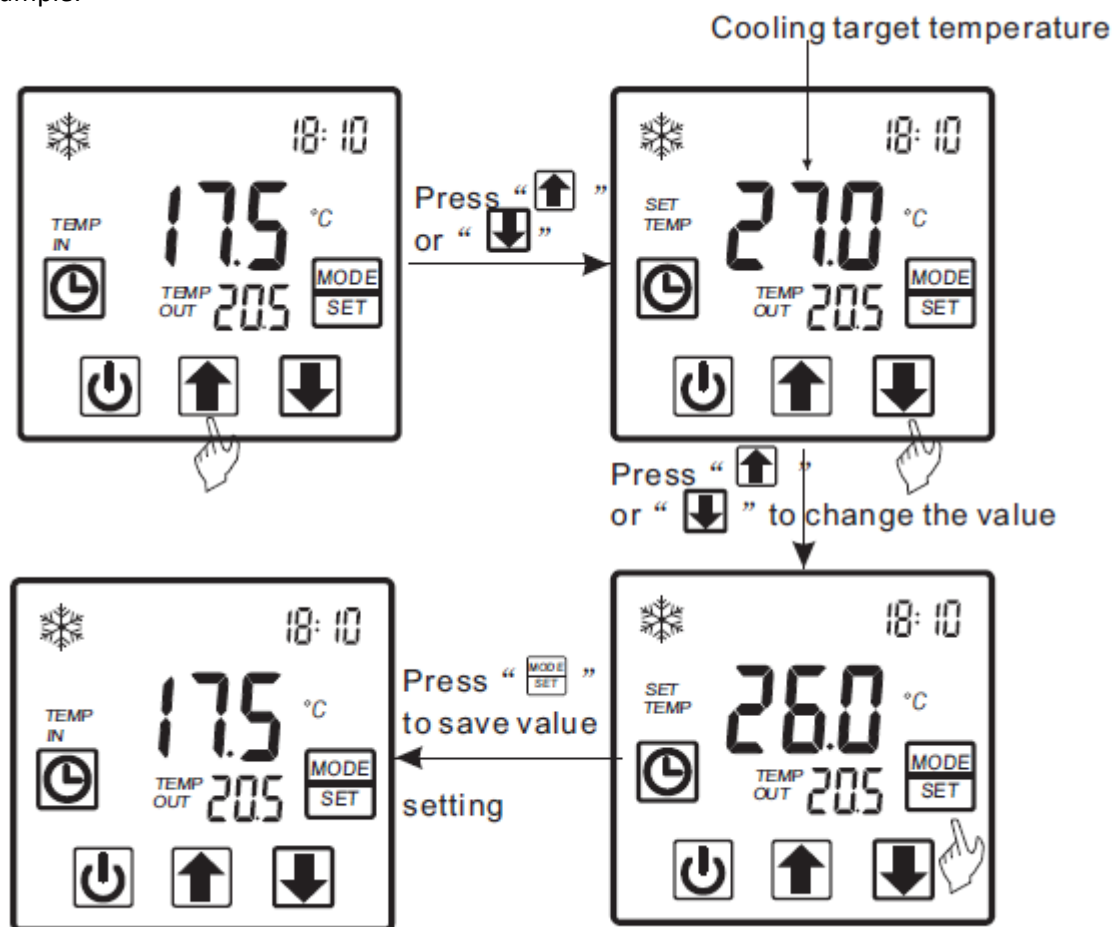
In the main interface, press “” or “” and the current mode target-temperature flashes, then press “” to increase the temp.value, or press “” to decrease it.

Press “” can save setting parameter and back to the main interface ;

Press “” cannot save setting parameter but back to the main interface ;





Attention : If there is no operation for 5s, system would remember parameter setting and back to the main interface.




For example:



4. USAGE AND OPERATION

4.2.D - Clock setting

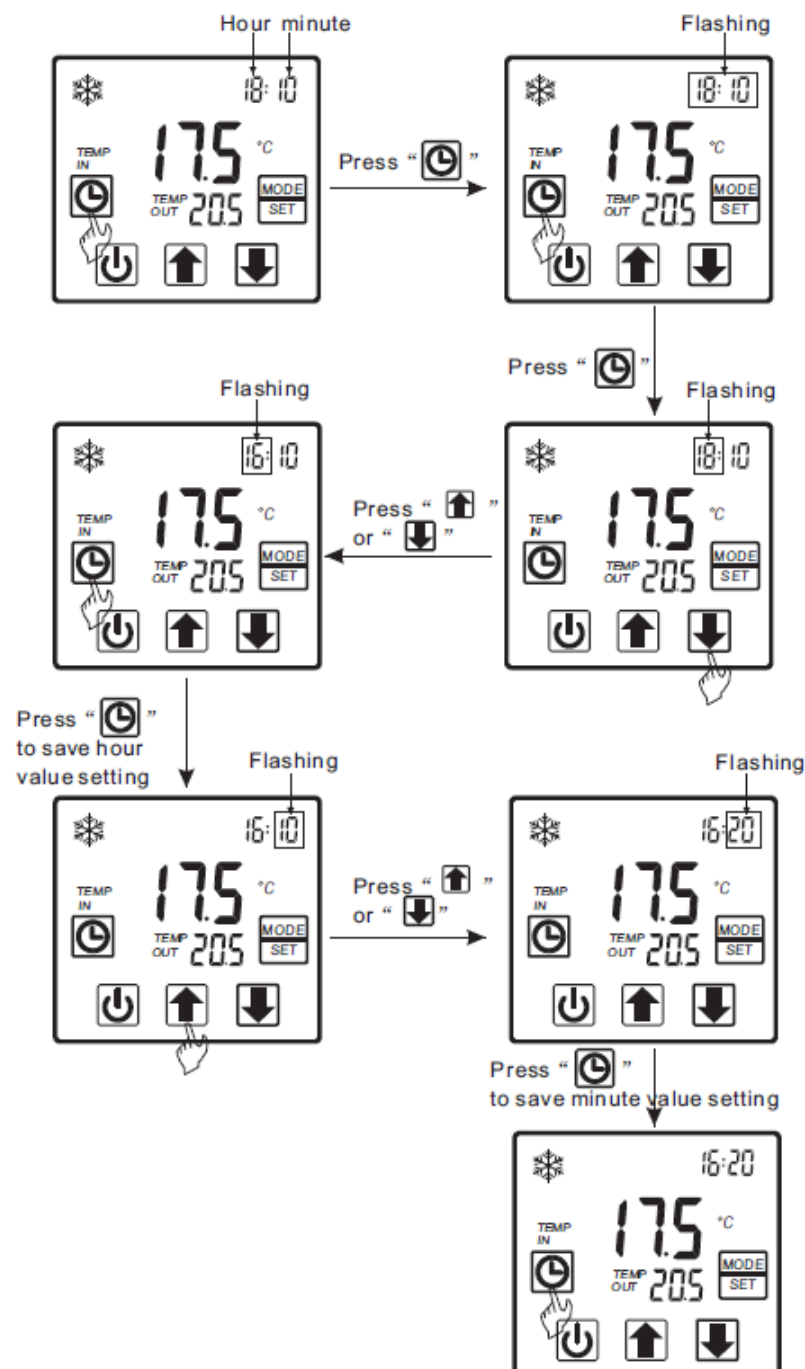
In the main interface, press “” twice, Hours start to flashing , and press “” to increase value or press “” to decrease value, and press “” to save setting ;

At the same time, minute start to flashing , press “” to increase value or press “” to decrease value, and press “” to save setting.

Press “” cannot save setting parameter and back to main interface.



Attention : If there is no operation for 5s system will remember parameter setting and back to the main interface.


For example :




4. USAGE AND OPERATION

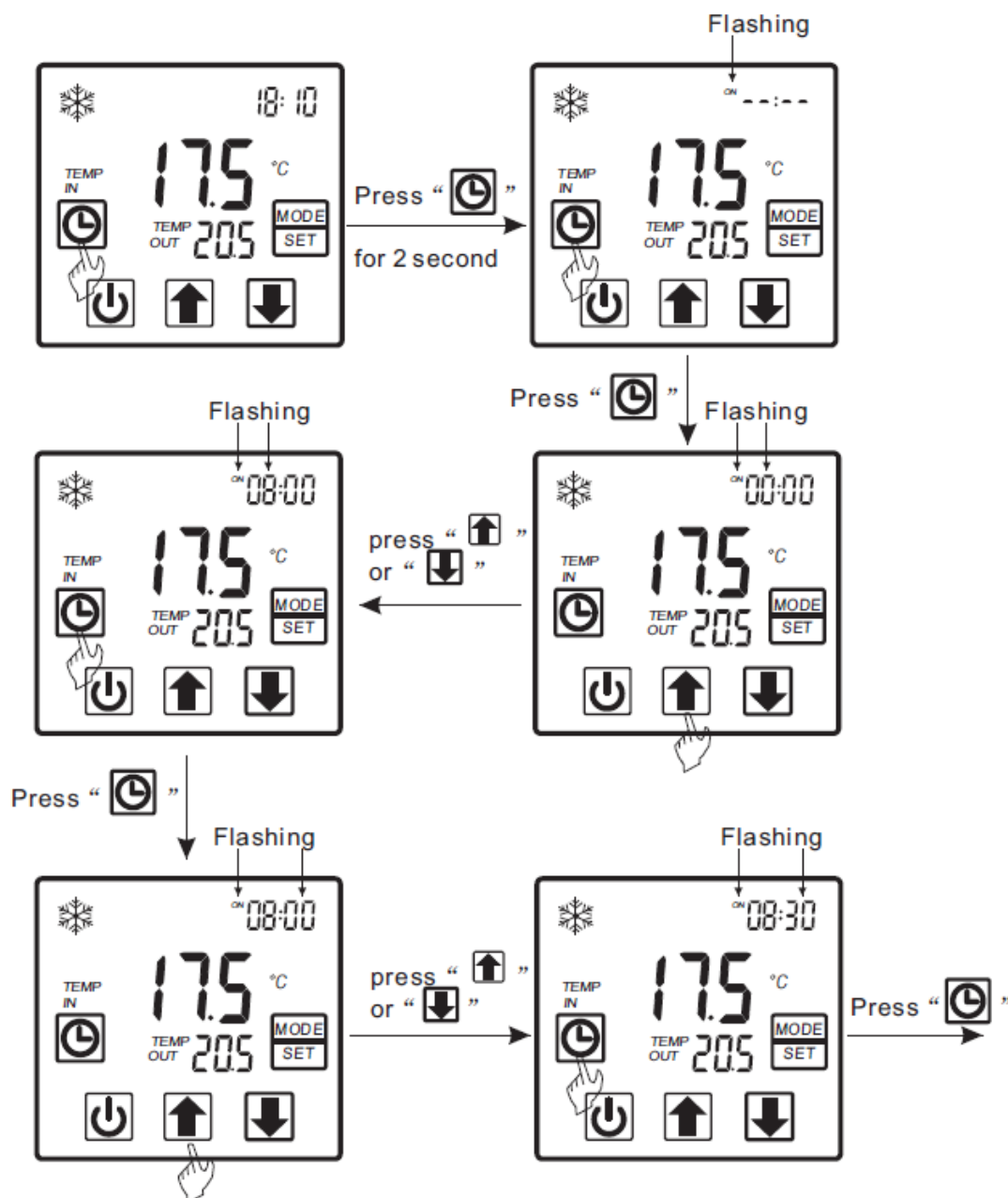
4.2.E - Timer setting

In the main interface, press “” hold on 2 seconds and "on" is flashing, at this time, you can set the timer on (means the unit timer is on), then press “” again and hold on 2 seconds and "off" flashes you can set the timer off (means the unit timer is off).

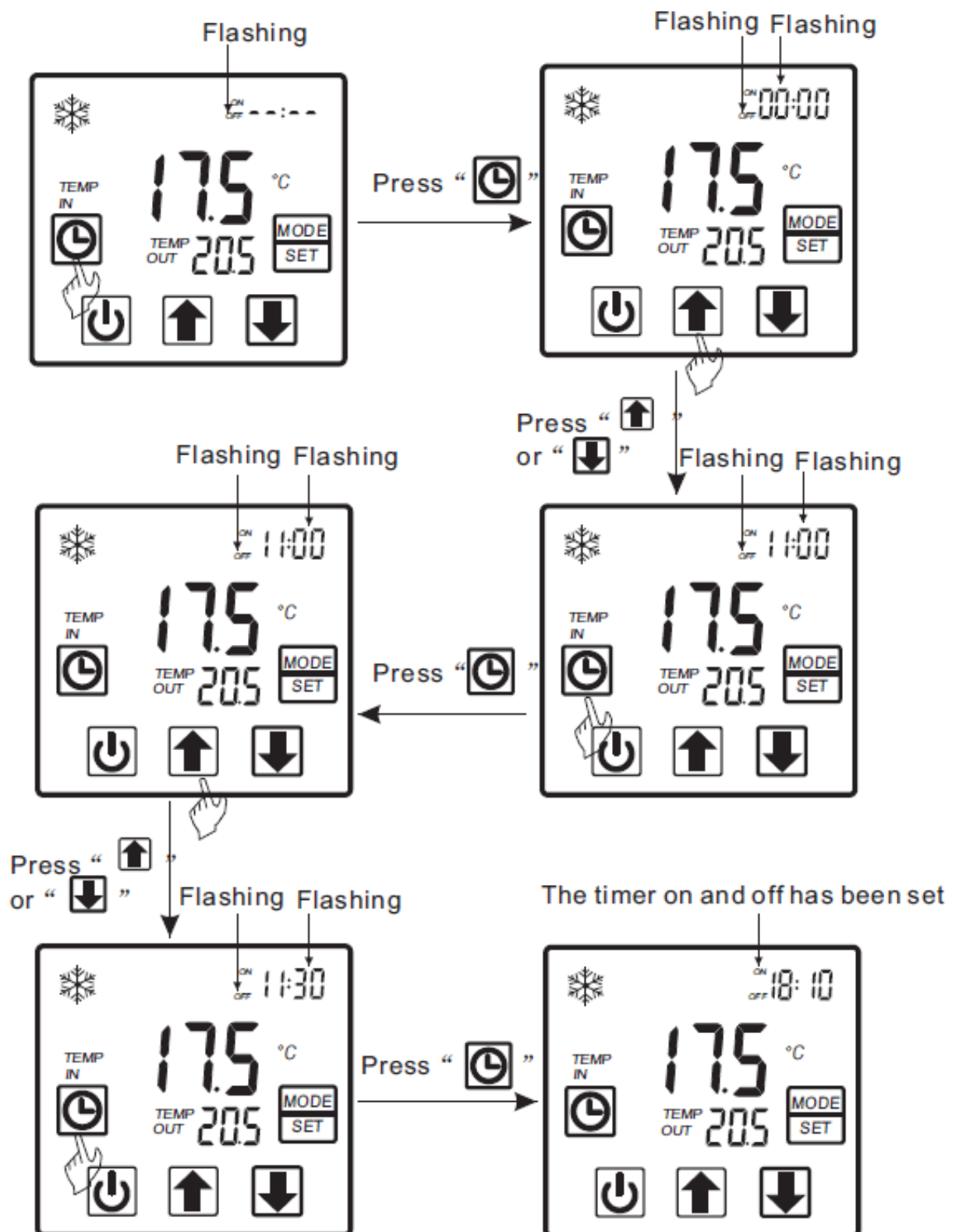
If you want to cancel the timer off, In the "off" flashing interface, press “” to cancel

Attention :

- 1) If there is no operation for 5s, system will remember clock setting and back to the main interface.
- 2) By pressing “” till the "off" flashing, you can set the timer off without timer on.





4. USAGE AND OPERATION

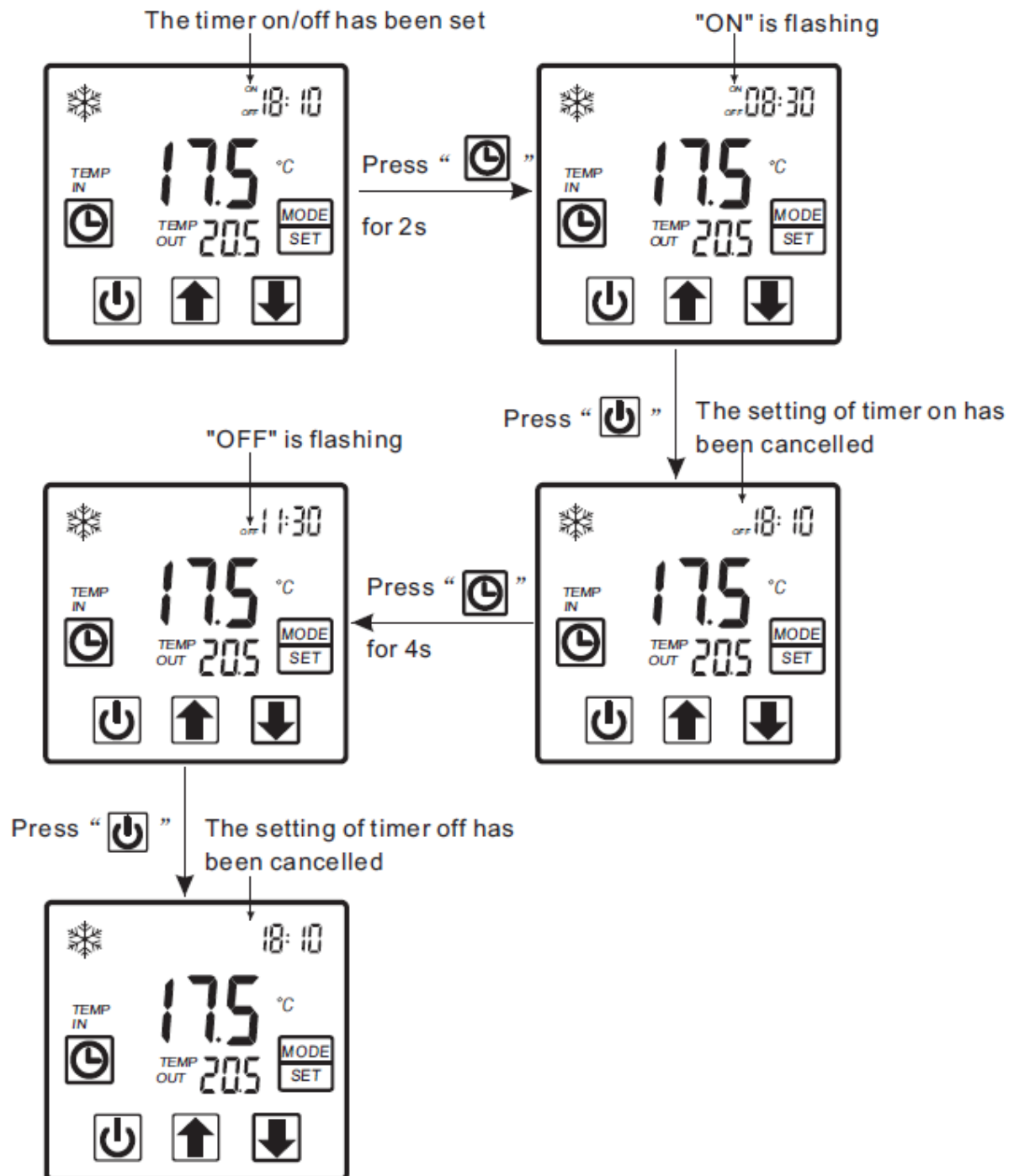


4. USAGE AND OPERATION

4.2.F - Cancel the timer setting

Press “” for 2s and "ON" is flashing, at this time, press “” to cancel the setting of timer on; It is the same way to cancel the setting of timer off.


For example :



4. USAGE AND OPERATION

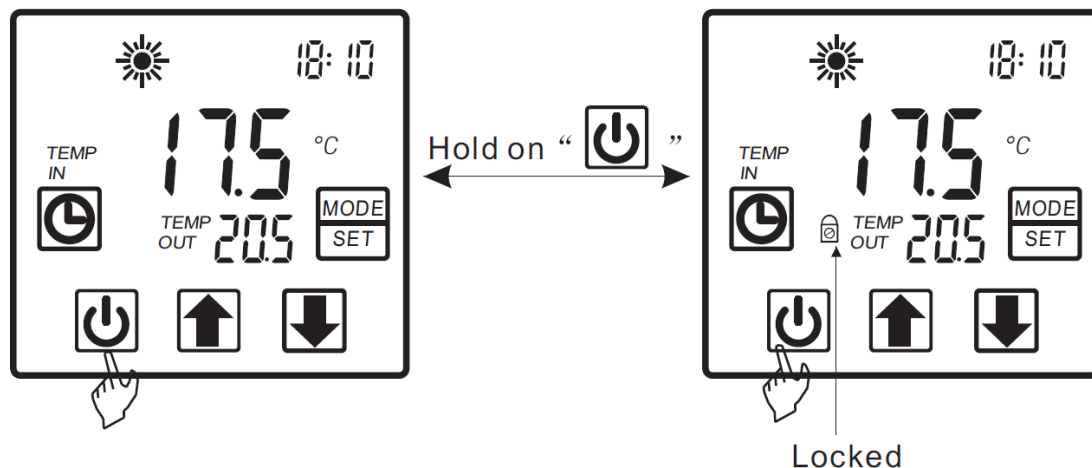
4.2.G - Keyboard lock

To avoid mis-operation, please lock the controller after parameter setting.

At the main interface, press “” for 5 seconds, the keyboard will be locked.

When the keyboard is locked, press “” for 5 seconds, the keyboard will be unlocked.

NOTES: When the unit is in alarming state, the key lock can be removed automatically.

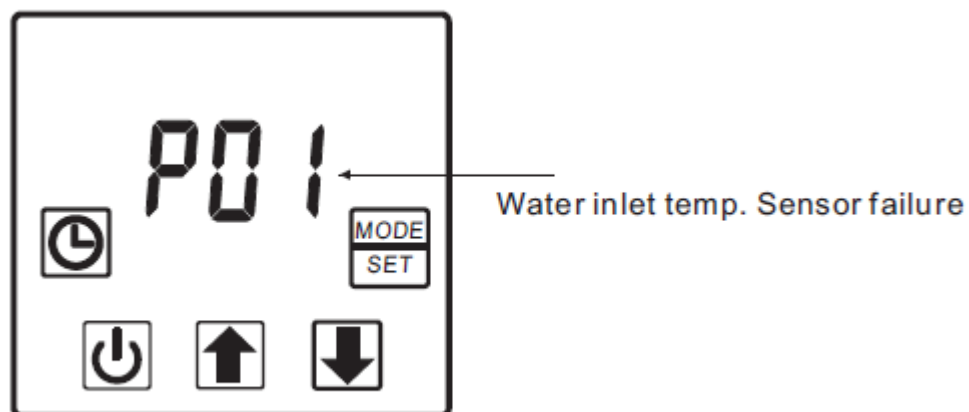


4.2.H - Malfunction display

There will be malfunction code showing on the controller screen when relative malfunction occurs.

You can refer to the malfunction table to find out the failure cause and solution.

For example :



4. USAGE AND OPERATION

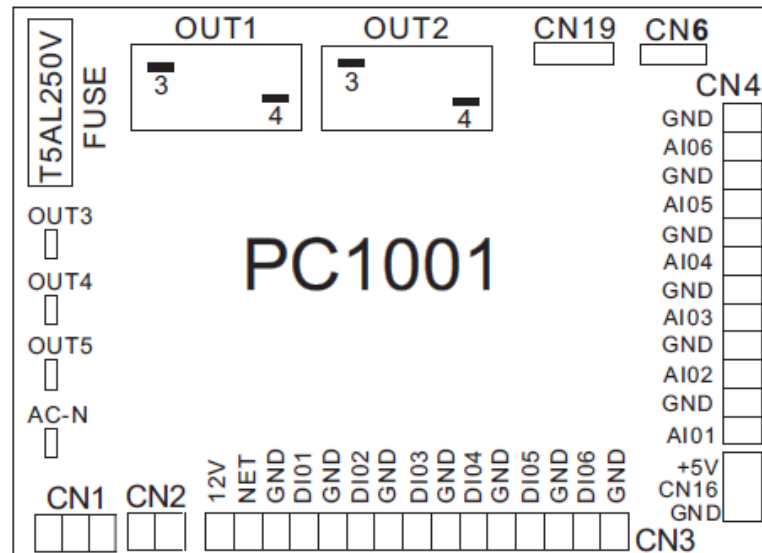
4.3 Parameter table

Meaning	Default	Remark
Heating inlet target temp.	28°C	Adjustable
Cooling inlet target temp.	28°C	Adjustable
Auto inlet target temp.	27°C	Adjustable

The wire controller can display the temperature unit as ‘°F’ or ; ‘°C’ according to the unit Model you bought.

4. USAGE AND OPERATION

4.5 Connection of PCB illustration



Connections explanation :

No.	Symbol	Meaning	No.	Symbol	Meaning
1	OUT1	Compressor of system1 (220-230VAC)	13	DI06 GND	No use
2	OUT2	Water pump (220-230VAC)	14	AI01 GND	Suction temp.(input)
3	OUT3	4way valve (220-230VAC)	15	AI02 GND	Water in temp.(input)
4	OUT4	High speed of fan motor (220-230VAC)	16	AI03 GND	Water out temp.(input)
5	OUT5	Low speed of fan motor (220-230VAC)	17	AI04 GND	Temp. Of coil (input)
6	AC-N	Neutral wire	18	AI05 GND	Ambient temp.(input)
7	NET GND 12V	Wire controller	19	AI06 GND	Adjustable fan speed/Exhaust temp.
8	DI01 GND	On/Off Switch(input)(no use)	20	CN1	Primary transformer
9	DI02 GND	Flow switch (input)(normal close)	21	CN2	Secondary transformer
10	DI03 GND	Low pressure protect	22	CN6	Without use
11	DI04 GND	High pressure protect	23	CN19	Electronic expansion valve
12	DI05 GND	No use	24	5V CN16 GND	Flow meter

5. MAINTENANCE AND INSPECTION

5.1 Maintenance

- Check the water supply device and the release often. You should avoid the condition of no water or air entering into system, as this will influence unit's performance and reliability.
You should clear the pool/spa filter regularly to avoid damage to the unit as a result of the dirty of clogged filter.
- The area around the unit should be dry, clean and well ventilated. Clean the side heating exchanger regularly to maintain good heat exchange as conserve energy.
- The operation pressure of the refrigerant system should only be serviced by a certified Technician
- Check the power supply and cable connection often. Should the unit begin to operate abnormally, switch it off and contact the qualified technician.
- Discharge all water in the water pump and water system, so that freezing of the water in the pump or water system does not occur. You should discharge the water at the bottom of water pump if the unit will not be used for an extended period. You should check the unit thoroughly and fill the system with water fully before using it for the first time.

5. MAINTENANCE AND INSPECTION

5.2 Trouble Shooting Guide

Malfunction	Display	Cause	Solution
Water inlet temp. Sensor failure	P01	The water inlet temp. Sensor is open or short circuit	Check or change the water inlet temp. Sensor
Water outlet temp. Sensor failure	P02	The water outlet temp. sensor is open or short circuit	Check or change the water outlet temp. Sensor
Ambient temp. Sensor failure	P04	The ambient temp. sensor is open or short circuit	Check or change the ambient temp. Sensor
Pipe temp. Sensor failure	P05	The pipe temp. sensor is open or short circuit	Check or change the pipe temp. Sensor
Evaporator temp. Sensor failure	P07	The evaporator temp. Sensor is open or short circuit	Check or change the evaporator temp. Sensor
High pressure protect	E01	The exhaust pressure is high, high pressure switch action	Check high pressure switch and cooling return circuit
Low pressure protect	E02	The suction pressure is low, Low pressure switch action	Check low pressure switch and cooling return circuit
Flow switch failure	E03	No water or litter water in water system	Check the flow volume, water pump is failure or not
Temp. is too much different between water-inlet and outlet	E06	Water flow volume not enough, Water system pressure difference is small	Check the flow volume, water system is jammed or not
Antifreezing under cooling mode	E07	Water flow volume not enough	Check the flow volume, water system is jammed or not
The primary anti-freezing protection start.	E19	Ambient temperature is too low	
The second anti-freezing protection start	E29	Ambient temperature is too low	
Communication failure	E08	Communication failure between remote wire controller and main board	Check the wire connection between remote wire controller and main board

6.APPENDIX

6.1 Caution & Warning

1. The unit can only be repaired by qualified installer centre personnel or an authorised dealer. (for Europe market)
2. 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.
3. Please make sure that the unit and power connection have good earthing, otherwise may cause electrical shock.
4. If the supply cord is damaged, it must be replaced by the manufacturer or our service agent or similarly qualified person in order to avoid a hazard.
5. Directive 2002/96/EC (WEEE):
The symbol depicting a crossed-out waste bin that is underneath the appliance indicates that this product, at the end of its useful life, must be handled separately from domestic waste, must be taken to a recycling centre for electric and electronic devices or handed back to the dealer when purchasing an equivalent appliance.
6. Directive 2002/95/EC (RoHS): This product is compliant with directive 2002/95/EC (RoHS) concerning restrictions for the use of harmful substances in electric and electronic devices.
7. The unit CANNOT be installed near the flammable gas. Once there is any leakage of the gas, fire can occur.
8. Make sure that there is circuit breaker for the unit, lack of circuit breaker can lead to electrical shock or fire.
9. The heat pump located inside the unit is equipped with an over-load protection system. It does not allow for the unit to start for at least 3 minutes from a previous stoppage.
10. The unit can only be repaired by the qualified personnel of an installer centre or an authorized dealer. (for North America market)
11. Installation must be performed in accordance with the NEC/CEC by authorized person only. (for North America market)
12. USE SUPPLY WIRES SUITABLE FOR 75°C.
13. Caution: Single wall heat exchanger, not suitable for potable water connection.
14. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

Notes on environmental protection.

15. This product may be at the end of its life rather than the normal household waste will be sent to a collection point for the recycling of electrical and electronic equipment will be delivered. The symbol on the product, the instruction manual or packaging recalls.
16. The materials are recycled, according to their identification. With the reuse of recycling or other forms of recovery of waste afford an important contribution to protect our environment.
17. Please ask at the municipal disposal of the competent authority.

6.APPENDIX

6.2 Cable specification

1. Single phase unit

Nameplate maximum current	Phase line	Earth line	MCB	Creepage protector	Signal line
No more than 10A	$2 \times 1.5\text{mm}^2$	1.5mm^2	20A	30mA less than 0.1 sec	$n \times 0.5\text{mm}^2$
10~16A	$2 \times 2.5\text{mm}^2$	2.5mm^2	32A	30mA less than 0.1 sec	
16~25A	$2 \times 4\text{mm}^2$	4mm^2	40A	30mA less than 0.1 sec	
25~32A	$2 \times 6\text{mm}^2$	6mm^2	40A	30mA less than 0.1 sec	
32~40A	$2 \times 10\text{mm}^2$	10mm^2	63A	30mA less than 0.1 sec	
40~63A	$2 \times 16\text{mm}^2$	16mm^2	80A	30mA less than 0.1 sec	
63~75A	$2 \times 25\text{mm}^2$	25mm^2	100A	30mA less than 0.1 sec	
75~101A	$2 \times 25\text{mm}^2$	25mm^2	125A	30mA less than 0.1 sec	
101~123A	$2 \times 35\text{mm}^2$	35mm^2	160A	30mA less than 0.1 sec	
123~148A	$2 \times 50\text{mm}^2$	50mm^2	225A	30mA less than 0.1 sec	
148~186A	$2 \times 70\text{mm}^2$	70mm^2	250A	30mA less than 0.1 sec	
186~224A	$2 \times 95\text{mm}^2$	95mm^2	280A	30mA less than 0.1 sec	

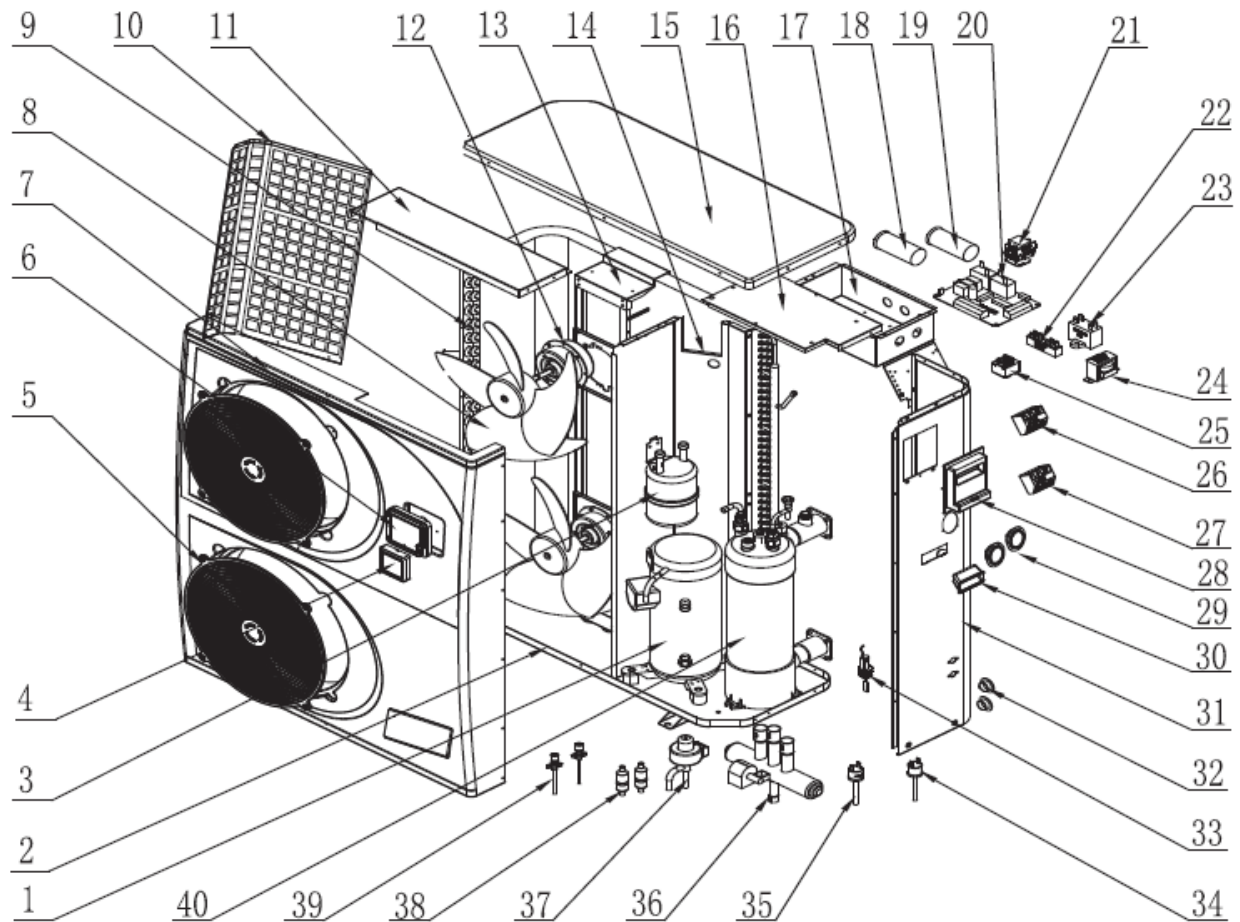
2. Three phase unit

Nameplate maximum current	Phase line	Earth line	MCB	Creepage protector	Signal line
No more than 10A	$3 \times 1.5\text{mm}^2$	1.5mm^2	20A	30mA less than 0.1 sec	$n \times 0.5\text{mm}^2$
10~16A	$3 \times 2.5\text{mm}^2$	2.5mm^2	32A	30mA less than 0.1 sec	
16~25A	$3 \times 4\text{mm}^2$	4mm^2	40A	30mA less than 0.1 sec	
25~32A	$3 \times 6\text{mm}^2$	6mm^2	40A	30mA less than 0.1 sec	
32~40A	$3 \times 10\text{mm}^2$	10mm^2	63A	30mA less than 0.1 sec	
40~63A	$3 \times 16\text{mm}^2$	16mm^2	80A	30mA less than 0.1 sec	
63~75A	$3 \times 25\text{mm}^2$	25mm^2	100A	30mA less than 0.1 sec	
75~101A	$3 \times 25\text{mm}^2$	25mm^2	125A	30mA less than 0.1 sec	
101~123A	$3 \times 35\text{mm}^2$	35mm^2	160A	30mA less than 0.1 sec	
123~148A	$3 \times 50\text{mm}^2$	50mm^2	225A	30mA less than 0.1 sec	
148~186A	$3 \times 70\text{mm}^2$	70mm^2	250A	30mA less than 0.1 sec	
186~224A	$3 \times 95\text{mm}^2$	95mm^2	280A	30mA less than 0.1 sec	

When the unit will be installed at outdoor, please use the cable which can against UV.

6.APPENDIX

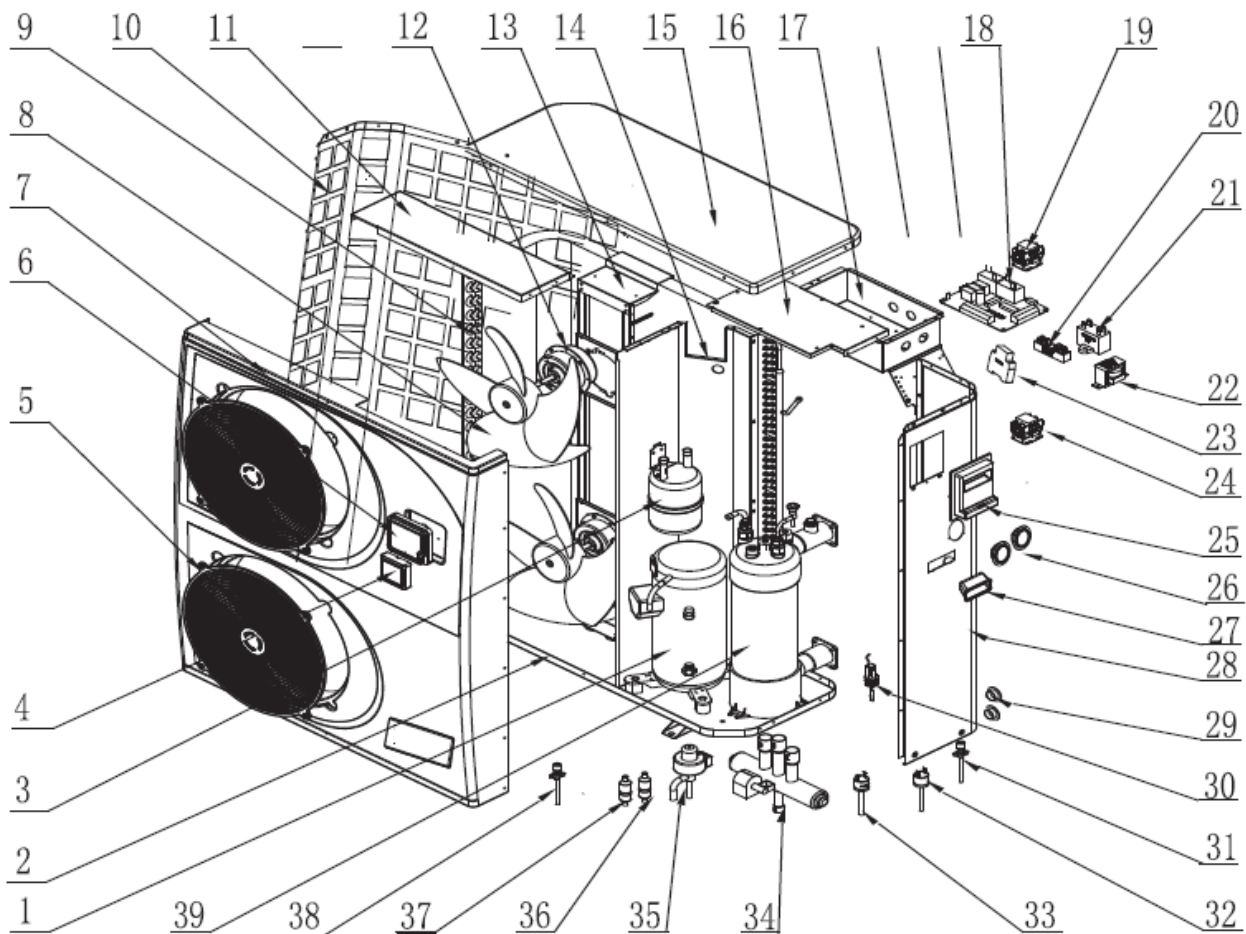
6.4 Explosive view of the X 28 unit



NO.	Code	Part name	Note	NO.	Code	Part name	Note
1	20000-110119	Compressor		22	2000-3909	two-seat connector	
2	32019-210045	Chassis		23	2000-3501	Fan capacitor	
3	2000-1440	Flash chamber		24	20000-370003	Transformer	
4	95005-310152	CM103		25	2000-3676	Start relay	
5	20000-220188	Fan protection net		26	2000-3920	Three-seat bracket	
6	20000-220068	LED water proof box(FN)		27	20000-220249	Junction Box	
7	32019-210044	Front panel		28	20001-220001	Handle	
8	3500-2701	Axial fan		29	20000-280004	Pressure gage	
9	32018-120007	Fin heat exchanger		30	32019-210047	Right-side panel	
10	32018-210086	Rear Grill		31	20000-220013	Water pipe cap	
11	32018-210075	Support panel		32	20000-360005	Water flow switch	
12	3404-3301	Axial fan motor		33	20000-140512	Pin Valve	
13	32018-210057	Fan bracket		34	2000-3602	pressure switch	
14	32018-210046	Middle separation panel		35	20000-360060	pressure switch	
15	32019-210048	Top cover		36	2001-1491	4-Way valve	
16	32018-210051	Cover of electrical box		37	20000-140177	Electronic expansion valve	
17	32018-210053	Electrical box		38	2000-1406	Filter (R410A)	
18	2000-3524	compressor capacitor		39	2000-2802	Needle valve	
19	2000-3527	Compressor capacitor		40	32018-120008	Titanium heat exchanger	
20	95005-310145	Pc1001					
21	20000-360007	AC contactor					

6.APPENDIX

6.5 Explosive view of the X 28 T unit



NO.	Code	Part name	Note	NO.	Code	Part name	Note
1	20000-110140	Compressor		22	20000-370003	Transformer	
2	32019-210045	Chassis		23	20000-360023	3-phase AC Relay	
3	2000-1440	Flash chamber		24	2001-3602	AC contactor	
4	95005-310152	Cm100		25	20000-220249	Junction Box	
5	20000-220188	Fan protection net		26	20000-280004	Pressure gage	
6	20000-220068	LED water proof box(FN)		27	20001-220001	Handle	
7	32019-210044	Front panel		28	32019-210047	Right-side panel	
8	3500-2701	Axial fan		29	20000-220013	Water pipe cap	
9	32018-120007	Fin heat exchanger		30	20000-360005	Water flow switch	
10	32018-210086	Rear Grill		31	2000-1404	Pin Valve	
11	32018-210075	Support panel		32	2001-3605	pressure switch	
12	3404-3301	Axial fan motor		33	2000-3603	pressure switch	
13	32018-210057	Fan bracket		34	2001-1491	4-Way valve	
14	32018-210046	Middle separation panel		35	20000-140177	Electronic expansion valve	
15	32019-210048	Top cover		36	20000-140027	Filter (R410A)	
16	32018-210051	Cover of electrical box		37	2004-1444	Filter (R410A)	
17	32018-210053	Electrical box		38	2000-2802	Needle valve	
18	95005-310145	Pc1001		39	32018-120008	Titanium heat exchanger	
19	2000-3653	AC contactor					
20	2000-3909	two-seat connector					
21	2000-3501	Fan capacitor					



Sunlover Heating are the sole distributor of Oasis Heat Pumps in Australia

Victoria

62 Parkhurst Drive
Knoxfield VIC 3180
Australia
T: 03 9887 2131

New South Wales

Unit 1, 20-22 Foundry Road
Seven Hills NSW 2147
Australia
T: 02 9838 0000

Queensland

Unit 4, 8 Reichert Drive
Molendinar QLD 4214
Australia
T: 07 5679 6821

South Australia

Sahara Pools & Solar
Cavan SA 5094
Australia
T: 0412 204 306

Auckland

5b Estuary Views
Howick Auckland 2014
New Zealand
T: 09 5358891
oasisheatpumps.com
michael@oasisheatpumps.com