



CHAPTER 1: Installation

Chapter 1 deals with installation of your **Evoheat** pool heater and is predominately for use by your installer/ technician. **Evo** recommends however that owners make themselves familiar with this chapter.

CHAPTER 2: Operation

Chapter 2 covers operation of your **Evoheat** pool heater including basic and advanced operation modes and maintenance/ troubleshooting.

Please take the time to read this manual thoroughly. Failure to do so can void customer warranty, cause possible damage to your heater, and may cause a loss of heater efficiency.

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1. General information

1.1 Introduction

This manual provides installation and operation instructions for EVOHEAT heat pumps. Read these installation and operation instructions carefully before proceeding with the installation and operation of your heater. Consult your EVOHEAT Distributor with any questions regarding this equipment.

Installation and service must be performed by a qualified installer. The manufacturer will not be responsible for any damage to the unit or injury caused by improper installation, operation or maintenance.

1.2 Consumer and Safety Information

- a. Evo recommends 27°C as the optimum water temperature for swimming.
- b. The consumption of alcohol or drugs before or during spa or pool use can cause drowsiness which could lead to unconsciousness and subsequent risk of drowning.
- c. Immersion in water exceeding 38°C during pregnancy is not recommended.
- d. The water temperature should always be checked with an accurate thermometer before entering a spa or hot tub.
- e. Persons with a medical history of heart disease, diabetes, circulatory or blood pressure problems should consult their physician before using a hot tub or spa.
- f. Persons taking any medication or drugs which induce drowsiness (e.g., tranquilizers, antihistamines, or anticoagulants) should not use spas or hot tubs.
- g. Prolonged immersion in hot water can induce hyperthermia.

1.3 Energy Saving Tips

It is important to note that a heat pump will not heat a pool as fast as a large gas pool heater. If the pool water is allowed to cool significantly, it may take several days to return to the desired swimming temperature. For weekend use, it is more economical to maintain the pool water temperature at or near your desired swimming temperature. If you do not plan to use your pool for a prolonged period, then you might choose to turn the heat pump completely off or decrease the temperature setting of the control several degrees to minimize energy consumption.

2. Specifications

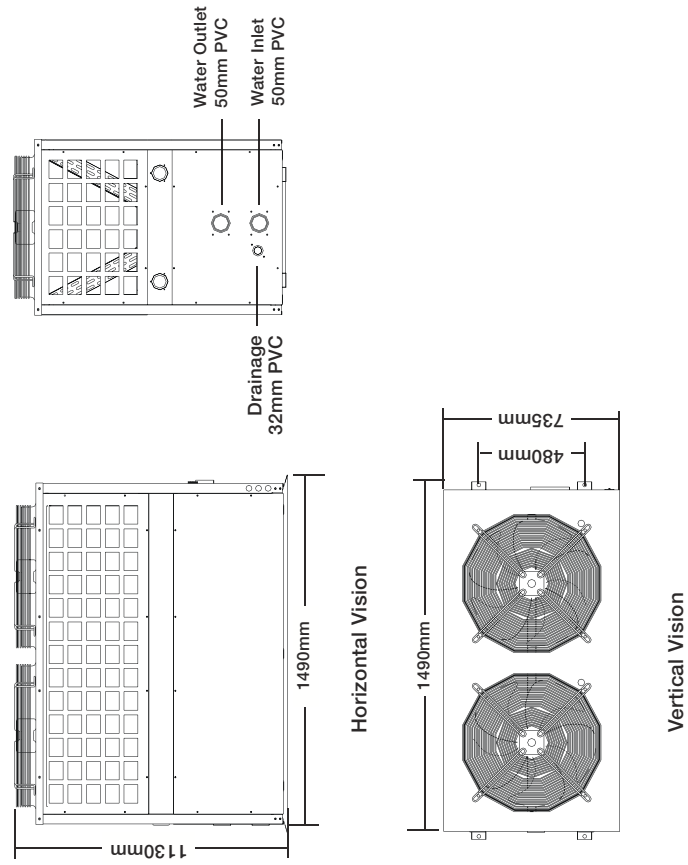
2.1 Technical specifications of CS models

MODEL	CS38	CS47	CS57	CS92	CS109	CS138	CS220
Heat Output at max ambient (43 deg air) 27 water(kw)	42	54	66	108	126	162	264
Heat Output at 24 deg air 27 deg water (kw)	38	47	57	92	109	138	220
Heat Output at 15 deg air 27 deg water (kw)	30	40	48	80	95	120	160
Cooling Output at 35 deg air 30 deg water (kw)	24	32	43	60	80	98	150
Power Input at 24 deg air (kw)	7.04	8.74	10.75	17.69	21.37	26.04	43.14
Power supply	415/3/50	415/3/50	415/3/50	415/3/50	415/3/50	415/3/50	415/3/50
COP at 24 deg air (220 volts single phase and 380 volts 3 phase)	5.4	5.38	5.3	5.2	5.1	5.3	5.1
Max/Normal Running Current	13.8/11.5	20.0/16.6	25.0/22.8	37.5/33.5	48.0/44.7	54.7/47.8	100.0/84.0
Compressor type	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll	Scroll
Refrigerant	R410a	R410a	R410a	R410a	R410a	R410a	R407c
pvc water connection(mm)	50	50	50	60	DN110	DN110	DN110
Water flow rate(L/min)	200	250	325	500	580	750	1000
Noise	61	61	61	62	62	62	67
Shipping dimensions (mm)	1570/815 /1270	1570/815 /1270	1570/815 /1270	2275/900 /1500	2310/1250 /2100	2200/1180 /2060	2280/1180 /2220
Unit dimensions (mm)	1490/735/ 1130	1490/735/ 1130	1490/735/ 1130	2150/784/ 1330	2170/1070/ 1930	2050/900/ 1820	2180/1080/ 2060
Weight packed/ unpacked(kg)	270/244	295/270	325/300	405/380	675/655	850/825	1140/1100
FEATURES							
Electronic Expansion Valve	y	y	y	y	y	y	y
Dual Defrost System Thermotec & Reverse Cycle	y	y	y	y	y	y	y
Colour touch screen wireless controller with docking station	n	n	n	n	n	n	n
LCD touch screen controller	y	y	y	y	y	y	y
Low db fan blades	y	y	y	y	y	y	y
V Formation evaporator	y	y	y	n	y	y	n
Stainless Cabinet	o	o	o	o	o	o	o

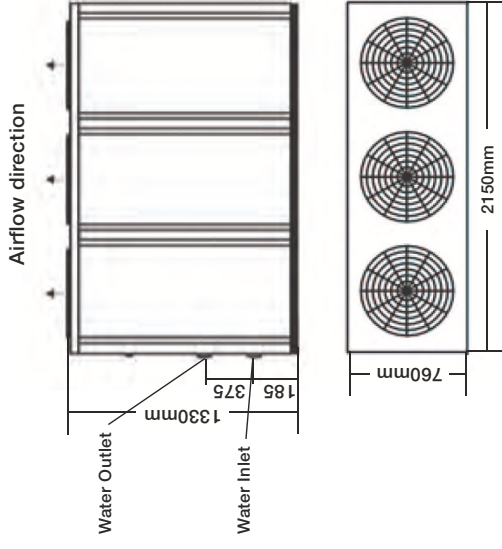
- a. Use an accurate pool thermometer. A difference of 2°C, between 26°C and 28°C, will significantly increase energy consumption.
- b. Carefully monitor the water temperature of your pool in the summer time. You can reduce heat pump usage due to warmer air temperatures.
- c. When the pool is not to be used for long periods, turn off the heat pump.
- d. Where possible, shelter the pool from prevailing winds with well-trimmed hedges or other landscaping, cabanas, or fencing.
- e. Always use a high quality pool cover when practical. Besides providing a valuable water saving feature, a pool cover will dramatically reduce heat loss. See attached appendix for further information.

2.2 Dimensions

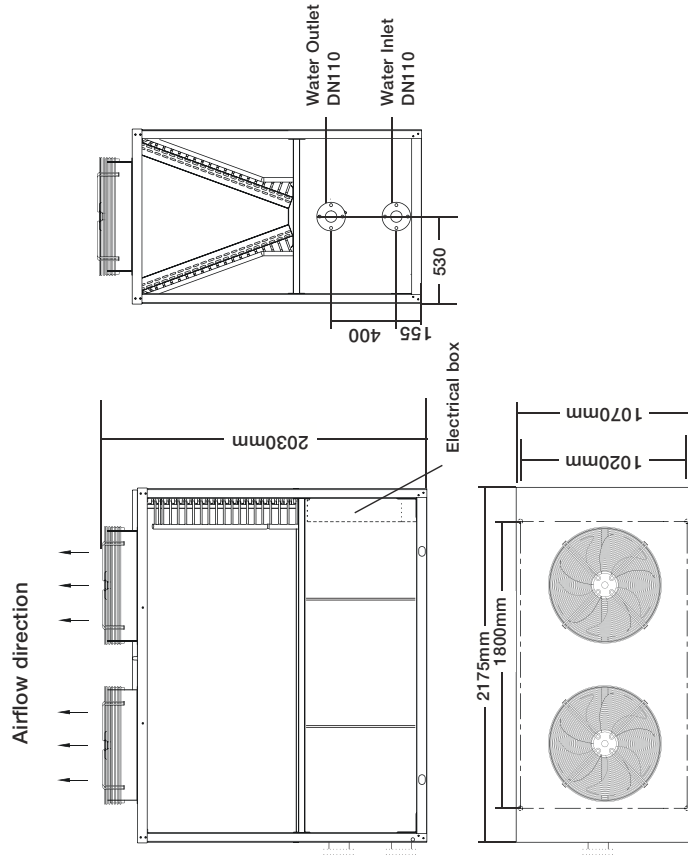
MODELS: CS38/CS47/57



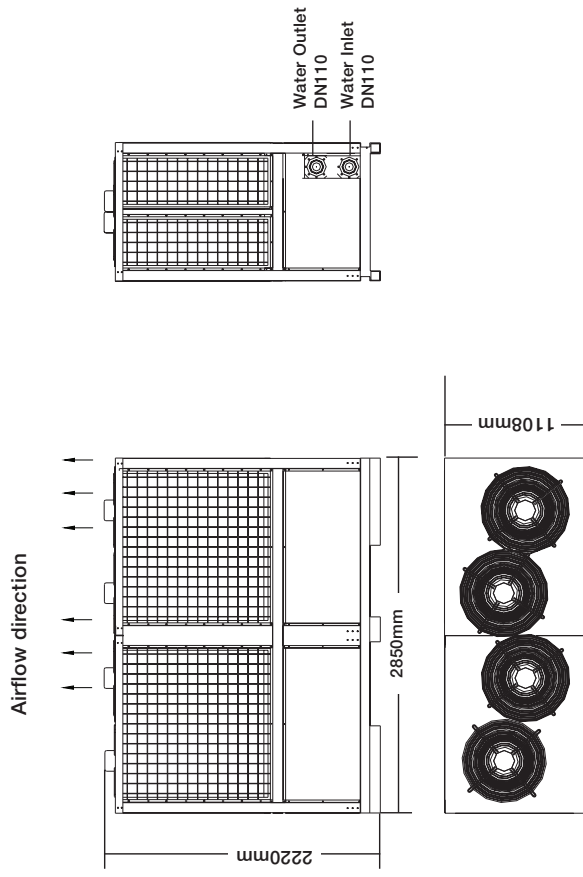
MODEL: CS92



MODEL: CS109



MODEL: CS220



Before installation it is very important to ensure 4 variables are carefully checked to allow the unit to operate correctly:

1. **Adequate Air Flow**
2. **Correct water flow volume**
3. **Correct electrical connection & supply**
4. **Heater condition**

1. Air Flow

Installing the heater indoors or in an enclosed space will result in very poor performance and can in extreme cases damage the heater. Ensure the heater is installed in a well ventilated area with plenty of fresh air, a minimum gap between walls/fences etc of 600mm on the sides and 1500mm overhead clearance.



Important: Ensure that the cold air off the top of the heater does not recycle through the heater.

SEE PAGE 8 FOR FURTHER INFORMATION

2. Water Flow

It is CRITICAL that there is sufficient water flow to the unit. Incorrect water flow can cause a loss of efficiency and possible damage to the unit. Optimal water flow rates are listed in the Evoheat sales brochure and in this manual on page 5. It is imperative that water flow is kept as close as possible to these flow rates. Correct water flow not only offers optimal heater performance, but may also prevent possible damage to your heater.

SEE PAGE 9 FOR FURTHER INFORMATION

3. Electrical Connection

Always use a qualified Electrician to perform any electrical work. Ensure the power cable and circuit breaker are of a suitable size for the heater being installed. Also check that there is adequate voltage and current available at the heater connection to run the unit. Voltage ranges should be 220-240 volts for single phase, and 380-415 volts for 3 phase units. Voltage ranges outside these parameters will cause heater damage and void your warranty. Correct phase connection is important with 3 phase heaters.

SEE PAGE 10 FOR FURTHER INFORMATION

4. Heater Condition

Check the heater packaging upon delivery for any obvious signs of damage. Inform your supplier IMMEDIATELY if there is any evidence of rough handling.

When the heater has been removed from the packaging check the refrigerant gauge on the front panel of the unit. The gauge should be showing a pressure of approx. 1Mpa on the outside black band – any less than this figure means there may be a leak in the refrigerant system and you should immediately contact your Evoheat Dealer.



Example of a unit with a refrigerant leak and zero pressure – notify Evoheat Dealer.

3. General installation information

3.1 Inspection

Inspect the packaging, the heater and other items after receipt for possible damage in transportation. Please contact your EVOHEAT dealer immediately should you suspect any damage has occurred during transportation.

Install your EVOHEAT heat pump in accordance with the procedures in this manual. Always check that your installation will comply with local building and council regulations.

Correct installation is required to ensure safe and efficient operation of your pool heater. Installation requirements for EVOHEAT heat pumps include the following:

- a. Appropriate site location and clearances.
- b. Sufficient air ventilation.
- c. Correct electrical connection.
- d. Adequate water flow.



This manual provides the information needed to meet these requirements. Review all application and installation procedures completely before continuing the installation.

3.2 Location

Evo recommend the heat pump should ONLY be installed in an outdoor location with appropriate ventilation.

In the event that a suitable outdoor location is unavailable contact Evo Industries for specialist technical advice.

If installing the heater on an existing pump/filtration system the heater must be installed AFTER the filter and BEFORE the chlorinator/sanitizer.

The heat pump should be installed on a flat level surface as close as possible to the pool. Large runs of uninsulated piping can significantly contribute to heat loss. A rough estimate of heat loss over a 30m pipe run can be as high as 600 Watts per hour per 5 degrees of temperature difference between the air/ground and the pool water. These losses need to be taken into account over long distances and piping may need to be insulated to reduce heat leakage.

The heat pump should be installed a maximum of 1m below the water level of the pool/spa.

Make sure the heat pump is not located where large amounts of water may run-off from a roof into the unit. Sharp sloping roofs without gutters will allow excessive amounts of rain water mixed with debris from the roof to be forced through the unit. A water deflector may be needed to protect the heat pump.

3.3 Clearances

The unit needs continuous fresh air whilst running. The heater draws up to 80m³/min ambient air through the sides and discharges through the top fan cowl. Leave sufficient space for unobstructed airflow into and out of the heater.

Do not locate the heater in an enclosed area, or the discharged cold air will recirculate into the unit and consequently lower the heating efficiency.

3.4 Water Flow and Plumbing Setup

All EVOHEAT heat pumps have a factory preset internal water flow switch. If there is insufficient water flow the heater will not operate.

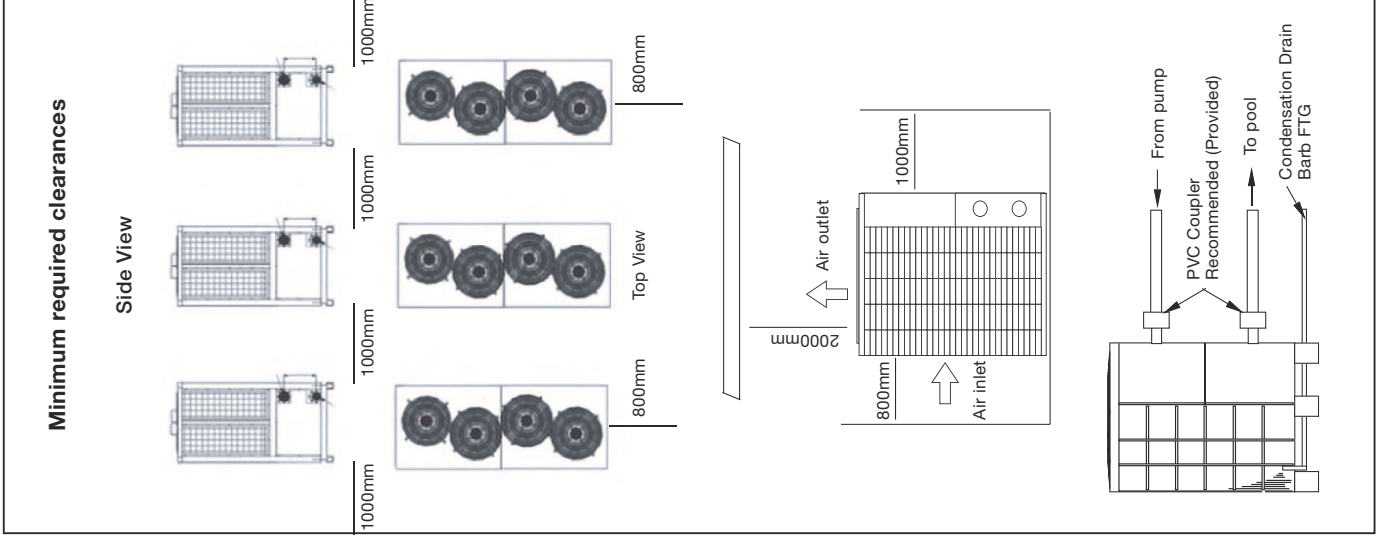
Before connecting the heater to the plumbing, all piping must be thoroughly flushed to ensure no debris can enter the heater. Failure to remove pipe debris can jam or damage the flow switch and may cause damage to the heater.

When cleaning the pool it is advisable to turn off your heater as restricted water flow may cause the heater to shut down and indicate low water flow fault (P08 error).



A Variable speed pump or by-pass valve and plumbing MUST be fitted to all

low water flow to be adjusted through the heater. Do not direct connect a water pump with higher flow than required to the heat pump.



3.5 Water Pump Connection

EVO JBox

Heater is connected into the filtration plumbing. After installing the Evo JBox and having your electrician hard wire the JBox to the heater, simply plug the water pump into the JBox and plug the JBox into the Chlorinator.

Advantages

- Only 1 pump needed – savings on purchase and running costs
- Save up to \$1000pa on electricity
- Easy to use – set and forget the heater operation and leave your chlorinator to work as normal
- No water or chemical balance issues due to adjusting the chlorinator running time

Disadvantages

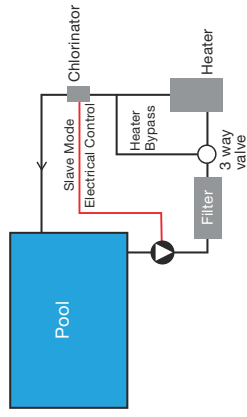
- None!

Order an EVO JBox with your heater and relax in your pool while maximising the savings.

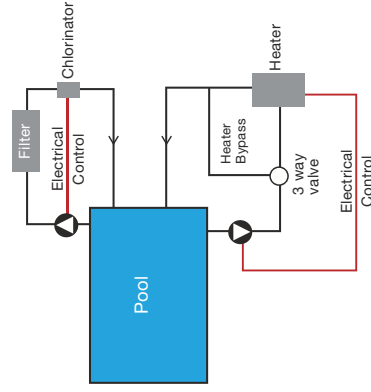
3.6 Drainage

Whilst the heater is operating, water in the air condenses on the fins of the evaporator. In the instance of high humidity, the condensate may be several litres per hour. This may give the impression that the heater is leaking, however this is a normal function of heat pumps. The heater will automatically activate reverse cycle

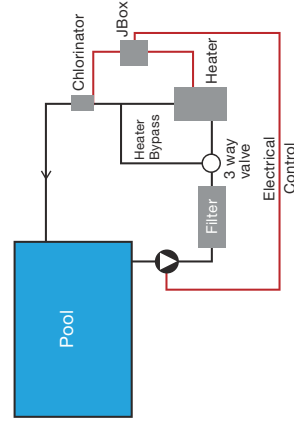
Typical Plumbing Layouts



1. Slave Mode



2. Separate Systems



3. Evo JBox

or de-icing mode when required which also increases condensate discharge. This normally occurs at temperatures below 8 degC. The condensate water will discharge through the base of the heater. As an option a pipe can be connected to the drain on the base of the unit to direct condensate water to an appropriate location.

Condensate Drain

Depending on the CS model supplied the condensate drainage will either be an outlet on the outside of the unit or flexible PVC pipes underneath the unit.

For external drain systems connect the Condensate drain to this point.

For internal flexible PVC outlets remove the access panels from 1 side of the unit and either connect drainage directly to the solid outlets underneath the upper drain pan, or connect flexible PVC to the bottom of the existing drainage pipes.



Insert External Drain connect here?

3.7 Electrical Connection



NOTE: EVO heat pumps MUST be connected by a licensed electrician. Under no circumstances should you attempt to install or repair your heat pump yourself.

Heater electrical installation undertaken by an unlicensed installer may cause electric shock or even death, and will void the warranty.

A licensed electrician must read the information in this manual before connecting.

- Ensure power is disconnected during installation or service.
- Always comply with the national and local electrical codes and standards.
- Ensure electrical cable size is adequate for heater requirements at the installation location.

- d. The heater must be equipped with a circuit breaker and isolation device.
- e. Circuit breaker must be installed between the heater and the water circulation pump if the water pump is hard-wired into the heater. Please note recommended circuit breaker sizes make no allowance for a water pump hard wired into the heater.
- f. Evo strongly recommends the installation of a Residual Current Device.
- g. The unit must be well earthed.

Remove the front panel to access the electrical connection terminals of the heater.

The electrical wiring diagram is affixed to the inside of the front panel.

SEE APPENDIX "A" FOR WIRING DIAGRAM INFORMATION

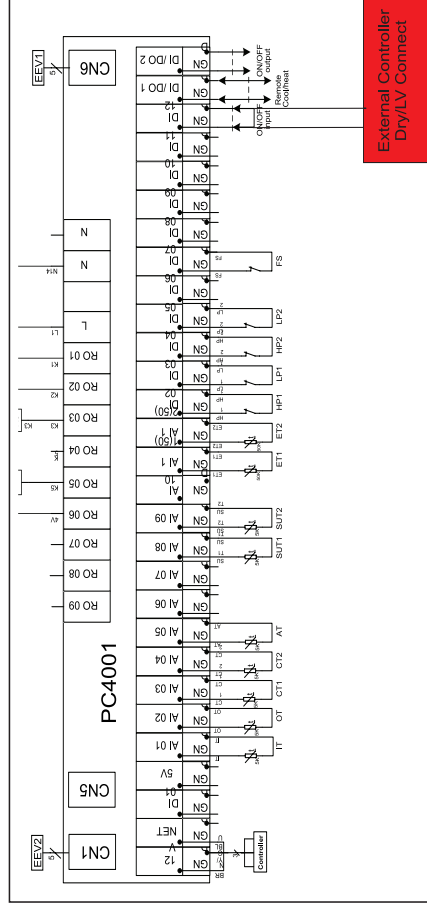
3.8 Remote Controller Connection

All Evo heaters are able to be controlled remotely by any device capable of opening and closing a circuit. The circuit must be low voltage 5V or lower.

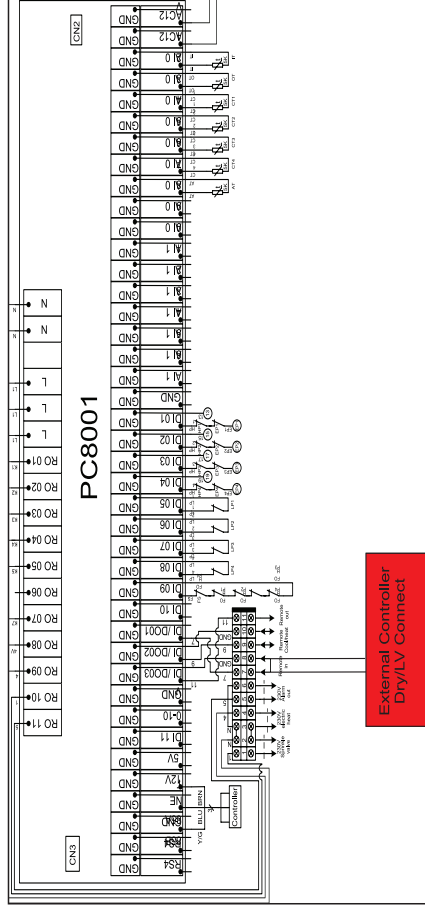
Remove the cable loop between DI01 and GND on the pcb and connect the remote cable from the external controller into these terminals.

When this circuit is open (no connection) the Evo heat pump will not operate. When the circuit is closed the unit will operate according to the parameters set on the controller(s).

PC 4001



PC 8001



Single phase unit

Nameplate maximum current	Phase line	Earth line	MCB	Creepage protector	Signal line
No more than 13A	2 # 1.5mm ²	1.5mm ²	20A	30mA less than 0.1 sec	n ≠ 0.5mm ²
13~25A	2 # 4mm ²	1.5mm ²	40A	30mA less than 0.1 sec	
25~30A	2 # 6mm ²	4mm ²	40A	30mA less than 0.1 sec	
30~40A	2 # 10mm ²	6mm ²	63A	30mA less than 0.1 sec	
40~55A	2 # 16mm ²	10mm ²	80A	30mA less than 0.1 sec	
55~70A	2 # 25mm ²	16mm ²	100A	30mA less than 0.1 sec	

Three phase unit

Nameplate maximum current	Phase line	Neutral line	Earth line	MCB	Creepage protector	Signal line
No more than 13A	3 # 1.5mm ²	1.5mm ²	1.5mm ²	20A	30mA less than 0.1 sec	n ≠ 0.5mm ²
13~25A	3 # 4mm ²	4mm ²	1.5mm ²	40A	30mA less than 0.1 sec	
25~30A	3 # 6mm ²	4mm ²	4mm ²	40A	30mA less than 0.1 sec	
30~40A	3 # 10mm ²	4mm ²	6mm ²	63A	30mA less than 0.1 sec	
40~55A	3 # 16mm ²	4mm ²	10mm ²	80A	30mA less than 0.1 sec	
55~70A	3 # 25mm ²	4mm ²	16mm ²	100A	30mA less than 0.1 sec	

PLEASE CHECK THESE RECOMMENDATIONS AGAINST RELEVANT ELECTRICAL CODES. THESE FIGURES SHOULD BE USED AS A GUIDE ONLY.

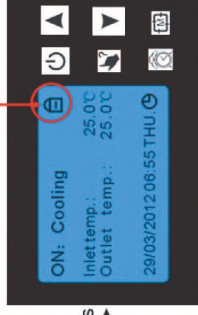
Key



Unit on/off operation



Press " " and hold on for 5s



- 1) You will hear a click when you power on the unit.
The controller will load the controller parameters for approx 15s.
- 2) Press and hold the ON/OFF key for 0.5s to turn the unit on.

Mode selection

The unit has three operation modes: Heating Mode, Cooling Mode and Automatic Mode.

- a) Heating Mode



- b) Cooling Mode

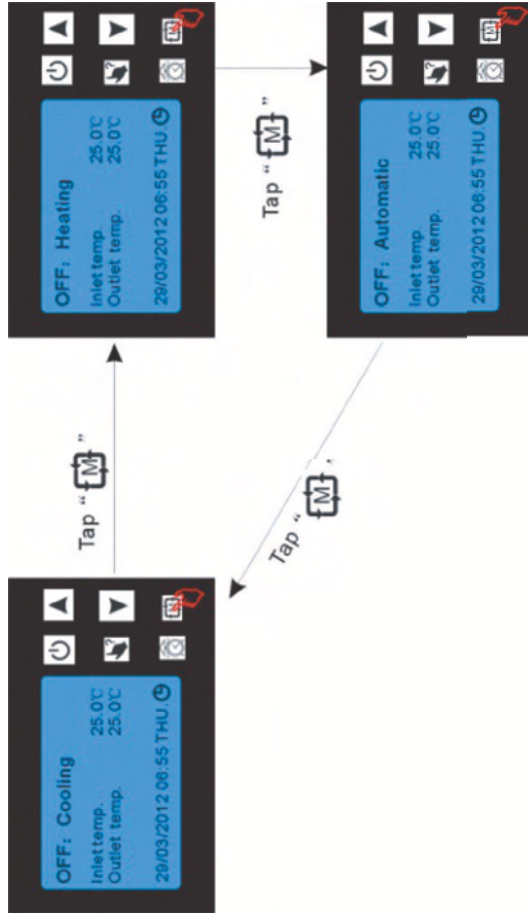


Key	Name	Function
	ON/OFF	Turn on/off the unit by pressing and holding this key for 0.5s
	HELP	Check button function or system state
	MODE	1) Select modes 2) Go to factory parameters setting function by pressing and holding this key for 10s.
	CLOCK	Set the time, timers and date
	UP	Increase the setting value
	DOWN	Decrease the setting value

c) **Automatic Mode:** Automatically select heating or cooling based on inlet water temperature.

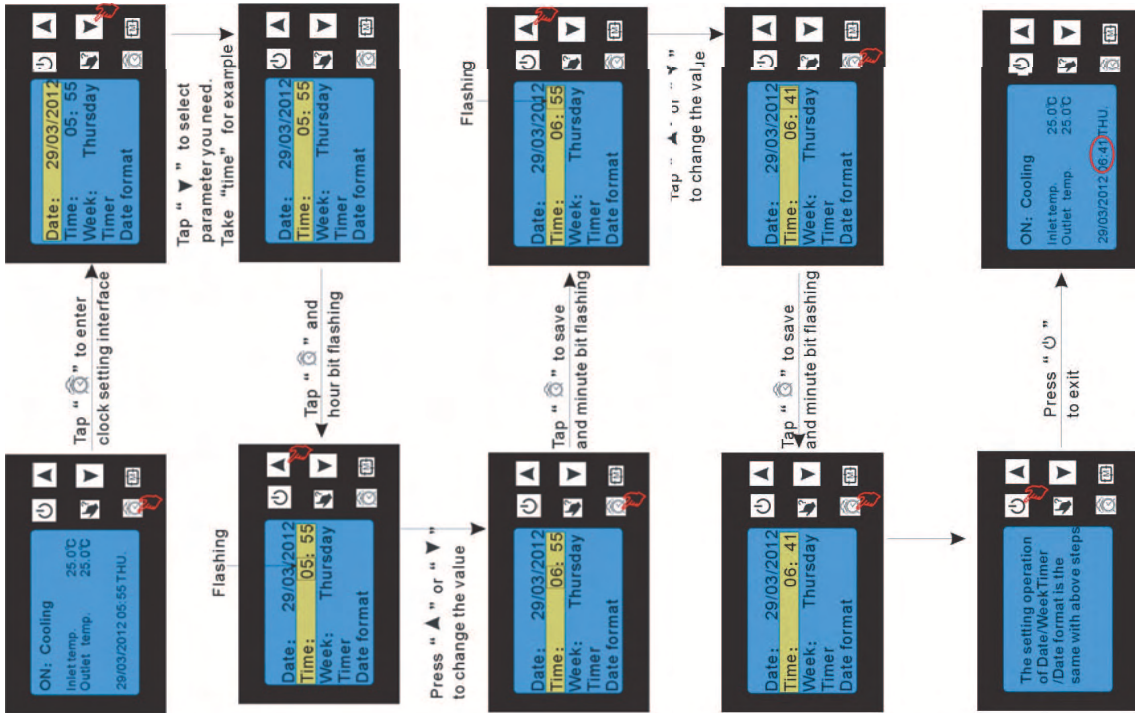


d) Selecting a mode



Clock setting

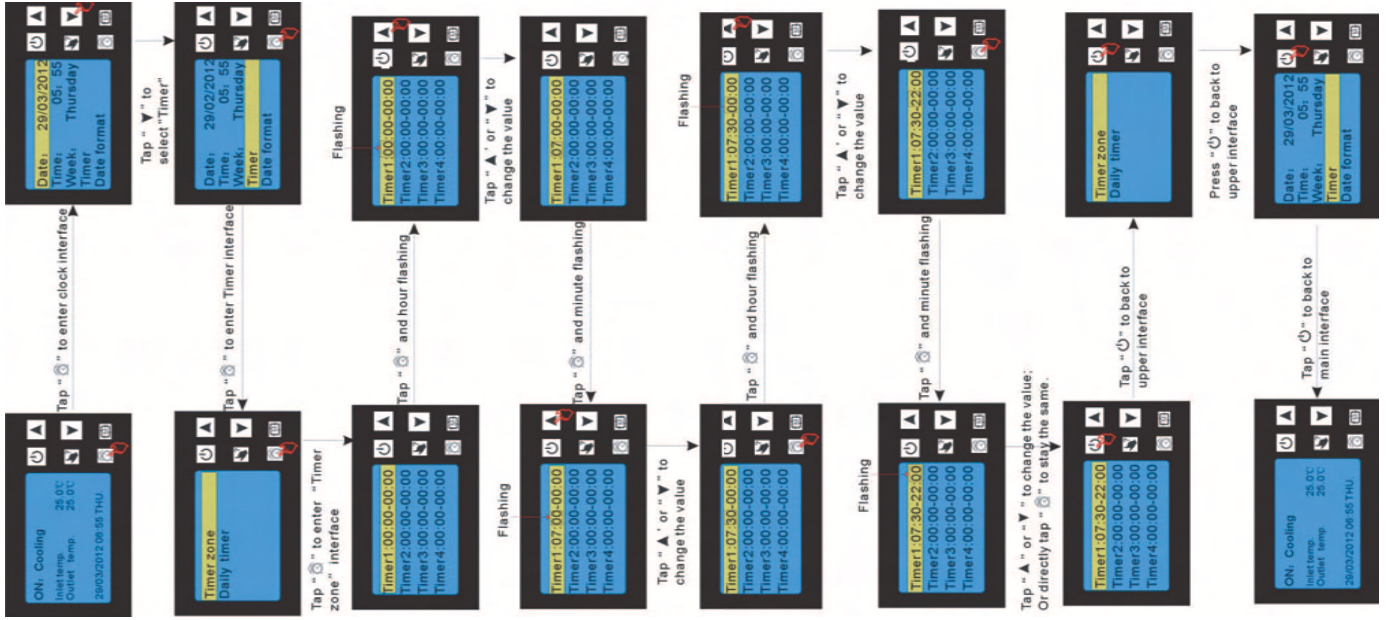
2.



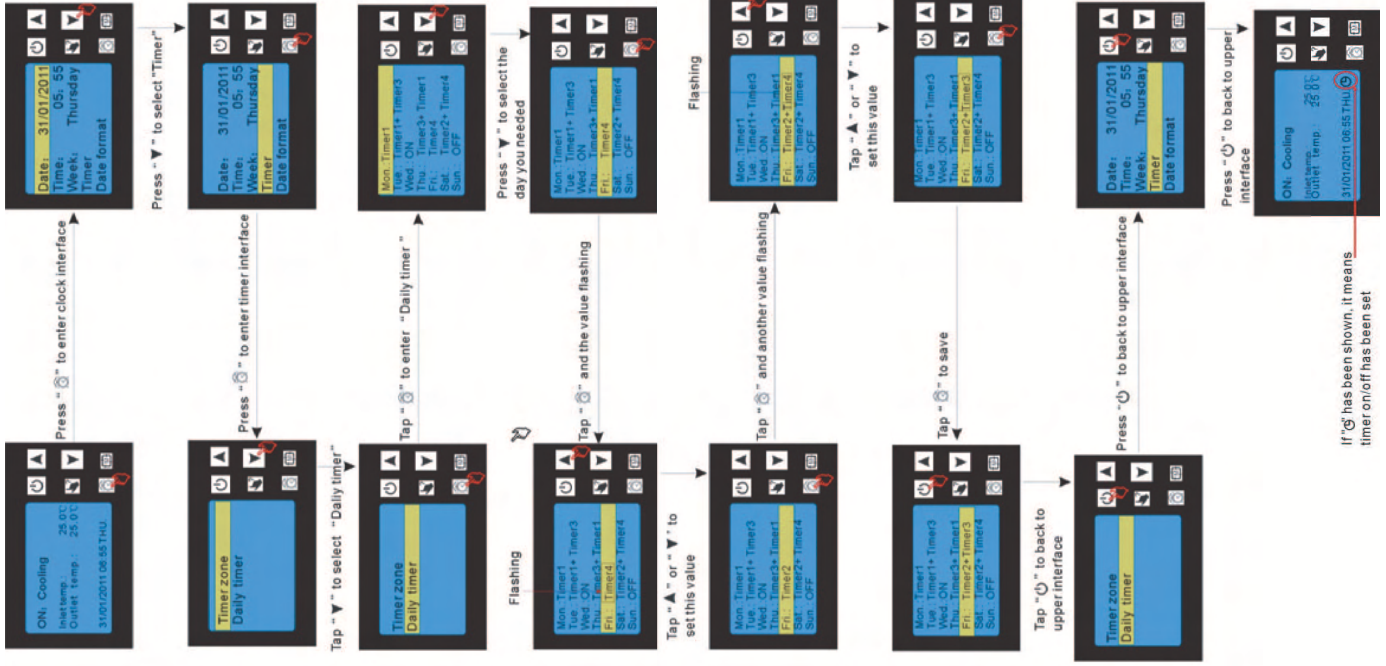
3. Attention: 1) If there is no operation of the keypad for 10 seconds, the system will remember your setting automatically and go back to the main interface.

4. 2) By pressing the "on/off" key when the value is flashing the system will back to the main menu directly without saving any changes.

Hourly Timer Setting

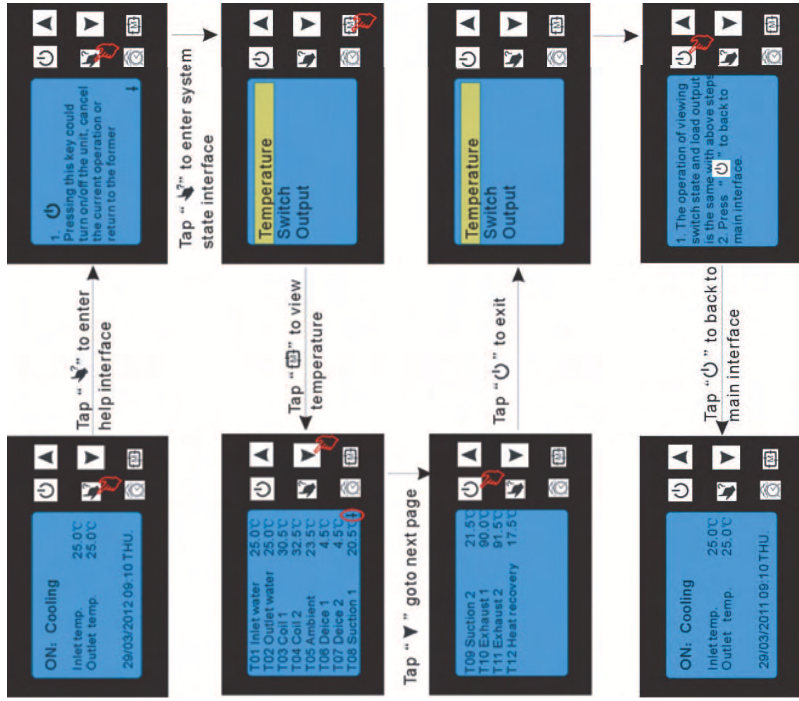


Daily Timer Setting

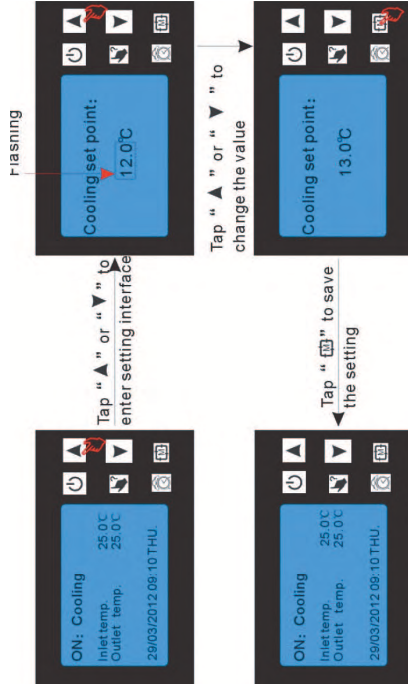


If "⊙" has been shown, it means timer on/off has been set

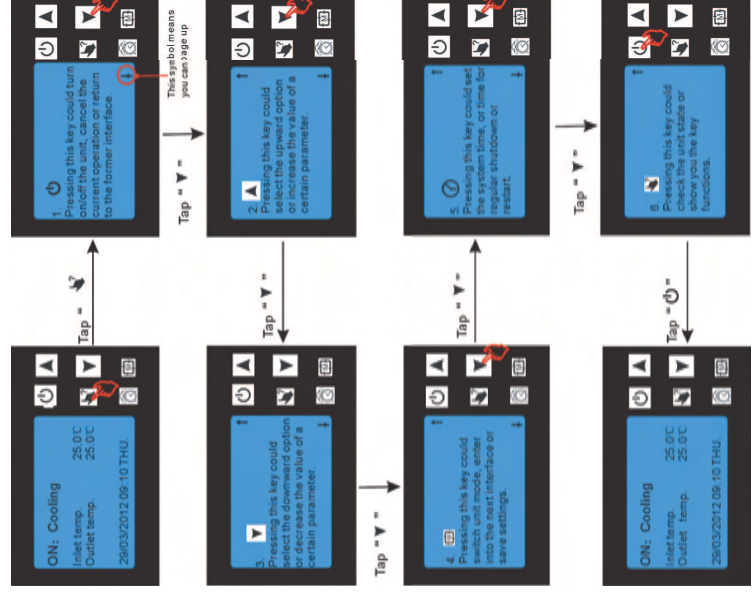
Viewing Operation Systems



Temperature Setting



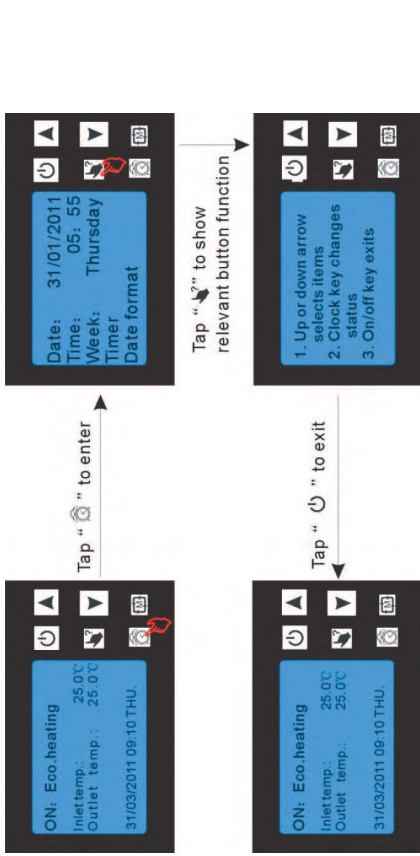
Help Function



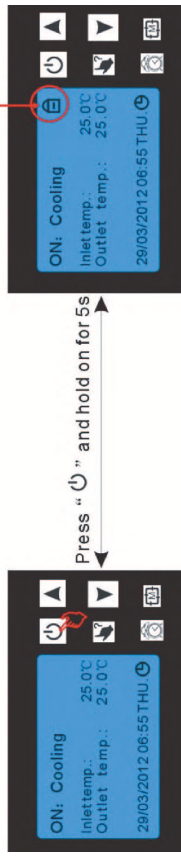
NOTE:

- 1) Pressing at any screen will show relevant functions for the current interface.
- 2) Pressing will exit the "help" interface.

Help Function at Clock Menus



Locking/Unlocking the keypad

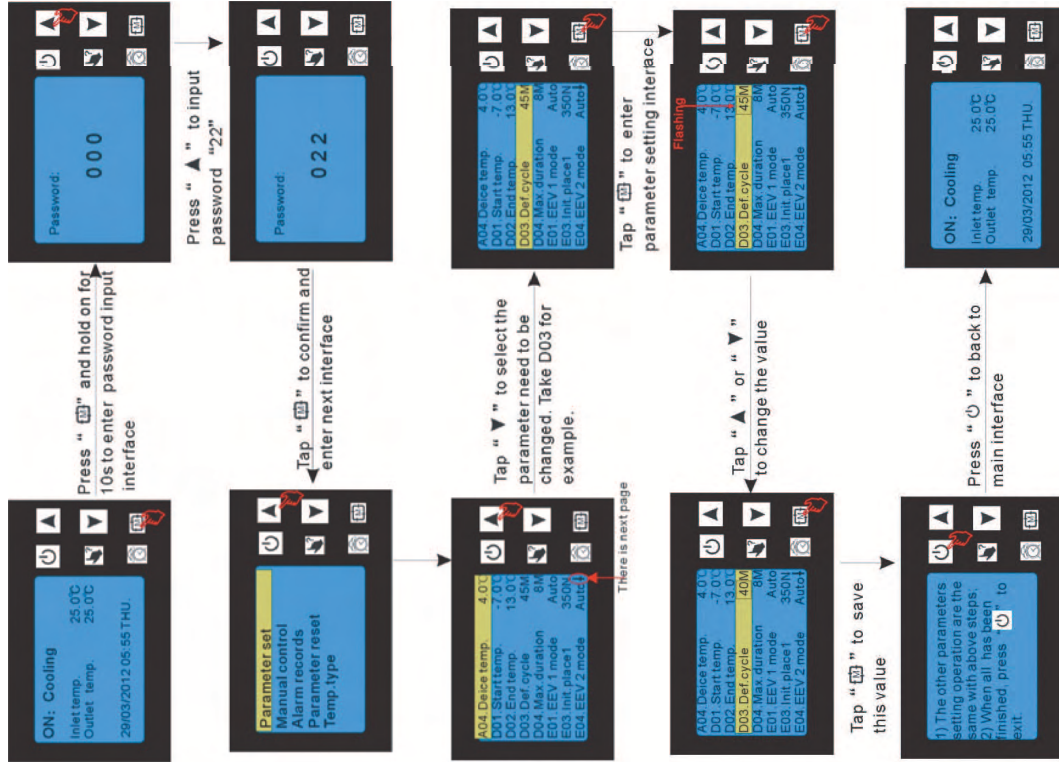


Malfunction display



If failure number is more than 1, press the up or down arrow to check next malfunction

User Parameter Setting Menu



Attention: Do not attempt to enter the manual control menu interface. Manually turning on individual components of the system by unqualified personnel could damage the heater and void your warranty.

2. PCB I/O Ports description

Connection of PC 4001

CN6	RO 09	RO 08	RO 07	RO 06	RO 05	RO 04	RO 03	RO 02	RO 01	L	N	N
CN5	DI 01	DI 02	DI 03	DI 04	DI 05	DI 06	DI 07	DI 08	DI 09	DI 10	DI 11	DI 12
CN1	AI 01	AI 02	AI 03	AI 04	AI 05	AI 06	AI 07	AI 08	AI 09	AI 10	AI 11(50K)	AI 12(50K)
CN3	NET	DI 01	DI 02	DI 03	DI 04	DI 05	DI 06	DI 07	DI 08	DI 09	DI 10	DI 11
	5V	AI 01	AI 02	AI 03	AI 04	AI 05	AI 06	AI 07	AI 08	AI 09	AI 10	AI 11(50K)
	12V	DI 01	DI 02	DI 03	DI 04	DI 05	DI 06	DI 07	DI 08	DI 09	DI 10	DI 11
	NET	DI 01	DI 02	DI 03	DI 04	DI 05	DI 06	DI 07	DI 08	DI 09	DI 10	DI 11
	GND	DI 01	DI 02	DI 03	DI 04	DI 05	DI 06	DI 07	DI 08	DI 09	DI 10	DI 11

PC4001

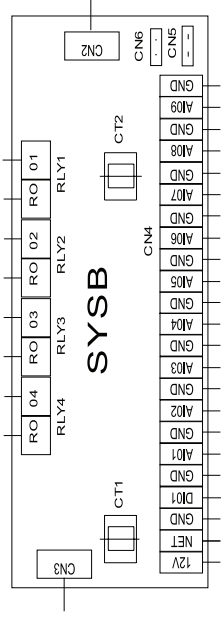
Connections explained:

NO.	Symbol	Meaning	NO.	Symbol	Meaning
1	AC-L	Live line	21	DI 07	Water flow switch protection input
2	AC-N	Null line	22	DI 08	Electric heater overload protection input
3	RO 01	Compressor 1 output(220VAC)	23	DI 09	Compressor 1 overload protection input
4	RO 02	Compressor 2 output(220VAC)	24	DI 10	Compressor 2 overload protection input
5	RO 03	High speed of fan output(220VAC)	25	DI 11	System protection input
6	RO 04	Low speed of fan output(220VAC)	26	DI 12	Emergency switch input
7	RO 05	Water pump output(220VAC)	27	AI 01	Water input temperature input
8	RO 06	4-way valve output(220VAC)	28	AI 02	Water output temperature output
9	RO 07	Electric heater output(250VAC)	29	AI 03	System 1 fan coil temperature input
10	RO 08	Spray valve output(220VAC)	30	AI 04	System 2 fan coil temperature input
11	RO 09	Alarm system output(220VAC)	31	AI 05	Ambient temperature input
12	DI/DO 1	Mode indicator output	32	AI 06	System 1 antifreeze temperature input
13	DI/DO 2	Emergency switch output	33	AI 07	System 1 antifreeze temperature input
14	DI 01	Flow rate input	34	AI 08	System 1 suction temperature input
15	DI 02	System 1 high pressure protection input	35	AI 09	System 2 suction temperature input
16	DI 03	System 1 low pressure protection input	36	AI 10	No use
17	DI 04	System 2 high pressure protection input	37	AI 11(50K)	System 1 discharging temperature input
18	DI 05	System 2 low pressure protection input	38	AI 12(50K)	System 2 discharging temperature input
19	NET GND 12V	Connecting to the remote controller	39	CN1	System 2 electric expansion valve output
20	DI 06	Phase sequence protection	40	CN6	System 1 electric expansion valve output

Connection of PC 8001

RS485A	RO 11	RO 10	RO 09	RO 08	RO 07	RO 06	RO 05	RO 04	RO 03	RO 02	RO 01	Z	Z	CN3
RS485B	DI 11	GND	DI/DO03	DI/DO02	DI/DO01	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02
	5V	GND	DI/DO03	DI/DO02	DI/DO01	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02
	12V	NET	DI 11	GND	RO 10	RO 09	RO 08	RO 07	RO 06	RO 05	RO 04	RO 03	RO 02	RO 01
	GND	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	GND	AI 16
	NET	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 15	AI 14
	GND	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 14	AI 13
	12V	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 13	AI 12
	5V	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 12	AI 11
	GND	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 11	AI 10
	NET	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 10	AI 09
	GND	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 09	AI 08
	12V	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 08	AI 07
	5V	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 07	AI 06
	GND	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 06	AI 05
	NET	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 05	AI 04
	GND	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 04	AI 03
	12V	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 03	AI 02
	5V	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 02	AI 01
	GND	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 01	AI 00
	NET	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	GND	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	12V	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	5V	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	GND	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	NET	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	GND	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	12V	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	5V	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	GND	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	NET	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	GND	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	12V	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	5V	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	GND	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	NET	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	GND	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	12V	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	5V	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	GND	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	NET	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	GND	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	12V	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	5V	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	GND	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	NET	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	GND	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	12V	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	5V	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	GND	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	NET	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	GND	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	12V	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	5V	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	GND	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	NET	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	GND	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	12V	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	5V	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	GND	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	NET	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	GND	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	12V	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03	DI 02	DI 01	AI 00	AI 00
	5V	DI 11	DI 10	DI 09	DI 08	DI 07	DI 06	DI 05	DI 04	DI 03</				

Connection of PCB



Connections explained:

No.	Symbol	Meaning
1	RO 01	Valve of system1 (220~230VAC)
2	RO 02	Valve of system2 (220~230VAC)
3	RO 03	Alarm of system1 (220~230VAC)
4	RO 04	Alarm of system2 (220~230VAC)
5	NET GND 12V	Wire controller
6	DI01 GND	Mode/communication
7	AI01 GND	System 1 anti-freeze temp. (input)
8	AI02 GND	System 2 anti-freeze temp. (input)
9	AI03 GND	System 1 economizer inlet temp. failure (input)
10	AI04 GND	System 2 economizer outlet temp. failure (input)
11	AI05 GND	System 1 economizer inlet temp. failure (input)
12	AI06 GND	System 2 economizer outlet temp. failure (input)
13	AI07 GND	System 1 exhaust temp. (input)
14	AI08 GND	System 2 exhaust temp. (input)
15	AI09 GND	Ambient temp. (input)

3. Parameter Table

No.	Type	Parameter and description	Setting value		Default Level
			Code	Setting	
1	d	Start defrosting temperature	d01	-30~0°C	F/U
2			d02	0~30°C	F/U
3		Defrosting cycle	d03	1~90min	F/U
4			d04	1~20min	F/U
5	E	EEV mode	E01	0~1	F/U
6			E02	-20~20°C	F
7		Initial place	E03	0~500	F
8		Minimum place	E04	0~500	F
9		Defrost place	E05	0~500	F
10		Cooling place	E06	0~500	F

No.	Symbol	Meaning	Setting value	Default Level
11	F	Fan parameter	F01	0~4
12		Coil temp. in high speed fan mode (Cooling)	F02	-15~60°C
13		Coil temp. in low speed fan mode (Cooling)	F03	-15~60°C
14		Coil temp. when the fan stop (Cooling)	F04	-15~60°C
15		Coil temp. in high speed fan mode(Heating)	F05	-15~60°C
16		Coil temp. in low speed fan mode(Heating)	F06	-15~60°C
17		Coil temp. when the fan stop(Heating)	F07	-15~60°C
18		Fan start low speed running time	F08	0~23h
19		Fan stop low speed running time	F09	0~23h
20		Fan speed control temp.	F10	0~1
21	h	Automatic restarting	H01	0~1
22		Model(cooling only/AUTO/heating only)	H02	0~2
23		Temperature unit transformation	H03	0~1
24	P	Water pump model	P01	0~2
25		Water pump running cycle	P02	0~120min
26		Water pump running time	P03	0~30min
27		Delay in switching on the compressor after switching on the pump	P04	0~30min
28	r	Inlet water setting temp. (cooling)	r01	r08~r09
29		Inlet water setting temp. (Heating)	r02	r10~r11
30		Target setting temp. (Auto mode)	r03	r08~r11
31		Cooling differential	r04	0~10°C
32		Cooling stop differential	r05	0~10°C
33		Heating differential	r06	0~10°C
34		Heating stop differential	r07	0~10°C
35		Minimum set point in Cooling	r08	-30~r09°C
36		Maximum Cooling set point	r09	r08~80°C
37		Minimum Heating set point	r10	-30~r11°C
38		Maximum Heating set point	r11	r11~80°C
39	S	On/off switch	S01	CL/OP
40		Water Flow switch	S02	CL/OP
41	t	System LP	S03	CL/OP
42	o	System HP	S04	CL/OP
43		Mode switch	S05	CL/OP
44		Suction temp.	T01	-30~99°C
45		Inlet water temp.	T02	-30~99°C
46		Outlet water temp.	T03	-30~99°C
47		Coil temp.	T04	-30~99°C
48		Ambient temp.	T05	-30~99°C
49		Compressor output	O1	CL/OP
50		Circulate pump output	O2	CL/OP
51		4-way valve output	O3	CL/OP
52		Fan output (High speed)	O4	CL/OP
53		Fan output (Low speed)	O5	CL/OP
54		Electronic expansion valve output	O6	0~500

Description of the parameters

D — Defrost parameter

D01 — Start defrost temperature

To start the defrost cycle; the condition must be valid for the time d03.

D02 — End defrost temperature

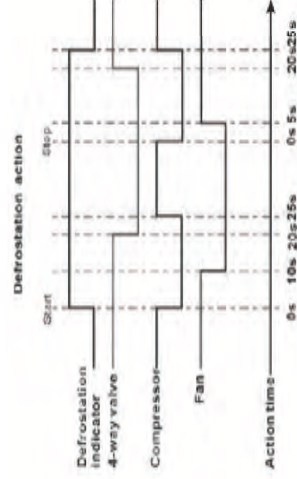
Establishes the temperature above which the defrost cycle ends.

D03 — Defrosting cycle

Represents delay between two successive defrost cycle. The first time, when coil temperature is lower than D01, there must be valid for the time d03 to start defrost.

D04 — Max.defrosting duration

Represents the maximum duration of the defrost cycle (the defrost ends when the maximum duration has been arrived, even if the defrost hasn't finished)



Attention: The situation of defrostation abnormal ending

- 1) If the unit is shut off during defrosting, the system will continue running until defrost has finished.
- 2) If the HP switch has triggered during defrosting, then unit will shut down and show HP malfunction. After recovering, the system returns to normal heating mode.
- 3) If the LP switch is triggered during defrosting, the unit will skip the LP malfunction, exit defrosting and go back to normal heating mode, then the system will check the LP switch after 5min.
- 4) If the Flow switch is triggered during defrosting, then unit will turn off and show Flow Malfunction. After recovering this malfunction, the system continues defrosting.
- 5) If the exhaust temperature is too high during defrosting, then unit will shut down and show this malfunction. After recovery, the system goes on defrosting.
- 6) If there is a high Temperature difference between inlet and outlet during defrosting, then the unit will shut down and show this malfunction. After recovering, the system goes on defrosting.
- 7) If the System shows Antifreezing protection during defrosting, the unit will shut down and show this malfunction. After recovering, the system goes on defrosting.

E — EEV parameter

E01 — EEV mode

E01=0: EEV is running by manual operation;

E01=1: EEV is running by automatic operation;

E02 — Target Super heat

E03 — Initial position

If **E01=0**, represents expansion valve is fixed in this position.

If **E01=1**, represents expansive valve initial position

E04 — Minimum position

E05 — Defrost position

Fix the EEV position during defrosting.

E06 — Cooling position

Fix the EEV position in cooling mode.

F — Fan parameter

Normally the Fan will start up 5s ahead of the Compressor and turn off 30s after it shuts down. During defrosting the fan operation is according to defrosting control settings.

F01 — Fan parameter

F01=0: in low speed fan mode;

F01=1: in high speed fan mode;

F01=2: the fan running mode depends on coil or ambient temperature (**F02-F07**);

Attention: The temperature probe is decided by **F10**.

F01=3: the fan runs at low speed depending on time (**F08-F09**), the fan runs at high speed during other times;

F01=4: the fan running speed depends on **F02** and **F03**.

F02 — Coil or ambient temperature set point for high speed fan mode (Cooling)

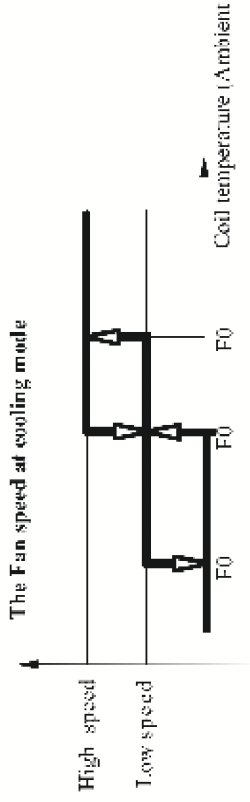
This represents if the temperature above **F02**, the fan will on high speed (Cooling)

F03 — Coil or ambient temperature set point for low speed fan mode (Cooling)

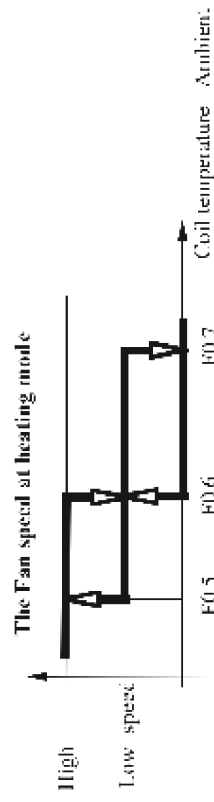
This represents if the temperature below which the fans remain on at low speed (Cooling)

F04 — Coil or ambient temperature set point for the fan stop (Cooling)

This represents the temperature in reference to F03 below which the fans are stopped.



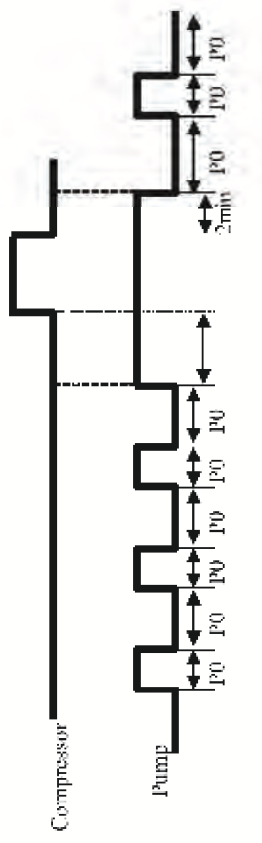
- F05 — Coil or ambient temperature set point for high speed fan mode (Heating)
- This represents the temperature above which the fans remain on at high speed (Heating)
- F06 — Coil or ambient temperature set point for low speed fan mode (Heating)
- This represents the temperature below which the fans remain on at low speed (Heating)
- F07 — Coil or ambient temperature set point for the fan stop (Heating)
- This represents the temperature in reference to F06 below which the fans are stopped.



- F08 — Fan start low speed running time (Just for F01=3)
- F09 — Fan stop low speed running time (Just for F01=3)
- F10 — Fan speed control temp.
- When F10=0, Fan speed is decided by coil temperature;
- When F10=1, Fan speed is decided by ambient temperature.
- H — System Parameter**
- H01 — Automatic restart
- H01=0: disable automatic restart; H01=1: enable automatic restart
- H02 — Mode
- H02=0: only cooling;

- H02=1: heating, cooling and automatic;
- H02=2: only heating.
- H03 — Temperature unit of measure
- H03=0: Centigrade unit; (Other area)
- H03=1: Fahrenheit unit. (For North America area)
- P — Water pump parameters
- P01 — Water pump model
- P01=0, water pump will always on except on standby and alarm.
- P01=1, water pump will operate depend on compressor, and has 2 minutes delay after the compressor has stopped;
- P01=2, water pump will be started and stopped at regular intervals after compressor stop. Depend on P02 and P03.
- P02 — Minimum off time before the next pump start.
- P03 — minimum on time that the pump remains on.
- P04 — the time of pump advance compressor to start up.

The action sequence of pump and compressor



- R — Temperature parameter**
- R01 — Cooling set point
- Inlet water setting temp. (Cooling)
- R02 — Heating set point
- Inlet water setting temp. (Heating)
- R03 — AUTO set point (Auto mode)
- Target setting temperature for auto mode.
- R04 — Start differential of cooling
- This represents the difference between R01 and start cooling point.
- R05 — Stop differential of cooling

This represents the difference between R01 and stop cooling point.

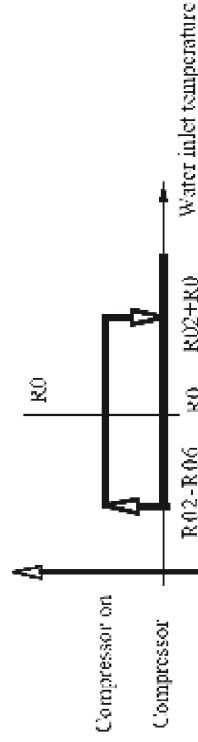


R06 — Start differential of heating

This represents the difference between R02 and start heating point.

R07 — Stop differential of heating

This represents the difference between R02 and stop heating point.



R08 — Min. set point in Cooling

Establishes the minimum limit for setting the Cooling set point

R09 — Max. Cooling set point

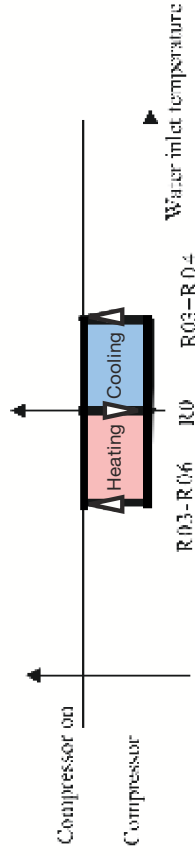
Establishes the maximum limit for setting the Cooling set point

R10 — Min. Heating set point

Establishes the minimum limit for setting the Heating set point

R11 — Max. Heating set point

Establishes the maximum limit for setting the Heating set point



Maintenance and Troubleshooting

4.1 Maintenance

General Maintenance

- The unit should be serviced once a year by a authorised EVO technician. If the unit is located in a coastal area, more frequent maintenance may be necessary.
- The unit is designed to withstand only normal rainfall. It is NOT recommended to use a hose or high pressure water cleaner to flush the internals of the heater. Pressurised water may cause damage to the heater. Compressed air is acceptable however care must be taken with the fins of the condensor.
Ensure the unit has sufficient water flow at all times to operate correctly by keeping all filters, skimmer boxes and pump filter baskets clean. Check any bypass valves or other equipment for correct operation and setting. Refer to specifications for correct water flow volume for your heater.

4.2 Troubleshooting

The unit will not run

- Is the screen of control panel lit? If not, make sure the electrical wires and cables are correctly connected and the power is on. Ensure any circuit breaker devices are set to the ON position and press the ON button on your controller. Check your controller cable is plugged in and is not damaged. If the unit has been shut off or the power has been interrupted the heater will not restart for a 5 minute period to protect the compressor. Wait 5 minutes before attempting a restart.
- Is there sufficient water flow? If the screen displays a water flow related error check the water flow. Is the water pump in operation and the system free of debris that may cause a blockage? Disconnect pool cleaners to ensure proper water flow.
- Is the current pool/spa water temperature higher than the set temperature on the controller? If so the unit will not operate until the pool/spa water temperature falls below the set temperature on the controller.
- Check the unit is set to run at the correct time and date. Please check your current timing or temperature modes on your controller – you may have programmed the unit to turn on at a different time/date.
- Check the controller for error messages and refer to table below.

The unit is running but not heating

- Is the fan functioning? If not contact EVOHEAT for service information
- Is the air discharged from the top of the fan noticeably cooler than the ambient temperature? If not, check the refrigerant gauge on the bottom panel of the heater. Another way to determine if the heater is working correctly is to view MAIN MENU>UNIT STATUS. Check to see if the WATER OUT temp is higher than the WATER IN temp. Check also the INLET WATER TEMP is lower than the HEAT TEMP set point. If the gauge shows less than 0.8MPa (the outside black band) contact EVOHEAT to check the refrigerant system.

Troubleshooting Guide

- c. Ensure sufficient fresh airflow around the unit as per installation instructions. Make sure cold air discharged from the top of the unit does not recycle back through the heater. Check and clean the condenser fins if they are dirty or blocked.
- d. The unit will periodically defrost when the ambient air temperature is lower than 8 degrees C.

Heater runs continuously

- a. Check the set temperature is at your desired level and that the pool water temperature is at or below this set point.
- b. Possible electrical component failure – contact EVOHEAT

Water appearing around unit base

- a. Condensation is a normal by product of running a pool heat pump.
- b. Possible water leak. Check the discharge for the presence of chlorine. If the water has no chlorine then it is condensation and is normal. Another method of checking is to turn the heater off and run the water pump continuously for a period of 2-4 hours. If the water dries out then it was condensation. If there is a continuous leak contact EVOHEAT for service.

Temperature on controller is different from actual pool temperature

- a. Possible temperature drop due to plumbing. Try increasing set temperature to reach your desired swim temp
- b. Possible fouling of sensor or faulty sensor

malfuction	display	Indicator	Reason	resolution
Power on		Off		
Normal working		On		
Inlet temp. Sensor failure	P01	1 On 1 off	The temp. Sensor is broken or short circuit	Check or change the temp. Sensor
Outlet temp. Sensor failure	P02	2 on 1 off	The temp. Sensor is broken or short circuit	Check or change the temp. Sensor
Recovery temp. Sensor failure	P033	3 on 1 off	The temp. Sensor is broken or short circuit	Check or change the temp. Sensor
Ambient temp. Sensor failure	P04	4 on 1 off	The temp. Sensor is broken or short circuit	Check or change the temp. Sensor
Coil 1 temp. Sensor failure	P15	5 on 1 off	The temp. Sensor is broken or short circuit	Check or change the temp. Sensor
Coil 2 temp. Sensor failure	P25	5 on 1 off	The temp. Sensor is broken or short circuit	Check or change the temp. Sensor
Suction 1 temp. Sensor failure	P17	7 on 1 off	The temp. Sensor is broken or short circuit	Check or change the temp. Sensor
Suction 1 temp. Sensor failure	P27	7 on 1 off	The temp. Sensor is broken or short circuit	Check or change the temp. Sensor
Discharge 1 temp. Sensor failure	P181	8 on 1 off	The temp. Sensor is broken or short circuit	Check or change the temp. Sensor
Discharge 2 temp. Sensor failure	P281	8 on 1 off	The temp. Sensor is broken or short circuit	Check or change the temp. Sensor
Antifreezing 1 temp. Sensor failure	P19	9 on 1 off	The temp. Sensor is broken or short circuit	Check or change the temp. Sensor
Antifreezing 2 temp. Sensor failure	P29	9 on 1 off	The temp. Sensor is broken or short circuit	Check or change the temp. Sensor
High pressure1 protection	E11	11 on 1 off	The high-pressure switch is broken	Check the pressure switch and cold circuit
High pressure2 protection	E21	11 on 1 off	The high-pressure switch is broken	Check the pressure switch and cold circuit
Low pressure1 protection	E12	12 on 1 off	The low-pressure switch is broken	Check the pressure switch and cold circuit
Low pressure2 protection	E22	12 on 1 off	The low-pressure switch is broken	Check the pressure switch and cold circuit
Heat source side water flow failure	E031	13 on 1 off	No water/little water in water system	Check the pipe water flow and water pump
The use side water flow failure	E032	13 on 1 off	No water/little water in water system	Check the pipe water flow and water pump
water flow over-low failure	E035	13 on 1 off	No water/little water in water system	Check the pipe water flow and water pump
Electrical-heat over heat failure	E04	14 on 1 off	Electrical-heat is over heat	Check or change electrical-heat
Compressor 1 overload failure	E101	21 on 1 off	Compressor is overload	Check the compressor functionality
Compressor 2 overload failure	E201	21 on 1 off	Compressor is overload	Check the compressor functionality
Water-inlet and outlet temp. difference	E06	16 on 1 off	Water flow is not enough and low differential pressure	Check the pipe water flow and whether water system is jammed or not
The system 1 use side antifreezing protection	E171	17 on 1 off	Water flow is not enough	Check the pipe water flow and whether water system is jammed or not
The system 2 use side antifreezing protection	E271	17 on 1 off	Water flow is not enough	Check the pipe water flow and whether water system is jammed or not
The system 1 heat source side antifreezing protection	E172	17 on 1 off	Water flow is not enough	Check the pipe water flow and whether water system is jammed or not
The system 2 heat source side antifreezing protection	E272	17 on 1 off	Water flow is not enough	Check the pipe water flow and whether water system is jammed or not
The primary anti-freezing protection	E19	19 on 1 off	The ambient temp. Is low	/
The secondary anti-freezing protection	E29	19 on 1 off	The ambient temp. Is low	/
Discharge Temp. Of system 1 is too high	P182	8 on 1 off	The compressor is overboard	Check the compressor functionality
Discharge Temp. Of system 2 is too high	P282	8 on 1 off	The compressor is overboard	Check the compressor functionality
System protection	E05	8 on 1 off	The protection system is failure	Check each protection point of the system
Defrosting		Flashing	/	/
Communication failure	E08	/	Communication failure between wire controller and main board	Check the wire connection between remote wire controller and main board

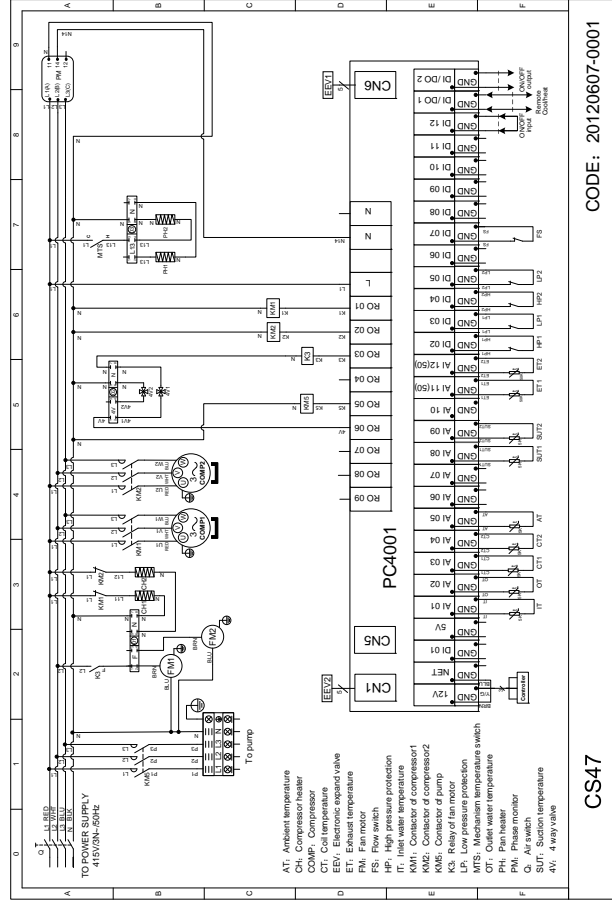
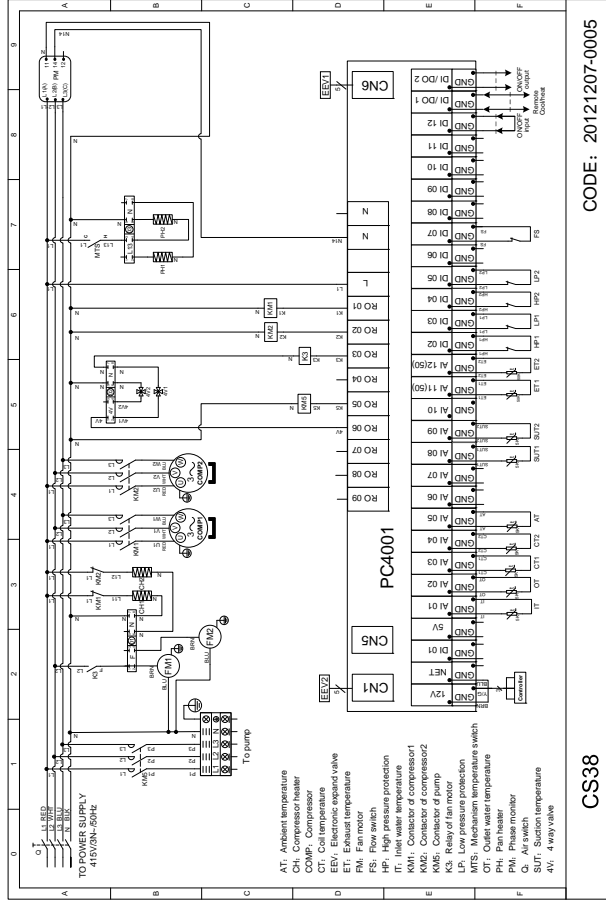
Appendix Temp Sensor Probes

Resistance/Temp Table R25=5K Ω B25/50=3470K

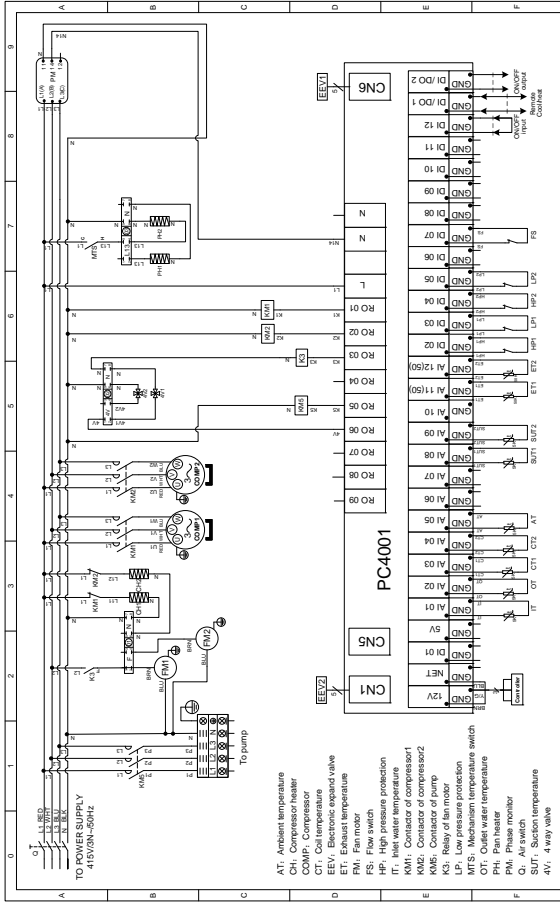
T($^{\circ}$ C)	R(K Ω)	T($^{\circ}$ C)	R(K Ω)	T($^{\circ}$ C)	R(K Ω)
-30.0	63.7306	14.0	7.7643	58.0	1.5636
-29.0	60.3223	15.0	7.4506	59.0	1.5142
-28.0	57.1180	16.0	7.1513	60.0	1.4666
-27.0	54.1043	17.0	6.8658	61.0	1.4206
-26.0	51.2686	18.0	6.5934	62.0	1.3763
-25.0	48.5994	19.0	6.3333	63.0	1.3336
-24.0	46.0860	20.0	6.0850	64.0	1.2923
-23.0	43.7182	21.0	5.8479	65.0	1.2526
-22.0	41.4868	22.0	5.6213	66.0	1.2142
-21.0	39.3832	23.0	5.4048	67.0	1.1771
-20.0	37.3992	24.0	5.1978	68.0	1.1413
-19.0	35.5274	25.0	5.0000	69.0	1.1068
-18.0	33.7607	26.0	4.8108	70.0	1.0734
-17.0	32.0927	27.0	4.6298	71.0	1.0412
-16.0	30.5172	28.0	4.4566	72.0	1.0100
-15.0	29.0286	29.0	4.2909	73.0	0.9800
-14.0	27.6216	30.0	4.1323	74.0	0.9509
-13.0	26.2913	31.0	3.9804	75.0	0.9228
-12.0	25.0330	32.0	3.8349	76.0	0.8957
-11.0	23.8424	33.0	3.6955	77.0	0.8695
-10.0	22.7155	34.0	3.5620	78.0	0.8441
-9.0	21.6486	35.0	3.4340	79.0	0.8196
-8.0	20.6380	36.0	3.3113	80.0	0.7959
-7.0	19.6806	37.0	3.1937	81.0	0.7730
-6.0	18.7732	38.0	3.0809	82.0	0.7508
-5.0	17.9129	39.0	2.9727	83.0	0.7293
-4.0	17.0970	40.0	2.8688	84.0	0.7086
-3.0	16.3230	41.0	2.7692	85.0	0.6885
-2.0	15.5886	42.0	2.6735	86.0	0.6690
-1.0	14.8913	43.0	2.5816	87.0	0.6502
0.0	14.2293	44.0	2.4934	88.0	0.6320
1.0	13.6017	45.0	2.4087	89.0	0.6144
2.0	13.0057	46.0	2.3273	90.0	0.5973
3.0	12.4393	47.0	2.2491	91.0	0.5808
4.0	11.9011	48.0	2.1739	92.0	0.5647
5.0	11.3894	49.0	2.1016	93.0	0.5492
6.0	10.9028	50.0	2.0321	94.0	0.5342
7.0	10.4399	51.0	1.9656	95.0	0.5196
8.0	9.9995	52.0	1.9015	96.0	0.5055
9.0	9.5802	53.0	1.8399	97.0	0.4919
10.0	9.1810	54.0	1.7804	98.0	0.4786
11.0	8.8008	55.0	1.7232	99.0	0.4658
12.0	8.4385	56.0	1.6680	100.0	0.4533
13.0	8.0934	57.0	1.6149		

1) When there is a malfunction, test the resistance value with a multimeter and compare the actual probe temperature with the above table to confirm the Sensor Probe resistance is within spec +/-5%.

Appendix A – Wiring Diagrams

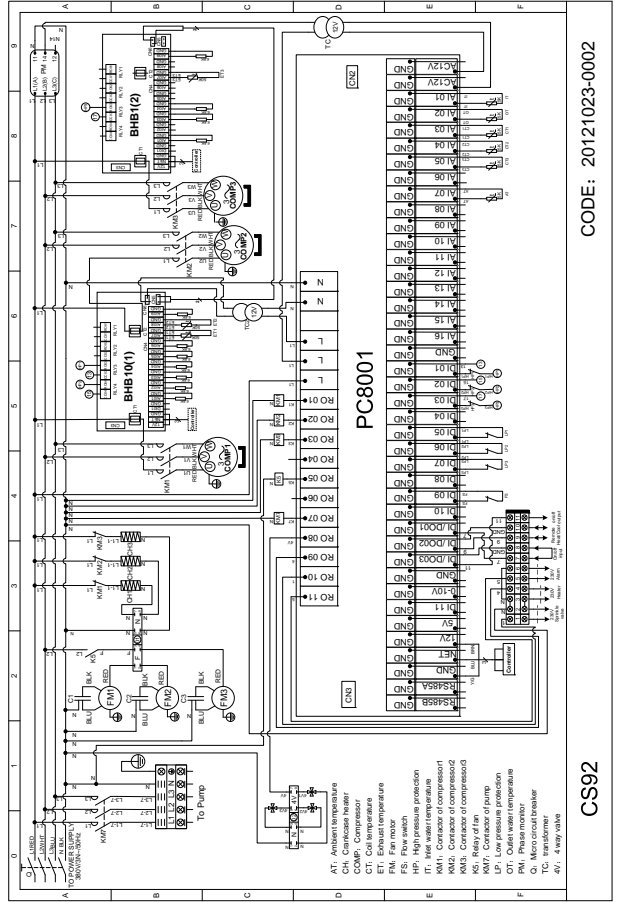


Appendix A – Wiring Diagrams



CS57

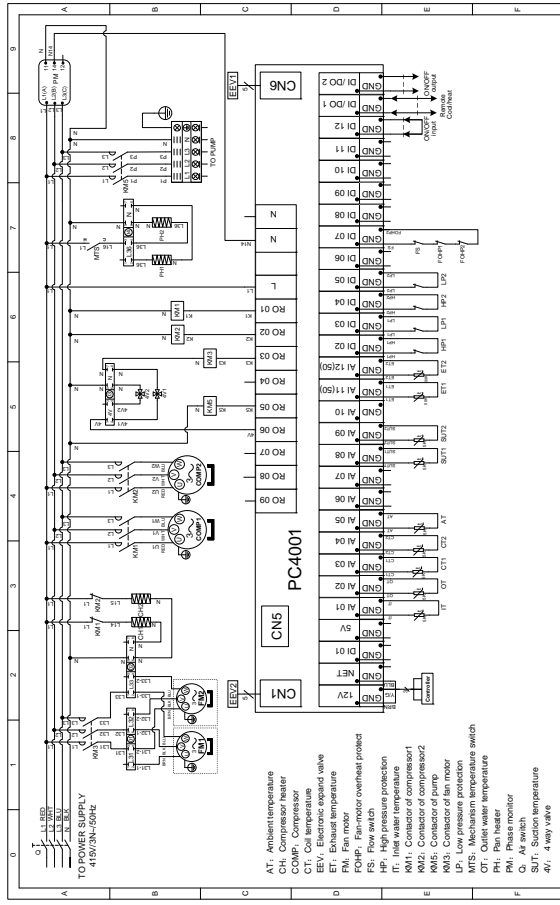
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CS92

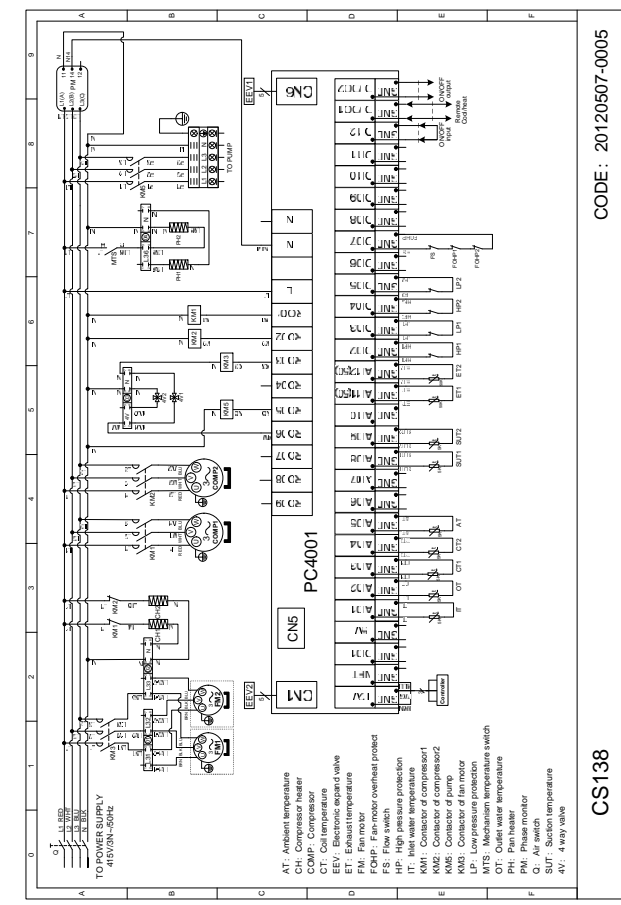
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Appendix A – Wiring Diagrams



CS109

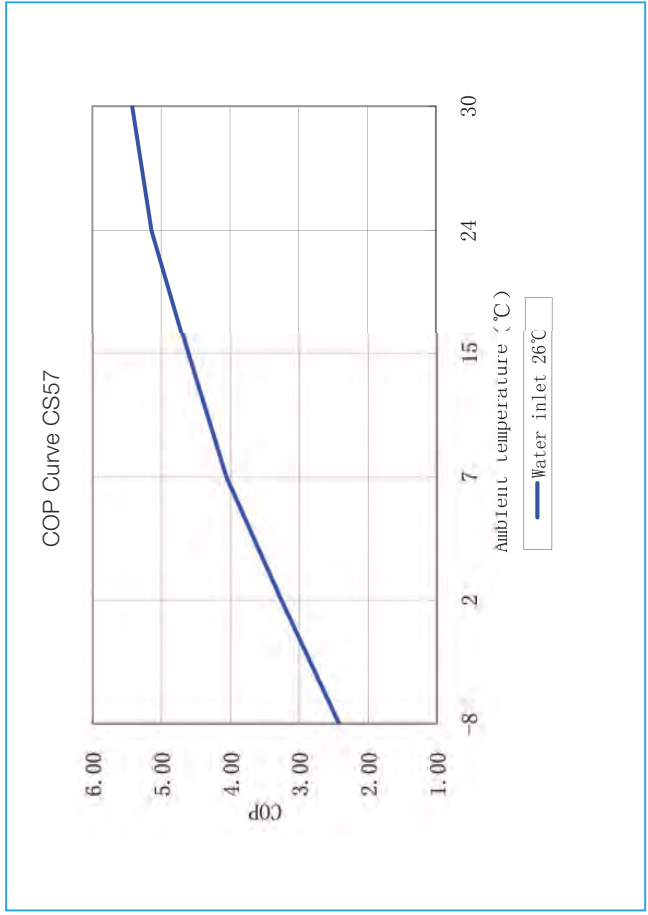
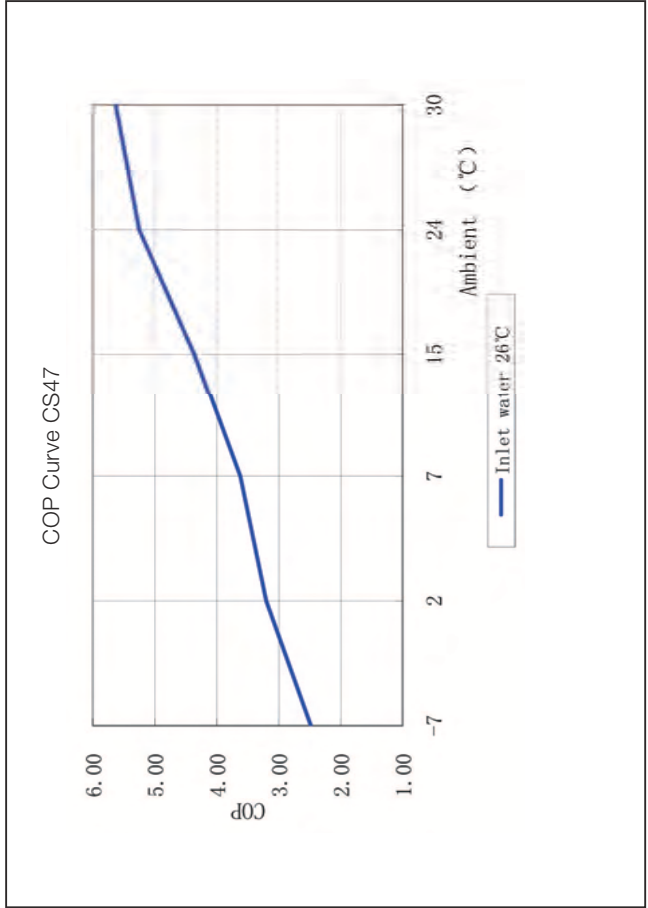
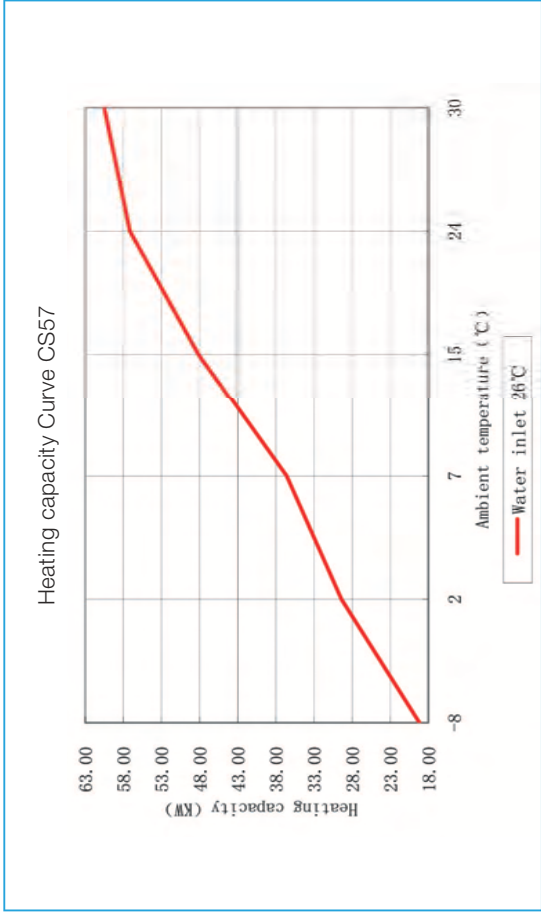
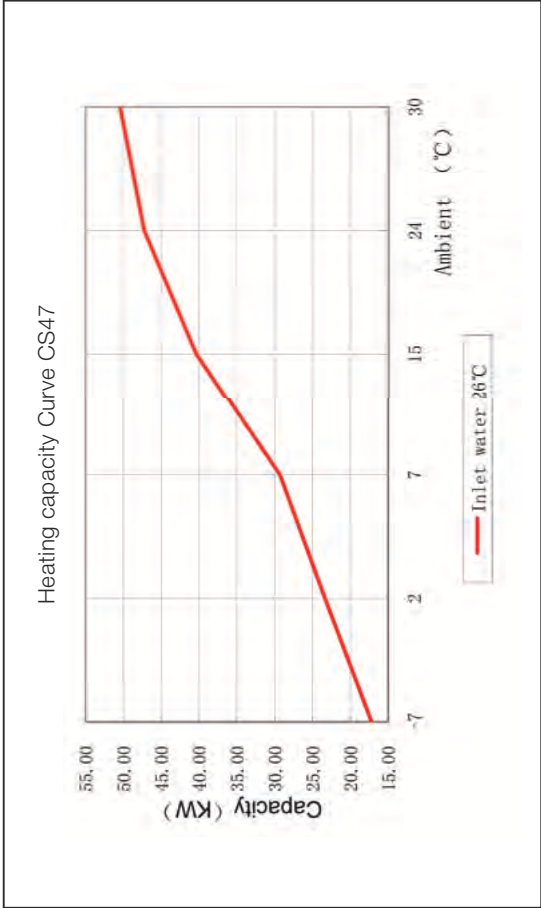
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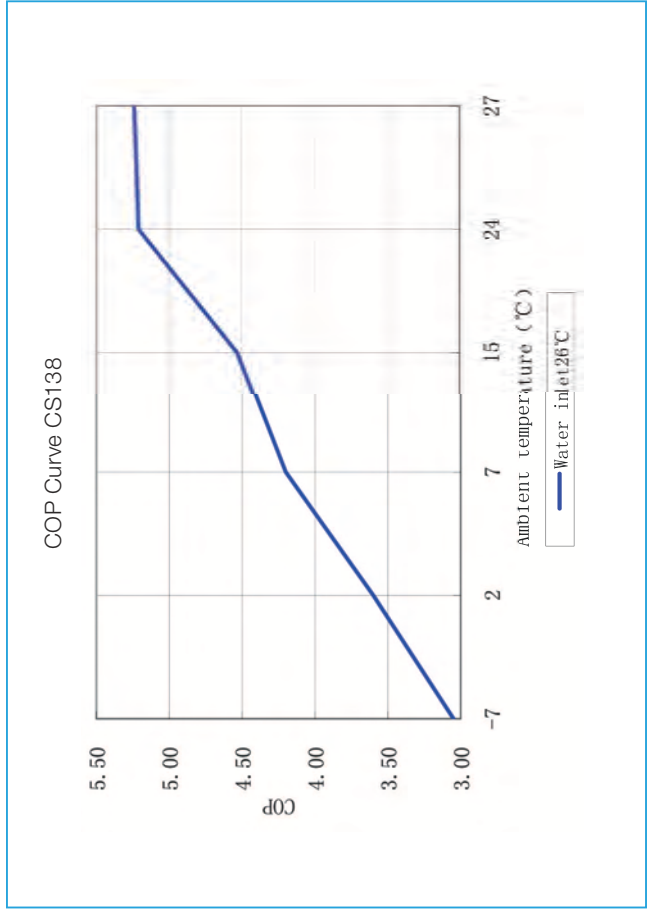
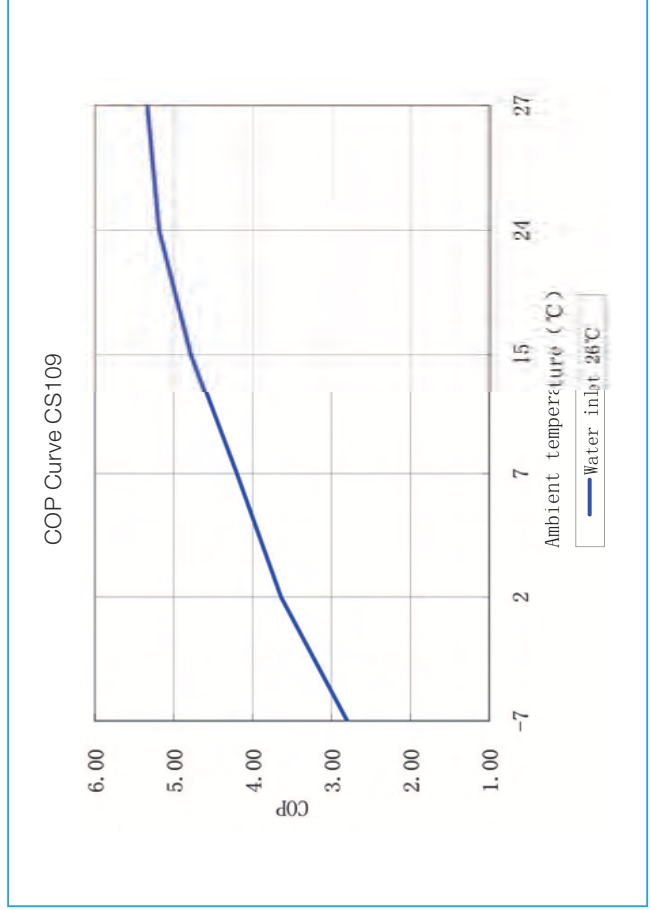
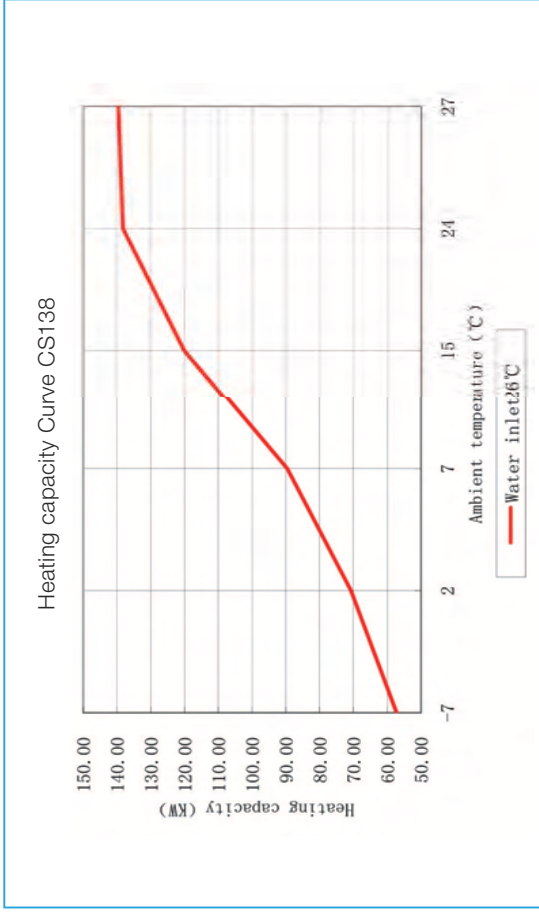
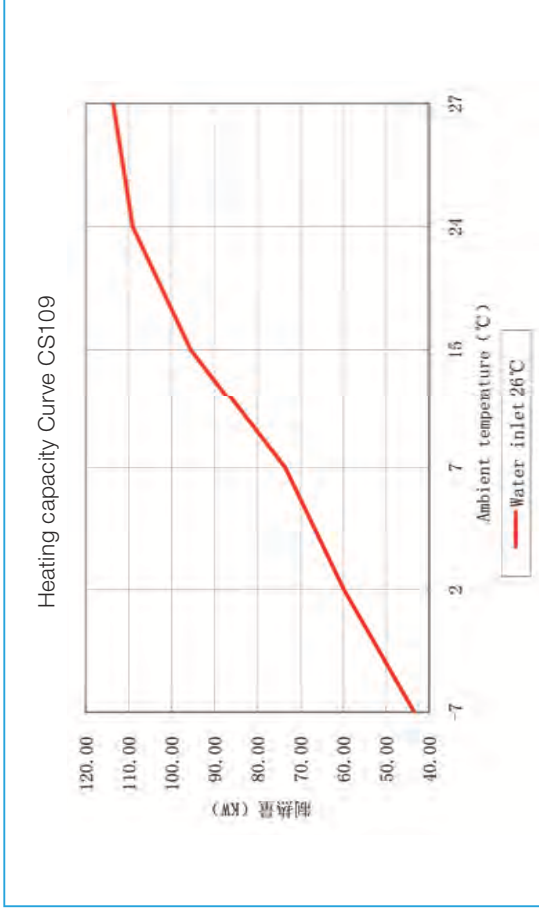
CS138

CODE: 20120507-0005

Appendix B – Technical Data

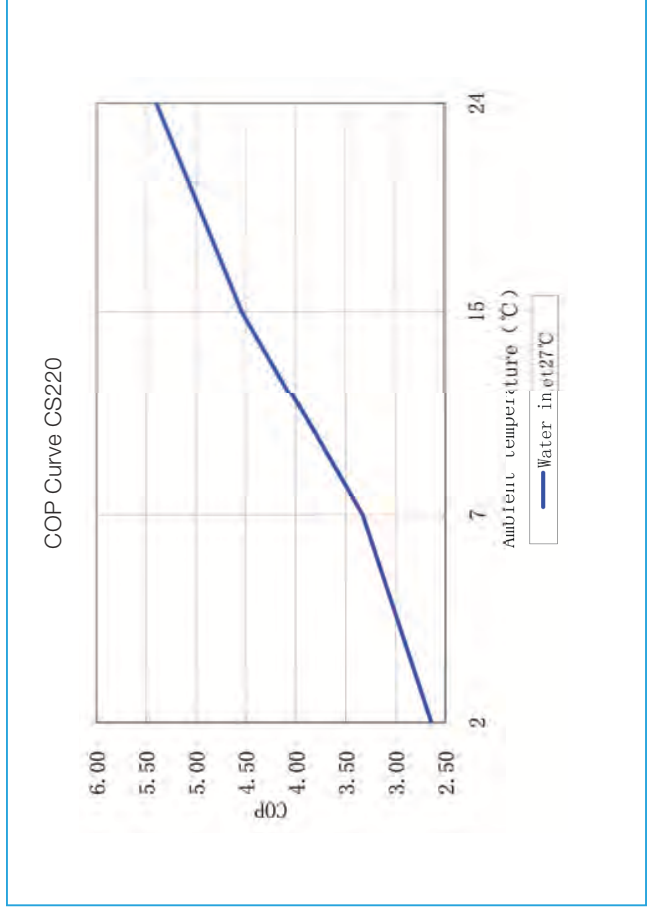
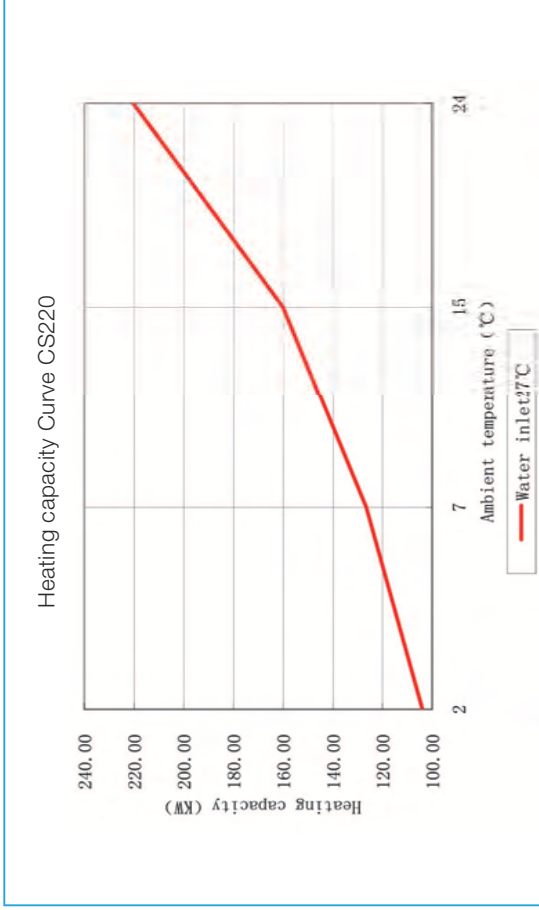


Appendix B – Technical Data



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EVOHEAT Pump Warranty

1. The titanium heat exchanger tubing is guaranteed against corrosion for a period of fifteen (15) years from the date of purchase when used with chlorine, salt, bromine or sea water.
 2. The compressor is guaranteed for five (5) years from the date of purchase.
 3. All other parts are guaranteed for two (2) years from the date of purchase.
 4. This warranty covers all labour for twelve (12) months from the date of purchase. Force 5 requires transport back to Evo Industries.
 5. This warranty excludes any defect or injury caused by or resulting from misuse, abuse, neglect, accidental damage, improper voltage, vermin infestation, incompetent installation, any fault not attributable to faulty manufacture or parts, any modifications which affect the reliability or performance of the unit.
 6. This warranty does not cover the following:
 - a. Natural Disasters (hail, lightning, flood, fire etc.)
 - b. Rust or damage to paintwork caused by a corrosive atmosphere
 - c. When serviced by an unauthorized person without the permission of Evo Industries Australia
 - d. When a unit is installed by an unqualified person
 - e. Where a unit is incorrectly installed
 - f. When failure occurs due to improper or faulty installation
 - g. Failure due to improper maintenance (refer Operating Instructions)
 - h. 'No Fault Found' service calls where the perceived problem is explained within the Operation Instructions
 - i. Costs associated with delivery, handling, freighting, or damage to the product in transit.
 7. If warranty service is required you should:
 - a. contact Evo Industries Australia on 1300 85 99 33 or via our Contact Us page on our web site
 - b. provide a copy of your receipt as proof of purchase
 - c. have completed the online warranty registration or provide a completed warranty card.
 8. Home service is available within the normal operating area of your Evo Industries authorized Service Centre. Service outside this area will incur a travelling fee.
- Unless otherwise specified to the purchaser, the benefits conferred by this express warranty and additional to all other conditions, warranties, rights and remedies expressed or implied by the Trade Practices Act 1974 and similar consumer protection provisions contained in legislation of the States and Territories and all other obligations and liabilities on the part of the manufacturer or supplier and nothing contained herein shall restrict or modify such rights, remedies, obligations or liabilities.

Warranty Registration

To register your Warranty, please enter the following details or go online at www.evoheat.com.au/warranty to register directly at our website. Fields with a star (*) must be filled in before continuing. For information about what Evo Industries Australia will do with your personal details, please refer to our Privacy Disclaimer.

Family Name: *
Given Name: *
Preferred Title: *
Age Group: * 18-24 25-34 35-44 45-54 55-64 64+
Street Address: *
Suburb: *
Postcode: *
State: *
Email: *

Please tell us about which EvoHeat product you bought, who you bought it from and what you will be using it for.

Product & Model: *
Serial Number:
Authorised Installer:
Date Purchased: *
Date Installed:
Receipt Number: *
Company you bought it from: *
Did you purchase the item when you purchased your pool?:
If you purchased it after the pool, how many years did you wait?:
What size is your pool or spa?:
Why did you choose an **EVOHEAT** product?:

