R22
R410A
R407C

Swimming Pool Heater User Manual

Before operating this product, please read the instructions carefully and save this manual for future use.

13 KW

9 KW

5 KW

Thank you for choosing our quality product. Please read this instruction sheet carefully before use and follow the sheet to operate the unit in order to prevent damages on the device or injuries to staff.

Specifications are subject to change without notice for further improvement. Please refer to the name plate on the unit for updated specifications.

In cold weather (below 0℃), when the unit is no longer needed, do drain out all the water inside the system.

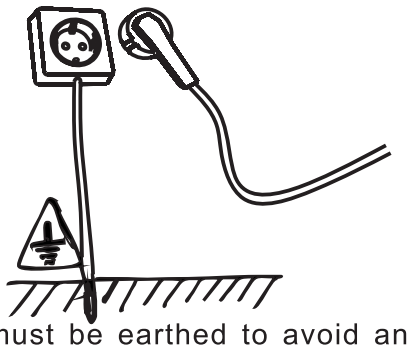
This heat pump swimming pool heater captures heat from the air and moves it to your pool water. It is a cost-effective, high efficient way of heating your pool and spa. The unit can be used widely in different applications for places such as hotel, sauna center, baths, school, family, beauty&hair-dressing saloon and villa etc.

The unit should not be placed in a airtight place, like the basement or the garage. It is recommended to have the unit away from other home appliance, to avoid electromagnetic interference. Working temperature range of this unit is -5℃～30℃. The highest output water Temp can be 40℃.

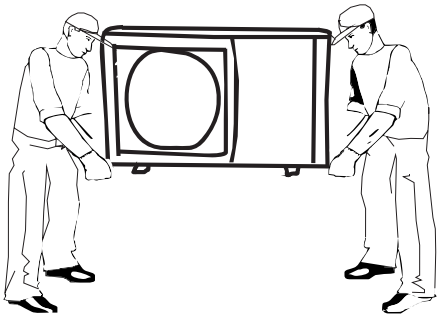
Content

1. Safety Precautions

ELECTRICAL POWER MUST BE SWITCHED OFF
BEFORE STARTING ANY WORK ON JUNCTION BOXES

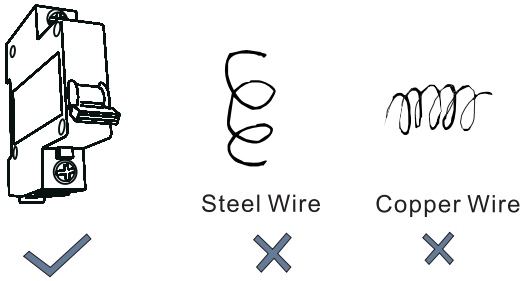


The unit must be earthed to avoid any risks caused by insulation defects.

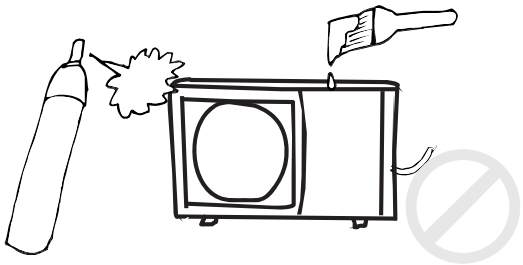


The installation, commissioning and maintenance of these machines should be performed by qualified personnel having a good knowledge of standards and local regulations, as well as experience of this type of equipment.

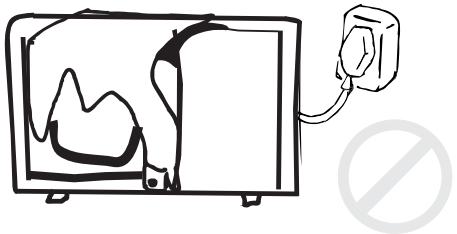
Clean the machine by washing with detergent and water at low pressure, and then rinsing with clean water.



It is the responsibility of the installer to provide circuit breaker protection, corresponding to the machine’ s capacity (refer to the unit electrical characteristics table), near to the machine.

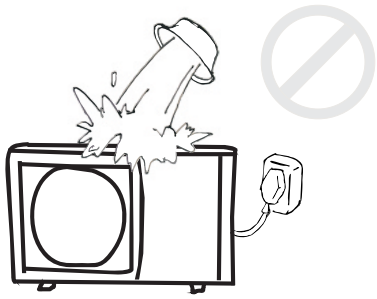


Donot spread over any paint or Insecticidal material on the surface of the unit

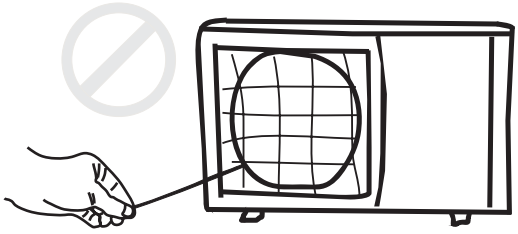


Donot clog the evaporator by paper or any other foreign bodies, to keep the unit well ventilated.

1. Safety Precautions



Donot pour any water on the unit



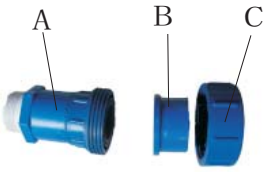
Donot touch the air outlet grill
when fan motor is running

2. Accessories

User’ s manual, 1 pcs

x4

Plug bolt, 4 pcs



× 2

Water inlet and outlet connectors, 2 sets

Drain connector, 1 pcs

x4

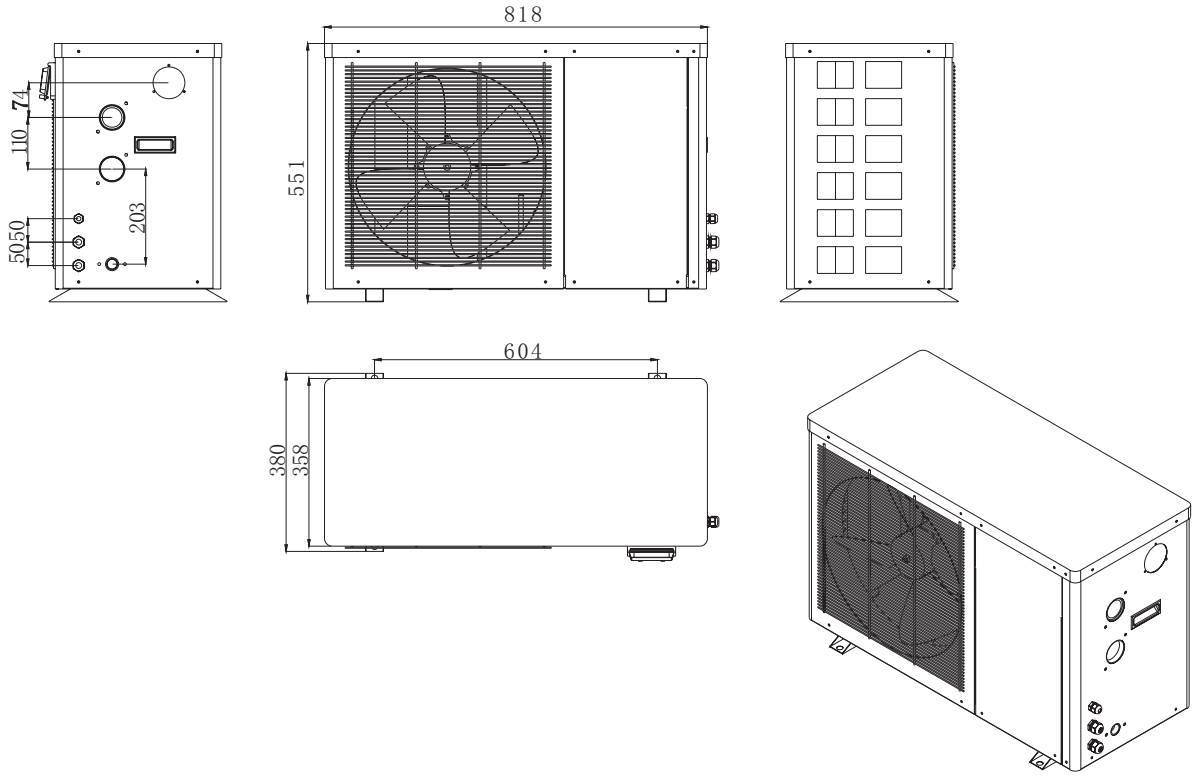
Absorber, 4 pcs

Drain pipe

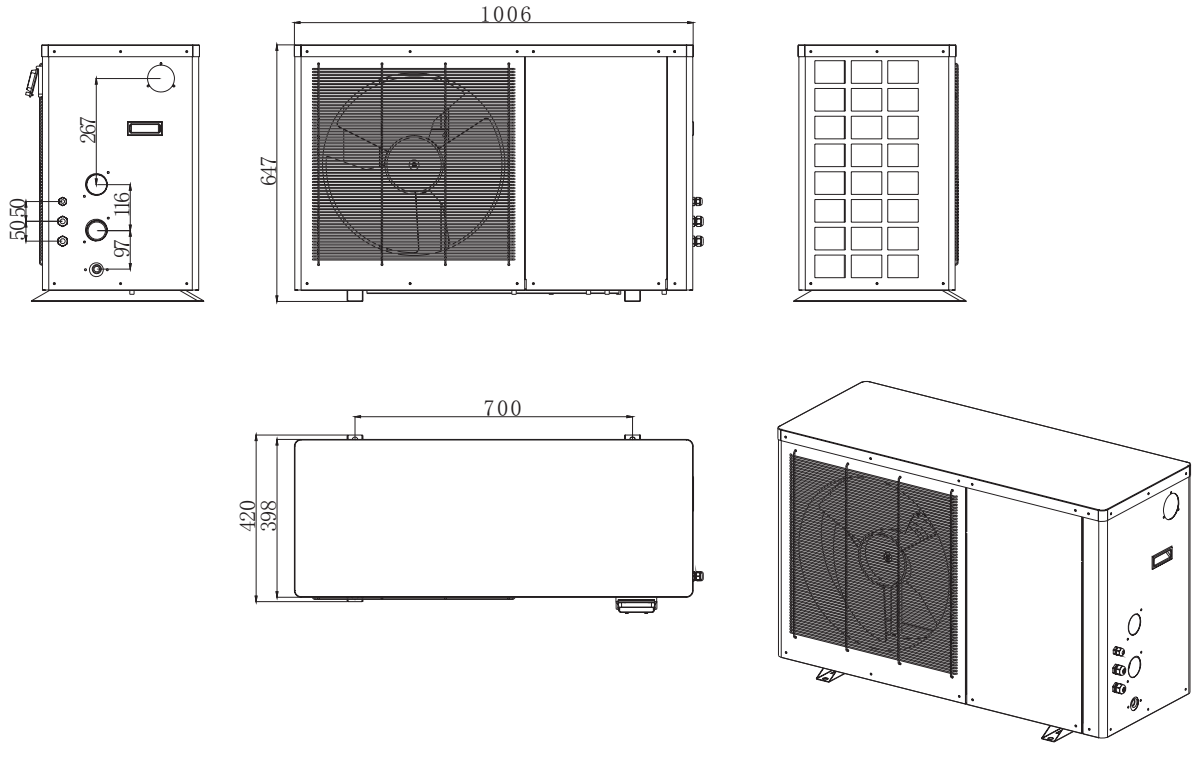
Controller, 1 pcs

On the receiving the equipment, all the elements should be checked with the packing list to ensure that no items are missing.

3. Outlines and Dimensions



5KW



9/13KW

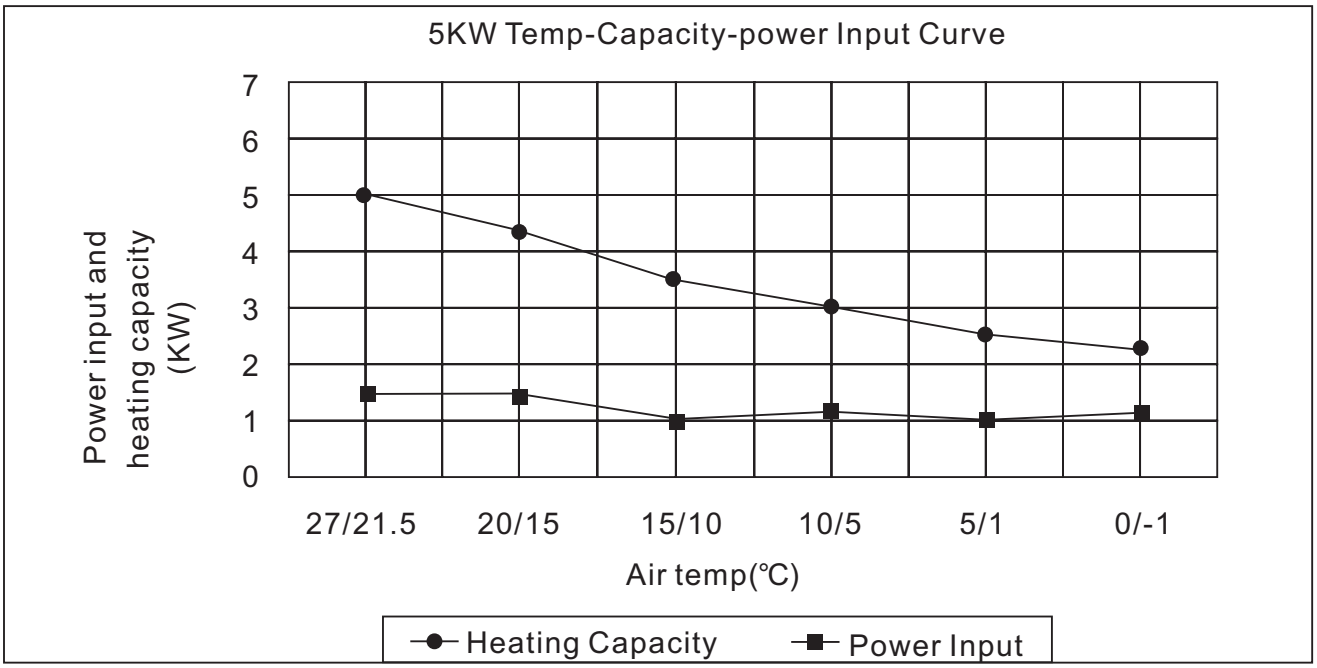
4. Specification

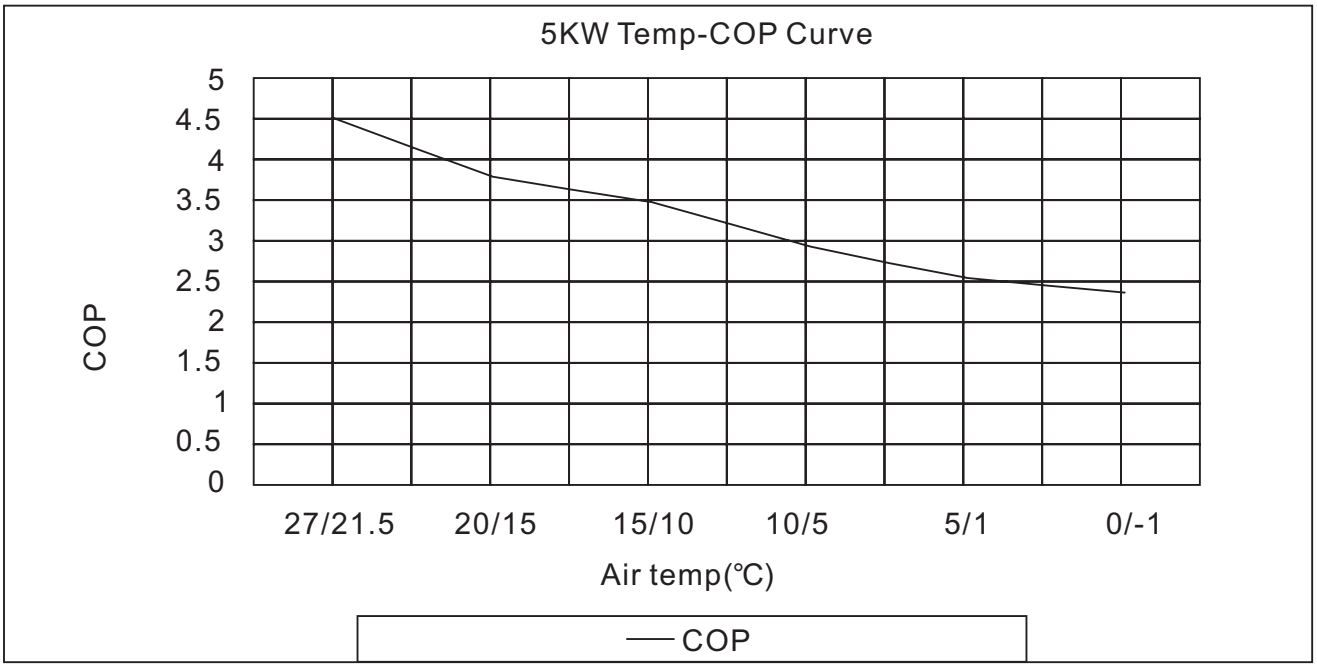
** Testing Condition: outdoor air temperature DB/WB 27℃/21.5℃, water inlet temperature 26.7℃.

Model		AAC-18W1	AAC-30W1	AAC-48W1
		EARW033	EARW050	EARW075
Heating Capacity	KW	5.8	8.8	13
	Btu/H	18000	30000	48000
Compressor	Type	Rotary	Rotary	Rotary
	Quantity	1	1	1
Rated Power Input	KW	1.35	2.05	2.6
Power	V/Hz/Ph	220/50/1	220/50/1	220/50/1
Fan Quantity		1	1	1
Fan Power Input	W	120	120	120
Fan Rotate Speed	Rpm	850	850	850
Water Flow Rate	m^3/m	1.73	3	3
Water Pressure Drop	Kpa	10	10	12
Noise Level	dB(A)	43	43	43
Water Connection	Inch	2	2	2
Weight Net/Shipping	Kg	46/55	72/78	72/78
Net Dimension	L×D×H (mm)	818×380×551	1006×420×647	1006×420×647
Packing Dimension	L×D×H (mm)	865×400×690	1040×440×780	1040×440×780

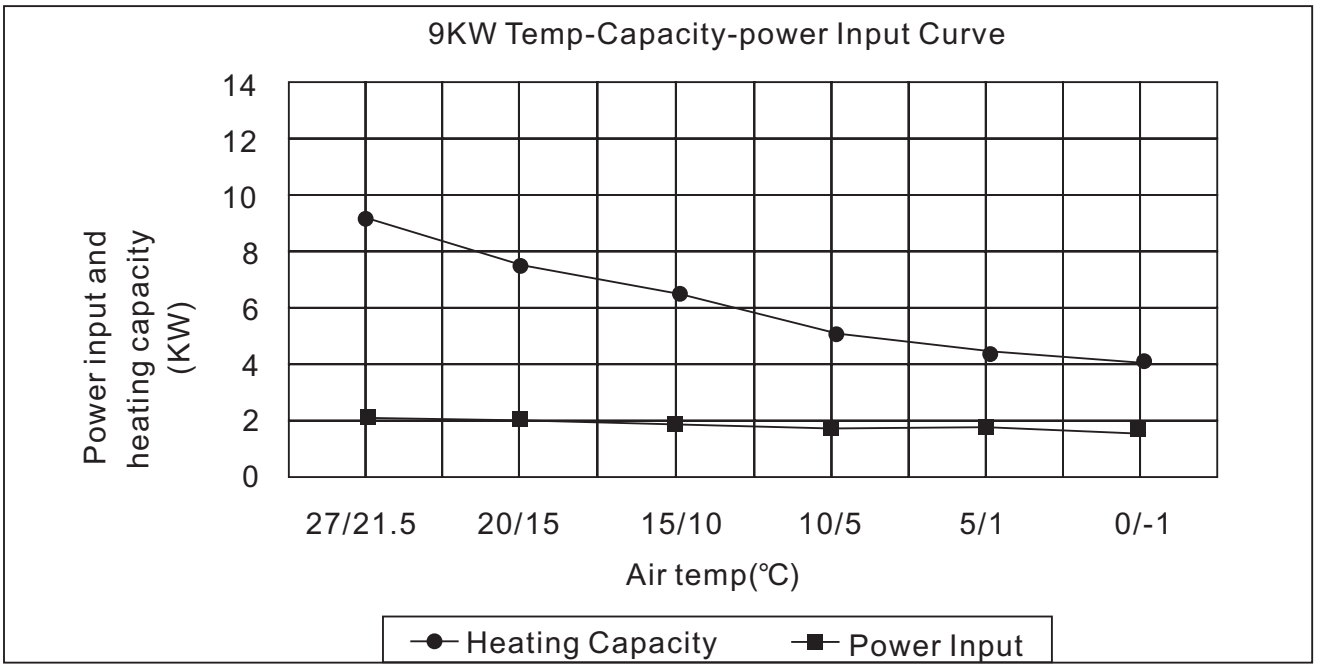
The specifications air subject to change without prior notice. For actual specifications of the unit, please refer to the specification stickers on the unit.

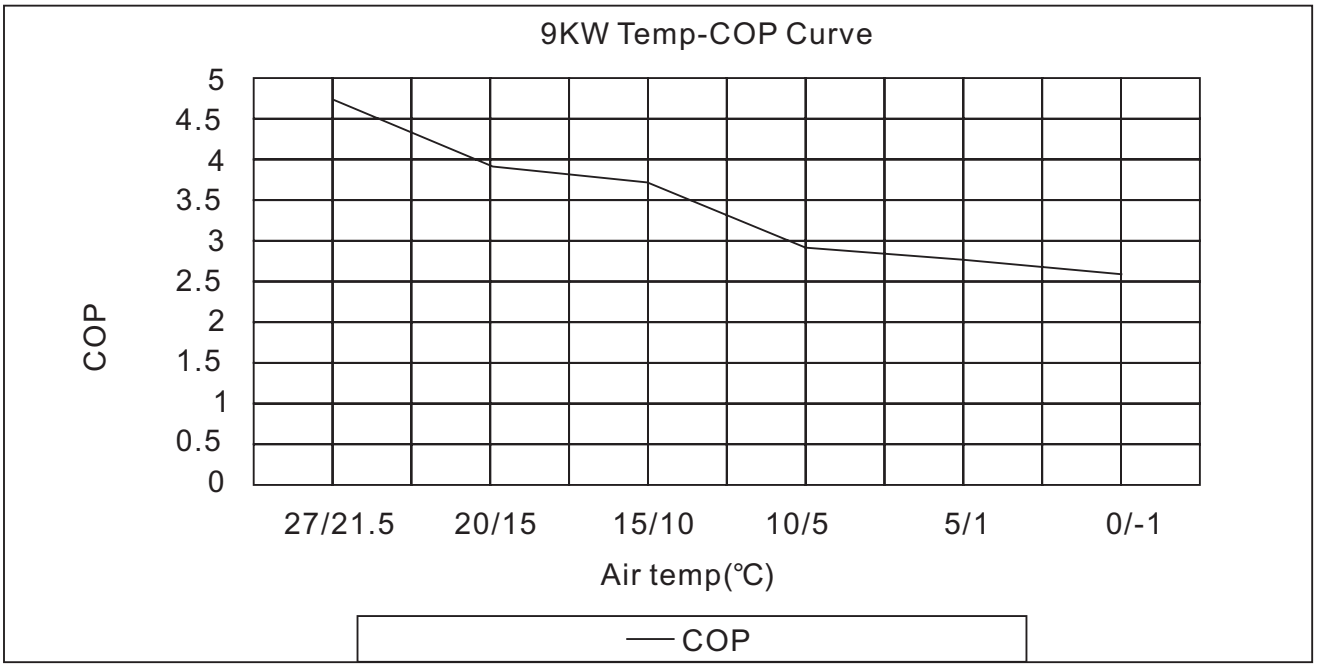
5. Performance Curve



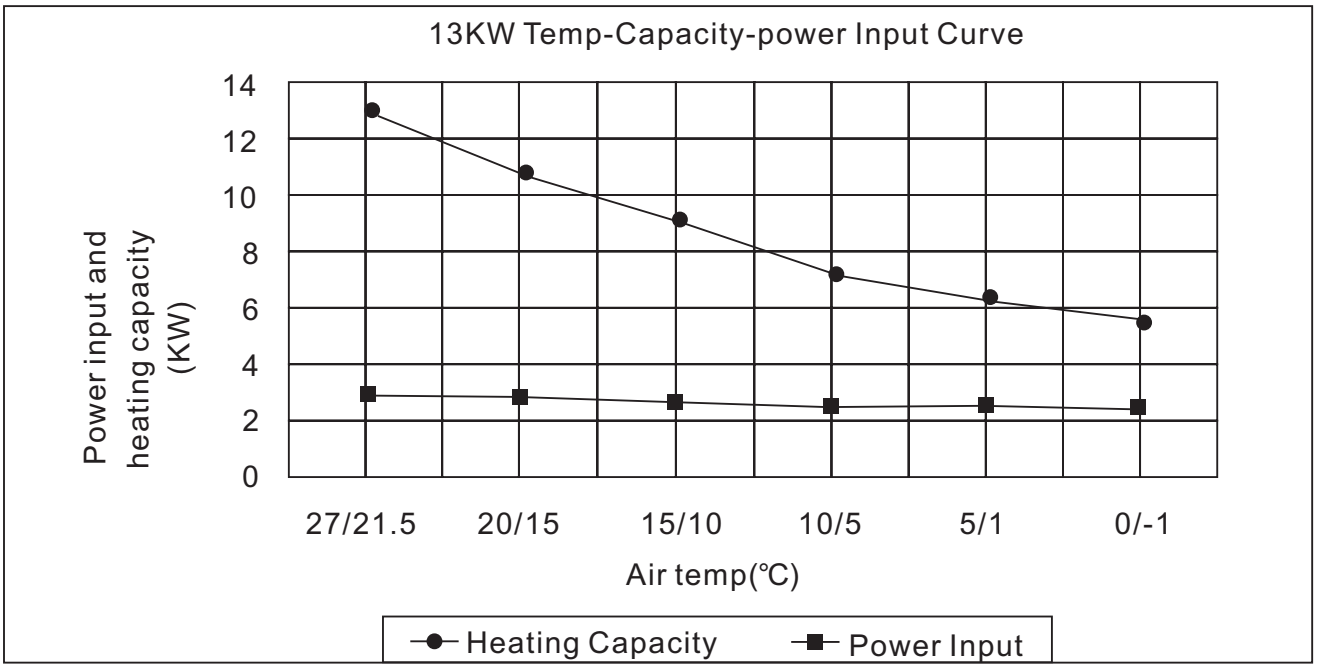


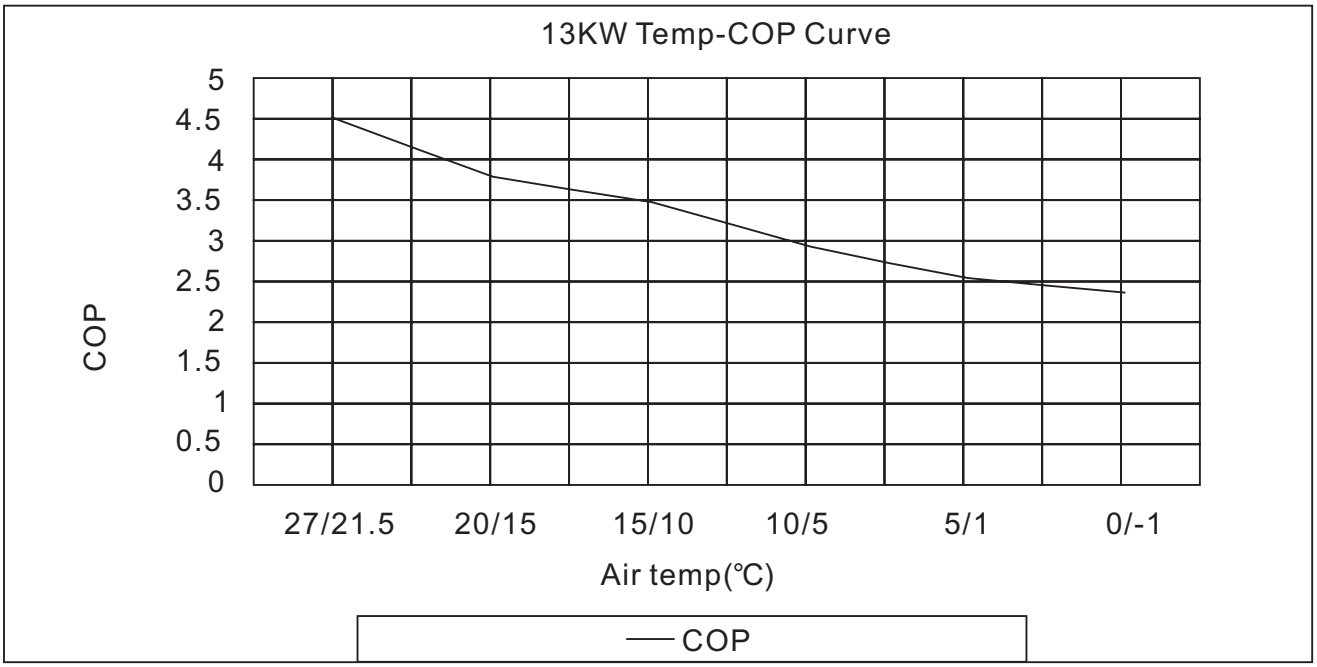
5. Performance Curve





5. Performance Curve





6. System and main components

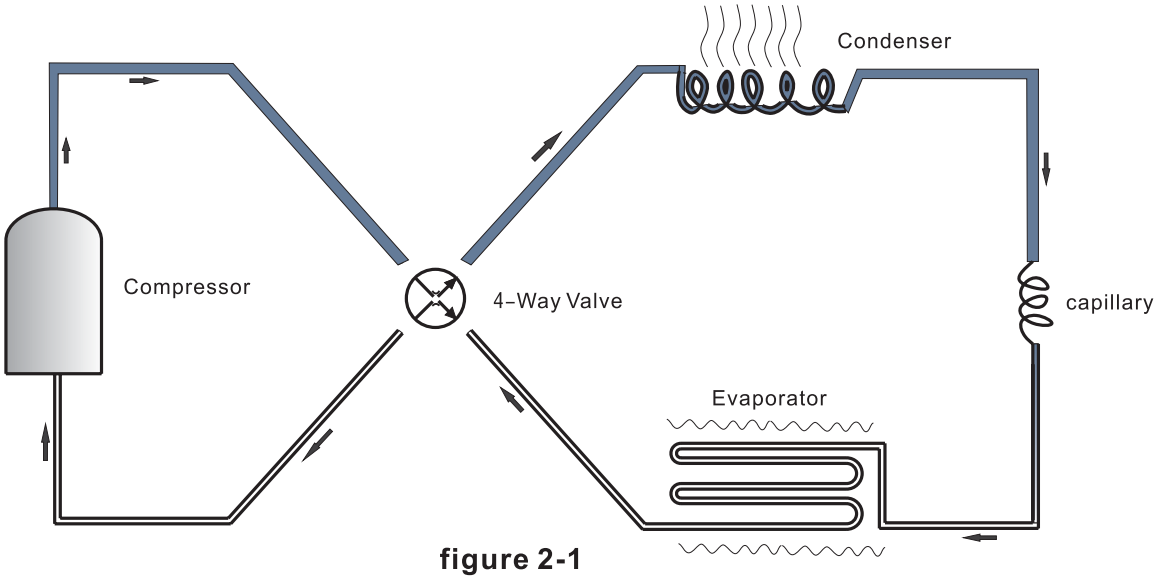


figure 2-1

Working principle of a Heat Pump:
The working fluid, in its gaseous state, is pressurized and circulated through the system by a compressor. On the discharge side of the compressor, the hot and highly pressurized gas is cooled in a heat exchanger, called a condenser, until it condenses into a high pressure, moderate temperature liquid. The condensed refrigerant then passes through a pressure-lowering device like an expansion valve, capillary tube, or possibly a work-extracting device such as a turbine. This device then passes the low pressure, (almost) liquid refrigerant to another heat exchanger, the evaporator where the refrigerant evaporates into a gas via heat absorption. The refrigerant then returns to the compressor and the cycle is repeated.

Compressor

Capillary

6. System and main components

Four-way valve

Evaporator

Pressure switch

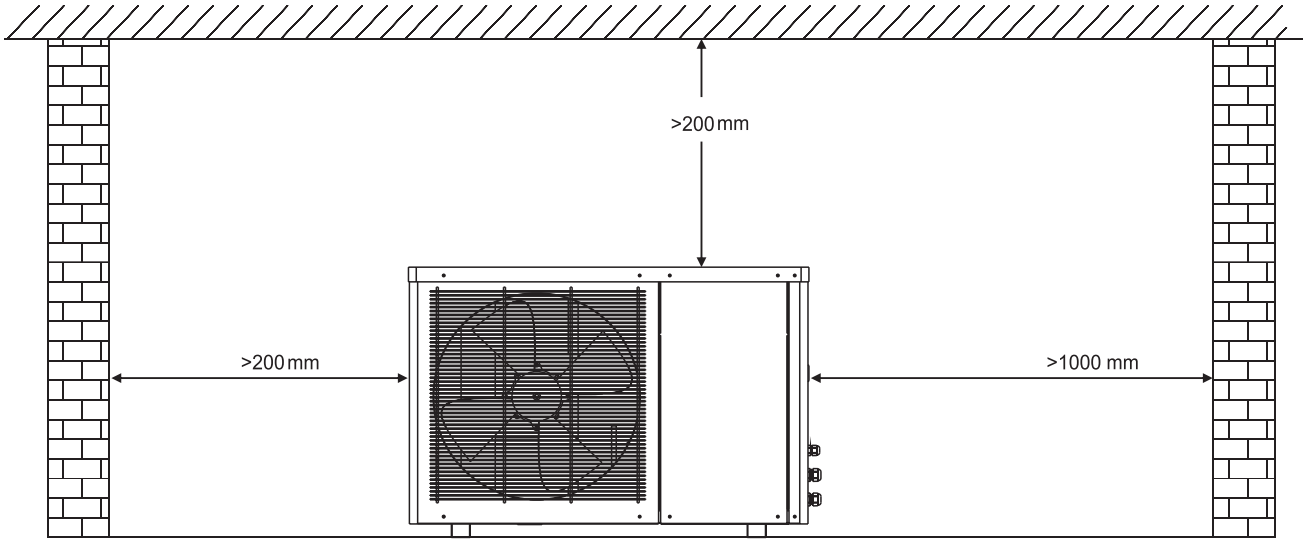
Water flow switch

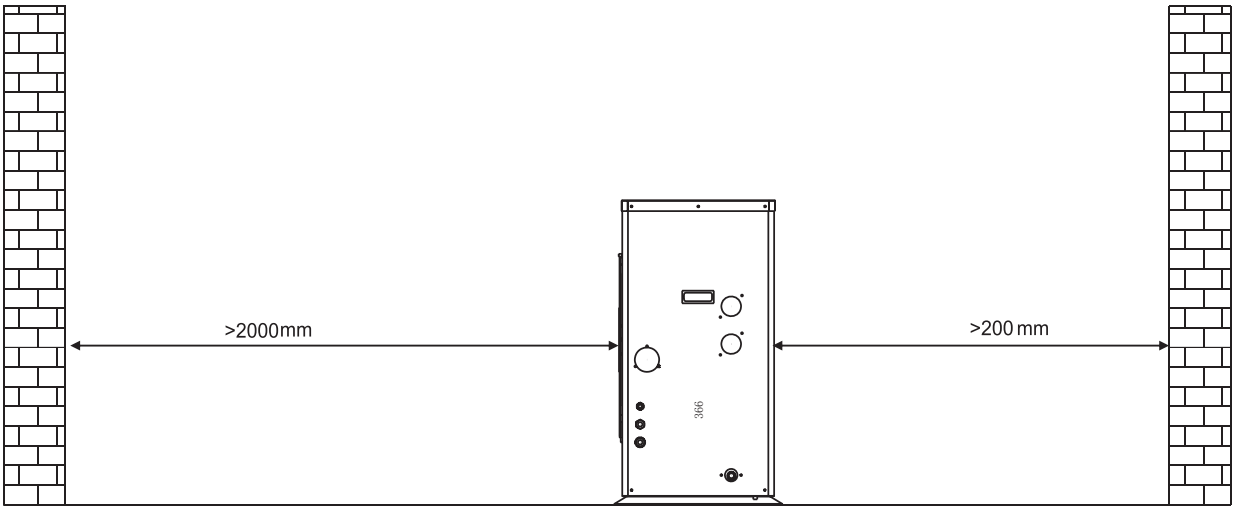
Titanium /PVC exchanger

Pressure meter

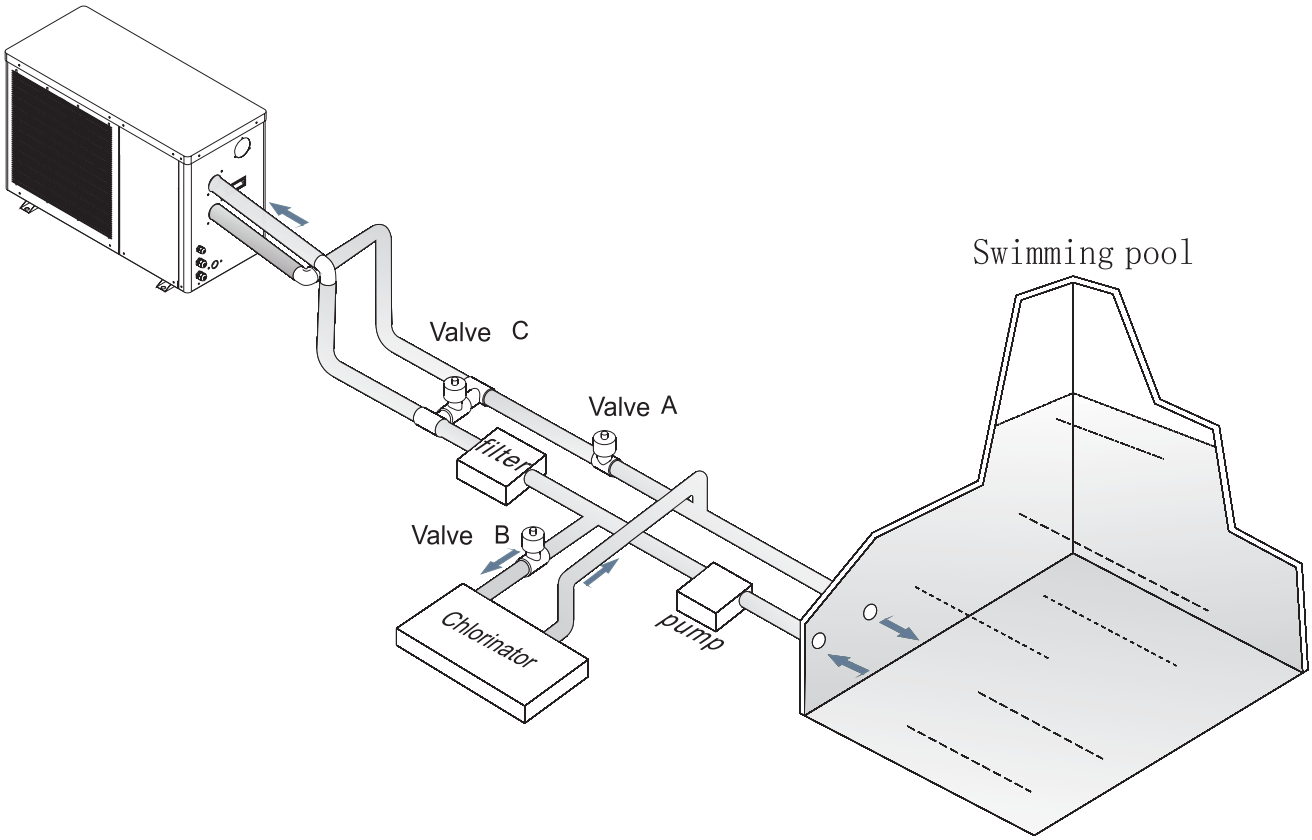
7. Installation

7.1 Installation Location





7. Installation



7.2 Plumbing System Figure

1.When heating is needed:
Make valve A open, and then keep the water inlet and outlet Temp difference at 2 ℃ by adjusting the open of valve C.
2.When heating is not needed:
Make valve A and valve C fully open, so the water can be circulated through the filter only.
3.When disinfection is needed:
Make valve A closed and valve B open, to guide the water go through the chlorinator.

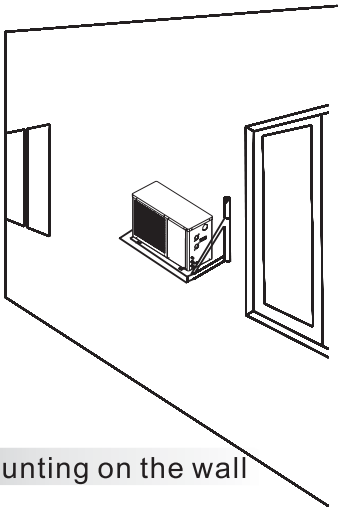
7.3 Terminal insulation

In order to proper keep power consumption low and to comply with standards in force, all hot water pipes must be insulated.

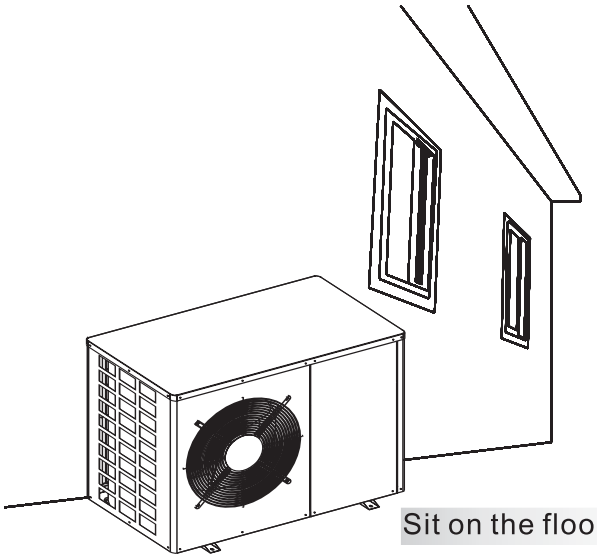
Note: Please ensure the water flow inside the unit no smaller than 80% of the rated water flow.

7. Installation

7.4 Locate the unit



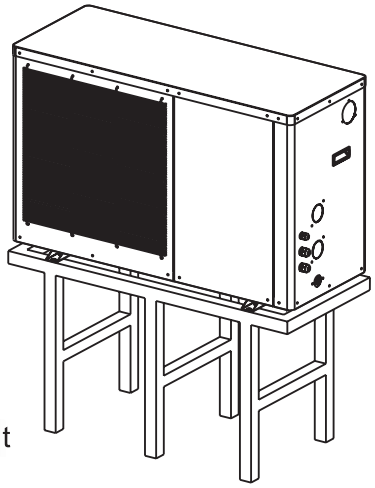
Mounting on the wall



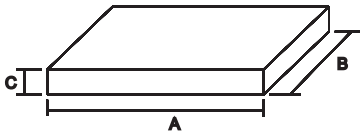
Sit on the floor

1. The unit must be located on a flat, solid, preferably cemented surface.
2. when installing the unit, introduce a tilt of 1cm/m for rain water evacuation
3. when installing the unit in harsh climatic conditions, sub-zero temperatures, snow, humidity.., it is recommended to raise the unit off the ground by about 20cm.
4. It is recommended to have a base with following size for these units:

model	A	B	C
5kw	903	480	200
9/13kw	1091	520	200



sit on bracket



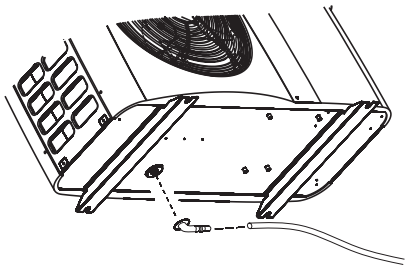
5. Rubber vibration absorbing mountings are recommended.
6. When sitting the unit, take care to leave sufficient free space all around it for carrying out maintenance.
7. The units are air cooled. Because of this, they must be installed outdoors in an area with sufficient clearance to provide free air circulation through the condenser coil.
8. Shield the unit from direct sunshine or rain, but never cover the unit to cause bad ventilation
9. The unit should be free from explosive and corrosive gas, and grease.

Note: Slope of the unit should be less than 20° all the time.

7. Installation

7.5 Installation of the drain

Please install the drain connector as shown in picture when necessary. In some cold areas (Temp below 0), please donot use the drain connector, otherwise it may clogged by ice.



7.6 Installation of the water pipe

1 Screw the pipe cap off with a wrench.

2 Please apply the sealant tape to the threads of the water inlet and outlet connectors.

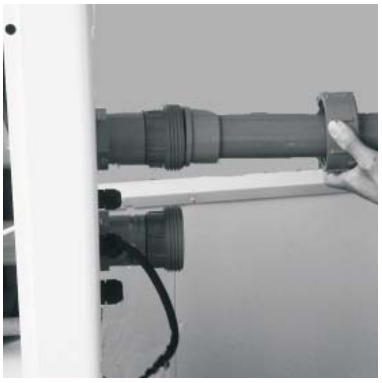
3 Screw the water inlet and outlet connectors to unit.

Note: Slope of the unit should be less than 20° all the time.

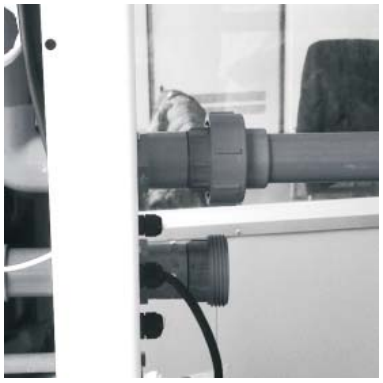
7. Installation

4 Apply the pipe glue to the self-prepared water pipe for around 30mm.

5 Insert this pipe to connector B by around 28 mm



6 Screw this finished pipe set into the connector of the unit. There is no need to use sealant tape here, because the connector already has o-ring itself.



Finished!

Note:

The water of the swimming pool should always pass by a filtering system before entering the unit. Some dirt, if they are not filtered, perhaps damage or choke the Titanium/PVC exchanger and cause some failure.

7. Installation

7.7 Electrical Connection

1.On site wiring must be carried out in accordance with the wiring diagram affixed to the unit's junction box
2.The unit must be earthed via a terminal block provided inside the junction box.
3.For the 3 phase model, the controller has set power phase protection. When it finds out the power phase sequence get wrong or a phase missing, it will not start the unit and error code EE04 is shown on the wired controller until malfunction is remove and power restart.
4.The supply voltage must not vary by more than 10%. Imbalance between the phases must not be greater than 3%.

1 Take off 4 screws on the wiring panel at the front of the unit and remove the wiring panel

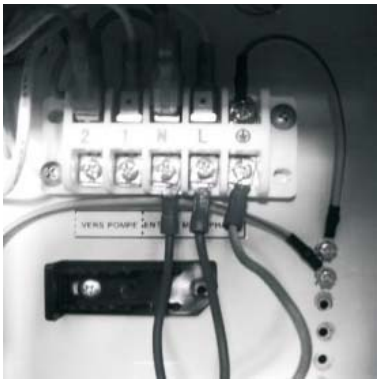
2 Take off the internal metal cover of the junction box.

3 Take off the power cable clip.

7. Installation

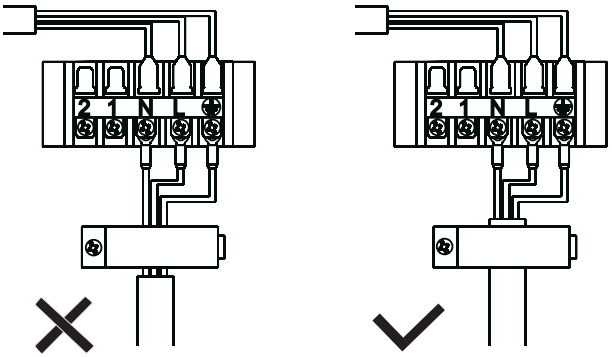
4 Please insert the power cable into the unit through the cable gland

5 The power cable should go through another cable gland to enter the junction box

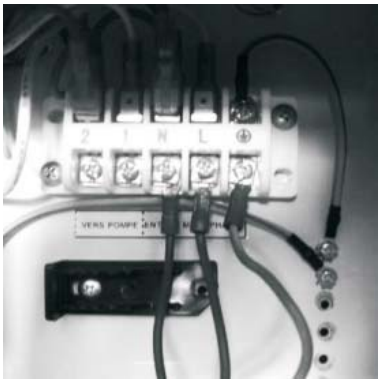


6 Please connect the power cable to the terminal block according to the mark on the terminal block.

After connect the power cable to the terminal block correctly, please install the power cable clip back to lockup the power cable.

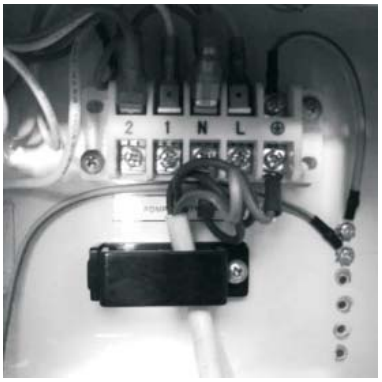


7. Installation



Please do connect neutral wire of the power cable to the terminal marked with “N”, Live wire to the terminal marked with “L” and Earth wire to the terminal marked with “⏚”.

NOTE:
WRONG WIRING MAY DAMAGE THE UNIT OR MAKE THE UNIT MALFUNCTION.

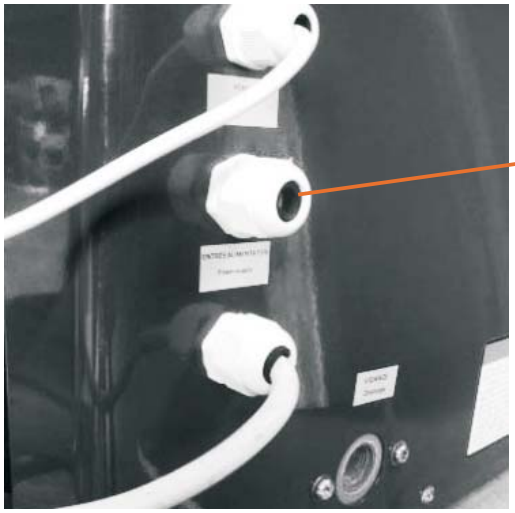


7 Fasten the screw of the power cable clip.

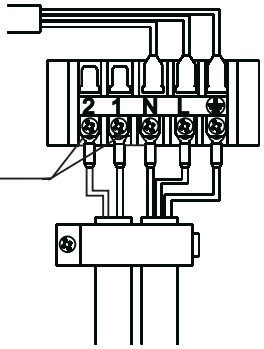
8 Reinstall the internal metal cover of the junction box.

9 Reinstall the wring panel

7. Installation



Cable gland preserved for the power cable of the water pump

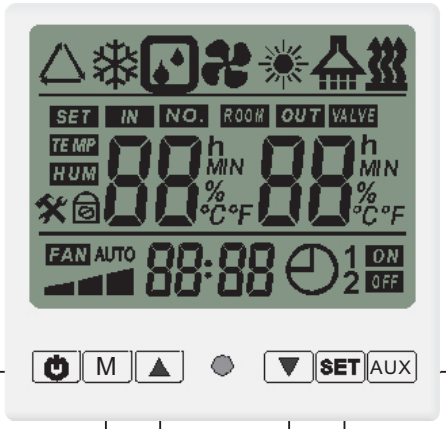


Terminals Preserved for external water pump

10 Tighten the cap of the cable fixture to lockup the power cable.

8. Operation Instructions

8.1 Introduction of Controller



Press ⏻ to turn on and turn off the units

Press M to change the unit model in sequence of cooling/heating

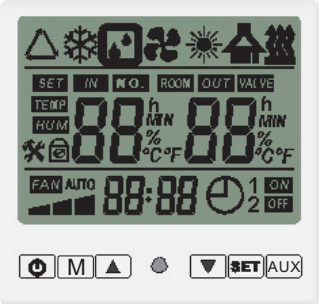
Press ▲ ▼ SET together to set and check the operation data

Press to AUX start auxiliary electrical heating

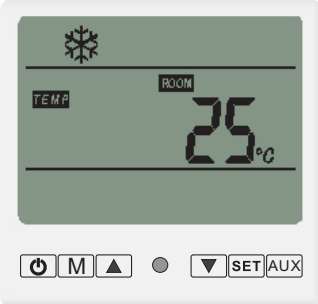
Note: Please do not forget to close the waterproof box after finishing the setting of the wired controller.

8. Operation Instructions

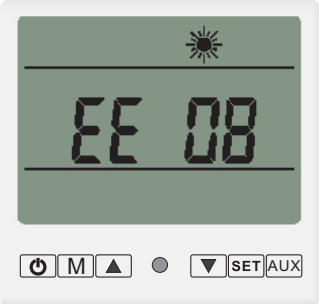
8.2 Start up and Standby



1.The display will show all symbols when power on

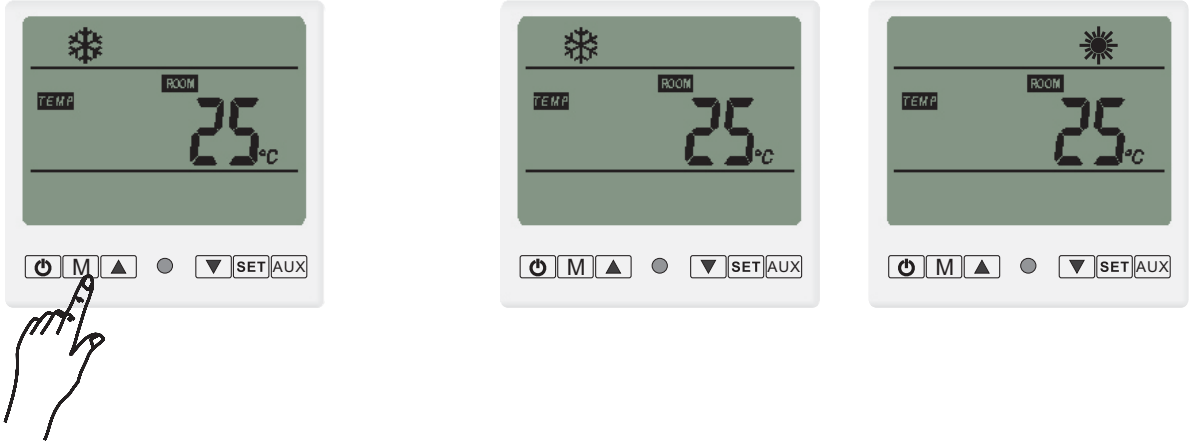


2.The display will show mode and ambient Temp 5 seconds after power on. The unit is standby.



3. If main processor PCB and wired controller cannot communicate with each other properly, failure code EE08 is shown on display.

8.3 Mode selection

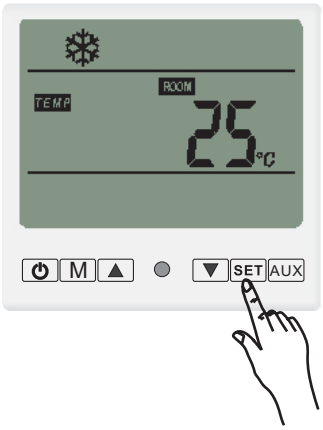


Press “MODE” to choose the unit operation mode when the unit is standby.

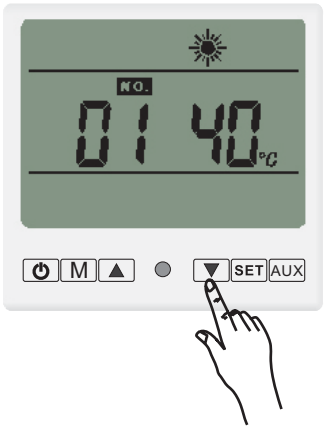
8. Operation Instructions

8.4 Water Temperature

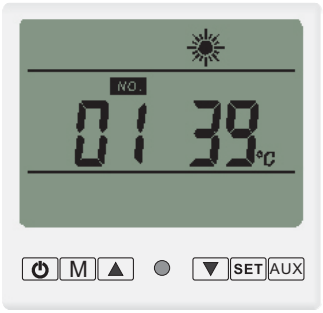
The parameters “00” and “01” means to preset the target water temp in chiller mode and heating mode. Please preset water temp as follows:



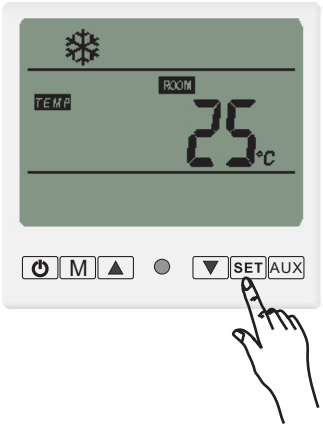
1. In standby condition, Press “SET” to select the parameter “00” (in chiller mode) or “01” (in heating mode).



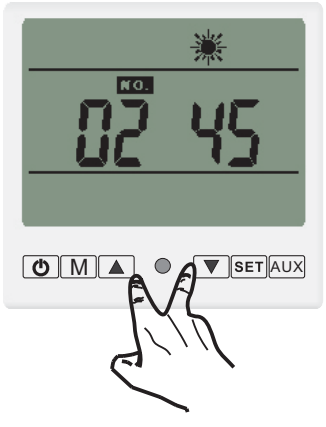
2. Then press “▲” or “▼” once to increase or decrease the water temp by 1 ℃ to choose the target water temperature.



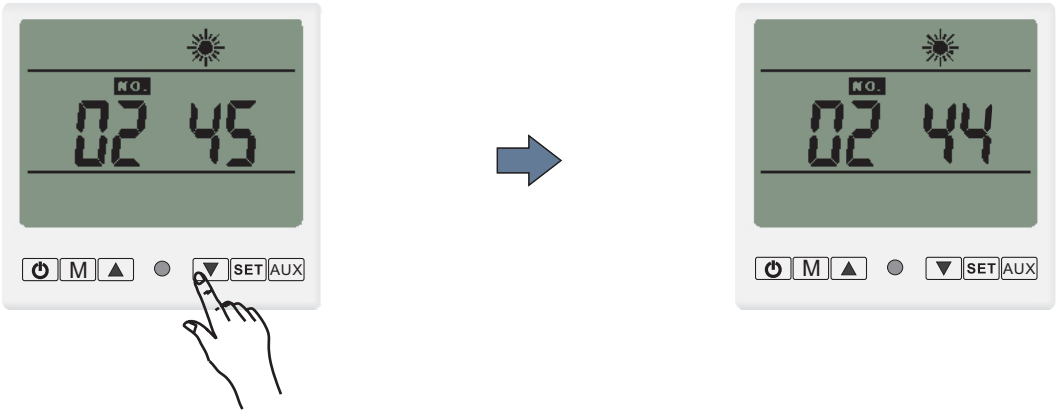
8.5 Setting of other parameters



1.When the unit is standby, press “SET” repeatedly to select the parameter.

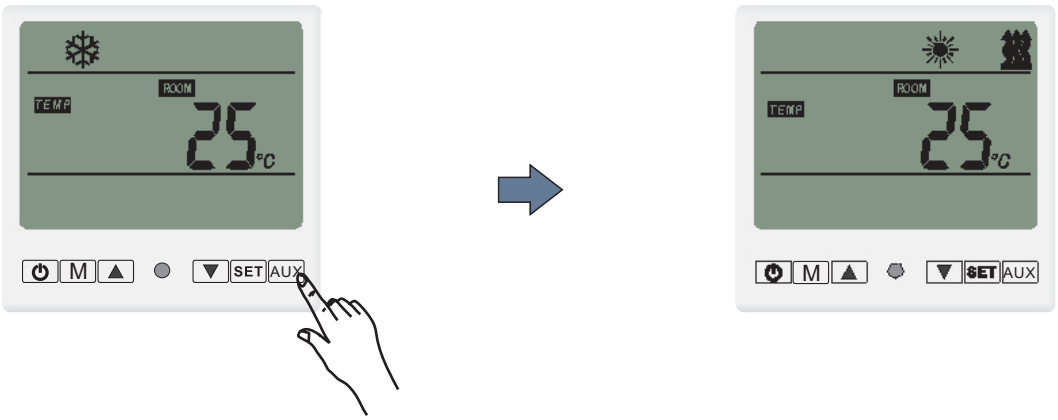


2.Press “▲” and “▼” at the same time for 5 seconds and then one long buzzing will be heard to indicate that parameter setting program has been activated.



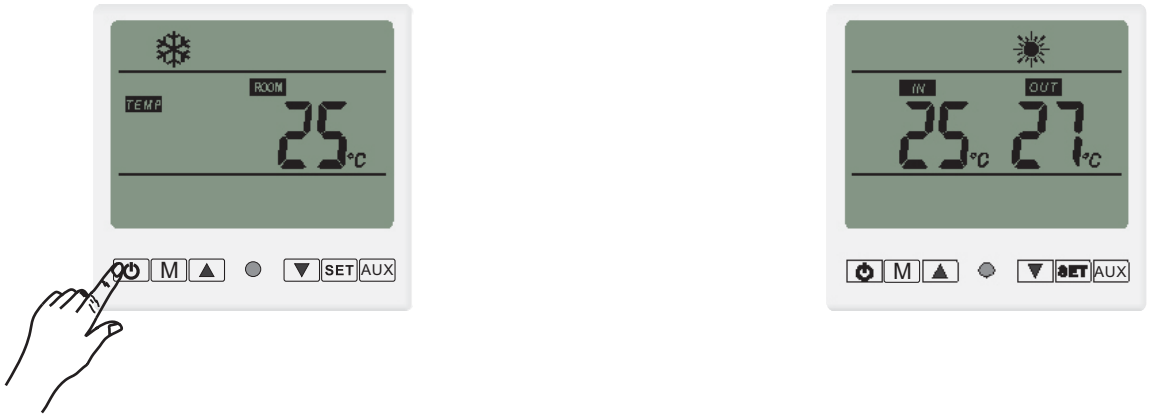
Press “▲” or “▼” to adjust the parameter setting. Please refer to parameter table 1 for the meaning of all parameters.

8.6 Auxiliary Electric Heater (Preserved)



When the power is turned on, press “AUX” to turn on/off the auxiliary electric heater.

8.7 ON/OFF

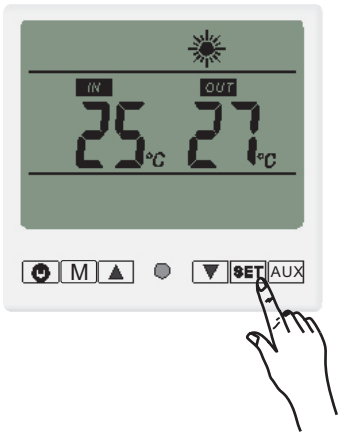


After all parameter settings are done, press “⏻” to turn on the unit.

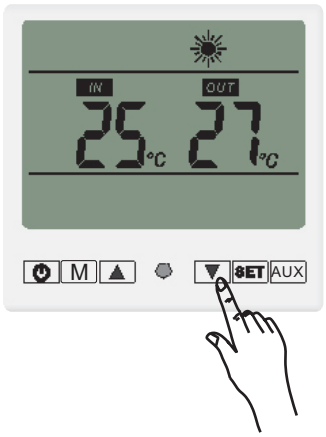
The display shows the inlet and outlet water Temp.

8. Operation Instructions

8.8 Check Parameter Setting

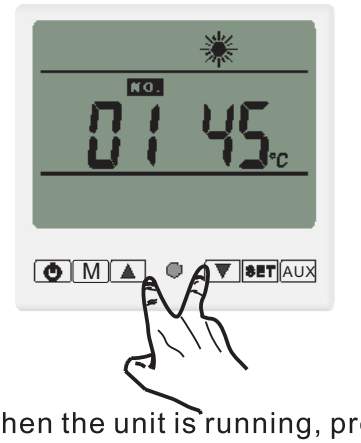


When the power is turned on, press "SET" to check all the parameters.

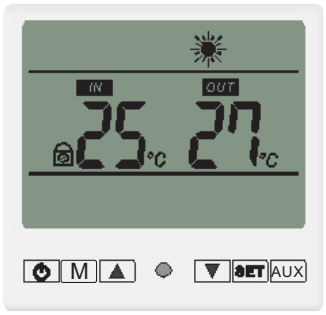


When the power is fed to the unit, press "▲" or "▼" to check the Temp parameters

8.9 Lock Function



When the unit is running, press "▲" and "▼", one buzzing will be heard to indicate that all buttons are locked. Press again to unlock all buttons.



No button is pressed in 5 seconds, the display will show the inlet and outlet water Temp.

Table 1

Ref.	Description	Range	Default	Remarks
00	Return water temp. In cooling mode	8-28℃	12℃	Adjustable
01	Return water temp. In heating mode	15-40	40℃	Adjustable
02	Defrosting cycle in heating mode	30-90Min	40Min	Adjustable
03	Temp. to start defrosting operation in heating mode	-30-0℃	-7℃	Adjustable
04	Temp. to end defrosting operation in heating mode	2-30℃	13℃	Adjustable
05	Defrosting period	0-15Min	8Min	Adjustable
06	Linkage operation	1-2	2	Adjustable
07	Auto-restart function	0-1	1	Adjustable
08	Function(chiller/heat pump/electrical heating/ hot water coils)	0-3	1	Adjustable
09	Operation of water pump(normal/special)	0-1	0	Adjustable
P1	Coil temperature 1			Not adjustable
P2	Coil temperature 2			Not adjustable

9. Maintenance

9.1 Automatic defrosting

While the evaporator frost, the unit defrost automatically.
Defrosting conditions

A. When evaporator coil Temp less than 13° C (Parameter 04) over 40 minutes (Parameter 02) of continuous heating, and instant evaporator coil temp is less than -7° C (Parameter 03), the unit defrost until the sensor's temperature reascends to >13° C (Parameter 04), or defrosting time is over 8 minutes (Parameter 05).

B. If the temperature sensor fails, the unit switches automatically on an alternating mode: 6 minutes of defrosting after 40 minutes (Parameter 02) of the compressor's continuous functioning.

Conditions for ending a defrosting:
When the sensor's temperature >13° C (Parameter 04), or that the defrosting is over 8 minutes (Parameter 05), the unit will end up its defrosting.

Defrosting actions:
The actions below are activated when the conditions of the defrosting mode are met:

A . Compressor and Outdoor Fan Motor stop. Then wired controller feels the indicative signal from outdoor unit, and sends out the defrosting order.

B. Four-way valve is disconnected from power in 25 seconds after receiving the defrosting signal.

C. Compressor restarts in 30 seconds.

D. Water pump keeps in normal operation.

Exiting defrosting actions :

A The compressor stops, while outdoor fan motor starts again. Then in five seconds, 4-way reserving valve will be refed with power.

B After fan motor restarts, the system enters into heating operation in 30 seconds. When the system clears its record of running time, and end defrosting.

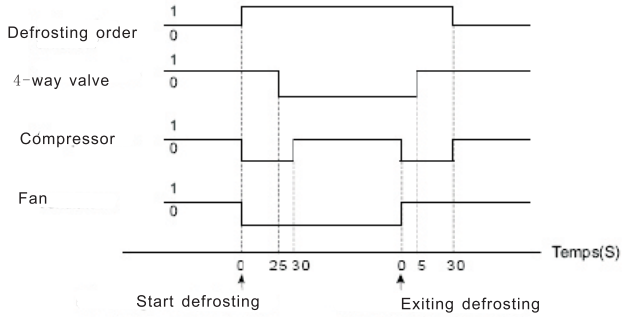
Abnormal ending of defrosting operation

A If the system is turned off during defrosting, it will stop only after the defrosting is finished.

B Hi/Lo Pressure are not checked during defrosting, and after system restarts for heating, Hi/Lo pressures are checked after 1 minute.

Note: If not necessary, please donot change defrosting parameter

9. Maintenance



9.2 Condenser Coil

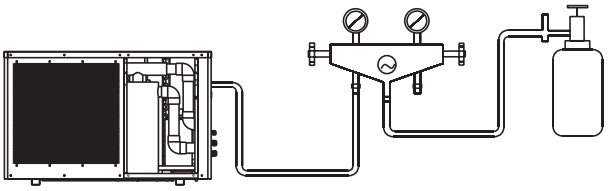
The condenser coils donot require any special maintenance, except when they are clogged by paper or any other foreign bodies. Cleaning is by washing with detergent and water at low pressure, and then rinsing with clean water:

Warning:

1.Before cleaning, make sure the unit is off.
2.Inner of the unit must be cleaned by qualified person.
3.Donot use gasoline, benzene, detergent etc. to clean the unit. And donot spray with insecticide. The unit may be damaged. The cleanser special made for air conditioner cleaning is recommened.
4.Spray air conditioner cleanser into the coils. Let the cleanser sit for 5~8 minutes.
5.Then, spray the coil with clean water.
6.An old hairbrush works well for brushing surface dirt and lint off the fins. Brush in the same direction as the slots between the fins so the bristles go between the fins.
7.After cleaning, use a soft and dry cloth to clean the unit.

9.3 Gas Charging

Unless the unit has a leak in the sealed refrigeration system, the factory charged refrigerant should last for the life of the unit. Refrigerant is very stable and should not degrade or break down even under severe operating conditions. If your unit needs recharging, then it has a leak, and adding refrigerant will not solve the problem. The leak must be located and repaired.



1.Gas charging must be performed by qualified person

2.One can find out whether the system has enough refrigerant inside by checking the low pressure inside the system.

3.The lower pressure inside the system varies by the ambient Temp. When in summer, the pressure will be around1.0MPa. When in Spring and Winter, it will be around0.7Mpa. When the unit cannot work properly and the low pressure is lower than this, please recharge the unit.

9.4 Water flow failure

A flow switch is fitted as standard on the water inlet pipe into the evaporator in order to ensure adequate water flow to the evaporator before starting the unit.
It acts both in the event of partial blockage (starting to take in ice) and in the event of a drop in water flow due to pump failure. This is the machine s main protection device.
The hydraulic module requires no special maintenance. ***Fitting a mesh filter(charge by user) on the unit inlet is strongly advised***

9.5 Usage in Winter

Ensure that all of the various components are protected against freezing caused by the outside temperature. In the event of any accidental power failure, ensure that account is taken of ice protection requirements.
In cold weather (below 0℃), when the unit is no longer needed, do drain out all the water inside the system.

9.6 Treatment of scrap

Please do scrap the unit according to the local regulation. Be care of the refrigerant and compressor lube

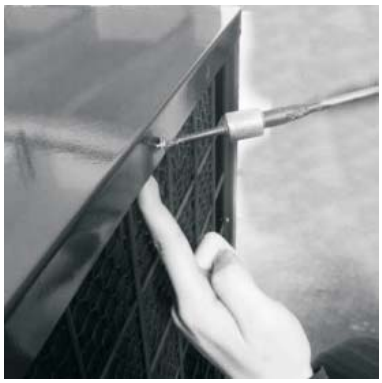
9. Maintenance

9.7 Maintain of electrical box

1 Take off the service panel firstly

2

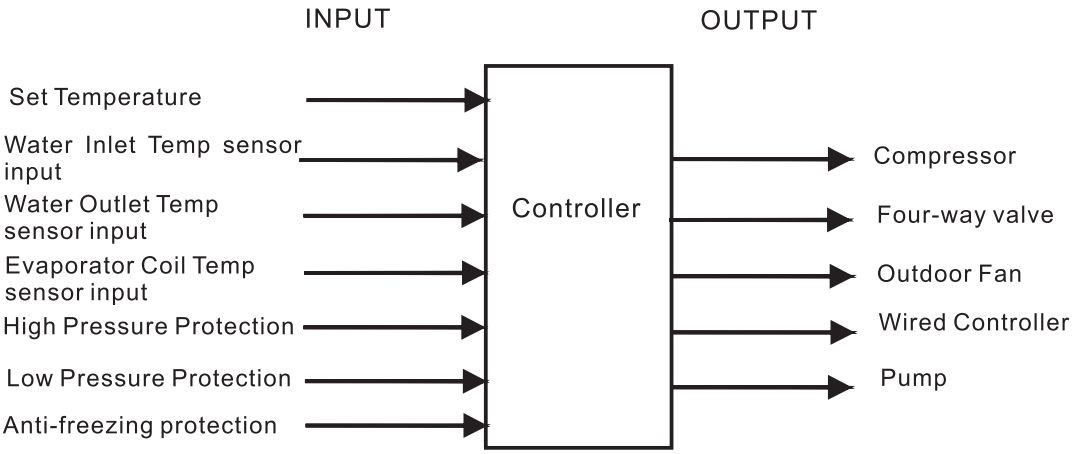
Take off the top cover to do the maintenance



3 When install the top cover back to the unit, please install the two screws which need be fixed on the fan motor bracket firstly.

9. Maintenance

9.8 Working of the controller



9.9 Introduction

This controller is specially designed for Air Cooled Heat Pump Swimming Pool Heater(single system). With this controller,
1. The whole unit has two operation modes, chiller and heating
2. It can be controlled either by wired controller or by central controlling system, or by signal from linkage switch alone.
3. Its parameter can be displayed on the controller and set by user, so the unit's installation becomes much easier, while its operation can be controlled more easily.
4. Optional electrical heater can be controlled as well.
5. The whole system has auto-protecting and alarming function, and the latest defaults can be recorded automatically.
6.This system has a lot of protections, like compressor delay protection, phase missing/dislocation protection, High Pressure/Low Pressure Protection, overload protection, sensor protection and water switch protection.
7. The communication between main machine and remote control works at a distance not less than 100 meters.
8. The system has a strong anti-interference and reliable performance.

9.10 Chiller

Inlet water Temp can be set in range 8-28℃ , with default value of 12℃.
Working Procedure in Cooling Mode
When the 4-way valve is disconnected from power, the water pump turns on. And compressor is runs following water inlet temperature and its preset value.

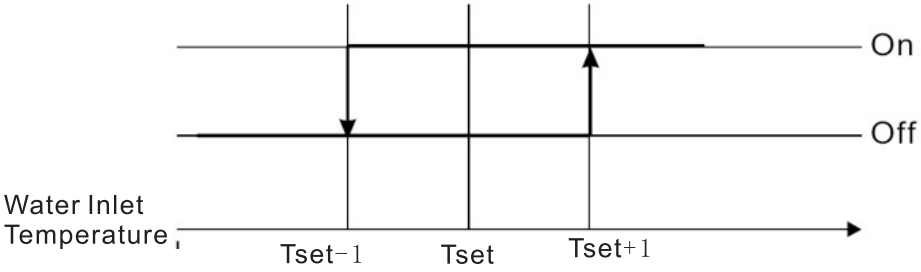
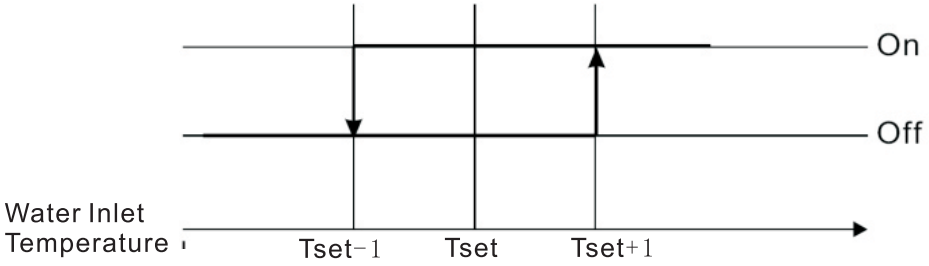


Figure 3-8 shows how the unit works in cooling mode.

9.11 Heating Mode

Inlet Water Temperature can be set in range 15℃-40℃, with default value of 27℃.

Working Procedure in Heating Mode
When the 4-way valve is put on power, the water pump turns on. And compressor runs, following inlet water temperature and its value setting.

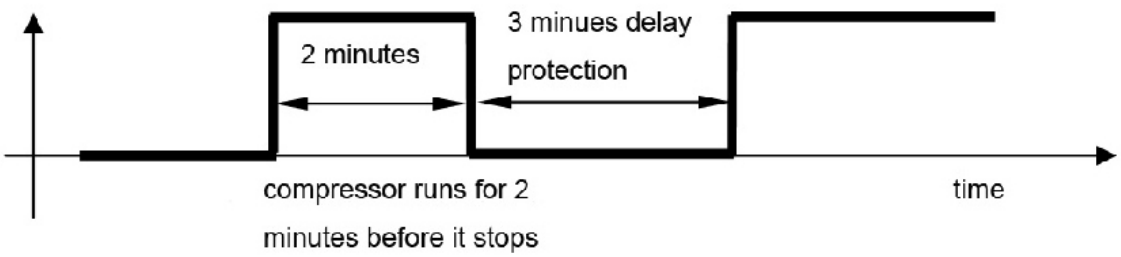


9.12 Working of the main parts

Time Sequence of Compressor's safe operation

ON-OFF and ON-ON time sequence of single compressor system (for its operation in defrosting mode, refer to Defrosting)

The compressor won't restart in 3 minutes after its shutdown, and in 5 minutes after its last startup



9. Maintenance

Four-way Valve

Four-way valve is fed with power in heating mode. It is activated 60 seconds before compressor starts up, and stopped 2 minutes after compressor stops. When the system works in heating mode, and temperature reaches the preset value, the compressor stops, yet four-way valve still has power on.

1. When system changes from heating mode to chiller mode, the four-way valve is OFF 2 minutes later.
2. When system changes from chiller mode to heating mode (including electrical heating mode), the four-way valve is ON 60 seconds earlier.
3. When system turns off in heating mode, the four-way valve is OFF 2 minutes later.
4. When system breaks down in heating mode, the four-way reserving valve stops

Fan Motor

Fan motor activats 60 seconds before compressor's startup. For its operation in defrosting mode, please refer to Defrosting.

Water Pump

When system is turned on, the water pump starts up first, and compressor starts in 60 seconds.

When the system is turns off, water pump stops 30 seconds later after compressor shuts down.

Water pump keeps running in defrosting operation.

10. Trouble Shoot

10.1 Regular maintenance

(1) Check regularly the water flow inside the system. A lack of enough water flow may damage the unit.
(2) Check and clean the filter regularly.
(3) The unit is installed in clean, dry, and well-ventilated places, and should not be blocked on its air inlet and outlet.
(4) Clean regularly the evaporator in order to it keep its good performances.

10.2 Trouble shooting

Note : Following is a simple analysis of the failures

(1) See figure 2-1 The capacity and performance of the unit varies with ambient and different models. This curve is just for reference when the unit works in different working conditions.

(2) Please Refer To Figure 4-1 For The Failures And Solutions Of All The Failure Codes.

(3) Solutions of problems

★ Not enough heating

A. First check the ambient temperature, water temperature, refer to the Performance Curve, estimate the effectiveness coefficient and compare to that obtained one, and judge if the performances have in fact declined.
B. Check if it has ventilation obstacle. Solution: remove the obstacle.
C. Check the general power supply is correct and if the gas inside is enough. Solution: Find the gas leakage and recharge the unit.

★ The evaporator is covered with ice, the unit does not start its defrosting function: Solution: Check if the evaporator coil temperature sensor, four-way valve or the controller is not connected properly or fails to work. Replace the broken components if needed.

10. Trouble Shoot

Figure 4-1 Error codes, failures and solutions

No.	Code	Error	Analyse	Solution
1	**EE03**	No water/little water in water system	A..check the pump is failure or not	Fix the pump
			B. Flow switch Failure	Change the flow switch
			C. water system jammed	Clean all the circuit including filter
2	**PP07**	Anti freezing	A.. The temperature of water is too cold	Stop the unit and drain out all the water inside the system.
3	**EE05**	Water inlet and outlet temp. difference is too much	A.. water flow volume not enough	Check the water flow volume, or water system is jammed or not
4	**EE04**		A..Wrong connections	Check connections of power cable.
			B. Lack of phase of power supply	Change the phase of power cable
5	**PP01**	Water inlet temperature sensor failure	A.. Temperature sensor fails	Check the value of the sensor and change it.
			B. The sensor is open or short circuit	Check the wiring of the sensor
6	**PP02**	Water outlet temperature sensor failure	A.. Temperature sensor fails	Check the value of the sensor and change it.
			B. The sensor is open or short circuit	Check the wiring of the sensor
7	**PP03**	Evaporator Coil Temp Sensor failure	A.. Temperature sensor fails	Check the value of the sensor and change it.
			B. The sensor is open or short circuit	Check the wiring of the sensor
8	**PP05**	Ambient Temperature Sensor failure	A.. Temperature sensor fails	A. Check the value of the sensor and change it.
			B. The sensor is open or short circuit	Check the wiring on the chiller
9	**EE08**	Communication failure	A, Connection failure	Check the wiring
			B. Wired controller or controller is broken	Change the wired controller or controller.

★ Unit Noisy

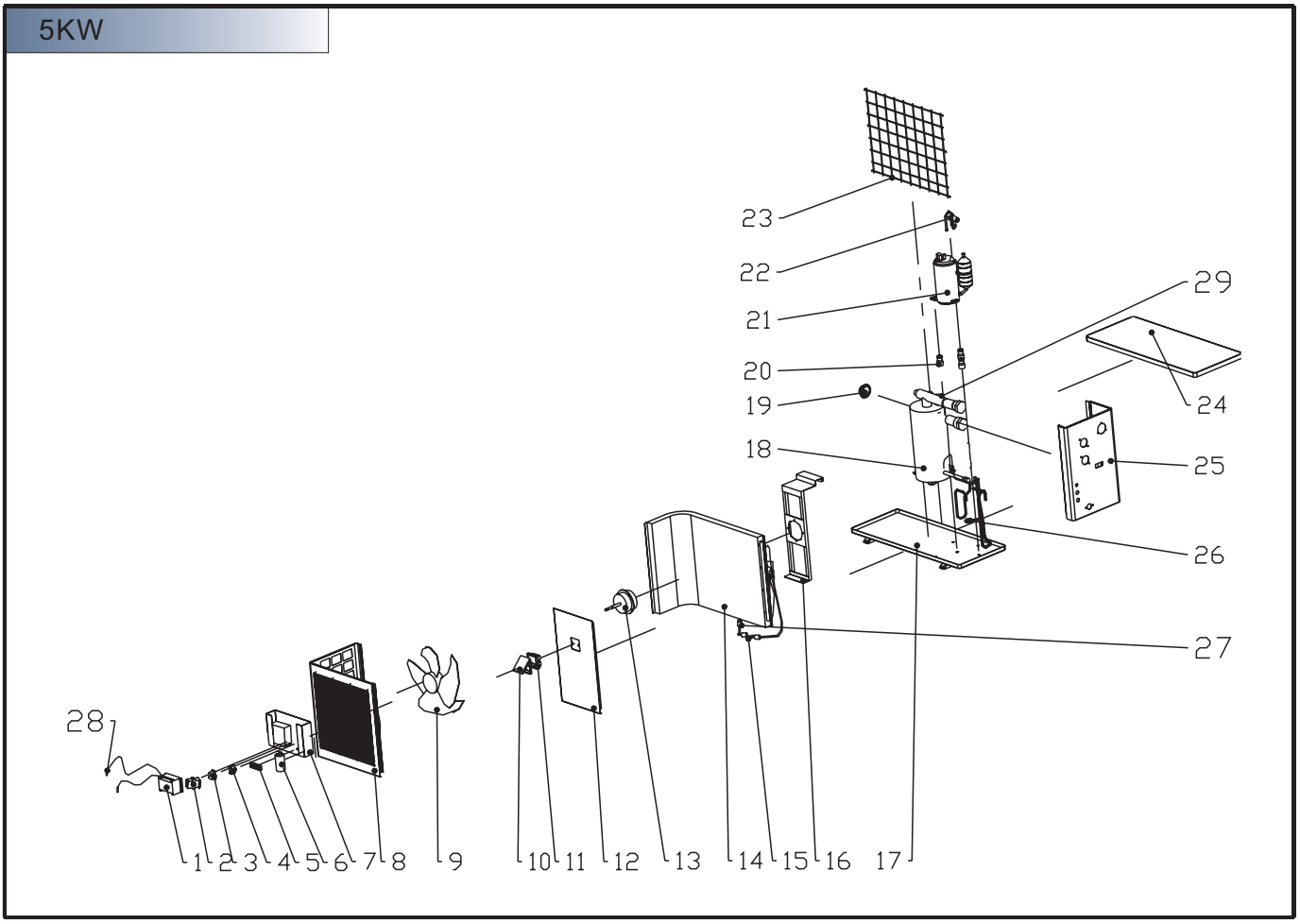
Solution : Check first if the unit is installed properly, and with the rubber vibration absorbing mountings.

Check if there is no rubber gasket between the outdoor fan and the front panel.

Check if the water circulating system works properly.

11. Exploded View

5KW

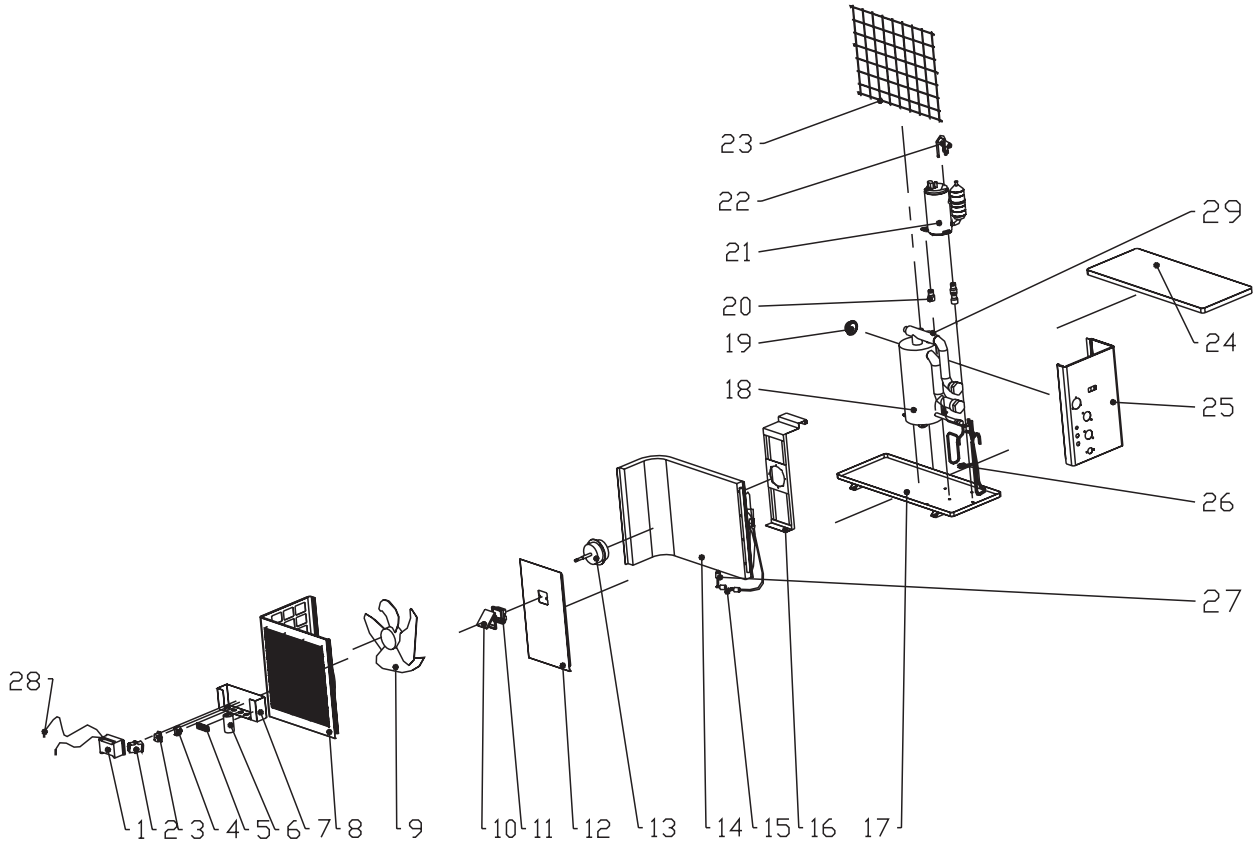


S.N	Model/code	Part Name
1	R8060803380	PCB board
2	R8060300270	AC contactor
3	R8060500060	Pump relay
4	R8060200082	Fan motor capacitor
5	R8061100050	Terminal block
6	R8060200093	Compressor capacitor
7	R8040120715	Electrical box
8	R8040120695	Front panel-Left side
9	R8080100010	Outdoor fan
10	R8030109280	Waterproof box(optional)
11	R8060803390	Wire controlor(optional)
12	R8040120705	Front panel-Right side
13	R8061800170	Fan motor
14	R8020300371	Evaporator（coil exchange heater)
15	R8070200930	Capillary

S.N	Model/code	Part Name
16	R8040120735	Motor holder
17	R8040120755	Back plate
18	R8020300365	Condenser(titaniumpipe in PVC shell)
19	R8071500050	Thermometers
20	R8030300260	Plastic cable covers for compressor
21	R8010300260	Compressor
22	R8050300072	4 way valve
23	R8040120745	Coil guard
24	R8040120765	Top cover
25	R8040120685	Right panel
26	R8061000200	Low pressure protection switch
27	R8061000250	Unloding pressure switch
28	R8060900420	Temprature sensor
29	R8060600180	Water flow switch

11. Exploded View

9KW

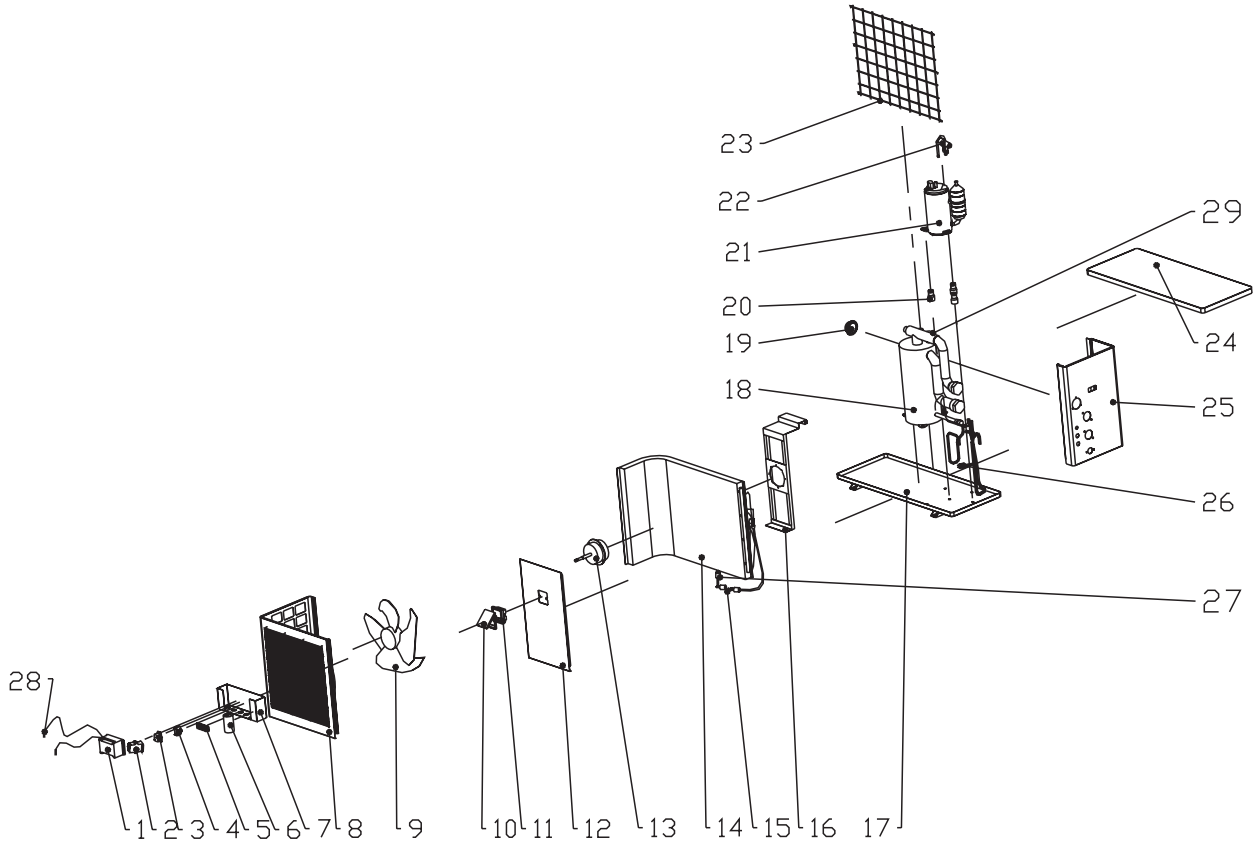


S.N	Model/code	Part Name
1	R8060803380	PCB board
2	R8060300270	AC contactor
3	R8060500060	Pump relay
4	R8060200112	Fan motor capacitor
5	R8061100050	Terminal block
6	R8060200133	Compressor capacitor
7	R8040117235	Electrical box
8	R8040117225	Front panel-Left side
9	R8080100160	Outdoor fan
10	R8030109280	Waterproof box(optional)
11	R8060803390	Wire controlor(optional)
12	R8040117165	Front panel-Right side
13	R8061801580	Fan motor
14	R8020300221	Evaporator（coil exchange heater)
15	R8070200150	Capillary

S.N	Model/code	Part Name
16	R8040117185	Motor holder
17	R8040117675	Back plate
18	R8020300315	Condenser(titaniumpipe in PVC shell)
19	R8071500010	Thermometers
20	R8030300300	Plastic cable covers for compressor
21	R140100017	Compressor
22	R8050300053	4 way valve
23	R8040117655	Coil guard
24	R8040117175	Top cover
25	R8040117685	Right panel
26	R8061000260	Low pressure protection switch
27	R8061000050	Unloding pressure switch
28	R8060900420	Temprature sensor
29	R8060600180	Water flow switch

11. Exploded View

13KW

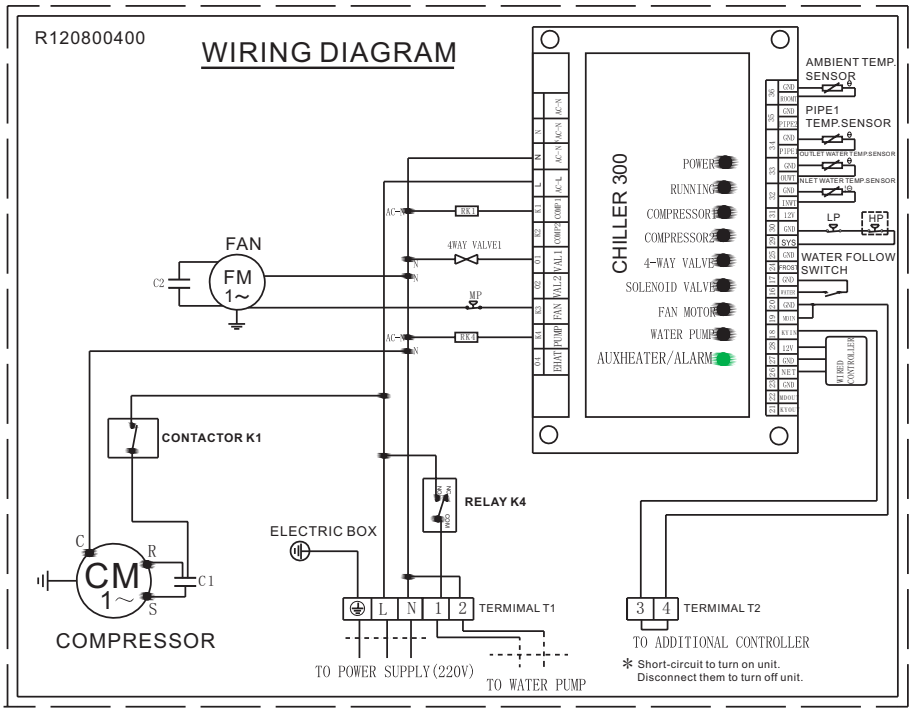


S.N	Model/code	Part Name
1	R8060803380	PCB board
2	R8060300270	AC contactor
3	R8060500060	Pump relay
4	R8060200112	Fan motor capacitor
5	R8061100050	Terminal block
6	R8060200043	Compressor capacitor
7	R8040117235	Electrical box
8	R8040117225	Front panel-Left side
9	R8080100160	Outdoor fan
10	R8030109280	Waterproof box(optional)
11	R8060803390	Wire controlor(optional)
12	R8040117165	Front panel-Right side
13	R8061801580	Fan motor
14	R8020300251	Evaporator（coil exchange heater)
15	R8070200060	Capillary

S.N	Model/code	Part Name
16	R8040117185	Motor holder
17	R8040117675	Back plate
18	R8020300265	Condenser(titaniumpipe in PVC shell)
19	R8071500010	Thermometers
20	R8030300300	Plastic cable covers for compressor
21	R140100018	Compressor
22	R8050300103	4 way valve
23	R8040117655	Coil guard
24	R8040117175	Top cover
25	R8040117685	Right panel
26	R8061000260	Low pressure protection switch
27	R8061000050	Unloding pressure switch
28	R8060900420	Temprature sensor
29	R8060600180	Water flow switch

12. Wiring Diagram

5KW/9KW/13KW



TAKE CARE!
This diagram is correct at the time of publication. Manufacturing changes could lead to modifications. Always refer to the diagram supplied with the product.

Resistance/Temperature table

°C	K (Ω)		°C	K (Ω)		°C	K (Ω)
-30.0	63.7306		18.0	6.59.34		42.0	2.6735
-25.0	48.5994		19.0	6.3333		43.0	2.5816
-20.0	37.3992		20.0	6.0850		44.0	2.4934
-15.0	29.0286		21.0	5.8479		45.0	2.4087
-10.0	22.7155		22.0	5.6213		46.0	2.3273
-5.0	17.9129		23.0	5.4048		47.0	2.2491
0.0	14.2293		24.0	5.1978		48.0	2.1739
1.0	13.6017		25.0	5.0000		49.0	2.1016
2.0	13.0057		26.0	4.8108		50.0	2.0321
3.0	12.4393		27.0	4.6298		55.0	1.7232
4.0	11.9011		28.0	4.4566		60.0	1.4666
5.0	11.3894		29.0	4.2909		65.0	1.2526
6.0	10.9028		30.0	4.1323		70.0	1.0734
7.0	10.4399		31.0	3.9804		75.0	0.9228
8.0	9.9995		32.0	3.8349		80.0	0.7959
9.0	9.5802		33.0	3.6955		85.0	0.6885
10.0	9.1810		34.0	3.5620		90.0	0.5973
11.0	8.8008		35.0	3.4340		95.0	0.5196
12.0	8.4385		36.0	3.3113		100.0	0.4533
13.0	8.0934		37.0	3.1937			
14.0	7.7643		38.0	3.0809			
15.0	7.4506		39.0	2.9727			
16.0	7.1513		40.0	2.8688			
17.0	6.8658		41.0	2.7692			

Note.

Note.

February,2010
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V1.0