Installation &Operation Manual

5kW Energi Heat Pump

Thank you very much for purchasing our product, please keep this installation manual carefully and read this manual carefully before you install heat pump.

energi
heat pumps

⚠Please keep installation manual properlyand read itcarefully before using.

- The unit must be installed by professional personnel, and install it based on this manual as possible.

- If the unit would be installed where is vulnerable to lightningstroke, lightning protectionmeasurements must be carried out.

- Themanufacturerdeclinesanyresponsibilityforthedamagecausedwiththepeople,objectsandoftheerrorsduetothe installation that disobey the manual guideline.Anyuse that is without conformityattheoriginofitsmanufacturingwill be regardedasdangerous.

- Please always keep the heat pump in the ventilation place and away from anything which could cause fire.

- Don't weld the pipe if there is refrigerant inside machine. Please keep the machine out of the confined space when make gas filling.

- Please always empty the water in heat pump during winter time or when the ambient temperature drops below 0℃, or else the Titanium exchanger will be damaged because of being frozen, in such case, it will be out of warranty for this machine.

- Please always cut the power supply if you want to open the cabinet to reach inside the heat pump, because there is high voltage electricity inside.

- Please well keep the display controller in a dry area to protect the display controller from being damaged by humidity.

- Action of filling gas must be conducted by professional with R32 operating license.

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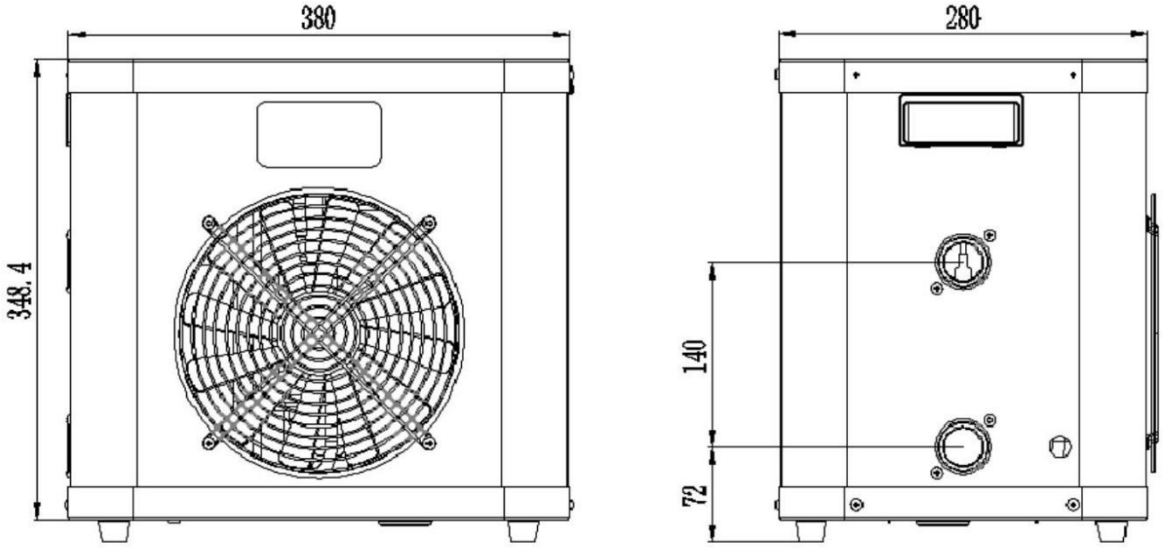
1. Specifications

1.1 Technical data pool heat pumps

Air-source Swimming Pool Heat Pump		
Model		YC-005A1
26℃ Air 26℃ Water 80% RH	Heating capacity (W)	4800
	Power input (W)	874
	COP	5.49
15℃ Air 26℃ Water 70% RH	Heating capacity (W)	3300
	Power input (W)	800
	COP	4.13
Power supply		220~240V/50Hz
Max power input (W)		1300
Max current (A)		7.2
Setting temperature range (Heating)		15℃~40℃
Setting temperature range (Cooling)		8℃~28℃
Running (Air) temperature range		-7℃~43℃
Refrigerant type/quantity (g)		R32/350g
Air side heat exchanger		Hydrophilic fin exchanger
Water side heat exchanger		Titanium tube heat exchanger
Water flow (m^3/h)		2.15
Net dimension L×W×H (mm)		423×363×437
Packing dimension L×W×H (mm)		475×430×470
Net weight (kg)		27
Packing weight (kg)		30
Maximum working pressure of heat exchanger		4.4 MPa
Maximum working pressure of exhaust side		4.4 MPa
Maximum working pressure of suction side		2.5 MPa
Noise		50dB(A)

*Above data is subject to modification without prior notice.

2. Dimension



3.Installation and connection

Attention:

Please observe the following rules when installing the heat pump:

1. Any addition of chemicals must take place in the piping located **downstream** from the heat pump.
2. Always hold the heat pump upright. If the unit has been held at an angle, wait at least 24 hours before starting the heat pump.

3.1 Heat pump location

The unit will work properly in any desired location as long as the following three items are present:

1. Fresh air – 2. Electricity – 3. Swimming pool filters

The unit may be installed in virtually any **outdoor** location as long as the specified minimum distances to other objects are maintained. Please consult your installer for installation with an indoor pool.

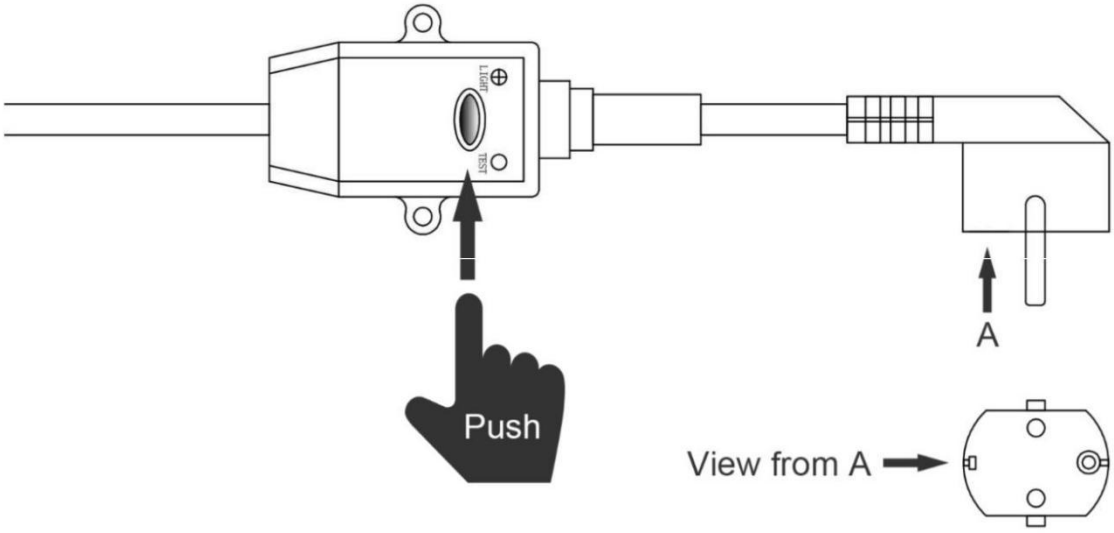
ATTENTION: Never install the unit in a closed room with a limited air volume in which the air expelled from the unit will be reused, or close to shrubbery that could block the air inlet. Such locations impair the continuous supply of fresh air, resulting in reduced efficiency and possibly preventing sufficient heat output.

3.2 Initial operation

Note: In order to heat the water in the pool (or hot tub), the filter pump must be running to cause the water to circulate through the heat pump. The heat pump will not start up if the water is not circulating.

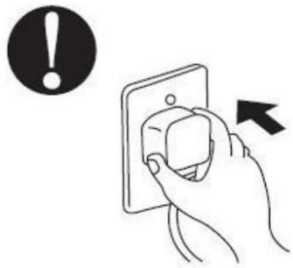
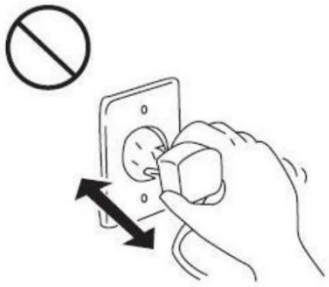
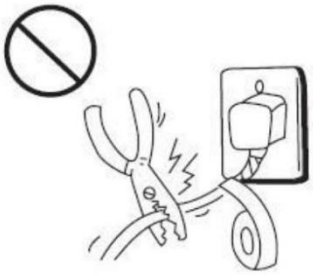
3.3 Electrical connection

Before connecting the unit, verify that the supply voltage matches the operating voltage of the heat pump.



The RCD plug has been included with power cable, which can offer electrical protection.

Attention:

Ensure the power plug is secure If the plug is not secure, it may cause an electric shock, over-heating or fire	**Never pull out the power plug during operation** Otherwise, it may cause an electric shock or a fire due to over-heating.	**Never use damaged electric wires or unspecified electric wires.** Otherwise it may cause an electric shock or a fire.
		

After all connections have been made and checked, carry out the following procedure:

1. Switch on the filter pump. Check for leaks and verify that water is flowing from and to the swimming pool.

2. Connect power to the heat pump and press the On/Off button on the electronic control panel. The unit will start up after the time delay expires (see below).
3. After a few minutes, check whether the air blowing out of the unit is cooler.
4. When turn off the filter pump, the unit should also turn off automatically.

Depending on the initial temperature of the water in the swimming pool and the air temperature, it may take some time to heat the water to the desired temperature. A good swimming pool cover can dramatically reduce the required length of time.

Time delay - The heat pump has a built-in 3-minute start-up delay to protect the circuitry and avoid excessive contact wear. The unit will restart automatically after this time delay expires.

If first power on or additional power interruptions, the heat pump starts 10s later after pressing 'ON/OFF' button.

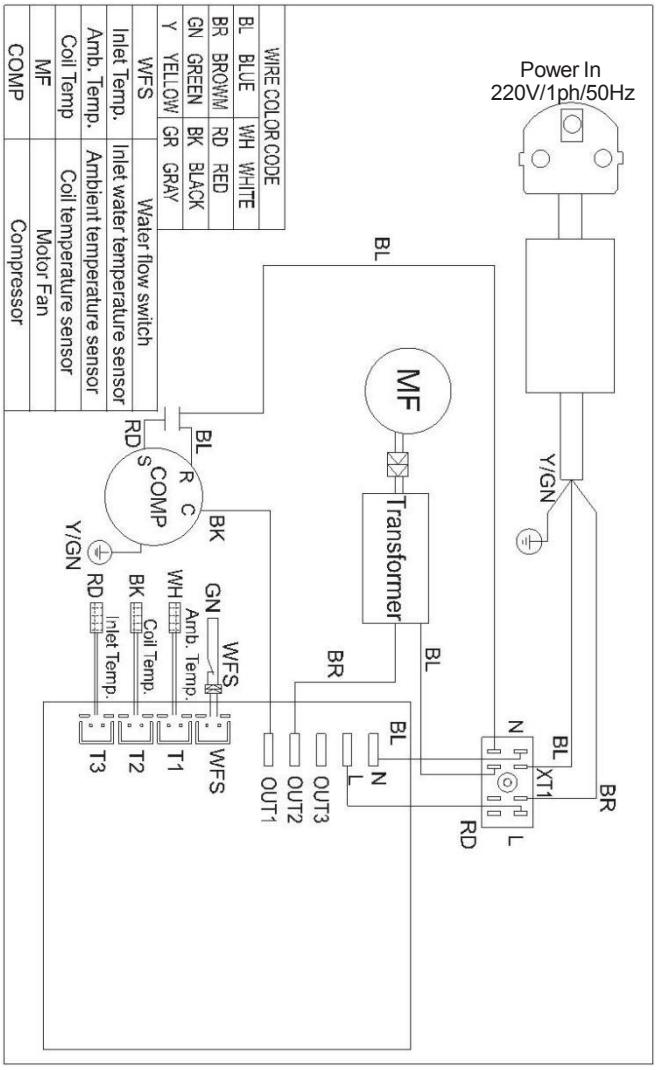
3.4 Condensation

The air drawn into the heat pump is strongly cooled by the operation of the heat pump for heating the pool water, which may cause condensation on the fins of the evaporator. The amount of condensation may be as much as several litters per hour at high relative humidity. This is sometimes mistakenly regarded as a water leak.

4.Electrical wiring

4.1 Swimming pool heat pump wiring diagram

3kW



NOTE:

(1) Above electrical wiring diagram only for your reference, please subject machine posted the wiring diagram.

(2) The swimming pool heat pump must be connected ground wire well, although the unit heat exchanger is electrically isolated from the rest of the unit. Grounding the unit is still required to protect you against short circuits inside the unit. Bonding is also required.

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

5. Display controller operation

5.1 The interface of LED wire controller

1. ON/OFF button
2. Mode button
3. Plus (+) button
4. Minus (-) button
5. Heating mode indicator

Before starting, ensure that the filtration pump is working and that water is circulating through the heat pump.

Prior to setting your required temperature, you must first select an operating mode for your remote control:

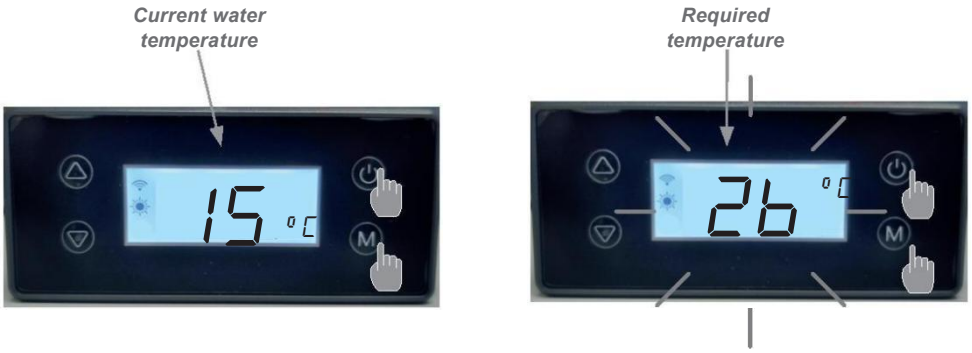
To switch between °C and °F display, press M 3S

Step 1 : Press to switch on your pump.

Step 2 : Using buttons and select the required temperature.

EXAMPLE:

If the current temperature is 15°C, default setting temperature is 27° required temperature is 30°C.



Useful information about how the heating mode operates

When the incoming water temperature is less than or equal to the required temperature (setpoint temperature) -X°C, the heat pump will switch to heating mode. The compressor will stop when the temperature of the incoming water is greater than or equal to the required temperature (setpoint temperature).

Indicators for adjustment range X and Y

X : adjustable parameter from 1° to 10°C, default setting is 3°C. (Parameter "H")

3 Status values and advanced settings

The system's settings can be checked and adjusted via the remote control by following these steps

Step 1 : Keep pressing (M) + (△) + (▽) for 5S to enter parameter query.

Step 2 : Press (△) or (▽) to check the parameters.

Step 3 : Press (M) to select the setting, press (△) or (▽) to change the setting. Factory settings need to adjust by technician.

Parameters table

Paramètres	*Indication*	*Range value*	*Default value*	*Comments*
A	Water inlet temperature	-19~99°C (-2~210°F)		Measured value
b	Coil temperature	-19~99°C (-2~210°F)		Measured value
c	Ambient temperature	-19~99°C (-2~210°F)		Measured value
d	Default temperature(heating mode)	15°C~40°C (59~104°F)	27°C(81°F)	adjustable
E	Defrost auto-activation time	10~80Min	20 Min	Not adjustable
F	Maximum defrost duration	5~30Min	7 Min	Not adjustable
H	Adjustment of temperature difference for restart(heating mode)	1°C~10°C (2~18°F)	2°C(4°F)	adjustable
J	Power-off memory function	0~1	1(memory)	adjustable
O	Ambient temperature	0°C~15°C (32~59°F)	12	Not adjustable
P	Defrost activation coil temperature	-19°C~0°C (-2~32°F)	-6°C(21°F)	Not adjustable
U	Defrost deactivation coil tempera-ture	1°C~30°C (34~86°F)	7°C(45°F)	Not adjustable

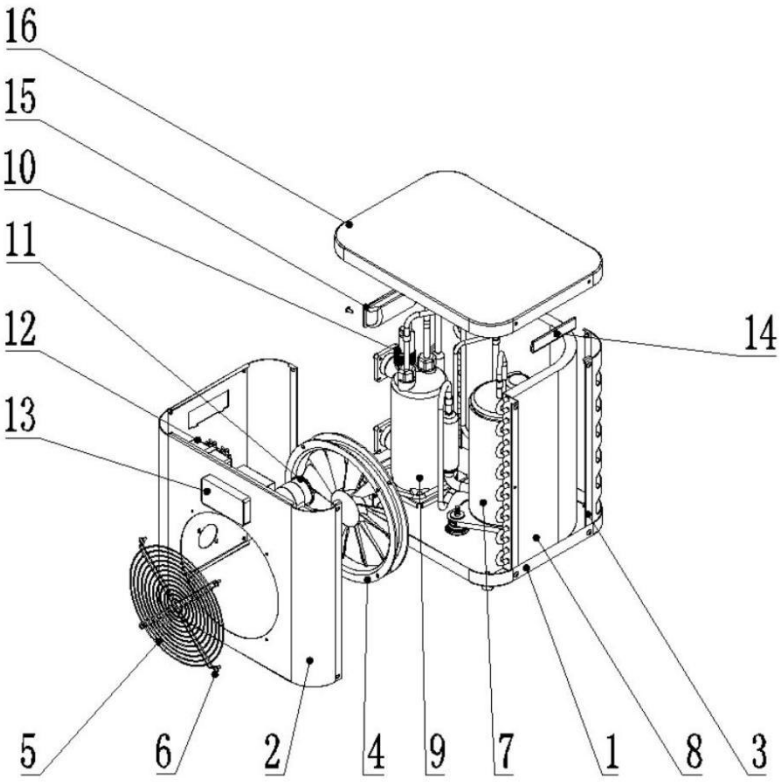
WARNING: Under normal conditions, a suitable heat pump can heat the water in a swimming pool by 1°C to 2°C per day. It is therefore quite normal to not feel any temperature difference in the system when the heat pump is working.
A heated pool must be covered to avoid any loss of heat.

6 Breakdowns and faults

In the event of a problem, the heat pump's screen displays an error code instead of temperature indications. Please consult the table below to find the possible causes of a fault and the actions to be taken.

Code	*Fault*	*Possible causes*	*Action*
E0	Ambient temperature protection	Ambient temperature is too high or too low	/
E3	Flow sensor malfunction	Insufficient water in heat exchanger	Check your water circuit operation
		Defective water flow sensor	Replace water flow switch
		Defective control panel	Replace control panel
P1	Water inlet temperature sensor malfunction	Sensor badly connected	Reconnect sensor
		Sensor defective	Replace sensor
		Defective control panel	Replace control panel
P3	Coil temperature sensor malfunction	Same actions as P1	Same actions as P1
P5	Ambient temperature sensor malfunction		

7. Exploded diagram



No.	Name	No.	Name
1	Base tray	9	Titanium heat exchanger
2	Front panel	10	Water flow switch
3	Back pillar	11	Capacitor
4	Fan blade	12	Switch
5	Fan grill	13	Controller
6	M4 screw	14	Lift
7	Compressor	15	Lift
8	Evaporator	16	Top cover

8. Maintenance

(1) You should check the water supply system regularly to avoid the air entering the system and occurrence of low water flow, because it would reduce the performance and reliability of HP unit.

(2) Clean your pools and filtration system regularly to avoid the damage of the unit as a result of the dirty of clogged filter.

(3) You should discharge the water from heat pump if it will stop running for a long time (especially during the winter season).

(4) In another way, you should check the unit is water fully before the unit start to run again.

(5) When the unit is running, there is all the time a little water discharge under the unit.