

# INSTRUCTION MANUAL



WHP 06 / WHP 08 / WHP 11 / WHP 15  
YHP 22 / YHP 22-3 / YHP 29 / YHP 29-3








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Shipping Damage **MUST** be reported to the Carrier **IMMEDIATELY!!!** Examine the exterior. Remove cover and examine compressor and piping for signs of damage.

All electrical connections must be done by a qualified electrician and according to the local electrical codes.

 **Warning:**

Prior to starting the heat pump, you must ensure that :

- > Electricity is supplied to the heat pump.
- > The filter pump is operating with an average water circulation of  $5 \text{ M}^3 / \text{h}$  .

If these two conditions are not met, the heat pump will not start. In such case, the digital display thermometer will be unusable.

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Dear Valued customer,

Thank you for purchasing this Pool Heat pump.

Our pool heat pump is a complete heating and cooling system, which have the following features :

- > Digital display thermostat.
- > Rotary or Scroll energy -efficient compressor.
- > Aluminum /copper evaporator with one or two vertically-positioned ventilator(s). This configuration greatly reduces noise output while improving heat exchange efficiency.
- > Titanium single or double coil, according to model. Titanium heat exchangers are very resistant to all chemical imbalances.
- > The cabinet of all our product are with vacuum plastic, and with Aluminum frame.
- > Superior quality thermostatic expansion valve, distributor and filter.
- > Safety approval by CE.
- > Each pool heat pump is factory run tested.

We hope that you will derive as much pleasure from using this product. In order to bring you the best possible products, we want to know your comments about the product.

For easy reference, we suggest that you attach a copy of your sales slip to this page, along with the following information which can be found on the manufacture's nameplate located on the side of the unit.

Model number : \_\_\_\_\_

Serial number : \_\_\_\_\_

Date of purchase: \_\_\_\_\_

Date of installation: \_\_\_\_\_

Dealer's name : \_\_\_\_\_

Dealer's address: \_\_\_\_\_

You'll be asked this information if your unit requires servicing and / or for general inquiries.

## SAFETY PRECAUTIONS

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We have provided important safety instruction in this manual. Always read and obey all safety instruction.

Improper installation may result in unsafe and dangerous conditions that will void the factory warranty. Prior to installation, read this instruction and any instruction that are packaged with separate pieces of equipment that make up the system. Please read these instruction thoroughly and carefully before attempting installation or operation. Failure to follow these instructions may result in improper installation, operation, service, or maintenance, possibly resulting in fire, electrical shock, property damage, personal injury , or death.

### General Precautions:

- > Ensure proper supervision of unit in the presence of children or persons unfamiliar with pump operation.
- > Do not hang or lay clothes or other objects on the units.
- > Keep the evaporator coil clean. Any restrictions to the air flow of the evaporator coil can seriously affect system performance.
- > The device must be installed in compliance with national electrical standards.
- > Do not insert foreign objects between the air flow swiveling blades as this may damage the ventilator or cause injury.
- > The unit must never be placed on its side or upside down, as the compressor oil will run into the cooling circuit and seriously damage the unit.
- > Please be advised that attempting to repair this unit by yourself is done at your own risk, It is recommended to contact the store of purchase or an authorized service center.



### Caution:

The manufacturer disclaims all liability for any accident, during the installation or use of this product, as a result of the unsafe installation of the heat pump. If you encounter difficulties during installation, please contact the store of purchase or an authorized service center.





### Caution:






This device is not intended for use by persons with reduced physical, sensory or mental capacities (including children), or lack of experience and knowledge, unless they are supervised by an adult or have been given instruction concerning the use of the device. Children should be supervised to ensure that they do not play with the device.

This swimming pool heat pump is designed for easy operation. The front panel contains a digital temperature control readout. The heat pump is set to reach and then maintain the selected pool water temperature, as long as the pool pump is running.










### To start & stop the unit :

- > Press the  button and machine is on, it'll show " Heating" " Cooling" "Defrosting" according to working situation.
- > To stop the heat pump, press  button again, and it'll show " Off" on the machine. Either the machine is on or off, the display indicates the current time.


### To adjust time:



- > Press the  button, the hour will blink, press the  or  button until the targeted hour is displayed, press the  button to save. Same way for the setting for the minutes . Anytime if you don't want to continue and not save the change, press  button to exit.

### To adjust the temperature to the desired value:


- > Press the  button, the pre-set temperature shows on the display. To adjust the temperature, press the  or  buttons until the targeted temperature is displayed (press  button one time increases 1.0 degree, press  button one time decreases 1.0 degree, keep pressing on the  or  for 0.5 seconds, the number will change rapidly). Press the  button to save the setting. Anytime if you don't want to continue and not save the change, press  button to exit.






### Setting the operating mode:


Press  button, you can switch between " Automatic mode" and "Economic mode":


- > If  does not light up, it means under "Automatic mode", which the machine will work according to desired temperature.
- > When  lights up, it means under " Economic mode", which the machine will only work on the period of working time you have set up ( max.3 period of the time for the day). "On" means the current time is in the period of set-up working time, "Off" means out of the period of set-up working time.


### Setting the working time under " economic mode":

- > Press button  for 2 seconds, it goes into the setting of working time:

Time 1: The hour of "1" blinks , press the  or  button to adjust the data. Press  button again, the minute of "1" blinks, press the  or  button to adjust the data. The setting of the start of working time is done.

Press  button, it enters into the setting of the end of working time of "1". Same way as the set up of the start of working time.

Press  button again when finish the set up of Time 1 , it enters into the setting Time 2. Same way for Time2 and Time 3.

When setting up of the 3 working times done, press  button to quit.

Max.3 working times is allowed to set up.

If no need to set up 3 working times, just to put the start & end time with " 00:00 " for the remaining.




If the end time is earlier than the start time, means the end time is the next day.

For example, " Time 1" is set from " 22:00" to "03:30", means the machine will work from 22:00pm till 03:30am the next day.

## OPERATING THE POOL HEAT PUMP

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To display the temperature in fahrenheit (<sup>0</sup>F) or celsius (<sup>0</sup>C):

> Press both  & **ESC** button for 5 seconds, it goes into the switch of Fahrenheit and Celsius. "C" means Celsius, "F" means Fahrenheit. Press the  or  buttons to adjust the data.

The **HEATING** or **COOLING** lights turns on whenever the heat pump is in operation ( the **DEFROSTING** light turns on when the heat pump is defrosting), which means that the ventilator and the compressor are functioning in order to heat or cool the pool.

All models use a 5-minutes time delay to prevent repeated tripping of the compressor's overload protection mechanism, which is caused by attempting startup before system pressures are equalized. Any interruption will result in a 5-minutes time delay.



- (A) : START / STOP BUTTON
- (B) : ADVANCED SETTING / QUIT BUTTON
- (C) : SETTING PARAMETERS
- (D) : SETTING VALUES BUTTON
- (E) : SETTING TIME BUTTON

Tips :

Setting the thermostat to its highest setting will not heat the water faster than setting it at the desired temperature.



## GENERAL INFORMATION ON HEAT PUMP OPERATION

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### Beginning of season:

- > Make sure that the electrical breaker for the pool heat pump is in the **OFF** position.
- > Be ensure the water lines and the heat pump are reconnected **and/or** drain valves are closed.
- > Clean the pool filter and make sure the water is flowing with average rate at 5 m<sup>3</sup>/h.
- > Complete your normal preparation **and /or** cleaning of the pool for the start of the season.
- > Switch **ON** the breaker for the electrical supply to the heat pump.
- > Then you need only start the unit and adjust the temperature to the desired value.

### End of season ( Winterizing)

- > Switch **OFF** the breaker for the electrical supply to the heat pump.
- > You must empty the unit of all water. Simply disconnect the **WATER INLET** and **WATER OUTLET** lines by unscrewing the two union fittings on the back of the unit. To complete remove the water from the heat exchanger, you must remove the drain cap ( **WINTERIZING DRAIN**) that is located on the side of the unit. You must then let the water flow out until the unit is completely emptied.

It is recommended to cover the heat pump with a protective cover that is available from your dealer.

## POOL HEAT PUMP INSTALLATION

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### Determining Optimum Location

The location of the pool heat pump is very important in keeping installation cost to a minimum while providing for maximum efficiency of operation.

Choose a location where the noise of the heat pump, when running, and the discharged air will not disturb the neighbor.

Install the pool heat pump unit on a flat, stable surface that can support its weight and does not generate any unnecessary noise and vibration.

### Clearance

You should install it as close as possible to the filter system. You should obey the clearance distances around the heat pump that are given in the drawing below.

### Level Placement

We recommend that you install your heat pump on a solid base, for example, two concrete tiles.



### Securing the unit

We recommend that you secure the unit to the concrete pad by using four (4) Tapcon screws and washers.

### Condensation and Drainage

The evaporator coil will produce condensation while the unit is running and drain at a steady rate, depending on ambient air temperature and humidity.

It is normal for condensation to drip out from the bottom of the unit.

### Water flow

To minimize heating or cooling time, make sure all water valves are open completely, that the water level of the pool is at the correct height. Pool heat pump is designed to operate at full flow through the heat exchanger (condenser). An average flow rate of 5 m<sup>3</sup>/h should be maintained.



#### Caution:

Either no flow or a low flow rate will cause the unit to shut down. The Pool heat pump will not operate without a flow of water.

### Electrical connections

This includes the pool pump, light, filter, heat pump, chlorine generator, as well as any other metal component or electrical equipment.

Some older swimming pool might not have an electrical connector cable. In such cases you must drive a 0.9 to 1.2 meters copper rod into the ground next to the equipment.

The ground connector of the heat pump is located on the side of unit.



#### Warning:

Your warranty may be voided if the equipment is improperly connected.

## ELECTRICAL SPECIFICATIONS

- > A qualified person must install the unit in accordance with all national and local codes and guidelines.
- > An electrical circuit exclusive to the heat pump must be used as the power supply.
- > The pool heat pump condensing unit must be connected to a properly grounded electrical supply. You must ensure this unit is properly grounded.
- > Check local electrical codes and regulations before obtaining wire.
- > Use copper supply wires only.

### Technical Data:

		WHP 06	WHP 08	WHP 11	WHP 15	YHP 22	YHP 22-3	YHP 29	YHP 29-3	
Power type		Single phase	Single phase	Single phase	Single phase	Single phase	Three phase	Single phase	Three phase	
Power input	KW	1.12	1.6	2.2	2.9	4.2	4.2	5.8	5.8	
Heating Capacity	KW	5.7	8.3	11.1	15.2	22	22	29.3	29.3	
COP		5	5.1	5.1	5.2	5.2	5.2	5.1	5.1	
Cooling Capacity	KW	4.2	6.2	8.3	12	17.5	17.5	23.7	23.7	
EER		3.8	3.9	3.8	4.1	4.2	4.2	4.1	4.1	
Running Current	A	5.3	7.7	10.7	13	19.8	6.6	27	9.7	
Size of Fuse	A	14	20	25	32	50	18	73	24	
Water flow Volume	M <sup>3</sup> / H	3	3.5	4.5	5	7	7	8	8	
Acoustic Power	dB(A)	49	50	52	53	56	56	57	57	
Compressor		Rotary	Rotary	Rotary	Scroll	Scroll	Scroll	Scroll	Scroll	
Heat Exchanger		Titanium in PVC								
Power Supply	v/Ph /Hz	220-240 /1/50					380/3/50	220-240/1/50	380/3/50	
Water Connection		PVC union 50 mm								
Gas		R410A								
Net Unit Size (L/W/H)	mm	950/400/665		1150/420/790		1235/360/1270		1235/360/1270		
Packing Size(L/W/H)	mm	990/450/800		1190/470/925		1280/480/1475		1280/480/1275		
Net/Gross Weight	kg	58/64	63/69	76/85	80/89	124/134		124/134		

\*Operation condition at Air Temperature 27°C -Water Temperature 25°C - Humidity 47%.

\*Refrigerant charge: see production information plate.

\*Every individual pallet is considered in the Packing Size & Gross Weight.

\*All technical data subject to change without notice.

## CONNECTING ELECTRICAL CONDUCTORS & WIRING DIAGRAM

You must remove the electrical connection box cover to access the electrical compartment. Wiring connections must be made exactly as shown in the wiring diagram.

A disconnect switch must be installed near the unit for easy disconnection of power to the pool heat pump.



**CAUTION**

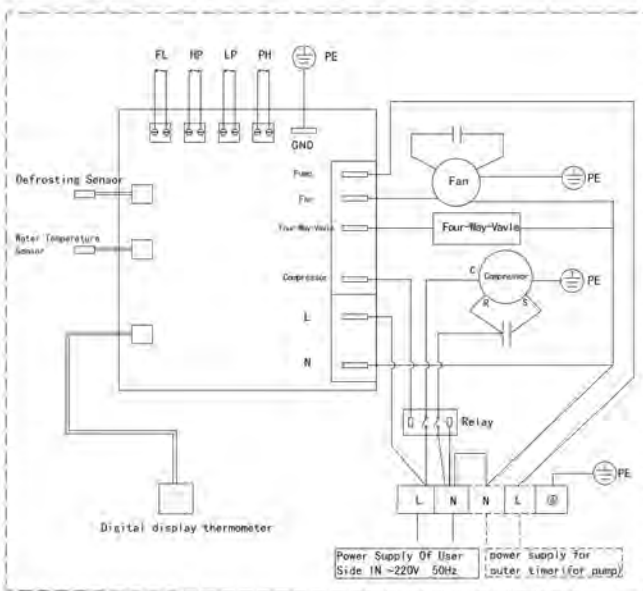
Operating the unit with improper line voltages constitutes abuse and will affect unit reliability and operation. Do not install a system where voltage or phase imbalances may occur above or below permissible limits.



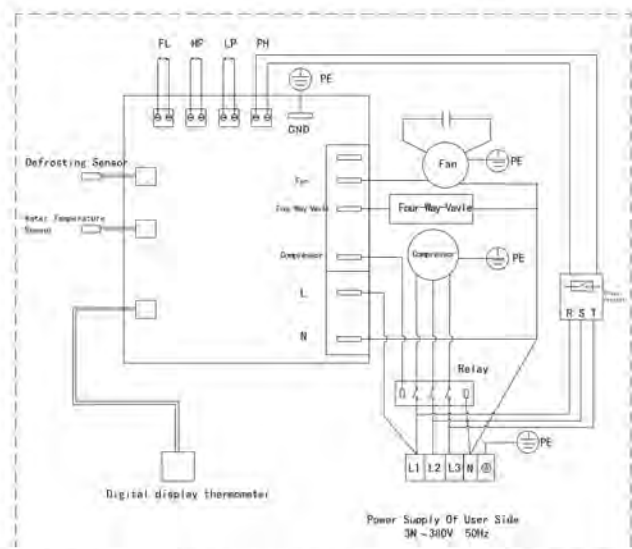
**WARNING**

Disengage main power disconnect before attempting installation.

### WIRING DIAGRAM FOR ONE PHASE



### WIRING DIAGRAM FOR THREE PHASE



## PLUMBING SPECIFICATION

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### Installation

The typical plumbing diagram illustrates the standard plumbing layout with a single heat pump unit. Following the diagram from left to right, the plumbing sequence is as follows :

Pool → Pool Pump → Filter → Heat Pump → Check Valve → Chemical Loop → Chlorinator → Pool

A detachable connection ( union ) must be utilized immediately adjacent to heater to facilitate servicing and winterizing of the unit.

Factory connections are for a Ø 50 PVC union nut.

Join the pool heat pump inlet and outlet with rigid PVC (Schedule 40). All joints must be glued with PVC glue. If rigid pipe is not available, you can use soft or flexible piping with stainless steel clamps.

When the piping installation is completed, start the pool pump and check the system for leaks.

### Check valve & Chemical trap loop

Ensure that the check valve and chemical trap loop are installed. The loop should be at least 20cm above the top of chlorinator/feeder to prevent chlorine backup into the heater when the water pump is off. Install a check-valve on the heater side of the loop to prevent chlorine damage.

### Flow rate

The pool heat pump is designed to handle the full flow from the pool pump. No bypass is required if the flow is at average of 5 m<sup>3</sup>/h.

### External Bypass

Good practice also suggests considering the use of an external bypass on the inlet and outlet to enable the pool owner to bypass the pool heater if service or maintenance is required.

To ensure optimum performance of the heat pump, follow these recommendations:

Backwash the pool filter on a regular basis in order to ensure proper flow rate through the pool heater.

Keep the surface of the coil (evaporator) clean and free of any obstruction such as papers, leaves or other debris. The aluminum fins can be easily and safely cleaned using a low pressure water spray.

Carefully clean the unit using a soft, non-abrasive and bleach-free cleaner, and rinse using a garden hose without the nozzle.

### WARNING

Before performing any maintenance on the heat pump, you must turn off the electricity at the breaker of the electrical supply line.

**Description of pool heat pump:**



A: WATER INLET

B: WATER OUTLET

C: ELECTRICAL CONNECTION  
BOX

D: WINTERIZING DRAIN(with  
plastic box)

E: GROUND CONNECTOR

## TROUBLESHOOTING

### The digital display thermometer will not provide a reading :

- > The electrical breaker has tripped. Turn the electrical breaker back on.
- > The water flow rate is insufficient or the filter pump is not working. The heat pumps are designed to operate with an average water flow rate of 5 m<sup>3</sup>/h. Start the water pump.

If you are unable to activate the digital display thermostat, contact the local dealer.

### The digital display thermostat is active but the compressor and the ventilator(s) will not function:

- > The unit is in 5-minute time delay mode to ensure that system pressures are stable. The “HEATING”, “COOLING ” or “ DEFROSTING” light will blink during this 5-minutes time delay.
- > The temperature control is set at too low a numerical value. Raise the desired temperature level.
- >The desired water temperature has been achieved and the unit will restart automatically when the water temperature falls below the thermostat setting.

The thermostat has a pre-set **temperature difference** (1°C ).

If the water temperature is in the range of “desired temperature - temperature difference” and “desired temperature +temperature difference” , the unit will start or not start . Press ▲ for 5 seconds, the unit will be forced to work.

Display	Troubleshooting	Solution
FL	Water pressure switch with problem, or low water flow	Check if there's dirt in the water system in the unit, or if the water flow is at required rate, or change the water pressure switch
HP	High pressure switch with problem, or pressure too high in the unit	Check if the water flow is at required rate , or the ambient air temperature/water temperature too high
LP	Low pressure switch with problem, or pressure too low in the unit	Check if the gas leaking, or the ambient air temperature /water temperature too low
PH	Wrong phase connection or phase protection card problem	Check if the cable is connected right, or change the phase protection card
A21 and OPE	Water temperature sensor with problem , or disconnect	Check wire connection with water temperature sensor, or change water temperature sensor
A21 and SHR	Water temperature sensor with problem, or electrical short	
A22( press ▼ show OPE)	condenser temperature sensor with problem, or disconnect	Check wire connection with condenser temperature sensor, or change condenser temperature sensor
A22( press ▼ show SHR)	condenser temperature sensor with problem, or electrical short	



The heat pumps are equipped with safeguards that will stop operation to protect your unit in certain situation:

### **High Pressure switch**

The high pressure circuit breaker protects the compressor in the event of any over-pressure in the refrigerant system. High pressure conditions are usually the result of insufficient water flow in the heat exchanger. To remedy the situation, simply check that there are no obstruction in the water supply circuit and/or clean out the filter system.

### **Low Pressure switch**

The low pressure circuit breaker protects the compressor in the event of frequent restarts that are due to a lack of refrigerant or to an excessively low ambient temperature. It prevents the heat pump from starting when the system is in a low pressure situation. A low pressure situation is usually the result of refrigerant leak or of an ambient temperature below 10 degree. The presence of frost on the evaporator can signal a low pressure situation.

### **Water pressure switch**

The water pressure switch contacts close when pressure is applied as pool water flows through the heat exchanger. Either no flow or low flow rates will cause the contacts to open and the unit will shut down.

### **Time delay**

All models use a 5-minutes time delay to prevent repeated tripping of the compressor thermal overload, which is caused by an attempted startup before system pressures have equalized. Any interruptions, outside of power loss, will result in a 5-minutes time delay.

If you cannot activate your heat pump, please contact the local dealer.

## TEMPERATURE CONTROLLER PROGRAMMING



### WARNING

**Please do not modify the parameters in the temperature controller programming without a valid reason.**

To access the temperature controller programming mode, you must press **ESC** button for 5 seconds, the code will be displayed.

To select the code, you must press **▲** or **▼** buttons to the code which you want to adjust. Once the code is selected, you must press **SET** button to see the default value. To modify the default value, press **▲** or **▼** buttons.

Once the default value is modified, press **SET** button to save. It will return to the code which you were operating previously.

To exit the temperature programming mode or not save the value you were operating , press **ESC** button.

See the chart below for description of all functions:

Code	Function	Setting Range	Default value
F11	Set temperature	F14-F13	20 °C
F12	Temperature difference	0.1-20	1.0 °C
F13	Max. adjustment of temperature	-58 - 302	35 °C
F14	Min. adjustment of temperature	-58 - 302	15 °C
F18	Condenser sensor adjustment	-20 - 20	0 °C
F19	Water temperature sensor adjustment	-20 - 20	0 °C
F21	Compressor delay time	2 - 10	5 (Minute)
F31	Start defrost setting value	-20 - 80	0 °C
F32	End defrost setting value	0.0 - 100.0	5 °C
F33	Time delay to start defrost	1 - 99	30 (Minute)
F34	Max. defrost time	Off , 1 - 99	10 (Minute)
F54	Phase mode	0-4	1
F61	Memory the on or off situation after	Yes/No	Yes
F80	Password	Off, 1 - 999	Off
F81	Temperature in Fahrenheit (°F ) or Celsius (°C)	°C / °F	°C

Other codes are not useful for operation or technical purpose, please do not change.



### WARNING

**The modification of the default values can affect the proper functioning of the heat pump. The default values must never be modified without authorization from your dealer.**

The heat pumps are warranted against material and manufacturing defects for a period of one (1) year, including parts and labor. The compressor is also warranted for a period of one (1) year.

We are not responsible for :

- > Normal maintenance.
- > Damage or repair required as a consequence of faulty installation or application by others.
- > Failure to start due to voltage conditions, blown fuses, open circuit breakers, or other damage due to the inadequacy or interruption of electrical service.
- > Damage or repairs needed as a consequence of any misapplication, abuse, improper servicing, unauthorized alteration, or improper operation.
- > Damage as a result of flooding, wind, fire, lightning, accidents, corrosive atmospheres, or other conditions beyond the control of us.
- > Parts not supplied or approved by us.
- > Any damaged to persons or property of whatever kind, directly or indirect, special or consequential, whether resulting from use or loss of use of the products.

### LIMITATION OF WARRANTIES

This warranty is exclusive and in lieu of any implied warranties of merchantability and fitness for a particular purpose and all other warranties express or implied. The remedies provided for in this warranty are exclusive and shall constitute the only liabilities on the part including any statements made by any individual, which shall be of no effect.

### HOW TO OBTAIN SERVICE

Prior to requesting assistance or servicing, read the **TROUBLESHOOTING** section. This might save you the cost of service call.

For any service required, please contact **your authorized dealer**.