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HLW15-E3 OPERATING INSTRUCTION

I. Illustration to buttons

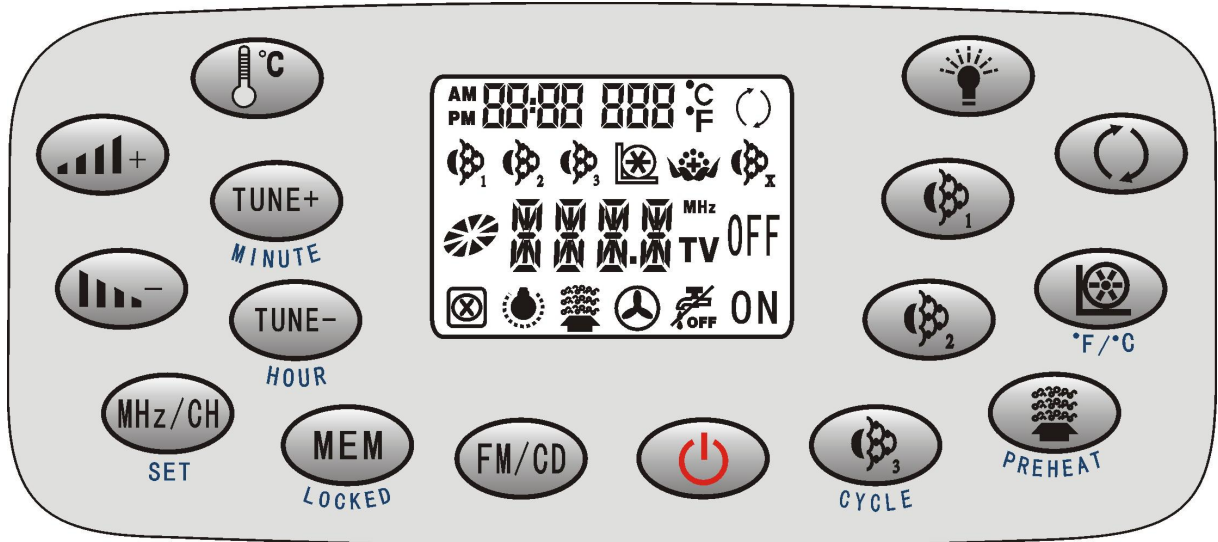


















Fig.1: Control Panel

 “ TUNE+ ” MINUTE ”Frequency up- searching / Minute	 “ ”On-off/Setting confirm
 “ TUNE- ” HOUR ”Frequency down- searching/ Hour	 “ FM/CD ”Radio or CD Switch/ On-off
 “ ”Volume up	 “ °F/°C ” Blower On-off/°F or °C Switch
 “ ”Volume down	 “ ”Spa Light On-off
 “ MEM ” LOCKED ”Radio channel Memory/ Lock	 “ ”Surfing pump 1 On-off
 “ MHz/CH ” SET ”Radio channel read / Set switch	 “ ” Surfing pump 2 On-off
 “ ”Lasting Circulation Cleaning On-off	 “ ”Surfing pump 3 On-off/Set Pre-circulation Cleaning Time
 “ PREHEAT ”Heating On-off / Set Pre-heating	 “ °C ” Temperature setting
Note: The blue part of the key button can be only operated on the status of system off.	

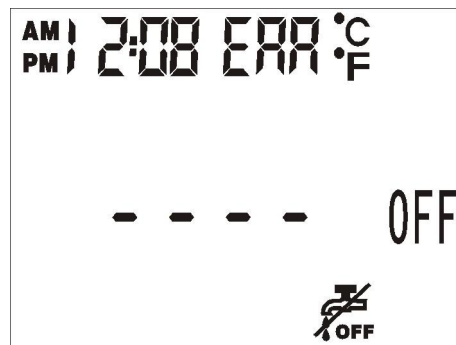
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II、 Function Summary

1. Heating system and preheating system which can keep the temperature constant, and max. power of the heating system is 3KW, the temperature can be set and displayed in the screen.
2. 4 surfing pumps, 1 circulation pump and 1 blower pump.
3. Underwater lamp & Ozone.
4. High quality sound system which has CD audio-input and FM radio inside, the radio frequency can be displayed and adjusted , and max. 60 channels can be preserved.
5. Circulation cleaning/reservation for circulation cleaning
6. 24 hours clock display and time setting
7. The setting parameter can be saved even if the power is cut off.
8. Fahrenheit & Celsius degree switch
9. Anti-freezing functions
10. Colorful LCD display & Keys with backlight
11. Key button can be locked.
12. Power input: AC220-240V single-phase (triphase selectable)
13. When selecting CD to work, there is a choice of offering a AC output for DVD or TV.

III、 Operation

1. When you first start the spa, the backlight will be dimmed and the LCD will show the current time and temperature. If there is a problem with the sensor the controller will display the code “ERR”. If the screen displays “---”, it indicates that the spa is in the statues of stand-by, and pre-heating and circulation cleaning function is off. If the system is lack of water, water shortage faucet icon will be lighted. The screen will display LOW WATER.



2. Lock Mode



On the status of system stand-by or power on, not press any buttons for 1 minute, the water will come into the spa and the key button will be locked. The screen will show “ LOCK”.



On the status of “LOCK”, press key  to unlock and the work “ LOCK” will disappear.



3. Clock setting

In the status of “Stand-by”, if the pre-heating and circulation cleaning have not been started, Pressing

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“” or “” to adjust time. The Minute and Hour display will flash at this time. The screen will display “SYSC”.


It will add 1 hour when pressing “” each time and the hours can be adjusted continually when pressing the “” without stopping. The hour adjustment range is 0-23.



In the status of time setting It will add 1 minute when pressing “” each time and the minutes could be added continually when pressing the “” without stopping. The minute adjustment range is 0~59. The system will quit the time-setting status automatically after 6 seconds without pressing any buttons



4、Set reservation circulation-cleaning:



It can set one time reservation circulation -cleaning. When setting the reservation circulation-cleaning, the system must be on the status of stand-by, and the LCD shows “---”.

1) Press “” to enter circulation-cleaning setting mode, the LCD shows “FLON” and the clock flashes , and then enter into reservation circulation-cleaning time setting.




Press “” again to turn off setting, meanwhile circulation-cleaning is off .

Press “” (minutes) and “” (hours) to set the reservation circulation-cleaning starting time. It




will add 1 minute when pressing “” each time and the minutes could be added the continually when pressing the “” without stopping. The adjustment range is 0~59.

It will add 1 hour when pressing “” each time and the hours could be added the continually when pressing the “” without stopping. The adjustment range is 0-23.


After setting the starting time of the reservation circulation-cleaning, go to next step.

2) Press “” to set the first circulation-cleaning lasting time, the LCD displays “FLDU” and the lasting time flashes continually. It will add 5 minutes by pressing “” each time. It will add 1 hour by pressing “” each time. The maximum lasting working time is 19hours and 55 minutes. When you have completed this procedure, it can go to next step.

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3) If all settings have been adjusted correctly, Press “” for confirmation, the system will quit this setting mode automatically and enter into circulation cleaning standby status. Meanwhile the circulation pump icon  flashes.(Press key “ ” to give up setting and exit).

Notice



- 1)All the setting of reservation circulation-cleaning must be set on the status of system stand-by.
- 2)Circulation PUMP and OZONE are not working while setting the reservation circulation cleaning.
- 3)On the status of system stand-by, if this icon  flashes, it means the circulation-cleaning setting is finished.



5、 Set preheating (It can set one time reservation heating):

Pre-heating is set when the spa is in the “Power off” status and the LCD display shows “---” All pre-heating setting must be on the status of system stand-by. If pre-heating does not start, the LCD will show “OFF”.




- 1) Press “ ” and enter Pre-heating setting mode, and the LCD displays “HTON” and the clock  flashes, and then this system enters into the first period setting for pre-heating. Press “ ” again to turn off setting. Meanwhile the pre-heating is off and quit out setting.

It can change the time by pressing button  MINUTE &  HOUR . The detail operation is as following.



It will add 1 hour when pressing “ HOUR ” each time and hours could be added continually when pressing the “ HOUR ” without stopping. The adjustment of hours is 0-23.


It will add 1 minute when pressing “ MINUTE ” each time and minutes could be added continually when pressing the “ MINUTE ” without stopping. The adjustment range is 0~59.

After the starting time is set, move to next step.

- 2)Press“ ” to set the first lasting time for pre-heating. It will show “HTDU” , and it will add 10 minutes by pressing “ MINUTE ” each time and it will add 1 hour when pressing “ HOUR ” each time. Please note that the maximum continual time is 19 hours and 50 minutes. After the lasting working time is finished setting, you can move to next step.


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3) Press “” for the second time to enter into the status of setting pre-heating temperature. It will show “HT-T” on the LCD panel. Press “” button to change the setting temperature. The range of temperature setting is: 15~40°C。

4) After all the setting is finished, press button  to confirm, this system will quit out the status of the pre-heating setting and then enter into working status of pre-heating. Meanwhile the LCD will show OFF, heating

icon  will flash. (Press key “” to give up setting and exit).

Notice**

1. All setting of preheating must be in stand-by mode.
2. Please note that it shows "ON" or "OFF" on the LCD. "ON" means preheating is turned on mode. when the time of pre-heating is the same as the current time, the heater will start working. "OFF" means the heater won't start to work at any time.
3. Circulation PUMP and HEATER do not work while setting preheating.
4. In the status of stand-by, icon  flashing shows that system has set up pre-heating.

6、 Operation of preheating:

When the current time is the same as the preheating time, the LCD screen shows “ON” and if the tub is filled with water, the heater will start to work. The heater and the circulation pump will work at the same time. The countdown time will be shown on the LCD screen. (The second point in the middle will not flash).

During the preheating, the preheating will be turned off automatically once the countdown time is finished.

Notice

- 1) When the temperature is lower than or equal to water temperature, although the Preheating is on, the circulation PUMP and HEATER do not start to work.
- 2) When the HEATER is “I” type frame, the circulation PUMP must reach 1 P. Otherwise the heater won't work due to not having enough water pressure to drive pressure switch.
- 3) Conditions meet the above-mentioned second point, and the HEATER is still not working, Please shorten the line of water pressure switch to make it work normally.


7. Reservation circulation cleaning:

As the current time is the same as circulation cleaning setting time, the pre-setting is “on”, and if the tub is filled with water, the circulation cleaning will start. The LCD shows the countdown time. (If pre-heating and reservation circulation cleaning work at the same time, the clock will show the pre-heating countdown time).



The surfing pumps and blower pump will work for 30 seconds at every 15 minutes. Circulation pump is started at the same step. Ozone's working period is 2 hours, works for 15 minutes each time.

The circulation cleaning will be turned off automatically once the countdown time is finished or by pressing the




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 "CYCLE" key twice to turn off directly.





8. Power ON/ OFF operation

In the status of stand-by, press key  to power on, and the LCD back-light will be on. "WELCOME" will be showed on the LCD. In the status of power on, press key  to enter into stand-by.





9. Temperature setting



In the status of "Power-on", the temperature can be set. It will add 1 centigrade by press  each time, the temperature will be added continually till reach 40 centigrade(104 Fahrenheit) by press  without stop. Press  again, and the temperature will show 15°C(59 Fahrenheit). Temperature setting range is from 15°C to 40°C(59~104 Fahrenheit).



10. Radio and CD



1)  is the ON/OFF key for radio and CD, and it is only available in the status of power on. The first pressing  is turning on the radio, the second pressing  will turn off the radio and turn on the CD at the same time, and the third pressing , will turn off the radio and CD simultaneous.


2) LCD will show present frequency after turning on the radio.

3) In the status of Radio working on, the present radio frequency can be changed by pressing  and . It can search the channel automatically by long pressing key  and .




4) The voice volume can be changed by pressing key  and .

5) Press the key  longly, the system will search radio station from "87.5MHZ" to "108.0MHZ" and memorize all the clear radio stations in different channel automatically. During the process of searching, "MHZ" will flash on the screen. After searching the channel is finished, "MHZ" will stop flashing. Press  to adjust the channel down, then next channel frequency comes out.





If there are some unclear channels, adjust them clearly by pressing key  and . Then press

 shortly, there is "SAVEA" showing on the LCD, it can memorize the adjusted channel.

11. Water pump operation

The Button , operates pump 1; The Button  operates pump 2; The button  operates pump 3. The water pump will turn off automatically after it works for half an hour. The heater will stop 1 minute after working for 30 minutes, and then turn on again automatically.




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Attention: Press pump1, two water pumps can be controlled (one is ready-for-use pump). Press button  , turn on one water pump. Press button  for the second time, open the ready-for-use pump. Press button  for the third time, close one pump. Press button  for the fourth time, turn off ready-for-use pump.

*****Notice*****


In order to control the whole SPA system's rated current single phase into 20A, to guarantee that people can use the electricity normally, this system has been handled as following.

By the way, in the status of stand-by, press key  for 20 S, it can cancel excludability between the water pump and the heater.


1) When the system responds to water pump1  and heating function, press key  or  , this system will turn off heating functions automatically. If the system turn off water pump2 and water pump 3 simultaneously, the heater will be turned on automatically.

2) If system responds to water pump 2 and water pump 3 and heating function, meanwhile it responds to water pump 1, then the heater will stop working. If water pump 1 is turned off, the heating system will be opened automatically.

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If the user's house is not enough with the electricity current, the above-mentioned facilities are no need. In stand-by status, please press button  for 15S, the LCD screen will be fully lighted for 2S, the system will eliminate the current limiting facilities automatically.

12. Lasting Circulation Cleaning operation:

Press the key "" to turn on or off the lasting circulation cleaning. After it starts, the circulation pump opens, the surfing pumps and blower pump work for 30 seconds at every 15 minutes. Ozonizer works for 15 minutes at every 105 minutes, and will repeat on the basis of this program.



Once any surfing pump and blower pump start, the ozonizer stops working. The ozonizer can not work if the circulation pump is off..

13. Operation of underwater lamp


Press the "" button the first time, the underwater lamp will change its color one time in every three seconds. Press for the second time, stop present color. Press for the third time, turn off the lamp.

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14. Heating operation

- 1) When the pre-heating time is arrived (in the status of pre-heating opening) or press button , the heating system can be started up.
- 2) When the heating system opens, the heater starts, the circulation pump will move continuously.
- 3) When water temperature setting is 35 °C, or water temperature reaches or exceeds 36 °C, this system will turn off the heater and the circulation pump automatically. When the water temperature is below 34 °C, this system will turn on the heater and the circulation pump automatically. When the water temperature is over 46 °C, the heater, water pump and blower pump will stop working automatically.
- 4) When the temperature sensor is in short circuit, LCD screen will show “ERR”, auto-heating control system won't be available, the heater won't work.
- 5) Button  function description: Press the first time, open the circulation pump; Press for the second time, open the heater; Press for the third time, turn off the circulation pump and the heater.

15. Operating the Air Blower:

Press button  to control the blower pump. Blower pump is not related to water level. Blower pump will turn off automatically after working for 30 minutes.

16. Fahrenheit & Celsius Temperature shift:

In the status of “stand-by”, pressing the key  can change the mode between Fahrenheit and Celsius degree.

17. When there is no water in the spa and there's water shortage icon showing on the LCD, all water pumps and the heater won't be started.

18. Prevent freezing function:

When the water temperature is below 5 °C, LCD screen will show “COOL” in stand-by status and will show “FREEZING” in power-on status. Then the heater and circulation pump will start to heat the water automatically until the water temperature reaches 10 °C, the heating stops. This function is only available while the spa is in normal power supply.

19. Auto-filling water function

In the status of system stand-by, when it detects water shortage, press blower pump key for 10 S, it can fill water into the spa automatically. When it can not detect water shortage, delay 1 minute to close water entering.

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20. Water drain function

In the status of system stand-by, press button  for 10 S, it can drain the water out automatically. Water drain time should be 4 hours.

21. Smart control function is selectable.(Please reference to the smart control instruction manual)

IV、 Electric parameters

1、 Performance index:

Rated voltage:	AC220V-240V/50Hz
Maximum working current:	60 A/220V~240V
Voltage-resistance:	1250V/1 minute without penetration
Isolative resistance:	» 200MΩ
Water resistance grade:	IPX5
Electric shock resistance	Grade 1
Protection against electric shock	1 Kind

2、 Max. output loading index

Heater:	AC220V/3KW*1
Surf water pump:	AC220V/2HP*2
Circulation water pump:	AC220V/1HP *1
Air pump	AC220V/1HP *1
Underwater lamp:	DC12V/20W
Ozone:	AC12V/10W *1
Radio:	
Frequency:	FM:87.5~108.0MHz
Max. output power:	20W
Speaker:	8Ωdamp proof speaker