



# MANUAL DEL USUARIO DE WdH PARA SPAS



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**This guide should be read before operating your spa. We suggest you know all sections to ensure the smooth operation, safety and durability of the product that you have purchased.**

# 1. INDICACIONES IMPORTANTES

- Remember to replace the paper filter your spa every 4-6 months. If it does, the durability of the water will be clearly affected. Contact WDH when you need spare parts, since each manufacturer has its own; If you purchase this material by other means you risk that may not be compatible and may damage the system debug disable warranty.
- The use of chlorine is strongly discouraged as a treatment to prolong the life of the water and causing irreparable damage to the acrylic and pumps. You must regulate the pH regularly and using bromine as chemical additive. Contact us if you need this kind of specific products for spas. We have a complete maintenance kit.
- You should always take a shower before and after using the spa to prevent infection caused by microorganisms in the water.
- Always keep the thermal cover on the spa to avoid serious damage to the acrylic glass material, caused by common weather conditions. Place the thermal cover whenever you want to heat the water to optimize time, effort and energy (regardless of whether the spa is located inside or outside the home). If you have not purchased as an extra thermal blanket, strongly we suggest you do.
- Although it can adjust the water temperature according to their preferences, temperatures above 39 ° C are considered dangerous for periods longer than 15 minutes. From WDH we recommend 37 sessions to 20 minutes / session.
- Before entering the spa hand check water temperature and the temperature displayed on the control panel and actual water temperature may differ by up to 2 ° C.
- If you connect a hot water inlet to the spa, make sure the water temperature does not exceed introducing 41°C in any case, since otherwise it could cause major spa and / or users damage.
- Try to keep the environment free of obstacles spa and soil as dry as possible to prevent falls. Do not run or move quickly in close proximity to the spa.
- If you suffer from respiratory failure, diabetes, high blood pressure or low and / or other health problems, consult your doctor before using the spa.
- In case you are pregnant, you should consult your doctor before using the spa to inform you about the temperatures and times of use.
- Do not allow children to use the spa without adult supervision.
- Never use the spa after taking drugs, alcohol or drugs as their consumption could cause fainting in the bathtub. Not use electrical appliances near or inside the spa.

## 2. ELEGIR UBICACIÓN PARA EL SPA



A spa needs, above all, correctly leveled a base. Note that otherwise its operation may be adversely affected, since there are valves and pipes that will detect the gap and may cause water leakage.

Unless expressly otherwise is requested, the spa does not have adjustable legs and rest on a flat supporting structure, spreads and affects equally the weight. Therefore, the base support will be firm and be completely level.



Support structure (vertical spa)



Floor level along support structure

Operation level of your spa is extremely important to avoid future problems in the system. The water level sensors may be affected by excessive unevenness and spa movements with respect to its lower supports can damage the seat anchorages.

If you have decided Recessed your spa on the floor, you should leave access (either from above or below) to the side of the spa to manipulate the machinery for maintenance, breakdown or periodic review.

You can install your spa outside or inside your home, but always bearing in mind the warning stated in the preceding two paragraphs.

From WDH we suggest not install the spa near the wall, since, in general, there are electrical components on almost all sides and it is advisable to access them for maintenance, breakdown or periodic review.



**If finally places her next to one or more walls spa, be sure to allow sufficient access to the drainpipe. In any case, and alternatively, prepare some access hatch or the stopcock to open and close the water outlet (located under the skirts).**

Here's how to locate your spa, well inside his home or abroad. If you know where to do it, you can go straight to point •.

## 2.1. Ubicación del spa en el exterior

If you install the spa on the outside of your home:

- The dimensions of the base on which support the spa must be equal or slightly higher than the spa itself (simply a more cm).
- It is advisable to prepare a solid concrete base under the spa about 10cm thick, although prefabricated tiles, beams treated wood, tile, etc. can also be used provided that the material has sufficient hardness and is treated to withstand a high level of humidity. In short, a solid, level base properly will suffice.
- It not recommended to place the spa under trees that could cause premature fouling water. It is desirable that the environment we place the spa is a clean place, out of reach of leaves and birds, thus minimizing transport dirt inside the spa.
- In the following pictures may be some valid basis for its spa materials.



hormigón



losetas



terrazo



baldosas



prefabricados



madera tratada



composite



acero

- The following pictures may be some materials that are not valid for the base of your spa.



piedra granulada



tierra

## 2.2. Ubicación del spa en el interior

If you install the spa inside your home:

- First of all, you should consider a range of data to help you determine whether it is viable or not the location inside. Namely:

one. The net weight of the spa (eg .: 300kg)

two. The maximum volume of water in your spa (eg .: 950L)

3. The outer size of your spa reflected in square meters (eg .: 4,5m<sup>2</sup>)

With these three data you can calculate easily the weight per square meter (kg / m<sup>2</sup>) of the spa by the sum of net weight (point 1 above indicated) and the volume maximum water (point 2 indicated above) divided by the square footage of your spa (item 3 above indicated). The kg / m<sup>2</sup> spa should always be less than kg / m<sup>2</sup> maximum tolerated the surface on which it placed, otherwise it will be necessary to talk to your architect to find a solution that distribute the weight of the spa efficiently.



**For the kg / m<sup>2</sup> which tolerates its wrought must contact the architect or developer who executed his work. If you can not find him or get information by other means, we suggest you hire the services of an architect who will help you do the math.**

Following the above example, we have a weight per square meter of 275kg / m<sup>2</sup> (300kg net weight + maximum volume 950L water / surface 4,5m<sup>2</sup>) which has been contrasted with the weight per square meter of our forged. As the forging of our terrace supports 300kg / m<sup>2</sup>, we proceed to its final location with the assurance that not have any problem in the future.



**Has neither the number of people or their weight to make this series of calculations, since the volume of the bodies would exceed the same proportion of water inside the spa (Archimedes' principle) into account.**

- It is advisable to prepare a ventilation in the room where the spa be located to avoid excessive moisture that could cause problems in the room, the walls and the spa itself.
- It is recommended to connect the drain pipe located under the structure of the spa (behind the skirts) to its drain permanently, because otherwise you will have to remove the skirt for this purpose.

### 3. INSTALACIÓN Y PUESTA A PUNTO DEL SPA

This section is of special note and agree that any doubt consult an electrician to help you verify if the contracted power is adequate, and preinstallation and make proper connection. Poor electrical installation can cause irreversible damage to your spa and carries a serious risk of electrocution. We strongly recommend hiring our official launch suggest; technical partner to his province will come to your home.

#### 3.1. Recepción y desplazamiento del spa



Generally you will receive spa packaging in a cardboard box with a pallet on the bottom and upright. If not expressly agreed otherwise transport to be performed outside his home and will not involve the introduction of the goods to the interior.

If at the time of reception is damage to the outer packaging, it is vitally important that you call us before signing the delivery note for us to explain how to proceed.

The day will receive the spa, we strongly recommend two solutions. Depending on access and peculiarities of their home choose the first, second or both:

**one. Hire a boom truck or crane spa and collect the enter to your location**

ultimately avoiding having to cross corridors and narrow doors inside the house (ideal solution if the spa is located in a garden or attic).

**two. Have a team of people to pick up the spa and transport it to its final location.**

If the access permit, we suggest using a transpallet to offset more bearable, but if there are steps or stairs need to load bulk to arm (estimate an adult, strong and healthy person, can charge between 40 and 50kg ).

Once the spa is in its final location is time to remove the protective cardboard box, lay it down and finally remove the installed base pallet on the skirt avoids contact with the ground.

Check that no blows, breakages and damage both on the coattails of the spa and acrylic glass material. If it detects an abnormality, immediately contact WDH to tell you how to proceed.

## 3.2. Instalación eléctrica del spa

In WDH all spas are compatible with a supply voltage of 220V-230V 50 / 60Hz, except in cases where the power of the product requires installation 380V (three phase), unusual situation to which the client would have been forewarned.

The spa requires a specific and individual line for use; ie, you must carry a line from the general picture of their home to the spa, and a differential thermal magneto associated.

The power line must be made with cables from 4mm to 10mm depending on the spa model and the distance between it and the general picture of the house. If the distance exceeds 15-20m section should be increased.

Remove the tails of his spa and locate the electrical box to make the connection. You will know in advance what area is the electrical box with a sticker "ELECTRIC BOX" adhered on the skirt. It is imperative that your spa has a ground connection even suggest creating a specific for it (it will not be hard to do if the location of the spa is on the outside).



Our spas usually have between 4000W and 9000W consumption, albeit rarely produce the maximum consumption (it is unlikely that all electrical components are running simultaneously).

From Wdh inadvisable to activate pumps maintenance (heater 2000W / 3000W depending model + pump eco-plus filtration 370W) with pump power (pump / s of water 1100W / 1500W / 2200W depending model + pump / s air 200W / 300W / 400W / 700W / 900W depending on the model) by dividing the consumption by almost half. The other components such as lights or barely exceed 30W Ozonator consumption and are irrelevant in terms of electricity consumption.

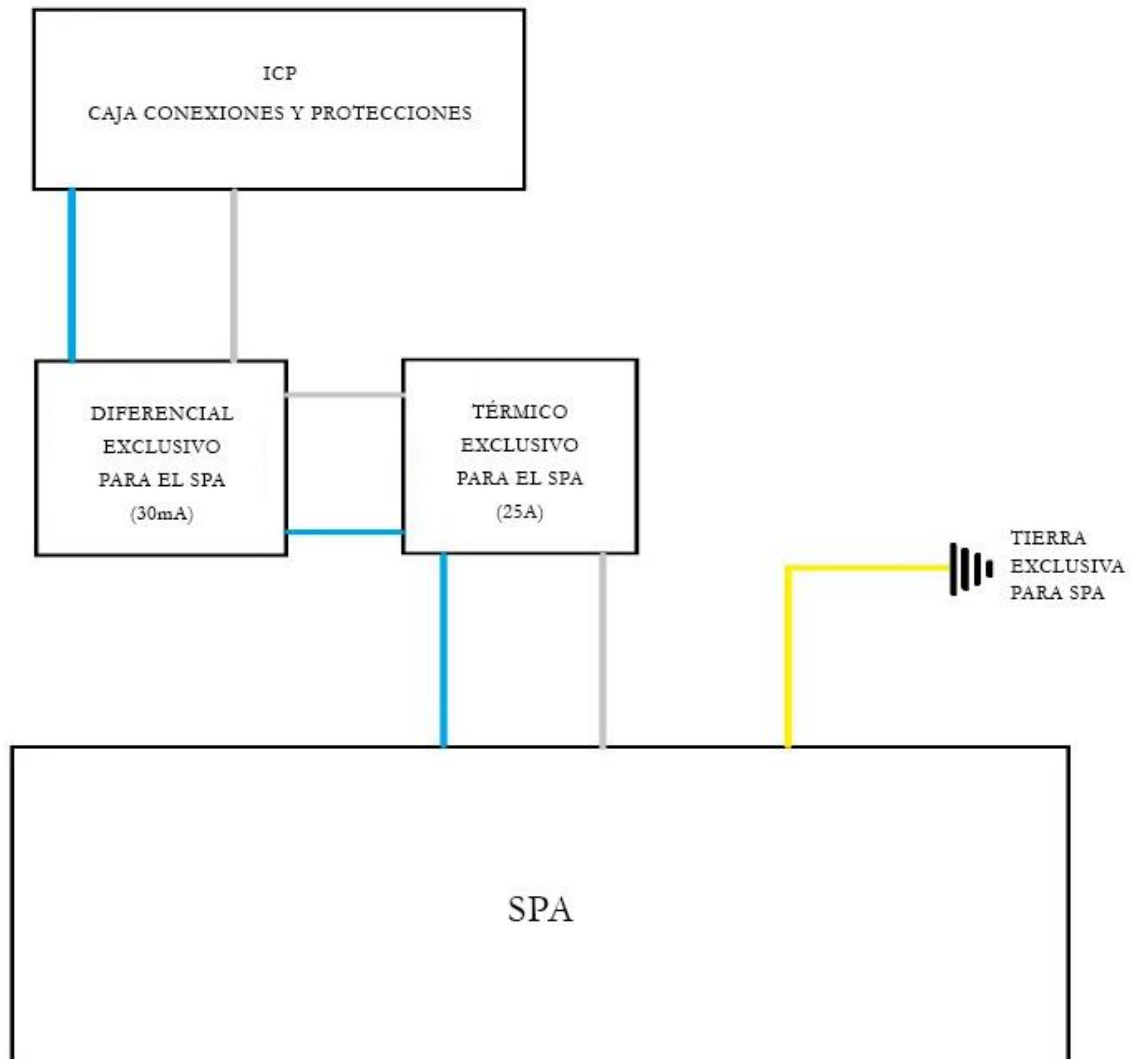


**Note that when you turn the heater will also be activating the filter pump, since it is responsible for recirculating and purifying water using filter paper and convey water from inside the spa to the heater.**

Some precautions to keep in mind regarding the installation:

- one. Never connect your spa by current extension.
- two. Never connect the spa to conventional outlets home.
3. Never be close to your location connected power lines or plugs.
- Four. Never connect the spa without having filled with water.
5. Never work on components without having previously disconnected differential.
6. Never disconnect the electrical power spa if you just leave it and is still wet.
7. Never leave bare the power lines of your spa.

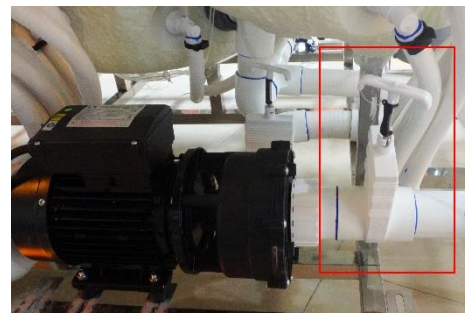
### 3.3. Esquema eléctrico de conexiones del spa



WDH not advisable to use the data reflected on the size of the differential and magneto previous example on all spa models. It must be a professional electrician who determine, based on consumption in watts model in question, which is the pre-installation best suited to each case. If you have any questions regarding this, please contact us.

### 3.4. Llaves de corte de bombas (reparación o sustitución de bombas)

Spas have stopcocks located in each of the spa pumps, whose purpose is to allow / block the flow of water to the interior thereof. You will receive your spa with raised keys cut (open) which allows water circulation. No cutting down keys (closed) under any circumstances, unless your intention is the replacement or repair of any of the pumps, in which case the spa must be turned off without any pump running.



## 3.5. Llenado del spa

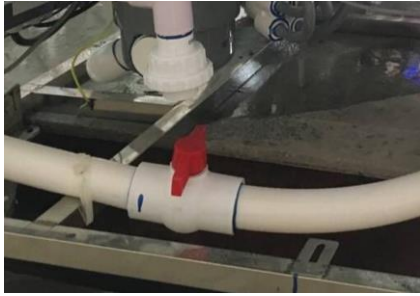
Remember that prior to the first filling should have leveled the ground where locate the spa. Otherwise it is likely that the sensors responsible for detecting water level can not perform their function properly and not to start pumps.

Unless you have specifically requested otherwise we, the spa does not have hydrants, thus saving plumbing and masonry work: it is filled with wall hose or faucet. As simple as that.

Once leveled the floor where the spa is located, you must follow these steps:

- one. With the retired skirts, make sure the stopcock that opens and closes the outlet drain is fully closed and the electrical connection of the spa off (differential lowered).
- two. Remove any impurities and dust adhering to the inner walls of the spa by clean damp cloth (important NOT use cleaning).
3. Through a hose enter the water directly into the skimmer to proceed to first filling and soak the filter paper.
- Four. Fill the spa between 2cm and 3cm above the level sensors. Should one of the sensor is installed above the other, take as a reference the level sensor located above. Do not fill your spa much more than 6cm above the level sensors as it could cause water overflow.
5. tightly close the skimmer head so that no air in the circuit and slow the water heating.
6. Before installing new skirts, make sure there is no water leak under the spa that could be easily detectable (jet loosely, loose tubing, drain without completely closing, etc.). To do this we recommend you read the guide on the control panel starting on 11th page and activate all pumps for a few minutes.
7. Replace the skirts and fix them with their anchorages.

On the next page we show images of some of the steps listed in this paragraph.



Stopcock under skirts



Cleaning impurities in acrylic



Fill the spa through the skimmer



Water level: 2-3cm on sensors



**Should we have applied some filters promotion, you will find the first of them housed inside the skimmer. If we had promised more units, you can locate the remaining filters under the skirts of the spa.**

Congratulations, at this time you can and give power to the spa (up differential) and read the manual that we have prepared for you in [paragraph 4. CONTROL PANEL GUIDE](#) it will help you understand the operation of machinery. 'It is less so you can be the first dip !!



Before going on to [paragraph 4. CONTROL PANEL GUIDE](#) By the following [paragraph 3.6. Emptying the spa](#) we'll show you how to empty the spa when so required.

### **3.6. Vaciado del spa**

Unless you have specifically requested otherwise we, the spa has a manual drain to evacuate the water by gravity. Remove the tails of his spa and locate the stopcock (red) that opens and closes the water outlet. You can you know in advance what area is the stopcock by a sticker "DRAINAGE" adhered on the skirt.

If your spa has a manual drain from WDH we suggest three solutions:

- one. Whenever you want to empty the spa, remove the side of the skirt where the stopcock is located and let the water directly out to the garden, or connect a hose punctually water leading to the pit.
- two. Prepare a hatch in the side of the skirt where the stopcock be located for access faster down the drain.
3. Reposition the stopcock out of the skirts (cutting the pipe open a cavity in the skirt and place the stopcock outside the casing) for convenience.

## 4. GUÍA DEL PANEL DE CONTROL



1. Set temperature	9. On / Off Spa
2. Volume Up	10. On / Off filtration pump 3 <i>Automatic cleaning cycle</i>
3. Search freq. radio upwards <i>Set minutes</i>	11. On / Off heater <i>Automatic heating cycle</i>
4. Volume Down	12. On / Off water pump 2 <i>(Some teams lack water pump 2!)</i>
5. Search freq. radio down <i>adjust hours</i>	13. On / Off air pump <i>Change system temperature (° F or ° C )</i>
6. Search automatic radio <i>change settings</i>	14. On / Off 1 water pump
7. Store station <i>Lock / Unlock keyboard</i>	15. On / Off mode long manual cleaning <i>(Not recommended, excessive consumption!)</i>
8. On / Off radio / CD	16. On / Off chromotherapy

The functions indicated in blue are only available in the standby mode. The following section will explain the difference between standby mode and normal mode.

## 4.1. Introducción al panel de control

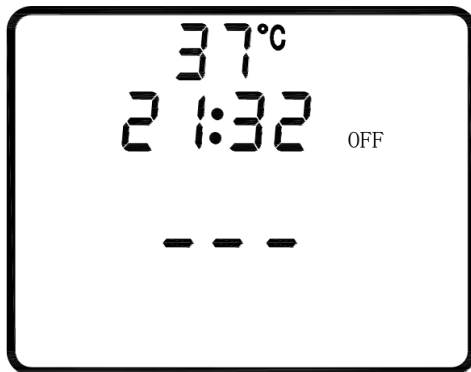
When you turn the spa for the first time the display will light up and display the current time and water temperature.

The control panel has two positions: standby mode and normal mode. Programming functions of the heating cycle and the cleaning cycle dialed from the standby mode while non-programmable to activate any function you need to activate the normal mode

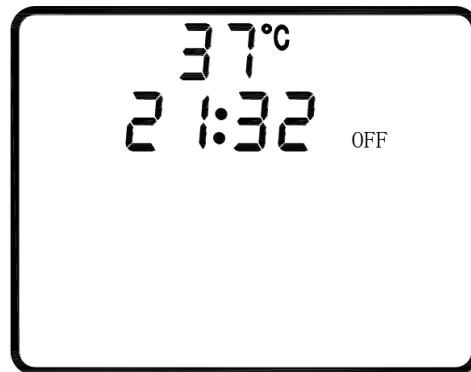
pressing the button (9)



In the following image a representation of the screen in standby and normal modes shown.



Standby screen



Display in normal mode

If not act on the control panel for an interval of greater than 30 seconds it will automatically lock showing a lock on the display time. To unlock press the

button (7)



and the lock will disappear from the screen.

While the spa is connected to the current (differential uploaded) the display will remain on regardless of whether it is in standby mode or normal mode. Do not worry, consumption is minimal.

Except for the air pump, no other pump will operate if the water level is not adequate. Make sure that the level sensors are covered between 2cm and 3cm with water.

After the whirlpool session you can press the button (9)



for the spa





enter standby mode and thus the system can work the heating and cleaning cycles correctly according to the scheduled time (below will explain how to program these cycles).



**In standby mode if the water temperature falls below 5 ° C, the heater and the filter pump will be implemented as a preventive method of anti-freezing process to reach 10 ° C.**

## 4.2. Programar la hora

The spa requires initial programming time to function properly during the filtering and heating cycles. Make sure the spa is in standby mode and follow the steps that listed below:



- one. Press the button (5)  or button (3)  and you will access the time settings.
- two. Pressing the button (5)  increase the hours at a time, while pressing the button (3)  increase the minutes one by one. You are holding down any button for several seconds may increase the time more quickly.
3. After 6 seconds without pressing any button, the system will exit the time settings automatically and the set time will be saved as current time.

## 4.3. Programar las bombas de potencia (agua y aire)

Through this section we will explain how to program the two massage systems installed in your spa: water massage and air massage.

### 4.3.1. Programar la bomba de agua (masaje de agua)

The water pump is responsible for feeding water jets (mainly located in the back). By suction pump absorb water and lead to the injectors. The water injectors are more potent than the air nozzles.


To activate the water pump must press the button (14)  If your model has a spa water pump, and the button (12)  If your spa model has two water pumps. Again press any button to turn off the pump in question.

You can target power / s pump / s of water to seats or other means located to such purpose in the vicinity of frame spa, thus optimizing the consumption depending on the number of users that use at all times valves.



### 4.3.2. Programar la bomba de aire (masaje de aire)

The air pump is responsible for feeding the air jets (located primarily at the base of the spa). The air pump generates sufficient to expel air to the air injectors power. Air nozzles are less potent than the water injectors.

To activate the air pump press the button (13)  . Press the button off the air pump.

The air pump every 20 minutes of use shuts off automatically.

## 4.4. Programar las bombas de mantenimiento (calefacción y filtración)

Through this section we will explain how to program the two maintenance systems installed in your spa: heating and filtration.

### 4.4.1. Modo de calentamiento manual (calefacción)

Manual mode warming is a feature that will allow you to heat water spot (manually), when you are in front of the spa. Whenever active heating water, the filtration pump work simultaneously with the heating means.

Follow the steps that listed below to activate manual mode heating:

one. Press button (11) twice



two. Press (1)



and select the desired maximum temperature.

3. When you want to exit the manual heating press (9)



It start heating the water while it is filtered. Once the maximum temperature reached and the heating pump and filtration will turn off when the temperature falls below the maximum temperature will again be activated automatically (so always the same water temperature is maintained). Manual heating mode is ideal if you want the spa keeps hot water 24h.



If you enable the / s pump / s of water or air in the heating mode manually in some models spa heater and filter pump will stop as a safety measure to prevent excessive power consumption.

### 4.4.2. Modo de limpieza manual (filtración)

Manual cleaning mode is a feature that allows you to clean water point (manually), when you are in front of the spa, by activating the filter pump.

To activate the manual cleaning mode press the button (10) to disable the manual cleaning mode.



. Press the button

### 4.4.3. Modo de limpieza manual largo (filtración)

The long manual cleaning mode is a feature that allows you to clean water point (manually), when you are in front of the spa, by activating all pumps of the apparatus.

To activate the manual cleaning mode long press (15) button to deactivate the long manual cleaning.



. press again the

The fundamental difference with the manual cleaning mode is that here the / s pump / s of water and / s pump / s of air will be launched simultaneously every 30 minutes for 30 seconds to remove particles from the water and optimize filtering. You may cancel the activity

heater in this process by pressing the button (11)



In this mode the only cleaning pump which is continuously remain on the filter pump, responsible for conducting the water to the paper cartridge located in the skimmer.



**Note that activating this cleaning mode will bring a very high consumption to the electricity grid (all product pumps work simultaneously), why we not recommend their use frequently.**



**During long mode manual cleaning ozonator (ozone disinfection) will start every 15 minutes for 15 seconds. It is advisable not to use the spa while the ozonator is active.**

### 4.4.4. Ciclo de calentamiento automático (calefacción)

Automatic heating cycle is a function that allows you to program prior to the spa (daily and at the same time) the water is hot. Whenever active heating water, the filtration pump work simultaneously with the heating means.

Make sure the spa is in standby mode and follow the steps listed below you to understand how to program the heating cycle:

one. Press (11)



to access settings. Pressing it a second time exit programming without saving the settings.

two. Using the button (5)



and button (3)



you can adjust the start time of the cycle.

3. Once the starting time selected, press the button (6)



to access duration.

Four. Using the button (5)



and button (3)



you can adjust the duration of the cycle

(Minimum 10 minutes, maximum 19 hours and 50 minutes)

5. Once selected time duration, press the button (6) temperature setting.



to access the

6. Now press the button (1)  
15 ° C, maximum 42 ° C).



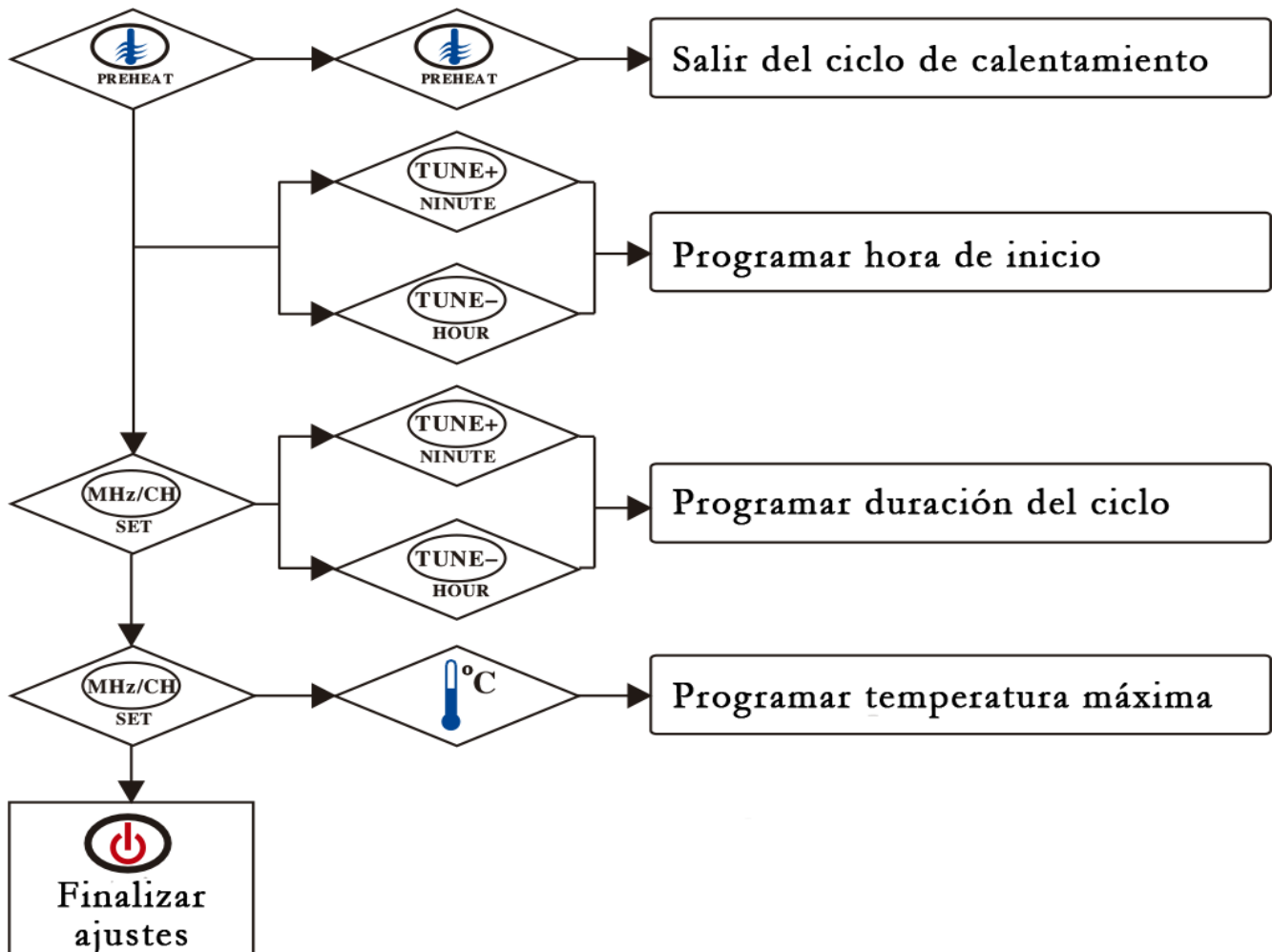
to adjust the desired maximum temperature (minimum

7. Finally press the button (9)  
programming.



to memorize the entire cycle and leave the

In the next picture we show the sequence of operations to perform diagram:



We do not recommend temperatures above 37 ° C during bathing. It can be harmful to your health.



Adjusting the maximum water temperature during programming prevents the spa continue to heat the water all the time specified and although the water is at the proper temperature. For example, if you schedule a heating cycle of 6 hours and 4 hours the water is already at the desired temperature, the spa will shut down and if in the next two hours the temperature begins to decrease, would get in March. Therefore, to save energy, it is more important to choose a suitable temperature shorter duration.

## 4.4.5. Ciclo de limpieza automático (filtración)

The automatic cleaning cycle is a function that allows you to program prior to the spa (daily and at the same time) go cleaning water. The automatic cleaning cycle is very similar to automatic heating cycle, with the difference that the heater will not be launched simultaneously (filter pump lead the water to the paper filter located inside the skimmer).








Keep in mind that during the cleaning cycle the / s pump / s of water and / s pump / s of air will be started every 30 minutes for 30 seconds to remove particles from the water and optimizing the filtrate.

Although it depends on variables such as the water capacity of the spa, the use made thereof, if acquired thermal blanket (extra highly recommended) or applied chemicals such as bromine (discussed later on chemicals to be used) from WDH we recommend a filter time of at least 5 hours a day.

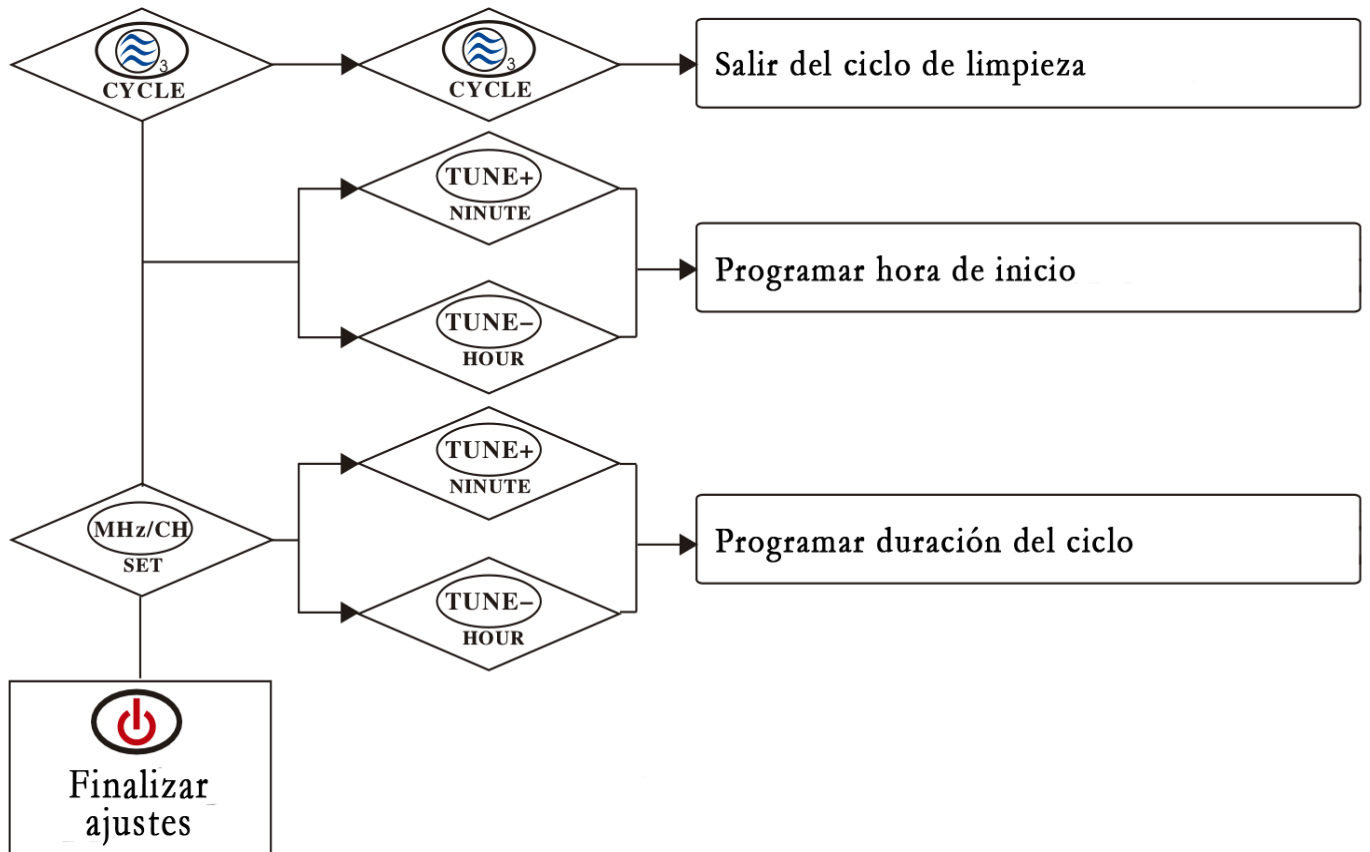


**Note that during heating the water also passes through the filter. Therefore, if the water has been heating for 3 hours, they would only have 2 hours instead of 5 hours in total.**

Make sure the spa is in standby mode and follow the steps listed below you to understand how to program the cleaning cycle:

- one. Press (10)  once. Pressing it a second time will exit the programming without saving the settings.
- two. Using the button (5)  and button (3)  you can adjust the start time of the cycle.
3. Once the starting time selected, press the button (6)  to access duration cycle.
- Four. Using the button (5)  and button (3)  you can adjust the duration of the cycle (Minimum 5 minutes, maximum 19 hours and 55 minutes).
5. Finally press the button (9)  to memorize the entire cycle and leave the programming.

In the next picture we show the sequence of operations to perform diagram:



You should know that if you program the heating cycle at the same time as the cleaning cycle only will start the cycle has been programmed ultimately.



As happens with long manual cleaning mode, in this cleaning cycle ozonizer (ozone disinfection) will start every 15 minutes for 15 seconds. It is advisable not to use the spa while the ozonator is active.



If the spa is equipped with cascade function or jets "font style", it is advisable to close the valves of these elements, as every 30 minutes for 30 seconds all pumps are activated at a time and if the spa has thermal blanket difficult the water outlet for such areas.

## 4.5. Programar las luces (cromoterapia)

All WDH spas have chromotherapy, one or more lights alternate color automatically and help build a pleasant atmosphere.

To activate chromotherapy press the button (16) disable chromotherapy.



Press the button

If you want a certain color remains constant over time:

one. Press (16) to turn it off.



once to activate chromotherapy and press a second time

two. Immediately after press the button a third time and one of the colors will fixed permanently, Now press the button a fourth time and the light will turn off.

3. Press again the button a fifth time and it will set a new color different above, press the button a sixth time and light off.

Perform several tests following explained above for a greater understanding of the above.

## 4.6. Programar la música (radio/CD)

The spa features FM radio and connection jack to connect externally a CD player or auxiliary, so the music will help build a more harmonious and relaxed atmosphere.

To enable the radio:

one. Press the button once (8)



and the display will show the current frequency.

two. You can tune into another station frequency greater pressing the button (3)



and of

lower frequency by pressing the button (5)



3. You can increase the volume by pressing the button (2)



and lower the volume by pressing

the button (4)



Four. You can store the current station (for a total of 10 stations) by pressing the button (7)



5. You can tune the preset stations by pressing the button (6) as broadcasters have stored.



many times

To activate the CD / Auxiliary:

one. Remove spa skirt and locate the jack connection on the electrical box itself.

two. Press the button (8) twice



and access music CD / Auxiliary.

3. You can increase the volume by pressing the button (2)



and lower the volume by pressing

the button (4)



The following image shows the appearance of the Jack connection for CD or auxiliary:



## 4.7. Bloquear/Desbloquear teclado

You can lock the keyboard by pressing the spa (7)  
to unlock the keypad.



. Press the button

The spa automatically locks the keyboard into standby mode after 30 minutes of inactivity as a security measure.

With this last point we have concluded all the explanations relating to the control panel and its functions. Below in the following sections, we will accompany you to understand the maintenance to do the spa, and last but not least a guide to those common problems, their possible causes and solutions.

## 5. CUIDADOS Y MANTENIMIENTO DEL SPA

You can keep the water in perfect condition without continuously changing. Contact us to provide a complete kit of specific spa maintenance, thus avoiding problems caused by the use of abrasive products for pumps, jets, glass, etc.

Remember Wdh spas have a filtration pump recirculating water (preventing seal) and leading to the filter paper, where impurities are trapped. In addition, the ozone disinfection device, integrated within, contributes to the elimination of bacteria.

Therefore, teams already have elements that prolong life significantly water. However, some maintenance tasks are necessary. In fact, it is not possible that life water more than two weeks may be prolonged (at best) if spa filtration systems are not supplemented with chemicals.

Today there are many items on the market that provide greater durability to water, but not all of them are suitable for use in spas. Please note that the spa water is in continuous contact with the pumps, a delicate component must safeguard.

In WDH we offer a range of cleaning products for fully tested spas that not only extend the life of the water and take the best out of each filling, but protect the machinery itself, preventing a few years of use appear abnormalities in the pumps and problems in the acrylic material of the glass. You should be aware that the use of non-recommended products will eventually cause irreparable damage to your spa.

### 5.1. Niveles adecuados del agua

Here are schematically adequate levels for the spa water.

pH: 7.2 to 7.6 ppm \* Free Bromine:  
1 - 3 ppm Calcium Hardness: 150 - 200  
ppm  
Water Turbidity: <5th Oxygen  
Consumption: <6 ppm  
Urea: <2.5 ppm Total  
bacteria: <1000 ppm



\* "Ppm" means parts per million. If it is more simple, ppm stands for mg / L. That is, if the calcium hardness must be between 150-200 ppm, this means that there must be a proportion of calcium of 150 milligrams of calcium per liter of water and 200 milligrams of calcium per liter of water.

## 5.2. Guía para el tratamiento del agua mediante kit de WdH

If you have no experience in water treatment, do not worry: we have prepared a simple guide so you can cope with this task.

To follow this guide must have the maintenance kit WDH. Contact us for more information.



The maintenance kit includes Wdh pH / Bromine and contains five different chemicals. Before proceeding with explanations on how to apply each of them it is important to understand what their role is. Namely:

**Bromine ( *BROMAGENE*):** Bromine is a chemical charge of performing a similar function chlorine: water disinfection control bacteria, algae, fungi, etc. The difference between the chlorine and bromine is that the latter is much more effective at high temperatures (own spas), making it the perfect ally. Also, bromine is not as abrasive as chlorine pump, acrylic, eyes and skin.



**You should apply bromine ( *BROMAGENE*) as starting treatment every time you fill the spa using a bar of 20gr. You should apply bromine ( *BROMAGENE*) as maintenance therapy daily using a bar of 20gr.**

**Non-foaming algaecide ( *ALGISIN*):** The algaecide is a chemical charge to avoid the appearance of algae. It is a compound of great importance for the care of the spa water.



**You must apply non-foaming algaecide ( *ALGISIN*) as starting treatment every time you fill the spa at a rate of 30ml / 1000L. You must apply non-foaming algaecide ( *ALGISIN*) weekly maintenance treatment at a rate of 15ml / 1000L.**

**PH reducer ( PLUS ACID):** One of the most important points to extend the life of the water is to maintain the pH between 7.2 and 7.6 ppm. If these pH levels are not met, you will have to apply more chemicals bromine and strong odors that emerge from the water and short-term water turbidity will occur.



**PH must apply reducer ( PLUS ACID) as starting treatment. Note that a ratio of 15g / 1000L lower the pH in a tenth approx.**

**PH must apply reducer ( PLUS ACID) as maintenance therapy daily. Note that a ratio of 15g / 1000L lower the pH in**

**a tenth approx.**

**anti fouling ( QUIMICAL PS):** The anti fouling is a chemical anti lime (calcium sequesters metals and water) used in spas with high probability that encrustations occur (hard water with a high pH) to prevent its occurrence.



**anti fouling be applied ( QUIMICAL PS) as starting treatment every time you fill the spa if the water is hard, at a rate of 40ml / 1000L. You must apply anti**

**fouling ( QUIMICAL PS) as treatment**

**monthly maintenance at a rate of 20 ml / 1000L. If the water has a hardness greater than 50°HF double dose.**

**Acid cleaner waterline ( QUIMINET FORTE):** The cleaner acid is a chemical which cleanses and dissolves dirt, oils and fats (caused by creams, sun, sunscreens ...) and limescale which, being insoluble in water, adhere to the walls of the spa forming dark spots on the waterline.



**Acid cleaner must apply the waterline each time you empty the spa and also in cases where, with the spa full of water stains perceived up to the waterline. No amount stipulated; You should apply a small dose with a sponge.**

Here are two very simple to understand sections are exposed. In the first of these products to be applied after the first water filling (and every time you drain and refill the spa) are explained. The second section provides information on products used in water maintenance.

### 5.2.1. Tratamiento químico de arranque del spa

Five easy steps to follow each time you fill the spa water:

**one. Adjust pH by PLUS ACID (7,2ppm-7,6ppm)** . With the help of the material included in the kit, adjust the pH with **PLUS ACID** in a proportion of 7.2 ppm and 7.6 ppm maximum.

To reduce by one tenth the pH level, you must add 15g per 1000L of water. This amount must be previously diluted in 200ml of water, then the solution spreading throughout the spa water.

**two. Apply one Bromine Tablet BROMOGENE (20gr)** . Place a tablet bromine **BROMOGENE** 20gr inside the skimmer. It is very important that bromine not remain in contact with the acrylic glass; medium and long term will produce discolorations in the material. Bromine tablets should be placed inside the skimmer or in a dispenser.

**3. Apply non-foaming algaecide ALGISIN (30ml / 1000L)** . Apply non-foaming algaecide 30ml **ALGISIN** per 1000L liquid throughout the spa water to prevent algae growth.

**Four. If the water hardness is high, apply anti fouling QUIMICAL PS (40ml / 1000L)** . If you are aware that water in your area is hard, apply anti fouling **PS QUIMICAL** at a rate of 40ml per 1000L. It will avoid the occurrence of incrustations in pipes, pumps and jets.

**5. Circulate water using the filter pump (minimum 3-5h)** . Turn the filter pump for a minimum of three hours (if the spa is about 500L) or a minimum of 5h (if the spa is about 1000L) for the products used are suitably dissolved in water by circulating water .

Once these simple steps, the water is disinfected and ready for use. Bacteria that reach the water will be to introduce you and people who regularly use it. For this reason, it is recommended that before using the spa each user takes a shower, thereby minimizing microbial growth and extending the life of the water.

## 5.2.2. Tratamiento químico de mantenimiento del spa

Five easy steps on how to proceed in good condition to maintain the spa water:

one. Adjust the pH level between 7.2 ppm and 7.6 ppm daily (or every other day) by PLUS

ACID . Apply sparingly pH reducer and remember to decrease in one-tenth the pH level should add 15 g per 1000 L of water (this amount must be previously diluted in 200ml of water).

two. Regulating the level of residual bromine from 1 ppm to 3 ppm daily (or every other day)

through BROMOGENE . Typically a pill bromine apply 25 gr every 1-2 days. If it finds after said time interval that the pill is not yet fully dissolved, means must activate the filter pump longer. If even increasing the filtration time fails to dissolve a pill bromine every 1-2 days, try to take a pill every 3-5 days.

3. Add 15 ml of non-foaming algicide ALG/SIN weekly . This process is very advisable to apply at sunset.

Four. If the water hardness is high add 20 ml of anti fouling by QUIMICAL PS

monthly basis (If the water has a hardness greater than 50°HF double dose). It is also advisable to carry out this application if the spa carries the same water for two or more weeks.

5. If you uncover dirt on the water level (Waterline) from oils, aerosols and

fat (caused by sunscreens, suntan lotions, etc.) apply cleaner acid waterline QUIMINET FORTE using a sponge or pad previously moistened.

If you make these indications within set times will enjoy crystal clear water and healthy state. If not, contact us or a water treatment specialist. to determine the possible cause.

### 5.3. Niveles inadecuados del agua

Some chemical imbalances of your spa water will require a special dedication, but a correct measurement end up solving the problem. Here are some cases and their solutions are as follows:

**Algae:** Under environmental situations much sun, excessive water temperature, presence of suntan lotion or sweat users in the spa, microorganisms develop in water that favor algae growth, especially if the water lacks disinfectant or there is a mismatch pH.

In this situation, setting the pH between 7.2 and 7.6 ppm., Apply an antifouling solution and perform a shock treatment with bromine. Ensure that people showering and free of soapy substances and / or perfume before entering the spa water.

If this does not solve the problem, change the filter paper with a new spa, completely empty the water and pass a damp cloth around the vessel spa. Then proceed to completely renew the spa water and start the disinfection cycle shock to adjust to the correct levels of use.

**turbid water** : Water bluish green may indicate excessive copper and high levels of acidity. Try to keep the pH between 7.2 and 7.6 ppm and optimal disinfection. A reddish color in water is usually evidence of excess iron or magnesium, generally caused by corrosion in circulation equipment (filter pump) and heating (heating).

Increase filter cycles and often check the filter status. Make sure you're not using unfit for spa products and regularly measure the levels of pH and bromine.

If this does not could remedy the problem, change the paper filter with a new one, completely empty the spa water and pass a damp cloth around the vessel spa. Then proceed to completely renew the spa water and start the disinfection cycle shock to adjust to the correct levels of use.

**Tartar** When minerals are no longer soluble in water are precipitated and deposited in the spa. Are clear white, gray or brown deposits will eventually cause excessive damage to the circulation equipment (filter pump) and heating (heating) and duct obstruction.

It is a common problem with high pH or high water hardness. Use a scale remover (exclusively for spas) and manually remove without damaging the acrylic spa. Make sure you have the correct water balance (pH and disinfectant).

If this does not solve the problem by, change the paper filter with a new one, completely empty the spa water and pass a damp cloth around the vessel spa. Then proceed to completely renew the spa water and start the disinfection cycle shock to adjust to the correct levels of use.

**acid water** The presence of acidic water usually occur as a result of water to maintain levels of extremely low alkalinity (low pH) or high hardness levels (high calcium). This situation can corrode the spa team and leave permanent stains on the glass. Check balance water (pH and disinfectant) and also the level of water hardness.

If this does not solve the problem by, change the paper filter with a new one, completely empty the spa water and pass a damp cloth around the vessel spa. Then proceed to completely renew the spa water and start the disinfection cycle shock to adjust to the correct levels of use.

**Alkaline water** The presence of alkaline water is an indication of high pH is due to high hardness levels (high calcium). This factor can make the effect of bromine decreases, as well as trigger additional problems in the glass and other components. Check balance water (pH and disinfectant) and also the level of water hardness.

If this does not solve the problem by, change the paper filter with a new one, completely empty the spa water and pass a damp cloth around the vessel spa. Then proceed to completely renew the spa water and start the disinfection cycle shock to adjust to the correct levels of use.

**Irritation skin and eye** : Too much tanning in the water, sweat and body waste with extreme use of disinfectants, cause irritation and pain in eyes and mucous membranes. Adjust the pH between 7.2 and 7.6 ppm and perform a shock treatment. Do not use the spa until the disinfectant level is adequate.

If this does not solve the problem by, change the paper filter with a new one, completely empty the spa water and pass a damp cloth around the vessel spa. Then proceed to completely renew the spa water and start the disinfection cycle shock to adjust to the correct levels of use.

**Excessive foam in water** If the solids level in the water it is excessive and the pH is misadjusted foam tend to be generated when this is stirred and circulated through the pumps and / or people inside. Some algaecides low quality or not specific for spas, can cause this effect. Antifoam add water and ensure that persons using the spa shower before, are free of soapy lotions, perfumes, and bathing suits are clean and free of soap.

If this does not solve the problem by, change the paper filter with a new one, completely empty the spa water and pass a damp cloth around the vessel spa. Then proceed to completely renew the spa water and start the disinfection cycle shock to adjust to the correct levels of use.