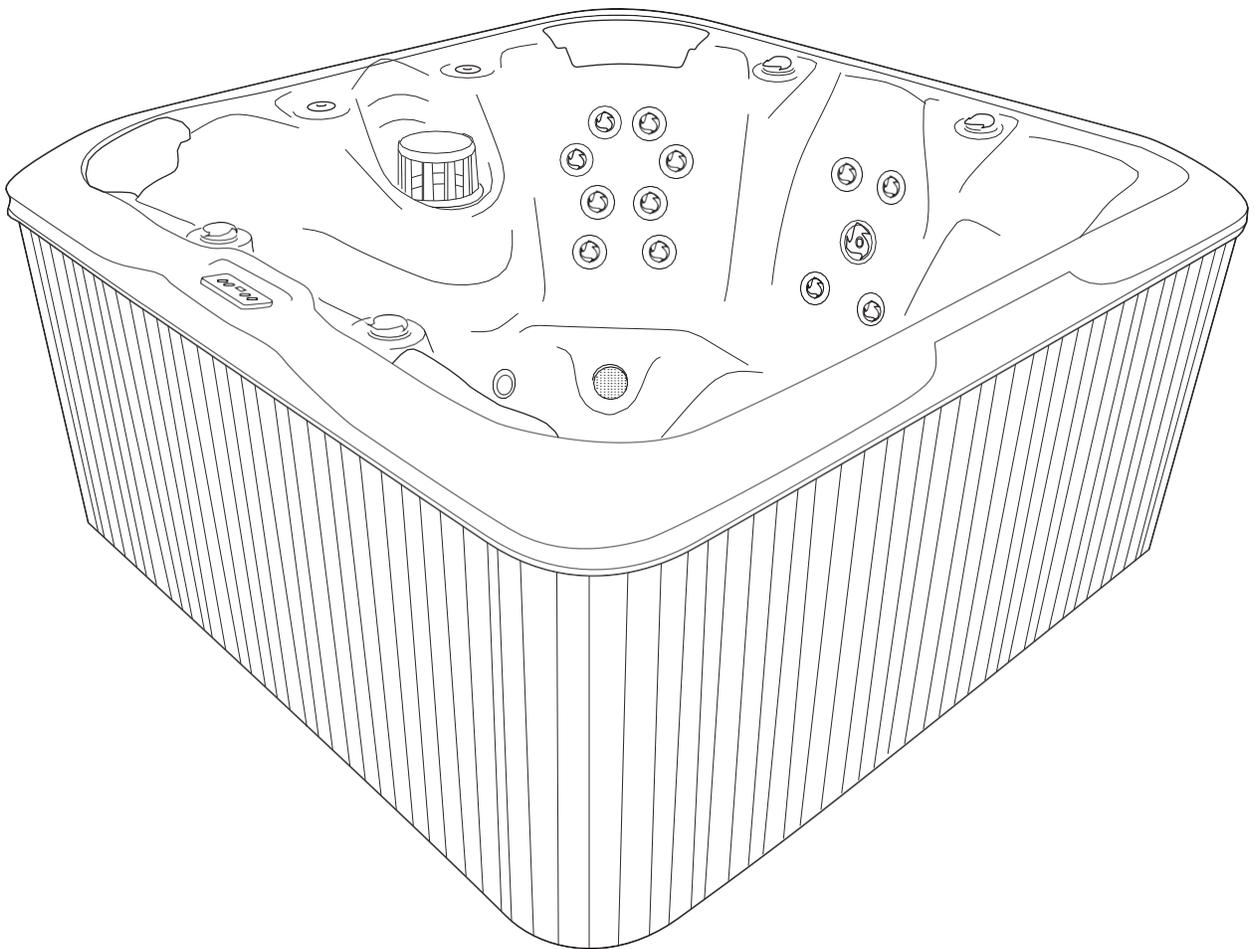


INSTRUCTION MANUAL

BlueWhaleSpa



Balboa 500Z-Series Operation Guide

Initial Start-up

Your spa will enter Priming Mode (P_r) when it is energized. **During Priming Mode, press “Jets” button(s) repeatedly and be sure all pumps are free of air.** Priming Mode lasts less than 5 minutes. Press “Temp” to exit. After Priming Mode, the spa will run in Standard Mode (see Mode section). Some panels may not have a “Temp” button. On these panels the “Set,” “Warm,” or “Cool” buttons are used.

The pump responsible for heating and filtration (pump 1 low-speed on non-circ system, or the circ pump on circ systems) will be referred to simply as the pump.

In multi-button sequences, if the buttons are pressed too quickly in sequence, they may not register.



Temp Control (80°F - 104°F / 26°C - 40°C)

The last measured water temperature is constantly displayed. **The water temperature displayed is current only when the pump has been running for at least 2 minutes.**

To display the set temperature, press “Warm” or “Cool” once. To change the set temperature, press a temperature button again before the display stops flashing. After three seconds, the display will stop flashing and begin to display the current spa temperature.

Light

Press “Light” to operate the spa light. Turns off after 4 hours.

Mode

Mode is changed by pressing “Warm” or “Cool” then “Mode”.

Standard Mode maintains a set temperature, “Set” will be displayed momentarily when you switch into Standard Mode.

Economy Mode heats the spa to the set temperature only during filter cycles. *E_c* will display when water temp is not current, and will alternate with water temp when the pump is running.

Jets 1

On panels with “Warm” and “Cool” buttons, Press “Jets 1” to turn pump 1 on or off, and to shift between low and high speeds (if equipped). The low-speed will turn off after 4 hours. High-speed will turn off after 15 minutes. Low-speed may run automatically at times, during which it cannot be deactivated from the panel, but high-speed may be operated.

Jets 2/ Jets 3/ Blower (if equipped)

Press the corresponding button once to turn the device on or off. The device will turn off after 15 minutes. Pump 2 may be two-speed on some systems.

Some systems use this one button to control two devices. The first button press will activate one device. Press again to have both devices active. Press again to turn off the first device only. Press one more time to turn both devices off.

Automatic Polling (in Standard Mode only)

The pump will activate for 1 to 2 minutes to check the temperature:

- Every 30 minutes
- Whenever any other pump or blower is turned on
- Whenever the set temperature is raised



This document covers VS and GS systems 500Z through 521Z with Balboa Panels VL200 through VL406. www.balboawatergroup.com

Sleep Mode heats the spa to within 20°F / 10°C of the set temperature only during filter cycles “*SLEEP*” will display when water temp is not current, and will alternate with water temp when the pump is running.

Preset Filter Cycles

The first preset filter cycle begins 6 minutes after the spa is energized. The second preset filter cycle begins 12 hours later. Filter duration is programmable for 2, 4, 6, or 8 hours or for continuous filtration (indicated by *FILT*). The default filter time is 2 hours for non-circ systems and 4 hours for circ systems.

To program, press “Temp,” then “Jets 1.” Press “Temp” to adjust. Press “Jets 1” to exit programming.

For non-circ systems, low-speed pump 1 and the ozone generator (if installed) run during filtration.

For 24 hour circulation systems, the circ pump and the ozone generator (if installed) run 24 hours. In hot environments, the circ pump may turn off for 30 minute periods, except during filter cycles.

For non-24 hour circulation systems, the circ pump and ozone generator (if installed) run during filtration (and may also run automatically at other times).

At the beginning of each filter cycle, all other equipment will run briefly to purge the plumbing.

Diagnostic Messages

Message

Meaning

Action Required

	No message on display. Power has been cut off to the spa.	The control panel will be disabled until power returns. Spa settings will be preserved until next power up.
— —	Temperature unknown.	After the pump has been running for 2 minutes, the temperature will be displayed.
OHH	“Overheat” - The spa has shut down. * One of the sensors has detected 118°F/47.8°C at the heater.	DO NOT ENTER THE WATER. Remove the spa cover and allow water to cool. At 107°F/41.7°C, the spa should automatically reset. If spa does not reset, shut off the power to the spa and call your dealer or service organization.
OH5	“Overheat” - The spa has shut down. One of the sensors has detected 110°F/43.5°C.	DO NOT ENTER THE WATER. Remove the spa cover and allow water to cool. Once the heater has cooled, reset by pushing any button. If spa does not reset, shut off the power to the spa and call your dealer or service organization.
SnA	Spa is shut down. * The sensor that is plugged into the Sensor “A” jack is not working	If the problem persists, contact your dealer or service organization. (May appear temporarily in an overheat condition)
SnB	Spa is shut down. * The sensor that is plugged into the Sensor “B” jack is not working.	If the problem persists, contact your dealer or service organization. (May appear temporarily in an overheat condition)
SnS	Sensors are out of balance. If alternating with spa temperature, it may just be a temporary condition. If flashing by itself, spa is shut down. *	If the problem persists, contact your dealer or service organization.
HFL	A significant difference between temperature sensors has been detected. This could indicate a flow problem.	If the water level is normal, make sure all pumps have been primed. If problem persists, contact your dealer or service organization.
LF	Persistent low flow problems. (Displays on the fifth occurrence of “HFL” message within 24 hours.) Heater is shut down, but other spa functions continue to run normally.	Follow action required for HFL message. Heating capability of the spa will not reset automatically; you may press any button to reset.
dr	Possible inadequate water, poor flow, or air bubbles detected in the heater. Spa is shut down for 15 minutes.	If water level is normal, make sure all pumps have been primed. Press any button to reset. This message will reset within 15 minutes. If problem persists, contact your dealer or service organization.
dry	Inadequate water detected in heater. (Displays on third occurrence of dr message.) Spa is shut down.*	Follow action required for dr message. Spa will not automatically reset. Press any button to reset manually.
ICE	“Ice” – Potential Freeze condition detected	No action required. All equipment will automatically activate regardless of spa status. The equipment stays on 4 minutes after the sensors detect that the spa temperature has risen to 45°F/7.2°C or higher. An optional freeze sensor may be added to protect against extraordinary freeze conditions. Auxiliary freeze sensor protection is advisable in colder climates. See your dealer for details.

*- Even when spa is shut down, some equipment will turn on if freeze protection is needed.

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Warning! Shock Hazard! No User Serviceable Parts.

Do not attempt service of this control system. Contact your dealer or service organization for assistance. Follow all owner's manual power connection instructions. Installation must be performed by a licensed electrician and all grounding connections must be properly installed.

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Winter – Potential Frost Damage

If your tub is going to be left empty over the winter months or in any very cold climate where there is a possibility of sub zero conditions it is very important to remove all the water from the pipework and pumps as well as from the tub itself.

Water that freezes in the pipework and pumps can expand and crack the pipes and pump wet ends leading to major leaks, which will leave your tub unusable and will need an engineer to repair. **Frost damage is not covered in the warranty on your tub.**

Your hot tub water needs to be treated with certain chemicals to maintain its cleanliness.

Sanitiser levels, Ph Levels and Total Alkalinity can be measured with readily available water testing strips. As you use your tub, chemical levels will change as they do their job, keeping the water clean. **Remember to only add small quantities of chemicals to your water as once it is dissolved into the water it is impossible to take any out.**

Sanitiser

Sanitiser, chlorine or bromine can be used in either granule or tablet form. Granules dissolve into the tub water quickly and can be used to boost chlorine levels quickly. Tablets are slower to dissolve and are floated around in the hot tub in a floating dispenser. This can keep Chlorine levels more stable, reducing the need for regularly dissolving granules into the water. **Never mix Chlorine and Bromine in the same water !**

Ph

Also required is a chemical for controlling the Ph of the water. Either a Ph increaser or a Ph Reducer can be used to keep the Ph within a safe level.

Total Alkalinity

This is the measure of the ability of water to resist changes in Ph. Total Alkalinity increaser is added once the Chlorine content and the Ph level are correct.

Testing Strips

Testing strips have coloured pads which change colour dependent on the amount of the above chemicals dissolved into your water.

Dip the testing strip in your water and compare the colour of the pads on the strip to the coloured squares on the testing strip container.

If the coloured pad is the same as the square patch on the container you do not need to add any chemicals.

If the coloured pads are different to the squares on the container add small amounts of chemicals to the water re-testing each time until the coloured pads match the squares on the container.

Oxidiser (Shock)

This should be used as directed on the package once a week or after the spa has been used for several hours by a larger than normal number of people.

These chemicals could be the only things you need to put into your water to keep it clean. There are however various other things that affect the quality of your water as the tub is used. All of these chemicals should be used sparingly in small amounts, retesting after each addition of chemicals.

Other Chemicals and Products

Anti Foam

This chemical reduces foam that can occur when hair products, make up, false tan, creams or skin conditioners get into the water in your tub. Simply pour a capful of anti foam around the edges of your tub and watch the foam disappear.

Water Clarifiers

Use these types of products as instructed on the package to keep your water sparkling clean.

Anti Scale

In areas of hard water add a couple of capfuls of anti scale to reduce the buildup of scale and any staining that may occur.

Waterline Cleaner

Use waterline cleaner every week to remove any build up of dirt that may occur around the waterline.

Filter Cleaning

Dependent on the amount of use that your tub gets you should clean your filters every two weeks. There are various overnight soak solutions or instant cleaner sprays that can keep your filters clean.

The most effective method of extending filter life is to have a pair or two sets of filters to rotate. Whilst one set is in the tub working, the other set is cleaned and dried out and then when it is time to clean the filter again you simply replace it with the clean dry filter.

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Water changing

Check the water level in your tub regularly and top up as necessary.

If you keep a check on your water and chemical levels either every day or each time you use the tub and add the necessary chemicals you should be able to keep your water in the tub for up to three months.

After three months it is recommended that you drain the tub, clean the shell and jets and then refill with clean water

Cleaning your filters is very important

There are a number of ways to clean your hot tub filter and all are effective. However, you will get different results with each method.

Let's start by saying what **NOT** to use. Do not clean your hot tub filters with: Laundry Detergent

Car Wash

Dish washing Soap

Or any bubbly household soap for that matter

Any of the following methods for cleaning your hot tub filters will improve the quality of your hot tub water.

1. The hose jet

Remove the filters from your hot tub and give them a good blast with water from your garden hose. Do this outside as it can get a little messy

Be sure to spread apart each pleat and rinse well between them to get any dirt, hair, or other debris out. This will help keep the debris from building up and the chemicals from eating away at your filter material. By doing this, you will allow your hot tub filters to work more efficiently and last longer.

This only takes a few minutes and should be done at least once a week if you use your hot tub regularly

2. The Chemical Rinse

Use a filter cleaner spray. These are a degreasing agent and are quite effective

Generously spray down your hot tub filters and let them sit for about 15 minutes. Then, rinse them down with clean water.

Spray the filters down with the cleaner and let them sit for about 15 minutes. This will allow the chemical to sink and do its job.

Then with clean water, rinse the filter thoroughly until all the soapy substance is gone.

Note: Make sure you rinse the filters really well.

Filter cleaner sprays can cause a lot of foaming in your tub when you put the filters back in.

3. The Chemical Soak

Use a hot tub filter soak chemical; DO NOT USE HOUSEHOLD CLEANING PRODUCTS dilute the chemical with water according to the directions on the bottle.

Make sure you use enough water to completely submerge one filter. If you have room, you can add more filters to the solution.

Let the filter rest in the solution overnight or 24 hours.

After soaking, be sure to rinse the filters very thoroughly with clean water. Again, you don't want foamy hot tub water.

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1. Rinse your hot tub filters with clean water every week.
 2. Chemical rinse your filters using a standard filter cleaner every month.
 3. Chemical soak your spas filters overnight every month

Some people buy two sets of filters to switch between the two sets. This is a good idea and will extend the life of your filters.

If you have two sets of filters, leave one set to dry completely, while the other set of filters are working in the tub

Remember! A clogged filter can prevent your tub from heating up and might even burn out your circulation pump resulting in a costly repair because this is seen as a non warranty Issue!