ACE® Salt Water Sanitizing System

ACE® SYSTEM START-UP

Fill your spa

Use the CleanScreen® pre-filter with the valve 50% closed. **Important:** If there are metals present in the water, they must be removed before starting up the ACE system start up. Treat for metals with FreshWater® Stain and Scale Control & the Vanishing Act® pre-filter. Wait 24 hours before turning the ACE system on or adding any bottled water care products. **Note:** The water care icon and logo light may flash until water temperature is above 35°C (95°F).

System Start-up

ACE system Parameters	Target	Min - "OK" Range - Max	
Salt	**1750 ppm**	1500 ppm	2000 ppm
Hardness	**50 ppm**	25 ppm	75 ppm
Alkalinity	**80 ppm**	40 ppm	120 ppm
pH	**7.4**	7.2	7.6
Chlorine	**3 ppm**	1 ppm	5 ppm

1. **Balance water using a FreshWater 5-way test strip**. Measure pH, alkalinity, and hardness levels to determine if your water is in the "OK" range for the ACE system and adjust as needed.

2. **Add salt.** With jets running add salt 2 1/3 cup per 100 gallons (378 liters) to the filter compartment one cup at a time, and allow 5 minutes to dissolve. See spa manual for water capacity. Use FreshWater Salt Test Strips to verify salt level is around 1750 ppm.

Spa Capacity		Salt Addition	PPM per Cup	Initial Level setting
Gallon	Liter	Cups		
200	760	4 ½	382	5
250	950	5 ¾	305	5
300	1140	7.0	254	6
350	1330	8.0	218	6
400	1520	9 ¼	191	6
450	1710	10 ¼	170	6
500	1900	11 ½	153	7
550	2090	12 ½	139	7
600	2280	13 ¾	127	7

3. **Superchlorinate/Shock.** Add FreshWater Concentrated Chlorinating Granules or liquid sodium hypochlorite as directed on the bottle to create an instant chlorine residual of 5 ppm. Allow jets to run for 5 minutes per jet system, rotating diverter and water feature valves.

4. **Reduce Hardness to 50 ppm.** Use Vanishing Act®, Vanishing Act XL®, or the On-the-Go® water softener to reduce hardness. Rinse before use, and follow instructions on the box. More than one Vanishing Act and/ or a Vanishing Act XL may be needed.

5. **Enter Output level.** Press the Options hard button on the control panel to access the water care menu. Within the water care menu, scroll through Use Levels (0 = system off, 10 = maximum output) by pressing the soft button near the word Output. **The recommended Output level at start-up is between 5-7, depending on spa volume**.

24 hours later

- If applicable, remove Vanishing Act and discard in your normal trash.
- Test spa water with a 5-Way Test Strip and adjust alkalinity and pH as needed. **If Hardness level still reads above the recommended range of 50 ppm, use an additional Vanishing Act at this time.**
- If there is not at least 3 ppm of chlorine in the water, manually add Chlorinating Granules to reach 3 ppm. **Repeat this step each day until the ACE system can independently maintain a chlorine residual.**

Important: The ACE system cleans the water before it produces a chlorine residual. If there is not a measureable amount of chlorine in the spa water after 24 hours, this is an indication that the ACE system is still in the process of cleaning the water. If you use the spa very heavily initially or if the water is still unclean, it may take the ACE system a few days to clean the spa water and keep up with your chlorine demand thereby showing a residual.

HotSpring® Every day made better®

PN 62761 Rev. F

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Spa Owner Responsibilities

The ACE® system makes spa ownership simple and easy by reducing the amount of time required to care for your spa water. It is important to note that maintaining balanced and sanitized spa water is ultimately the responsibility of the spa owner. Follow the guidelines below to ensure your success.

- **Maintain balanced spa water.**
    - **Always maintain balanced spa water**. The pH and alkalinity levels must stay within the OK range. Use a test strip weekly, or each time you use the spa, to verify.
    - **Keep total hardness at or below 50 ppm.** High levels of calcium in spa water will lead to more frequent cell cleaning and replacement. Use a test strip to check hardness, especially after topping off the spa. Use the Vanishing Act calcium remover as needed, or a softened water source.
    - **Test for chlorine regularly.** Use a test strip weekly, or each time you use the spa, to measure the chlorine level in the water. The recommended chlorine level is between 1 and 5 ppm. It is okay to add FreshWater® Concentrated Chlorinated Granules to supplement the system.
- **Adjust Output level as needed.**
    - **To maximize cell life, keep the Output level as low as possible** to meet your normal chlorine needs. If your use pattern changes, adjust the Output level up or down accordingly. Use the Boost function or add FreshWater® Concentrated Chlorinated Granules on occasions when needed.
    - **Use the Low Use Output settings when appropriate.** The ACE system **does not have a sensor** and cannot measure how much chlorine is in the water. The ACE system will continue to generate chlorine according to the Output level selected, even if you have not been using the spa. High levels of chlorine can damage the spa. If you are not going to use the spa for an extended amount of time – like a vacation – adjust the output level to 1.
    - **Boost only occasionally.** The Boost feature allows you to increase the Output level temporarily. Activating a Boost will cause the cell to run at maximum output (level 10) for a 24-hour period, and then return to the previous setting. Select an Output level that meets your everyday needs, and use Boost pre- and post- events that are outside your normal use. If the Output level is already high, the Boost will be less effective.
- **Ongoing maintenance**
    - **30-day check-up.** Every 30 days the water care icon on the control panel and the Hot Spring ready light on the front of your spa will flash as a reminder to conduct this **30-day maintenance routine**: (1.)Test and balance spa water, (2.) Confirm Output level, (3.) Rinse filter(s), and (4.) shock the water. The 30-day timer will reset any time you adjust your Output level. If you do not perform the 30-day maintenance routine, the ACE system will default to a low-use Output level.
    - **Clean the ACE Cell regularly.** The ACE cell has a finite life and will need to be replaced periodically. To maximize time between replacement, regularly inspect the cell for scale and clean it at least once every three months. Look through the holes at the end of the cell; anything that obstructs the view through the channels is scale. Follow the cleaning procedure in the Owner's Manual. **Important: Never insert anything into the cell or pressure wash it. This will damage the electrodes.**

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