

# FROG @ease Sanitizing System Operating Instructions




FROG® @ease® is a hot tub sanitizing system\* custom designed for Bullfrog Spas® that takes the guess work out of water care so you always feel at ease while enjoying your hot tub.

**FROG @ease Mineral Cartridge** DIRECTIONS FOR USE: For use in hot tubs up to 600 gallons. Use with the FROG @ease SmartChlor Cartridge in the FROG @ease Sanitizing System for Bullfrog Spas. Ensure all hot tub equipment is working properly. Operate the pump and filter as recommended by your hot tub manufacturer. Clean filter following manufacturer's directions. May be used with a previously filled hot tub unless it was sanitized with bromine or biguanides. Then drain and fill the hot tub with fresh water before using this product. Start-up: Adjust pH to between 7.2-7.8 and Total Alkalinity between 80 and 120. Establish a free chlorine residual of 0.5 to 1.0 ppm with FROG Jump Start start-up shock or an EPA approved hot tub shock following the directions on that product. Setting the FROG @ease Mineral Cartridge: Turn the dial on the bottom of the cartridge to setting number #4. Using the System: Remove filter snap cap and weir door / filter plate. Remove cartridge holder from hot tub by pulling up on the handle. Snap cartridge into one opening of the holder. With the FROG @ease logo facing the holder, put the dial end of cartridge into the holder first by connecting the tab on the holder with the indent in the cartridge. Then push the top part of the cartridge in until it snaps into place. For best results insert the FROG @ease SmartChlor Cartridge into the other opening. When cartridge is snapped in, replace holder between the filter cartridges under weir door / filter plate pushing down until it stays in place. Then replace the filter snap cap.


For complete instructions read the entire manual.

## Step 1: Prepare the Hot Tub

**1.**  Fill hot tub with fresh water. If using source water that is high in iron or other metals, see your dealer before filling the hot tub. It may require the use of a metal control product.

If previously using bromine and switching to FROG @ease System, you must drain and refill your hot tub before using this product.

If previously using dichlor you may convert to FROG @ease System without having to drain the hot tub.

**2.**  Clean or replace filter cartridges when dirty (Follow manufacturer's instructions).

**3. Balance water by following STEPS a - d in order.**

**IMPORTANT:** Always follow printed instructions on the balancing chemical packages. Add balancing chemicals in small increments one at a time with the jets on and wait 6 hours before testing again and adding any additional balancing chemicals.

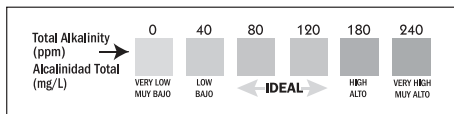
### Water Balance Guidelines

pH:	7.2 - 7.8
Total Alkalinity:	80 - 120 ppm
Calcium Hardness:	150 - 250 ppm
Total Dissolved Solids:	<1500

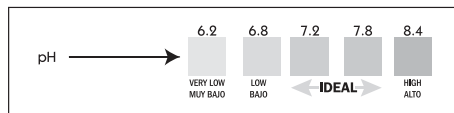
**a.** Take a water sample from the hot tub and dip a FROG @ease Test Strip into it.



**b.** Look at the **Total Alkalinity** reading first. Adjustments should be made to bring the Total Alkalinity in the **range of 80 - 120 ppm** prior to making any adjustments to pH even if it throws pH off further.




**c.** After Total Alkalinity is in range, **test for pH**. It should be **between 7.2 and 7.8**. If higher or lower, add a pH adjuster.



**d.** Lastly **test for Calcium Hardness**. It should be **between 150 and 250 ppm**. If higher, partially drain the hot tub (about 6 inches) and fill with water low in calcium. If lower, add Calcium Increaser.

If balancing takes longer than 2 days shock the water and maintain a chlorine level while continuing balancing.

**4.**  **Very Important!** After balancing and before using cartridges, establish an initial residual of 0.5 - 1.0 ppm free chlorine with FROG® Jump Start® start-up shock, included in this package, that quickly dissolves with an effervescent fizzing action - one packet per 600 gallons.

**5.** Heat water to the manufacturer's recommended temperature.

**Active Ingredient:**  
Silver Chloride .....0.5%  
Other Ingredients: .....99.5%  
**Total:** .....100.0%

**KEEP OUT OF REACH OF CHILDREN CAUTION**  
It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

## Step 2: Set the Cartridges

The FROG @ease System has two replaceable cartridges.  
Blue = FROG @ease Mineral Cartridge Silver = FROG @ease SmartChlor Cartridge

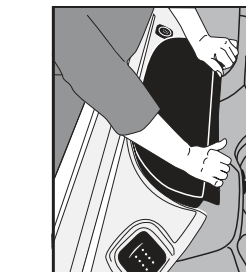
The combination provides the Fresh Mineral Water benefits of cleaner, clearer and softer water that's easier to take care of.

**1.** Remove the FROG @ease SmartChlor Cartridge from its bag before proceeding.

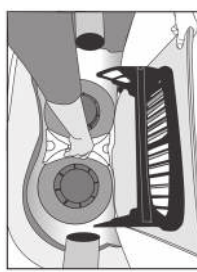
**2.** Set the FROG @ease Mineral Cartridge to #4 using the dial on the bottom of the cartridge. No further adjustments are necessary for the life of the cartridge.



## Step 3: Put The System To Work

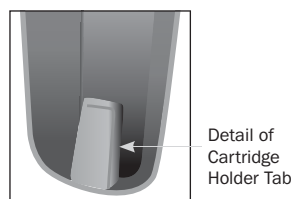
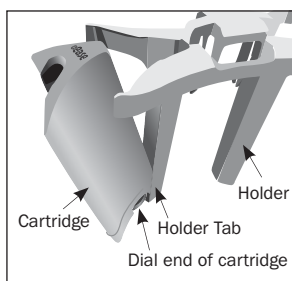


**1.** Remove filter snap cap.

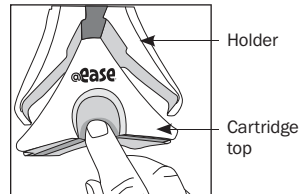


**2.** Hold weir door/filter plate out into the hot tub slightly or remove from hot tub. If cartridge holder is already installed between the filter cartridges, remove by pulling up on the handle.

**3.** Snap the FROG @ease Mineral Cartridge into one opening of the cartridge holder. With the @ease logo facing the holder, put the dial end of the cartridge into the holder first by connecting the tab on the holder with the indent in the cartridge.



**4.** Then push the top part of the cartridge in until it snaps into place



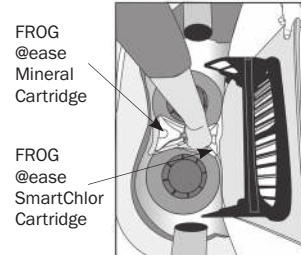
Bullfrog Spa Models	Setting #
A5L, R5L	1
A6, A6L, R6, R6L, STIL5, X7, X7L	2
A7, A7L, R8L, R7, R7L, STIL7, X8, X8L, M7, M8	3
A9L, A8, A8L, R8, M9	4

**3.** Set the FROG @ease SmartChlor Cartridge to the setting that matches your hot tub model number. If needed, you may increase or decrease the dial setting.

Once set, the FROG @ease SmartChlor Cartridge will maintain a low 0.5 to 1.0 ppm chlorine level as long as the pH stays within 7.2 and 7.8 so typically there is little need to adjust the cartridge setting.

**5.** Follow the same procedure for the FROG @ease SmartChlor Cartridge into the other opening.

**6.** With the silver FROG @ease SmartChlor Cartridge facing the inside of the hot tub, insert cartridge holder between the filter cartridges under the weir door/filter plate pushing down until it stays in place.

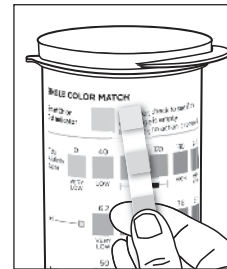


**7.** Replace filter snap cap.

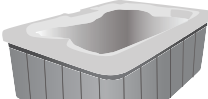



## Replacing Cartridges


Replace FROG @ease Mineral Cartridge every four months. Discard it in the trash even though you will hear the spent media left inside. Don't attempt to reuse: the minerals are spent after 4 months. Replace FROG @ease SmartChlor Cartridge when empty based on the FROG @ease Test Strip showing a lighter color than the out indicator on the bottle. The life of the cartridge varies depending on hot tub size and number of users. FROG @ease SmartChlor Cartridge will last about 3-4 weeks for an average 400 gallon hot tub. Drain water from cartridge to ensure it is empty. Discard in trash or offer for recycling if available.



## Step 4: Routine Hot Tub Care

**1.**  Drain and refill hot tub as directed by your hot tub manufacturer or every four months when FROG minerals need to be replaced.


**2.**  Run filtration system as recommended by your hot tub manufacturer to maintain proper water flow through the system.

**3.**  Regularly test water with FROG @ease Test Strips and follow directions in Step 1 for maintaining pH, Total Alkalinity and Calcium Hardness.

**NOTE:** pH is affected by bather load, chemicals used, evaporation and the make-up of your source water so maintaining water balance regularly is important.

**4.** FROG @ease SmartChlor Cartridge will maintain 0.5-1.0 ppm free chlorine level as long as the water is balanced.  
**NOTE: Free Chlorine levels are reduced up to 75%\* when using FROG @ease Minerals.**

**NOTE:** Why FROG @ease Test Strips? The FROG @ease SmartChlor Cartridge forms a chlorine reserve that will be inaccurately measured as total chlorine on other test strips. Unlike conventional chlorine, the SmartChlor reserve readily shifts to free chlorine as needed, maintaining spa health with a low level of chlorine.

**5.**  Shock the hot tub with a non-chlorine shock when you replace the FROG @ease SmartChlor Cartridge or once a month.

**6.**  Replace your FROG @ease SmartChlor Cartridge and complete FROG @ease System that comes with a FROG @ease Mineral Cartridge as directed under "Step 3: Put the System to Work".

## Troubleshooting

### Cloudy Water or Low-Chlorine Levels

- Check water balance. pH and Total Alkalinity need to be in the proper ranges for the FROG @ease System to work correctly.
- Check FROG @ease SmartChlor Cartridge and replace if empty—see instructions under "Put the System to Work".
- If FROG @ease SmartChlor Cartridge is not empty, turn dial setting up 1 number and monitor chlorine levels for a few days while maintaining water balance. If needed turn dial up again.
- Check your calendar. The entire FROG @ease System including a FROG @ease Mineral Cartridge needs to be replaced every four months. Without the minerals, SmartChlor will not be enough to sanitize the hot tub.

### FROG @ease SmartChlor Cartridge Life

- If hot tub is larger than 400 gallons with significant bather load, you may require a higher dial setting which will shorten the cartridge life.

- If you think the cartridge setting is too high, you can turn the dial setting down 1 number and monitor chlorine levels for a few days while maintaining water balance. If needed, turn dial down again.

### High Chlorine Levels

- This is highly unlikely with the FROG @ease System because SmartChlor is self-regulating. However, if you use standard test strips, it may appear that total chlorine is higher than the free chlorine.
- No worries—the strip is measuring the SmartChlor reserve, which will shift to free chlorine as needed. Please always use the FROG @ease Test Strips that were included with your System.

Learn more at [frogproducts.com](http://frogproducts.com) or call 800.222.0169  
Register your FROG @ease Sanitizing System at [frogproducts.com](http://frogproducts.com)



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[frogproducts.com](http://frogproducts.com)

+ FROG @ease System consists of the FROG minerals silver chloride and carbonate used with 0.5 ppm of FROG @ease SmartChlor Cartridge. The FROG @ease Mineral Cartridge (EPA Reg. No. 53735-11) must be used in conjunction with the FROG @ease SmartChlor Cartridge (EPA Reg. No. 53735-14).  
\* Compared to the minimum ANSI recommended chlorine level of 2.0 ppm for a hot tub.  
Made in U.S.A. Patents: [kingtechnology.com/IP](http://kingtechnology.com/IP)  
EPA Est. No.: 64114-MN-1 E081418553102043R1N 20-48-0108