



IN-LINE SYSTEM OPERATING INSTRUCTIONS



Congratulations!

Your spa came with a complete mineral and bromine disinfecting system.

When using the unique SPA FROG® Mineral Cartridge with the exclusive SPA FROG®

Bromine Cartridge, you'll enjoy your spa more with LESS WORK and LESS BROMINE.



Less Work Because:

- Minerals continuously work to control bacteria for four full months.
- Cartridges last longer to eliminate daily maintenance.
- Cartridges are pre-filled for no measuring or mess.
- Simply adjust to your setting and relax for weeks.

Less Bromine Because:

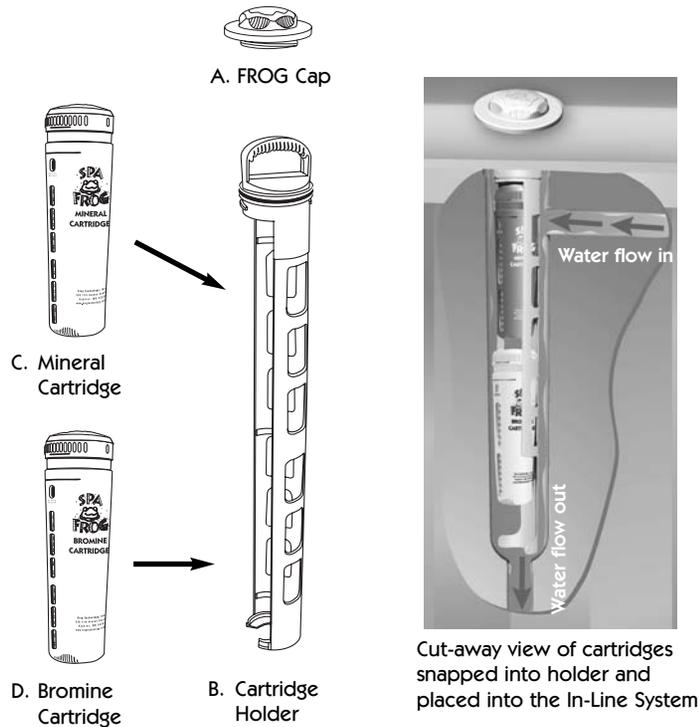
- With minerals in the water, bromine use is cut by up to 50%.*
- Bromine lasts longer: 2-4 weeks on a 350 gallon spa with average use.
- With minerals and low levels of bromine, the water feels softer.
- The system reduces odors and leaves the water crystal clear.
- SPA FROG has the only minerals that work with bromine.

You're going to love your SPA FROG System. If you have any questions, contact our customer service representatives at **800-222-0169**.

*Compared to the minimum ANSI recommended bromine level of 2.0 ppm for a spa.

Let Us Dissect This FROG For You:

The SPA FROG In-Line System is made up of (A) a FROG cap that is easily distinguishable among the fittings on the top of the spa, (B) a cartridge holder that pulls out of the system, (C) a mineral cartridge that controls bacteria in the water and (D) a bromine cartridge that helps support the minerals while oxidizing contaminants like body oils. The cartridges are adjustable to meet your specific spa water care needs.



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START UP • Follow all directions from your spa manufacturer on filling and balancing the water in your spa. Standard guidelines for balancing the water are as follows:

***NOTE: Bromine levels are lower only when used with FROG minerals.**

WATER BALANCE GUIDELINES

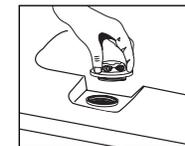
| | |
|-------------------------|-------------|
| pH: | 7.2-7.8 |
| Total Alkalinity: | 80-180 ppm |
| Calcium Hardness: | 150-400 |
| Total Dissolved Solids: | <1500 |
| *Free Bromine: | 1.0-2.0 ppm |

- Use a metal out or sequestering agent if fill water is high in metals. Wait 24 hours before continuing start up.

- Shock spa to establish a 1.0-2.0 ppm bromine or chlorine residual. Add directly to spa following manufacturers' directions. Do NOT add through the SPA FROG In-Line System.



- When spa reaches operating temperature per your spa manufacturer's directions, set the mineral and bromine cartridges according to directions on page 6 and insert them into the System.

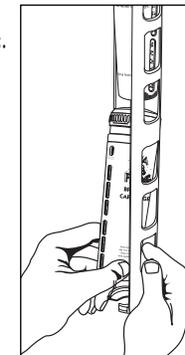


REPLACING CARTRIDGES

- Open cap of SPA FROG In-Line System and set aside. DO NOT OPEN CAP WHILE JETS ARE ON.

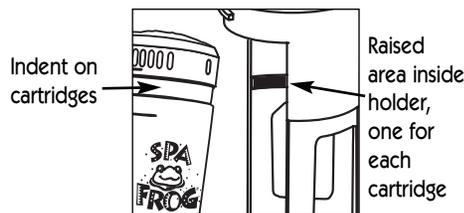
- Remove holder by pushing down and turning counterclockwise before pulling out.

- Remove spent cartridges by pushing bottom out through openings in back of holder. Then grab cartridge and pull out.



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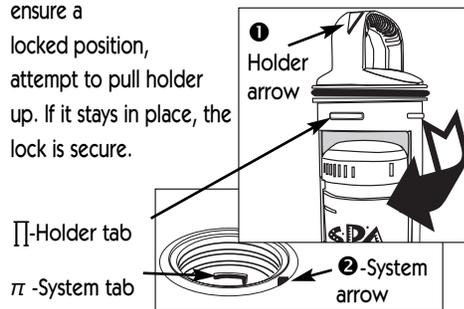
- Snap the SPA FROG Mineral Cartridge into the area marked "Minerals" (top portion) and the SPA FROG Bromine Cartridge into the area marked "Bromine" (bottom portion) making sure to line up the indentation at the top of the cartridges with the raised area on the holder.



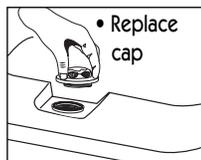
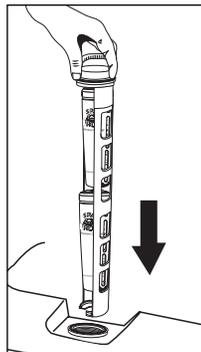
***Placement printed on back of holder**



- Slowly insert holder into system. Line up holder arrow-① with system arrow-②. Push down until holder tabs-π go past system tabs-π and turn holder to the right (clockwise) until it stops. To ensure a locked position, attempt to pull holder up. If it stays in place, the lock is secure.



- Begin regular spa care procedures (see pg 7) as soon as start-up is complete.



Adjusting & When to Replace SPA FROG

Mineral Cartridge: Set SPA FROG Mineral Cartridge wide open on #6 by holding the bottom and turning the top until the number 6 appears in the setting window.



The SPA FROG Mineral Cartridge must be replaced every 4 months. After four months of use, or when draining and refilling the spa with fresh water, discard SPA FROG Mineral Cartridge in trash even if, upon shaking, it appears there is spent media left inside. Once wetted the time released minerals in the cartridge are effective up to four months. Do not attempt to reuse the product once removed from the spa. For ease in remembering, mark your calendar with the Reminder Stickers included with this manual. (See spa manufacturer's draining recommendations.)

Adjusting and Replacing SPA FROG Bromine Cartridge:

As every spa is different, finding the right setting for the bromine cartridge will require monitoring your usage for the first week or two. Begin with an initial setting based on the chart on page 7 and monitor bromine levels daily or before each use, adjusting the cartridge by one setting per day until a 1.0-2.0 ppm level has been achieved. To adjust cartridge, remove from system and turn to the next highest setting if the bromine level is low, or the next lower setting if the bromine level is high. The bromine cartridge needs to be replaced when empty. Drain water to ensure empty then discard in trash. On most spas, it will last between 2 – 4 weeks. Always maintain at least 1.0 ppm bromine level.

NOTE: The more you use the spa, for instance when you first get it, the greater the setting to achieve at least 1.0 ppm. (This may require a higher setting than what is listed in the chart.) If usage decreases or the bromine level is greater than 2.0 ppm, the setting should be lowered.

INITIAL START-UP SETTING

| | Spa Size (gallons) | | |
|--------------------|--------------------|---------|---------|
| Daily Filter Time | 250-300 | 300-400 | 400-500 |
| One hour | 2 | 3 | 4 |
| Two hours | 2 | 2 | 3 |
| Four hours | 1 | 2 | 2 |
| 24 hour @ low flow | 1 | 2 | 2 |

Regular Spa Care Procedures:

Always follow the directions for operating your particular spa.

1. Run filtration system as directed by your spa manufacturer to maintain proper water flow through the SPA FROG In-Line System.



2. Regularly test water for pH, total alkalinity and bromine levels. Maintain at least 1.0 ppm bromine level at all times.



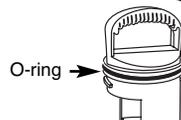
3. Shock the spa with granular chlorine or a non-chlorine shock once a week or as needed. **Additional shocking may be required if the spa is under heavy use. This is often the case when the spa is new.**



4. Remember to replace your SPA FROG Mineral Cartridge and SPA FROG Bromine Cartridges as directed under "Adjusting and When To Replace."



5. Lubricate o-ring twice a year with a silicone lubricant.



**SPA FROG® In-Line System
Consumer Warranty**

King Technology, Inc. will warrant this product with a complete replacement for the original purchaser should it prove defective by reason of improper workmanship and/or material. This product will be warranted for 1 year from the date the spa goes into service. This warranty does not include wearable parts such as o-rings. King Technology, Inc. holds the option of replacing any defective part without charge if it is determined to be all that is needed to correct any situation that may arise. Parts used for replacement with the exception of o-rings, are warranted for the remainder of the original warranty.

To obtain warranty service, you must contact your nearest authorized dealer who will determine if the product should be removed and returned for evaluation. Proof of purchase is required when requesting warranty service. Purchaser must present the sales receipt or other document that establishes proof of purchase.

This warranty does not cover defects caused by: modification, alteration, repair or service of the product contrary to the accompanying instructions; physical abuse to or misuse of the product or operation in a manner contrary to accompanying instructions. This warranty also excludes all costs arising from the installation, adjustment, removal or replacement of defective units or parts. This warranty also excludes any and all claims arising out of the chemicals used in the product or their characteristics.

Any express warranty not provided for herein, and any remedy for breach of warranty or breach of contract which, but for this provision, might arise by implication or operation of law, is hereby expressly excluded and disclaimed. The implied warranties of merchantability and of fitness for any particular purpose are expressly limited to a term of one year. Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you.

Under no circumstances shall King Technology, Inc. be liable to purchaser or any other person for any damage or loss incurred because of any chemicals used in the product or their physical characteristics, or interruption of service of the product, or any special, incidental or consequential damages or losses, whether arising out of breach of warranty, breach of contract or otherwise. Some states do not allow the exclusion or limitation of incidental consequential damages, so the above limitation or exclusion may not apply to you.

KING TECHNOLOGY, INC.

530 11TH AVENUE SOUTH HOPKINS, MN 55343
952-933-6118 www.kingtechnology.com



Covered by one or more of the following
U.S. Patent Numbers: D496,985; D496,986; D497,406; 6,217,892; 6,328,900; 6,383,507;
6,551,609; 6,652,871; 7,052,615; 7,059,540 and other U.S. and foreign patents pending.

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