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PRO TIPS

FOR HOT TUB WATER CARE



1

BATHER LOAD

The bather load in a hot tub is tremendous. Four people in your hot tub is equivalent to 200 people in a swimming pool. If bathers don't shower before using the spa, they are using it as a bathtub. Hairspray, makeup, deodorant, perfume, cologne, gel, detergents/soap, lotions, and creams are introduced to the water. Those are on top of the sweat, body oil and residual human waste (fecal matter, urine and blood) that often accompanies bathers into the water. This is hard on the water, your water treatment products and your filter. If bathers shower THOROUGHLY before using your spa, your life will be much better.

2

FILTRATION TIMES AND ELECTRICITY COSTS

Ensure your spa has sufficient filtration. Most spas come from the factory pre-programmed to filter water for 4 hours a day, and some with as little as 1 hour a day. This is not sufficient. If you program your spa to filter 6, or even 8 hours a day, you will use fewer chemicals and have much better water quality. If your spa is equipped with a low-volume hush pump (sometimes called a circ pump), it is designed to filter 24/7, and if it does not come programmed this way, program it to do so as per the instructions in your owner's manual.

One might think that it would cost a lot more for electricity to increase the filtration times, but consider this:

The average electricity cost in North America is 12 cents per kilowatt hour. That means that if a 1-horsepower pump runs for 1 hour, it uses 12 cents of electricity. If you filter water 6 hours a day, versus 4 hours a day, you are spending an extra 24 cents a day on electricity, or \$7.30 a month. But in reality you are spending less, because much of the waste heat created by the pump motor is transferred to the water, which will heat the water, which means your spa's large electric heating element doesn't turn on as often as it otherwise would, and as a result uses less electricity, which will save money. The savings from decreased demand on the heater don't quite offset the increased cost of running the pumps for longer times, but it is quite close to it.

If you are using a circ pump/hush pump, they are typically a 1/5 horsepower motor, which means that they use 1 kilowatt of energy every five hours. To run one of these pumps 24/7, based on the aforementioned numbers, you're spending 58 cents a day on electricity, less than \$18 a month, less what's offset due to the heater turning on less frequently.

Increasing your filtration is not expensive and will improve your water quality while decreasing chemical demand.

The cost to heat a freshly-filled spa is negligible. A typical spa holds 400 gallons of water and has a 5 kW heater. At 12 cents a kWh, it costs 60 cents an hour to operate the heater. The heater usually raises the temperature at the rate of 7 degrees an hour. Filling the spa with 55 degree water, and raising it to 104 degrees will take 7 hours to heat. Seven hours at 60 cents an hour is \$4.20 to heat the spa.

3

WATER COSTS

Water is inexpensive. The cost of municipally supplied water in North America is about 1.5 cents per gallon, including the wastewater charge. That translates to a cost of just \$6 to fill a 400-gallon spa. So if you have a huge party in your spa and the water is a mess afterwards, consider just dumping and refilling the tub, the cost of replacing the water is a lot less than trying to add chemicals to save the water.

4

FILTER CARE

Clean filter cartridges are essential to successful spa water care because they capture debris introduced by the bathers, such as hairspray, makeup, deodorant, perfume, lotions and creams, along with human waste, including body oils, sweat, and residual urine, feces and blood. A dirty hot tub filter can strain your pump, cause the spa to shut down, and cause cloudy and smelly water.

How often should a filter be cleaned? The answer depends on several factors, but the biggest one is the amount of debris that is introduced to the water. For example, if the spa is at a vacation home that is only used once a month by two people who shower thoroughly before using the spa, the filter will go months and months before needing to be cleaned. On the other hand, if the spa is at a home where a family of 5 uses it daily without showering beforehand, the filter will require much more frequent cleaning. As an example, if on the first day of using a brand-new filter a bather covered in sunscreen were to use the spa, the sunscreen will wash off of their skin and clog the filter so that it won't work well. Even though the filter is brand new, and even though it is the first day of use, the water will go cloudy because the filter is soiled. The filter may look clean, but the tiny holes in the fabric are blocked and nothing works well. Add all of the shock and clarifier you want to, if the filter is dirty, your water will remain cloudy.

We've established that filter cleanliness is important. However, if your current cleaning method is to simply rinse your filter with fresh water, that is akin to washing your hair without shampoo. After 1 day you'll know you didn't use shampoo, and after a week everyone around you will know. Similarly, your filter is not properly clean.

Instead, use a filter cleaning product like **Spa Marvel Filter Cleaner**. After soaking the filter in filter cleaner, it is critical that the debris is thoroughly removed from the pleats of the filter by using a strong stream of water like you would get from a garden hose sprayer.

After rinsing your filter, if the fabric does not appear brand new, if there is still discoloration in the pleats or if it still smells dirty, then it is not clean and you need to reevaluate your current filter cleaning techniques. Many people gently and carefully use a pressure washer to quickly and effectively remove the debris after soaking the filter. Keep in mind that a pressure washer has the ability to peel paint from a car, and similarly can damage the fabric on your filter, so use common sense when using a pressure washer. If you do not have access to a pressure washer, the sprayer at the coin-operated car wash works well.

For most spa owners, a proper monthly filter cleaning, augmented by routinely rinsing the filter with fresh water each week and after heavy bather loads, will sufficiently maintain filter cleanliness. But remember, your filter can never be too clean, and it is MUCH easier to keep a filter clean than it is to clean a filter.

Filters don't last forever. Although they may look fine to the naked eye, they wear out as they are used. A one-year-old filter might allow twice as much debris to pass through the filter fabric as it did when it was new, which will impair water quality. Hot tub filters ought to be replaced after at most 1 year of use, or a dozen cleanings, whichever comes first.

Lastly, not all filters are created equally. Using a quality filter recommended by your professional spa retailer will yield better results, helping to maintain clearer water for longer periods of time.

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WATER BALANCE

Keep an eye on your water balance. Bromine and chlorine, by their nature, will lower your alkalinity. When alkalinity gets below 80ppm, the water becomes acidic and can cause itchy skin, rashes and can even start to degrade the O-rings, seals and gaskets in your spa, which will lead to leaks and expensive repairs. Keep your water balanced.

6

USE THE RIGHT PRODUCTS

Use proper water care products to maintain your investment and to maximize your enjoyment. Do not use vinegar and bleach to maintain water balance, those products are for French fries and laundry, not for hot tubs. Use products designed for hot tub care; you will usually find a higher-quality product when buying from a professional spa retailer than you will when buying from a big box store. Lower quality products may cause excessive foaming and lead to more frequent water changes. Do not use essential oils, Epsom salts, tea-tree oil and other products not designed for hot tub use as they often gum up the filters and cause cloudy water and foam.

ASK FOR HELP

If you're unsure of anything, or if you encounter something out of the ordinary, your professional spa retailer should be able to help you figure it out. You can also check out the resources available at <https://spamarvel.com/water-wizard>

