



DIMENSION ONE SPAS®

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You'll learn more about SpaGuard® and why it's the only spa care you'll ever need.



*SpaGuard.*



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DIMENSION ONE SPAS®

spa care and  
maintenance guide



*SpaGuard.*



## The program approach makes spa care simple.

Now that you have a Dimension One® (D1) spa, you own a wonderful way to ease the stress of your day. It's the perfect way to relax and unwind. SpaGuard® takes that great feeling and improves upon it. How? By providing programs that spell out the basics and the easiest way to do them.

But first—a simple fact: Spa maintenance is absolutely essential. Why? Because it keeps spa water soft and soothing, extends the life of spa surfaces, fights bacteria, protects equipment, and helps prevent future problems.

### **Rely on your SpaGuard Dealer.**

Another major SpaGuard advantage is your nearby SpaGuard Dealer. Your dealer gets extensive training and support from BioGuard®, the world leader in pool and spa care.

Every SpaGuard product your dealer recommends is the result of extensive research and testing. What's more, each product is designed to work best in combination with other SpaGuard products.

You can depend on your SpaGuard dealer to be the best source of reliable information, quality products and personalized service. Another excellent source of information is our website:

[www.spaguard.com./D1/](http://www.spaguard.com./D1/)

## Pick the program that's right for you.

There are four methods to choose from to sanitize your water: Dimension One® Spas' Vision Cartridge in conjunction with chlorine, or SpaGuard®'s Bromine, Chlorine, or SoftSoak® systems.

Whether you choose Vision, Bromine, Chlorine or SoftSoak®, SpaGuard offers a complete line of products that are formulated to work well with all of these sanitizing systems. You don't need to look anywhere besides SpaGuard.

### D1's Vision® System\*

When used in conjunction with at least 1ppm of chlorine, Vision provides an alternate system for spa sanitation that contains a silver (Ag) catalyst bed with a large surface area. As water passes through the Vision System, the silver combines with water where it then serves as a residual bactericide. When used with the UltraPure Water Management System,™ CrystalZone® or ClearZone® Water Management System, Vision provides a residual bactericide that compliments the natural oxidizing power of ozone.

Note: While Vision is a bactericide it is not a "chemical free" system. In order to gain the maximum benefits of the Vision System, follow the manufacturer's instructions and maintain at least a 1ppm chlorine residual. While Vision cannot be used with bromine or biguanide, SpaGuard chlorine sanitizers and balancers are compatible with the Vision System, and are recommended for sanitizing and maintenance.

\*Vision is not available in Canada

### Chlorine Program

The SpaGuard® Chlorinating Program introduces stabilized chlorine to the spa that will not be destroyed by the sun's rays. Our chlorinating system also oxidizes—meaning it eliminates undesirable compounds such as oils, cosmetics and perspiration, from the water. This program is effective in conjunction with D1's Vision® System.



### Bromine Program\*

Your best bet for indoors or covered spas, is a bromine sanitizer which reduces odors and is also more effective in killing certain types of algae. Bromine typically provides less irritation, is more versatile and effective at spa temperatures.

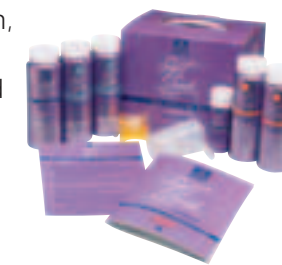
\*This System cannot be used in conjunction with Vision®.



### SoftSoak® Program

A non-chlorine, non-bromine alternative to sanitation, SoftSoak offers a biguanide system for spa care. This all-liquid spa care program is easy to apply and helps maintain clean, clear water that is soft and gentle on your eyes, skin, and hair.

\*This System cannot be used in conjunction with Vision®



### Ozone

Many spas come equipped with ozonators to further enhance sanitation and oxidation in the spa. While not a "stand alone" system, Ozone is a great addition to Vision, chlorine, or bromine systems. Ozone gas is oxygen with three molecules instead of two. When Ozone comes into contact with water-borne material, it releases the extra molecule onto the material. The extra oxygen atom then oxidizes the algae, bacteria, body oils, or other contaminants, thereby enhancing sanitation and oxidation in your spa.

### Color-coding for your convenience.

All the SpaGuard products are color-coded. You can easily tell what product category each bottle belongs to:

- Blue** Sanitizers to kill bacteria and keep the water protected.
- Orange** Oxidizers to remove undesirable compounds and keep the water clear and inviting.
- Purple** Balancers to make the water feel wonderfully soothing and protect the spa surfaces and equipment.
- Teal** Accessories to keep spa surfaces clean, enhance water and keep it beautiful.

## Six necessities of spa care and maintenance.

Get in the habit of practicing some basic rules everyone should observe. Prevent problems before they occur and you'll get even more enjoyment from your sparkling, clean spa—not to mention a perfect environment for relaxing with family and friends.

### Circulation

Proper circulation will help prevent bacteria and other contaminants from becoming problems. As the water circulates it passes through the filter, trapping suspended particles. Properly circulating SpaGuard® products helps keep the water inviting and ready for your soaking pleasure. Be sure to run your spa's circulation system every day and make sure it's always in good working order.

### Filtration

Most spa problems are caused by poor filtration—when the filter is dirty or clogged, debris stays in the water. A properly cared for filter captures hair, oils and cosmetics. Because spa filters trap many contaminants, cleaning has two steps: spraying off loose debris, then using SpaGuard Filter Cleaner to remove oils and other contaminants embedded into the filter.

You need to clean your filter every four to six weeks. Check your owner's manual or ask your D1/SpaGuard Dealer for information on how to remove and clean your filter.

### Cleaning

Contaminants such as dirt, oil and even bacteria can accumulate at the waterline, much like a bathtub ring. Regular cleaning of spa surfaces preserves the surfaces and prevents unwanted build-up of minerals and potential bacteria.

### Draining and Refilling

Regular draining and refilling is a normal part of spa maintenance. Over time, the water absorbs and dissolves minerals, chemicals and other soluble

material. Your SpaGuard dealer can perform a Total Dissolved Solids (TDS) test to help determine if it's time to replace your water. High TDS can make the water look dull, become foamy, and develop an odor.

How often you drain and refill your spa depends on how often you use it. This simple formula can help:

**Spa Gallons ÷ Daily Bathers ÷ 3 = Days Between Draining**  
**Example: 300 gallons ÷ 2 daily bathers ÷ 3 = 50 days**

### Chemistry

The chemistry of your spa water needs to be checked regularly. Use SpaGuard® products to maintain the correct levels, including: sanitizer residuals, pH, total alkalinity, calcium hardness, metals, and total dissolved solids.

Maintaining the proper levels will make the water clear and comfortable, kill bacteria that can multiply rapidly in a spa, protect spa surfaces from stains caused by metals, and protect spa equipment from scale.

### Testing

There are two primary components that affect spa water quality: sanitizer (bromine or chlorine) residual and pH. When both are within their recommended ranges, your water is comfortable, protected and clear; sanitizers and "shock products" work efficiently; and spa surfaces and equipment are protected. Recommended bromine or chlorine residual levels are:

**Bromine Residual (using Brominating Concentrate) = 3–6 ppm**  
**Chlorine Residual (using Chlorinating Concentrate) = 3–5 ppm**

Maintain pH between 7.4–7.6 (the ideal range; acceptable range is 7.2–7.6). If not using SpaGuard Spa Sentry™ (see page 10), total alkalinity should be maintained between 125–150 ppm and calcium hardness should be from 100–200 ppm. Initial testing for metals should be done every time you refill your spa and 0 ppm metals maintained in the spa. Work with your local D1/SpaGuard Dealer to learn more about your local water supply.

## The basics of starting your spa.

By now you know the most important aspects of taking care of your spa. You also have selected the SpaGuard® sanitizing program that best fits your spa. Now you're ready to fill your spa and start enjoying it to the fullest.

The steps below will guide you through starting your spa for the first time, or refilling it after draining. We also recommend talking with your SpaGuard Dealer since they are the best source for instructions and advice. Also refer to [www.spaguard.com/D1](http://www.spaguard.com/D1) for more information.

### FOR SPAS USING D1'S VISION® SANITIZING SYSTEM

Refer to the instructions provided with the Vision Sanitizing System for installation and start-up procedures.

### FOR SPAS USING CHLORINATING CONCENTRATE.

This program is effective in conjunction with D1's Vision® system.

#### First Time Start-up for new spa

1. Fill your Dimension One® spa with water. If the make-up water is from a well or other non-municipal source, testing prior to filling is recommended.
2. Add superchlorination dose of Chlorinating Concentrate with spa circulation turned on. Run all pumps at least one cycle.
3. Operate the spa circulation system for at least two hours.
4. Drain, rinse interior surfaces, and refill. Follow draining instructions in owner's manual.

#### Refill Guide

1. Once spa is filled, start your Dimension One spa following manufacturer's directions. Add SpaGuard® Stain and Scale Control.
2. Apply SpaGuard Water Clarifier and circulate water for 5 minutes.
3. Using SpaGuard 4-Way Test Strips, balance the total alkalinity (125–150 ppm), pH (7.2–7.6), and calcium hardness (100–200 ppm) of your water.
4. Apply SpaGuard Chlorinating Concentrate per label directions.
5. Establish proper chlorine residual of 3.0 to 5.0 ppm.
6. Apply SpaGuard Natural Spa Enzyme™ once a chlorine residual of 3.0–5.0 ppm has been established.

#### Daily Care

- Test the free chlorine residual. Apply SpaGuard Chlorinating Concentrate as needed to maintain proper residual.
- If foaming occurs, use SpaGuard Anti-Foam.

#### Weekly Care

- Test total alkalinity of the water. The proper range is 125–150 ppm.
- Test the pH. Acceptable range is 7.2–7.6. Ideal range is 7.4–7.6.
- Apply SpaGuard Natural Spa Enzyme, and Stain and Scale Control according to label directions.
- Shock your spa with SpaGuard Enhanced Shock or superchlorinate with SpaGuard Chlorinating Concentrate.

#### Monthly Care

- Test calcium hardness. Proper range is 100–200 ppm.

#### Every 3 to 4 months

- Drain, clean, polish spa surface and refill based on usage.
- Use SpaGuard Filter cleaner to chemically clean cartridge filter.

#### Quick Maintenance Chart:

Spa Volume (gallons)	Chlorinating Concentrate: Initial StartUp	Chlorinating Concentrate: Refill	Chlorinating Concentrate: Weekly	Enhanced Shock	Stain & Scale Control as needed	Water Clarifier as needed
100	1 tsp	1/2 tsp	Maintain 3–5 ppm	2 tsp	1/3 oz	1/3 oz
200	2 tsp	1 tsp	Maintain 3–5 ppm	1 tbsp + 1 tsp	2/3 oz	2/3 oz
250	2 1/2 tsp	1 1/2 tsp	Maintain 3–5 ppm	1 tbs + 1 1/2 tsp	3/4 oz	3/4 oz
300	1 tbsp	1 1/2 tsp	Maintain 3–5 ppm	2 tbsp	1 oz	1 oz
350	1 tbsp + 1/2 tsp	2 tsp	Maintain 3–5 ppm	2 tbsp	1 1/4 oz	1 1/4 oz
400	1 tbsp + 1 tsp	2 tsp	Maintain 3–5 ppm	2 tbsp + 1 1/2 tsp	1 1/3 oz	1 1/3 oz
450	1 tbsp + 1 1/2 tsp	2 1/2 tsp	Maintain 3–5 ppm	2 tbsp + 2 tsp	1 1/2 oz	1 1/2 oz
500	1 tbsp + 2 tsp	2 1/2 tsp	Maintain 3–5 ppm	3 tbsp	1 2/3 oz	1 2/3 oz

**FOR SPAS USING BROMINATING CONCENTRATE**

This system cannot be used in conjunction with Vision®.

**First Time Start-up for new spa**

1. Fill your Dimension One® spa with water. If the water is from a well or other non-municipal source, testing prior to filling is recommended. Consult your D1/SpaGuard Dealer for any special requirements based on local water conditions.
2. Superoxidize the spa with SpaGuard Brominating Concentrate with spa circulation turned on. Run all pumps at least one hour.
3. Operate the spa circulation system for at least two hours.
4. Drain, then rinse interior surfaces and refill. Follow draining instructions in the owner's manual.

**Refill Guide**

1. Once spa is filled, start your Dimension One spa following manufacturer's directions. Add SpaGuard® Stain and Scale Control.
2. Apply SpaGuard Water Clarifier and circulate water for 5 minutes.
3. Use SpaGuard Spa Sentry™. Consult your D1/SpaGuard Spa Dealer and follow label directions. If source water is greater than 300 ppm of calcium, please consult your D1/SpaGuard Spa Dealer.
4. Apply SpaGuard Brominating Concentrate following label directions. Establish proper bromine residual of 3–6 ppm.
5. Add SpaGuard Natural Spa Enzyme™ once a bromine residual of 3–6 ppm is established.

**Daily Care**

- Test the bromine residual. Apply Brominating Concentrate as needed to maintain proper residual.
- If foaming occurs, use SpaGuard® Anti-foam.

**Weekly Care**

- Test the pH. Acceptable range is 7.2–7.6. Ideal range is 7.4–7.6.
- Apply SpaGuard Natural Spa Enzyme and Stain and Scale Control following label directions.
- Shock your spa with SpaGuard Enhanced Shock or superoxidize with Brominating Concentrate.

**Monthly Care**

- Apply 1 quart of SpaGuard Spa Sentry per label instructions with each new fresh fill.

**Every 3 to 4 months**

- Drain, clean, polish spa surface and refill based on usage.
- Use SpaGuard filter cleaner to chemically clean cartridge filter.

**Quick Maintenance Chart:**

Spa Volume (gallons)	Brominating Concentrate: Initial StartUp	Brominating Concentrate: Refill	Brominating Concentrate: Weekly	Enhanced Shock	Stain & Scale Control as needed	Water Clarifier as needed
100	2 tsp	1/2 tsp	Maintain 3–6 ppm	2 tsp	1/3 oz	1/3 oz
200	1 tbsp + 1 tsp	1 tsp	Maintain 3–6 ppm	1 tbsp + 1tsp	2/3 oz	2/3 oz
250	1 tbsp + 2 tsp	1 1/4 tsp	Maintain 3–6 ppm	1 tbsp + 1 1/2 tsp	3/4 oz	3/4 oz
300	2 tbsp	1 1/2 tsp	Maintain 3–6 ppm	2 tbsp	1 oz	1oz
350	2 tbsp + 1 tsp	1 3/4 tsp	Maintain 3–6 ppm	2 tbsp	1 1/4 oz	1 1/4 oz
400	2 tbsp + 2 tsp	2 tsp	Maintain 3–6 ppm	2 tbsp + 1 1/2 tsp	1 1/3 oz	1 1/3 oz
450	3 tbsp	2 1/4 tsp	Maintain 3–6 ppm	2 tbsp + 2 tsp	1 1/2 oz	1 1/2 oz
500	3 tbsp + 1 tsp	2 1/2 tsp	Maintain 3–6 ppm	3 tbsp	1 2/3 oz	1 2/3 oz



## FOR SPAS USING SOFTSOAK

### First Time Start-up for new spa

1. Fill your Dimension One® spa with water. If the make-up water is from a well or other non-municipal source, testing prior to filling is recommended.
2. Add superchlorination dose of SoftSoak® Spa Shock with spa circulation turned on. Run all pumps at least one cycle.
3. Operate the spa circulation system for at least two hours.
4. Drain, rinse interior surfaces, and refill. Follow draining instructions in owner's manual.

### Refill Guide

1. Once spa is filled, start your Dimension One spa following manufacturer's directions.
2. Add the following SoftSoak products based on the dosage chart below. Wait 30 minutes between each product addition.
  - SoftSoak Waterline Control\*
  - SoftSoak Stain and Scale Control
  - SoftSoak Spa Shock

\*If the temperature of the spa is below 90°F / 32° C when this product is added, temporary clouding of the water may occur. This clouding will disappear once water is warmed to over 90°F / 32° C and circulated.

3. Add 1 ounce of SoftSoak Sanitizer per 150 gallons and circulate water continuously for approximately 30 minutes.
4. Using SoftSoak Spa Water Test Strips, check your SoftSoak Sanitizer level and pH. The Sanitizer level should be between 30-50 ppm and the pH range should be 7.2-7.6. If these conditions are met, your spa is ready for enjoyment.

### Daily Care

- If foaming occurs, use SpaGuard Anti-Foam.

### Weekly Care

- Use SoftSoak Test Strips to test for pH, total alkalinity, and sanitizer levels. Balance pH and total alkalinity as needed, following label directions for each product.
- Add SoftSoak Waterline Control. See chart below to determine dosage.
- Add SoftSoak Stain and Scale Control. See chart on next page to determine dosage.
- Add SoftSoak Spa Shock. See chart on next page to determine dosage.
- Apply recommended dosage of SoftSoak Sanitizer based upon test results and spa volume. See chart on next page. If level is above 30 ppm, do not add sanitizer.

### Monthly Care

- Test calcium hardness. Proper range is 100-200 ppm.

### Every 3 to 4 months

- Drain, clean, polish and refill based on usage.
- Use SoftSoak Filter cleaner to chemically clean filter cartridge.

### Quick Start Guide:

Spa Volume (gallons)	SoftSoak Waterline Control	SoftSoak Stain & Scale Control	SoftSoak Spa Shock	SoftSoak Sanitizer
100	1 oz	2/3 oz	2 oz	2/3 oz
150	1 1/2 oz	1 oz	3 oz	1 oz
200	2 oz	1 1/3 oz	4 oz	1 1/3 oz
250	2 1/2 oz	1 2/3 oz	5 oz	1 2/3 oz
300	3 oz	2 oz	6 oz	2 oz
350	3 1/2 oz	2 1/3 oz	7 oz	2 1/3 oz
400	4 oz	2 2/3 oz	8 oz	2 2/3 oz
450	4 1/2 oz	3 oz	9 oz	3 oz
500	5 oz	3 1/3 oz	10 oz	3 1/3 oz

### Weekly Maintenance Guide:

Spa Volume (gallons)	SoftSoak Waterline Control	SoftSoak Stain & Scale Control	SoftSoak Spa Shock (low use)	SoftSoak Spa Shock (high use)	SoftSoak Sanitizer 0-10ppm	SoftSoak Sanitizer (if level is 15-30ppm)
100	1/2 oz	1/4 oz	1 oz	2 oz	2/3 oz	1/3 oz
150	3/4 oz	1/4 oz	1 1/2 oz	3 oz	1 oz	1/2 oz
200	1 oz	1/3 oz	2 oz	4 oz	1 1/3 oz	2/3 oz
250	1 1/4 oz	1/3 oz	2 1/2 oz	5 oz	1 2/3 oz	1 oz
300	1 1/2 oz	1/2 oz	3 oz	6 oz	2 oz	1 oz
350	1 3/4 oz	1/2 oz	3 1/2 oz	7 oz	2 1/3 oz	1 1/2 oz
400	2 oz	3/4 oz	4 oz	8 oz	2 2/3 oz	1 1/2 oz
450	2 1/4 oz	3/4 oz	4 1/2 oz	9 oz	3 oz	1 2/3 oz
500	2 1/2 oz	1 oz	5 oz	10 oz	3 1/3 oz	1 2/3 oz

## Balance: What you need to do.

### MAINTAINING PH

#### Recommended Method

Called the Carbonate Buffer System, this method involves adjusting total alkalinity, pH, and calcium hardness. Total alkalinity (TA) should always be in the 125 to 150 ppm range. Low TA can cause the pH to bounce from one level to another, potentially causing scaling or corrosion of surfaces. Add SpaGuard® Total Alkalinity Increaser to raise low TA. High TA levels contribute to scale, cloudy water and other pH problems.

Next comes pH. If pH is high (above 7.6) chlorinating sanitizers are less effective, surfaces and equipment can scale, water may cloud and shorter filter runs may occur. Correct this by adding SpaGuard pH Decreaser. Low pH (below 7.2) causes sanitizers to dissipate more rapidly, increases corrosion of surfaces and equipment, and may make water irritating to spa users. Adjust low pH by adding SpaGuard pH Increaser. Never add more than three capfuls (4 tsp.) of pH adjuster per 250 gallons of water. Add while pump is operating. Maintain pH level between 7.2–7.6.

Lastly, adjust calcium hardness. Low levels of calcium (the water is too soft) can lead to corrosion of equipment and staining of surfaces. Add SpaGuard Calcium Hardness Increaser to raise low calcium hardness. High levels of calcium can cause scaling of equipment (reducing efficiency) and ugly, rough patches on the interior of the spa. Calcium hardness should be maintained between 100-200 ppm. SpaGuard recommends Stain and Scale Control for controlling a higher level of calcium.

#### Alternate Method

For spas using Brominating Concentrate, SpaGuard Spa Sentry™ works to hold the pH in its optimum range. pH is the most important aspect of spa water quality. However, maintaining the proper pH can be a challenge. The heated, aerated water combined with heavy bather loads can cause the pH to change quickly, unless a means for buffering these

changes is present. Spa Sentry is formulated to “watch over” the pH and protect the water from pH changes. On average, Spa Sentry will last approximately two months before a new application is needed.

Note: Spa Sentry is not compatible with biguanide systems such as SoftSoak®.

### TROUBLESHOOTING TIPS.

#### Your best source for help is always your local D1/SpaGuard® Dealer.

Take a water sample of your spa water into the store for a free analysis and treatment plan. Here are a few common problems you should become familiar with. If you notice any of these symptoms, please contact your D1/SpaGuard Dealer.

**COLORED WATER/METALS AND STAINS.** Various metals are present in source water. These can cause colored water and/or stains. 0 ppm of metals is recommended in all spas. See your D1/SpaGuard dealer on how to remove metals from your source water.

**STAINS.** Stains are usually caused by metal in the water such as iron, copper or manganese.

**SCALE.** Rough, sandpaper-like deposits can coat spa walls, clog circulation and filtration systems and plug heaters. Scale is a result of excess dissolved calcium in the water.

**FOAMING.** Foaming is fairly common due to agitation and the presence of lotions, laundry soaps, cosmetics and other substances.

## Indulge in moments®.

Transform your spa into an aromatherapy haven with moments® from SpaGuard®. We've created six sensory-scintillating fragrances to add to your spa. Use them to suit your changing moods—or put you in the mood.

Imagine heady aromas that combine hyacinth, rose, lily, fresh apple, vanilla, jasmine, green tea, and a host of other intoxicating and soothing herbs and fragrances. Your spa experience will be enhanced with every breath you take.

All it takes is just a few capfuls to your spa or hot tub to unleash the magic. Relish the moisturizing benefits of moments all by yourself, or, add it when you relax with family and friends. Moments is available in 8 oz. bottles—and in 1/2 oz. pillow packs for single use applications—and comes in six distinctive fragrances:

**retreat**

**revive**

**passion**

**tranquility**

**immerse**

**rejuvenate**



## Know How To Speak Spa Language.

Get to know spa-related terms. It will help you talk with your D1/SpaGuard® Dealer and understand how your spa works.

**Aeration:** Process of mixing air and water. This happens with Venturi Air Controls that allow air to be pulled into and mixed with the water in the spa jet.

**Available Chlorine:** Amount of hypochlorous acid (the form that does the work) a chlorinating product contains. Also referred to as Free Available Chlorine in the water.

**Bacteria:** Single-celled microscopic organisms. Pathogenic bacteria can cause infections, disease and bather irritation. Hypochlorous acid or hypobromous acid are used to kill bacteria in pool and spa water.

**Balanced Water:** Pool or spa water that has a proper pH and the appropriate mineral content to prevent corrosion and scaling.

**Buffer:** Chemicals that serve to prevent fluctuations in pH.

**Calcium Hardness:** The amount of dissolved calcium in water.

**Chelant:** Ingredient that prevents minerals and metals from scaling and staining.

**Coagulant:** Gathers tiny particles together to make filtering them out much easier.

**Corrosion:** Etching, pitting and other destructive erosion of the spa surfaces and equipment due to low pH or chemical imbalance.

**Filter Element:** Device (cartridge) within a filter housing designed to remove suspended debris from the water.

**Make-Up Water:** Fresh water used to fill the spa. Also called Source Water.

**Oxidation:** Chemical process for removing undesirable compounds from the water.

**Ozone:** Gaseous molecule composed of three atoms of oxygen (O<sub>3</sub>). In a spa, ozone is used to oxidize contaminants. Its instability and short life in the water require that it be used only to supplement chlorine or bromine residual to control bacteria.

**pH:** Measurement that indicates the acidic or basic nature of a solution. Measured on a scale from 0 to 14. The ideal pH for spa water is 7.4 to 7.6. Acceptable range is 7.2 to 7.6.

**ppm:** Parts per million. Unit of measurement used in measuring chemical application. Indicates the amount, by weight, of a chemical in relation to one million parts by weight of water.

**Pump:** Motor-powered device that creates pressure and water flow by spinning an impeller to provide circulation through the filter and heater.

**Saturation Index (SI):** Numeric value indicating whether water is scale-forming or corrosive. It factors in pH, total alkalinity, calcium hardness and water temperature. Ideal range is between -.3 and +.3.

**Scale:** Mineral deposits that form on spa surfaces and equipment due to excessive calcium in the water. Scale is more likely to form in heated water if proper water balance is not maintained.

**Shock Treatment:** Addition of significant amounts of an oxidizing compound for the destruction of nitrogenous and other undesirable compounds.

**Skimmer:** Device in the spa that continuously pulls the surface water and floating debris from the spa to be removed by the filter. Hand skimmer net can be used manually to "dip" floating debris from the water.

**Superoxidation:** Application of large quantities of oxidizing compounds to destroy chloramines, ammonia and other oxidizable compounds. It's done to get rid of odors and cloudy water, as well as for maintenance.

**Total Alkalinity:** Alkalinity is a measure of the water's buffering capacity or ability to resist changes in pH. The proper alkalinity range for spa water is 125-150 parts per million (ppm).

**Total Dissolved Solids (TDS):** Measure of the amount of dissolved matter in the water. High TDS (1,500 ppm and higher) can interfere with the sanitizer's ability to combat bacteria growth.



