



# Brunetti Pools

*Your Premier Custom Pool Builder*

## Operation Guide To Your In Ground Swimming Pool

**Brunetti Pools, L.L.C.**

**P.O. Box 207**

**Medford, NJ 08055**

**(609) 654-1830**

**[www.brunettipools.com](http://www.brunettipools.com) [service@brunettipools.com](mailto:service@brunettipools.com)**

Welcome!

Congratulations on the purchase of your new in ground swimming pool, and thank your for choosing Brunetti Pools to build your custom pool.

Now that you have reinvented your back yard into an extension of your home, you can begin to use that space as your private oasis where quiet tranquil moments as well as activities for family and friends can be experienced to the fullest.

Owning a pool is a great way to relax and enjoy the Summer, so to better help you operate your pool, we have provided you with an in-depth manual, which covers most aspects of pool operation and maintenance. While this should provide answers for the most common questions associated with pool ownership, don't forget, we are here to answer any question you may have. Contact our office and speak to any member of our knowledgeable staff to help you continue enjoying your pool for generations to come.

Thank you,

Brunetti Pools

## TABLE OF CONTENTS

	<b>Page</b>
Introduction.....	5
Maintaining Your Pool.....	5-8
Daily.....	5
2-3 Times Per Week.....	6
Every 7-10 Days.....	6
Monthly.....	6-7
As Needed.....	7
Shocking Your Pool.....	7-8
Prevention of Scaling and Staining.....	9
Brushing and Vacuuming Your Pool.....	9-11
Basic Instructions.....	9-11
Helpful Hints.....	11
Basic Water Chemistry.....	12
Safety First.....	12
Salt Water Basics.....	13-15
Chlorine Test.....	15
Super Chlorination.....	16
Testing pH Levels.....	17-18
Total Alkalinity.....	18
Calcium Hardness.....	20
Iron and Magnesium.....	20
Cyanuric Acid.....	21

Stain and Scale Prevention.....	21
Filter Cleaning and Maintenance.....	21
Cartridge Filters - Routine Maintenance.....	22
D.E. Filter - Routine Maintenance.....	22
How to Backwash.....	23
How Your Pump Works.....	24
Initial Start Up.....	24-25
Water Features.....	25
Suggested Maintenance Information.....	26
Weekly Pool Maintenance Information.....	26
Monthly Pool Maintenance.....	26
Seasonal Maintenance.....	27
Important Winter Notice.....	27
Pool Safety Covers.....	27
Opening Your Pool.....	28
Winterizing Your Pool.....	29-31
Troubleshooting and Frequently Asked Questions.....	32
Algae and Other Pool Problems and Their Solutions.....	33-36
Swimming Pool Safety.....	37-38
Notes.....	39-43
Daily Water Chemistry and Maintenance.....	Attached
Swimming Pool Start Up Procedures.....	Attached

# Proper Pool Care Guide

## Maintenance, Operations and Safety

### **Introduction:**

Congratulations on your new Brunetti Pool! This manual will help guide you on the important basics of caring for your pool. When **HELP IS NEEDED** our professional pool technicians at Brunetti Pools are always available. We can provide you with several options ranging from openings and closings to weekly maintenance, including water testing and as well as repairs.

### **Maintaining Your Pool:**

#### **Daily:**

1. The water needs to be cleaned. What this means is that the amount of water in the pool needs to pass through the filter at least once a day. Each day, the pump needs to be on long enough to circulate the entire volume of water through the filter once. Most pools are designed with equipment sized to ensure that the pump and filter can circulate all the water in a 6-1 hour cycle. If you are unsure about how long your equipment should run, our pool technicians will calculate that for you.
2. Daily use of your pool can help keep your pool cleaner by ensuring the water is well mixed, and any small particles are stirred up so they can be filtered out of the water.
3. Sanitizer should be added daily, in some manner, to keep the free chlorine level at 1-3 ppm (check chlorine level and pH daily). This does not mean you need to physically add chlorine to the water each day, but there needs to be some means by which sanitizer is getting into the pool each day (an automatic chlorinator is nice).

### **2-3 Times Per Week:**

1. Check the chlorine, pH, and alkalinity levels by testing your water 2-3 times per week.
2. Be sure to check your equipment to make sure it is operating properly. Check for leaks, be sure pump is operating correctly and check that pressure on the filter is not too high.
3. Vacuum and skim the pool 2-3 times per week to remove leaves, bugs and dirt.

### **Every 7-10 Days:**

1. Shock your pool. This will oxidize any contaminants and help prevent algae growth. It will also get rid of small amounts of chloramines (combined chlorine). This can be done with chlorine shock (calcium hypochlorite or multi-shock) or non-chlorine (Chlorine-Free shock. Chlorine shock should be used at night with any solar cover removed. This ensures that the chlorine level remains high for the longest amount of time and that no one is likely to swim in the pool while the chlorine is high. Non chlorine shock may be used at any time.
2. As a preventive measure, treat with algaecide.
3. Using an enzyme product, clean surfaces of any organic deposits.

### **Monthly:**

1. Sample your pool water to be tested for total and free Chlorine pH, Alkalinity, Calcium Hardness, Cyanuric Acid, Metals and Phosphates. This should be done monthly, just after opening the pool for the season, and just before closing the pool for the winter.
2. Treat water with stain control if metals are in the water.

3. Clean filter (backwash), usually determined by watching the pressure in the filter. When the filter is started just after a thorough cleaning, observe and note the psi reading on the pressure gauge. When the pressure in the filter rises to 1-1/2 times this reading, it is time to clean the filter. This is usually a rise of 7-10 psi. This may occur quite often at the beginning of the season, or after a bad algae infestation. After the season, clean the filter with filter cleaner to ensure maximum performance

### **As Needed:**

1. Yard maintenance puts a large number of particles into the air that settle in your pool - (leaf blowing, mowing and spraying). Spraying introduces a significant amount of phosphates into the water which then becomes an invitation for algae. Shock the pool and make sure you have your water regularly tested for phosphates.
2. Rain knocks out the sanitizer by washing contaminants into the pool. Pre-treat the pool with algaecide before a heavy rain if you know one is coming, then shock the pool afterward.
3. Dogs and other small animals using the pool are equivalent to having a large pool party. One dog is the equivalent of **50 people** in the amount of contaminants introduced into the water. Shock more frequently if your dog is in the pool often.

### **Shocking Your Pool:** Shocking a pool performs 2 separate tasks.

1. The first is to rapidly oxidize organic contaminants in the pool and break down chloramines in your pool.
2. The second is to rapidly sanitize (kill or neutralize) any biotic contamination (bacterial, algal, viral) in the pool.

3. Chlorine shock performs both of those tasks, however Chlorine Free Shock does only the first task. Normally the chlorine level in the pool will adequately sanitize the pool (even with pool parties) so that either may be used.
4. The primary benefit of chlorine free shock such as AQUAZone Oxidizing Shock & Swim, is that it rapidly clears the pool and you may use it in a very short period afterward (usually within 20 minutes).
5. Shocking the pool with chlorine typically raises the chlorine level to 7-10 ppm (parts per million) to rapidly oxidize any contaminants and to break down the normal level of chloramines present in the pool. Most typically AQUAZone Shock Treatment (cal-hypo) is used and is broadcast in powdered form over the surface of the pool. This chemical will not all dissolve before reaching the bottom of the pool.
6. The best way to disperse powdered shock is to add it slowly to the water above a return while the pump is running. Even in a plaster or painted pool, shock may cause stains if there is metal in the water. This happens when shock is added with the circulation off and lands on the bottom of the pool in small areas. The extremely high chlorine level will drive the metals out of the water in that small area.
7. Do not add shock by pouring it into the skimmer! The extremely high level chlorine present until the chemical is dispersed throughout the pool is harmful to equipment.



## **Prevention of Scaling and Staining: Frequent Brushing**

Once your pool is filled, consistent brushing and proper water chemistry are critical to the life and appearance of your plaster finish. The effort spent during the initial first few weeks will be well worth the reward of a long lasting, beautiful pool surface.

The curing process is called hydration. Plaster or marble dust (calcium carbonate) is a by-product of hydration and must be removed or it will produce a rough scale on the plaster finish. Dirt will also want to attach itself to the finish during the curing stage and must be brushed away and removed regularly. Not only will brushing help remove dust and dirt, but it also polishes the plaster finish and helps to prevent stains and algae from forming. This is why the first 30 days of the curing process are the most critical.

Listed below are some guidelines and recommendations to help prevent staining and scaling of your pool surface.

## **BRUSHING AND VACUUMING YOUR POOL**

The filtration system will remove the vast majority of foreign matter from your swimming pool water. However, from time to time, dirt and debris will settle to the bottom of your pool floor and slopes. This sediment is removed by vacuuming. 1-2 Times per day first 30 days and weekly after first 30 days.

## **BASIC INSTRUCTIONS**

1. Attach the soft nylon brush onto the tele-pole provided.
2. Turn the Pool Pump “On.”
3. Turn the Skimmer “Off.” (Operate on Main Drain only)

4. After brushing the walls and steps, brush the floor working from the shallow end toward the main drain. Remember, Work SHALLOW TO DEEP.
5. Starting at the shallow end of the pool, push the nylon brush down the pool wall taking care to cover the entire wall and step area.
6. The water will become somewhat clouded by the dirt the brushing has loosened. The pool filtration will shortly remove this trash from the water. Leave the pump running until the water becomes clear.
7. Once the water clears, you may turn the pump “Off” and open the skimmer valve VACUUMING THE POOL .
8. Gather the vacuum hose, the vacuum head and the telescopic pole (also called tele-pole and lay the vacuum hose out on the pool deck. Note which end of the vacuum hose swivels.
9. Remove the lid of the skimmer, the skimmer basket and any diverter valves or devices from the skimmer.
10. At the pool pump rotate the control valves so that ONLY THE SKIMMER is drawing water. (Your pool valves should be marked to indicate this position by our Service Technician) While there, inspect the strainer basket to insure it is not filled with leaves or debris and check the pump timer to make sure it will allow the pump to run during your cleaning session.
11. Attach the vacuum head to the tele-pole.
12. Attach the vacuum hose to the vacuum head, taking care to put the swivel end of the vacuum hose on the vacuum head.
13. Put the vacuum head and tele-pole into the water. It is a good idea to hold onto one end of the tele-pole. It will drift into the water otherwise.
14. Hold the unattached end of the vacuum hose over one of the fittings that return water to the pool. The effect is that this will fill the hose completely with water. It is essential that the hose be completely filled before attempting to vacuum.

15. Carefully put the end of the vacuum hose into the skimmer, directing the hose into the port that is drawing water. It is wise to operate at a distance since the draw from the pump can be substantial. (Grasp the hose several inches from the cuff) The vacuum hose will be drawn into the skimmer port, and water will be drawn in through the vacuum system.
16. Move the vacuum head over the pool floor and walls in a pattern that will allow you to cover the entire surface. It is best to move at a moderate pace. Too fast and the dirt will merely be stirred only to settle out later. Too slow and you can waste time.
17. Once the pool is vacuumed, go to the pool pump and turn it off. Remove the vacuum hose from the skimmer and remove the vacuum head and tele-pole from the pool and store them.
18. Return the valve settings to a combination of “Skimmer” and “Main Drain”. Empty the pump hair and lint strainer if necessary and turn the pump back on.

## **Some Helpful Hints**

Vacuum cleaning of the pool may be done as often as needed. Most pool owners who do not have an automatic cleaner consider once per week in the swimming season to be adequate.

In the event your pool is equipped with an in-floor cleaning system, and it is possible to divert the flow to an alternate route, your cleaning job will be made much easier.

Storage of the vacuum hose stretched on a fence is decorative, but will result in very early failure of the equipment. Please consider using a large garbage can as a container for this costly piece of equipment. It will save you money in the end.

If your pool filter is very dirty (evidenced by a high pressure reading on the pressure gauge), it may be wise to clean the filter before vacuuming the pool. A dirty filter will cause the vacuum to perform poorly.

## **Basic Water Chemistry (KEEPING THINGS IN BALANCE)**

### *Safety First....*

- 1. Keep all chemicals in their labeled containers.** The containers have all the instructions needed for proper use and safe handling of the product, as well as emergency procedures and telephone numbers if needed.
- 2. Follow all label instructions on the chemical containers.**
- 3. All chemicals should be added directly to pool water.** Never pour water into a container with the chemical already in the container.
- 4. Do not mix any chemicals together.**
- 5. Do not mix different types of chlorine together.** *Do not put any type of chlorine into a container that has held a different type of chlorine - it can cause an explosion.*
- 6. Always wash hands thoroughly after handling chemicals.**

Perhaps the greatest single factor in your satisfaction with your new swimming pool is your mastery of the single procedure of testing the pool water and making minor corrections that are indicated so your pool water is always clean, pure and appealing. We suggest that you check your pool water at least weekly.

The term “water balance” is one you will hear very often when dealing with pool people. When water is “balanced” several key factors, pH: chlorine residue, calcium hardness, total alkalinity, temperature and total dissolved solids are able to co-exist together with no harmful side effects. There are several key factors in keeping your pool balanced, only a few of which you can test. For purpose of instructions, we are going to briefly cover the essentials. Our goal is not to frighten or intimidate the pool operator/owner. Everything we list will be found in the instructions that will come with your test kit.

Your Project Manager will professionally balance your water when the pool is started. The balance will modify itself each time you add water, chlorine, or it rains. To restore balance, it is necessary to test the water on a regular basis (once a week) and add what the test results suggest.

It is recommended that all chemicals be added to the deepest part of the pool while water is circulating (the pump is on). This will disperse the chemicals most quickly throughout the pool. One exception to this is the addition of AQUAZone Stabilizer. This should be added while the circulation is on, but is poured directly into the skimmer.

Adjustments to the balancing chemistry should be done in the following order:

1) Alkalinity; 2) pH; 3) Calcium Hardness

A large adjustment to any element of balancing chemistry will take time. Do not try to read pH levels and make adjustment immediately after adding the chemicals needed to adjust alkalinity. Wait at least 4 hours with the circulation running before taking new readings and continue. When adjusting the pH of a pool, go slowly and add the chemical 1/3 at a time and wait between applications (6-8 hours with the pump running) then take new readings and continue if needed.

## **Salt Water Basics**

Salt water pools can be a great alternative to a traditional chlorine swimming pool. With proper attention, a salt water pool can be less costly, less work, and more comfortable for the body. Following are several tips that can help make caring for a salt water pool easier.

### ***Monitor Salt Level***

The first key to success with a salt water pool is to always maintain the minimum salt level required for your automatic chlorine generator. If the salt level is not properly maintained, no chlorine will be produced which will lead to pool water problems quickly.

The pool needs to have a salt concentration near 300ppm for the salt/chlorine generator to work properly (see manufacturers requirements). Once this has been measured using a suitable test kit or strip, the proper salt concentration can be achieved by adding your Pool Salt product.

Once salt is in the pool it is lost only through splash-out or leaks. If large amounts of water are added to the pool, additional salt will need to be added to bring the concentration up to the required level.

### ***Maintain Proper pH***

The pH with salt water pools is consistently higher than that of pools using conventional chlorine. Test the pH once or twice a week and add muriatic acid as needed to lower the pH between 7.4 and 7.6.

### ***Don't Skimp on Filtration Time***

Remember that chlorine is only being added to a salt pool when the filter is running. One of the biggest mistakes made with salt water swimming pools is trying to save money by reducing the filter run time. Reduced filtration time means reduced chlorine and if enough chlorine is not being added to the swimming pool, frequent algae problems will persist. Please refer to our Trouble Shooting Section for problems and solutions to common water problems.

### ***Maintain Stabilizer Level***

Stabilizer will need to be added to the water to bring the concentration to 50ppm. Once in the water, no additional stabilizer would need to be added and it will not build up because stabilized chlorine is not being used regularly. The benefits of this method are the savings in chemicals for sanitizing and oxidizing, and the ease of maintaining the proper sanitizer level.

Cyanuric Acid, otherwise known as stabilizer or conditioner is necessary to protect the chlorine from the sun. Without stabilizer, it will be difficult to maintain the proper level of chlorine to sanitize the pool. Test for cyanuric acid levels every few months to make sure a cyanuric acid level of 50-80 ppm is maintained.

### *Clean the Salt Cell*

It is very important to keep the salt chlorinator cell clean. Check the cell regularly and if there is visible calcium build-up on the cell plates, clean the cell as recommended by your Salt Chlorinator Owner's Manual. If the cell is not kept clean, the salt chlorinator will stop producing the necessary level of chlorine.

### *Salt Swimming Pools are NOT Maintenance Free*

Salt water pool systems are often believed to be "maintenance free" leading pool owners to believe that the only thing necessary to maintain their pool is to keep the salt level in check. This is not true. The pool water chemistry still needs to be tested weekly to keep the pH alkalinity, stabilizer level and salt levels in check. Without routine and proper maintenance, a salt water pool, like any other pool will quickly become costly and time consuming to maintain.

### **Chlorine Test**

When testing for Chlorine, remember that what you are testing is chemically a bleaching agent. In strong concentrations (over 10ppm) it may partially or totally bleach the testing reagents and give a false low or zero reading (with very high readings there will be no chloramines present so there may be no detectable odor present with the pool water).

The purpose of a pool or spa disinfectant is to sanitize (kill all living organisms), disinfect (kill all disease causing organisms), and oxidize (destroy ammonia, nitrogen containing contaminants and swimmer waste). A disinfectant must be continually active in the water so that it may react instantaneously with bacteria, algae and other organic matter as they are introduced into the water. Providing this measurable "sanitizer residual" to the water is a very important job of any disinfectant. Without it all protection for the swimmers is lost.

**Recommended free chlorine reading should be 1-3ppm.** Less than 1.0 ppm and your pool will begin to grow algae. A residual of more than 3.0 ppm is wasteful.

If the total chlorine reading is higher than the free chlorine reading by a detectable amount, a breakpoint chlorination is recommended. This is done by superchlorinating the water so that the free chlorine levels is at least 10 times the

combined chlorine level. Superchlorination is most effective if done at or near dusk. This will give the greatest amount of time for the chlorine to do its work before the sun begins to reduce the chlorine levels.

Test your pool water following the directions contained in the test kit. If the test tube indicates that the Free chlorine level is above 1.0 ppm and the chlorine residual is below 3.0 ppm, it is suggested that you turn the swimming pool chlorinator off for a few days.

If the chlorine residual is below 1.0 parts per million, check the chlorinator to make sure you have not run out of materials. If your pool has an erosion feeder and the feeder has run out of tablets, fill the chlorinator with the appropriate amount of chlorine. For pools with a salt generator, assure that your generator has not run out of salt (there is an indicator rod that should be in the “up” position and make sure the power supply is turned “on.”

If there are sufficient supplies in the chlorinator, you may increase the “Feed Rate” setting on the chlorinator. If the “Feed Rate” is at maximum and there are sufficient materials in the chlorinator, you may wish to increase the number of hours that the pool pump runs.

If the pool chlorinator is below 1.0 ppm, swimming is not advised. Add 1/2 gallon of pool bleach (obtained from the pool supply store) per 15,000 gallons. Wait 1 hour, and then you may swim.

### **Super-Chlorination**

Although the pool chlorinator does a fine job of routine feeding, there are times when the pool requires an extra dose of disinfectant to remove either algae or nitrogen-based wastes (such as fertilizer, sweat, etc.). Usually algae growth is evident. The build-up of nitrogenous wastes may not be so easy to detect.

An over abundance of combined chlorine causes eye irritation and strong, sometimes offensive chlorine odors. Most people think there is too much chlorine in the water when they smell this strong odor. However, just the opposite is true, all the free chlorine has combined with swimmer waste and has created those foul smelling combined chlorine products.



## **Testing for pH**

Of all the chemical tests on your pool you perform, the most important one is the pH test. A pool may be completely free of chlorine, and you may swim without any problem but if the pH is out just a bit, you can immediately experience irritation of the eyes, ears and skin.

The pH scale is a logarithmic measure related to the concentration of hydrogen ions in solution (strongly acidic solution is 0, strongly alkaline is 14). Neutral pH is 7, but the recommended level for swimming pool water is 7.4-7.6 (the pH of the human eye is 7.5).

### **Low pH**

Water with a low pH reading below 7.0 will be corrosive (act as an acid) in the pool. It will dissolve metals (copper in heaters, railings), pit concrete and cause staining of walls because of the metals and other chemicals absorbed into the water. It will also cause skin and eye irritation.

### **High pH**

When the pH is too high (above 7.8) the water can begin to form scale deposits plugging up filters, causing rough surfaces on the pool walls and white deposits on tile surfaces. The water will become cloudy. Chlorine begins to lose its effectiveness, even though the chlorine reading remains high. Chlorine is more effective if a significant portion in the water is in acidic form. Thus a high pH drastically reduces the effectiveness of the chlorine causing problems with algae.

### **Testing pH**

Your test kit should contain the information you need to test the pH. Follow the directions. The kit will even tell you how much acid to add to the pool water to bring the pH into proper range. pH left unattended, will tend to rise to above 8.3 or more due to the interaction of water with the pool finish. So even if you are not using the pool, even if you have not added chlorine in quite a while, your pool water can be in desperate need of treatment.

The most common indicator for pH of pool water is phenol red which changes from yellow in acidic solution to dark red in alkaline solution. Phenol red makes this change gradually in a range from 6.8 to 8.2 making it ideal for testing swimming pools.

False readings may occur in the presence of high chlorine levels (10ppm and above), the indicator phenol red is chemically changed to chlorphenol red which changes color in a different range from yellow at 5.0 to purple at 6.6. If a high level of chlorine is present, a drop of sodium thiosulfate may be added to the sample to neutralize some of the chlorine, but it also has a high pH, so it will change the reading of the sample slightly. When chlorine levels are elevated above the recommended level some of the indicator may change and cause the color to be redder at a lower pH than it would with normal levels of chlorine.

When chlorine levels are high, it is best to wait until the level drops to the recommended (1-3ppm), then test for pH and make the proper adjustments.

### **Total Alkalinity**

Total Alkalinity is the measure of the pool water's ability to accept and hold a change in pH. In other words, it is a measure of the ability of the water to resist changes in pH and acts like a shock absorber when chemicals that are high or low in pH are added to the pool. At a lower alkalinity, the pH of the water will respond much more quickly to outside chemicals and stimuli. Stable pH means that your pool water will not demand much attention and will not deposit stains as easily onto the interiors finish, it means that the addition of pool acid will be much less frequent.

The target values for alkalinity will vary depending on the sanitizer used regularly on the pool. This is because the acidic or alkaline nature of the sanitizers. If you are using Alkaline sanitizers such as cal-hypo, lithium hypochlorite, or sodium hypochlorite (liquid chlorine) **the target total Alkalinity value is 80-100 ppm.**

If you are using Acid sanitizers such as bromine, trichlor (tabs/sticks), or granular dichlor, **the target total Alkalinity value is 100-120 ppm.**

## **Testing Alkalinity**

Test strips or a titration test will give a reliable reading. Test the pool when the chlorine levels are in the range for swimming (1-3 ppm). A high level of chlorine will give false colors to the reagent change point.

## **Low Total Alkalinity**

The pH will vary widely, the water will be corrosive - pitting the concrete, dissolving metals, and staining the walls. To correct this condition, add a sodium bicarbonate product according to instructions for the water volume of your pool.

Alkalinity substances buffer your water against changes in pH. It is important to prevent pH changes that can cause scaling or corrosion of metal fixtures. The Total Alkalinity is in the right range at 80 to 120 ppm (parts per million) if sodium dichlor or trichlor are being used as sanitizers. Total alkalinity levels of 80 to 100ppm are considered to be in the right range if calcium, sodium, or lithium hypochlorites are being used as sanitizers. pH intensity is measured on the pH scale, a numerical scale extending from (one) 1 (extremely acidic) to 14 (extremely basic). A pH of 7.0 is considered neutral. The right pH levels less than 7.2 can also cause swimmer discomfort and cause corrosion of pool fixtures and equipment.

## **High Total Alkalinity**

The water will cause scaling, white deposits, rough pool surface, reduced circulation and cloudy water. The pH will tend to drift upwards. The same chemicals are used to reduce alkalinity as are used to reduce pH (muriatic acid). Alkalinity is slower to respond to the addition of acids than pH, so give it some time. Generally the acid used to lower alkalinity (either dry or liquid) is added with the water circulating (pump running) to disperse the chemical rapidly throughout the pool. This is done to ensure that anyone using the pool will not be swimming through areas with high chemical concentrations.

## Other Pool Tests

The water chemistry of your pool is ultimately more complicated than we have shown thus far. We have only addressed those tests that you can be expected to perform yourself. Some other tests should be performed but by a pool professional. The reason for this is while the tests are important, the value of these test will not change very readily, therefore time is not essential in dealing with these chemicals.

Other factors of your pool water that are important and should be monitored regularly are: Calcium Hardness; Iron & Magnesium Cyanuric Acid and Stain & Scale Preventer.

## Calcium Hardness

It is extremely important to have calcium hardness in the water of your pool. Water without calcium will become aggressive, trying to pull calcium into the water from pool and deck surfaces (concrete and grout). It will lpit concrete, etch plaster and dissolve grout. It can cause scaling, cloudy water and heater inefficiency. **The recommended level for calcium hardness is 200-400 ppm.**

Calcium chloride is used to increase the hardness level of pool water. This chemical does not dissolve rapidly, so it will need to be dissolved in a container before being added to the pool (be aware that this chemical reaction will produce some heat). When dissolving this chemical, add the dry chemical to water, NEVER POUR WATER ONTO THE DRY CHEMICAL.

The only way to lower calcium hardness in a pool is to drain a large amount of water and replace it with fresh water that is lower in calcium hardness.

## Iron & Magnesium

These materials in the pool water cause staining. If your pool water contains these in any appreciable quantity, we can suggest a chemical (usually phosphoric or phosphonic acid) to remove these minerals from the pool water. This is not particularly common for city water sources, but very frequent for wells.

## **Cyanuric Acid**

This material is introduced into the pool water to slow down the action of chlorine near the surface of the pool preventing the chlorine from leaping off into the air. If cyanuric acid levels are low, the pool will not hold chlorine and you will experience a “low” reading no matter where you set your chlorine feeder. Cyanuric acid is very stable, and once in the water does not break down, it can be removed only by splash out or draining. For pools with erosion feeders, maintain a minimum of 30 ppm of stabilizer. For pools with a Unichlor, maintain at least 65 parts per million of stabilizer.

## **Stain and Scale Preventer**

Some pool chemicals are just gimmicks, tricks and junk. Others are very important and useful. Among the latter are the stain and scale preventers. The effective life of these is approximately 6 months. Your pool was started with a stain and scale preventer, since it is very easy to stain new concrete. We suggest that you refresh this stain and scale preventer with Metal Magic, Sequa Sol or Super Sequa Sol or other chemical equivalent at the rate of 1 quart per 10,000 gallons each 6 months. The benefit of this is that leaves, toys, sticks and other potential stain producers will be much less likely to leave marks on your pool floor or walls when this chemical is installed. Furthermore, if a heater is installed, the life of the heat exchanger will be greatly extended. When the seasons change and the water temperature cools, you will be less likely to experience gray stains caused by your pool water losing its capacity to hold dissolved solids.

## **Filter Cleaning and Maintenance**

The function of your pool filter is to remove dirt and wastes from the pool water to permit you to expel them from your pool. We currently offer 2 filter packages, Cartridge and D.E. based systems. We will include instructions for both; disregard the section that does not apply to your pool.

## **Cartridge Filters – Routine Maintenance**

- 1) Weekly: Inspect the pressure gauge atop the filter dome. If you notice the filter pressure is elevated, remove the cartridge from the filter casing and hose it off.
- 2) While the pool pump is running, gently grasp the filter pressure gauge and turn it about 1/4 turn. This acts as an air relief valve and will allow trapped air to escape.
- 3) Monthly: Soak the filter cartridge in a 10% pool acid and water solution to remove minerals from the filter element.
- 4) On another occasion, soak the filter cartridge in a solution containing water and a cup or two of trisodium phosphate (available from paint or hardware stores). This will remove suntan lotion and body oils.
- 5) Annually: Replace tank O-ring and pressure gauge. Every 2-3 years: Replace filter element.

## **D.E. Filter – Routine Maintenance**

D.E. (Diatomaceous Earth) Filters come in several sizes, the most common being 24 Square Feet, 36 Square Feet and 48 Square Feet. These numbers relate to the size of the filter area and give an indication of how much water can flow through the filter and how long you should go between routine cleanings called backwashing.

- 1) Inspect the filter pressure indicated by the gauge on top of the filter dome. The higher this number the more dirt has been accumulated. When one of the three conditions occurs:
- 2) The filter pressure has become elevated more than 5 pounds above the Fresh reading indicated by a mark on your gauge - or one month has elapsed - or your pool has had an infestation of algae.

You will be well advised to clean the filter by backwashing.

## **How to Backwash**

This sounds complicated but really is quite simple.

1. Make sure you have a normal fill of water in the pool – that is, you will want the water well onto the tile since you will be removing some water by cleaning.
2. Turn off the pool pump.
3. Unroll the collapsible backwash hose attached to the bottom of the “Push-Pull Valve.”
4. On most filters, turn the push-pull valve handle a half turn. Once it is raised fully, lock it into position.
5. Turn on the pool pump. Water will begin to rush out of the blue discharge hose. This is normal and will carry dirt and debris out of the system.
6. Allow the filter to run about 2-3 minutes in this position.
7. Turn the pump “off” and return the handle to the “down” position.
8. Restart the pump and introduce Diatomaceous Earth (D.E.) into the skimmer. You will need to measure this according to the filter size.

24 Square Feet = 3.5 Pounds of D.E. (7 – 1 pound coffee cans) 36 Square Feet = 5.5 Pounds of D.E. (11 – 1 pound coffee cans) 48 Square Feet = 7.0 Pounds of D.E. (14 – 1 pound coffee cans)

## **Annual D.E. Filter Maintenance**

It is advised you disassemble the filter and wash the filter grids manually to remove accumulated suntan lotion and body oils that cannot easily be removed by backwashing. You may wish to consult your filters owners’ manual for the specifics on how this is done, or contact our service department at (609) 654-1830

## **How Your Pump Works**

Your centrifugal pump is designed to operate for years with proper maintenance. The pump housing, seal plate, diffuser hair and lint pot and impeller are made from high quality thermoplastic materials. These materials have been selected for their corrosion resistance. When installed, operated and maintained according to instructions, your pump will provide years of service.

Your centrifugal pump is driven by an electric motor. The motor is directly attached to the pump impeller. As the electric motor turns, it causes the impeller to turn and this causes the water to flow. The water flows into the hair and lint pot inlet and through the basket assembly to pre-strain large particles. The flow then enters the center of the pump housing. If the pump does not contain the hair and lint pot assembly, the flow simply enters the center of the pump housing. The flow goes through the impeller into the stationary diffuser and out the pump discharge port.

## **Initial Start Up**

1. Relieve all system pressure and open all air bleeders on total hydraulics system before starting the pump.
2. Insure that all fittings, clamps, closures and couplings are tightly fitted to equipment manufacturer's recommendations.
3. Open suction and discharge valves to allow free flow of water. On flooded suction pumps with strainer pot, the water source is higher than the pump. The water will flow into the pump strainer pot and the pot will fill with water. On flooded suction pumps without strainer pot, the water will fill the pump housing.
4. On non-flooded suction systems, the pump lid will have to be removed by unscrewing the lid counter-clockwise.
5. The pump strainer pot should be filled with water up to suction opening on the pump.



6. It is good practice to lubricate the lid “O” Ring with silicone lubricant each time the lid is removed. The “O” Ring should be cleaned and inspected every time the strainer pot is opened.
7. The lid should be replaced on the pot. Turn the lid clockwise to tighten.
8. CAUTION: Never run the pump dry. Running it dry may damage the seals and pump housing. This could allow water leakage and flooding.
9. The pump is now ready to prime. Energize the motor and the pump will prime. The time to prime will depend on the suction lift and the distance and size of suction piping. Turn off power if the pump does not prime within five minutes and refer to the manufacturers Trouble Shooting Guide.

## **Water Features**

Part of the fun of owning a pool is having water features that show off your pool’s beauty and add character. However, be aware that while they are inexpensive to operate, they can become costly to run.

When water tumbles, it does three predictable things:

- It loses temperature
- It loses chlorine
- It gains nitrogen from the air (the stuff algae feeds on in the water)

Thus it is advised that tumbling, bubbling or moving water be kept to a minimum and saved for times of personal enjoyment. Most systems supplied by Brunetti Pools are powerful enough to compensate for the adversities posed by water features.

## **Suggested Maintenance Information**

Filter Pump Run Time	2-3 Hours (Winter) 8-12 Hours (Summer)
Filter Cleaning	Cartridge Filter 1-2 Weeks Replace Cartridge 2 Years
D.E. Filter Backwash	4-6 Weeks

## **Weekly Pool Maintenance:**

- Chlorine and pH Check
- Vacuum and Brush
- Clean Tile
- Wash Deck (As Needed)
- Empty Pump Basket and Remove Leaves and Debris (As Needed)
- Empty Skimmer Basket
- Check Pool Pump for Leaks
- Check Chlorinator
- Super-Chlorinate (Bi-Weekly)

## **Monthly Maintenance:**

- Check Total Alkalinity
- Check Salt in Unichlor
- Sample Pool Water
- Check, Add Stain Preventer (Every Six Months)

**Seasonal Maintenance** - Please note that attempting to Winterize or Open your own pool is complicated and can end up being very costly if done improperly. We highly recommend that you schedule your pool Openings and Winterization with our Service and Maintenance Department at *Brunetti Pools*.

**Important Winter Notice** Damage caused as a result of freezing or improper winterization is **NOT** covered under warranty if you choose to close your own pool. If you do decide to close your own pool, you **MUST** carefully read and follow all manufacturer's winterizing recommendations that came with your pool and equipment. Your operating manuals are contained within your Brunetti Pools Manual.

Due to underground plumbing and various circulation systems that require specific winterizing procedures, we highly recommend that you contact *Brunetti Pools* Service Department or a professional contractor to perform your pool Opening and Winterization. In the long run, using a professional pool company to maintain and service your pool saves you money and helps preserve the life of your pool. Call us at (609) 654-1830 or email us at [service@brunettipools.com](mailto:service@brunettipools.com) to set up your Pool Openings, Closings and Weekly Maintenance.

### **Pool Safety Covers**

Safety covers provide a virtually impenetrable shield against wandering children and pets. We offer the finest safety covers available in the industry. Pool covers not only provide peace of mind, but they also make pool opening and closing easier and more cost effective. During the winter months they provide many benefits starting with a tremendous energy savings. They are proven to conserve water by reducing the amount of make-up water needed by 30-50%. They can reduce chemical consumption by 35-60% and they cut Spring cleaning time by keeping dirt and other debris out of the water during the winter months.

## Opening Your Pool

1. Remove any standing water and debris from the winter cover using a cover pump or siphon, without allowing debris to enter the pool water. If you notice that your water level is dropping, there may be holes in your cover.
2. Once cover is removed, clean it with a cover cleaner and allow adequate time for drying to prevent mildew and deterioration. Fold the cover neatly and store.
3. Remove any winter plugs, closing plates or freeze protectors from skimmer or return inlets. Install skimmer baskets and directional “eyeballs” in inlets.
4. Check water level and add any necessary fill water to bring pool water to proper level (1/2 to 2/3 up on the skimmer opening).
5. Use a leaf skimmer to remove debris from water and pool floor.
6. Connect all hoses, valves and unions at pump and motor and filter system. Refer to your filter system’s owner’s manual for complete start up instructions. Ensure all drain plugs have been reinstalled in pump and motor, filter, chlorinator, etc. Lubricate all o-rings, valves etc with an o-ring lubricant and replace any that are worn or cracked.
7. It is very important that the filter media is replaced if using D.E. and that the multi port valve is on the filter after backwash.
8. Prime pump, open filter relief valves and start circulation and filtration. Clean or replace filter media if necessary.
9. Clean the pool, with a thorough manual brushing and vacuuming.
10. Your water should be tested **before** adding any chemicals.
11. Install all equipment and accessories. Check the safety of diving boards, slides, stairs and ladders for any signs of looseness or corrosion. Tighten all hardware and replace any necessary fittings.

## **Winterizing Your Pool**

### **Preparation**

1. Water should be properly cleaned and balanced prior to Winterizing your pool.
2. Brush and Vacuum the pool and remove any fallen leaves and debris. Any material left in the pool over the winter months could cause staining to your pool finish.
3. Test the water and make any necessary adjustments so the pH reads between 7.4-7.6 and the Total Alkalinity between 100-150 ppm.
4. If you suspect excess minerals or metals in your water, have you water professionally tested then add the recommended sequestering agent or metal remover per directions.
5. Purchase all necessary freeze protectors for your skimmer, air freeze pillows, plugs, etc.
6. Water should be clean and balanced prior to closing your pool.
7. Check your winter cover to ensure it is in good condition before installing.

### **Winterizing**

1. Add recommended Winterization chemicals.
  - a) Shock pool using chlorine shock and follow label directions.
  - b) Add a maintenance dose of algaecide per instructions.
  - c) Add a maintenance dose of sequestering agent to protect from staining.
2. It is IMPORTANT to run your filter continuously for 8-12 hours to make sure the chemicals have circulated thoroughly.
3. Backwash and clean filter following own'er's manual for cleaning and winterizing. You should chemically clean your cartridge or D.E.

4. Drain all equipment: pump, filter, heater, chlorinator, etc (store drain plugs in pump basket).
5. Unscrew and loosen any quick disconnect fittings at your pump and filter system. If the water is drained from your pipes and fittings, it cannot freeze, expand and crack.
6. Filter: Follow the steps and instructions in your Filter owner's manual for proper winterizing of your Filter.
7. Shut off electrical power for the pump at the house circuit breaker.
8. Drain the water out of the pump case per owner's manual for your Pump. Store the plugs in the pump basket.
9. Cover the motor to protect it from severe weather. Do not wrap the motor in plastic as it will cause condensation and rust on the inside of the motor.
10. Heater/turn off gas valve, and electrical supply to the heater and follow the instructions in your Heater Owner's Manual to properly winterize your heater. NOTE that water trapped in the heater can cause freeze damage. Allowing the heater to freeze voids the warranty.
11. Prevent freeze damage to the Saltwater Cell and Flow/Temp Sensor by running pump continuously or winterize pool by draining water from pump, filter, and all intake and return lines.
12. Remove the Salt Generator cell, clean and store it. (This is usually done by a qualified pool technician).
13. Disconnect the Flow/Temp/Salinity Sensor from the control center, then remove it from the threaded PVC Tee.
14. Wrap and store the Sensor and power cord cables.
15. Shut off pump and motor.

16. Protect underground plumbing. Before sealing off skimmer and plugging return inlet, you need to blow out the lines and add pool antifreeze to the lines at a rate of 1 gallon per 25 feet of plumbing.
17. Lower the water level 6-8 inches below the skimmer opening.
18. Keep water off pool cover throughout the winter using a cover pump.
19. Check water level throughout winter, after each rain or snowstorm and be sure to maintain the level at 6-8 inches below the skimmer.

## **Troubleshooting and Frequently Asked Questions**

Q How long should I run my pump or filter?

A Your pump should operate between 6 to 12 hours every day. Your filter, sanitation and heating system rely on the circulating water movement from your pump and motor. If you begin to experience a water problem, run the filter longer, 24 hours a day if necessary.

Q When should I backwash or clean my filter?

A When the filter pressure gauge reading has increased 8-10 psi above normal starting pressure. Under normal conditions, expect to backwash every 1 to 2 weeks and clean your cartridge filter every 2-4 weeks. A thorough cleaning should be performed 1-2 times per season.

Q How often should I vacuum my pool?

A You should vacuum your pool at least once a week. If your pool has an Automatic cleaner, cleaning will be performed automatically.

Q What does it mean to shock my pool?

A When you shock your pool, you use a larger dose of chlorine or non-chlorine shock to oxidize (or destroy) organic dirt and debris. You will shock your pool about every 1-2 weeks to provide optimum water quality while also eliminating algae and bacteria.

Q How much water loss is normal?

A Water loss due to evaporation is normal but varies considerably. Maintaining your pool at a high temperature makes it possible to lose up to 2" of water per week. Backwashing and splash out account for normal water loss of 1/2 to 1" per day. Most pools lose approximately 1/8" of water daily.

Q Should I cover my pool?

A Yes! Your pool should be covered in the winter months to keep it clean and safe. Pool covers are also one of the single best energy conservation moves you can make for your pool and spa. In addition they help to keep costs down when it's time to Open your pool for the season, keeping out months of winter debris which take longer than average to clean and balance.

Q. My pool pump won't prime?

A Your Pentair pump is self-priming, however you may occasionally need to manually prime it by removing air and filling with water. After you have tried to manually prime it and you continue to experience problems, schedule an appointment with our service department to determine the cause and make any repairs or replacements.



## Algae and Other Pool Water Problems

<b>Problem</b>	<b>Description</b>	<b>Cause</b>	<b>Solution</b>
Green Algae	Murky green water	Low sanitizer Poor maintenance Improper water bal Poor circulation	Shock treatment Algaecide Clean the filter Check the System
Black Algae	Rough black spots on bottom of pool	Low sanitizer Poor maintenance Improper water bal Poor circulation	Algaecide Brushing Clean Filter Check the System
Mustard Algae	Yellowish growth that easily brushes away	Low sanitizer Poor maintenance Improper water bal Poor circulation	Brush Algaecide
Reagent Bleaching	Color of test fades to clear	High chlorine or bromine levels	Add up to 5 drops of a chlorine neutralizer
Reagent Discoloration	Reagent color is different, i.e. pH test turns purple or DPD turns brown	High chlorine or bromine levels Old Reagents	Let the chlorine levels come down and retest Replace reagents
Foaming	Bubbles on the pool surface	Excessive algaecide Foreign substance	Defoamer Use Algaecide Partially drain if necessary

<b>Problem</b>	<b>Description</b>	<b>Cause</b>	<b>Solution</b>
Pink slime	Pink, slimy bacterial growth that brushes off easily	Low sanitizer Poor maintenance Improper water bal Poor circulation	Brushing Algaecide Clean the filter Check the System
Water mold	White mucous or tissue paper-like substance	Low sanitizer Poor maintenance Improper water bal Poor circulation	Shock Treatment Algaecide Clean the Filter Check the System
Animals and Insects	Water bugs, ducks, frogs	Environmental	Shock treatment to kill organic elements Algaecide
Chlorine Demand	Unable to maintain the free chlorine level	Foreign environmental contaminants Poor maintenance	Shock Treatment Algaecide
Cloudy Water	Hazy or cloudy water Difficulty seeing pool floor	Poor filtration and circulation. Low sanitizer, poor water balance	Check pump and filter. Shock treatment. Balance Water. Filter Cleaner
Gray, clear green or turquoise water	Copper	Equipment corrosion Outside contamination or use of copper algaecide	Metal Out Algaecide
Brown or purple water	Maganese	Equipment corrosion Outside contamination	Super Floc Vacuum out waste
Reddish brown or rust	Iron	Outside contamination	Super Floc Vacuum out waste, add Metal Out

<b>Problem</b>	<b>Description</b>	<b>Cause</b>	<b>Solution</b>
Green Hair	Blonde hair turns green after swimming	Copper	Metal Out Lemon juice or vinegar to hair to remove green color
Odor and eye irritation	Clogged filter or short filter runs	Dirty filter Media not cleaned Water Balance	Replace filter media. Clean with filter cleaner.
Rain	Rain washes debris into pool and raises water level and sanitizer demand	Environmental	Rebalance water after circulating for 24 hours. Shock the pool.
Water Loss	Noticeable difference in water levels	Less than 1/2" daily = normal evaporation. 1/2 to 1" daily = active pool bather load Over 1" daily = possible leak	Professional leak detection assistance for anything over 1" daily.
Unusually low pressure gauge reading	Pressure gauge plugged or inoperative	Pump or Strainer basket clogged	Clean Pump, clean basket. Inspect and replace if necessary. Check that valves are open
Unusually high pressure gauge reading	Pressure gauge plugged or inoperative	Filter needs backwashing	Backwash filter. Inspect and replace if necessary

<b>Problem</b>	<b>Description</b>	<b>Cause</b>	<b>Solution</b>
Scale build up	Blonde hair turns green after swimming	Copper	Metal Out Lemon juice or vinegar to hair to remove green color
Etching	Rain washes debris into pool and raises water level and sanitizer demand	Environmental	Rebalance water after circulating for 24 hours. Shock the pool.
Bleaching	Noticeable difference in water levels	Less than 1/2" daily = normal evaporation. 1/2 to 1" daily = active pool bather load Over 1" daily = possible leak	Professional leak detection assistance for anything over 1" daily.
Reagent Bleaching	Color of test fades to clear	High chlorine or bromine levels	Add up to 5 drops of a chlorine neutralizer
Reagent Discoloration	Reagent color is different, i.e. pH test turns purple or DPD turns brown	High chlorine or bromine levels Old Reagents	Let the chlorine levels come down and retest Replace reagents
Staining	Black, green, turquoise or brown spots on pool floor that do not brush off	Metal stains Fungus Tannic acid Stains from leaves and debris	Metal Out or Stain Out Shock the Pool

# SWIMMING POOL SAFETY

The following Safety Recommendations are supplied by the U.S. Consumer Product Safety Commission. Please review these important guidelines carefully.

## LOCK

Put up a fence that is at least 4 feet high and surrounds all sides of the pool or spa. The fence should have a gate with a lock that closes and latches by itself.

Use door, gate and pool alarms.

Teach children not to play or swim near pool or spa drains. Use approved safety drain covers and back up devices.

## LOOK

Always watch children when they are in or near water. When you are watching children, don't be distracted by phone calls, text messages, reading or talking to others.

Watch children even if they know how to swim.

Children who can't swim or can't swim well should be within your reach.

Keep a phone near you – use it only to call for help if there is an emergency.

If a child is missing, check the water first.

## LEARN

Both adults and children should learn how to swim.

Learn when to use U.S. Coast Guard approved life jackets. Learn how to use rescue equipment.

Learn CPR.

Did you know?

- Most children were being watched by an adult just before they drowned.

- Drowning is one of the leading causes of death for children.
- Approximately 400 children age 14 and younger drown each year in pools and spas.
- Home swimming pools are the most common place for a child younger than age 5 to drown.

In addition, we recommend the following:

- Establish pool rules for guests and family members. Post and adhere to them.
- Never dive into shallow water. Nine out of ten diving injuries occur in six feet of water or less.
- Keep a long-handled hook and Coast Guard approved life ring preserver accessible.
- Never allow glass or other hazardous objects near your pool.
- Check your pool ladder regularly.
- Keep a first aid kit with CPR instructions accessible. It's a good idea for all family members to become familiar with CPR. Training is normally available from the American Red Cross, your local YMCA and your local Rescue Station.
- Always be aware of unsafe weather conditions and leave the water immediately at first sign of storm.
- Alcohol consumption and pool activities don't mix! Many serious pool accidents involve alcohol because alcohol affects judgement and reaction time, slowing reflexes.













