the perfect pool

A shockingly easy guide to pool & spa care from the experts at

PINCH•A•PENNY POOL•PATIO•SPA

The Perfect People For A Perfect Pool
After opening over 225 stores throughout the southeast and serving our customers for over 40 years, there’s one thing we hope you’ll add to your pool in as generous amounts as the water you fill it with...

that’s fun!

We’ve put our time-tested products, services and maintenance routines into this easy-to-follow publication, The Perfect Pool. It will give you all the knowledge you need to make pool care child’s play.

are we having fun yet?

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where to find stuff
After 40 years, the opening of over 225 stores in Florida, Georgia, Alabama and Louisiana and aligning ourselves with the world’s top pool and spa product manufacturers, it’s safe to say that no one knows pools better than Pinch A Penny. Because not only are we the largest franchise pool and spa care company, our people are the most knowledgeable in the industry. Period.

For one thing, Pinch A Penny has more pool professionals who have become Certified Pool Operators by the National Swimming Pool Foundation than any other company. They’ve all attended in-depth courses on everything from equipment maintenance to the chemistry of pool and spa care. We’ve seen it all, from water that looks like pea soup to pools that look like a milk bath. We’ve fixed the problem time and time again, and have shown our customers like you how to keep it from happening again.

After all, you and your family are the most important thing that goes into your pool. So we’re here to help you keep your water healthy, sparkling and always inviting. Browse through this magazine for tips, hints, background and the plain facts on pool care. It’ll tell you everything you need to know for a beautiful pool. Then collect a sample of your pool water and bring it in for a free computer water analysis. We’ll not only check your water seven ways – for chlorine, pH, acid levels of minerals and low pH – two factors that can harm your pool and prevent chemical treatments from doing their job.

The two most important things to remember about the health of your pool are that it must be sanitized and it must be balanced. The best way to sanitize your pool is with chlorine, as you will read later on page 7. Keeping your pool balanced, which means keeping the five basic pool water components (pH, total alkalinity, calcium hardness, total dissolved solids and stabilizer) within their proper ranges, helps your sanitizer work more effectively. That’s why we say to achieve a healthy pool, sanitizing and balancing are equally important.

Understanding the chemical composition of a healthy pool.

Just imagine – your drinking water may not be good enough to swim in. After all, tap water often has high levels of minerals and low pH – two factors that can erode. Too much and your water could become cloudy, scale could form and stains might start. 200 to 400 ppm is the general range for calcium hardness, while 300 ppm is ideal for the average pool.

Stabilizer

Stabilizer is to chlorine like your home’s insulation is to keeping in hot or cold air – it helps retain your chlorine longer just as insulation helps retain heat or air conditioning. Stabilizer is even added to some chlorine compounds to protect them from the breakdown effects of sunlight. When your stabilizer level is low, you’ll use a lot more chlorine. When it’s high, you may need to dilute your pool water to bring it back into the 40 to 100 ppm ideal range.

Total Dissolved Solids (TDS)

Like calcium, there are many other dissolved elements in pool water. Unless it’s distilled, all water contains dissolved minerals. As pool water evaporates, minerals remain behind and become concentrated. The more concentrated these minerals become, the harder it is for chemical additives to work and stains can form. If you have 3000 ppm or more of total dissolved solids or TDS, you may need to drain some water and add fresh water.

Total Alkalinity

In simple terms, total alkalinity refers to how much alkaline is in the water. But you can’t fully know the importance of total alkalinity without referring to pH, because the two go hand-in-hand. High alkaline water leads to high pH. Low alkaline water leads to low pH. For now, just remember that the average swimming pool should have an alkalinity reading of 100 ppm.

Keeping your pH levels within the proper range is not only important for swimmer comfort; it’s also important for keeping your equipment and pool finish in good condition. pH refers to the acidity or baseness of your pool water. All you need to remember is that a proper pH level is around 7.4 to 7.6 on a pH test kit’s numeric scale. 0 to 7 reflects a low or acidic pH. 8 to 14 means the pool has a high pH level. Low pH readings mean your chlorine will dissipate a lot quicker. High pH levels make chlorine inactive. And that means the money you’re spending on chlorine is a waste.

“everything you wanted to know about pool care, but didn’t know who to ask…”
Welcome to the Pool House

Now that you know what's in your water, let's look at how you can build a perfectly balanced pool.

We call it the Pool House, and it's a simple diagram that clearly shows you the chemical structure of a healthy pool. Think of the various elements within your pool water like the different components you'd use to build a house. The foundation for crystal clear water begins with a total alkalinity of 70 to 140 ppm (ideal range varies based on pool finish). Moving up to the first floor, pH levels should be maintained as close to the ideal of 7.4 as possible. A proper chlorine level of 2 to 4 ppm forms the second floor, and a stabilizer reading of 40 ppm tops everything off as the roof. Calcium hardness is the walls which keep the floors in place, and should be maintained at 200 to 400 ppm. So keep this structure in mind when testing your water – it's an easy way to clearly picture the components of a perfect pool.

Testing the Waters: Here's the Proper Way to Get a Water Sample.

Now that you know what a test kit is, here's how to use it to your advantage. First, each time try to perform your water test at the same time of the day and before you add any chemicals. During summer months, a test every day can help avoid the problems associated with heavy pool use or rain.

To get the best results, after the pump has been running for at least one hour, take water from the deep end of your pool, submerging your collection vessel upside down up to your elbow before filling. Put your water sample into the appropriate tubes and follow the directions for adding specified solutions (usually just a few drops) to the appropriate tube. Changes in water color will tell you the chemistry levels.

Passing the Water Test with Flying Colors

All this talk of pH and ppm seems confusing until you apply it to a test kit, which is a simple way to determine the various characteristics of your pool water. That's where it all comes together. There are many types of test kits available, including test strips. For the most accurate assessment of your pool water, you should use (at the very minimum) a test kit that allows you to test for chlorine, pH and total alkalinity. Test kits are also available to test calcium hardness, stabilizer, and lots of other things. Your Pinch A Penny expert can help you select the test kit that's right for you, to help you keep track of your pool's health in between your free water analyses at Pinch A Penny.

Test Strips

Test strips, the easiest method for pool and spa water testing, are fast and simple to use because they eliminate the need to measure samples and count drops. Typically, you simply dip a strip in the water for one second and then remove it. You then compare the color on the strip to a color chart provided to get the results.

Test strips are comparable in accuracy to liquid kits. In fact, many believe they actually deliver greater accuracy than liquid kits because they are more user-friendly and easier to utilize for reliable results. Many local and state health departments now recognize test strips as an approved testing method. This means that professional pool and spa service technicians, as well as other industry experts, trust the accuracy of pool and spa test strips. Test strips are available to measure all of the critical water parameters such as chlorine, pH, total alkalinity, hardness, cyanuric acid and much more.

Free 7-Point Water Test

Even though you test your water at home, you should always follow up your own readings with a free water analysis at Pinch A Penny every week or two. Using Pinch A Penny's 7-point free water test program, our experts can help spot a potential problem a home test kit can miss. And because we keep a history of your pool’s condition each time we test it, we get to know it to your advantage. First, each time try to perform your water test at the same time of the day and before you add any chemicals. During summer months, a test every day can help avoid the problems associated with heavy pool use or rain.

To get the best results, after the pump has been running for at least one hour, take water from the deep end of your pool, submerging your collection vessel upside down up to your elbow before filling. Put your water sample into the appropriate tubes and follow the directions for adding specified solutions (usually just a few drops) to the appropriate tube. Changes in water color will tell you the chemistry levels.

How to Know Just How Much Fun Your Pool Holds

Water testing and correcting potential problems can’t be accurately done if you don’t know how much water your pool holds. Plus, you can end up spending a lot more in chemical treatments in the long run. Here’s a simple method for measuring the number of gallons in your pool. Once you have this figure, it’s important to bring it in with you when you have your water analyzed.

First of all, you need to determine your average depth. The simplest method is to tie a string that’s been marked off in feet to a weighted object and measure the deep end, then the shallow end. Add these two numbers together and divide by two to get your average depth. Use your average depth number in the following calculations to determine your pool’s capacity.

For Rectangular Pools

Length x width x average depth x 7.5 = Total gallons

Example: A pool that’s 30 feet in length, 15 feet wide and has an average depth of 5 feet holds 16,875 gallons.

For Circular Pools

Diameter x diameter x average depth x 5.9 = Total gallons

Example: An 18-foot round pool with an average depth of 5 feet holds 9,558 gallons.

For Oval Pools

Long diameter x short diameter x average depth x 5.9 = Total gallons

Example: If the long diameter is 30 feet, the short diameter is 15 feet and the average depth is 6 feet, the pool holds 15,930 gallons.

For Irregular-Shaped Pools

It’s best to consult the pool builder or ask your Pinch A Penny expert for assistance.
Cart your progress

At the back of this publication are handy tables that clearly define just how much of a corrective chemical you need to add for a particular problem. Refer to them for the proper amount of chemicals to add for your pool size. Or better yet, bring a sample to Pinch A Penny. We’ll explain exactly what’s wrong, if anything, and how to fix it.

Keeping total alkalinity in check

(Ideal range varies based on pool surface type)

To lower total alkalinity, add muriatic acid or Suncoast pH Minus to the deep end of the pool. To raise it, add Suncoast Total Alkalinity Increaser. Be sure to check your pH levels before and after raising or lowering the total alkalinity. You may need to adjust your pH levels again within two to three days of correcting a high or low total alkalinity.

Are pH readings a little wacky?

(Ideal: 7.4 to 7.6)

To raise your pH level, add Suncoast pH Plus to your pool. To lower pH, you can use either muriatic acid or Suncoast pH Minus. Remember to never adjust pH unless your total alkalinity is already in its ideal range. Most of the time, a wacky pH reading is due to wacky total alkalinity. When the alkalinity is adjusted to its proper range, the pH usually fixes itself within two to three days.

Be a softy for calcium hardness.

(Ideal: 200 to 400 ppm)

To increase calcium content, add Suncoast Calcium Hardness. To decrease it, drain some water and then add fresh water to your pool. If you maintain a high calcium hardness level, you may need to add a weekly dose of Suncoast Metal Control to help reduce the chances of getting stains and scale.

Be a stabilizing influence

(Ideal: 40 to 100 ppm)

Keep in mind that stabilizer helps your chlorine work more effectively, which saves you money in the long run. Low stabilizer readings can be elevated by adding Suncoast Stabilizer. High stabilizer readings can be lowered by adding fresh water to your pool. Also, if you use a chlorine alternative to sanitize your pool, you may not need stabilizer at all.

Diluting a problem with total dissolved solids.

(Ideal: Under 3,000 ppm)

This one’s easy. Just add fresh water to your pool should your total dissolved solids readings exceed 3,000 ppm. Be sure to consult your Pinch A Penny expert first, because some pools operate just fine with high total dissolved solids.

Water Balance Guidelines

(please consult with your builder for specific ranges.)

<table>
<thead>
<tr>
<th>Pool Surface/ppm</th>
<th>Marite</th>
<th>Vinyl</th>
<th>Fiberglass</th>
<th>Painted</th>
<th>Tile</th>
<th>Exposed Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Chlorine/Bromine</td>
<td>2.0-4.0</td>
<td>2.0-4.0</td>
<td>2.0-4.0</td>
<td>2.0-4.0</td>
<td>2.0-4.0</td>
<td>2.0-4.0</td>
</tr>
<tr>
<td>Free Chlorine</td>
<td>2.0-4.0</td>
<td>2.0-4.0</td>
<td>2.0-4.0</td>
<td>2.0-4.0</td>
<td>2.0-4.0</td>
<td>2.0-4.0</td>
</tr>
<tr>
<td>Combined Chlorine</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>pH</td>
<td>7.4-7.6</td>
<td>7.4-7.6</td>
<td>7.4-7.6</td>
<td>7.4-7.6</td>
<td>7.4-7.6</td>
<td>7.4-7.6</td>
</tr>
<tr>
<td>Total Alkalinity</td>
<td>80-120</td>
<td>120-140</td>
<td>70-100</td>
<td>80-120</td>
<td>80-120</td>
<td>80-120</td>
</tr>
<tr>
<td>Calcium Hardness</td>
<td>250-400</td>
<td>200-300</td>
<td>250-400</td>
<td>250-400</td>
<td>200-400</td>
<td>200-400</td>
</tr>
<tr>
<td>Total Dissolved Solids</td>
<td>300-3000</td>
<td>300-3000</td>
<td>300-3000</td>
<td>300-3000</td>
<td>300-3000</td>
<td>300-3000</td>
</tr>
<tr>
<td>Iron</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Copper</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Stabilizer</td>
<td>40-100</td>
<td>40-100</td>
<td>40-100</td>
<td>40-100</td>
<td>40-100</td>
<td>40-100</td>
</tr>
<tr>
<td>Phosphate (ppb)</td>
<td>0-200</td>
<td>0-200</td>
<td>0-200</td>
<td>0-200</td>
<td>0-200</td>
<td>0-200</td>
</tr>
</tbody>
</table>

the clear choice: chlorine

While there are many types of chlorine, they all have several important things in common. First, chlorine is the most cost effective way to sanitize your pool. In fact, it’s been the product of choice for more than 100 years. It’s safe enough to sanitize drinking water, and powerful enough in the right concentrations to kill deadly bacteria, germs and viruses. Unlike chlorine alternatives, chlorine oxidizes while it sanitizes – helping to keep your pool crystal clear.

But why do I need chlorine?

Simple, because nothing purifies the water like chlorine. Wind, rain, dust and people introduce bacteria and algae into your pool, along with other contaminants. When enough chlorine is added to offset these unwanted introductions, your pool is said to have a “chlorine residual.” This is what sanitizes your pool continuously.

How do I test chlorine residual?

(Ideal: 2.0 To 4.0 ppm)

The same way you test for other pool components – with a test kit. The best chlorine test kits give you readings for both total available chlorine and free available chlorine. Free available chlorine is the chlorine in your pool that still has sanitizing capabilities. Total available chlorine is the combination of both the free available chlorine and the chloramines. Chloramines are the chlorine that has worked to kill algae or bacteria and has now become ineffective. Chloramines in your pool cause strong chlorine odors, burning eyes when swimming, and prevent your free available chlorine from doing its job.

To get rid of chloramines and help keep them from ever becoming a problem, you should shock your pool on a regular basis. The optimal timing would be in the late afternoon or early evening, run your pool equipment for at least one hour after shocking. This also helps control algae growth at the same time. Simply put, shocking means that you add a large amount of chlorine, which is determined by your pool’s size. To shock/oxidize your water quickly, just follow the abc’s of pool care on page 8 and you won’t have to worry.

In short, remember you must maintain a free available chlorine residual reading of 2 to 4 ppm to keep your pool sanitized.

Readings under 2.0 - You’ll probably experience an algae bloom and grow some bacteria as well. Readings over 4.0 - You’re spending more than you should be on chlorine and you could even cause pool stains.

But why do I need stabilizer?

Chlorine is the best way to keep your pool sanitary.

Pinch A Penny’s Suncoast Gold™ that is! Selling more liquid chlorine than any other pool company in the world, Pinch A Penny fills its chlorine jugs daily at each and every store, which means our chlorine is always fresher and fresher means stronger. When you use Suncoast Gold™, you can be certain that you are using the strongest most effective liquid chlorine available.
Is one type of chlorine better than another?

Each chlorine compound is designed for a specific purpose. Some can be useful for more than one application, while others have a very specific purpose. Each type has its own features and benefits.

It helps to understand that the term “chlorine” is often used inappropriately, even within this publication. But it has become a generic term for one of the world’s most common sanitizers. Real chlorine is only available in gaseous form. Solid chlorine is derived from this gas, and mixed with various chemicals which make it solid. Of this solid chlorine, there are two basic kinds, stabilized and unstabilized.

As you read on page three, stabilizer helps chlorine last longer in your pool. So why would you use anything else but stabilized chlorine? Simple, stabilized chlorine is the best for daily sanitizing, while unstabilized is best for shock treatments. Your pool pool each week or giving it a large dose of chlorine to sanitize the water quickly. Even though the chlorine readings will be high for about 24 hours after your recommended weekly shocking, because you use an unstabilized form of chlorine, it will be okay to dive into the pool within a day.

The most important thing to remember is that chlorine is the best way to sanitize your pool. Stabilized chlorine lasts longer, and is the best for daily chlorination. Unstabilized chlorine is the best for shocking your pool weekly, because it provides a quick, high chlorine concentration that dissipates within about 24 hours. Please see chart on page 9 for an overview of the types of stabilized and unstabilized forms of chlorine Pinch A Penny offers.

When adding an algaecide to a pool, you should always add the algaecide during the daylight hours. The algae is like a flower, blooming during the day and closing at night.

### Pinch A Penny has all types of chlorine for all types of pools

<table>
<thead>
<tr>
<th>stabilized chlorine: the best &amp; strongest types of chlorine available for daily chlorination</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Large 3” Stabilized Chlorinating Tablets</strong></td>
</tr>
<tr>
<td>This is the most common kind used in the pool industry. It’s great for daily chlorination when used in standard automatic chlorinators and floating chlorinators, and provides the highest strength of available chlorine possible.</td>
</tr>
<tr>
<td><strong>Small 1” Stabilized Chlorinating Tablets</strong></td>
</tr>
<tr>
<td>Only 1” in diameter, these are most often used in specially-designed cartridges that fit certain styles of automatic chlorinators. Provides the highest strength of available chlorine possible.</td>
</tr>
<tr>
<td><strong>Chlorine Cartridges</strong></td>
</tr>
<tr>
<td>Typically there are two different kinds, both containing 1” tablets. One is a “universal” cartridge for use in many types of automatic feeders. The second is a floating chlorine cartridge which gives you the same benefits, but is completely disposable once the chlorine is used up.</td>
</tr>
<tr>
<td><strong>Sticks</strong></td>
</tr>
<tr>
<td>Sticks fit into certain types of automatic chlorinators better, but they are the same chemical as all the others listed above.</td>
</tr>
<tr>
<td><strong>Granular Pool Chlorinator</strong></td>
</tr>
<tr>
<td>Suncoast Chlorine is the freshest available! That means it dissolves correctly and maintains the proper free chlorine levels to keep your pool its healthiest. Super Concentrated, residue free and fast dissolving granular Guaranteed 99.5% pure, provides 56% available stabilized chlorine.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>unstabilized chlorine: our freshest &amp; strongest chlorine for weekly shocking</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Liquid Chlorine</strong></td>
</tr>
<tr>
<td>It’s the most popular, least expensive, and most effective type of unstabilized chlorine. We offer the freshest and strongest liquid chlorine in refillable, 2.5 gallon containers. It’s the best for shocking, and helpful with algae control.</td>
</tr>
<tr>
<td><strong>Super Shock II 4 Way Granular Chlorinating Shock</strong></td>
</tr>
</tbody>
</table>
What’s the story on automatic chlorinators?

Automatic chlorinators are not only an ideal way to deliver just the right amount of chlorine to keep your water clear, but they save you time as well. Because automatic chlorinators can be adjusted to give out the exact amount of chlorine needed on a daily basis and can hold from two to eight weeks worth of chlorine, you can count on them to keep your pool’s health in check around the clock.

There are three basic types of automatic chlorinators—floating, off-line erosion and in-line erosion. Here’s a quick look at each:

**Floating Chlorinators**, as the name implies, float on the surface of the water which slowly dissolves the chlorine inside. This is the simplest and least expensive type.

**Off-line Erosion Chlorinators** tap into the return lines and deliver just the right amount of chlorine from chlorine tablets inside.

**In-line Erosion Chlorinators** are tanks or cylinders that are plumbed directly into your pool’s return lines. Water flowing through the tank or cylinder slowly dissolves the chlorine tablets.

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**what about chlorine alternatives?**

Chlorine has not only been the safest, most economical sanitizer for a century, it’s also given us worry-free drinking water. Unlike chlorine alternatives, you can trust chlorine to kill molds and algae, work at all water temperatures, keep all types of pools clean and clear, and cost six to ten times less than its alternatives. It’s approved in all states, and is the most economical way to maintain a healthy swimming environment.

However, chlorine alternatives have come a long way in the last ten years. Today, there are many mineral-based and chemical systems available. Bear in mind, even when using a chlorine alternative system, you also need a chemical oxidizer like chlorine to eliminate organic materials in the water. If you decide to use a chlorine alternative, you can trust your Pinch A Penny expert to point you in the right direction.

**The Revacil® Program.**

An effective chlorine-free treatment.

Revacil is a biguanide-based, chlorine-free sanitizer and algistat. The entire program includes a sanitizer, algae inhibitor and shock treatment. You can convert a chlorine pool to a Revacil program in a short period of time, however, converting back to chlorine requires following careful instructions. A messy reaction can occur if chlorine mixes with leftover biguanide.

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**Nature2® a natural option**

Nature2, a natural mineral purifier for pools and spas, cuts chlorine use up to 80 percent. Using a patented mineral process, Nature2 uses water flow to direct pool water through a cartridge that contains a patented, coated ceramic mineral bed. It uses no electricity, has no moving parts. Nature2 helps prevent growth of new bacteria and algae by releasing trace amounts of metals, usually silver and copper, into the water, which kills algae and bacteria.

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**Chlorine Generators**

Chlorine generators (sometimes called salt generators), produce chlorine from a mixture of salt and water.

The in-line chlorine generator system produces chlorine directly into the pool from salt added to the pool water. The cell has a number of metal plates that are electrically charged by a power supply. Depending on the unit and manufacturer, you will maintain a salt level of anywhere between 3000-6000 parts per million in the water for the in-line system to work properly. While this may seem like a high salt content, your pool won’t be like the ocean. By comparison, typical sea water has a salt level of 35,000 ppm.
Salt pools

While the phrase “saltwater pools” may bring to mind sand, waves and jellyfish, in reality, this alternative to standard chlorine-polluted pools isn’t really like the beach at all. The water in the ocean has a salt content of about 35,000 ppm, while the water in a saltwater pool has a far lower concentration of salt at around 3,000 – 6,000 ppm. The water in a saltwater pool is actually more like a saline solution, which contains about 6,000 ppm. This means that if your pool is properly maintained, it shouldn’t taste or smell salty at all. Saltwater pools can be found both in the United States and in other countries. Saltwater pools are not chlorine-free pools. The saltwater system is actually just another alternative method of chlorinating a pool, making your own chlorine daily.

Additionally, salt pools need to be shocked on a regular basis and salt-chlorine generators typically do not have the ability to effectively shock your pool. All pools, no matter what the sanitizer, need to be shocked regularly – preferably once per week during warm weather. Organic contaminants will build up in every pool and can only be eliminated by shocking. For chlorinated pools, this is usually done with Liquid Chlorine/Bleach. A proper super-chlorination/shock requires elevating the available chlorine level to approximately 100 ppm above the normal level of approximately 2.0 ppm. Even though some salt-chlorine generators feature an option to shock, they typically cannot produce enough chlorine to achieve an available chlorine level of 12.0 ppm. Maintaining a healthy salt pool still requires the purchase of regular shock treatments.

The last myth is that salt pools save money. Salt-chlorinated pools may actually cost more to maintain than pools chlorinated with tablets. You must factor in the cost of the salt-chlorine generator, ongoing salt purchases and replacement of the salt cell every five years on average. Although there may not be monetary advantages to having a salt pool, some have said the maintenance is easier and that the water feels “softer”.

Salt Pool Myths:
Take them with a grain of salt.
The most common myth regarding salt pools is that they are sanitized by salt and a better choice, if you have sensitivities or allergies to chlorine. Salt pools are, in fact, sanitized using chlorine. A salt-chlorine generator separates the chlorine and sodium molecules in salt and reintroduces them into the pool water. It is the chlorine that sanitizes your pool!

Another misconception is that salt pools do not require other chemicals. This is completely false and not using other chemicals could damage your pool or be potentially harmful. There is no magic inside a salt-chlorine generator that balances pool water. These parameters should be checked and balanced regularly.

How to increase salt content in your pool

It is critical that a salt pool still maintain proper pH, Total Alkalinity, Calcium Hardness and Stabilizer levels.

Converting a standard pool to a saltwater pool

If you already have a pool, you can convert your standard pool to a salt pool. Two components will be added to your existing system, a salt cell and a control unit. The salt cell is attached to the pipes between your filter and water outlet and the control unit allows you to monitor the salt cell. The price for a salt system will vary based on features and brands. Check with your local Pinch A Penny expert for the latest products and pricing.

Desired increase in PPM | Gallons
--- | ---
100 | 1,000 | 0.8 lbs. | 4.2 lbs. | 8 lbs. | 13 lbs. | 17 lbs. | 21 lbs. | 42 lbs.
250 | 2 lbs. | 10 lbs. | 21 lbs. | 31 lbs. | 42 lbs. | 52 lbs. | 104 lbs.
500 | 4 lbs. | 21 lbs. | 42 lbs. | 62 lbs. | 83 lbs. | 104 lbs. | 208 lbs.
1000 | 8 lbs. | 42 lbs. | 83 lbs. | 125 lbs. | 167 lbs. | 208 lbs. | 417 lbs.
3000 | 25 lbs. | 125 lbs. | 250 lbs. | 375 lbs. | 500 lbs. | 750 lbs. | 1500 lbs.
6000 | 50 lbs. | 250 lbs. | 500 lbs. | 750 lbs. | 1000 lbs. | 1250 lbs. | 2500 lbs.

How does the system work?

Essentially, a saltwater pool works the same way as any other pool. There are still filters, pumps and drains. However, instead of adding chlorine tablets to your pool, the “salt-chlorine generator” actually creates the chlorine and adds it to the pool automatically. Salt is made up of two elements, chlorine and sodium, thus its scientific name – sodium chloride. Therefore, salt already has chlorine in it naturally. A salt-chlorine generator uses the simple process of electrolysis in combination with the water to separate the chlorine and sodium molecules and then reintroduces them into the pool as liquid chlorine.

To get a salt reading of 3000ppm, 250 lbs of salt should be added for every 10,000 gallons of swimming pool water.
2 Lbs. Oxidizing Shock
This powerful oxygen-based shock works hard to oxidize and destroy the contaminants and chloramines that can cause cloudy water, unpleasant chlorine odor and skin or eye irritation. Its unique formula allows swimming after 15 minutes.

1 Qt. Cell Cleaner
This acid-based product was formulated to remove calcium build-up which can inhibit the performance of salt generator cells. The formula is pre-mixed and ready to use.

1 Qt. Phosphate Remover
This concentrated formula helps eliminate algae’s primary nutrient, phosphate. If your saltwater pool is experiencing a recurring algae bloom not controlled by algaecide and your salt-chlorine generator, this may be your solution!

1 Qt. Natural Clarifier
This superior clarifier clears up cloudy water, helps prevent stains and eliminates oil and scum build-up on salt generator cells. Your salt system will run cleaner, longer and perform better.

1 Qt. Multi-Purpose Algaecide
This product kills all types of algae including mustard, green and black. It also clears the water without foaming or requiring the closing of your pool.

1 Qt. Stain Control
Salinity Stain Control helps keep metals and minerals in solution to help prevent scaling of the salt generator cells and your pool.

1 Lb. Surge Shock
The unique formulation of Salinity Surge Salt Pool Shock provides the benefits of oxygen-based oxidation while boosting free chlorine concentrations. This one-two punch keeps pool water sparkling clear by oxidizing and eliminating organic contaminants and helps ensure that sanitizer residuals are maintained.

12 hours after shocking, add a dose of Salinity Multi-Purpose Algaecide.

Specially formulated for salt pools

ABC’s of Salt Pool Care

Salt water pools have special characteristics including high **Total Dissolved Solids**, or TDS, which can effect the dispersion and performance of your chemicals. When using Salinity, you can be certain that its formula is ideal for your salt water pool.

Add Salinity Complete Salt Blend to maintain the proper salt level in your pool.

Shock your pool by adding Salinity Oxidizing/Surge Shock.

A properly balanced salt water pool shouldn’t smell or taste salty at all.
how to make a clean sweep

Tips for cleaning your pool

It’s easy to establish a cleaning routine that you can do while you’re enjoying a cool dip. First, you’ll need a pool skimmer, pumice stone or tile brush, pool wall brush, vacuum head and hose, and telescopic pole. Then follow these simple steps, and your pool will reward your efforts with debris-free swimming.

1) Skim the surface for floating leaves and debris. Once they sink, they’re a lot harder to remove and may also stain the pool surfaces.

2) Scrub scale away along the water line. A pumice stone or tile brush should be used for tiled areas. If using a pumice stone, be sure to keep it wet to avoid scratching your tile.

3) Empty your skimmer and pump baskets.

4) Unless you have an automatic pool cleaner, you need to manually vacuum your pool. First, attach the vacuum head to a telescopic pole and the hose to the vacuum head. Slowly lower it into the pool. When it reaches the bottom, continue to feed the hose into the pool until all the air has been purged from the hose. If you connect the hose to your pump with air still in it, it can burn out your swimming pool pump.

Once all the air has been removed from the hose, pass the end of the hose through the skimmer door and plug it into the vacuum port. Turn on the pump to start the vacuum’s suction. Also, make sure the vacuum inlet is the only open line to the pump. Vacuum like you would sweep your carpet, starting at the shallow end and working your way into the deep end with long, slow, sweeping strokes.

5) Brush the pool’s sides and floor. Simply take an 18” nylon or poly-bristle brush and move dirt toward the drain. Start on the walls at the shallow end, working your way to the deep end with long, slow, sweeping strokes.

6) Once finished, wash all your pool cleaning tools with fresh water and store them out of the sun. The sun’s rays and the chemicals in the pool water can make them deteriorate a lot quicker.

7) Backwash or clean your filter after sweeping and vacuuming. Your Pinch A Penny expert can tell you just how to maintain your particular pump and filter.

8) Repeat Step #3.

9) If your water level is low, add water. But don’t forget that you’ve got water running and flood the area. Also, don’t use softened water because it will cause corrosion and rapid chlorine loss.

Other helpful cleaning aids.

If you have a pool that’s near trees, we don’t need to tell you about leaf litter. Try a Leaf Vacuum, which is a large mesh bag on a plastic base with wheels that connects to a garden hose. Water pressure blows the leaves into the bag and prevents them from clogging your vacuum and plumbing.

Automatic pool cleaners are also a time and work saver. Many models eliminate up to 90% of manual cleaning. Pinch A Penny has the largest selection of both in-ground pool and above-ground pool automatic cleaners to fit all pool care needs. Again, ask your Pinch A Penny expert for the style and type that’s best for your pool.

We carry all major brands of pool cleaners.

ZODIAC
Pentair
Hayward
Polaris
Smartpool

We win the battle against pool stains

Only Pinch A Penny can help you spot the right stain removal solution.

Several conditions can lead to pool staining, like acidic water, alkaline water, leaves, algae or metal objects left in the pool. But it’s often difficult to pinpoint the cause of the stain, which can be a combination of several factors.

That’s why you need to trust your Pinch A Penny expert to help you pinpoint the cause, then offer a solution. We’re the only pool care store that has the products you need to clean up even the ugliest-looking stains.

With our exclusive, new, proven stain treatment program, we can not only help you pinpoint the cause of most stains, but help you treat them effectively. Just remember, stains in your pool are like stains on clothing. With the right advice and right product, you can get just about anything out.

Pinch A Penny’s Stain IDentification Kit takes the guesswork out of stain removal.

Now, all you need to do is have your water tested, make sure your pool is balanced, then test the stain using our Stain IDentification Kit. With this first step, you’ll know exactly which stain removal product will work best on your particular stain—which is just the kind of help you’d expect from the pool care experts at Pinch A Penny.
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<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor circulation or filtration.</td>
<td>Back-wash and clean filter. Clean skimmer baskets and pump strainer basket. Filter may need chemical cleaning.</td>
<td><strong>Water is Cloudy, Smoky Or Hazy</strong></td>
</tr>
<tr>
<td>Improper water balance.</td>
<td>Test pH, Total Alkalinity and Calcium Hardness. Adjust if necessary.</td>
<td><strong>Possible Cause</strong></td>
</tr>
<tr>
<td>High Total Dissolved Solids (TDS) and/or Calcium Hardness.</td>
<td>If one or both are high, TDS over 3,000 ppm or Calcium Hardness over 400 ppm, drain off 1/3 to 1/2 of your pool water and replace with fresh water. Then adjust chemical balance.</td>
<td><strong>Solution</strong></td>
</tr>
<tr>
<td>Excess organic waste.</td>
<td>Shock with 1 gallon liquid chlorine for every 10,000 gallons of pool water.</td>
<td><strong>Possible Cause</strong></td>
</tr>
<tr>
<td>High Total Alkalinity.</td>
<td>Add Muriatic Acid or Suncoast pH Minus</td>
<td><strong>Solution</strong></td>
</tr>
<tr>
<td>Low sanitizer level.</td>
<td>Add chlorine to bring it to its proper range.</td>
<td><strong>Possible Cause</strong></td>
</tr>
<tr>
<td>Green algae growth, a free-floating variety which imparts a cloudy green color to the water. It’s easy to correct if treated early.</td>
<td>Shock pool and add Stop Yellow, Stop Green, Super Green Algaecide or All In One Algaecide.</td>
<td><strong>Solution</strong></td>
</tr>
<tr>
<td>Low Total Alkalinity</td>
<td>Add Suncoast Total Alkalinity Increaser.</td>
<td><strong>Water is Green</strong></td>
</tr>
<tr>
<td>Mustard algae</td>
<td>Shock pool and add Suncoast Stop Yellow</td>
<td><strong>Possible Cause</strong></td>
</tr>
<tr>
<td>Black algae, a very resistant, hard-to-kill variety which appears as small, black dots or blotches that are pinhead to quarter-sized on the walls and bottom of the pool.</td>
<td>Suncoast Super Black Algaecide is the finest product on the market for the treatment of black algae. If Metal Control is used in conjunction with Suncoast Super Black Algaecide, even the most severe problems can be eliminated faster. You need to brush the spots to remove them after chemical treatment.</td>
<td><strong>Black Spots On Floor And Walls</strong></td>
</tr>
<tr>
<td>Pink Slime is a form of bacteria with a pinkish center that’s surrounded by a flat gelatinous mass. This bacteria can usually be tracked to some swimmer who has recently visited a coastal area where this type of growth is common.</td>
<td>Double shock the pool with 2 gallons of liquid chlorine per 10,000 gallons of pool water. After 48 hours, use Suncoast All In One Algaecide at twice the recommended rate for visible algae.</td>
<td><strong>Pink Slime</strong></td>
</tr>
<tr>
<td>Water is Sudsy</td>
<td>Overuse of some types of algaecides</td>
<td><strong>Possible Cause</strong></td>
</tr>
<tr>
<td>Water Burns Eyes</td>
<td>Low or high pH</td>
<td>Check pH and adjust to 7.4 - 7.6 range</td>
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<td>Excessive organic waste</td>
<td>Shock with 1 gallon liquid chlorine for every 10,000 gallons of pool water.</td>
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<td>Too much sanitizer</td>
<td>Check automatic chlorinator setting</td>
<td><strong>Possible Cause</strong></td>
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<tr>
<td>Water Tastes Salty</td>
<td>High Total Dissolved Solids (TDS)</td>
<td>Drain 1/2 water in the pool and replace with fresh water</td>
</tr>
<tr>
<td>Blonde Hair Turns Green</td>
<td>Usually occurs in natural blondes or blonde children between the ages of 6 and 15, because of the amount of time they spend in the water. Also, certain forms of copper at concentrations of 1 or 2 ppm, like those found in some algaecides, can turn hair green.</td>
<td><strong>Possible Cause</strong></td>
</tr>
<tr>
<td>Chlorine Test Turns Orange</td>
<td>Pool water has a very high chlorine content, above 4 ppm</td>
<td>Discontinue using chlorine until chlorine returns to normal, or use a chlorine neutralizer.</td>
</tr>
<tr>
<td>pH Test Looks Purple or Blue</td>
<td>Very high chlorine content.</td>
<td>Neutralize chlorine and retest.</td>
</tr>
<tr>
<td>pH Test Always Tests Too High</td>
<td>High Total Alkalinity</td>
<td>Add Muriatic Acid regularly</td>
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<td>pH Always Tests Too Low</td>
<td>Total Alkalinity is too low</td>
<td>Add Suncoast Total Alkalinity Increaser</td>
</tr>
<tr>
<td>Use of Tri-Chlor or other low pH disinfectants</td>
<td>Use Suncoast pH Plus</td>
<td><strong>Solution</strong></td>
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Keep your pool its bluest and keep your family in the pink!

Make sure the only thing swimming in your pool is your kids! The best way is to use our full line of quality Suncoast products, available at Pinch A Penny. They help you keep your pool its cleanest, your water its clearest, and your family its healthiest.

You can trust the experts at Pinch A Penny to give you the right advice, along with the right products, to keep your pool sparkling and your family smiling. So arm yourself with Suncoast pool and spa chemicals. They’re clearly the best way to keep your pool its bluest.

For the store nearest you call 1-800-234-1616, or visit our website at www.pinchapenny.com

The Suncoast family of products, exclusive to Pinch A Penny, are clearly superior for any pool care need!

**Sanitizing Chemicals**

Our wide variety of chlorine and bromine products are proven to perform beautifully for daily sanitizing or weekly shocking. Suncoast sanitizers are the best your money can buy.

**Stain Fighters**

Stains can make even the clearest pool look a little dirty. Trust our complete line of stain fighters to help remove any pool stain, and help keep it from coming back.

**Balancing Chemicals**

Suncoast offers just the right products to balance your pH, total alkalinity, calcium hardness, and stabilizer. Keep your pool in perfect balance with Suncoast.

**Algaecides**

From our All In One Algaecide, which is perfect for removing and preventing all types of algae, to our tough Super Green and Super Black, Suncoast can help you tackle algae and keep these hearty little plants from thriving in your pool.

Be sure to ask your Pinch A Penny expert about our other high quality specialty chemicals, including Suncoast’s full line of spa chemicals, filter cleaners, tile cleaners, oil & scum removers, clarifiers and flocculants.
Immediate Savings of up to 90% On Your Electric Bill!

Variable-speed pumps can run at lower speeds yet maintain the same level of cleaning/sanitation because they run for longer periods of time. Lower speeds mean reduced energy consumption and even less noise.

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Tips for keeping it pumping.

Ventilation and protection from the weather is crucial with any type of pump. Consider a motor cover to provide shelter and still allow for good ventilation. The cooler the pump runs and the more protection you give it from chemicals and the elements, the longer it will last. Be sure to keep all strainer baskets clean and securely in place. Also, check for water leaks between the pump housing and motor. A leak may indicate a bad shaft seal, which can be replaced by your Pinch A Penny expert.

How long should I run my pump?

That depends on several factors, including the size of your pool, weather conditions, the amount of activity in your pool, the time of year, and what kind of equipment you have. In most situations, however, the pump should run from around 9:00 am until 6:00 pm during the spring/summer, and 9:00 am until 4:00 pm during the fall/winter. If you are correcting algae, clarity, or circulation problems, ask us what we recommend to achieve the best results for your situation.

Flooded Suction Pumps & Booster Pumps

Flooded suction pumps can only be used with above-ground pools, because they need to be located beneath a pool’s water level. They typically look like self-priming pumps, but are generally slightly smaller. Booster pumps are used in conjunction with self-priming pumps when increased pressure or flow is needed, as with certain types of automatic pool cleaners. Booster pumps are not self-priming, so they should not be used without the water supply coming from the primary pump.

Sand Filters

This is basically a big canister of sand that helps trap smaller dirt and debris as water is forced through it. There are two types of sand filters used for pools. The most common is the high-rate sand filter, which uses sand as a filter medium. The other is called a rapid-rate sand filter, which needs layers of rock and gravel as a support for a top layer of sand.

As water passes through the sand bed, dirt and debris are trapped by sand grains. Sand filters use what’s known as No. 20-grade silica sand, which is capable of trapping teeny-weenie 25- to 30-micron sized particles. (A micron is one millionth of a meter.) Most sand filters have lateral tubes in the bottom of the tank instead of a solid underdrain. When filling a sand filter with sand, fill the empty tank with water about 1/3 of the way up first. This will help absorb the shock of the sand going into the tank.

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Diatomaceous Earth (or DE) Filters

Diatomaceous Earth, which is composed of the skeletons of microscopic sea creatures, is the most effective, but also the most complex. DE filters not only remove the smallest particles (1 to 5 microns) of any filter, they actually sort of “polish” the water as it passes through it.

DE filters work by forcing water through the diatomaceous earth, then through a grid and back to your pool. These upright cylinder tanks have long half-moon, rectangular-shaped grids or fingers. A spreader, which is connected to a collector or manifold, separates these grids and holds them in place. Water flows into the tank, passes through the diatomaceous earth, through the filter grids, into the manifold and back into the pool.

Because the diatomaceous earth powder performs the actual filtering in both vertical and spin filters, you should never run water through a DE filter without diatomaceous earth in it for more than 1/2 minutes. This can permanently damage the grid.
keeping filters clean

First, you must know when your filter needs cleaning. Take note of the pressure gauge on the filter. When it goes up to 10 pounds per square inch (PSI) above its normal operating level, it’s usually a good time to clean your filter.

How to clean specific filter types:

Sand Filters

Reverse the flow of water by turning your regulator valve at the top of the tank to backwash. The backwash cycle should last until water passing through the site glass looks clean. Then turn the valve to the rinse position, and run this cycle for at least 30 seconds. When the filter is very dirty, it is good to repeat the process two or three times. Never turn the valve while the pump is running.

Cartridge Filters

Unlike sand or DE filters, cartridge filters cannot be backwashed, and cartridges must be removed for cleaning. But the good news is cartridge filters are a breeze to clean. Simply remove the cartridge from the tank (with the pump off), take it out, hose it off, and soak it in Pinch A Penny’s Filter Renew or Filter Clean for eight hours (or overnight).

DE Filters

Clean your DE filter as you would a sand filter. But be sure to add new Diatomaceous Earth powder after each backwashing. To do this, mix DE powder in a bucket of water until it has a milky consistency, then slowly pour it through the skimmer while the pump is running. At the beginning of each season, disassemble the filter completely and clean the grids with Suncoast Filter Clean.

how your pool works

How your pool works is pretty simple, really. Water is drawn from your pool into equipment that filters out debris and often adds sanitizer or even heats it and returns it to your pool with the sparkle you’re looking for.

Here are some easy-to-follow tips to keep your pool’s healthiest and make pool care one of your easiest household chores:

- Test your water chemistry daily. Take a water sample from the deep end of the pool, about 18” below the surface, with the pump running for one hour before the test. Bring it to Pinch A Penny for a computer analysis weekly.
- Use a skimmer net to remove floating leaves and other debris as needed. (As you’re swimming or lounging poolside, notice if the water level is at the right height. If not, add water.)
- Brush the tiles (sides) every one to two weeks to stop a ring of algae from forming on the tile.
- Check and empty the skimmer and pump baskets at least once a week.
- Run your pool pump from 9 a.m. to dusk daily, unless pool water looks cloudy. Then run it continuously, and be sure to have your water computer analyzed at Pinch A Penny.
- Check your filter pressure weekly. If it’s 10 psi above the normal level, clean your filter.
- Check to make sure you have enough chlorine in either your automatic or floating chlorinator weekly.
- Add chemicals to adjust pH, alkalinity, calcium hardness or stabilizer if required.
- Shock your pool once a week. Keep your pool’s chlorine level balanced, you need to follow the ABC program to keep your pool its cleanest and healthiest, and you should keep it free from debris. The biggest difference between caring for an above-ground vs. an in-ground pool is in the tools you use.

Equip yourself with the right products, designed exclusively for above-ground pools.

For instance, just as you would never use a steel brush on a vinyl liner, you also shouldn’t expect an in-ground automatic pool cleaner to work in your above-ground pool. We carry a complete line of automatic pool cleaners just for above-ground pools.

the ins and outs of above ground pool care

The basic rules that apply to water chemistry for inground pools apply to your above-ground pool. The water must stay balanced, you need to follow the ABC program to keep your pool its cleanest and healthiest, and you should keep it free from debris. The biggest difference between caring for an above-ground vs. an in-ground pool is in the tools you use.

In addition, there are a myriad of entry systems to choose from, including in-pool steps, removable safety ladders and ladders that attach to decks. With the proper equipment, accessories, and maintenance routine, your above-ground pool will provide many years of enjoyment.

Carries, blankets, blanket reels, pumps, motors, filters and skimmers are also specifically designed for above-ground pools to help extend the life of both your liner and your pool. Even gas heating systems can be purchased so you can enjoy year-round swimming, but are much smaller than those you would use for an in-ground pool.
# What can I do about this mechanical problem now?

A handy reference on how to fix mechanical problems with your pool's equipment.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Cause</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pump Won't Prime</strong></td>
<td>Faulty suction type chlorinators.</td>
<td>Check hoses and fittings for air leaks, and repair if necessary. Fill with water and start pump.</td>
</tr>
<tr>
<td></td>
<td>Filter severely clogged</td>
<td>Clean and/or replace filter elements, sand or diatomaceous earth.</td>
</tr>
<tr>
<td></td>
<td>Impeller clogged with debris.</td>
<td>Clean or replace impeller (normal time for some pumps to prime is 2 to 5 minutes).</td>
</tr>
<tr>
<td></td>
<td>Faulty seal in pump lid gasket.</td>
<td>Replace gaskets and/or tighten bolts between motor and pump, or lid.</td>
</tr>
<tr>
<td></td>
<td>Pump lid not tight</td>
<td>Tighten lid.</td>
</tr>
<tr>
<td><strong>Water Leaks Between Pump And Motor</strong></td>
<td>Shaft seal or gaskets are worn</td>
<td>Replace seal or gasket. Tighten bolts between pump and motor.</td>
</tr>
<tr>
<td><strong>Motor Continually Makes Noise</strong></td>
<td>Worn bearings.</td>
<td>Replace bearings or replace motor.</td>
</tr>
<tr>
<td><strong>Motor Gets Hot And Shuts Down</strong></td>
<td>Low voltage on 220 where one line has dropped</td>
<td>Repair line.</td>
</tr>
<tr>
<td></td>
<td>Holes in motor to cooling fan blocked or damaged.</td>
<td>Clear holes or repair fan.</td>
</tr>
<tr>
<td><strong>Motor Hums Or Buzzes, But Will Not Start</strong></td>
<td>Motor seized</td>
<td>Clean, lubricate and unseize motor. Clean centrifugal switch contacts.</td>
</tr>
<tr>
<td></td>
<td>Faulty capacitor or switch.</td>
<td>Replace capacitor or switch.</td>
</tr>
<tr>
<td></td>
<td>Burned winding.</td>
<td>Rewind or replace motor.</td>
</tr>
<tr>
<td><strong>Motor Starts Slowly</strong></td>
<td>Faulty capacitor.</td>
<td>Replace capacitor or motor.</td>
</tr>
<tr>
<td><strong>Motor Completely Dead</strong></td>
<td>Burned up motor, wires burned.</td>
<td>Replace motor or wires.</td>
</tr>
<tr>
<td></td>
<td>Timer problem, breaker flipped.</td>
<td>Fix or replace timer, fix breaker.</td>
</tr>
<tr>
<td><strong>Dirt Comes Back Into Pool</strong></td>
<td>Sand filter multi-port valve faulty.</td>
<td>Fix spider gasket or other faulty parts in valve.</td>
</tr>
<tr>
<td></td>
<td>Cartridge filter element allowing water over or under element, or tear in material.</td>
<td>Replace element.</td>
</tr>
<tr>
<td></td>
<td>Diatomaceous Earth filter with cracked manifolds or ripped or torn grids/fingers.</td>
<td>Replace parts or buy a new filter.</td>
</tr>
</tbody>
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<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pressure Never Builds Up On Gauge</strong></td>
<td>Defective pressure gauge.</td>
<td>Turn pump on and immediately turn off. If needle does not move, replace gauge.</td>
</tr>
<tr>
<td></td>
<td>Sand filter not filtering due to over cleaning.</td>
<td>Remove impeller and clean.</td>
</tr>
<tr>
<td><strong>Filter Doesn't Seem To Clean Pool</strong></td>
<td>Defective filter, or filter too small.</td>
<td>Replace defective parts or replace filter.</td>
</tr>
<tr>
<td><strong>Water Leaks Out of Waste Line</strong></td>
<td>Sand filter multi-port spider gasket is worn.</td>
<td>Replace spider gasket.</td>
</tr>
<tr>
<td><strong>Water Leaks Out Around Valve Handle on Multi-Port Valve</strong></td>
<td>O-Ring on shaft and/or shaft bearing defective.</td>
<td>Replace defective O-Ring and/or shaft bearing.</td>
</tr>
<tr>
<td><strong>Valve Handle on Multi-Port Is Hard To Turn</strong></td>
<td>Nylon bearing worn out or debris around shaft.</td>
<td>Replace bearing or clear debris.</td>
</tr>
<tr>
<td><strong>Sand All Over Bottom of Pool</strong></td>
<td>Broken lateral.</td>
<td>Replace lateral or filter.</td>
</tr>
</tbody>
</table>
Hey, your pool is family fun central. So, why not enjoy it all year-round? It's easy to do with a pool heating system from Pinch A Penny. From heat pumps and gas heaters to solar panels and blankets, Pinch A Penny has all the equipment you need to keep the pool fun going and going and going. Best of all, only Pinch A Penny guarantees you the expert advice you need to choose the right type of pool heating system for your pool and your budget.

Pinch A Penny carries a wide variety of items you need to make the most of your pool including: pool heating systems, accessories, winter covers, solar covers, leaf nets and more.

Heat pumps and gas heaters: Hot sellers for lots of good reasons.

Want to keep your pool warm and inviting every day of the year? You want a top quality heat pump or gas heating system from Pinch A Penny. Both are tops in energy efficiency and designed to provide constant, and comfortable water temperatures day in and day out.

**Heat Pumps**

Heat pumps are an energy-efficient way to heat your pool because a heat pump essentially uses outside air to heat your pool.

**Gas Heaters**

Gas fired heaters are one of the most popular methods for heating a swimming pool. They're ideal for heating a pool quickly regardless of the climate.

So, what's comfortable to you? Heating units are rated by units of measurement called BTU's. One BTU is capable of raising the temperature of one pound of water by one degree. So, the larger your pool, the greater the required output in BTU’s per hour. Most people find a pool water temperature between 78 and 82 degrees ideal, but you may like it cooler or warmer. That’s where your Pinch A Penny expert comes in. Talk to him or her about your personal preferences, home design, and pool size and style for expert help in determining the proper heating system for you, starting with a free in-home pool heating analysis.

Solar Heat: Sun power at work.

It’s no surprise that the sun is a powerful source of heat. With a solar heating system, you can harness that power to keep your pool warmer and extend your swimming season. Naturally, a solar heating system is the most cost-effective pool heating system around because the power of the sun is free.

Once installed, a solar heating system works by drawing heat through a panel either on the roof or at a 45˚ angle near the pool. Tubing filled with pool water runs through the panel, which heats the water then returns it back to your pool. If properly installed with advice from Pinch A Penny heating experts, a solar heating system can be very easy to maintain.

And Pinch A Penny can also offer you solar blankets and pool covers in a huge variety for all pool sizes to retain the warmth in your pool water overnight or during cool periods.

One BTU (British Thermal Unit) is capable of raising the temperature of one pound of water by one degree. So, the larger your pool, the greater the required output of BTU’s per hour.

**Solar Sun Rings**

The Solar Sun Ring is an easy to use, passive solar pool heating device that works like a solar blanket. No reels to install-just place in your pool. Solar Ring now available for spas. One size fits most spas. To heat a 12’ x 24’ pool, manufacturer recommends using 6 squares.

Winter Cover

Solar Blanket

Solar Sun Squares
some hot tips on caring for your spa

There’s nothing quite like slipping into a steaming spa to start the day or wash away tensions at day’s end. A spa, just like any other cherished possession, requires periodic maintenance and upkeep to keep it at its best.

The most important things to monitor when caring for your spa is sanitation and water balance. But remember, spas are much different than swimming pools. Four people in a spa are equivalent to having 250 people in an average-sized swimming pool. High temperatures and the ratio of people to water means more residual soaps, deodorants, perfumes, natural body oils and perspiration are released into spa water. This can create excessive organic contaminants, which can only be eliminated using products that are specially formulated for spas.

Understanding the chemistry of a healthy spa.

The biggest consideration is whether to use chlorine or bromine. Both are effective in daily sanitizing. However, chlorine breaks down faster at higher temperatures and can release a strong odor as it does. Bromine is typically the most popular way to sanitize spa water. No matter which one you choose, more is not better when using these chemicals. When you overload your spa, you’re setting yourself up for equipment failure due to corrosion.

Chlorine:
Ideal Range, 2.0-4.0 ppm
Proper chlorine levels are crucial. At the same time, proper pH, total alkalinity and calcium hardness levels must also be kept in check to ensure that chlorine can do its job effectively. When not in balance, your water can become corrosive, and attack heating elements, pump seals and internal gas fired heaters.

Bromine:
Ideal Range, 3.0-5.0 ppm
Bromine has become so popular because it is less harsh to the skin and works better than chlorine in hot water. Unlike chlorine, bromine is effective even after disinfecting. It’s also more pH stable and easier to maintain in the proper level by using tablets in a floating dispenser. However, the same rules apply - pH, total alkalinity and calcium hardness must be kept in check to prevent corrosion to spa equipment.

Total Alkalinity:
Ideal Range, 80-120 ppm
Total alkalinity is the spa water’s ability to neutralize acid, and is an indicator of the water’s ability to resist changes in pH. If readings are below 80 ppm, add Solus Spa pH Up until you’re back in the acceptable range. If readings are above 120, add Solus Spa pH Down to get back in balance.

pH:
Ideal Range, 7.2-7.6
Instead of measuring in parts per million, pH is read on a 14-point scale, with 7.2-7.6 being ideal for bathers. pH indicates how acidic or alkaline your spa water is. A pH reading below seven would be acidic; while eight or above would be alkaline. If readings are below 7.2, add Solus Spa pH Up. Readings above 7.6 can be brought back into check using Solus Spa pH Down.

Calcium Hardness:
Ideal Range, 200-400 ppm
This is a measurement of the calcium and magnesium in your spa water. When levels are low, corrosion can occur and the water can get foamy. When levels are too high, scale can form and water becomes irritating to the skin and eyes. Low hardness can be corrected using Spa Calcium Hardness Plus.

Total Dissolved Solids (TDS):
Ideal Level, 1,500 ppm
This is everything that gets dissolved into spa water, including metals, chemicals and salts. If TDS is too high, the water can become salty or have a tint to it. To decrease TDS, just add fresh water. Be sure to retest your spa water and check the overall water balance afterward.

The shocking truth about spas.

To maintain the perfectly balanced spa, you should shock after every use or at least once a week, whichever is more frequent. Unlike your pool, spas are shocked with a non-chlorine shock or oxidizer that eliminates odors and reduces irritating contaminants. Non-chlorine shocks are broken down in warm water as easily as liquid chlorine is in a swimming pool.

Sending spa myths down the drain.

Draining your pool is always a last resort, but it’s a periodic necessity when caring for your spa. Chemical by-products and other contaminants quickly build up in spa water after continued use, and make the water more difficult to balance. How often you drain your spa depends upon the size of the spa and number of bathers. If your spa sees a lot of use, drain it once a month. If use is infrequent, drain it every 3 months. Once you’ve refilled your spa, shock the water, run the pump to circulate the water for four hours, then retest and rebalance the water chemistry.

Acing spa water tests.

It’s easy and painless. But you should do it often-at least twice a week all year round. First, check your test kit reagents. A good rule of thumb is to write the purchase date on the bottle and replace them after one year. After testing, be sure to clean your test vials thoroughly since residual chemicals can falsify future tests.

To get started, circulate the water before testing, then take a sample at least 12 inches below the surface. Read your results immediately. Remember - never use your fingers in place of a test vial cap because oil from your skin can skew results.

Test strips are also effective, but you should take the same precautions. Never put your fingers inside the container to remove the strips, and be sure to keep the container tightly closed and dry in between testing.
Is Your Pool Safe?

Have you replaced your drain cover(s) to meet the ANSI/ASME A112.19.8 performance standard, or the successor standard ANSI/APSP 16-2011? All covers must be securely attached. If a cover becomes loose, cracked or damaged in any way, shut down the pool until the cover can be secured or replaced.

1. Approved Drain Covers

All drain covers must be compliant with the ANSI/ASME A112.19.8 performance standard, or the successor standard ANSI/APSP 16-2011. All covers must be securely attached. If a cover becomes loose, cracked or damaged in any way, shut down the pool until the cover can be secured or replaced.

2. Pool Fence

Pair this removable fence with other layers for ultimate protection. Make sure all fences have gates that are self-closing and self-latching.

3. Safety Vac Lock

The Lock is for a dedicated vacuum line inlet that automatically snaps shut when an automatic pool cleaner hose is removed. Safety Vacuum Release Systems are also available to shut off the pump in case of a drastic change in suction.

4. Safety Pool Cover

Can hide the temptation from curious little eyes entirely.

5. Poolguard Pool Alarm

Negative Displacement Technology senses entry into the pool and instantly sounds the alarm. (There are many other types available.)

6. SVRS

SVRS is an acronym for Suction Vacuum Release System. An SVRS causes the pump to stop in the event something or someone blocks the suction line(s). This can help prevent entrapment and drowning. An SVRS can be a separate device that is installed by the pump, or can now be included as an integrated feature on some replacement motors and new pumps.

Make pool safety a family affair

While the safeguards listed on the previous page are crucial to pool safety, they are never a good substitute for supervision. Make sure your children follow the Buddy System and never swim without a partner.

Important Pool Safety Tips:

No matter what the age of a child, adult supervision can help avoid injuries due to rough play or when children become tired.

Always maintain visual contact when children are swimming.

Get out of the water immediately if a storm approaches.

Keep a shepherd’s crook (like lifeguards use) and hard foam life preserver nearby in case of emergency.

Use floating markers to indicate where shallow water begins to deepen.

Use depth markings to clearly indicate the depth of the water.

Make sure at least one family member is CPR certified.

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Use depth markings to clearly indicate the depth of the water.

Make sure at least one family member is CPR certified.

Fence in any pool area, and keep gates locked.

We always recommend using pool, door and gate alarms to help provide an early warning of any unexpected entry into the pool. This is a simple additional safeguard to employ even if your pool has a safety barrier.

Keep your pool chemicals in a locked chemical storage area away from the water.

Keep a phone with you poolside at all times.
Here’s what you do to raise or lower the chemical components of pool water and increase your family’s fun.

### Raise pH with base demand using Suncoast pH Plus

<table>
<thead>
<tr>
<th>BASE DEMAND</th>
<th>GALLONS IN POOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,000</td>
<td>5,000</td>
</tr>
<tr>
<td>10.5 oz</td>
<td>2.6 oz</td>
</tr>
<tr>
<td>1 oz</td>
<td>51 oz</td>
</tr>
<tr>
<td>1.5 oz</td>
<td>31 oz</td>
</tr>
<tr>
<td>1 oz</td>
<td>15 oz</td>
</tr>
<tr>
<td>1.5 oz</td>
<td>15 oz</td>
</tr>
<tr>
<td>1 oz</td>
<td>15 oz</td>
</tr>
<tr>
<td>1.5 oz</td>
<td>15 oz</td>
</tr>
<tr>
<td>1 oz</td>
<td>15 oz</td>
</tr>
<tr>
<td>1.5 oz</td>
<td>15 oz</td>
</tr>
<tr>
<td>1 oz</td>
<td>15 oz</td>
</tr>
</tbody>
</table>

### Lower pH with acid demand using Suncoast pH Minus

<table>
<thead>
<tr>
<th>ACID DEMAND</th>
<th>GALLONS IN POOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,000</td>
<td>5,000</td>
</tr>
<tr>
<td>12 oz</td>
<td>2.2 oz</td>
</tr>
<tr>
<td>12 oz</td>
<td>2.2 oz</td>
</tr>
<tr>
<td>12 oz</td>
<td>2.2 oz</td>
</tr>
<tr>
<td>12 oz</td>
<td>2.2 oz</td>
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<tr>
<td>12 oz</td>
<td>2.2 oz</td>
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<td>2.2 oz</td>
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<tr>
<td>12 oz</td>
<td>2.2 oz</td>
</tr>
<tr>
<td>12 oz</td>
<td>2.2 oz</td>
</tr>
</tbody>
</table>

### Lower total alkalinity using Suncoast Total Alkalinity Increaser

<table>
<thead>
<tr>
<th>DEMAND IN PPM</th>
<th>GALLONS IN POOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 ppm</td>
<td>1,000</td>
</tr>
<tr>
<td>112 oz</td>
<td>2.7 lbs</td>
</tr>
<tr>
<td>112 oz</td>
<td>2.7 lbs</td>
</tr>
<tr>
<td>112 oz</td>
<td>2.7 lbs</td>
</tr>
<tr>
<td>112 oz</td>
<td>2.7 lbs</td>
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<td>2.7 lbs</td>
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<tr>
<td>112 oz</td>
<td>2.7 lbs</td>
</tr>
</tbody>
</table>

### Raise pH with base demand using Suncoast pH Plus

- **BASE DEMAND**
- **GALLONS IN POOL**
- **DESIRED INCREASE IN PPM**
- **GALLONS IN POOL**

### Lower pH with acid demand using Suncoast pH Minus

- **ACID DEMAND**
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- **GALLONS IN POOL**

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- **GALLONS IN POOL**

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- **DESIRED INCREASE IN PPM**
- **GALLONS IN POOL**

These handy tables let you know just how much chemicals to use when making adjustments.

It's simple. For instance, let's say your total alkalinity (TA) readings are a little low. Find the chart labeled How To Raise Total Alkalinity Using Suncoast Total Alkalinity Increaser. The ideal Total Alkalinity is 100 ppm, so if you’re getting a reading of 80, you’d want to raise your TA 20 ppm. Find 20 ppm; go over to the appropriate gallons, say 20,000, and the chart will recommend that you add 6.6 lbs. of Suncoast Total Alkalinity Increaser.
Sparkling, healthy pools need trustworthy tools!

And in pool care, Porpoise® is the name you can trust! Over the past 25 years, Porpoise® has become one of America’s largest suppliers of pool and spa maintenance supplies. From pool brushes, nets, and leaf baskets to replacement parts, Porpoise® delivers high-quality products that withstand the wear and tear of daily use.

You deserve the best tools for your pool. Look for the Porpoise® name next time you shop for pool care products. Visit your neighborhood Pinch A Penny for the entire Porpoise® product line.

### Pool

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shape</td>
<td></td>
</tr>
<tr>
<td>Dimensions</td>
<td></td>
</tr>
<tr>
<td>Capacity in gallons</td>
<td></td>
</tr>
<tr>
<td>Type of finish</td>
<td></td>
</tr>
<tr>
<td>Skimmer: (Make &amp; Model)</td>
<td></td>
</tr>
<tr>
<td>Timer</td>
<td></td>
</tr>
<tr>
<td>Lights</td>
<td></td>
</tr>
<tr>
<td>Transformer</td>
<td></td>
</tr>
<tr>
<td>Piping size/type</td>
<td></td>
</tr>
<tr>
<td>Date pool completed/purchased</td>
<td></td>
</tr>
<tr>
<td>Builder’s name &amp; telephone</td>
<td></td>
</tr>
</tbody>
</table>

### Automatic Pool Cleaner

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make/model</td>
<td></td>
</tr>
<tr>
<td>Serial number</td>
<td></td>
</tr>
<tr>
<td>Date purchased</td>
<td></td>
</tr>
<tr>
<td>What else makes your pool different?</td>
<td>(trees nearby, windy site, heavy use, small children, etc.)</td>
</tr>
</tbody>
</table>

### Chlorination Equipment

**Chlorine Generator/Salt Generator**

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td></td>
</tr>
<tr>
<td>Make/model</td>
<td></td>
</tr>
</tbody>
</table>

**Heater**

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>Type</td>
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<tr>
<td>Make/model</td>
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<table>
<thead>
<tr>
<th>Property</th>
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<tbody>
<tr>
<td>BTU rating</td>
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</tr>
<tr>
<td>Serial number</td>
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<td>Date purchased</td>
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### Pump

<table>
<thead>
<tr>
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<th>Details</th>
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</thead>
<tbody>
<tr>
<td>Make/motor</td>
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</tr>
<tr>
<td>Horsepower</td>
<td></td>
</tr>
<tr>
<td>Volts</td>
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</tr>
<tr>
<td>Make/time clock</td>
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</tr>
<tr>
<td>Hours of operation</td>
<td></td>
</tr>
<tr>
<td>Date purchased</td>
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### Filter

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>Type</td>
<td></td>
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<tr>
<td>Make/model</td>
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</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Backwash pressure</td>
<td></td>
</tr>
<tr>
<td>Clean start-up pressure</td>
<td></td>
</tr>
<tr>
<td>Date purchased</td>
<td></td>
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</tbody>
</table>

For the store nearest you call 1-800-234-1616 or visit our website at [www.pinchapenny.com](http://www.pinchapenny.com)
**Air Relief Valve:** A valve on a filter that allows air to be discharged.

**Algae:** Microscopic forms of plant life which enter the pool by rain, wind, dust storms or other means. There are numerous varieties – some are free floating, others grow on walls and surfaces. There are green, black and yellow or mustard types among others. Some are more resistant to chemical treatment than others.

**Algaecides:** Chemicals that prevent and control algae. Others are designed to kill specific types of visible algae growth.

**Algistat:** A chemical that inhibits the growth of algae.

**Available Chlorine:** A term used in rating chlorine products as to the strength of the chlorine available per equal units of measurement. It is usually rated as percent. For example, 90% available chlorine means that 10 pounds of that chlorine compound has 0.9 pounds of pure chlorine strength.

**Backwash:** The process of thoroughly cleaning the filter medium and/or elements by the reverse flow of water.

**Bacteria:** The germs that can contaminate your pool. Introduced by swimmers, dust, rain storms and other elements.

**Balanced Water:** The correct ratio of mineral content and pH that prevents pool water from becoming corrosive or scale forming.

**Calcium Hardness:** The amount of dissolved calcium in pool water. This should be approximately 200 ppm to 400 ppm, depending on pool finish. Higher hardness levels can cause cloudy water and scale. Lower levels can harm the pool and its equipment.

**Cartridge:** The element in a filter that can be removed and cleaned.

**Chlorinator:** A device to apply or to deliver a chlorine disinfectant to water at a controlled rate.

**Chlorine:** A chemical element that exists as a gas in its elemental form or as part of a chemical compound which is an oxidant and biocidal agent used in disinfecting pool water.

**Chlorine Demand:** The chlorine needed to kill algae and bacteria in a pool.

**Chlorine Residual:** The amount of chlorine remaining after the chlorine demand has been met.

**Combined Chlorine:** The portion of the total chlorine existing in water in chemical combination with ammonia, nitrogen, and/or organic compounds; mostly comprised of chloramines.

**Corrosion:** The etching, pitting or eating away of a material by chemical action.

**Diatomaceous Earth (DE):** Ground fossils of the sea. Used as a filter media in DE filters.

**Etching:** Corrosion of pool’s surface by water that is acidic or low in total alkalinity and/or calcium hardness.

**Filter:** A device that removes undissolved particles from water by recirculating the water through a porous substance.

**Free Available Chlorine:** The chlorine which has not combined with other things in the water like algae or bacteria. This chlorine is what is still available for sanitizing and can also be considered the chlorine residual.

**Hardness:** The amount of calcium and magnesium dissolved in water; measured by a test kit and expressed as parts per million (ppm).

**Main Drain:** The suction fitting located in the lowest portion of an in-ground pool. It is the principal intake for an in-ground pool’s circulation system.

**Muriatic Acid (Hydrochloric Acid):** Use to lower pH and/or total alkalinity in pool water.

**Organic Matter:** Perspiration, urine, saliva, suntan oil, cosmetics, lotion, dead skin, leaves, and similar debris introduced to water by swimmers and the environment.

**pH:** A value expressing the relative acidity or basicity of a substance, such as water, as indicated by the hydrogen ion concentration.

**PPM:** The abbreviation for Parts Per Million. The unit of measurement used in chemical testing which indicates the parts by weight in relation to one million parts by weight of water.

**Pump:** A mechanical device, usually powered by an electric motor, which causes hydraulic flow and pressure for the purpose of filtration, heating and circulation of pool water.

**Reagent:** Chemical used to test pool water.

**Sanitizer:** Any substance that kills germs and bacteria, providing a sanitary water environment.

**Shock Treatment:** The practice of adding significant amounts of an oxidizing chemical (usually liquid chlorine) to water to destroy ammonia and nitrogenous and organic contaminants in water. Usually requires achieving 10-15 ppm of free available chlorine.

**Skimmer:** A part of the circulation system that removes debris from the surface of the water by drawing surface water through it.

**Superchlorination:** This term is often misused within the industry. Sometimes this word is used interchangeably with the term “shock”. Other times, this term is used to mean elevating the current free chlorine level by an additional 5.0 ppm. Under this definition, the only way “superchlorination” would also “shock” is if the current free available chlorine level is at least 5-7 ppm.

**Total Alkalinity:** The ability or capacity of water to resist change in pH. A quantitative measurement of the amount of alkaline in water. Measured with a test kit and expressed as ppm.

**Total Chlorine:** The sum of both the free available and combined chlorines.

**Total Dissolved Solids (TDS):** A measure of the total amount of dissolved matter in water, such as calcium, magnesium, carbonates, bicarbonates, metallic compounds, etc.

**Vacuum:** A device used to clean the underwater surface of a pool or spa by creating suction in a hose line.
Cleaning your pool isn’t a chore when you have an automatic pool cleaner from Pinch A Penny. Automatic pool cleaners eliminate up to 90 percent of your manual cleaning time, which frees your family up for a lot more fun. Choose from some of the world’s best brands, and make a clean sweep with an automatic pool cleaner from Pinch A Penny.

### Kreepy Krauly Great White
Bristle-drive mechanism has the strength to knock loose the most stubborn dirt, while the powerful vacuum action whisk aways small and large debris.

### Zodiac MX8
Features a wider cleaning path than competitor models and a large vacuum port to capture larger debris. Unique max-drive technology promotes maximum torque and extreme maneuverability.

### Zodiac T5 Duo
Dura Life™ Diaphragm ensures a long lasting and easy to maintain cleaner. The Duo Disc System achieves a closer clean with two independent discs for enhanced coverage, greater pool adhesion, and flexibility.

### Orbit
Precision balanced, which provides optimal pool cleaning. The one-piece body provides maximum strength and durability and the dependable diaphragm drive provides a powerful engine.

### Kreepy Krauler
Powerful suction reliably removes dirt and debris and with only one operational moving part, you can count on years and years of dependable service, and an exceedingly low cost of operation.

### Pentair Racer
The only pressure-side cleaner that scrubs for more efficient cleaning; it gets pools sparkling clean with 1/3 more power, a massive intake, and a built-in rotating brush to tackle dirt and debris with ease. Plus, the distinctive Night Cruise® LED Lights add intrigue after dark.

### Polaris TR35P
Works in all in-ground pools, and requires a booster pump. All-wheel, belt drive mechanism provides greater suction power and faster cleaning. Unique filter bag removes debris before it reaches your pump basket or filter, prolonging the life of your filtration system.

### Polaris 3900
Delivers unmatched vacuum power, convenience, and legendary performance. It integrates the Polaris Classic series features you love with innovative new enhancements for added durability, reliability, and performance.

### Hayward Pool Vac XL
Hayward’s AquaPilot® programmed steering provides thorough cleaning. Powered by the filtration system so pool owners don’t have the expense of a booster pump.

### Hayward Navigator Pro
SmartDrive® programmed steering provides thorough cleaning. Powered by an existing filtration system eliminating the expense of a booster pump.

### Hayward AquaNaut
Delivers a thorough and reliable clean for pools of all shapes, sizes, flow rates and debris types. V-Flap™ Technology allows most size debris to pass through the cleaner delivering maximum power at any flow and provides peace of mind of clog-free cleaning.

### SmartPool Scrubber60-PLUS
Revolutionary lightweight design cleans and scrubs floors, walls, and waterline. Dual direct-drive motors for greater traction and zero-radius turning. Gentle enough for vinyl and fiberglass pools, rugged enough for concrete pools.

### Pentair Rebel
Programmed steering and compact, two-wheeled design maneuvers from deep to shallow bottoms, up to 90 degree floor-to-wall angles and into tight spaces that other cleaners miss. Sure-Flow Turbine passes dirt and debris, reducing clogging.

### Polaris 3900
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