

# *SPA BUYERS GUIDE*

From its humble beginnings as a converted wooden wine barrel, the original hot tub has evolved into a sophisticated and increasingly popular addition to homes around the world. Today, millions of households regularly enjoy the soothing benefits of hot water spas. In your search to find the perfect spa you'll quickly discover that there is a lot of confusing data out there that is hard to correlate and this is the reason we have compiled this guide - to help cut through the confusion and help you to compare products and understand the differences. Like most products you tend to get what you pay for in a spa so it helps to know what to look for and how to understand the specifications. Spas are a bit like cars in the sense that the more accessories you add to them the more expensive they become, also like cars the bigger the motor, or in the case of spas - the number of jets and pumps it has - the more luxurious it is and hence more expensive. We have tried to make a clear and concise summary here however if you find anything unclear or need more advice don't hesitate to contact us, we are happy to assist.



In this guide we will deal only with the portable spa because portable spas remain the most popular choice among homeowners - and for good reasons. Portable spas are considerably less expensive than built-in or in-ground spas, as they are self-contained, with plumbing and all other equipment installed inside the unit. Portables sit above ground, on a terrace, a balcony, in the garden - or even on a roof terrace and can often be installed without any excavations and with little or no inconvenience. Even more important, because they are not permanent property improvements, they don't require building permits, nor will they increase your property taxes and you can even take them with you when you move! Most of the information contained here applies to in-ground spas as well however with in-ground spas there are other considerations so if you are considering installing one please contact us so that we can advise you.

## WHERE TO START

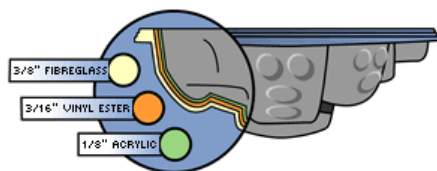
When shopping for a spa, first and foremost you want to know that you are buying a product that is easy to use, simple to maintain and that will run economically for many years. The spa should be easy to open and close, to get in and out of and it should be low maintenance in all senses. The shell should be made of acrylic produced by either Aristech® or Lucite® the two largest producers in the world of spa shell material.

Although the classic spa was always brown because wood was used to build the surrounds now that we have polymers and synthetic wood surrounds they are available in other colours. Brown and grey are the most commonly available colours and grey covers don't show the dust (that settles on all covers) as much as brown covers do so many people now elect grey for both the cover and surround. Make sure that the number of people you want to have in the spa will all fit comfortably and that the spa will fit nicely where you want to put it. Get as much technical information as you can and get them to be as specific as possible so that you can later compare the information on all the brands of spas you have seen to decide which is the best choice. Last, but by no means least, take a good look at the dealer and his setup and make sure that you can trust him and that he will be there when you need him, many times money saved on a cheap deal can be lost many times over because of a fly-by-night dealer.



## WHAT TO LOOK FOR

**The Shell** - In the beginning spa shells were prone to delamination however as the industry has matured new acrylics and processes have been developed that have made this a thing of the past. Today's shells are so strong that they are practically indestructible, they are resistant to impact, sun damage, water-cleansing chemicals, and extreme temperatures. Many



are also available with textured, non-slip surfaces as an added safety feature. Unfortunately some manufacturers skimp on their shells and a good



clue to this is a very light spa as the shell makes up more than half of the weight. If this is the case or if you can push on the shell in any place and make it move - look elsewhere..

**Structure, Surround and Base** The structure of the spa is the frame that holds the shell in place and this should not be confused with the surround which is the cabinet (or other covering) around the outside of the spa. It seems that some manufacturers do have some confusion in this area as some want the surround to do both jobs and have virtually no structure. Ask to look inside the spa and pay attention not only to the structure but also look at the paneling that makes up the surround, is it robust and thick enough? The structure should be made of materials that will not rot or otherwise deteriorate with the best structures being made of and polymers and/or stainless steel - wood is the worst option as it will eventually rot or be attacked by termites and the best spas now have no wood in them at all. Today many manufacturers offer surrounds made out of



special polymers that are mixtures of wood and plastic that look just like wood but require no upkeep (unlike wood that needs annual maintenance). These are obviously better buys as, after all, the only thing YOU want to do is enjoy a nice soak - not get soaked in paint and turps! The base of the spa should be sealed with a water resistant covering that also serves to keep rodents and insects out and the whole spa should be



a completely closed unit. The best spas have specially made bases that support the structure and surround and completely seal the spa so that nothing can get in or out. Today the better manufacturers offer surrounds made out of special polymers that are mixtures of wood and plastic that look just like wood but require no upkeep (unlike wood that needs annual maintenance). These are obviously better buys as, after all, the only thing YOU want to do is enjoy a nice soak - not get soaked in paint and turps! The base of the spa should be sealed with a water resistant covering that also serves to keep rodents and insects out and the whole spa should be completely a closed unit.

**The Cover** When purchasing your spa, make sure it comes with a protective cover - no spa should be without one. Such rigid covers serve a major safety function - locking kids and pets out and also help maintain a clean spa and keep valuable heat in. The most durable covers are constructed of styrofoam with a thick marine vinyl cover and non-cotton backing. The styrofoam should be a



minimum of 9 cm. thick tapered to 8 cm for water run-off, be re-enforced at the center fold and the cover should have an efficient method of locking it against weather and curious children. Always remove the entire cover before climbing into the spa, replacing it when finished. Most dealers also offer special cover "lifters" so that one person can remove the cover easily - a must for larger spas as although the cover is not heavy it is bulky and requires two people to remove it. Cover lifters are available in several types depending on the space available. Most tuck the cover into a space behind the spa but if there is no space available other models stow the cover vertically above the rim of the spa and there are also lifters that stow the cover on a shelf behind the spa. Your dealer should know which lifter is needed for your installation and be able to supply it.

**Water Jets and Jet Sequencers** Most quality manufacturers will have special jet systems that offer different kinds of hydro massage and you will find these jets positioned around the spa so that all occupants of the spa can benefit from them. In the past all the jets were white or grey plastic however in the last few years stainless steel jets have become the norm as they don't fade or change colour as easily. The more adjustable the jets are the better, you should be able to individually control the intensity of the water flow as well as the amount of air mixed with the water flowing through each jet or cluster of jets. Most spas include air venturi systems which allow air to be dragged in and mixed with the water before it comes out of the jets - this creates a stronger, more powerful massage. These venturis are controlled by valves on the top of the spa which can be turned on or off. Generally it is not the quantity of jets that is important but the type and quality of the jets.



Some manufacturers have special groups of multi-jets that create a larger massage area or special "clusters" that massage specific areas. Look for variety, adjustability and versatility. A relatively new innovation in hydro massage is the Jet Sequencer which brings a whole new dimension into the spa. Now, instead of water streaming continuously out of all the jets with the same pressure, the sequencer either directs water first to one series of jets, then to another. Only available on premium spas this is the single greatest advance in jet technology in the last decade.

**Air Jets, Blowers and Aromatherapy** Not to be confused with the water jets mentioned above many spas are also equipped with air blower systems which pump air through a totally separate system of jets to create a bubbling effect in the water. An interesting innovation has been the addition of Aromatherapy to the air blower systems. Formerly any perfumes or scents had to be added directly to the water where they were quickly filtered out and eliminated and really only served to plug up the filter. Now, in spas equipped with a blower, the air is passed through a canister containing the chosen perfume or oil and this scented air comes bubbling up right under your nose in the spa! As the scent is in the air the water remains clean and the filter does too! Aroma sachets are available in many different scents but you don't even have to buy one as each spa comes supplied with one and when you want to change the scent simply wash out the sachet, drip or spray new scent onto it and you are ready to go!



**Motors and Pumps** Many people consider the jets the most important feature in a spa however it is the motors and pumps that are at the heart of the system. Basically you need to ascertain that there are enough motors and pumps and that they are powerful enough to run the jets. There is no rule about how many jets you should have per pump however it is obvious that they should be balanced so it is also useful to ascertain how many horsepower the pumps are. Many people confuse the horsepower of the motors with that of the pumps as

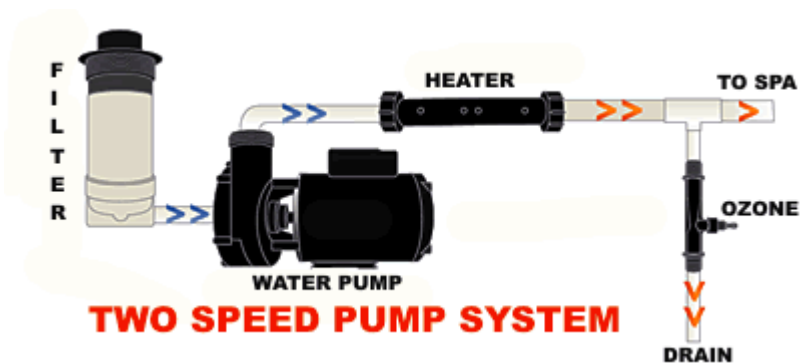


you can take a 2 Hp electrical motor and couple it to a 2, 3 or 4 horsepower pump with a consequent difference in the amount of water being pumped per minute. The important issue is that the motor is combined with the correct pump and matches the optimal water flow for the size and quantity of the jets. Too many jets or not powerful enough pumps result in weak feeling jets that do not provide an optimal massage and if there are a lot of jets, as is common in the larger spas, you should have 2 or more jet pumps.

## Circulation Pumps vs 2-Speed Pumps

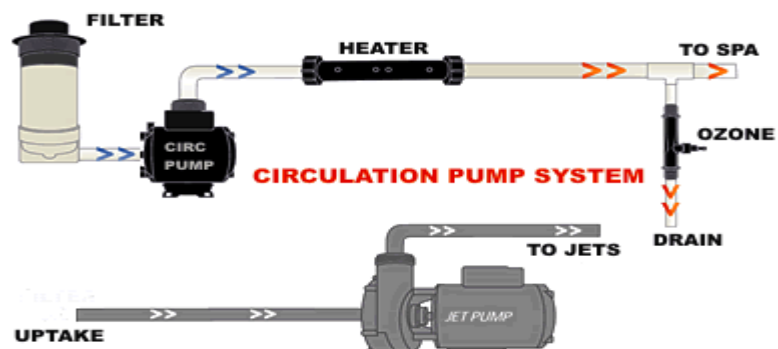
Basically there are two common systems used in all spas to filter and heat the water and these are: the dedicated circulation pump and the 2-speed pump. On both systems the pump is hooked up in such a way that water is sucked in through the filter and then passes through

the heater and then through the pump going back into the spa through some of the jets. The major difference between the two systems is that on the 2-speed system the low speed of the pump is used for filtration and heating purposes and the high speed is used for massage and this means that all the water returning into the spa is always coming out of all of the massage jets.



In a dedicated circulation pump system there is a separate pump whose only function is to circulate the water through the filter and the heater and then back into the spa. So, instead of one pump doing both jobs you have two pumps, one for massage and one for circulation. As you can see there is little difference between these systems technically and they both accomplish the same function however with a circulation pump the water is not

returned to the spa through all the jets but through several jets that are only for this purpose. There are, of course, advantages and disadvantages to both systems. Many people think that having two pumps is useful in the sense that if one breaks



you still have the other one however a spa needs both pumps to function so it doesn't make much difference. With a 2-speed pump you have the advantage of having the normal strong massage intensity from the jets as well as the very soft intensity when the low speed is on. With a circulation pump, on the other hand, you have a few more

jets because there are normally only one or two return jets connected to the circulation pump so these jets are as strong as the other massage jets.

In both systems the water will be filtering when you are in the spa when the massage jets are on as it is standard for the dedicated circulation pump to come on automatically when you turn on the massage jets. You also have the possibility to set filtration times and to specify whether the heater heats whenever necessary or if it only heats during filtration cycles. This offers a more economical way of heating as you can set the spa to heat itself just before you normally get in which can save electricity.

So far, as you can see, there are some differences and advantages of each system however there are also a few things to watch out for. Unfortunately many of the circulation pumps that are installed in spas have several disadvantages and this has more to do with the components and design than it has to do with the fact that it is a separate pump. For some reason many of these pumps are designed to run all the time and hence are called 24 hour circulation pumps. On the surface it would seem a good idea to have a pump running all the time to keep the water filtered and clean and one of the main claims for this system is that it keeps your water cleaner.

The first disadvantage with this system is the fact that you cannot adjust a 24 hour circulation pump - it runs all the time, like it or not, which aside from any other consideration is not very energy efficient. The other problem is that it is set for the manufacturer's idea of "average use". The problem lies in what "average use" actually means and how much filtration is really being provided by this circulation pump. To find this out you should ask the dealer who should be able to tell you the flow rate of this pump. Next we need to know "How much filtration is required?"

It may sound excessive to those who do not understand the mechanics of water filtration but the truth is that the filtration system has to be capable of filtering the total amount of water in the spa at least once an hour (or a total of 24 times a day). Sounds crazy, I know, and many spa salesmen will proudly claim that their circulation pump will turn over the spas water 6 times a day not even knowing that it's not enough! Now maybe you think that turning the water over 24 times a day is a lot too so to help you understand why this is I want you to imagine that you have a bucket of dirty water. Not filthy water, just water that is not really clean. Now imagine that you are going to attempt to clean that water by taking out one tablespoonful of dirty water at a time and then putting back one tablespoon of clean water. Imagine how long that would take and how many buckets of water it would take to dilute that dirty water until it was sparkling clean. Well, this is what a filtration pump does in a spa (or pool) and that is why you have to be able to filter all the water at least once an hour to keep it clean - I say "be able" because, obviously, you don't have to do this all the time, only when necessary. Everything depends on bather load and this is why it is so important to be able to control filtration times. So look for spas using a larger circulation pump that is not a 24 hour system and can be set to run as many hours a day as are required. This will keep your spa clean no matter what! These pumps have a much higher flow rate than the 24 hour circulation pumps so they are able to filter all the water many times in one hour so with less hours of filtration a day you can keep your spa sparkling clean.



The other disadvantage associated with the fact that you cannot adjust the duration of the filtration cycle on 24 hour circulation pumps is rather unexpected. In summer these pumps actually heat the water and some manufacturers have had to incorporate a "summer" switch that turns the pump off for up to 12 hours each day to stop the water getting too hot! This is a serious disadvantage as in summer many people use their spas more frequently and also leave them uncovered so the spa requires more filtration as a result - not less, not to mention the fact that most people would probably prefer that the water was cooler... This problem occurs primarily because these small 24 hour circulation pumps have the pump, or wet end as it is called, incorporated into the body of the motor so any heat generated by the electrical motor gets passed directly to the pump and heats the water. So, if you are looking at a spa with a circulation pump you should make sure that the pump has the wet end separated from the electrical motor.



It should also be noted here that each time the filtration cycle starts all pumps and blowers should be turned on for a few minutes in order to raise debris and particles (that have sunk to the floor of the spa) up into the water to be filtered out. This normally does not happen with a 24 hour circulation pump system and therefore the filtration is actually less efficient even though the circulation pump is always running and the result is more debris in the water when you get into the spa to use it.

In conclusion it must be said that intrinsically there is nothing wrong with the circulation pump system per se, if the pump is large enough and you are able to control filtration times this system is as good as any. What you don't want is a 24 hour circulation pump for all the reasons outlined above. Remember to find out if the flow rate of the circulation system is adequate, what control you have over its function and if you can set it to filter the right amount of water each day. The type of system doesn't matter what matters is that it works and that you can set it to be adequate for your use of the spa.

**Spa Control System and Display** All spas have some kind of control system (which is called a spa pack) and this is connected to one or more control panels that are called topsides or displays. The job of the spa pack is to control all functions of the



spa. These include; temperature of the water, filtration, function of ozonators and other water purification systems, jet pumps, air blowers, lights and any other accessory systems installed in the spa. The display acts as an interface and allows you to set the desired water temperature, time, filter cycles and other functions of the spa. The vast majority of spas use spa packs manufactured in North America by the two main companies; Balboa and Gecko although some companies build their own packs and

there are other, smaller spa pack manufacturers. Most of these packs are quite similar however it must be noted that if the spa manufacturer is building its own spa packs these can be VERY expensive as they can only be purchased from the manufacturer of that brand of spa. Like some brands of cars the parts can be quite absurdly expensive so it is a good idea to find out if parts are readily available from various sources.

**Filters** All portable spas use cloth filters made out of pleated, usually polyester, cloth. The water is drawn through a skimmer aperture into the filter housing where it passes through the cloth of the filter and is drawn into the pump, then passed through the heater. Finally it is sent back into the spa through some of the jets or, on some spas, through special jets dedicated to this purpose. There are, of course, many different configurations but all the systems have these same basic functions.



The important part is the filter itself. Filters are rated according to how much cloth they contain as the more cloth used to make the filter and the more pleats it has the more efficiently it cleans the water and the longer it lasts. A good filter can last up to three years while a bad one can disintegrate in as little as 6 months. Watch out for

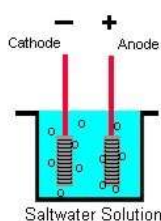


systems that use 4 or 5 filters as many times they have very little cloth in each filter and can cost much more to replace than a single filter that contains more paper than all of these put together! If there is more than one filter try to find out if the water passes through all the filters when it is being filtered or if it only passes through some of them. On some systems you can have 5 filters but only one is used for normal filtration with the others coming into play only when the jet pumps are on. Typically a filter should have between 40 and 50 square feet of cloth but large ones can go up to 100 square feet. Please see our Water Chemistry Guide and our Daily Water Care Page for more information about spa water care.

**Ozonators, UV and Salt Sanitation Systems** Be sure that your spa comes with an ozonator as this will cut down on the amount of chemicals required to keep the water clean and they are quite standard these days. An ozonator is a device which creates and injects ozone into the water while the filtration system is on. This ozone kills certain kinds of bacteria and can appreciably reduce the amount of chemicals needed to maintain the water.



Ultraviolet (UV) systems are now also being used however they are usually an added extra or only found on high end models. These sanitizers utilize a cutting-edge, non-chemical process that uses germicidal UV light rays to sanitize water. Ultraviolet spa sanitizers emit a high intensity germicidal light ray that alters or disrupts the DNA or RNA of targeted organisms such as algae, bacteria, viruses, cysts and protozoa. The highly concentrated electromagnetic energy also destroys organic matter, eliminating the formation of dangerous chlorine by-products.



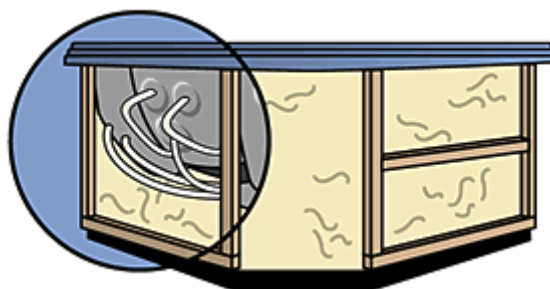
Aside from the ozonators and UV systems mentioned above which are used in conjunction with either a bromine or chlorine sanitation system there are other systems based on salt and electrolysis. These systems function by producing bromine or chlorine from salt that is dissolved in the water. The water does not taste salty and one has the impression that the water is simply fresh water without any chemicals because the chemicals produced eliminate the bacteria in the water and then convert back into salt. These systems are offered by some dealers as either



standard or add-on systems however they do not totally eliminate the need for chemicals.

Please follow the link above in the menubar found in the "Spa Info" tab to our "Ozone, UV & Salt Systems" pages if you would like more detailed technical information about ozone, ultraviolet and salt systems.

**Insulation and Heaters** Insulation is a tricky question as there is really no way to find out exactly what kind of foam insulation has been used on a spa and although on the surface it would seem a good idea to fully foam a spa (the entire space between the surround and shell is sprayed full of foam) this is not always so. If you live in Alaska it would be a good idea to have a fully foamed spa. Here on the Costa del Sol however this is not such a good idea. The first problem with full foam is, surprisingly, mice and rats. They love to burrow into that nice insulating foam and make comfy nests to bring up their families. Unfortunately they don't know the difference between foam and pipes and often gnaw their way through the pipework.



This is a common problem and finding the leak requires ripping out all the foam which can cause even more damage. If you ever have a leak in a spa, which although it is not common it can and does happen with all brands of spas (no matter what they might say), finding it in a fully foamed spa is a nightmare. Many times the spa has to be returned to the factory and for spas built in the states and sold here in Europe this is not an option. In warm climates such as we have here on the coast full foam can cause overheating of the equipment because the equipment compartment is also encased in foam. Some fully foamed spas have fans installed to ventilate the heat created by the equipment out through vents installed in the surround of the spa. It seems a bit silly to be heating the spa on one hand while ventilating heat out on the other. The best system is the heat lock system which uses a thin layer of foam on the inside of the spa shell combined with insulation on the inside walls of the cabinet of the spa. This keeps all the heat in and still provides enough air circulation so that the equipment doesn't overheat and the heat generated by the pumps is not lost.

Heaters come in various varieties. The most common is the immersion heater which has an element that is actually in contact with the water and is the same as the kind used in a domestic electric water heater. Once again there are manufacturers that have "special" heaters some of which are of the diffusion type and the heating element does not come in contact with the water. The heater element is placed alongside or around a tube that the water runs through and the heat is transmitted to the water through the pipe. These heaters are very expensive to run as they lose a lot of heat and because they are specific to that manufacturer are again often quite expensive. A few pointed questions about the makeup of the spa and the cost of spare parts can quickly clear up any doubts.

**Illumination Systems** Generally speaking all spas come standard with at least one underwater light that is normally incandescent and the bulb can be changed from the inside without emptying the spa. Some lights have different intensities and/or coloured lenses to change the colour. In the last few years several new lighting systems have appeared. First came fiber optic lights which turned out to be too delicate for transport and often broke so these were replaced by LED lights which are much more reliable, have a longer life and are easier to replace than fiber optics. There are several systems available the most common of which are 1/ LED "bulbs" to replace existing incandescent bulbs and 2/ LED "strings" which string lights together which can then be installed strategically around the spa or even in the jets! The beauty of these systems is that the lights can be set to different solid colours such as green or blue, etc. or can be set to rotate through the colour spectrum providing a soothing light show.



**Stereos, Televisions and Remote Controls** Another recent addition to the portable spa has been the stereo or even a television! Stereos with Radio/CDs and pop-up speakers or LCD Flat screen TV's that rise out of the side of the spa for your viewing enjoyment are now available on some spas. Even bars with refrigerators and chilled ice buckets have appeared. Of course, these kinds of accessories are extremely expensive and it doesn't always make sense to pay so much just to have them built into the spa. For the same money (or less) you can get stereos and TV's that won't be so much at risk as they are further away from the spa water.



## **WHAT IS IN THE WARRANTY?**

Spa construction, quality and warranties can vary greatly from manufacturer to manufacturer as can after sales service from dealer to dealer. Make sure that the spa you select and its component parts are covered with a good no-nonsense warranty, and make sure the parts are CE approved. Be aware that a spa warranty can vary from one component to the next in the same spa. A typical warranty, for example, will cover the shell for ten years, the main structure for five years and equipment like motors, heaters and water pumps for two years. Make sure you know what is covered, for how long and what, if any, limitations there are. Another difference between dealers can be how much they are going to charge you to come and fix the spa while it is under warranty. Remember that the warranty only covers parts, not the cost of the technician coming to your home and the time he spends there. So find out what the callout charge is - especially if you are some distance away from the dealer! Look for a simple straightforward and above all clear warranty and choose a dealer that is going to live up to it! Read the warranty carefully, many are worded in such a way that they are quite meaningless.



# MAKING YOUR CHOICE

**Which Model?** First of all you have to decide how big and deep a spa you want. Before deciding on a spa, estimate how many people will normally use it at one time and buy accordingly. You could save space and money. Next, once you know what you want, you should try it. Most dealers have demonstration models in their showrooms and are only too pleased to let you jump in, but, if you can't bring yourself to get into one that is full of water at least climb into a dry spa and make sure that you feel comfortable! Never buy a spa out of a catalogue without seeing at least a similar one from the same manufacturer as they always look better in the picture and you are dooming yourself to disappointment. Unfortunately some dealers only display their most expensive spas and then sell you one of their cheaper spas and there is always a reason (or many) why there is a difference in price. What you see is what you get is the best way to shop.



**Which Manufacturer?** As portable spas become more popular there are an increasing number of manufacturers and models and this makes it more difficult for a customer to decide "Which brand should I buy?" Luckily there are a few common-sense guidelines that can be followed. First find out exactly how long the company has been manufacturing and where the spas are built. As this is a technology that has been developed mainly in America it follows that many of the biggest companies are located in the U.S.A. Notice that I say the biggest, these are not necessarily the best, many times when a company gets big it is less likely to continue refining its products and you can end up with out-dated designs and technology.

Next you can ask where the different parts that make up the spas come from. This is an important question for several reasons. As noted before a manufacturer who produces all his own parts can be more expensive while parts from the major parts suppliers can be cheaper and are certainly more available. All of the best manufacturers also do what is called "wet" testing on some or, preferably, all of their units as they come out of production which consists of fully filling the spa with water and completely testing it. So find out what the companies policy is and also what, if any, testing your dealer does. An ounce of prevention is worth a pound of cure, as they say.

**Which Dealer?** Choosing a great spa is of little use if you've picked a useless dealer! How much information does he offer about his products? Is he knowledgeable? Does the dealer offer full installation and after-sales service? Does the dealer seem like he knows his stuff or is he just trying to sell you? Are spas just one of his products or is he mainly a spa dealer?

Can he supply you with all accessories and chemicals, water test kits, etc? Make sure your contract includes delivery terms, installation and hook-up dates, a complete listing of all components and services to be rendered. Make sure that any repair work can be undertaken by your dealer and don't be afraid to ask questions before you buy as a reputable dealer will be happy to answer any questions. Beware of the dealer who side-steps any questions or gives you vague answers - "We are the best" is not a

suitable answer! Look for professionalism - the dealer should insist on coming out to view the site and plan the installation. It is also advisable to ask for references as the best advertisement is a happy customer and if your dealer cannot produce one then beware.

## **SHOP CAREFULLY!**

Quite often it is the little things that say the most. Before deciding check the quality and the finishing of the control panels, the handles, the surround and other trim and generally observe how well finished the product is. Look in the equipment compartment (even if you don't know what all those bits are for) and try the spa out for size. Make sure it will fit where you want to put it and that you (and your family and friends) will fit inside it. You should feel confident in both the dealer and the product and buy where you feel best. Ask a lot of questions before you buy, it could make the difference between enjoying a good soak and getting yourself into hot water.

