

Owner's Information
For
Portable Acrylic Spas
Installation and Maintenance

Compliments of:
Spa & Tub Manufacturers, Inc.

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Electrical Connections

220 Volt Systems – General Information

220 Volt, 50 amp, 4 wire –GFCI breaker required

2 Hots, #6 AWG

1 Neutral, #6 AWG

1 Ground, #6 AWG

#8 Bonding Required

Straight 220v hook-up requires a dedicated line of 50 AMPS (consult your electrician). This wiring will be hard wired directly to your pack by your electrician. No plug is needed. 50 AMP breaker must be GFCI protected.

110 Volt Systems – General Information

110 Volt, 20 AMP, 3 wire

1 Hot, #12 AWG

1 Neutral, #12 AWG

1 Ground, #12 AWG

#8 Bonding Required

Straight 110v hook-up requires a dedicated (1 hot, 1 neutral and 1 ground) receptacle (consult your electrician); a 20 AMP breaker is required. Spa & Tub Manufacturers provides a cord from the equipment pack with a three-prong plug. Use of extension cords is a violation of City and State regulations.

Important: Spa & Tub Manufacturers, Inc. is not required to do any electrical hook-ups. A licensed electrician must do all electrical work.

Note: Always check local and state codes for wiring requirements that may exceed N.E.C. Copper Wire Only.

Initial Start Up

Your spa should be in a firm and level surface. Fill with water to the water line mark making sure all jets are below the water level. Do not overfill, as water will rise when each additional person enters the spa.

Draining Your Spa

Turn off breaker (220v) or unplug your spa (110v). Open the equipment door leading to spa pack. Attach garden hose to spigot. Open spigot. Allow water to drain to the center of spa. The remainder of the water must be removed manually. After draining, close spigot and detach garden hose. Never operate your spa without water.

How to Clean Your Spa Filter

Pressure Filters

Turn off or unplug your spa. On top of the filter there is a thumbscrew. Turn the thumbscrew counter-clockwise to release pressure in the filter. Remove the large ring around the filter top by lifting the button and turning counter-clockwise. Pull up on lid and remove filter cartridge from the inside of the filter canister. Rinse the cartridge and soak in filter cleaner. Place the cartridge back in the filter chamber. Replace lid, replace large ring, and turn the thumbscrew clockwise to tighten. Turn spa back on and enjoy.

Skim Filters

Turn off or unplug spa. Remove grate on top of filter cartridge. Remove cartridge from the inside of the filter canister. Rinse the cartridge and soak in filter cleaner. After cleaning place the cartridge back into the canister. Replace grate. Turn spa on and enjoy.

What may result from a dirty filter? A dirty filter means a low flow rate, and this means trouble. Without proper flow, your heater will not heat properly and sometimes not at all. This could cause permanent damage to your filter and automatically VOID YOUR WARRANTY.

Spa Surface Care & Cleaning

To protect your spa finish, always keep the cover on when not in use. A spa surface cleaner should be used to remove residue and lime build up at the water level of the spa surface. This can be applied to the acrylic surface with a soft cloth and wiped clean. Use small amounts of cleaners. It is best to clean your spa surface after it has been drained.

NOTE: Do not allow your spa's surface to come in contact with products such as acetone, nail polish, lacquer thinners, gasoline, pine oil, etc. Remove dust and dirt with a soft damp cloth. Clean grease, oil, paint, and ink stains with isopropyl (rubbing) alcohol. Avoid using razor blades or other sharp instruments that might scratch the surface.

Spa Cabinet Care

Your custom cabinet is made from quality-handcrafted cedar. It has been treated to preserve its appearance and help prevent weathering. Further wood treatments depend on spa location (indoors or outdoors, sun, shade, etc.), and local climate conditions. Re-treat with an appropriate product 2 to 3 times per year.

Cleaning the Spa Cabinet: Rinse dirt and dust regularly with water. To remove stubborn dirt, grime, and discoloration, wash with a mild detergent and warm water.

Chemical Care for Your Spa

As the owner of a spa, you have made an investment in relaxation and enjoyment. Water care in a spa is different from that in a swimming pool because the water temperature is higher, the bather load is heavier, and the environment is more conducive to the growth of bacteria and algae. You should follow the instructions provided by the manufacturer of the chemicals concerning the chemical balance of the water in your spa. The following is a list of general tips on the use and storage of chemicals:

- Before using chemicals, READ the labels and directions carefully. Follow the instructions found on the labels.
- Keep all chemicals out of reach of children.
- Store all chemicals in a clean, cool, dry, well-ventilated area preferably off the floor to prevent contamination from other minerals.
- Always add chemicals directly to the spa or hot tub water. Broadcast chemicals across the surface of the water or dilute then pour into spa water with jets circulating.
- NEVER add chemicals while people are in the spa.
- Carefully clean up any spilled chemicals with large amounts of water to dilute and wash away.
- Since the chemistry of spa and hot tub water changes very quickly, test water with reliable test strips. Add the necessary chemicals according to the test results and instructions.

The Importance of Chemical Balance

Chemicals serve a variety of functions in your spa. They purify and disinfect the spa water and they help to prevent mineral build-up and damage to spa's heater pack. Failure to maintain proper Ph balance in your spa at all times can cause severe and permanent damage to your spa's heater pack.

A Simple Overview of Spa Chemistry and Disinfecting: The filtering action of your spa's filter can effectively remove soil particles and other debris, but the addition of spa chemicals is required to disinfect your spa. Bromine is the disinfecting agent most commonly used in spas. Bromine products possess strong oxidizing properties, which cause them to react with and destroy many foreign materials other than bacteria.

Ph Control

Ph is measured on a scale between 0 to 14 ppm. Ph is a measure of the relative acidity of water. The midpoint of 7 is said to be neutral. In spa water it is important to maintain a slightly alkaline condition of 7.2 to 7.8. Problems may become severe if the Ph range is exceeded or diminished.

Total Alkalinity

In simple terms, alkalinity is the measure of water's "buffering capacity", or it's ability to resist changes in Ph. Total alkalinity should be in the range of 80-150ppm. After the total alkalinity is brought within its proper range it should be tested weekly. With high alkalinity it becomes extremely difficult to balance the Ph.

Disinfect Water with Bromine

The most common type of disinfectant is Bromine. The ideal range for bromine is 1.5 to 3.0 ppm. Refer to your test strips to find the level of bromine in your spa. The amount of bromine needed in your spa is dependent upon temperature, length of time the spa is used, the amount of water in the spa, and the number of people in it.

Other Additives

Many other additives are available for your spa. Some are necessary to compensate for out of balance water. Many additives aid in cosmetic water treatment and others simply make the water feel or smell better.

Remember...

- Test water at least once a week
- Drain spa every 3 to 4 months
- Keep your filter clean
- Shock your spa once a week
- To raise Ph or alkalinity add Ph/Alkalinity plus
- To lower Ph or Alkalinity add Ph/Alkalinity minus
- Bromine kills algae and purifies water

Recommended Maintenance Schedule for Your Spa

Monday

- Test chemical levels with test strips
- Add bromine if needed
- Adjust Ph and alkalinity to the proper level
- Add a natural enzyme clarifier according to package directions

Wednesday

- Test chemical levels with test strips
- Add a Stain & Scale Control according to package directions

Friday

- Test chemical levels with test strips
- Adjust Ph and alkalinity if needed
- Add a Spa Shock according to package directions

CHEMICAL GUIDE TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
Foaming	Over-used water, build-up of body oils, lotions or detergents	Add defoamer, shock with a Spa Oxidizer, or drain & refill
Algae	High pH, low bromine level or chlorine concentration	Shock with a Spa Oxidizer Product
Skin Irritation	Over-used water, soaking too long, water temperature too high	Make sure all sanitizers are at proper levels, soak for small time intervals, reduce water temperature
Cloudy Water	Dirty filter, high pH or alkalinity, over-used water.	Clean the filter, adjust Ph, Shock with a Spa Oxidizer, add clarifier or drain & refill.
Water Odor	Improper sanitation, inadequate filtration, low pH.	Shock with a Spa Oxidizer, Adjust pH, Clean filter

Before You Call For Service...

Problem

Heater Pack does
Not work at all.

Possible Cause

1. Thermostat is turned off
2. Timer set to off setting
3. Circuit breaker tripped.

Solution

1. Turn up the thermostat.
2. Adjust timer.
3. Check main panel & reset.

Reduced water flow
And jet action

1. Clogged filter
2. Water level too low
3. Partially closed gate valves

1. Clean Filter
2. Add water
3. Make sure all gate valves are open.

Pump leaks

1. Loose unions
2. Seal Leak (will leak at pump shaft)

1. Tighten unions
At pump
2. Replace seal or bring pump to your dealer.

Pump will not prime,
No water coming
From jets

1. Air in filter system

1. Loosen drain valve and bleed until water Comes out

Does Not heat to
Proper Temperature

1. Cover left off
2. Thermostat set too low and is not reaching desired temperature
3. Clogged Filter

1. Always leave cover on when Not in use
2. Turn up Thermostat
3. Run spa without filter cartridge. If spa heats to desired temp. Clean Filter.

Equipment pack
Works but heater
Does not heat

1. Thermostat set too low
2. Hi-limit tripped
3. Clogged filter
4. Spa in wrong mode

1. Turn thermostat up.
2. Press reset Button
3. Clean Filter
4. Make sure spa is set to heat mode.

Noisy pump

1. Motor loose on base

1. Retighten to base