![Boldt Pools & Spas logo — BOLDT since 1975, Pools & Spas]

INGROUND
OPERATING GUIDE
FOR NEW POOL OWNER'S

LIFE IS BETTER BY THE POOL

THANKS FOR CHOOSING
BOLDT POOLS & SPAS

Congratulations and welcome to the wonderful world of owning your very own backyard pool. Your new pool will be a safe source of family fun and togetherness, an accessible place for exercise and therapy or just a place to escape to.

Boldt Pools & Spas is equipped with the most advanced pool equipment available today. Each piece has been carefully chosen with one important goal in mind: to provide you with as close to a maintenance-free pool as possible.

This manual provides easy to follow step-by-step instructions for your basic pool maintenance tasks. If there are any points that you require to be clarified, Boldt Pools & Spas is always there to help make your pool ownership a safe and enjoyable experience.

We're Always Here To Help!
Your Boldt Pools & Spas Staff

TABLE OF CONTENTS

SECTION 1
OPERATING YOUR EQUIPMENT

The following section deals with the important aspects of your pool which will assist you, the new pool owner, in acquiring an in-depth appreciation for your pool, its equipment and its correct operation.

YOUR POOL'S BASIC ELEMENTS:

→ Pool Shell
→ Pool Deck
→ Pool Equipment
→ Deck Equipment
→ Plumbing
→ Accessories

WATER CIRCULATION & HOW IT WORKS
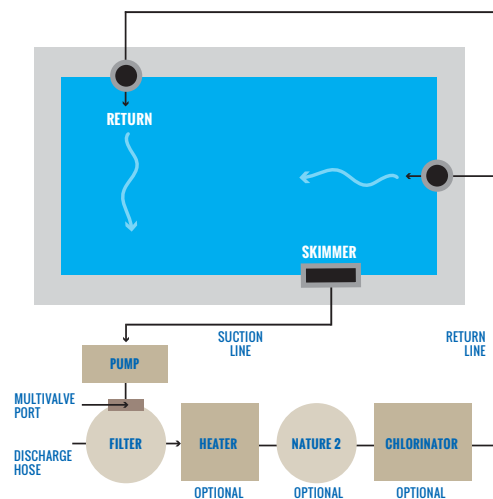
SUCTION LINES

These lines draw water from the pool through the skimmer to the pump.

DISCHARGE HOSE

This is used to expel water from the system during either backwashing or draining water from the pool.
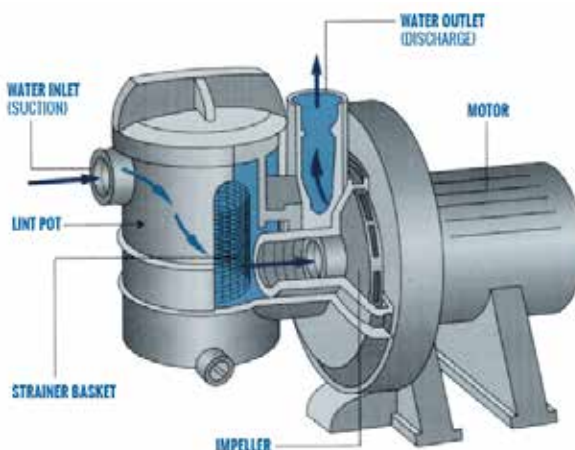
RETURN LINES

As the water has passed through the pump, filter, heater and chemical feeder, it is returned to the pool through the return lines, which are always under pressure when the filter system is operating in either the **FILTER** or **RECIRCULATE** position.

YOUR POOL'S EQUIPMENT HAS 3 FUNCTIONS:

→ Clean & Clarify
→ Heat
→ Sanitize

THE PUMP & MOTOR

A pump and motor is used to draw water from the pool. The pump is generally the only active or powered component of your pool equipment. In essence, it is the 'heart' of your system, drawing the water from an opening in the pool wall called the skimmer, and then directing it under pressure to the filter tank where it is cleaned and returned to the pool. When the pump is off no other equipment can operate.

There is a strainer basket inside the skimmer which must be checked daily to remove any accumulated debris. As well, there is a second strainer basket located in the lint pot which, while it does not have to be checked daily, should be cleaned regularly to ensure a free-flow of water to the filter at all times.

HOW DO I PRIME MY PUMP?

→ Check that the water level in your pool is at least 3/4 filled at the skimmer

→ Remove the lid from the pump

→ Fill the pump bowl with water

→ Replace the lid securely

→ Turn your pump and motor switch **ON**

Remember!

✔ It may take several minutes for the pump to prime. If it refuses to start on the first try, simply repeat the above steps until the water flow starts. If it refuses to start after 3 or 4 attempts, contact Boldt Pools & Spas.

WHAT DO THE VALVES IN FRONT OF MY EQUIPMENT PAD DO?

These valves are used to control where water is drawn from and how it is returned to the pool.

Water can be drawn from one source, the skimmer (unless you have an SDX or main drain). There are 3 destinations through which the water is returned to your pool:

→ Through the return fittings in the pool wall

→ Through the jets in the walk-in stairs (with step jets)

→ Through the waterfall or water feature

By setting each of these valves to its **ON** or **OFF** position you can control the flow of water to and from the pool.

Remember!

✔ Always turn the power to your pump OFF when adjusting these valves

THE FILTER

After the water leaves the pump it passes to the filter. The purpose of the filter is to remove any fine particles from the water before returning it back to the pool. There are 2 types of filters, Cartridge or Sand.

CARTRIDGE POOL FILTERS

Cartridge filters do not require sand or diatomaceous earth as the filter medium. Instead, the filter contains Cartridge filter elements which are easily removed for cleaning or replacement.

As debris collects in the filter, the pressure will rise and water flow to the pool will diminish. The filter will eventually become so plugged with debris that it will be necessary to remove the filter cartridges and clean them with water.

The filters include a unique pressure gauge with a **CLEAN/DIRTY** indicator that can be customized for each pool, making it easy to assess filter condition.

As the filter cleans the water and the cartridges begin to clog, the pressure begins to increase. When the needle of the pressure gauge aligns with the arrow next to the word **DIRTY** on the **CLEAN/DIRTY** indicator ring, this indicates an increased pressure and it is time to clean the filter. To determine where to set the **CLEAN/DIRTY** indicator begin with a clean cartridge and start the pump. After the pressure gauge has stabilized, turn the indicator ring so that the arrow next to the word **CLEAN** aligns with the needle of the gauge.

Check the pressure during operation at least once a week. Never operate the filter system at more than 50 PSI of pressure.

Remember!

✔ A filter removes dirt and other suspended particles but does not sanitize the pool. Pool water must be sanitized and chemically balanced for clear water

CLEANING THE FILTER CARTRIDGE

1. Turn the pump **OFF**. Switch the circuit breaker to the pump motor **OFF**

2. **IMPORTANT:** Completely open air release valve on top of the filter tank to release all pressure from inside the tank and system

3. Close valve in front of pump on the system to prevent flooding

4. Open the drain located at the bottom of the filter tank and allow the tank to drain

5. Loosen tank clamp ring retainer and remove the clamp ring

6. Remove top of the filter tank by lifting it straight up until it clears the cartridges on the inside of the tank

7. Pull the cartridges out of the filter tank, place them upright and clean them using a hose and nozzle to wash each pleat of each element

8. Inspect each cartridge for holes, tears or excessively worn pleats and replace them if necessary

9. Reassemble the filter with new or clean cartridges

10. Close the drain valve

11. Close the air release valve on the top of the filter tank

12. Open valve in front of pump on the system

Remember!

- Maintain your pressure gauge in good working order. The pressure gauge is the primary indicator of how the filter is operating

- During operation of the filtration system, check the pressure gauge/air release assembly for air/water leaks at least 1x week

- Never operate the filter system at more than 25 PSI of pressure

- Never assemble, disassemble or adjust the filter when there is pressurized air in the system. This can cause the filter lid to blow off causing death, serious personal injury, or property damage

- Algae, suntan oil, calcium and body oils can form coatings on the filter element which may not be removed by normal hosing. To remove such materials, soak the element in a pool cartridge cleaner

HIGH-RATE SAND FILTER (POOLS WITHOUT CARTRIDGE FILTERS)

A sand filter is fitted with a multi-port valve which provides the means for changing the direction and routing of water through the filter system, allowing it to perform different functions.

The first place the water reaches in the sand filter is the multi-port (or dial) valve on the head of the unit.

This valve has 6 operating positions or functions:

→ Filter, Rinse, Recirculate, Backwash, Waste, Close/ Winterize

When the valve is set to the **FILTER** position, the water is directed into the filter tank where it passes through a bed of sand to remove any solid debris which was too small to be removed by the skimmer or pump strainer baskets. The water then flows back to the pool via your heater and feeders. This is the normal setting used for your pool.

The **BACKWASH** position is used to clean the filter after debris has built up in the sand bed to the point where it is restricting the flow of water back to the pool. Usually taking between 3-5 minutes, the dirty water flows out of the backwash port and is directed to a waste area through a backwash hose. Remember not to direct your discharge water towards your plants or flowers.

There are 2 methods to determine when backwashing is required:

1. When the pressure indicator shows a 7 PSI increase

2. If there is less-than robust flow of water through the return fitting in the wall of the pool

The **RINSE** position is used for approximately 30 seconds immediately following backwashing to clear the lines of any turbidity before returning to the normal circulation of the pool water.

The **WASTE** position is used to either drain the pool or vacuum debris without having it pass through the sand bed in the filter. This application is common when removing dead algae from your water or lowering your water level when closing.

The **RECIRCULATE** position is intended for use when you do not want to filter the pool water but still wish to maintain overall circulation. In this setting, **NO** filtration occurs and the water by-passes the filter tank completely.

There is also a setting called **CLOSED/WINTERIZE** which should only be used by professional service technicians.

Remember!

- To change from one of these positions to another it is very important that the electric power to the pump and motor is **ALWAYS TURNED OFF** first or you will damage the dial valve and/or the plumbing to the pool

HOW TO CLEAN YOUR SAND FILTER

One of the more commonly asked questions customers have is 'When do I change my sand'? The short answer is **NEVER,** provided that you clean your filter sand annually with a filter cleansing product.

HOW DO I DO THIS?

Follow these 12 steps yearly for more effective filtration:

1. Backwash your filter normally

2. Leaving the multi-port valve handle in the backwash position, shut off your pump and motor

3. Close the valve coming from the skimmer to the pump

4. Remove the drain plug from the filter and allow **ALL** of the water to drain out

5. Replace the drain plug securely

6. Remove the lint pot cover from your pump

7. Fill a plastic pail with warm tap water and add filter cleaner product according to directions on the bottle. Stir the water continuously with a wooden stick until the cleaner has dissolved

8. Make sure the multi-port valve handle is still in the backwash position, turn the pump **ON** and slowly pour the solution from your pail into the lint pot

9. Add an additional 3 pails of water to the lint pot. **DO NOT** let the pump run dry between pails!

10. Once you have added your 4 pails of water, shut the pump **OFF** at once, replace the lint pot cover on your pump and allow the filter to sit for at least 12 hours

11. After 12 hours open the valve from the skimmer to the pump, then start the pump and backwash for 5-6 minutes or until the discharge water appears clear. **DO NOT** backwash into the pool, over your lawn or any desirable plants

12. When you have finished backwashing, shut off the pump, set the multi-port valve handle to the **FILTER** position, restart the pump and start normal filtration again with a clean filter!

THE HEATER

Located after the pump and filter, your heater allows you to control the temperature of your pool water, regardless of the weather. It can also extend your swimming season into the cooler months in the Spring and Fall.

Because of the need to purge the gas lines of air and moisture the first time your heater is turned on after building your pool, the initial set up should always be left to a licensed gas technician.

HOW TO LIGHT/START YOUR HEATER (AFTER INITIAL SET-UP)

Follow these steps:

1. Be certain that the external gas supply (gas lock/ shut-off) to the heater is turned on

2. Turn **ON** heater breaker

3. On the control panel on top of the heater, press **POOL.** A **GREEN LED** light to the left will light and the unit will display current temperature (pools without auto controls)

4. In about 2 minutes you should hear the fan running and a 'poofing' sound which indicates that the heater is now operating

5. When the water temperature falls to 1 degree below the temperature setting, the control will start the heater and the associated right **LED** will light **RED**

Once the temperature is set, the heater will turn itself on and off to maintain that water temperature. Typically, your heater will read "bO" on the display. This simply means that your Pro Logic system is controlling it, so the buttons on the heater's control pad won't function. If the pump is on a low speed setting, the heater may say "LO" meaning the water flow is insufficient for the heater to turn on. If the heater senses that it needs to turn on, it will automatically increase the speed of the pump to generate enough flow for the heater to turn on.

> **Remember!**
> ✓ **ALWAYS** shut your heater **OFF AT LEAST 10 MINUTES BEFORE** you turn off your pump and motor. Failure to do so can result in serious damage to the plumbing if you do not have automation

COMMON SENSE TIPS ABOUT YOUR HEATER

Chemically balance your water! To avoid costly repairs to the internal part of your heater, make sure your pH, Total Alkalinity and Sanitizer levels are always in their proper ranges. The lighting of your heater should always be left to a licensed gas technician.

Never place your Chlorine or Bromine tablets in your skimmer. The high concentration of sanitizer will damage your heater. Instead, install a chemical feeder **AFTER** the heater on the return line.

To maximize your heater's efficiency, consider a Liquid Blanket at night to retain the heat generated by the heater.

Have your heater inspected and cleaned by a qualified professional each Spring to provide you the safest and most economical heating possible.

P-4 PRO LOGIC OPERATION

VARIABLE SPEED FILTER PUMP

If the pump is currently off, press the **FILTER** button to turn the filter pump on to the last speed (1, 2, 3, or 4) that was used. A temporary display is shown indicating the current speed selection (Filter On: Spd 1). Pushing the "+" or "-" button changes the speed selection. If the pump has been off for more than 30 seconds, it will run at the highest speed for 3 minutes regardless of selection. This high-speed operation helps allow the pump to prime and establish normal water flow.

If set to a timer, ensure that the pump runs on a high speed (75% or more) for at least 12 hours per day. This will ensure that the water gets enough filtration and chlorine production.

V2-SPEED FILTER PUMP

If the pump is currently off, press the **FILTER** button to turn on high speed operation of the pump. The **FILTER LED** will illuminate continuously. Pressing the **FILTER** button again will switch to low speed operation and the **FILTER LED** will flash. If the pump has been off for more than 30 seconds, it will run at high speed for 3 minutes regardless of selection. This high-speed operation helps allow the pump to prime and establish normal water flow.

If set to a timer, ensure that the pump runs on high speed for at least 10-12 hours per day. This will ensure that the water gets enough filtration and chlorine production.

POOL LIGHTS

Pressing the **LIGHTS** button once will cause the pool lights to turn on. The **LIGHTS LED** will illuminate continuously. Pressing the **LIGHTS** button again will turn the lights off.

Your pool light has 17 different colour options; 10 fixed colours and 7 colour-changing shows. To advance to the next light program (fixed colour or colour show), turn the switch off, then back on within 10 seconds.

The programs are listed below:

1. Show-Voodoo Lounge	10. Fixed-Vivid Violet
2. Fixed-Deep Blue Sea	11. Fixed-Sangria
3. Fixed-Royal Blue	12. Show-Twilight
4. Fixed-Afternoon Skies	13. Show-Tranquility
5. Fixed-Aqua Green	14. Show-Gemstone
6. Fixed-Emerald	15. Show-USA
7. Fixed-Cloud White	16. Show-Mardi Gras
8. Fixed-Warm Red	17. Show-Cool Cabaret
9. Fixed-Flamingo	

When the light has been off for over 60 seconds, and is first turned on, it will come on to white for 15 seconds for quick clear view of your pool, then go to the last fixed colour or colour show it was running.

If you have multiple lights and one or more of them are on a different sequence, then they are out of synch. To re-synchronize your lights, start with the lights off and follow the steps below:

1. Turn lights on

2. Turn off light for between 11-15 seconds

3. Turn lights on

When the lights come on, they should enter program #1 (Voodoo Lounge), and be synchronized.

THE PRO LOGIC MENUS

- The **Default Menu** is a series of informative displays (temperatures, salt levels, chlorinator settings, etc.) with nothing to set. The Pro Logic will automatically switch to the default menu when no keys have been pressed for 2 minutes and will then scroll through each display.

- The **Settings Menu** and the **Timers Menu** are the menus you will be using most often to adjust the operation of your pool.

- The **Configuration Menu** is used when the system is installed and defines what equipment is connected to each output and the operational logic that will control the equipment. This menu is normally "locked" and should only be used by a pool professional. Details regarding the Configuration menu are included in both the Operation and the Installation Manual.

- The **Diagnostic Menu** is primarily intended for the service technician and contains information and details about the system operation that are helpful in troubleshooting, if problems occur.

HOW TO SET THE SPEEDS ON A VARIABLE-SPEED FILTER PUMP

1. Press the MENU button until **SETTINGS MENU** is displayed

2. Press the > button until **VSP SPEED SETTINGS** is displayed

3. Press the + buttons to enter the menu

4. Press the + or – buttons to set a percentage for **SPEED 1**

5. Press the > button to move to **SPEED 2** and so on

HOW TO ADJUST THE DESIRED CHLORINATOR OUTPUT

1. Press the **MENU** button until the **SETTINGS MENU** is displayed

2. Press the > button until the **POOL CHLORINATOR** is displayed

3. Press the + or – button to adjust the setting. If the setting is set to 0%, the chlorinator will be off all the time

> **Note!**
> ✔ The actual amount of chlorine introduced to the pool is determined by: this setting, the amount of time the pump is running, the water temperature, and the amount of salt in the water. After the ideal setting has been found, you may need to raise/lower the setting when the pool temperature increases/decreases significantly or bather loads are higher/lower than normal.

Water temperature has an effect on the salt cell's ability to create chlorine and to read the proper salt level. If the temperature is below 65° F, be aware that the salt system may give an inaccurate salt level reading and may not be producing the amount of chlorine desired. It is best to leave the cell unplugged, or the chlorinator set to 0% until the temperature rises, and the water has been tested for salt content.

HOW TO TURN SUPER CHLORINATE ON OR OFF

1. Press the **MENU** button until **SETTINGS MENU** is displayed

2. Press the > button until **SUPERCHLORINATE** is displayed

3. The display will show whether super chlorination is **ON** or **OFF**

> **Note!**
> ✔ The **Super Chlorination** function only needs to be enabled when you have an unusually high bather load, a large amount of rain, cloudy water, a slimy liner, or any other condition that requires a large amount of chlorine to be introduced to the pool. Once started, Super Chlorination will run for the programmed number of hours or until you manually turn it off. If the pump is turned off, Super Chlorination terminates. When the pump is turned back on Super Chlorination will continue for the balance of the timer.

HOW TO SET THE HEATER TEMPERATURE

1. Press the MENU button until **SETTINGS MENU** is displayed

2. Press the > button until **POOL HEATER1** is displayed

3. Press the + or – buttons to adjust the temperature. If you adjust the temperature below 65° F or above 104° F the display will indicate **OFF** and the heater will not operate regardless of temperature

HOW TO PROGRAM A TIME CLOCK

1. Press the MENU button until TIMERS MENU is displayed

2. Press the > button until xxx—ALL is displayed

3. Press the + and – buttons to set the desired start time, then press > to switch to the off time. Press the + and – buttons to set the desired off time.

When setting timers for a variable speed pump, each time period corresponds with a set speed. So T1 will always be set for speed 1, and T2 will be set for speed 2, etc.

CHECK SYSTEM INDICATOR

The **CHECK SYSTEM LED** will alert you when the Pro Logic detects any conditions that are abnormal and require attention. Listed are the most common ones:

· **Inspect Cell** – For optimum operation, the chlorinator cell should be inspected every 3 months and cleaned if necessary. The Pro Logic will automatically remind you when it is time and display **INSPECT CELL, + TO RESET** as part of the rotating Default Menu. Clean the cell if needed, then press the + button during the **INSPECT** CELL display to reset the timer.

· **Low Salt** – When the salt is too low, the Pro Logic will generate less chlorine and the life of the cell is degraded. Bring a sample to get the water tested to determine how much salt to add.

· **High Salt** – The Pro Logic will stop generating chlorine under certain high salt conditions in order to protect the internal electronics from damage. The only way to lower the salt level is to partially drain the pool and add fresh water.

OMNILOGIC OR VS OMNI OPERATION

OMNILOGIC

Now that the initial configuration has been completed, the OmniLogic will automatically go to the **Home Screen** or **Idle Screen**. All configuration and operation functions can be accessed from the **Home Screen**. Once configured, the OmniLogic can be controlled remotely using various Hayward remote terminals or, when connected to the home's network, by Internet enabled devices such as computers, tablets and phones.

The OmniLogic uses a local touchscreen terminal as the main interface with the device. Note: If the OmniLogic local terminal is not touched for more than two minutes, the **Idle Screen** will be displayed.

The OmniLogic can be programmed with user desired settings such as schedules, themes, and favourites. Refer to the OmniLogic Operation Manual for an explanation on how to manually turn pool equipment on/off, program settings for specific equipment, view pool equipment status and conditions, and more.

If further instructions or tutorials are needed, Hayward recommends searching on their YouTube channel for more in-depth instructions:

https://www.youtube.com/user/HaywardPoolProducts

VS OMNI

The VS Omni system is a simplified version of the OmniLogic, but the controls are basically identical. Refer to the OmniLogic information above for further information.

UV SYSTEM/CHLORINATOR COMBINATION

Using a UV system paired with a chlorinator is an alternative to a salt system for maintaining sanitary pool water. Although the UV system dramatically reduces the need for chemical sanitizers, a minimum sanitizer residual must be maintained. This residual is provided by the chlorinator.

UV SYSTEM

Water circulates through UV system to immediately inactivate 99.9% of micro-organisms and algae which are resistant to chlorine. This provides a cleaner, clearer swimming environment with zero harmful by-products. The more the system is activated, the more effective it is, but it will only be able to run when the pump is on. You can tell your UV system is operating when the clear band across the middle is illuminated by the light within.

If your system is not illuminated, there are a few possible reasons:

· The pump is not on

· There is insufficient water flow. Check pump and skimmer baskets for debris, or clean filters if necessary

· The breaker or switch for the UV system is off

CHLORINATOR

The chlorinator uses chlorine pucks to maintain a continuous chlorine level in the pool water. Pucks are added to the chlorinator and there is a dial to control how quickly the pucks will dissolve.

To add pucks to the chlorinator, make sure the pump is turned off first. There is a locking tab on the side of the chlorinator that needs to be pressed and then the lid can be unscrewed. Once the lid is off, add pucks to the chlorinator and secure the lid.

The chlorine demand varies for each pool depending on usage, temperature, sunlight, volume, etc., so you may need to adjust the dial periodically to maintain the proper amount of chlorine.

Because chlorine pucks also contain Cyanuric Acid (Stabilizer), be careful that you don't overuse the pucks and increase the stabilizer level too much. Stabilizer helps chlorine to be more effective at sanitizing the pool, but too much stabilizer actually reduces the chlorine's effectiveness.

ADDITIONAL CHEMICALS

During periods of heavy use or high temperatures, the UV system and chlorinator may not be able to provide the sanitization that is required. If your pool water becomes cloudy, or the pool surface feels slimy, using a liquid or powder shock would be helpful to boost your chlorine level.

THE SUMP WELL
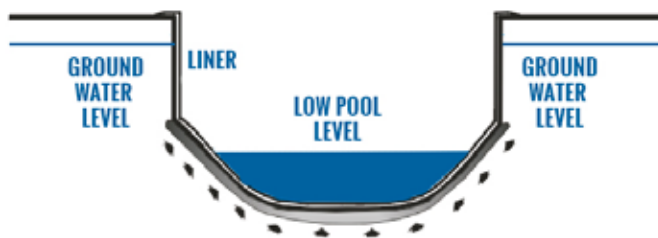
The final area of your pool equipment and plumbing that will require your attention is the Sump Well. It is installed to deal with high water tables or surface drainage which might migrate to the pool area.

If the pool water level is low and if ground water is high as in the following illustration the water in the ground wants to make the pool and its' liner float.

The sump well is covered with a circular patio stone or other cover after installation. This sump well is a monitoring station where you should periodically inspect
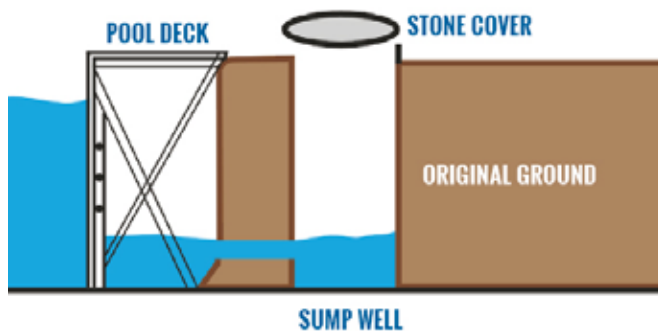
the level of the water inside especially before opening your pool in the spring, during extreme wet weather, when removing water from on top of the pool cover and in the fall before closing.

If you find more than 12 inches of accumulated water you should use a submersible pump to **SLOWLY** lower the water level to approximately 3 inches in the well. It is important that you drain the water slowly and remove as much as possible (often 1" - 3" is unreachable).

Remember!

✓ Do not use a large pump for this activity

MANUALLY VACUUMING & CLEANING THE POOL

If the water level in the well is allowed to rise higher than the water level in the pool, then it will result in water seeping under the pool liner thus causing a floating liner. In some cases, this water pressure can heave and crack a pool deck. First remove any debris off the surface of the pool using the leaf skimmer attached to your vacuum pole. The leaf skimmer is only intended to remove floating debris; **DO NOT** attempt to retrieve items that are submerged or their weight combined with the water pressure will destroy the net.

Next, brush the walls and walk-in stairs using your pool brush attached to your vacuum pole. To prepare for the vacuuming, do the following:

- Attach the vacuum head and hose to the vacuum pole. Extend the pole to 12ft. in length, drop the vac head into the pool water and secure the pole up against the deck

- Hold the **FREE** end of the vacuum hose securely over one of the return fittings in the pool

- Air bubbles will escape from the vac head and it will begin to float. Once the air has been removed from the vac hose, the vac head will settle to the bottom of the pool

- Remove the free end of the hose from the return fitting. Cover it tightly with your hand and take it to the skimmer and insert the vac plate on top of the basket inside the skimmer. Insert the hose onto the vac plate

- As soon as you position it you should feel a strong suction pulling down on the skimmer plate

- Now you are ready to vacuum the pool using slow, deliberate passes over the entire pool bottom

Remember!
- Be sure to turn the power to the pump off before trying to remove the plate when you are finished vacuuming or that same suction will damage the plumbing

BOLDT ECOPOOL

Having a Boldt Ecopool means you have a superior pool circulation system because it was custom designed for your pool. There is an automatic valve to control the in-floor nozzles and the swing jets in the walls. The in-floor nozzles are designed to sequentially rotate 360 degrees to evenly circulate the water and sweep debris to the drain for removal, or into small areas to be quickly vacuumed. The swing jets sequentially rotate 90 degrees to sweep debris from walls and hard to reach places toward the drain. The nozzles and jets will automatically pop up to provide their cleaning and then retract to stay hidden and out of the way. A Boldt Ecopool means you should check your debris canister 2-3 times per week because that is where most of the debris from the pool bottom will collect. However, it also means you will barely have to vacuum the pool, if at all!

SAFETY COVER MAINTENANCE

Your safety cover requires very little maintenance. By following these procedures, you will ensure that your new cover will continue to serve you well for years to come.

TIGHTNESS

Your safety cover must be installed and remain tightly stretched across your pool, resembling a trampoline. Upon its original installation, the adjustable springs on your safety cover should be compressed about 90%. The tension will gradually decrease in time to 75% without assistance. Adjust as needed to maintain this 75% compression.

COVER STRENGTH

Your safety cover will have no problem supporting the weight of a child, adult or pet in an emergency, however, we recommend that you do not walk on it.

SNOW SUPPORT

During the snow season, the water level in your pool should never be more than 15" to 18" below the top of the pool. This is important for supporting the weight of the snow on the cover. Allowing the water level to drop below 18" will put excess stress on the cover and will void the warranty. Do not pump water out of the pool during the winter, even if the water level is only a couple of inches from the top of the pool.

COVER REMOVAL & STORAGE

- Hose the cover off while it is still installed across the pool to remove any debris

- When removing your safety cover, accordion-fold it and roll it into its storage bag. Hang the bag on a hook or nail (off the floor) to allow the cover to drain through the bag and to protect it from rodents

- Be careful when installing or removing your safety cover. Dragging the cover across the deck over sharp edges or obstructions, or over raised anchor heads will damage the cover

ANCHORS

- In Spring and Fall unscrew all anchors with the Allen Key provided and flush out the casings with a hose. This will prevent anchors from sticking when you re-install them

- When the cover is not in use, close the anchors completely so they are flush against the deck. This will eliminate the possibility of stubbed toes

Remember!

- ✔ Mice love to eat safety covers, so store yours in a covered container or suspend it from the ceiling in the Summer.

SECTION 3
WATER CARE & CHEMISTRY

CHEMISTRY

The purpose of this section of the manual is to familiarize you with the proper chemical care of your pool water. Simply put, good pool water should always be:

- Sanitized
- Non-corrosive & Non-scaling
- Algae-Free
- Clear, Colourless & Odourless
- Stable Against Chemical Changes

WHY?

Your water must be sanitized because, more than just looking nice, a safe and healthy pool must be free of dangerous bacteria and viruses which are the source of many common ailments such as respiratory infections, skin diseases, upset stomach, diarrhea, and other intestinal tract infections.

Your water should be algae-free because in addition to looking unsightly, algae makes pool surfaces slippery and increases the demand for chlorine. In larger outbreaks, the toxins it releases can cause **GASTROENTERITIS** and pose other health risks.

Your water should be odourless, colourless and non-irritating to bathers for the obvious reason.

Your water should be non-corrosive and non-scaling as it is important to avoid expensive repairs and maintenance costs to your heater and other pool equipment that will result if left in such a state.

Your water should be stable against chemical changes as you will want to avoid the nuisance and associated costs involved in continuously having to re-balance it.

HOW DO I ACHIEVE THIS?

There are 6 parameters that you must be familiar with in order to maintain good pool water:

- pH
- Total Alkalinity
- Calcium Hardness
- Chlorine Residuals
- Stabilizer
- Salt Concentration (salt/chlorine generator if applicable)

pH is the most dynamic factor at play in your pool water. Everything that is added to your water has an effect on it, and in turn, it affects the performance of the major chemicals required to maintain your pool.

It is the measurement of how acidic or basic the water is on a scale of 0 - 14, where 0 is completely acidic, 14 completely basic and 7 being neutral. The optimum range for your pool is between 7.2 - 7.8, with 7.4 being ideal which is the pH of your eyes. If you pH is too low, heavy chlorine usage, eye irritation and corrosion of your pool equipment will occur; if it is too high, you will experience low chlorine efficiency, scaling and skin and eye irritation.

TOTAL ALKALINITY

Total Alkalinity is closely related to pH. It is an indication of the ability of your pool water to resist pH change. It is measured in Parts Per Million (ppm) and has an optimum range between 80 and 120 ppm. If the TA is too low, it will cause the pH to fluctuate wildly and you will have staining and corrosion; if it is too high, it makes your pool water more susceptible to scaling and pH drift (upwards of 8.4) and you will have cloudy water. If you are on a bromine system, it is recommended that you keep the reading slightly higher, between 120 and 130 ppm.

CALCIUM HARDNESS

Is the measurement of the amount of calcium or magnesium present in your pool water. It affects the efficiency of your chlorine and can adversely affect the general cost of maintaining your pool. Like Total

Alkalinity, it is read in ppm and has an optimum range between 200 and 300 ppm. If your reading is low, it can also pit metal surfaces. If it is too high, it will have a tendency to form scale deposits on the surface of the pool, decrease circulation and increase heating and chlorine costs. Extra care needs to be taken to monitor in areas with hard tap water.

CHLORINE

Acts as an inhibitor to the growth of bacteria, viruses and algae. It is measured in two forms: **FREE AVAILABLE** or **ACTIVE** chlorine (the desirable form), which is the chlorine present in your water ready to destroy contaminants and bacteria; and **COMBINED** chlorine (the undesirable form), which has been combined with ammonia compounds and is essentially useless, as it has only about 1/6 the oxidizing power of free chlorine.

Both types of chlorine are measured in ppm with the optimum range for **FREE** chlorine being between 1 - 3 ppm and **COMBINED** chlorine being 0 ppm. Another measurement, TOTAL chlorine, is the sum of both the **FREE** and **COMBINED** chlorine and it's optimum range is the same as the **FREE** chlorine.

If your **FREE** chlorine level is too low, you'll have an unsafe swimming environment and risk an algae infestation. If it's too high, you'll produce an uncomfortable swimming environment and possibly have a health risk.

If your **COMBINED** chlorine level is too high, you will have a less than acceptable sanitizing effect and will produce a strong chloramine level.

STABILIZER

Cyanuric Acid acts like a shield which prevents the sun from dissipating the chlorine from your pool. It too is measured in ppm and it's optimum range is between 30 - 60 ppm. If your reading is too low, your chlorine stands to burn off prematurely; if your reading is too high, you risk getting 'chlorine lock', where the chlorine in your water is rendered ineffective.

HOW TO ADJUST CHEMICALS

Although your pool chemicals provide your pool with healthy, great looking water, you should not forget that you are still dealing with chemicals and as such you should respect how you handle them. **ALWAYS pour the chemical into the water, NEVER pour water into a pail of the dry chemical. Always wear protective eye and hand wear when applying pool chemicals!**

PH PRODUCTS

If your pH is too LOW

It can be raised by adding "pH UP" (Soda Ash). Pre-dissolve the product in a plastic pail before adding it to the pool.

If your pH is too HIGH

It can be lowered by either (a) adding pH DOWN (sodium bisulfate) or (b) Muriatic Acid. If you choose (a), pre-dissolve the product in a plastic pail before adding it to the pool. If you choose (b), pour the product carefully around the pool and avoid splashing or contact with your skin. Only adjust the pH when no one is swimming.

TOTAL ALKALINITY

If your Total Alkalinity is too LOW:

It can be raised by adding Baking Soda (Sodium Bicarbonate) which is marketed as **AQUA TROL**, to the pool water. Simply broadcast the product over the surface of the pool water.

If your Total Alkalinity is too HIGH:

Although your Total Alkalinity can be adjusted by applying small amounts of Muriatic Acid over a period of days, the most expedient method is to simply empty and replace a portion of your pool water. You can use your pool immediately after applying **AQUA TROL.**

CHEMICAL	MIN.	MAX.	TO LOWER	TO RAISE	TEST
Chlorine	1.0	3.0	Lower % Output	Raise & Output	2-3 Days
pH	7.2	7.8	Add pH Minus	Add pH Plus	2-3 Days
Alkalinity	100	140	Consult Boldt Pools	Add Trol	Monthly
Salt	2700	3400	Drain & Add Water	Add Pool Salt	Monthly
Hardness	160	180	Drain & Add Water	Add Cal	Monthly
Cyanuric Acid (Stabilizer)	50	80	Drain & Add Water	Add Stab (or Stab Tabs)	Monthly

CALCIUM HARDNESS

If your Calcium Hardness level is too LOW:
It can be raised by adding hydrated calcium chloride, marketed as **AQUA-CAL**, directly to the pool water. Pre-dissolve the product in a plastic pail of **COLD** water before adding to the pool. You can use your pool immediately after applying **AQUA-CAL**.

If Your Calcium Hardness Level Is Too HIGH:

The only convenient method of lowering it is to replace a portion of your pool water.

CHLORINE

If the **FREE** chlorine level is allowed to drop below the recommended level, it should be raised by **SUPERCHLORINATING** the water with an unstabilized granular or liquid chlorine product. Both types cost about the same but the granular pouches are easier to carry and provide far less chance of bleaching your clothes when applying the product to the pool than the heavier and messier liquid form.

Unstabilized Granular:

Read the label! With the more common forms, you must add the dosage to a pail of water, stir and wait 30 minutes. Pour the **LIQUID** portion **ONLY** into the pool water. **DO NOT** let the sludge from the bottom of the pail fall into the water.

Unstabilized Liquid:

Pour carefully around the perimeter of the pool.

Apply either of these forms of unstabilized chlorine at night, so the sun cannot burn it off. Allow 12 hours before you swim again.

If your **FREE** chlorine is too **HIGH**, you are advised to wait until the level drops below 5 ppm before swimming.

Maintaining Your Daily Chlorine Residual

This is best handled by applying slow-acting stabilized chlorine in a puck form fed through an automatic chlorinator which should be refilled weekly. Be careful not to breathe in the dust from the chlorine puck package or handle the pucks with bare hands. They form a health hazard when not handled properly. An alternative method is to use a stabilized granular chlorine. In this case, broadcast according to the manufacturer's instructions, downwind and evenly over the pool surface.

It is **VERY IMPORTANT** that you store your stabilized chlorine well away from the unstabilized product and any other oxidizers or an expulsion and fire can result.

STABILIZER

If your stabilizer level is too LOW:

Add Instant Conditioner. It is safe to use your pool while the stabilizer is being absorbed into the pool water. Add directly through skimmer with pump running.

PHOSPHATES

Phosphates should be monitored as they can negatively impact your pool water chemistry as well as the life of your pool equipment. High levels assist in the growth of Algae and also cause deterioration and internal damage (flaking) in equipment components like the heater and salt chlorine generator. Phosphates should be regularly tested at a proper water lab to ensure levels remain below 500 ppb.

SPECIALTY CHEMICALS

There are a number of **SPECIALTY** chemicals that you should also be familiar with:

→ Vinyl Cleaners
→ Oxidizers
→ Stain & Scale Control
→ Algaecides

VINYL TILE & LINER CLEANER

When cleaning the liner, coping, ladder, stairs or other pool surfaces, it is **IMPERATIVE** that you use cleaners specifically formulated not to adversely affect the efficiency of the other chemicals regularly used to maintain your pool. As good as they are in your kitchen and bathroom, household and industrial cleaners containing phosphates and ammonia should **NEVER** be used to clean your pool.

OXIDIZERS

Generically known as Potassium Monopersulfate, oxidizer provides a non-chlorine method of oxidizing your pool water. Safer and less messy than using an unstabilized chlorine, it is just as effective in burning off organic contaminants and converting combined chlorine into free chlorine. It has relatively little effect on the other parameters of your pool water and you can also swim immediately after its application.

It is recommended as part of your regular weekly chemical treatment. The trade-off with unstabilized chlorine is that you cannot raise your chlorine residual with oxidizer as you can with unstabilized chlorine.

STAIN & SCALE CONTROL

Prevents the build-up of scale on the pool, equipment and staining of the pool surfaces from the precipitation of oxidized copper or iron from the pool water onto the liner of your pool.

By following the regular maintenance dosage instructions on the label you can prevent these problems. You can swim after it is applied.

ALGAECIDES

Are intended for the prevention of killing of algae. Boldt's algaecide is formulated to be compatible with your other pool chemicals and is one of the most effective ways of preventing or removing algae infestations. It can be applied directly to the pool water or pre-diluted in a pail of water before application.

When included as part of your regular pool maintenance program, it provides a form of insurance against the occurrence of algae and its associated cost remedies.

You can swim immediately after its application, however swimming is **NOT** recommended when algae is present.

TESTING YOUR POOL WATER

By testing your pool water on a regular basis, you can care for your pool in a proactive manner - rather than reacting to problem water:

Basic Parameters Which Must Be Tested:

By The Owner	Professionally
→ Free Available Chlorine	→ Stabilizer
→ TA - Total Alkalinity	→ Calcium Hardness
→ pH	→ Copper Content
→ Salt (Specialty Strip)	→ Phosphate Level

HOW DO I TEST MY WATER?

There are 2 basic types of home kits available:

1. **Drop Kit** - OTO drops (sanitizer readings) and phenol drops (pH readings) are mixed with samples of your pool water in a vial. Match the colour of your mixed sample with the colour levels on the vial

2. **Strip Kit** - Litmus strips are dipped into your pool water for a few seconds. Match the colour on the strip with colour levels on the container. Strip Kits are simple to use and measures your FAC (Free Available Chlorine - drop kit does not). Get up to 3 parameter readings from 1 strip

PROFESSIONAL TESTING

Your Boldt Water Lab can provide you with professional readings for Stabilizer, Phosphates, Calcium Hardness, Salt and Copper. These levels should be checked at least once per month by trained staff who can advise you when corrective action is needed.

A List of Common Products & Alternative Names:

COMMON NAME	ALTERNATIVE NAME
pH Up	Soda Ash
pH Down	Sodium Bisulfate
Alkalinity Increaser	Sodium Bicarbonate (Baking Soda)
Calcium Increaser	Hydrated Calcium Chloride
Oxidizer	Potassium Monopersulfate
Stabilized Chlorine	
Granular	Dichloro-s-Triazinetrione
Mini-Tabs	Trichloro-s-Triazinetrione
Pucks	Trichloro-s-Triazinetrione
UnStabilized Chlorine	
Liquid	Sodium Hypochlorine
HTH Extra	Calcium Hypochlorine
HTH	Calcium Hypochlorine
Salt	Sodium Hypochlorine (Must be Pool grade)

Remember!

✓ Use a sterilized plastic sample bottle provided by Boldt (household bottles run the risk of contamination). Take sample directly to Boldt, as samples left overnight or in extreme heat will provide inaccurate readings

SECTION 4
WATER SAFETY & TROUBLESHOOTING

SAFETY FIRST

At Boldt Pools & Spas, our first priority is to make sure you enjoy your swimming pool in a fun and **SAFE** manner. Please read the following safety tips to help ensure your pool area is a **SAFE** pool area:

→ Always close and lock pool gates when the pool is not in use

→ Keep all chemicals out of the reach of children & pets

→ Store and handle all chemicals as per manufacturer instructions

→ Learn CPR and other emergency techniques

→ Keep a list of emergency telephone numbers in a prominent location

→ **DO NOT** allow horse play or running in a pool area

→ Keep a complete first aid kit in a clearly marked and easy to reach location

→ Keep a safety rope float kit installed at all times

→ **NEVER** leave children unsupervised

→ **NEVER** leave non swimmers unsupervised

→ Keep a rescue apparatus handy poolside at all times

→ Demand that all children pass your proficiency exam before being allowed to use your pool

→ Carefully explain your pool rules to all visitors

→ **NEVER** allow any diving or head first entry into any pool unless you are certain the pool is designed for diving and the proper depths have been provided. Results could be catastrophic

→ **NEVER** dive or slide head first into a pool after drinking alcohol or while under the influence of any drugs. Results could be catastrophic. We recommend you **DO NOT SWIM** at all

→ **NO DIVING** signs should be placed at all areas around your pool where diving is not appropriate

→ Keep all glass away from pool areas including decks and patios

→ Keep electrical cords or appliances at least 3 meters (10') away from the pool

→ Keep the cover to the automatic vacuum line in the **CLOSED** position at **ALL** times when not in use. The suction on this line is capable of holding even an adult underwater if their hair or bathing suit were to get sucked into the opening. This could result in serious injury or even death

→ **DO NOT** swim with your solar cover on the pool

YOUR POOL'S INFORMATION

Pool Size, Shape & Model:_____

Volume (Litres):_____

Salesperson: _____Location:_____

Tel:_____Year Installed:_____

YOUR EQUIPMENT

Motor Make & Serial #:_____

Filter Make & Serial #: _____

Heater Make & Serial #: _____

COMMON PROBLEMS & TROUBLESHOOTING

PROBLEM	CAUSE	REMEDY
Cloudy or Turbid Water	pH too high Water not in balance Improper filtration Excessive use of pool Excessive wind blowing in dirt and other contaminants	Adjust pH Balance your water Check filter for backwashing Use a Clarifier liquid Use an Oxidizer
Eye/Skin Irritation	pH out of range High chlorine residual	Adjust pH Shock with a non-chlorine Oxidizer using twice normal weekly dosage
Scale Formation	High pH Water imbalance	Adjust pH Balance water (bring a sample to Boldt Pools & Spas Water Lab) Add a sequestering agent
High Chlorine Consumption	Low or no stabilizer pH out of acceptable range High combined Chlorine residual Heavy bather load or rainfall Windborne contaminants High water temperature	Add stabilizer Adjust pH Treat for Chloramines Superchlorinate Oxidize Turn off heater
Algae Infestation	Sanitizer level too low and/or water out of balance	See your Boldt Pools & Spas for Algae treatment
Green Coloured Water	Metal oxidized in water due to low pH and corrosion	Test water for iron or copper content Adjust pH and balance water Add sequestering agents as per Boldt Water Lab instructions
Filter (weak pressure)	Slow flow/low pressure	Clogged baskets/dirty filter Backwash and/or empty baskets
Pump	Motor doesn't start Motor noisy	Clogged/damaged impeller Blown fuse or tripped circuit breaker/loose electrical connection Worn bearing in motor
Heater	Won't start	Pump ON & Water Circulating Gas line is Open Reset Heater breaker
High Phosphates	Phosphates present over 500 ppb	Add Phosfree to reduce level below 500 ppb
Hard Water	High levels of calcium & magnesium	Muriatic Acid

VISIT US ONLINE AT BOLDTPOOLS.CA

OurReputation HoldsWater
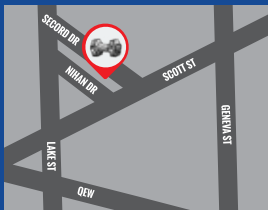
BOLDT POOLS & SPAS
20 NIHAN DRIVE
ST-CATHARINES, ON
905-934-0937

BOLDT POOLS & SPAS
41021 FORKS RD
WAINFLEET, ON
905-899-6512