

BUILDER MEMBER

NEW ZEALAND

MASTER

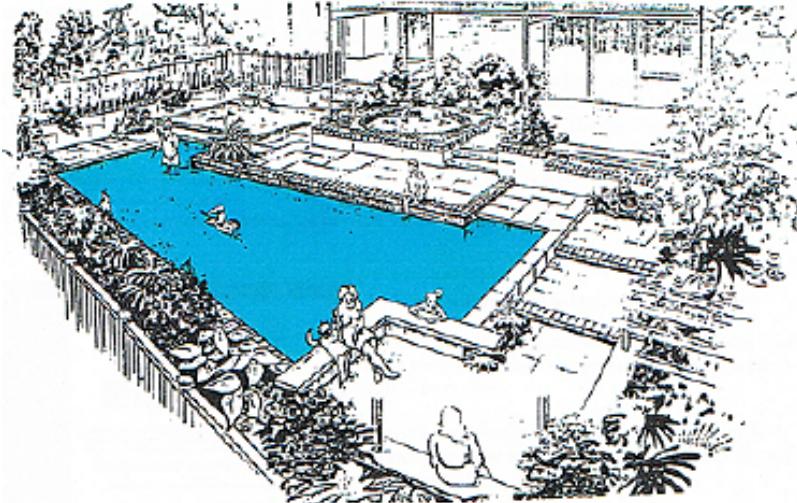
POOL BUILDERS

INCORPORATED 2008

The GENERIC POOL OWNER'S MANUAL

"The essential guide to the
Correct operation and maintenance
of your Home Swimming Pool "

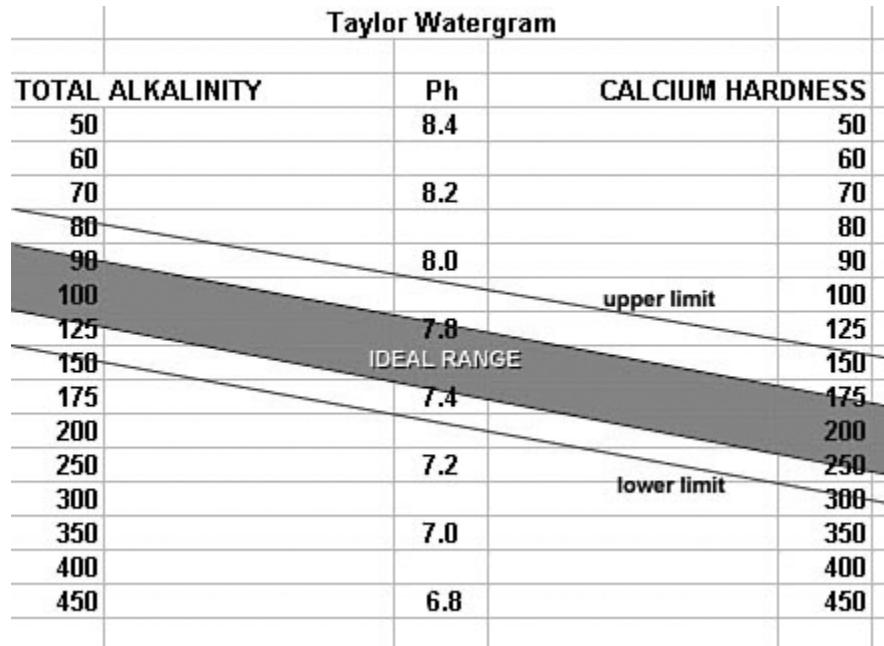
- * Concrete
- * Fibreglass
- * Vinyl Liner



Edited By: LE (Larry) Ogden - Dip Pool Tech (HON)

www.poolguild.org.nz

Revision 3/2012



There is a relationship between levels the of Calcium Hardness and the Total Alkalinity of your pool called the “Water Balance”. The pool is termed “Balanced” if the above values shown are true. The Watergram above shows TA 100, pH 7.6 and CH 200 as being ideal. The two elements CH & TA may vary, so long as the crossover point on the Taylor Watergram is within the specified pH range - the preferred pH value of home pools = 7.6 This “Balanced” pool will maintain the pH due to the “buffering” effects of the two compounds which are added to the pool Calcium Hypochlorite - which are related to “Baking Soda” and “Chalk”. Maintaining the pH at the recommended level is the most important factor in keeping the pool clean and sterile, so always keep an eye on the pH of your swimming pool.

THE NEW ZEALAND MASTER POOL BUILDERS Incorporated
You can download pool manuals, get expert tips and advice from our web site

<http://www.poolguild.org.nz>

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IT'S SO EASY
... a seven year-old
child could do it!

SEVEN SIMPLE STEPS TO CARING FOR YOUR SWIMMING POOL

1. NEVER EMPTY YOUR SWIMMING POOL WITHOUT PRIOR ADVICE!

If it MUST be emptied, ASK THE BUILDER as it's NOT USUAL to empty a pool - especially in the rainy season - as flotation damage may occur

2. DON'T LOWER THE WATER LEVEL IF IT "FILLS UP" in WINTER

The pool will not suffer any damage if it gets too full - but lowering it might!

3. AN OZONE POOL IS NOT A "CHLORINE" POOL

OZONE replaces 95% of Chlorine - so there may be NO CHLORINE reading if you get the water tested at a pool shop!

4. FILTER 10-12 Hrs SUMMER, 6-8 Hrs SPRING & AUTUMN, 2-4 Hrs WINTER

Your pool may need different settings - experience will tell you!

5. NEVER THROW POOL CHEMICALS DIRECTLY INTO THE POOL WATER

All chemicals EXCEPT TriTabs go in the SKIMMER while pool is running

6. BACKWASH the FILTER for ONE to TWO MINUTES

at least once EVERY MONTH in the high summer SWIMMING SEASON

7. KEEP THE pH, CALCIUM HARDNESS and TOTAL ALKALINITY LEVELS UP

Check the right levels in YOUR POOL Section





CONCRETE POOLS PLASTER FINISH INTERIORS

PLEASE BE FAMILIAR WITH THESE BASIC PRINCIPLES!

NEVER empty your swimming pool without notifying the BUILDER of the pool of your intentions and reasons for doing so!

STRUCTURAL DAMAGE TO YOUR POOL COULD RESULT

1. ***When the pool is first filled operate the filtration unit 24 hours per day.*** We recommend 24 hours a day until the surrounds have been completed, and at any future time when the water gets out of balance or goes green. Once the pool stabilises, cut the filtration to the times recommended at the front of this manual.
2. ***The 1-2-3-4-5 Chemical Routine!*** Correct chlorination is based On a properly Balanced Pool.
 - (1.) pH 7.4 to 7.8 (7.6 is Ideal!)
 - (2.) (I) With SALT CHLORINATOR fitted) - Residual Chlorine 2.0 to 3.0 ppm
(II) With OZONE fitted) - Residual Chlorine 0.5 to 1.0 ppm
 - (3.) Superchlorinate (Shock Dose) twice monthly in the 'high season' with 10 ppm chlorine.
Turn OZONATOR OFF when Shock Dosing the swimming pool. Don't swim for two hours after Shock Dosing the pool.
 - (4.) Maintain Calcium Hardness of 200 parts per million.
 - (5.) Maintain Total Alkalinity of 120 parts per million.

The pH (Like the Richter) scale, each 1/10th is 10 times the previous measurement! (10-100-1000-10000 etc.)

By maintaining these values, and you will have a "happy" swimming pool!

If you have a Tri-Chlor feeder fitted such as the Aquagenie NEVER break up large (3" or 75 mm size) generic TriChlor tablets with a hammer as an explosion and burn injury may result, and DON'T put these generic TriChlor tabs in the skimmer basket as they will erode too quickly and rapidly lower the pH to unsafe levels!

3. Salt Chlorinators tend to make the pH RISE to 10 or more. The effectiveness of the chlorine is severely depleted when the pH goes above 8.0, so ADD ACID regularly to maintain an effective killing range against micro bacteria and algae.
4. Powder & Liquid chlorine have a pH of 11 so follow the regime in 3 (above) to keep your pool sterile.

"Little kids" create more work for the pool disinfectant. Rule of thumb is: SHOCK DOSE the pool! Tip **one to two litres of Liquid Chlorine or one to two coffee-size cups** of Granular Chlorine into **the skimmer water flow** while filtration is running. Don't let anyone swim for 20 minutes or so after shock dosing the pool.

5. **Winterise your pool after the summer season is over.** See WINTERISE Section in this Manual



FIBREGLASS
POOLS WITH
GEL-COAT INTERIORS

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STRUCTURAL DAMAGE TO YOUR POOL COULD RESULT

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2. ***The 1-2-3-4-5 Chemical Routine!*** Correct chlorination is based on a properly Balanced Pool.
 - (1.) **pH 6.6 to 7.2 (6.8 is Ideal!)**
 - (2.) **(I) With SALT CHLORINATOR fitted) - Residual Chlorine 2.0 to 3.0 ppm**
Add ACID (Sodium Bisulphate - powder acid - or Hydrochloric Acid liquid form)
Acid will be regularly required to maintain the pH at an acceptable level for pool water
Hygiene as the killing power of chlorine tapers off sharply above pH 8.0
(II) With OZONE GENERATOR fitted) - Residual Chlorine 0.5 to 1.0 ppm
 - (3.) **Superchlorinate (Shock Dose) twice monthly in the 'high season' with 10 ppm chlorine.** Turn OZONATOR OFF when Shock Dosing the swimming pool. Don't swim for two hours after Shock Dosing the pool.
 - (3.) **Maintain Calcium Hardness of 200 parts per million.**
 - (4.) **Maintain Total Alkalinity of 120 parts per million.**

The pH (Like the Richter) scale, each 1/10th is 10 times the previous measurement!

If you have a Tri-Chlor feeder fitted such as the Aquagenie NEVER break up large (3" or 75 mm size) generic TriChlor tablets with a hammer as an explosion and burn injury may result, and DON'T put these generic TriChlor tabs in the skimmer basket as they will erode too quickly and rapidly lower the pH to unsafe levels!

3. **Salt Chlorinators tend to make the pH RISE to 10.0 or higher. The effectiveness of chlorine is severely depleted when the pH goes above 8.0, so ADD ACID regularly to maintain an effective killing range against microbacteria and algae. Equal amounts of sodium hypochlorite (Liquid chlorine pH 11.0) and sodium hydroxide (Caustic Soda - pH 14.0) will create a continual high pH in the pool, so measures must be taken to reduce the pH.**
 4. **Powder & Liquid chlorine have a pH of 11 so follow the regime in 3 (above) to keep your pool sterile.**
- "Little kids" create more work for the pool disinfectant. Rule of thumb is: SHOCK DOSE the pool! Tip **one to two liters of Liquid Chlorine or one to two coffee-size cups** of Granular Chlorine into **the skimmer water flow** while filtration is running. Don't let anyone swim for 20 minutes or so after shock dosing the pool.
5. **Winterise your pool after the summer season is over.** See WINTERISE Section in this Manual



POOLS WITH
VINYL LINER INTERIORS

PLEASE BE FAMILIAR WITH THESE BASIC PRINCIPLES!

NEVER empty your swimming pool without notifying the BUILDER of the pool of your intentions and reasons for doing so!

STRUCTURAL DAMAGE TO YOUR POOL COULD RESULT

1. ***When the pool is first filled operate the filtration unit 24 hours per day.*** We recommend 24 hours a day until the surrounds have been completed, and at any future time when the water gets out of balance or goes green. Once the pool stabilises, cut the filtration to the times recommended at the front of this manual.
2. ***The 1-2-3-4-5 Chemical Routine!*** Correct chlorination is based on a properly Balanced Pool.
 - (1.) pH 7.4 to 7.8 (7.6 is Ideal!)
 - (2.) (I) (With SALT CHLORINATOR fitted) - Residual Chlorine 2.0 to 3.0 ppm
(II) (With OZONE fitted) - Residual Chlorine 0.5 ppm
 - (3.) Superchlorinate (Shock Dose) twice monthly in the 'high season' with 10 ppm chlorine. Turn OZONATOR OFF when Shock Dosing the swimming pool.
Don't swim for two hours after Shock Dosing the pool.
 - (4.) Maintain Calcium Hardness of 200 parts per million.
 - (5.) Maintain Total Alkalinity of 120 parts per million.

The pH (Like the Richter) scale, each 1/10th is 10 times the previous measurement!

If you have a Tri-Chlor feeder fitted such as the Aquagenie NEVER break up large (3" or 75 mm size) generic TriChlor tablets with a hammer as an explosion and burn injury may result, and DON'T put these generic TriChlor tabs in the skimmer basket as they will erode too quickly and rapidly lower the pH to unsafe levels!

3. **DO NOT USE MORE THAN THE RECOMMENDED QUANTITY OF AQUAGENIE TRI-SUPER-90 TABS FOR YOUR POOL!** With Ozone fitted, this is usually 2-3 for smaller pools to 4-6 for larger pools - depending on pool capacity.
4. **SOME CHLORINE IS NECESSARY!**

"Shock Dose" every two to three weeks during high season if the pool is experiencing heavy bather use.

"Little kids" create more work for the Aquagenie and Ozone. Rule of thumb is: tip **one to two liters of Liquid Chlorine or one to two coffee-size cups** of Granular Chlorine MONTHLY into **the Aquagenie water flow** while filtration is running. Don't let anyone swim for 20 minutes or so after shock dosing the pool.

5. **Winterise your pool after the summer season is over.** See WINTERISE Section in this Manual



TYPICAL ELECTRICAL REQUIREMENTS for SWIMMING POOLS

All electrical connections must be protected from weather, unless they are in a shed or under the house.

Typical Filtration Pump

The pool filtration is powered by a 230 volt 50 Hz electrically powered self-priming water pump. The pump motor size may vary in power requirements depending on the pool size and/or water capacity. In larger pools two pumps/filters may be installed. The pump(s) require a standard 3 pin outlet. All outdoor 3-pin-plugs should be of the "weatherproof" type and housed in a weatherproof box.

Small size pools	up to 30 kiloliters	1 x 550 watt pump motor
Large size pools	30 kl & up to 80 kl	1 x 750 watt pump motors
Larger pools	80 to 120 kl	2 x 750 watt pump motors (or more)
Larger pools	over 120 kl	2 x 1150 watt pump motors (or more)

Time Clock

A Hard Wired filtration timer clock may be included with your pool for each filter system supplied, and you will want a bypass fitted for pool vacuuming during "power off" times, so ask the Electrician about fitting one for each time clock. The time clock feeds the 3 pin outlet that the pool pump(s) are plugged into.

SALINE CHLORINATORS Check the manufacturer's data sheet as there is a wide variance in power use.

OZONE units Passive Ozone production units (a.k.a Activated Oxygen) use 40 watt power UV tubes similar to fluorescent lighting tubes. Please note: WARRANTY ON BULBS IN VOIDED IF THE OZONE UNIT IS CAPABLE OF BEING OPERATED INDEPENDENTLY of the pool pump! The Ozone Unit MUST NOT BE OPERATED without the pump running!

Pool Lights

QH (Quartz Halogen) Family size pools usually have lights a pair of 100 watt lights with transformers housed in drip-proof zone 3 plastic moulded boxes.

LED (Light Emitting Diodes) New on the market, LED lights provide bright output at low power consumption (but cost more initially) One transformer is sufficient for up to six LED lights/

The lights are either and come with ten meters of cable. If the cable length is altered, lights may not function as intended due to voltage variation. The Electrician will calculate wire gauge should any addition be required, which will be at your cost. People like to switch the pool lights on and off from inside their house, so inform the Electrician if you want to do this.

Heat Pumps

Heat pumps vary in power requirements depending on the model. Although not strictly necessary for the smaller models, it is usual to hardwire the Heat Pump into the electrical supply. There are many options for

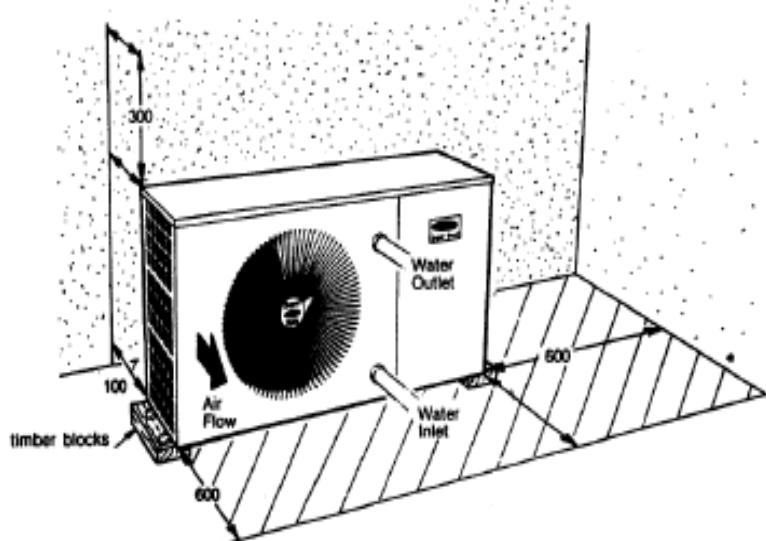
Heat Pumps on the New Zealand market.

You will have evaluated the market and made a choice, so the documentation for your Heat Pump will provide the appropriate values.

The heat pump is interlocked to a water pressure switch which prevents operation when water flow is too low or nonexistent, or when the pool is being backwashed.

To avoid recirculation exhausted (cold) air back into the intake side, the intake and exhaust sides of the heat pump must be separated by ducting or the unit must be installed open air without physical barrier or restriction to air flows.

If the heat pump is to be installed inside a shed or closed room, care must be taken to ensure a steady flow of intake air via a grill or vent, and the cold exhaust vented out to avoid being drawn back into the intake side of the unit.





5 Easy Steps to **CLOSING** your pool for **WINTERTIME**



WINTERISING: COMPLETE INSTRUCTIONS

Give pool a good vacuum then backwash the filter for 3 to 4 minutes or until the

backwash discharge is clean and clear. Reduce the daily filtration time to 2 to 3 hours depending on whether your pool is less than 30 kl or more than 30 kl. For pool >100 kl set timer for 8 hours. Add 1 litre Algaecide (HOTZONE is one) for all pools up to 50 kl, 2 litres for larger pools. (Repeat this in 6 weeks time). Using the "Chemistry Set" (not the test strips) water test kit, check the pool balance and ensure the levels are correct for calcium hardness of 200 ppm and total alkalinity of 120ppm. If they need to be adjusted, recheck after adding Calcium Chloride and/or Sodium Bicarbonate, and adjust the pH as required to maintain a level of 7.6. Superchlorinate the pool to 5.0 ppm of residual chlorine (test chlorine levels again after four hours). **ALWAYS Remove the Pool Cover when Shock Dosing the pool, and over Wintertime as Algae will form underneath and a chlorine build-up with no sunlight exposure could damage the pool liner.** Turn off the Heat Pump at the main switch,

Every few weeks glance at the pool to see if any algae is forming. If there is, repeat the instructions for using Algaecide (above).

If there is a chance the pool might freeze over, throw a few beach balls in for the winter (The water won't freeze under them, and the hole under them will allow the frozen water to expand without damaging the pool).

USE ONLY GOOD QUALITY POOL CHEMICALS!

Don't worry about lowering your pool water when it fills with rainwater. Pools may "overfill" without any problem, so it is not necessary to manually lower the pool.

THE QUICK VERSION of the FIVE STEP PLAN:

- 1. Backwash the filter thoroughly, being careful not to lower the pool too far.**
- 2. Reset your time clock to 2 to 3 hours daily depending on your pool size and water capacity.**
- 3. Superchlorinate (Shock Dose) to 5.0 ppm, balance pool, correcting the pH is the last thing you do.**
- 4. Remove the pool cover and store it for winter.**
- 5. Switch off the Heat pump or Gas Heater off at the wall.**

EMAIL US info@poolguild.org.nz IF YOU HAVE ANY QUESTIONS!

DON'T LOWER YOUR POOL DOWN IF IT FILLS WITH RAINWATER, AS HYDROSTATIC DAMAGE MAY OCCUR TO YOUR POOL IF GROUNDWATER BUILDS UP BEHIND THE POOL WALL!



5 Easy Steps to OPENING your pool in SPRINGTIME



SPRING OPENING: COMPLETE INSTRUCTIONS

Backwash the pool filter thoroughly for 3 - 5 minutes (don't lower the pool too far!) Increase Filtration time, initially to 6 - 8

hours, then 8 to 12 hours in the height of summer (experiment!). Increase Chlorine levels by adding manually or increasing the automatic dosing device on your pool. Add 1 litre of Algaecide per 50 kI pool water, Water may turn bright blue or green initially. Repeat in one month's time and each month add 500 ml top up. As Algaecide brands may have different instructions, read the label on the bottle and follow the instructions. Balance pool water by adding Calcium Chloride hardness to 200 ppm and Total Alkalinity by adding sodium Bicarbonate to 120ppm and pH UP or pH DOWN (as needed for your pool type). Adjust the pH LAST! Re-install the Pool Cover and Switch on the Heat Pump or other pool heating device. If you have a THERMAL Heat Retention cover, and leaving it off in the initial stages will delay the pool heating up to your required temperature. Run the pool filtration system 24/7 on time clock override if possible, to bring the pool water up to the required temperature. Heat Pumps are "maintenance heaters" and will take a full week to reach optimum pool temperature.

The FIVE BASIC Principles section of this Pool Owner's Manual will indicate how to correctly maintain the correct Pool Water Balance values and relationship between pH and buffering agents in the water.

USE ONLY QUALITY POOL CHEMICALS!

Don't worry about lowering your pool water when it fills with spring rainwater, as pools have a self-adjusting level and need no intervention from you and may "overfill" without any problem, so it is not necessary to manually lower the pool.

Every few weeks glance at the pool to see if any algae is forming. If there is, repeat the instructions for using Algaecide (above).

THE QUICK VERSION of the FIVE STEP PLAN:

1. Backwash the filter thoroughly, then reset your time clock to SPRING TIME (6-8 hours).
2. Increase any Auto Chlorine Dosing device fitted to maintain a residual chlorine level of 2.0 ppm to 3.0 ppm. If you have OZONE fitted, switch the Ozone Generator on.
3. Add 1 litre of Algaecide per 50 KI of pool water, dumped into skimmer while pool is operational.
4. Replace the pool cover.
5. Switch on the Heat pump or Gas Heater at the wall.

EMAIL US info@poolguild.org.nz IF YOU HAVE ANY QUESTIONS!

READ AND UNDERSTAND THIS PAGE

YOU NEED TO KNOW HOW TO TEST THE WATER to KEEP YOUR NEW POOL
SAFE & CLEAN



HOW TO USE YOUR “CHEMISTRY SET” TEST KIT!

We encourage you to keep the Total Alkalinity & Calcium Hardness levels up in your pool - even if you dissolve powder chlorine in a bucket; tip all the resulting mixture (residue and all) into the skimmer while the pool filter is running.

If you don't have a 4-in-1 test kit (The Blue one) you may need a local pool shop to test for calcium hardness - which should be between 200 and 500 ppm depending on your type of swimming pool. Follow these instructions for a Mk IV kit.

TESTING INSTRUCTIONS			
CHLORINE/BROMINE TEST DPD METHOD <ol style="list-style-type: none">Fill CL tube to the mark with pool or spa water.Drop one DPD tablet into tube (Avoid touching the tablet)Place cap on tube and shake until the tablet dissolves.Free Chlorine Reading Compare tube color with adjacent color standardBromine Reading Compare color in vial with bromine standards and determine TOTAL Active Bromine.	pH TEST <ol style="list-style-type: none">Fill large tube to pH mark with pool or spa water.Add 1 drop of solution #4, and swirl to mix.Add 5 drops of solution #2, and swirl to mix.Compare the tube color with the adjacent color standard to obtain the pH reading. <p>NOTE: Should the pH reading exceed 7.6, save the test sample and proceed to the Acid Demand Test.</p>	ACID DEMAND TEST <ol style="list-style-type: none">Using water sample from pH test, add solution #3 ,one drop at a time, swirling between drops.Count drops needed to change color to nearly match pH color standards. Do not count drops which give a 7.2 reading or below.Using the number of drops needed, refer to the acid demand chart in the test kit to determine the quantity of liquid acid required. <p>NOTE: A. Never add acid and chlorine at the same time B. Add acid with filter running.</p>	TOTAL ALKALINITY TEST <ol style="list-style-type: none">Fill large tube to total alkalinity with pool or spa water.Add 1 drop of solution #4 and swirl to mix.Add 2 drops of solution #5 and swirl to mix.Add solution #3 one drop at a time, swirl between drops.Count drops needed to change color from blue to clear.Multiply the number of drops by 10 to obtain ppm (parts per million). <p>Ideal total alkalinity is 80-120 ppm for plaster finish pools or 120-150 ppm for vinyl, painted or fiberglass pools. If your reading is less than desired, add sodium bicarbonate. If more than desired, acid is usually needed.</p>

Refer to the recommended levels of pH TA & CH for your swimming pool type!

How to change the levels: Raise levels with

- Chlorine Test
- pH Test
- Total Alkalinity
- Calcium Hardness

Granular or Liquid chlorine
Soda Ash
Sodium Bicarbonate
Calcium Chloride

Lower levels with

Time will dissipate levels
Sodium Bisulphate
Hydrochloric Acid
Sodium Bisulphate
Hydrochloric Acid
Add water to pool

If you have OZONE fitted to your pool system, the RESIDUAL CHLORINE level should be low: between .5 and .7 mg/l (ppm) and MAY NOT SHOW A READING on the chlorine test kit. If you take a water sample to a pool shop, ensure THEY KNOW you have a non-chlorine swimming pool, or they will try to sell you some!



AQUACHEK 5-in-1 test strips

... because, We're all busy these days ...

The 5-in-1 test strip is the answer to busy people.

No longer do you have to:

- ✗ Go to pool and get a water sample
- ✗ Sit down and gently pour the water into the testing container
- ✗ Add one chemical ...
- ✗ Then another ...
- ✗ Shake the solution ...
- ✗ Compare the result with chart



**Now, with the 5-in-1 test strip
it's a whole new ball game.**

Simply dip a strip into the pool, and you're almost done! hold the strip level with the comparator, and that's it!

A Quick and simple way to check your pool's health.

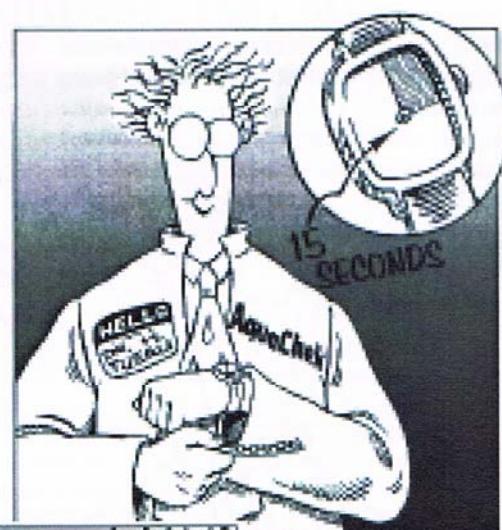
Note: Test Strips are NOT as accurate as the "Chemistry Set".

Use them for comparative testing only, once you have established a benchmark.

Also, they get "past dated". Check the bottom of the container for its USE BY date.



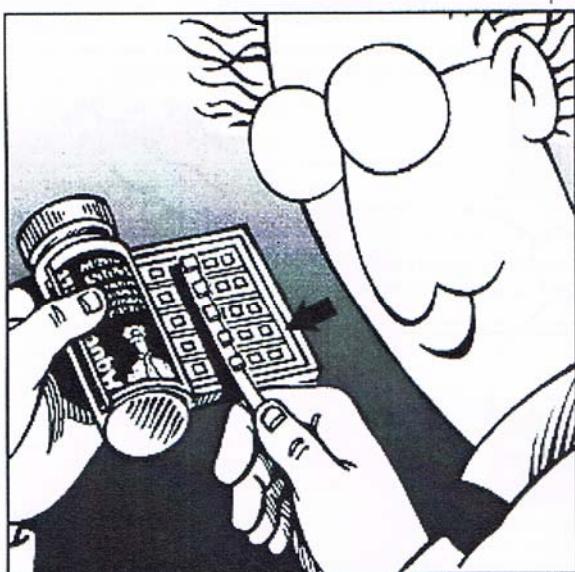
Dip the Strip, then



Hold flat
for 15 seconds.....



Compare colors to sample



Log the results!

Easy, isn't it!

Remember that the recommendations in the US AquaChek manual may differ from ours. **Use ours!**

WATER TEST LOG The New Zealand Master Pool Builder's GENERIC POOL OWNER'S MANUAL

Spare copies of this page are available to download from the pool owner's club - www.cascade.co.nz



The New Zealand Master Pool Builder's GENERIC POOL OWNER'S MANUAL



1. Using the "Chemistry Set" pool water test kit - Please refer to page 10 of this Generic Pool Owner's Manual.

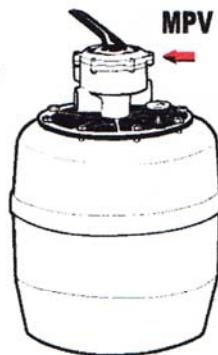
2. Checking the Pool Filter pressure gauge to see if it needs a backwash.



Note the initial reading on your pressure gauge when the filter is first started by YOUR POOL BUILDER/INSTALLER!

When first started, the pressure gauge will read the optimum pressure for your pool (usually from Zero to 2.5 Kpa) When the pressure **increases** by 1.0 kpa or goes into the RED ZONE it's time to **BACKWASH** your pool filter.

If you have **Electrostatic Glass Bead filtration**, backwash the Filtration Tank periodically - say twice a year. Regular Sand media may need backwashing more often, perhaps three times a year or more.



- (a.) Turn OFF the power, rotate the MPV Handle (on top of the tank) to the Backwash position
- (b.) Turn ON the power.
- (c.) Wait (1 - 3 minutes) until the water through the sight glass provided runs clear
- (d.) Turn the power OFF
- (e.) Turn handle to RINSE, power ON for 5 seconds, power OFF
- (f.) Turn handle to FILTER position, power ON! Congratulations: you have just backwashed your filter!

3. Checking and emptying the Hair & Lint Strainer.



The "Hair & Lint Strainer" is located at the front end of the pool pump. (See RED Arrow at left) It has a clear PVC lid that means you can see if it needs emptying or not. Unless it "looks" more than half full, it may not be necessary to do anything. If you have to empty it, remove the clear lid carefully. If it has been put on too tight, you may need a tool or length of wood that fits the casting to add leverage, but do not re-tighten it too much when you replace it. Hand-tight is generally OK. It will have a round neoprene "O" ring under the lid, so be sure to give this a wipe clean and replace it carefully or the pump may not "prime" if air gets sucked into the bowl. Using a little Vaseline helps to make the O ring air-tight!

4. Checking the OZONE unit: (FM MOG60/120 UV Unit)

If the GREEN LIGHT is ON and there are BUBBLES in front of the water return: It's Working! Check the position of the suction gauge.

5. Salt Chlorinator Cell Maintenance:

Eventually a surface film will build up on the electrode thus reducing device efficiency. Use Liquid Hydrochloric acid (diluted 1:12 in water solution) soaking electrode briefly to acid wash. Use a PVC container (an old CLEAN 1 litre milk container with the top cut off is a useful container) Add 2/3 WATER FIRST, topping up with ACID to avoid spills. Observed cleaning action (bubbles & foam effervescence) and discontinue treatment when effervescence starts to decline, so as to not damage the electrode surface

* CAUTION! OBSERVE SAFETY PRECAUTIONS WHILE HANDLING HYDROCHLORIC ACID

1. Wear latex or rubber Safety Gloves, safety glasses, protective apron, gumboots or other foot protection
2. 3/4 fill intended container with water - ADD ACID TO WATER (NOT the other way around)
3. Avoid contact with skin - if accidentally exposed, IMMEDIATELY flush with cold water
4. Dispose of used acid solution safely (NOT in stormwater drain) - it is still potent and may cause harm!
5. Store unused Hydrochloric Acid in secure location - away from children, pets, motor vehicles etc.



5. Vacuuming the swimming pool:

Often, if the pool "looks like" it may need a vacuum, you can simply give it a good brush using the blue Pool Brush (shown at right). This will swirl any floor debris up into the pool water, and the Aquagenie might be able to do the job for you. Check if the pool is still in need of a vacuum the following day: If so, here is what you do:

- (a.) Connect the 2.4m extendable Vacuum Handle to the Vacuum Head and click into place
- (b.) Connect the flexible blue Vac Hose onto the 40 mm male fitting on the top of the Vac Head
- (c.) Place and seal the Vacuum Plate (it's the dinner-plate size thing with a hole in the middle) into the skimmer water on top of the Skimmer Basket . You may want to turn off the pool pump first, and you certainly WILL have to when removing it
- (d.) Lower the Vac Head (and vac pole) into the pool, and feed the Vac Hose down into the pool so it fills with water. When you are sure it's full, plug it into the hole in the Vac Plate. Turn the pump back on if it's off. The MPV must be set to FILTER. Slowly "hoover" the pool floor, trying not to stir up the debris. If the suction stops after a while you may have to halt awhile to backwash the filter (if the pool is REAL dirty the Pressure Gauge will be in the RED zone). Backwash to WASTE until the discharge runs clean, then rotate the lever back to FILTER to continue. Remember to always **TURN THE PUMP OFF** when changing the MPV lever position.
- (e.) When you are satisfied with the job, unplug the vac hose etc. and store out of the sun.



SAFETY WITH POOL CHEMICALS



Pool chemicals can be injurious and damaging if not handled correctly and in particular if not kept out of the reach of children. It is very important to familiarise yourself with the following guidelines.

- (a.) **Never mix any pool chemicals together**, not different types or even, brands of a "similar" product - particularly granular chlorines, or granular chlorine with ANY OTHER chemical.
 - (b.) Never use pool chemicals in conjunction with household cleaners and detergents.
 - (c.) Never roll or violently agitate containers of granular chlorine. Always keep them tightly closed and away from naked flame (cigarette ash and motor oil will ignite this product).
- Failure to observe these simple precautions can lead to fire, explosion, production of noxious poisonous gases and potential personal injury.
- (d.) Keep all pool chemicals in a locked dry area out of reach of children. Always use clean dry utensils for measuring pool chemicals. Note: it is recommended practice to reserve a measuring device specifically for each different type of chemical.
 - (e.) When adding chemical and water solutions to the pool do so carefully holding the liquid container close to the surface of the pool to avoid splashing skin or clothing.
 - (f.) Always wash hands thoroughly with soap and water after using all chemicals.
 - (g.) Acids should be handled with great care. Always add acid to water NEVER water to acid.
 - (h.) Always check labels thoroughly before use. Similar looking labels can lead to the use of the wrong chemical with resultant harmful conditions.
 - (i.) Change test kit reagents every 12 months or sooner. The use of old reagents can lead to inaccurate tests and wrong dosages.
 - (j.) Familiarise your family with antidote treatment and first aid procedures in case of chemical accidents. Some first aid procedures are mentioned elsewhere in this booklet.

Remember that pool chemicals when treated with respect are beneficial products, which will ensure healthy water conditions and the health and safety of swimmers.

POOL CHEMICAL DEFINITE DON'TS!

- ✗ **NEVER MIX ANY TWO DIFFERENT POOL CHEMICALS TOGETHER!
EXPLOSION AND SEVERE BURN INJURY MAY RESULT!**
- ✗ **DO NOT ADD ANY CHEMICALS DIRECTLY INTO THE SWIMMING POOL!
INTRODUCE ALL CHEMICALS INTO SKIMMER WHILE FILTER RUNNING.**
- ✗ **ONE EXCEPTION: DO NOT PUT TRI-CHLOR TABLETS INTO YOUR SKIMMER
BASKET AS DAMAGE TO THE FILTRATION SYSTEM MAY RESULT!**
- ✗ **DO NOT ALLOW OVERCHLORINATION WITH POOL COVER ON POOL!
THE BUILD-UP OF CHLORINE MAY DAMAGE THE COVER**
- ✗ **DO NOT STORE POOL CHEMICALS NEAR PETROLEUM BASED PRODUCTS
EXPLOSION AND/OR FIRE MAY RESULT!**
- ✗ **DO NOT SMOKE, OR ALLOW FLAME OR FIRE IN THE VICINITY OF CHEMICALS
A SPARK FROM A CIGARETTE WILL IGNITE POWDER CHLORINE!**
- ✗ **DO NOT STORE POOL CHEMICALS WHERE CHILDREN MAY ACCESS THEM!
THESE ARE HAZARDOUS GOODS AND CHILDREN MUST BE PROTECTED
FROM HARM**

