

# **cascade** **swimming pools**

## **SUMMER of 2014 POOL OWNER'S MANUAL**

Vol. 43 Issue I (Abridged Version)

**“ The essential guide  
to the correct operation and  
maintenance of your  
CASCADE swimming pool ”**



**[www.cascade.co.nz](http://www.cascade.co.nz)**



**YOU ARE AUTOMATICALLY ENROLLED IN THE CASCADE POOL OWNER'S DISCOUNT CLUB.  
DISCOUNTS AVAILABLE ON MOST POOL EQUIPMENT AND CHEMICALS AND ARE  
AVAILABLE FROM AQUATECH INDUSTRIES, HILL STREET, ONEHUNGA  
(09) 636 9921 - info@aquatech.co.nz**

**[www.aquatech.co.nz](http://www.aquatech.co.nz)**

**QUOTE YOUR POOL ID NUMBER AS THE ORDER NUMBER**

**TO DOWNLOAD SERVICE TIPS, MANUALS ETC FROM THE CASCADE POOL OWNERS PAGE:  
a TREASURE CHEST of equipment discounts, pool tips and 'how to' DIY guidance!**



**[www.cascade.co.nz/poolclubmember.htm](http://www.cascade.co.nz/poolclubmember.htm)**

**cut and paste or go to Cascade web page .....**

**Main Cascade web page > Some Trivia > pool club (password required)  
pw = ' poolclubmember ' - don't include the 'quotes'**

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E&OE (C) January 2014

**POOL CLUB MEMBERS - private web page - a valuable online resource**  
**[www.cascade.co.nz/poolclubmember.htm](http://www.cascade.co.nz/poolclubmember.htm)**

GENERAL ONLINE INFORMATION, SERVICES and VIDEO LINKS MENU

- Using the Aquagenie: Part I Vacuuming your swimming pool click here
- Using the Aquagenie: Part II Backwashing the pool click here
- Here's a video on how to check the pH in your swimming pool
- Cascade recommends Ozone water treatment. Click the online link for some facts!
- Why must you SHOCK DOSE your swimming pool regularly?
- I don't know what pool terms are, I need to learn a pool owner's vocabulary!
- I need to know what to call the filtration bits and pieces!
- I can't find my Pool Owner's Manuals and need a copy .....
- Download the current version as supplied with a new pools
  - Order a printed copy of the Manual
- Simple Advice - Basic pool care principles!
- Are there any definite DONT'S associated with vinyl liner pools?
- Pool Interior manufacturer ABGAL has an on-line video with liner care information
- I can't figure out my water test results and need you to check the water test for me
- I want to do some simple Do-It-Yourself maintenance on my Cascade pool
  - \* Sand Filter media replacement
  - \* MPV (Multi Port Valve) Spider Gasket replacement
  - \* Change a niche-style underwater pool light bulb
  - \* Service (acid wash) a Salt Chlorinator electrode cell
  - \* Patching a damaged pool liner
  - \* Cleaning out the Hair & Lint Strainer
- I want to change my filter sand but prefer to watch a video for instructions
- I think my pool is leaking from the Mulit-Port valve: can I service it myself?
- I'm a new owner and need help how to keep my pool in top shape!
- I have had a NEW pool installed and want to send you a Customer Report about it
- I need a pool serviceman to come and fix a problem with my pool.
- I want to empty my pool - SHOULD I?
- My pool liner seems to have developed a wrinkle!
- Aquagenie Skimmer - click the link to see the manufacturer's promo video
- I need a Copy of the water test log page for my Owner's Manual
- Use our Water Analysis Sheet for recording your pool water data!
- Saturation Index interactive spreadsheet available for advanced water clarity experts!
- How to WINTERISE your Cascade swimming pool in autumn!
- How to OPEN your Cascade swimming pool for SPRING.
- Does your old CASCADE pool needs refurbishing and a new liner?
- Order a replacement pool or spa cover on-line
- I want to visit the Pool Warehouse to get pool chemicals or accessories



For those of us  
with a short  
attention span!

# 9

## NINE SIMPLE STEPS TO CARING FOR YOUR CASCADE SWIMMING POOL

### 1. NEVER EMPTY YOUR SWIMMING POOL!

WE WILL DO IT for you if needed - It's NOT USUAL PRACTISE to empty a pool

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

The pool has a SELF-LEVELING DEVICE in the Aquagenie

### 3. THIS OZONE POOL IS NOT A "CHLORINE" POOL

OZONE replaces Chlorine - so there will be NO CHLORINE if you get the water tested at a pool shop - tell them! Use the OZONE ASSIST PROGRAM in Winter

### 4. FILTER 8 - 10 HOURS IN SUMMER, 2 - 4 HOURS IN SPRING & AUTUMN

Refer to the OZONE ASSIST page for Winter filtering suggestions

### 5. NEVER THROW ANY POOL CHEMICALS INTO THE POOL WATER

All pool chemicals go in the SKIMMER while pump is running

### 6. BACKWASH the GLASS FILTER MEDIA for ONE to TWO MINUTES

at least EVERY SECOND MONTH in the high summer SWIMMING SEASON

### 7. CHLORINE IS A BLEACH! NEVER OVERCHLORINATE YOUR POOL!

The maximum level for a monthly chlorine 'shock dose' is 2.0 ppm

### 8. CORRECT pH is VITAL for a HAPPY POOL!

Check pH MONTHLY during the swimming season and TWICE in the off season!

### 9. DON'T COOK YOUR POOL WITH THE POOL COVER!

Your Thermal Retention Cover is to keep the HEAT IN when heating your pool.

Don't leave it on all the time if you are not heating the pool.

Don't leave it on all Winter, and remove if you Shock Dose the pool!

**FOR SIMPLE MAINTENANCE TASKS YOU CAN DO YOURSELF**

Go to the Pool Club on the Cascade Web Site for simple procedures

[www.cascade.co.nz](http://www.cascade.co.nz) -click- PRIVATE AREAS tab on right





## Be familiar with these basic principles!



### RAIN CHANGES EVERYTHING!

Rain brings all sorts of contamination from the sky: algae, acids, alkalines, dust, dirt, pollen, bird droppings, smoke particles from Australian bush fires etc. which affects pool pH and clarity. Check the pH regularly in the wet season!

### NEVER EMPTY THIS SWIMMING POOL!

Even after heavy rain. It does not hurt the pool to be 'full'. The water holds the liner in place, and lowering too far or emptying the pool could cause the liner to shift about. Emptying the pool without calling us for advice invalidates the warranty - so DON'T!

1. **When the pool is first filled operate the filtration unit 24 hours per day.** There is more debris and waste going into your new pool so extra filtering is needed at this time - 24 hours a day until the surrounds have been completed, and at any future time when water gets out of balance or goes green. Once pool stabilises, cut filtration to the times recommended at the front of this manual.

2. **The Cascade Routine!** Correct water sterilisation is based on these elements of a properly Balanced Pool.

- (1.) pH 7.6 or as close as possible ( 7.4 - 7.8)
- (2.) **OZONE POOL:** Residual Chlorine .05 ppm (2-4 Tabs in Aquagenie)  
**CHLORINE POOL:** Residual Chlorine 1.0 ppm (control by Tablets in Aquagenie)
- (3.) Calcium Hardness 200 parts per million (200 mg/Litre) recommended
- (4.) Total Alkalinity 120 parts per million (120 mg/Litre) recommended
- (5.) Superchlorinate the pool monthly by raising the Chlorine Residual to 2 - 4 ppm
- (6.) Use OZONE ASSIST program as described on the OZONE ASSIST page!
- (7.) Remove the pool cover (and leave off for 24 hrs) while treating your pool.

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

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

Our Aquagenie system, uses small (1" or 25 mm) Tri-Super-90 Tabs available from Aquatech or the Cascade web site! NEVER break up large (3" or 75 mm size) generic trichlor tablets with a hammer to fit the Aquagenie Cannister 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!** (unfortunately, but it's the Instant Effect you need occasionally)

"Shock Dose" every month during high season or more often *if the pool is experiencing heavy bather use.*

"Little kids" create more work for the Aquagenie and Ozone. Rule of thumb is: tip **one liter of Liquid Chlorine or one coffee-size cups** of Granular Chlorine 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

6. **"Pool Shop Advice"**. Many pool shops do not understand the different needs for your CASCADE pool finish, and may give you inadvertently misleading - or even contradictory - advice. They MAY NOT UNDERSTAND the lack of Chlorine in your water sample, as they many not realise that you are using OZONE as your Primary Disinfectant!

It's better to **follow your Cascade Pool Owner's Manual, and use only our proven method of caring for ABGAL's Aqualux Interior swimming pool liners.** Some overseas - particularly Australian based - pool products are meant for coarse River Pebble Plaster finishes, and are too harsh for vinyl liner pools - SuperChlor is one, so don't use these products in your pool - and DON'T broadcast anything into the pool water - despite what the instructions might say on the packet or container!



**EVERY POOL-WATER PROBLEM REPORTED TO US  
HAS BEEN TRACED BACK TO INCORRECT WATER BALANCE!**

**THE MOST IMPORTANT SWIMMING POOL WATER BALANCE  
IS THE pH!**

**7.6 = Spot On!**

**LOW pH IS **ACIDIC** WHICH CAN DAMAGE YOUR LINER!  
ACIDIC WATER WILL STING SWIMMERS EYES!**

**HIGH pH IS **ALKALINE** AND CAN HURT SWIMMERS  
EYES AND SKIN & STING SOFT TISSUE**

**WATER PREFERS TO BE 'NEUTRAL' BUT IT'S EASILY INFLUENCED  
LIKE BY ACID OR ALKALINE RAIN!**

**GRANULAR & LIQUID CHLORINE CAN RAISE POOL pH TO 11.00!  
SHOCK DOSE POOL AS LEAST OFTEN AS POSSIBLE**

**SALT POOLS PRODUCE EQUAL AMOUNTS CHLORINE+CAUSTIC SODA  
CAUSTIC SODA HAS A pH OF 14.0!  
IF YOU HAVE A SALTY FITTED, YOU MUST CONSTANTLY  
MONITOR THE pH TO AVOID DAMAGE TO LINER**

**BUT!  
IT WILL BE DIFFICULT TO "GET THE WATER RIGHT"  
UNLESS THE pH IS AT THE  
CORRECT LEVEL - 7.6 !**

**(7.4 to 7.8 is ... well, ... OK - but not perfect!  
the pH scale is like the Richter Scale!)**



**regularly use ....**

# OZONE ASSIST

New and Existing Pools, and **RESTART** again each **MAY** (Refer to TYPICAL OZONE ASSIST PROGRAM below)  
 An initial dose - usually the entire 1 litre bottle - tipped into the skimmer return stream while running then regular monthly **TOP UP** application of **OZONE ASSIST** Algae Inhibitor will work in conjunction with Filtermaster's Ozone Generator fitted to your Cascade pool and will keep your pool free from most common forms of Algae for extended periods of time without the need of - or relying on - superchlorination with chlorine. Keep a second bottle on hand for this process - the two should last the entire swimming season.

Cascade **OZONE ASSIST** is designed to eliminate Algae, but it has no affect on pathogenic bacteria so you must continue with your normal OZONE pool disinfection, preferably with a low dose (0.5 ppm) of Free Available Chlorine by keeping a couple of Aquagenie Tablets in the skimmer's tab cannister under the lid.

Before restarting the program each Spring, vacuum your pool and backwash the filter, adjust your pool water pH to 7.6 and Balance the pool water to 120 ppm Total Alkalinity and 200 ppm Calcium Hardness. Higher calcium levels will reduce the effectiveness of **OZONE ASSIST**.

**DOSAGE LEVELS:**

Pool Volume	START	TOP UP	DOUBLE DOSE
Up to 30,000 ltrs	500 ml	50 ml	100 ml
Up to 50,000 ltrs	1000 ml	100ml	200 ml
Up to 100,000 ltrs	2000 ml	200ml	400 ml

**REORDER YOUR FREE BOTTLE  
 ONLINE at the Cascade POOLCLUB  
 BY TELEPHONE 0800 227 223  
 or email sales@cascade.co.nz**

**DIRECTIONS:**

Pour the required amount into the Aquagenie return stream while pool is filtering. **TOP UP** with the amount indicated above regularly - preferrably on a monthly basis. Put it on your calendar, so you don't forget!

**TYPICAL OZONE ASSIST Program:**

Spring				Summer				Winter			
Sept	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug
START	TOP UP	TOP UP	TOP UP	DD	TOP UP	TOP UP	TOP UP	<b>RESTART</b>	TOP UP	DD	TOP UP

**WINTERISING:**

Check the Pool Owner's Manual section on winterising your swimming pool. If the pool is going to be out of action for several months over winter, you may want to reduce the filtration time to as little as 1 hour daily. Keep an eye on the water clarity, and if any signs of algae re-appear, add an **OZONE ASSIST** Double Dose and run the filter for 8 hours for a day or so until the water clears up again. In this way you may be able to economise on power costs by not having the pool filter running unecessarily.

**OZONE ASSIST** program may be used safely while the pool is not in use by swimmers for at least 24 hours There is no bacteria/pathogen elimination while the filtration (and OZONE generation unit) are switched off,, only when the system is running and the Ozone Generator is switched on.

**SAFETY:**

**HARMFUL SUBSTANCE; KEEP OUT OF REACH OF CHILDREN**

**PRECAUTIONS & FIRST AID**

Not to be used for any purpose other than assisting the Ozone Generator fitted to your Cascade pool to assist the elimination and prevent further growth of Algae. Avoid irritation by contact with eyes and skin. Wash your hands after using this product! If accidentally ingested by any person .....

**IMMEDIATELY DIAL 111 and request AMBULANCE**

This product is packed for Cascade Swimming Pools by PoolQuip Products, Auckland New Zealand. For assistance with this product, or re-ordering on line, call (0800) CASCADE - (0800) 227 223 or email sales@cascade.co.nz



The FIVE STEP PLAN to  
**WINTERISING**  
your Cascade Swimming Pool!

## WINTERISING: COMPLETE INSTRUCTIONS

- (1.) Remove and store Pool Cover, as Algae will form underneath during winter and if using a chlorine feeder a buildup of chlorine gas under the cover with no sunlight exposure could damage the pool liner.
- (2.) Turn off Heat Pump power at mains switch. Give pool a thorough vacuum then backwash the filter until the discharge runs clear.
- (3.) Using the "Chemistry Set" water test kit (not the test strips), check pool water balance and ensure levels are: *calcium hardness* 200 ppm, *total alkalinity* 120ppm. If they need adjusting, recheck after adding Calcium Chloride and/or Sodium Bicarbonate, then adjust *pH* to 7.6. Add 1 litre Cascade **OZONE ASSIST** for all pools up to 50 kl, 2 litres *or more* for larger pools. Add the monthly **TOP UP** amount specified for your pool size.
- (4.)
  - (4.1) Chlorine-only pools: Reduce daily filtration time to 2 to 4 hours depending on whether your pool is less than or more than 40kl. For pools >100 kl set timer for 3 - 6 hours. Reduce the quantity of Aquagenie chlor-tabs to 4 - 6 per skimmer.
  - (4.2) **OZONE - OZONE ASSIST**: If you are following the **OZONE ASSIST** program, don't put any chlor-tabs in the Aquagenie until Spring start-up. You may not have to run your pool filter more than an hour or so per day until spring **as long as** no-one is swimming in the pool. (NOTE: there will be **little or no bacterial protection** if the OZONE generator is running restricted hours). Do a monthly visual check of the poolwater clarity, and if the pool starts going green, use a double-dose and follow the directions on the **OZONE ASSIST** page. If the pool starts to look green, superchlorinate.

**\* Check the water clarity periodically to see if algae is forming. If there is, add a DOUBLE DOSE of Cascade OZONE ASSIST with the filter running for 15 minutes.**

## USE ONLY CASCADE CERTIFIED POOL CHEMICALS!

Order direct from the **Cascade Pool Club**' web Site! Pool Chemicals at Wholesale Prices!  
Don't worry about lowering your pool water when it fills with rainwater. Aquagenie pools have a self-adjusting level and need no intervention from you. Non-Aquagenie pools may "overflow" without any problem, and both will overflow into the pool drainage we installed when building your pool, so it is not necessary to manually lower the pool.



THE POOL!

**DON'T LOWER YOUR POOL DOWN IF IT FILLS WITH RAIN - LET THE AUTOMATIC SYSTEM DO THIS FOR YOU. FAILURE TO NOTE THIS DETAIL COULD CAUSE A PROBLEM WITH**







The FIVE STEP PLAN to  
**SPRING OPENING**  
your Cascade Swimming Pool!

## **SPRING OPENING: COMPLETE INSTRUCTIONS**

Backwash the pool filter thoroughly for 3 - 5 minutes - but don't lower the pool too far! Increase Filtration time, initially to 6 - 8 hours, then 10 to 12 hours in the height of summer (experiment with this - all pools differ!).

**CHLORINE POOLS:** Increase Chlorine levels by adding 8 to 10 Aquagenie Tabs into skimmer cannister,  
**OZONE POOLS:** Read the **OZONE ASSIST** pages for Directions

Balance pool water by adjusting Calcium Chloride hardness to 200 ppm and Total Alkalinity by adding sodium Bicarbonate to 100 ppm and pH UP or pH DOWN (as needed).

Adjust the pH LAST, as these other compounds will alter it!

Install the Pool Cover and Switch on the Heat Pump. It is a 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 may take several days to reach optimum pool temperature.

## **USE ONLY CASCADE CERTIFIED POOL CHEMICALS!**

Order direct from the Pool Club Site! Pool Chemicals at Wholesale Prices!

Don't worry about lowering your pool water when it fills with spring rainwater. Aquagenie pools have a self-adjusting level and need no intervention from you. Non-Aquagenie pools may "overflow" without any problem, and both will overflow into the pool drainage we installed when building your pool, 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 **OZONE ASSIST**.*

## **THE QUICK VERSION of the FIVE STEP PLAN:**

1. Backwash the filter thoroughly, then reset your time clock to 6 to 8 hours.
2. (a.) **CHLORINE POOLS:** Increase the Quadrachlor tablets in the Aquagenie Cannister to 8 to 10 to maintain a residual chlorine level of 100 ppm to 2.0 ppm.  
(b.) **OZONE POOLS:** Follow the **OZONE ASSIST** Directions on the **OZONE ASSIST** Pages
3. Replace the pool cover before you start the heat pump.
4. Switch on the Heat pump or Gas Heater at the wall.

**CALL US (0800) 227 223 IF YOU HAVE ANY QUESTIONS!**

# AUTOMATIC POOL CLEANERS

**Some types are not recommended for vinyl liner swimming pools!**

Some of the larger size ones that RECIPROCATE (i.e. the internals got up-and-down) are not recommended over the ROTARY types (i.e. the internals got round-and-round) which are usually fine!

The larger reciprocating types “hammer away” by stopping the water flow through the pump many times per second (tick-tick-tick-tick) - causing a strain on the filtration equipment and (if they get stuck in the pool) the hammer action can actually damage the pool interior! The ticked ones should be OK.

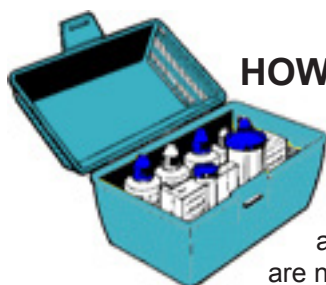


**The FILTERMASTER *Pool Rover ST*** at left is a good choice for a medium price range pool cleaner - but don't just leave it in the pool 24/7 - and give it a shake it if it gets stuck anywhere in the pool!

# FOR CHLORINE POOLS ONLY

## For Ozone Pools, just the pH is needs to be kept in range!

IF YOU NEED MORE POOL CHEMICALS, CALL US! 0800 227 223



### 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 is running. If you don't have a 5-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 400 ppm. We supply the 5-in-1 when available, but as an imported item, sometimes they are not available. Follow these instructions .....

## Mk IV Swimming Pool Water Comparator Test Kit Model 0302



### Recommended Levels for vinyl liner swimming pools

1. Free Chlorine Residual 1.0 to 2.0 (.5 TO .75 IF OZONE FITTED)
2. pH of 7.6 to 7.8 (Maximum)
3. Total Alkalinity 120 to 150
4. Calcium Hardness 200 to 300

### Raise Value with:

- Granular or Liquid Chlorine
- Soda Ash
- Sodium Bicarbonate
- Calcium Chloride

### Lower Value with:

- Time will dissipate levels
- Sodium Bisulphate
- Sodium Bisulphate
- Add Water to pool

Refer to supplier's container for instructions and quantities to use

#### 1. CHLORINE TEST

1. Fill small tube (left side) to top mark with pool water to be tested.
2. Add DPD tablet.
3. Compare colour with example using Cl side. The other sample is for Bromine testing.

**SHOCK DOSING**  
Shock Dose as required with 5 to 10 ppm each 7 to 10 days in summer. Higher values may damage liner or bleach printed patterns.

#### 2. pH TEST

1. Fill large tube (right side) to top mark with pool water to be tested.
2. Add 1 drop No 4 to neutralise chlorine and avoid bleaching sample.
3. Add 5 drops No 2 and swirl to mix thoroughly.
3. Compare colour with example. See recommended levels (above).

NOTE:  
If result is above 7.8 save sample for ACID DEMAND test. See next box for details on how to determine acid demand.

#### ACID DEMAND (TO LOWER pH)

1. Use water in tube from pH test.
2. Add No 3 drop by drop (swirl between drops) until colour matches 7.6 value on comparator.
3. Count drops.
4. Each drop = 500g of pH Decrease per 40 kl of pool water to reduce.

WARNING!  
Avoid the use of any liquid acids (Hydrochloric or Muriatic Acid) to lower pH! To avoid personal injury or equipment damage, use dry acid (Sodium Bisulphate).

#### 3. TOTAL ALKALINITY

1. Rinse large tube (right side) and add pool water to lower mark.
2. Add 1 drop No 4 to neutralise chlorine then 2 drops No 5 and swirl to mix thoroughly.
3. Add No 3 drop by drop (swirl in between) until colour changes from purple to clear or yellowish. Count drops.
4. Each drop = 10 ppm

#### 4. CALCIUM HARDNESS

1. Fill test tube to lower mark with pool water to be tested.
2. Add 2 drops of Hardness Solution No 1 and swirl to mix. Sample will turn Violet colour if hardness is present
3. Add Hardness Solution No 2 drop by drop and swirl to mix until colour changes to permanent blue.
4. Each drop = 50 ppm.

**If you have an OZONE UNIT fitted, THE RESIDUAL CHLORINE should be kept low! between .4 and .5 which MAY NOT SHOW UP ON TEST KIT RESULTS. Just check and ensure that there are TABLETS remaining in the Aquagenie Cannister, and chlorinated water is overflowing into the skimmer throat ... and the pool water is nice and CLEAR!**

### GENERAL INFORMATION

NYLEX Liners should typically give 20 years of service in your pool when all chemical values and water treatment instructions are adhered to. To enjoy prolonged liner life, avoid overchlorination, improper water balance and physical damage. Understand the recommendations below so that you become familiar with the correct procedures in maintaining your swimming pool liner. A properly cared-for vinyl liner should equal - or better - most other pool interior surfaces.

#### POOL WATER BALANCE

1. Maintain "Free Available" Chlorine (FAC) in 1.0 to 2.0 range. Compare result within 30 seconds after you add DPD tab to water sample. "Combined Chlorines" will also develop red colour in DPD sample within 2-3 minutes and give a false impression of FAC. "Breakpoint" chlorination neutralises contaminants, "Residual" chlorine goes one step further - to protect against on-going contamination. Maintain a residual!

Combined chlorines (Chloramines) do not contribute to pool sterilisation, and smell like rotten eggs (the so-called "chlorine smell") this means you have insufficient chlorine to combat contaminants in the pool. Increase chlorine levels, or shock dose accordingly to eliminate chloramines. Check FAC weekly in summer months.

2. Maintain pH at 7.6 - 7.8 max. pH is a very important aspect of pool balance, as an "out of range" pH can lock up the chlorine, and a low pH may damage to pool fittings and liner. If pH test indicates adjustment is needed, check the TA first. Check weekly.

3. Total Alkalinity (TA) exceeding 120 ppm but not exceeding 150 ppm to combat "pH Bounce" and supply a "buffer" against rapid changes in pH. Bringing TA to correct range may correct other values. Adjust pH last. Check TA monthly.

4. Calcium Hardness should be maintained at greater than 200 ppm but not more than 400 ppm at which level the pool may develop cloudy water. Water "tries" to gain hardness, and most of NZ's water originates from rainfall - which has low or zero hardness. Check annually in spring.

#### HELPFUL HINTS

Avoid using liquid acid (Hydrochloric, Muriatic) to lower pH, as it may splash and damage your clothes, or injure you. If you must use it, adopt safety rules and wear eye protection and gloves. Dry Acid (Sodium Bisulphate) is easier and safer to use.

Never EVER mix chemicals together - either in a bucket, dispenser, or in the Aquagenie canister. EXPLOSION and INJURY may follow!

We do not recommend the use of salt chlorinators, because it's too easy to "turn up the volume" and consistently produce chlorine levels in excess of 3.0 ppm - which will ultimately bleach (and destroy) the pool liner. If you have a salt chlorinator, be sure to monitor the chlorine production, run a reduced calcium hardness level of 100 to 150 ppm, and monitor for sodium hydroxide buildup (Sod Hydroxide has pH of 14)

Always run the pool filter when adding chemicals, and NEVER add ANY chemicals straight into the pool water (despite what instructions on the packet may tell you!) Add into water flow in skimmer, and run filtration for at least two hours afterwards.

Aquagenies and Trichloroisocyanuric acid feeder tabs contain Cyanuric Acid and will lower the pH, Chloride & TA levels eventually. Monitor levels and adjust accordingly. Cyanuric Acid levels should not exceed 150 ppm (to avoid cyanuric lock) but this will take several seasons to develop, and is counteracted by substantial rainfall typical of NZ. Cyanuric Acid test strips are available from us. Call (09) 636 9921 for details. We do not perform Water tests at our factory and advice is limited to printed matter

**NOTE: THESE STRIPS ARE NOT AS ACCURATE AS THE TEST KIT - USE FOR COMPARISON ONLY!**

## 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.**

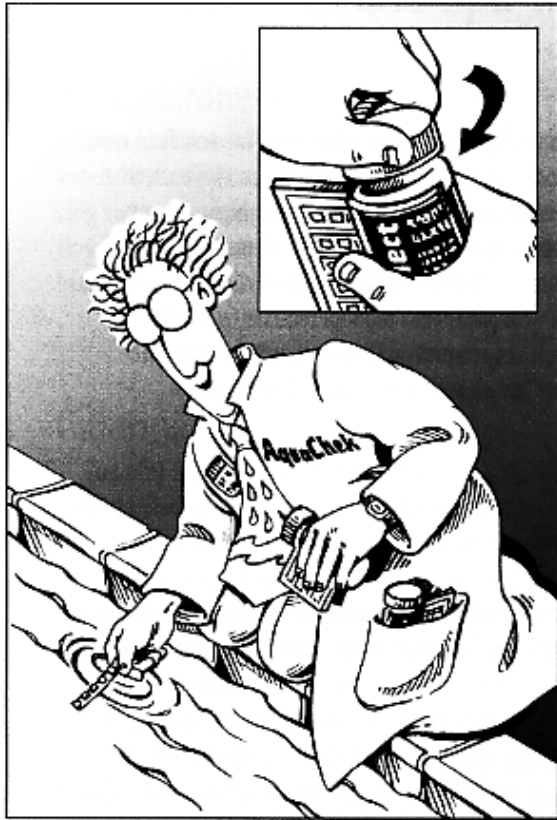
Simply dip a strip into the pool, and you're almost done! hold the strip level with the comparator, and that's it!

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 bench mark. Also, they get "past dated". Check the botom of the container for USE BY date.**

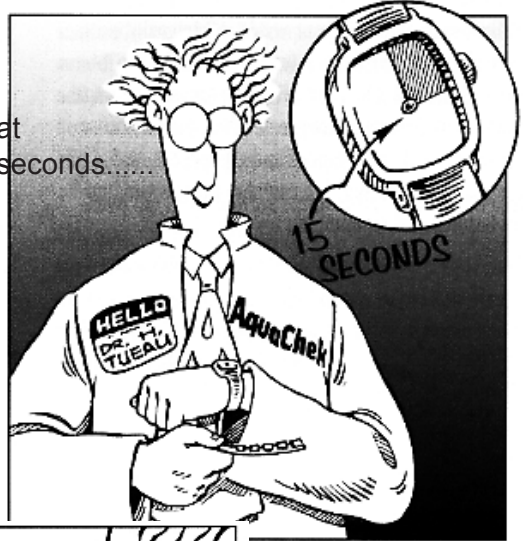




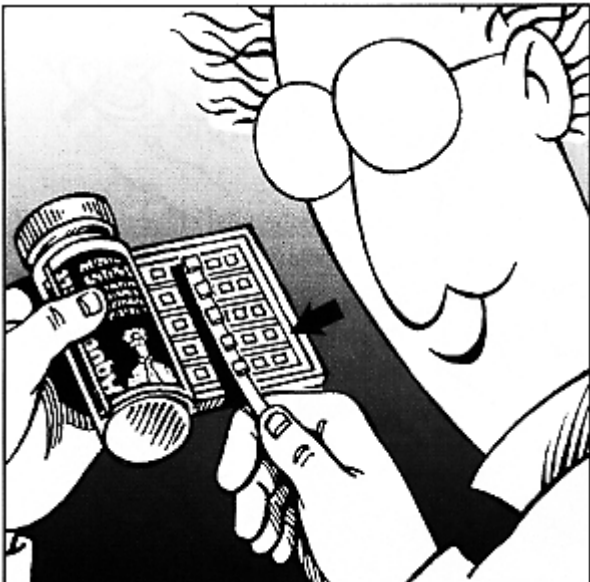
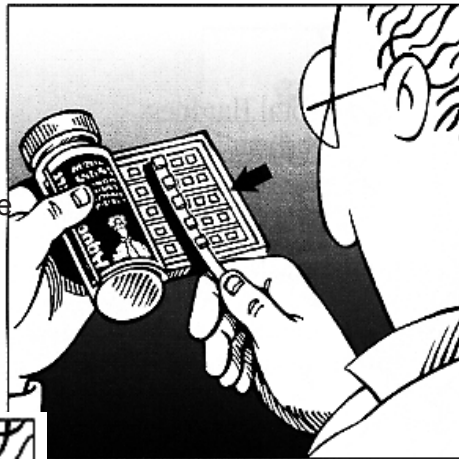
Dip the Strip, then ..



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!**





Sally Says:



"NEVER throw  
Pool Chemicals  
directly into the  
pool water!"

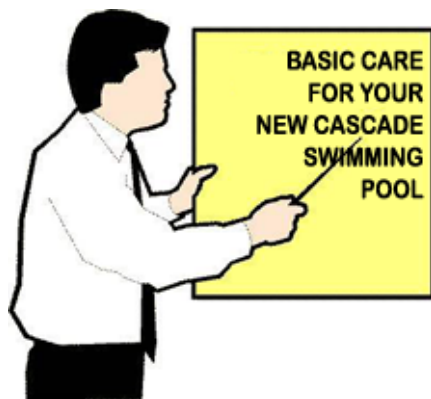
# **NEVER THROW ANY POOL CHEMICALS DIRECTLY INTO THE POOL !**

**Chlorine is a Bleach, and  
adding too much may fade the print  
pattern, damage the surface and  
shorten the life of the interior.**

**Add all pool chemicals into the skimmer while the filtration  
is running and disregard any pool chemical instructions that  
tells you to broadcast chemicals into the pool!**

**USE ONLY CASCADE CERTIFIED POOL CHEMICALS  
Available from Aquatech Limited (09) 636 9921  
and the pool owner's club.**

**NEVER EVER MIX ANY POOL CHEMICALS TOGETHER  
EXPLOSION, FIRE & INJURY MAY FOLLOW!**



1. Using the "Chemistry Set" pool water test kit - Please refer to page 22 of this 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 the Cascade installer.**

**reading on your pressure gauge when the filter is first started by the Cascade 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 FM Micromedia may need backwashing more often, three times a year or more.**

- Turn OFF the power, rotate the MPV Handle (on top of the tank) to the Backwash position
- Turn ON the power.
- Wait (1 - 3 minutes) until the water through the sight glass provided runs clear
- Turn the power OFF
- Turn handle to RINSE, power ON for 5 seconds, power OFF
- 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:

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

### 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:



- Connect the 2.4m extendable Vacuum Handle to the Vacuum Head and click into place
- Connect the flexible blue Vac Hose onto the 40 mm male fitting on the top of the Vac Head
- 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
- 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.
- When you are satisfied with the job, unplug the vac hose etc. and store out of the sun.



**6. Lowering the pool water down (DONT!) The pool has a self-levelling device built into the Aquagenie. Providing the person installing the concrete decking has been told to NOT COVER THIS PVER, it will keep the pool from ever filling right up.**

**7. Cleaning the dirt ring off liner around the water level: Use a green (Plastic) Scotchbrite Pad and NO SCRATCH Jiff**

Other maintenance items are available on the Cascade Pool Owner's Club web site  
<http://www.cascade.co.nz/maintenance.htm>

**As a Cascade pool owner, you are automatically enrolled in our Pool Owner's Club** - and can purchase all chemicals and accessories at discount prices. Log onto [www.cascade.co.nz](http://www.cascade.co.nz) - navigate to Pool Club web page. Password is "poolclubmember" (lowercase, no quotes) Chemicals can be couriered to regional customers.

www.CASCADE.CO.NZ  
 JOIN THE POOL OWNER'S CLUB ON-LINE!



## **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 familiarize yourself with the following guidelines.**

- a. Never mix chemicals together, not even different brands of same, particularly granular chlorine.
- 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. Failure to observe these simple precautions can lead to fire, explosion or the production of poisonous gases.
- d. Keep all 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 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. All 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. Familiarize 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.

### **DONT'S**

**✗ NEVER MIX DIFFERENT POOL CHEMICALS - AN EXPLOSION AND SEVERE BURN INJURY WILL RESULT!**

**✗ DO NOT ADD ANY CHEMICALS DIRECTLY INTO THE SWIMMING POOL!**

- **LINER DAMAGE OR PATTERN BLEACHING MAY OCCUR!**
- **YOUR LINER WARRANTY WILL BE INVALIDATED!**

**✗ DO NOT PUT THOSE BIG TRI-CHLOR TABS INTO YOUR SKIMMER BASKET!**

**✗ DO NOT OVERCHLORINATE YOUR POOL WITH THE COVER ON!**

- **LINER DAMAGE OR PATTERN BLEACHING MAY OCCUR!**
- **YOUR LINER WARRANTY WILL BE INVALIDATED!**

**✗ DO NOT STORE POOL CHEMICALS NEAR PETROLEUM BASED PRODUCTS**

**✗ DO NOT SMOKE, OR ALLOW FLAME OR FIRE IN THE VICINITY OF CHEMICALS**

**✗ DO NOT STORE POOL CHEMICALS WHERE CHILDREN MAY ACCESS THEM!**



Sally Says:



“Don’t block  
the pool over-  
flow!”

# **AQUAGENIE SKIMMERS have an overflow which prevents the chlorine cannister being flooded**

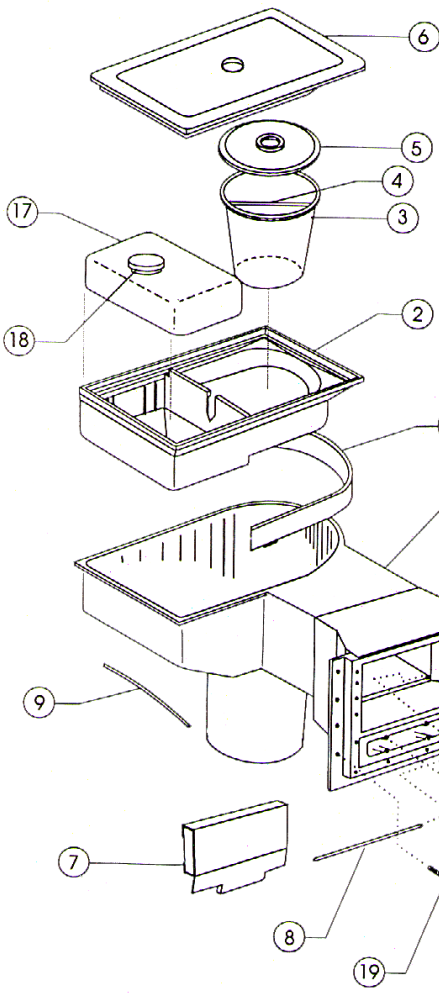
**When you have your surrounds installed be  
sure that this is not blocked!**

**In winter the pool might overflow if the overflow is blocked.  
This releases concentrated chlorine out the  
skimmer front, which may damage the pool liner!**

**SO YOU NEVER HAVE TO LOWER THE POOL DOWN IF IT  
FILLS UP WITH RAINWATER - SO DON'T!**

## The AQUAGENIE SKIMMER

Fitted to all Ultimate pools since 1996, the Aquagenie is a major breakthrough in pool care and chlorination, especially when used in conjunction with the Ozone generator.



The Reservoir contains a canister that will take Tri Super 90 stabilized chlorine tablets. The usual quantity for the average 5 x 10 m pool is 8 - 12 in a pool that runs 12 hours daily in summer months when the Tabs are the primary sterilisation source, and 2 - 4 tabs when the Ozone is the primary source. Experimentation to find the right dose is needed, as each pool is different.

The reservoir is fed by pressurized water taken from the plenum chamber in the front of the skimmer. This chamber is pressure fed by the pool pump, and directs a sheet of water down and out from the skimmer front, keeping the pool floor clear at this point. The action of the rapid water discharge causes the pool surface to rotate towards the skimmer weir, thus creating a flow of water that quickly traps and leaves etc. that fall onto the pool while the filtration is operating. Thus an Aquagenie-equipped pool will remain far more clean (and sterile) than a pool equipped with a standard skimmer.

Maintenance is low, just be careful when removing the skimmer basket that you do not snag the feeder tube and break or dislodge it. Also, check that the reservoir is being fed water by looking periodically into the skimmer top to see that the flooded reservoir is actually spilling out into

the water flow through the skimmer.

Sometimes the hose that feeds the water into the reservoir will become dislodged - or even broken or perished. Some models had a small PVC fitting that was easily broken while removing the skimmer basket! Replacement hoses and fittings are available for a few dollars from Aquatech Industries (09) 636 9921

## A few Aquagenie “don’ts”:

- ✗ Don’t use the larger 3” TRICHLOR tabs in the Aquagenie - especially don’t break them to fit the canister! Use **ONLY** the Tri-Super-90 “Oddfellow sized” tables available from Aquatech or the on-line Cascade Pool Owners Club.
- ✗ Don’t ever use TRICHLOR tabs in the skimmer basket, they will wreck your filtration!
- ✗ The Aquagenie has a built-in overflow leveler - **DO NOT** infill around the skimmer with concrete or any product that will restrict this overflow. If pool water is allowed to flood up and cover the reservoir, highly saturated chlorinated water will flow out the front of the skimmer when the pump stops, and may cause bleaching damage to the pool liner. **THIS IS IMPORTANT!**
- ✗ Don’t let the “slot” in the front of the skimmer become blocked with debris - periodically check that the water flow is not impeded by obstructions that have passed through the filter and became stuck.

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CENTURY

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