

cascade **swimming pools**

SUMMER of 2015 POOL OWNER'S MANUAL

Vol. 44 Issue 1

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



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

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

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

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 -click- PRIVATE AREAS tab on right

Pool ID Number _____

Your Cascade Pool Record

Date of Order: _____ 20__ Installation Completion Date : _____ 20__

Contract Total: \$ _____ Inc GST Crew _____

Building Approval Issue Date _____ 20__ BA Number _____
Compliance Certificate Date _____ 20__ CC Number _____

Original Owner(s) _____

Street _____ Suburb _____

Franchise Dealership (Name) _____

- ULTIMATE Standard Model _____ Shape _____
- ULTIMATE DeLuxe Model _____ Shape _____
- CLASSIC Range Model _____ Shape _____

Size W _____ x L _____ Capacity _____, _____ liters

OZONE SALINE Model _____ Not fitted

Pool Lights Type _____ INFILLFOAM Aquagenie Liner U/G

Aquagenie Tabs Required Summer ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

(Note: You need less with OZONE fitted) Winter ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

Heat Pump FILTERMASTER FM 8 FM 14 FM 21 OASIS _____

Heater Power Input 220v -240v _____ Input Kw Output Equiv _____ Kw

Filtermaster Pump FX EURO 550w 750w 1125w OTHER _____

Skimmer AQUAGENIE S5000 OTHER _____

Pool Liner ABGAL Aqualux .770 mm .57 mm Colour _____

Warranty Validation - See SWIMMING POOL WARRANTY section for equipment validation.

Note: Warranties will not be issued, nor will any completion or warranty work be undertaken by Cascade and all pool equipment and accessories remain the property of the suppliers while progress payments remain outstanding.

WARRANTY ASSIGNMENT (New Owners) _____

1st Assigned (Date) _____ Assigned to: _____ Noted By _____

2nd Assigned (Date) _____ Assigned to: _____ Noted By _____

3rd Assigned (Date) _____ Assigned to: _____ Noted By _____

4th Assigned (Date) _____ Assigned to: _____ Noted By _____

(Duly Authorised Person) _____

"Lifetime Guarantees"

'Cascade Swimming Pools' are manufactured by CASCADE INDUSTRIES LIMITED and on-sold, installed and guaranteed under the Consumer Guarantees Act 1993 by Authorised Franchised Dealers and Sales Agents ("the Vendor") who have been Certified by Cascade in the installation of the pool components for the end user ("the Customer") of the product known as a "Cascade Swimming Pool" or "Cascade Vinyl Liner Swimming Pool" and who anticipate the "Service Life" of the various individual components (or 'Lifetime') shall be herein defined as:

50 YEAR SERVICE LIFE: ULTIMATE STEEL-REINFORCED CONCRETE POOL SHELLS carry a 'Service Life' expectation of up to fifty years when constructed in normal non-acidic soil conditions.

25 YEAR SERVICE LIFE: ABGAL'S Aqualux™ .770 mm INTERIOR PVC Thermoflex specifically designed for home swimming pools, will remain free of manufacturing defect and remain structurally intact for its expected service life of TWENTY-FIVE Years.

15 YEAR SERVICE LIFE - STANDARD pool models Aqualux™.50 mm INTERIOR will remain free of manufacturing defect and remain structurally intact for a period of FIFTEEN years.

10 YEARS - FILTERMASTER BAKERLITE pool filtration tank is guaranteed against manufacturing defect for ten years providing that it is housed and/or protected from chemical damage, & the elements.

5 YEARS - FILTERMASTER PROZONE UV BULBS will remain free of manufacturing defect and remain operational for a period of FIVE years

3 YEARS WORKMANSHIP - INTERIOR MOSAIC TILE BANDS, POOL COPINGS, PLASTER FINISH SURFACES, WORKMANSHIP & INSTALLATION carry a workmanship warranty that they will remain free of non mechanical defect for a period of Three Years.

3 YEARS -MULTIPOINT VALVE, POOL PUMP, OZONE & SALINE DEVICES are guaranteed against premature failure or manufacturing defect for Three Years providing that it/they is/are protected from the Elements and not damaged by reflux flooding or any 'action or inaction' of the Customer.

1 YEAR - THERMAL BUBBLE COVERS, POOL QH LIGHT BULBS & LED LIGHT SOURCES, and voltage transformers are guaranteed for One Year. QH pool light bulbs will be replaced by the Vendor if they fail within twelve months of the date of the pool handover. LED lights have varying lifetimes: chek the accompanying documents.

EXCLUSIONS: Pool Shell: Physical damage, partial or catastrophic failure due to site subsidence, hydraulic undermining, earth subsidence, earthquake, electrically induced corrosion, salt water, 'Force Majeure' or any other unforeseen circumstances void this undertaking. **Pool Interiors:** Physical damage, piercing or cutting, inappropriate chemical treatment or abuse, fading or colour change, chemical wrinkling, low pH symptom, or any other effect resulting from failing to follow faithfully Cascade's pool water maintenance regime is followed, mistreatment or causes beyond the control of the Vendor. **Metal Wall Modules:** Guarantees are voided if the pool is subsequently fitted with any type of Electronic Sterilising Device unless a further treatment of Polyester Powdercoating is undertaken by the Vendor prior to installation of the component. **Pool Equipment:** Physical damage, components not installed in accordance with the Manufacturer or Agent's instructions and/or not protected from weather or chemical damage, pool pumps allowed to 'run dry' or suck debris. **OZONE:** Ozone units' lifetime voided if able to be operated independently of the pool pump, or allowed to vacuum water into the mechanism. **General:** Physical damage, installation not compliant with the provisions of the Building Approval issued by the Local Territorial Authority or in accordance with the Plans and Specifications of the Design Engineer and/or Registered Structural Engineer, who must issue a subsequent PS4 Compliance Certificate, or installed in unstable geotechnically unsound acidic or well drained soils or not subsequently maintained in accordance with the guidelines for correct chemical procedures as per the Pool Owner's Manual. **Accordingly,** the Vendor (in accordance with the provisions of the Consumer Guarantee Act 1992) warrants and guarantees the above components performance for their expected lifetimes as itemised above. The Vendor, at its discretion, reserves the right of repair or replacement or any item it deems unserviceable or unusable.



IT WILL VOID THE GUARANTEES TO EMPTY THE SWIMMING POOL WITHOUT PRIOR ADVICE FROM THE VENDOR!
ANY REPAIR MUST BE REFERRED TO THE VENDOR AND UNDERTAKEN WITH VENDOR'S AUTHORISATION BY AN
AUTHORISED FACILITY. DOING OTHERWISE WILL VOID THE WARRANTY!
GUARANTEES ARE SUBJECT TO LEGAL INTERPRETATION OF RIGHTS UNDER THE CONSUMER GUARANTEES ACT!

This Guarantee is validated and issued by the below-named Vendor and is conditional on full and final payment of all sums due or claimed by the Vendor for the construction of the swimming pool. Should any claim arise, under the terms of the Consumer Guarantee Act, you must contact the Vendor for advice of the process to be followed. Guarantees are limited to workmanship & mechanical defect and do not include "fair wear & tear". The Guarantee period commences on the date of receipt of the final payment due, and will not be acted on while any payment is outstanding.

Pool installation/completion validated by: _____ Signed _____
Authorised Cascade Agent: _____ Tel: _____
Being the Vendor or duly authorised Agent of the Vendor Date _____

ELECTRICAL REQUIREMENTS for CASCADE SWIMMING POOLS

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

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 ECO PUMP Motor
Large size pools	30 kl & up to 60 kl	1 or 2 x 750 watt ECO Pump Motors
Larger pools	over 120 kl	1 or 2 x 1150 watt 2 x 750 watt ECO Pump Motors (or more)

Time Clock

A Hard Wired filtration timer clock is included with your Cascade 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.

OZONE units Passive Ozone production units (a.k.a Activated Oxygen) use 40 watt power UV tubes similar to fluorescent lighting tubes. The OSMATIC units fitted by Cascade draw about the same as a "fridge bulb. so water sterilisation is virtually cost-free. Use the OZONE ASSIST program to keep Algae away! The UV tube has a five year warranty. **BULB WARRANTY VOIDED IF OZONE UNIT IS CAPABLE OF BEING OPERATED INDEPENDENTLY of pool pump. Ozone MUST NOT BE OPERATED without pump running! Water allowed to enter this unit will catastrophically damage the electrics, and is NOT COVERED by warranty.**

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/

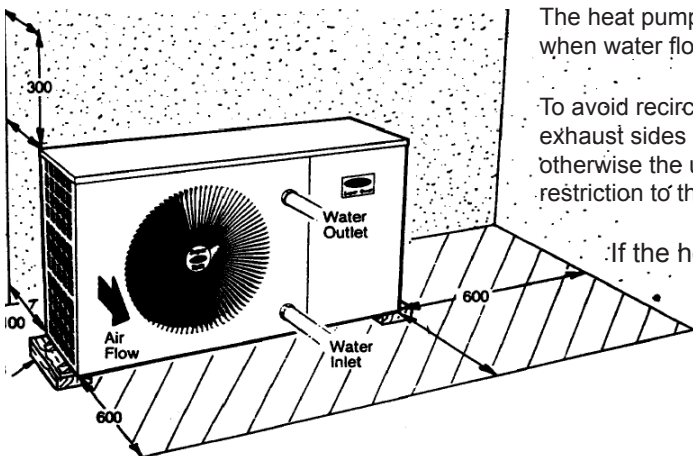
The lights are either and come with ten meters of cable. If the cable length is altered, lights may not function as intended due to voltage variation. The Electrician will calculate wire gauge should any addition be required, which will be at your cost. People like to switch the pool lights on and off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

Here are the values for typical Filtermaster units:

Mfg	Model	Volts	Nom output	Kw	Input Run Amps/	Fuse/Amps
Filtermaster	FM8	220-240	7.8 Kw	1.66	6.0	15a
Filtermaster	FM14	220-240	14.0 Kw	2.90	6.0	15a
Filtermaster	FM21	220-240	21 Kw	4.40	9.6	25a



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 recirculating exhausted (cold) air back into the intake side, the intake and exhaust sides of the heat pump must be physically separated by a wall or ducting otherwise the unit must be installed in open air without any physical barrier or restriction to the exhaust side air flows.

If the heat pump is to be installed inside a shed or closed room, care must be taken to ensure a continuous flow of intake air via a grill or vent to the outside, and the cold exhausted air vented outside the area to avoid being drawn back into the heat pump's intake side.



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 1/10th 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	RESTART	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

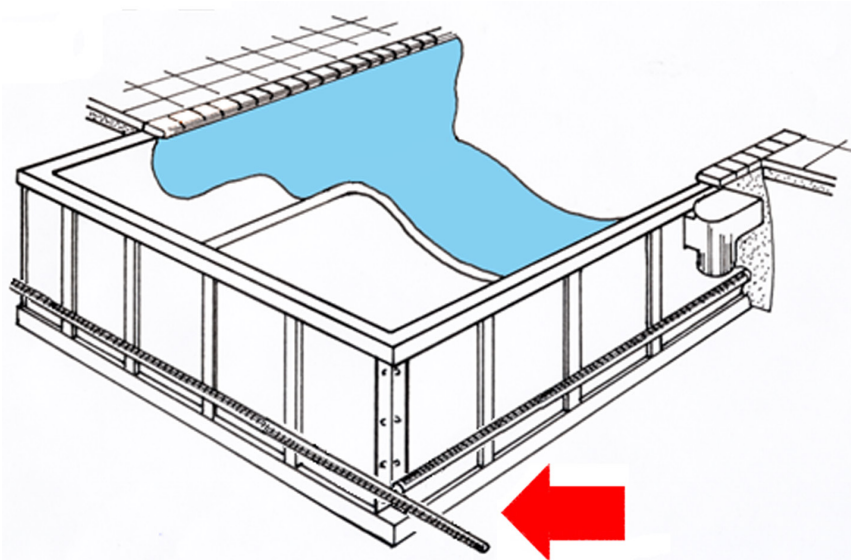
Not to be used for any purpose other than assisting the Ozone Generator fitted to your Cascade pool to assist the elimination and prevent further growth of Algae. Avoid irritation by contact with eyes and skin. Wash your hands after using this product! If accidentally ingested by any person

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

Pools fitted with a self levelling AQUAGENIE skimmer will overflow into a scoria backfilled hydrostatic drain installed around the outside of the pool wall.

If the pool is located on a sloping site, we will try to run the outlet of this drain to the slope, in which case locate and mark where it is, and don't allow it to become blocked.



**IF YOU PLAN TO UPGRADE YOUR POOL AREA
OR CHANGE THE LAND CONTOURS
AT SOME FUTURE DATE**

BE AWARE OF THIS DRAIN LOCATION!

**Hydrostatic drainage around the pool must not be
compromised by future site works!**

CALL US IF YOU NEED ADVICE.



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.

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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!

Sally Says:



“Make sure you get exactly what you want!”

WE WILL INSTRUCT YOUR EXCAVATION CONTRACTOR TO EXCAVATE THE POOL IN THE CORRECT LOCATION, TO THE SHAPE AND DEPTH YOU ASKED FOR!

YOU MUST **TAKE THE TIME TO CHECK THAT THIS PHASE OF THE POOL MEETS YOUR EXPECTATIONS - WHICH MUST COMPLY WITH THE BUILDING APPROVALS!**

YOU MUST APPROVE THIS WORK STAGE BEFORE CONCRETE IS PLACED TO ENSURE WE HAVE NOT MISUNDERSTOOD YOUR EXPECTATIONS!

TO ENSURE THE TEAM PRODUCES EXACTLY WHAT YOU WANT, YOU HAVE AGREED TO ATTEND WHEN WE CONCRETE YOUR POOL!

IF YOU DO NOT ATTEND, YOU MUST ACCEPT WHATEVER EVENTUATES!

Once the concrete has set, it CANNOT be modified, so any subsequent changes you want will involve cutting out the floor and re-concreting.

This will be charged to you!

Sally Says:



“Check the contents of the Handover Kit!”

THE SMALL POOL COMPONENT KIT DELIVERED TO YOU INCLUDES A SEALED BOX WITH A LABEL THAT SAYS:

“GIVE THIS TO THE CUSTOMER”

OPEN IT

CHECK THE CONTENTS AND STORE THEM IN A SAFE PLACE!

These Items are small and expensive, such as LED lights, light transformers, pool cleaning equipment, an electronic time clock and other important items that can easily be lost or ‘misplaced’ !

KEEP THESE ITEMS IN A SAFE PLACE UNTIL THE INSTALLATION CREW ASKS FOR THEM!

If any items are subsequently lost or misplaced you will be charged for a replacement!

cascade pools

Revised 10.12.2013

INSTALLATION TIMELINE

Thank you for choosing Cascade to build your swimming pool. As you are reading this manual, the installation process has commenced or is about to commence. Have you contacted your Insurance Broker yet to ensure that we are noted on your policy as a Contracts Works risk? If not please do so!

The process of installing your pool proceeds as per the following schedule.


- You or we will have drawn up the relevant site plan and applied for a Building Approval (and possibly a resource Consent), which have been processed by your local City Council, and have been - or are ready to be - collected from Council.

i All in-ground swimming pools require Building Approvals, and sometimes even Resource Consents. We will apply for the Approvals as part of our contract, but all Council charges, Resource Consent approvals, or Resource Consent Application Fees, are your responsibility to pay invoices as required.

i If there is no - or only slight - damage showing on the footpath and road crossing outside your property, we advise you to take several digital photographs now and file for future reference so that you don't jeopardise the return of your Compliance Bond money if Council insists on replacing the footpath crossing at your cost due to damage.

- At this pre-installation site meeting, you will meet the **Cascade Crew, Excavator driver and Cascade Site Manager**, who will be your contact with Cascade from this point on. Details of the pool are discussed and confirmed so that the excavator driver and Installation Crew understand what is required plus any extra arrangements made between the Salesman and yourself will be discussed.

- On the starting day, the Cascade Installation Crew person will arrive, the excavator and trucks if required will arrive, the pool outline will be marked out and confirmed by you as the correct location and height above grade according to your wishes (and the Building Approvals) and excavation will commence. Within the next day or two, all of the pool shell components will be delivered. The excavation will typically take between one and two days, pool size dependant. The Aqualux interior liner is not manufactured yet, and will be measured up when the shell is complete to be tailored exactly to your individual pool, so start thinking about colour and pattern and tell the Site Manager of your choice.

 **Progress Payment Due** At this time the "First Progress Payment" of 85% is due, as in the next few days, you will have 85% of the pool completed. These funds will be used to purchase all the components used over the next five days. As you are responsible for the digging & soil removal costs, the excavator company will give you an invoice in due course.

- If Soil removal requiring truck hire is involved, Cascade can arrange this on your behalf, but remember that this cost is charged directly to you. Expect to pay around \$100 + GST per hour/per truck, plus tip fees where applicable. Normally two trucks will be needed. If there is any question of the strength of your (or neighbour's) driveway then you must get the excavation company to use a small rubber tracked machine such as a Mustang to transport the excavated soil to the trucks waiting on the roadway outside your home. This will added to their invoiced amount to you. We tried "tailoring" truck hire to the actual hours needed, but this didn't work out: They expect a "full day's hire" and charge accordingly.

- We are unable quote for removing any underground obstacles, such as rock etc. in advance of discovering it. If such a problem is encountered, the excavation companies verbal estimate will be given to you for the costs of removal and - if required - Cascade can indicate the cost of rebuilding the pool base with cement stabilised hard fill. Underground obstacles are not commonly found in most suburban areas, but some areas are renown for rock and scoria. In agreeing to our Terms & Conditions of Sale, you accepted liability for all costs relating to the pool excavation. When the basic pool excavation is completed, drainage trenches and filtration line trenches are excavated. The Installation Crew will commence the installation of the large galvanised steel 'sacrificial shutters' - the metal formers

that will contain and shape the concrete. This process generally takes about two to three days, and will result in a 'skeleton shape' of your proposed swimming pool. Any queries or comments regarding the pool shape, size, depth etc. must be made at this stage (before any concrete is poured) but remember, your pool liner may have been ordered based on your original instruction, so that cannot be affected by any late changes.

i Please be fully aware that the shape of the pool and the depth and contour of the pool takes place at this time, so you either must be there - or have explained fully to the Installation Crew EXACTLY what you expect from the pool shape & depth.

i Take time to observe the pool when it is ready for concrete - because once the concrete is placed YOU OWN IT! The pool CANNOT be changed once the concrete has been poured - unless you are prepared to pay many thousands of dollars to cut it out and start again! This is a vital stage of your pool construction to take notice!

● The Building Approvals including Site Plans must be kept handy and available for both the Crew and Council Inspectors. Approvals will be subject to various Council Inspections - typically they will want to inspect the fresh excavation, steel placement & tying, and plumbing & drainage. Technically there is no 'Plumbing' or 'Drainage' - just the pool recirculation system and backwash which terminates in an "air-gap" over a handy gully trap. Finally the pool fencing inspection (which must comply with the Fencing of swimming Pools Act 1987 and subsequent amendments in the Building Act) includes self-closing, self-latching doors between the pool and house and windows must be restricted to a 100 mm maximum gap)

When each inspection take place it is your responsibility to ensure that the Inspector signs off the plans, or at least note the inspection dates on the back page of this manual. This is IMPORTANT!


i Even if it is not "required by Council", we have experienced occasions where - some years down the track the Council "has no record of an inspection taking place" and refuses to issue a final Compliance Certificate and return your Bond - sometimes even requiring the pool sides to be dug up to "inspect" wall bracing and drainage! It is incumbent upon you to ensure that a complete record of inspections is kept on hand.

□ Once the "steel fixing" has been approved, the pre-mixed 25 m.p.a. "shotcrete" concrete can be pumped into the steel wall formers, and the pool floor plastered to a smooth finish. On completion of the pool shell, the concrete must "cure" - a process that takes 12 days minimum (85%) and 15 days (100%). In hot summer days, the concrete should be "hosed down" several times daily to stop premature curing and stress cracks forming (Stress Cracks are not a problem, as the pool liner covers them over, and are only 'skin deep')

The curing period gives your other sub-trades the opportunity to install decking, paving pool fencing and whatever landscaping arrangements you have made.

● When the pool liner arrives, the Installation Crew takes a full day to vacuum fit, check the fit is tight at important points and fill the pool with water from a handy fire hydrant. We purchase the pool water from the Local Council for this purpose and the cost is included if shown on your Agreement. Water Tankers bringing fresh water are commonly needed where there are no fire hydrant outlets close to your home, and so is at your cost.

When the pool is filled and filtering, the Installation Crew will "balance" the pool water by adding Hardener (Calcium Chloride) to increase the hardness to 200 ppm (parts per million) and Water Conditioner (Sodium Bicarbonate) to increase the Total Alkalinity to 120 ppm. These compounds are basically "chalk" and "baking soda" and are compounds that are harmless to humans: they are simply added to buffer the pool water against sudden changes in pH of the water. The special Aquagenie Tablets supplied will be added to the Aquagenie canister (when an Aquagenie is fitted) and they'll give the pool a shock dose of Granular Chlorine to 'shock dose' the new pool water.

 **Progress Payment Due** When the filtration is operational, the "Second Progress Payment" of 15% of the Net Contract Price is due. You and your children will soon be swimming in - and enjoying - your own CASCADE swimming pool!

□ If your pool is 'Non Chlorine' the FM 60/120 OZONE generation unit will be started and the first dose of OZONE ASSIST added at this point. You will see bubbles at the pool surface in front of the Aquagenie - this is quite normal - and if you have pool lights fitted, at night with the lights on you will see "millions" of little micro-bubbles

of Ozone keeping your pool safe and sterilised for you and your children to enjoy safely as they slowly percolate up to the surface to rejoin with each other to become molecules of pure oxygen again! Pools never smelled this good!

□ If the pool copings were not installed in the initial stages of the installation (as is possible - and allows the other sub-trades to press on) our Coping Installer arrives to fit the pool copings that you have chosen from the samples you have been shown. Pools with "Hung" Liners may have had the copings installed by this time, but not always. Cascade pools may have either Hung or Registered liners.

ⓘ NOTE: During this delay waiting for the coping installer, it is important that you keep your pool "healthy" by looking after the water. If an Aquagenie Skimmer is fitted, ensure the Tablet Canister contains sufficient tablets for your pool - usually 2 to 4 tablets if an OZONE unit is fitted - otherwise 10 - 12 tablets. Periodically check the pool water for clarity, and if it looks at all murky increase the filtration time to 12 hours and add some of the Chlorine we have left with you - either 2 Liters of Liquid or about 2 coffee-size cups of Granular Chlorine.

✗ DON'T OVERDOSE with stabilised Aquagenie tabs! Never fill the canister up completely!

DON'T EVER break up the large "Horse Pill" 3" size Tri-Chlor tablets to fit the cannister - this action could cause them to explode in your face! Use the CORRECT tables available from Aquatech

DON'T EVER put those large Tri-Chlor tabs in the skimmer basket! Damage to your equipment and liner will eventuate!

DON'T OVERCHLORINATE YOUR POOL by adding too much liquid or powder chlorine. Chlorine is a strong bleach and may damage your pool liner if too much is added. Never exceed 2.0 ppm!

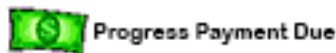
● Swimming Pool water will be "Balanced" when the pH reads 7.6 (7.4 - 7.8 is OK), Total Alkalinity reads between 100 - 140 (120 is Ideal), and the calcium hardness is around the 180 - 220 mark.

ⓘ Please read the chemical treatment section of the Pool Owner's Manual to familiarise yourself with the correct procedures. It is preferable to run the pool filtration 24 hours per day until the copings are fitted and your surround work is completed - if it is not a nuisance to your neighbours .

ⓘ If there are any points about which you are unsure, please CALL US IMMEDIATELY - as a pool can "go off" really quickly in hot weather, and takes days (and Dollars) to get right again. WE CAN NOT STRESS THIS POINT ENOUGH! It is your responsibility once the pool is filled!

● If you have a pool cover on order, we usually wait until your surrounds are finished before delivering and unrolling it. It will shrink approximately 1% or 150 mm in length over the next few weeks, so don't trim it to final size before then. If you need help trimming it, please call us, and we will come and do it.

● Finally, when the copings have been installed, we are finished, and the pool is ready for you to enjoy. If you feel that the manuals and videos aren't enough, call us and a comprehensive training session on the maintenance of your Cascade swimming pool will be given at a time to suit you.



The "Final Payment" or retention payment of \$350 is now due, so please transfer it by the 20th of the following month as we now have completely finished your Cascade swimming pool.

Please be aware of the Aquagenie overflow duct which will stop your pool from ever "overflowing" by allowing water that reached the duct level to drain out of the pool and into the hydrostatic drainage area around the pool perimeter. It's easy to overlook this duct and have the concrete surround you are having poured block the duct and thus allowing the pool to fill to the top of the copings. This is no a good thing!

Also, the hydrostatic pool drainage around the pool may lead off to a downhill area where possible, so keep an eye on the place this discharges out, as it's easy to forget when you may add an outbuilding or wall over the top of it thus stopping it from draining the pool area.

Caring for a swimming pool can be either quite simple, or quite comprehensive, depending on you!

You already have a huge advantage by installing a CASCADE swimming pool, but there ARE a few trade-offs which you must be aware of!

(a.) pH is critical to all swimming pools, as an ACID WATER situation can harm both swimmers and pool equipment.

Your CASCADE pool is no different - so KEEP THE pH in the 7.6 ZONE!

(b.) The Aquagenie has a self-dewatering duct that stops the pool from overflowing. BE AWARE of this when installing any concrete pool surrounds! DON'T BLOCK IT OFF!

(c.) The entire pool has a hydrostatic relief drain around the outside, which (usually) leads off to a lower area to allow groundwater to drain away and eliminates any hydrostatic pressure on the pool liner. Don't allow the discharge point to become BLOCKED UP or hydro pressure could cause a problem!

If you don't "get it" the first time, don't worry: by reading the Pool Owner's Manual and watching the Videos, it should not be too difficult for you to understand. If in doubt: Call us!

Don't be tempted to "hand off" your pool to a local pool shop - unless they are AUTHORISED by CASCADE to administer to our pool type.

Many pool shop personell have NO IDEA how to treat a pool with an Aquavynil interior, and much of their advice in NOT RELEVANT to an OZONE treated pool that has NO SIGNIFICANT CHLORINE in the water.

Pools shops exist solely to SELL YOU STUFF - so CHECK WITH US first before you add a whole bunch of stuff sold to you by a pool shop! - much of which may be totally unnecessary!

If you get stuck, a TOLL-FREE call to our office (0800) 227 223 will soon get you on the right track.

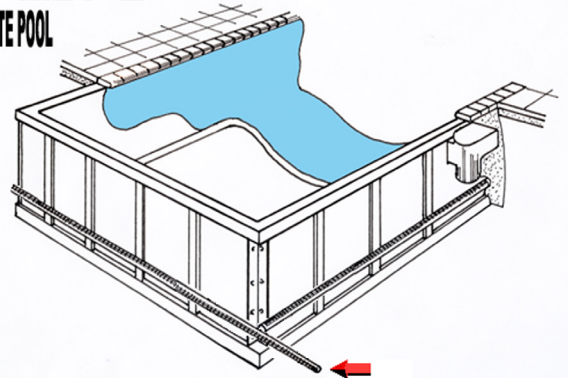
Thank you,



Laurence E (Larry) Ogden - Dip Pool Tech NZMPBG (Hon) Certified Builder License #108/2021
Managing Director
CASCADE INDUSTRIES LIMITED

YOU MAY HAVE OVERFLOW DRAINAGE

ULTIMATE
CONCRETE POOL



**Do not block the outflow if drainage is fitted to your pool.
If in any doubt - call Cascade!**

Sally Says:



“Don’t let other trades damage your new pool!”

IMPORTANT NOTICE!

**ONCE YOUR POOL IS “FILLED & FILTERING”
and the NEW COPINGS are installed,
IT’S**

**YOUR JOB
TO KEEP THE POOL
CLEAN AND SAFE FROM OTHER
CONTRACTOR’S RUBBISH**

AND

**YOU MUST KEEP THE CHILDREN
OFF THE NEW COPINGS FOR AT
LEAST A WEEK!**

ENSURE THAT “OTHER TRADES” DO NOT CONTAMINATE YOUR NEW SWIMMING POOL - APART FROM THE DAMAGE THAT MAY OCCUR FROM THEM DROPPING STONES, ROCKS, BRICKS, TIMBER ETC THAT MAY DAMAGE OR STAIN THE POOL INTERIOR

IF WE HAVE TO RETURN SEVERAL TIMES TO REFIT LOOSE COPINGS or CLEAN THE POOL THIS WILL NOT BE A FREE SERVICE.

ANY ENSUING DAMAGE IS NOT COVERED BY YOUR WARRANTY!

Sally Says:



“The AQUALUX interior is tough & robust and will cove into shape!”

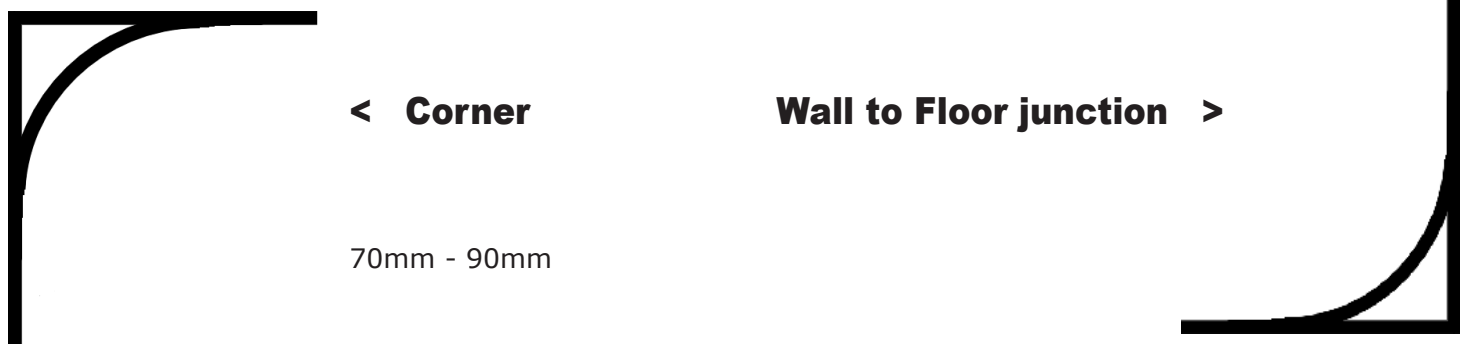
FOR YOU INFORMATION!

Our ULTIMATE POOL is a robust high-density concrete pool with a long-lasting flexible interior that is very tough & durable!

The liner will be a tight fit and ‘hard up against’ wherever it touches the hard surface of the pool. Where there are right angles between vertical wall to floor and in the corners, the material will form a slight coved shape. This is normal as the material spans the two adjacent right-angle surfaces.

This is normal and the tough & durable liner material is not going to be vulnerable in normal use of the swimming pool. This may also be noticed at the corners of rectangle pools. This is a feature of the Aqualux interior pools, and you will not damage the liner by standing on the coved area.

The illustrations below give you an idea of what is normal for this type of pool interior. The Guarantee of the liner is not affected by this feature, and in the installation of more than 12,500 swimming pool interiors has never yet proved to be a problem!



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.

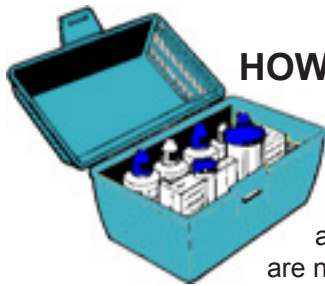


The FILTERMASTER *Pool Rover ST* at left is a good choice for a medium price range pool cleaner - but don't just leave it in the pool 24/7 - and give it a shake it if it gets stuck anywhere in the pool!

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

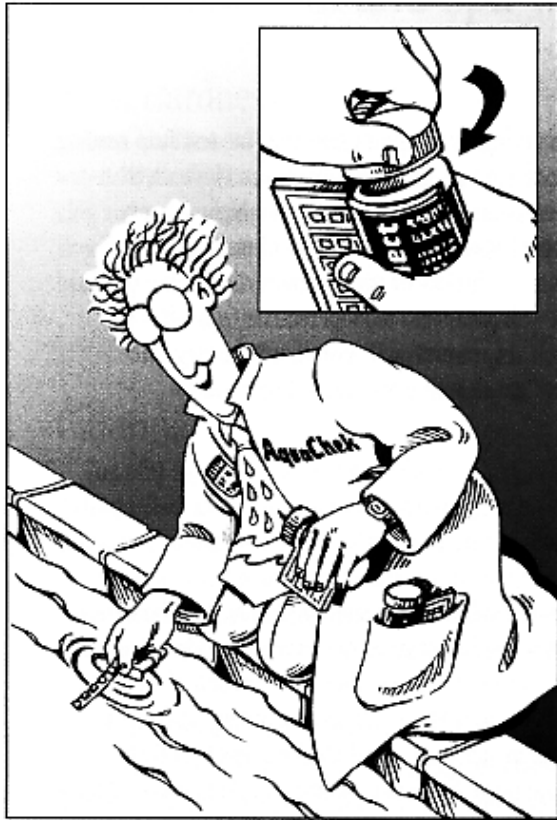
Now, with the 5-in-1 test strip it's a whole new ball game.

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.



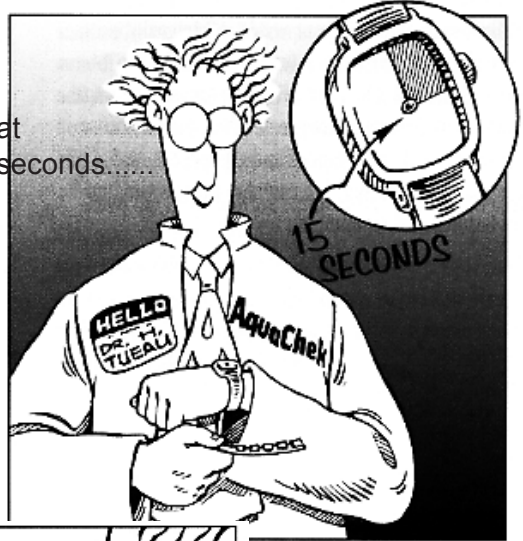
Note: Test Strips are NOT as accurate as the "Chemistry Set". Use them for comparative testing only, once you have established a benchmark. Also, they get "past dated". Check the bottom of the container for USE BY date.



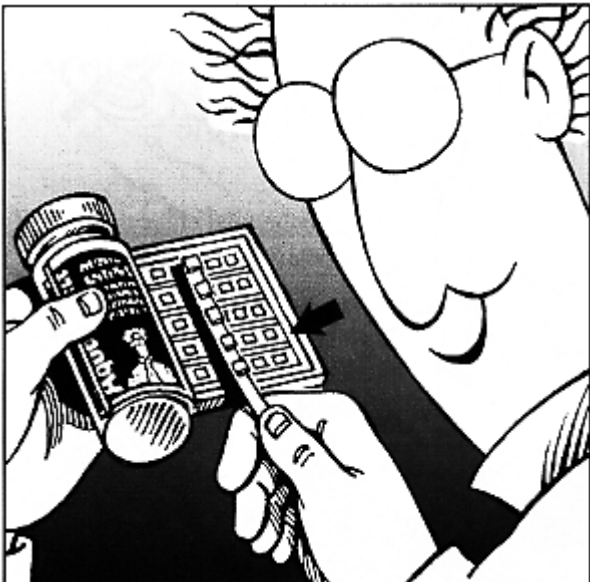
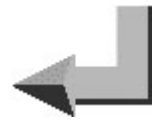
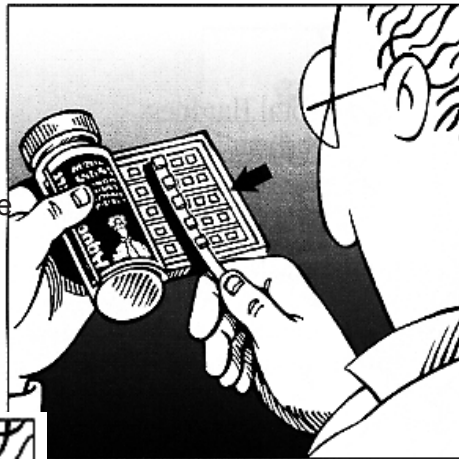
Dip the Strip, then ..



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!"

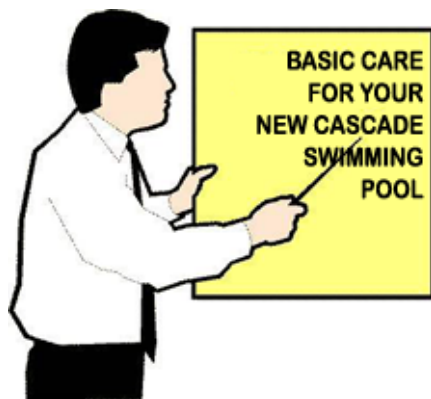
NEVER THROW ANY POOL CHEMICALS DIRECTLY INTO THE POOL !

**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 - navigate to Pool Club web page. Password is "poolclubmember" (lowercase, no quotes) Chemicals can be couriered to **Page 26** customers.

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

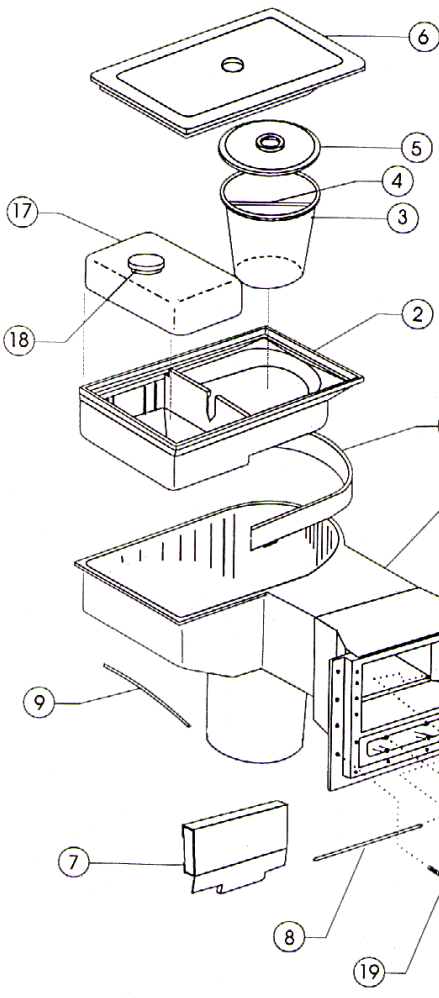
**When you have your surrounds installed be
sure that this is not blocked!**

**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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