

pure silk<sup>TM</sup>   
water quality management

During initial trials of our new water management system, a teenage test swimmer summed up the total experience perfectly: “It’s amazing. The water feels incredibly clean and pure. It’s so soft and smooth, it’s like swimming in silk.”

pure silk™ 

# Purity: homogeneous, uniform, free from adulterants, contaminants, dirt, pollution or foreign elements.

People of all ages swim to improve their health and well-being.

Water makes up two-thirds of our body mass and is the origin of human life. So it's not surprising that it has such a positive influence on us.

For children it's about healthy, out-door activity. Adults swim to relax or as part of a daily exercise regime. For the elderly, there's no better form of low impact exercise.

But we are not the only life-forms that thrive in water. And some have a far less positive affect on our health.

Bacteria and algae will grow in any body of water. In a swimming pool, they are introduced primarily by swimmers, top-up water, leaves, grass, dust and animals. A large dog for example, can contribute twenty times as much as a person.

To keep your pool water pure, these organisms need to be quickly and totally destroyed.

And by far our most efficient and effective weapon in this battle is chlorine.

Chlorine is the world's most trusted 'sanitiser' killing all existing bacteria on contact. And it persists in the water for some time as a 'residual sanitiser' killing any new bacteria immediately.

# Balance: a state of equilibrium or parity characterised by the cancellation of all forces by equal and opposite forces.

Not only do foreign organisms seek to dominate the water in a pool or spa, so to do competing chemical forces.

These forces must be kept in balance if the water is to stay pure and clean.

In an ever-changing environment this delicate balance is constantly being upset by the weather, by heavy rain, too many swimmers, by adding pool chemicals, etc, etc.

Water that is too acidic or too alkaline will cause itchy skin and red eyes. One way of maintaining this balance is by monitoring the water's 'pH' levels.

A drift in pH above the recommended range will also inhibit the sanitising effect of even the world's best pool chlorinator.

All of which means that, for cost-efficiency, for water conservation and for your health, sanitiser and pH levels need to be checked and adjusted daily.

In the past, this has meant regular trips to the pool shop with a sample of pool water for testing. Followed by the manual addition of the right amount of chemical to bring the pool back, temporarily, into that elusive balance.

# Puresilk™: automatic purity and balance.

For over two decades, Puresilk™ has led the world in the development and manufacture of an automated process that creates chlorine in the pool.

Science has long understood that passing a mildly saline solution between electrically charged and specially coated plates will generate chlorine in that solution.

Puresilk™ used this technology in their first 'salt chlorinators' and by-passed all the problems of manual chlorine dosing.

These units brought convenience, safety, precision and reliability to the chlorination process and many still regard them as the world's best.

And now, using even greater technical sophistication, Puresilk™ has tackled the problem of balance to provide an even greater level of convenience and performance in a domestic pool water management system.

Chlorine is accepted as the most effective and efficient sanitising agent for swimming pools and spas.

However, most methods of applying it involve direct, manual application of large doses of chlorine in tablet, granular or liquid form.

They rely on daily water testing and then large and infrequent dosing. So the pool swings between too little chlorine and too much.

They are labour-intensive and some are potentially dangerous. Chlorine is very volatile and can even explode when handled incorrectly.

By far the safest, easiest and most accurate way to introduce chlorine is to create it within the pool using just a small amount of salt.

Salt is an amazing substance. For example, the water that makes up two-thirds of our body mass is slightly salty, which explains why salt water is often used to aid our healing.

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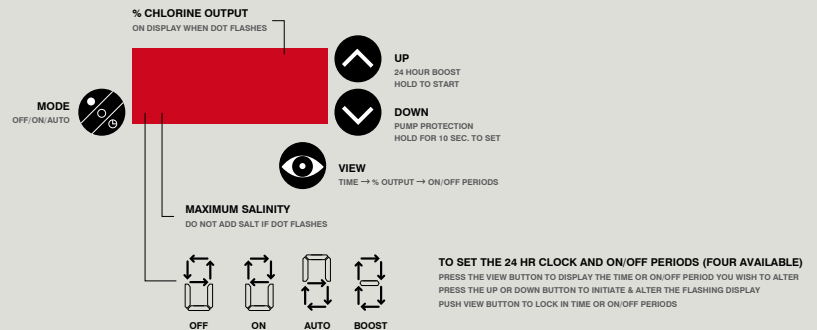
## Salt Chlorinator Model RP18 HD

### Operating instructions

- Read Owner's Manual before operating this unit
- Ensure correct water balance is maintained
- Test chlorine level and adjust chlorinator accordingly

Ideal Salt Level 2250-2750 PPM

DISPLAY MESSAGE	ACTION
Clean Cell, Low Salt	If cell is clean, test salt level and add if required. If cell is dirty, clean cell as per instructions in manual.
Low Salt – Off	If salt level is OK, cell may require replacement.
Low flow – Off	Unit is stand-by unit correct water flow is re-established.
Flow Fail – Off	Optional pump protection has been activated. To over ride, push the mode button and investigate water flow problem.



## Purity: Puresilk™ Automatic Chlorinator.

“It’s amazing. The water feels incredibly clean and pure. It’s so soft and smooth, like swimming in silk.”

Salt chlorination should never be confused with swimming in the sea. Our salinity is about 4500 parts per million. The salinity of sea water is around 10 times greater and is not nearly so pleasant.

And the salt water in our bodies makes us feel more comfortable in slightly salty water than we do in totally fresh water.

In fresh water, our bodies draw in unsalted water through our skin and eyes causing irritation and discomfort.

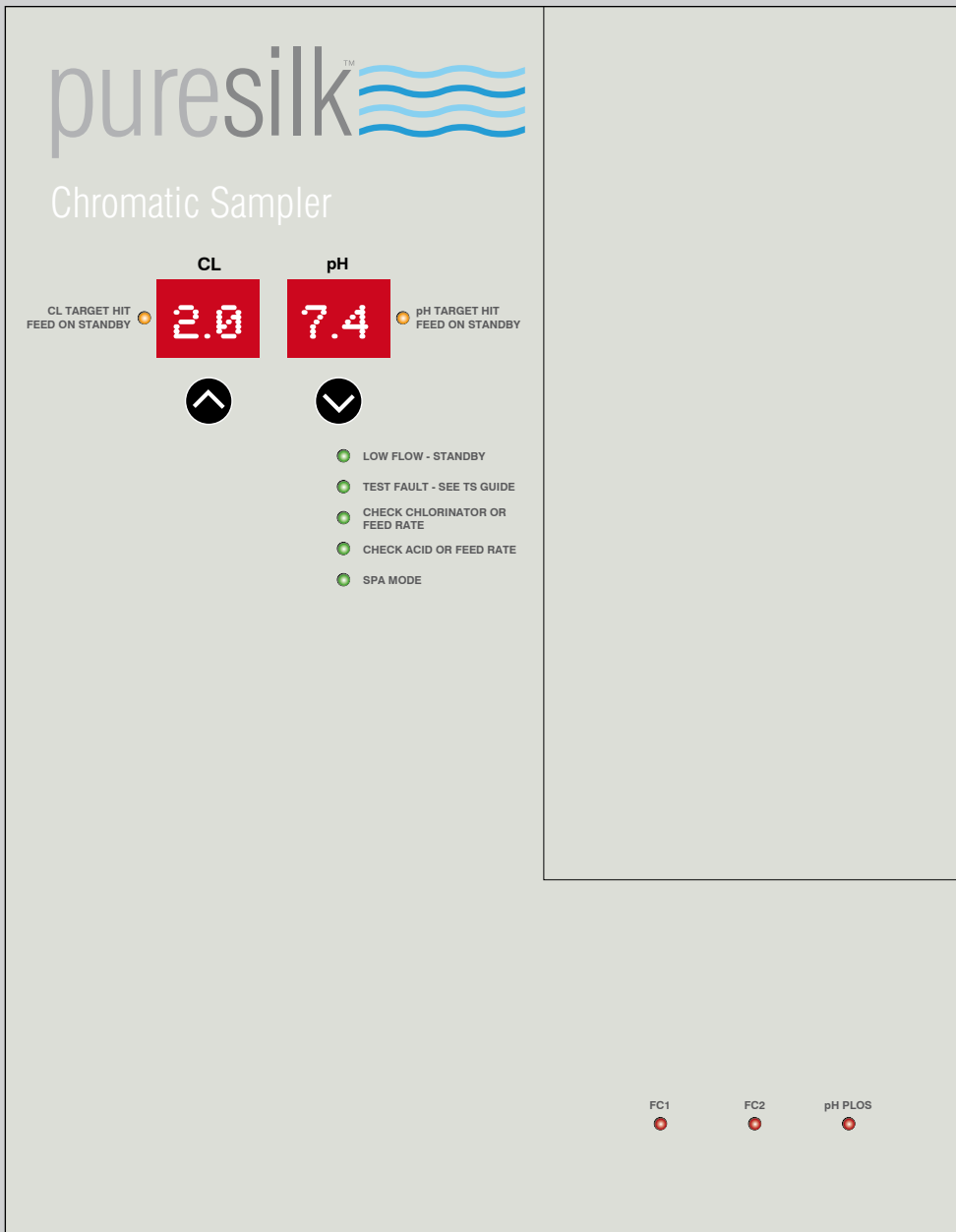
In slightly salty water, where the salinity level is similar to that of our teardrops, we feel relaxed, soothed and have that luxurious feeling of swimming in silk.

And salt has one other amazing characteristic. When slightly salty water passes between two charged plates inside an Electrolytic Cell it generates chlorine.

This gas immediately oxidises harmful bacteria and algae. And, once the contaminants are

eliminated, the salt reforms without any loss, ready to start the whole process over again.

So not only is a Puresilk™ Automatic Chlorinator the safest and most natural way to chlorinate, it is also the easiest, the most practical and it saves on chemical costs.



In a swimming pool or spa, as well as forces trying to contaminate the water, there are forces trying to make that water more acidic or more alkaline.

If either wins, a build up of scale or corrosion will result.

All these forces are constant so they need to be constantly monitored. And to maintain equilibrium, the forces used to cancel them out need to be precisely administered.

In the past, both of these tasks fell to the pool owner.

Water would be tested daily and samples regularly taken to the pool shop so chemicals could be added.

The longer the gap between tests, the greater the imbalance and the greater the chemical dosage required to restore that balance.

The Puresilk™ Chromatic Sampler now replaces that guesswork and hard work. It's a scientific instrument designed to monitor water quality at least twice per day and inject just the right amount of chlorine or acid to maintain perfect balance.

## Balance: Puresilk™ Chromatic Sampler.

Balance is defined as a state of equilibrium between opposing forces.

The patented Puresilk™ Chromatic Sampler uses ground-breaking, colorimetric sensing technology to test, analyse and correct water purity.

It automatically mixes precise amounts of sample water and reagents in a test chamber and uses a photodiode to accurately measure the light intensity passing through the sample.

If necessary, the microprocessor then activates its Peristaltic Pump to deliver just enough acid to bring the pH back into balance.

It may also adjust the Puresilk™ Automatic Chlorinator's output so there is always just the right amount of chlorine to destroy any new algae or bacteria.

So, it not only removes the need for daily manual testing and dosing, it manages itself.

There is no calibration required. Each reagent satchel performs over 500 tests so they only need replacing every 6 months. And the testing chamber rinses itself after every test.

In another first, the system automatically senses any switch from the pool to a spa and adjusts itself accordingly.

And its sensors alert you if the Chlorinator is set too low or if chlorine and pH targets have not been achieved within a 12 hour period.

In essence, the Puresilk™ Chromatic Sampler takes all the work out of water testing. It tests far more accurately and will ensure that your pool or spa is always totally pure and balanced.

Puresilk™ has No Probes!

Therefore, there are no probes to regularly clean. There are no probes to be affected by hydrogen gas and malfunction. There is no need to regularly re-calibrate the system. And there is no chance of ground leakage into the water.

Reagent sachets hold enough reagent to automatically test chlorine and pH levels more than 500 times.

The piston and drive shaft draw up an exact volume of water for analysis.

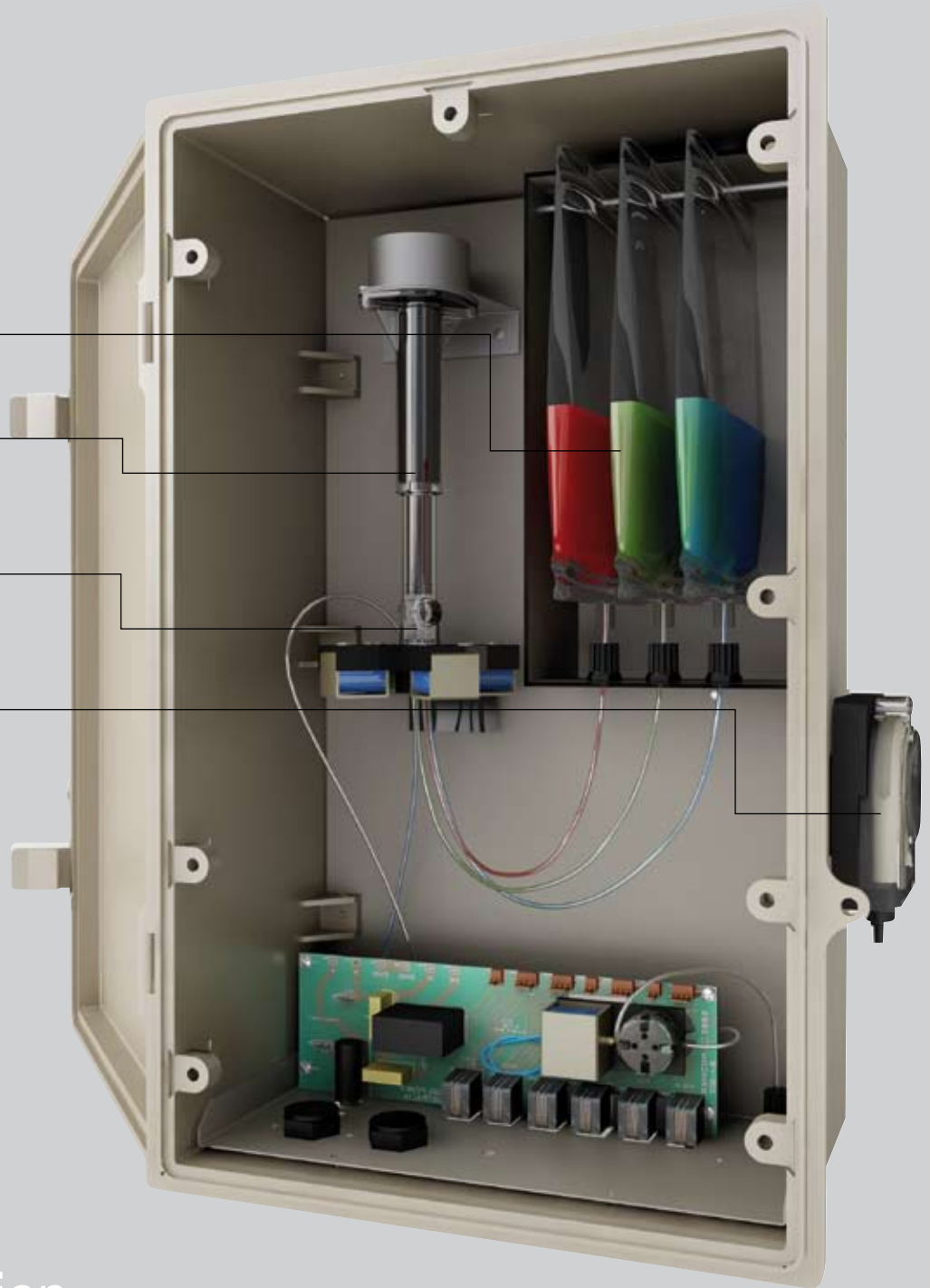
Chromatic or colorimetric testing is performed by a photodiode firing coloured light through a test sample containing specific reagents.

The peristaltic pump injects the precise amount of acid to balance the pool thereby eliminating dangerous manual handling of acid.

The microprocessor is easily configured to suit almost all domestic and commercial pool and spa sizes. Little or no programming is required.

Automatic Pool/Spa Switching:

If a 'salt' chlorinator applies its pool settings to spa operation it will over-chlorinate the spa creating serious damage. The Puresilk™ Chromatic Sampler instantly detects the switch from pool to spa and adjusts all its settings to provide the ideal level of chlorination for the spa.



Puresilk™:  
Patented Australian  
Technology.

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Puresilk™ Automatic Chlorinator  
Bi-polar Electrode Cell.

Unlike standard chlorinators, Puresilk™ chlorinators have an internal flow switch built into the cell cap which eliminates the need for complicated and costly additional plumbing.

Puresilk™ chlorinators are designed for modern pool and spa systems where increased pressure is now a major concern to pool builders.

Additional features such as in-floor cleaning systems and water features all increase pressure through the filtration system.

Puresilk's patented vertical cell and internal by-pass system actually reduce pressure drop across the cell making it ideal for even the most complex of pool configurations.

For added flexibility, the cell is suitable for both 40mm and 50mm connections.

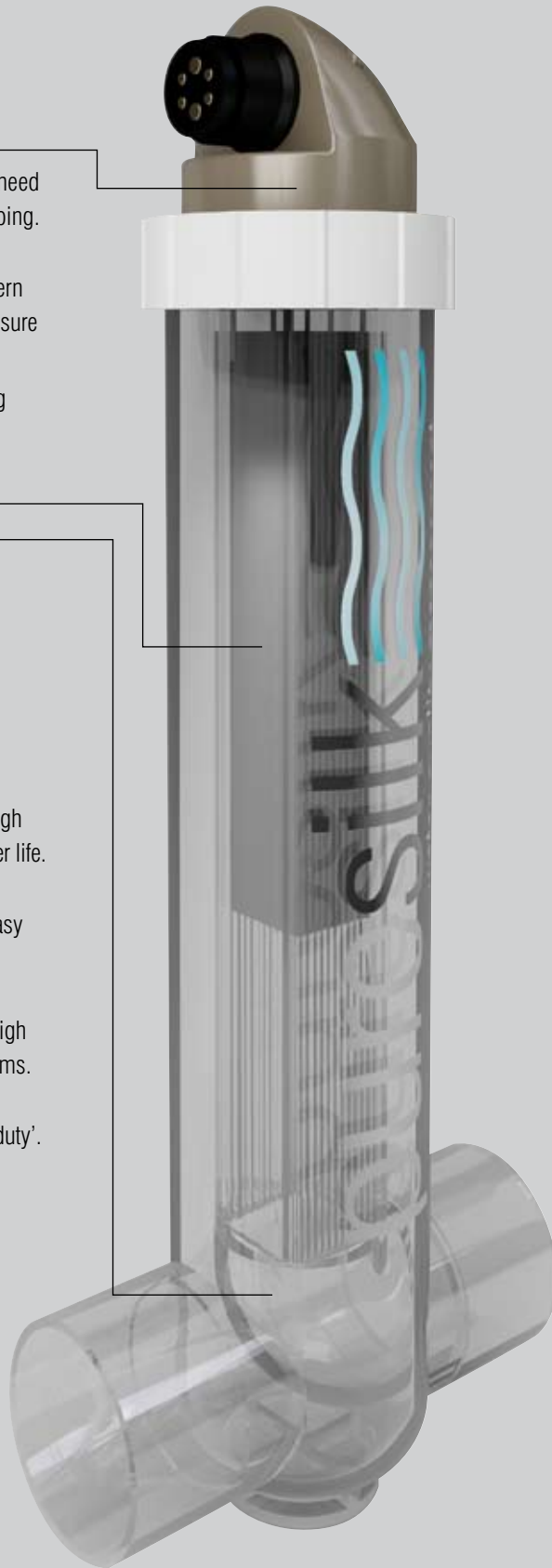
Puresilk™ cell housings are constructed of high impact acrylics for greater durability and longer life.

The twin start thread allows for quick and easy electrode removal.

The high pressure cell is suitable for both high pressure spa and for in-floor cleaning systems.

All Puresilk™ chlorinators are rated as 'heavy duty'.

The world's  
best salt  
chlorinator  
just got better.



Puresilk™ Automatic Chlorinator  
Microprocessor Control System.

Self-Cleaning Cells.

Puresilk's™ microprocessor automatically reverses the polarity of each electrolytic plate to clean them completely whenever necessary.

Automatic Output Limiting.

Protects power supply from over-salting and allows salt to be added without switching the chlorinator off.

[No fuses, no circuit breakers needed.]

Automatic Low Salt Warning.

If salt levels fall below the optimum threshold, the diagnostic display scrolls a message requesting a salt top up.

Automatic Low Salt Shut-down & Re-start.

To protect the electrode from damage, the cell shuts down and a message scrolls if salt levels fall below the minimum point. The cell then continues to re-test and when normal salt levels are restored the cell will automatically re-start.

No Back-up Batteries Required.

In the event of a power failure all information is stored for at least seven days without the need for batteries that can go flat or leak.

24-Hour Boost Mode.

The chlorinator and pump can be set to operate at full output for 24 hours. Thereafter it will automatically return to normal operation.

Pump Protection Monitor.

If ever the pump is starved of water, the Puresilk™ microprocessor will switch off the pump and protect it from running dry. The timing is adjustable to suit different hydraulic conditions and pump types.

Pump Flush Feature.

Cell power will automatically switch off for 30 seconds prior to the pump switching off to ensure the cell housing and the pump are flushed of concentrated chlorine. This prevents high chlorine levels in the pipework corroding heat exchangers and the valve components of in-floor cleaning systems.

# Selecting a Puresilk™ Chlorinator for your pool or spa.

## Heavy Duty:

Every Puresilk™ Automatic Chlorinator will easily cope with what, for other chlorinators would be struggle. That's because every Puresilk™ model is a 'heavy duty' chlorinator.

## Maximum Water Temperature:

Some 'salt' chlorinators only quote cool climate specifications to show their units at their best. But swimming pools are less common in cool climates. That's why Puresilk™ specifications cover all three climate types.

The Puresilk™ Chlorinator Selection Chart assumes that the maximum water temperature in a Cool Climate is around 18 degrees Celsius, in a Temperate Climate it's around 24 degrees Celsius and a Tropical Climate it's 25 degrees Celsius or above.

## Maximum Pool Size:

The maximum pool sizes listed are based on ideal conditions where the water temperature is low, the water balance is perfect, demand is low and the filtration system is in excellent condition. However, these conditions rarely exist.

It is therefore recommended that, if perfect conditions are in doubt, then a model at least one size larger than that specified in the chart should be selected.

It is always best to use peak demand levels when sizing. So the extremes of summer and the effects a pool heating system, now or in the future, should be taken into account.

## Low Salt Levels:

In some regions, low salt levels are mandatory. In other regions it is necessary or recommended. For many normal 'salt' chlorinators this imposes an unsustainable load on the system.

All Puresilk™ chlorinators will cope with such conditions but the LS or 'Low Salt' models are specifically designed to work very efficiently and effectively in a low salt environment.

They also offer superior performance in situations where water temperatures and calcium hardness levels are high.

## Commercial Pools:

Commercial applications also impose severe additional stresses on the normal 'salt' chlorinator. In these situations, the robust durability and high performance of the LS models are a huge advantage.

## Warranty.

Puresilk™ Water Quality Management systems can rightfully claim to be the very best of their type in the pool and spa industry worldwide.

To achieve that goal they have been designed without any compromise and constructed of the highest quality components and materials available.

They will operate happily in conditions others will not tolerate.

They will do so automatically without constant adjustment or maintenance.

They will do so efficiently and with economy.

And they will do all that for many, many, many years.

In every market around the world they will be governed by differing regulations and conditions, and the Puresilk™ warranty must reflect these differences in each market.

But one thing will remain constant. Puresilk™ systems will always be built to the highest standards of quality and durability. And every Puresilk™ warranty will be a guarantee of that.



# Puresilk™ Chlorinator Selection Chart.

Model:	PS23	PS30	PS45	PS15LS*	PS20LS*	PS30LS*	PS40LS*	PS50LS*
Salt Level								
Parts Per Million	3750	3750	3750	2500	2500	2500	2500	2500
Calcium Hypochloride Equivalent:								
Oz per Hr	1.25	1.63	2.45	0.8	1.1	1.6	2.2	2.75
Gms per Hr	35.4	46.2	69.3	23	30.7	46	61.4	76.8
Chlorine Gas:								
Oz per Hr	0.81	1.1	1.59	0.53	0.7	1.1	1.4	1.75
Gms per Hr	23	30	45	15	20	30	40	50
Maximum Pool Size - Cool Climate								
Gallons '000	35	48	72	20	27	48	54	67.5
Litres '000	132	180	270	75	100	180	200	250
Maximum Pool Size - Temperate Climate								
Gallons '000	24	33	49.5	14	19	33	36	47.5
Litres '000	92	126	189	52	70	126	140	175
Maximum Pool Size - Tropical Climate								
Gallons '000	21	29	43.5	12	16	29	32	40
Litres '000	79	108	162	45	60	108	120	150

\* LS models are designed for conditions of Low Salt.  
 Due to ongoing research and development, Puresilk™ reserves the right to alter specifications without notice.



