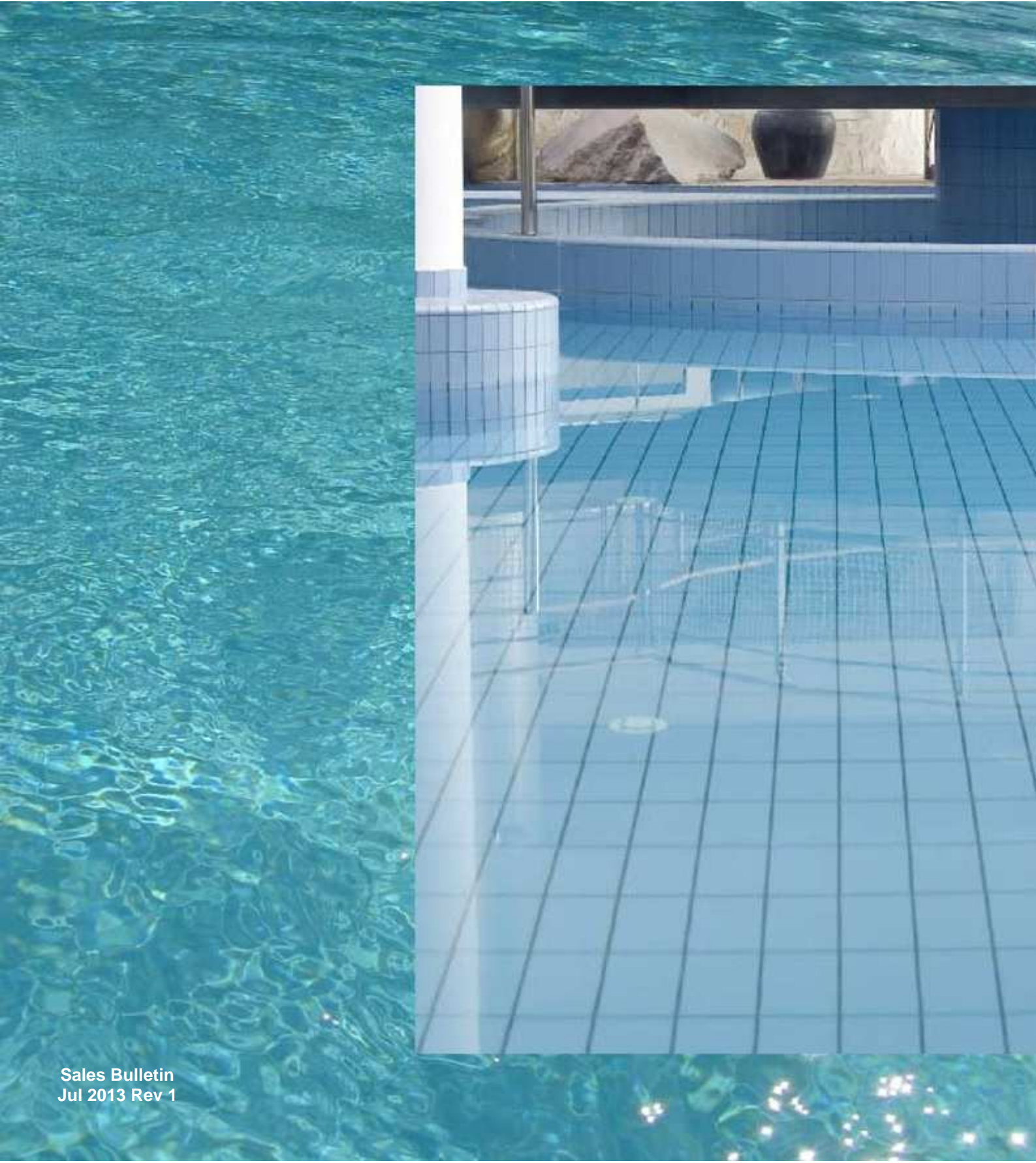




# Swimming Pool Disinfection Controllers

AQUARIUS TECHNOLOGIES PTY LTD



# Swimming Pool Treatment Controllers



## The BEST investment you could ever make!!

Owners of major assets with professional swimming pools are usually faced with conflicting demands that are seeking high performance at the lowest cost.

Aquarius has placed particular emphasis on developing equipment that addresses those needs.

### Would you like to own a water treatment controller that will:

- Guarantee you safe disinfection levels at all times?
- substantially reduce your water consumption costs?
- effectively drive down your chemical costs?
- cut your energy costs?
- reduce your maintenance costs?
- extend equipment replacement cycles?
- reduce exposure and facility downtime?

If you agree, then an Aquarius Controller for your Water Treatment and Disinfection will deliver that promise.

Aquarius Technologies offers a complete range of Swimming Pool Disinfection Controllers to suit a wide variety of service applications. Every Aquarius model has been designed for optimum performance whilst ensuring protection for your customers, your disinfection levels, pH levels, and valuable system and plant.

New generation Aquarius Controllers have application layer software that introduces genuine 'intelligent processing'. The microprocessor chip is programmed to make logical responses to input data and measured observations that will optimize treatment control.

The layered software installed in the controllers is the product of years of experience gained through our continued commitment to research and development, an understanding of the water treatment professionals objectives and the analysis of past equipment performance using our flagship monitoring & controlling platform.

Aquarius have brought the best of technology in electronics and combined them with our own adaptation of logical modelling modules to create a new and improved software suite that is able to assist in generating superior treatment regimes for its controllers.

Known as Aquarius Proprietary Logic (APL), this unique program module has patent applications pending, and is featured in all new controllers in the Aquarius brand stable.

Aquarius Technologies Pty Ltd develops the most advanced water treatment controllers in today's market.

### Typical Applications

- Professional Swimming Pools
- Hydrotherapy Pools
- Training Pools
- Wading pools
- Water Features and Fountains
- Water Parks and Playgrounds

### Swimming Pool Sizes

Models are available within the range to cover swimming pools from 10 m<sup>3</sup> to over 1000 m<sup>3</sup> water volume in standard units and operating on a range of chemistry parameters. Use of the Aquarius Pool\_Calc template from Aquarius website instantly selects and optimizes dosage pumps and equipment to suit both the particular swimming pool, and the particular water treatment chemistry regime. For systems larger than 1000 m<sup>3</sup> volume Aquarius treats each of these jobs as a project and offers a total system with dosage pumps to meet the particular system specifications.

### Water Treatment Chemistry

Models are available to cover Swimming Pool Water Treatment and disinfection programs utilizing:

- Sodium Hypochlorite solutions with Liquid Acid such as hydrochloric acid for pH control.
- Sodium Hypochlorite solutions with CO<sub>2</sub> gas (Carbon Dioxide) as the acid for pH control.
- Electrolytic Chlorine Generators and with liquid acid or with CO<sub>2</sub> as the acid source.
- Gaseous Chlorine with either Liquid Acid or CO<sub>2</sub> for pH control.

Aquarius Technologies Pty Ltd Water Treatment Controllers have been developed over the past 24 years and examples of our control equipment can be found in Australia on professional pools, water theme parks, zoos and aquariums, 5 star Hotels, water features and fountains, Australian Parliament Building, and sold to New Zealand, Singapore, Malaysia, Korea, China, Thailand, India and Pakistan.



# Introducing the NEW family of FAC Swimming Pool Disinfection Controllers for applications in water disinfection programs

## Features

- Automated water treatment management system
  - chemical dosage is regulated based on the demand from the system, whilst maintaining the set desired parameters for efficient water treatment and disinfection
- Adapts to user configured/specified water treatment chemical regimes.
- Combination probes – pH/ORP/Ground Ref and Conductivity/Temperature/Flow allow for a compact unit with maximum data for control and logging.
- Data logging of all measured parameters and dosages accessible in graphs from any computer through web on 24/7 basis.
- Simultaneous display of TDS and conductivity. Online measurement and display of FAC (Free Available Chlorine).
- Easy and user friendly FAC calibration procedure
- Western Australia spec compliant.
- Warning on FAC when pH is out of range
- Press one button to see all set points
- APL- Aquarius Proprietary Logic has been introduced to control oxidising biocide dosage (ORP) and pH control with pin-point accuracy to set point. The introduction of this breakthrough technology is a reflection of our commitment to provide superior products that enhance your water treatment control options and benefits your site.
- LSI – Langelier Saturation Index values are calculated from a combination of sensor data and input of calcium hardness and displayed to allow for maximum system concentrations, minimum bleed off, conserving water and without scale forming.
- All Swimming Pool Controllers are built to a Quality Assurance system, weatherproof to IP53 standard, and come with 12 - 24 months warranty. - See full Warranty details in Aquarius Warranty Statement or in the User Manual.

## User Benefits

- All Aquarius Controllers are designed by our professional R & D with over 40 years of water treatment chemistry experience. Since 1989 this specialised team has been developing control and dosage equipment for the water treatment industry. The Aquarius R & D team currently comprises water treatment chemists, computer programmers, and electronic technicians; all pooling their knowledge and effort to enhance the development of water treatment dosage and control equipment by utilising the latest in computer and electronic technology with electrochemistry principals.
- Options for remote control on 24/7 basis
  - a) SMS Alarms to 7 nominated phone numbers and/or e-mail addresses
  - b) Remote data downloads and/or remote changing of set point values using a GSM modem and AquaReporter web site
  - c) Trend Chart facility allows for automatic graphs and easy inclusion in reports.
- All “S” models allow for Super Chlorination routines to be programmed at various weekly schedules or commenced remotely when Chloramines become a problem
- With Aquarius FAC Swimming Pool Controllers you can choose models to accommodate:
  - I) Sodium Hypochlorite solutions with Liquid Acid such as hydrochloric acid for pH control.
  - II) Electrolytic Chlorine Generators and with Liquid Acid for pH control.
  - III) 4-20mA output to energize either the Hypo pumps or Electrolytic Chlorine Generators.
- Aquarius delivers efficient and economical solutions with our unique firmware and software programs and our enhanced chemical injection technology offering the owner:
  - a) Savings in water costs and chemicals usage
  - b) 24/7 supervision of your disinfection treatment program
  - c) 24/7 Alarms relayed to service personnel by mobile phone or e-mails for rapid response and correction
  - d) Programmed or remote start-up of super chlorination
  - e) Historical Records of the chemistry, disinfection parameters and the various dosages in graphs
  - f) Peace of Mind that your pool and disinfection regime is being maintained at “world’s best practice” standards

## “S” Series – General Specifications for Swimming Pool Disinfection Controllers

<b>Enclosure</b>	Fully Weatherproof rated to IP53 - Protect from freezing - maximum ambient 40 °C.				
<b>Electrical Supply</b>	220 - 250 Vac 50 or 60 Hz, 10 Amp continuously powered “clean” mains supply - 2 Amp output relays.				
<b>Microprocessor (16 bit 20 MHz)</b>	Industrial quality microprocessor supports proprietary firmware, including boot loader for upgrade of software via the serial port. Data logging is a standard feature. When combined with remote comms package - the unit is capable of transmitting alarms by SMS and/or emails to 7 users. Using AquaReporter website all settings, statuses, and downloads can be modified or determined remotely on web from any computer or smart phone on 24/7 basis.				
<b>Sensors</b> <b>PR_FCT</b> <b>PR_PHRG/_AU</b> <b>PR_FAC_AU</b> <b>PR_FAC_PT</b>	Units are shipped with combination sensors as required for the configuration. Combination sensor for Flow/Conductivity/Temperature. Combination sensor for pH/ORP/Ground Reference. Sensor for Free Available Chlorine for SF100 models Self- cleaning probe for Free Available Chlorine in Flow Cell for SF200 model These probes are designed to reduce external influences and ensure more accurate readings.				
<b>Pressure Rating</b> <b>Temperature Rating</b>	Probes are rated to 280 KPa/40psi Probes are rated to 50 ° C				
<b>Module Designation</b>	<b>pH - values</b>	<b>ORP - millivolts</b>	<b>FAC - ppm</b>	<b>Conductivity-mS/cm</b>	<b>Temp as °C</b>
Operating Range	0 - 14.00 pH	0 - 999 mV	0 - 10	0 - 9.99 mS/cm	0 - 100 °C
Resolution	0.01 pH	1 mV	0.01	0.01 mS/cm	0.1 C
Accuracy	+/- 0.02 pH	+/- 1 mV	+/- 0.05	+/- 0.02 mS/cm	+/- 0.2 °C
Repeatability	+/- 0.02 pH	+/- 2 mV	+/- 0.05	+/- 0.01 mS/cm	+/- 0.2 °C
Alarm Range	+/- 0 - 3.5 pH	+/- 0 - 400 mV	0.5 – 2.0	+/- 0 - 2.0 mS/cm	+/- 0 - 20.0 °C
Dead Band	N/A	N/A	N/A	0.05 mS/cm	N/A
Control Type	APL	APL	APL	ON/OFF	N/A
<b>Alarms</b> User Defined	All defined set points are able to be associate with alarm outputs as +, -, or +/- range. The alarm signals may be directed to various output destinations.				
<b>Data Logging</b>	1 min data logging of analogue readings and the pump ON times is standard. All data are stored on the company server located on Cloud, downloadable remotely via a GSM modem in trend chart formats at 30 minute intervals.				
<b>Calibration</b>	All measures are auto calibrated using the CAL Screen selection window. pH/ORP Calibration and verification can be performed as a combined calibration with less time needed on site.				
<b>Dosage of Chemicals</b> Dosage Pumps	The Aquarius range of peristaltic pumps rated at 1.0 l/h or 3.0 l/h and rated to 350 kPa are specifically designed for this application. Larger pumps or higher pressure pumps are available where required.				
<b>GPO for outputs</b>	Optional sockets for SF100 models 3 sockets already included in SF200 model. Optional extras are available				
<b>Manifold Ratings</b> Press. & Temp. rating Flow rate required Plumbing	Manifolds are designed from UPVC and rated to 700 kPa at 50 °C - Maximum Temperature = 65 °C. A minimum flow rate of 8 – 10 lts/minutes required to activate the flow sensor. Plumbing inlet and outlets are 20mm BSP fem. Threads or can be fitted with 19mm hose tails.				
<b>Super Chlorination</b>	Super Chlorination routine is a feature in the range. When activated it may be necessary to add an additional dosage pump to ensure the dosage and set level is reached in the specified time.				
<b>Remote Control Options</b>	When fitted with optional modem the unit is capable of transmitting alarms by SMS or e-mails to 7 individuals. When combined with remote communications package using AquaReporter website, all settings, statuses, and downloads or super chlorination can be modified or determined remotely from any computer on web.				
<b>pH control</b>	pH level must be maintained to ensure stable FAC and ORP readings.				
<b>APL Software</b>	Aquarius Proprietary Logic application software is specifically programmed to initiate intelligent responses to inputs. Through consistent monitoring, calculating and responding, it narrows the variation in hysteresis to 1%, optimising water treatment control for accurate Set Point retention.				
<b>Display/Key Pad</b>	Incorporates 4 lines x 20 (80 char) digital backlit display with touchpad operation. This ensures clarity even in low or non-lighted locations.				
<b>Flow Sensing</b>	Flow Sensing can be individually controlled for ORP and pH module to allow for site specific requirements				
<b>Test and Priming Screen</b>	Auto test can be initiated on all relay outputs and manual pump priming can be activated without varying the setting of the controller.				
<b>Safe Memory</b>	The PCB board incorporates a non-volatile memory for safe storage of set points and programs that are not susceptible to power loss.				

## FAC controllers options for different pools

Detail Specifications	Liq. Hypo – Acid	Liq. Hypo – CO2	Chlorinator - Acid	Chlorinator – CO2
pH Control - Acid dosage	Acid pump	CO2 gas	Acid Pump	CO2 gas
Dose Pump - Hypochlorite	Hypo pump	Hypo Pump	Electrolytic	Electrolytic
Dose Pump Type	As selected	As selected	As selected	As selected
Dose Pump Press. Rating	As selected	As selected	As selected	As selected
ORP back up pump	N/A	N/A	As selected	As selected
Power Relay	Optional	Optional	10/15 Amp	10/15 Amp
GSM modem	Optional	Optional	GPRS/3G	GPRS/3G
Sensors fitted	PR_FCT , PR_PHRG , PR_PHRG_AU , PR_FAC_AU , PR_FAC_PT			
Shipping Dim. and Weight	Cartons are 540 mm x 620 mm x 190 mm and cubed shipping weight is 18 kgs.			
Communications Port	For use with GSM modems			
Socket Outputs (WP)	Optional Weatherproof power socket outlets			
BMS 4 - 20 mA outputs	Plug on card provides 4 analogue signals as 4 - 20 mA + 4 events as contact only signals - means of data transfer to BMS system.			
SS_RACK	Stainless steel skid and base for mounting the controller, circulation pump and BCD feeder in a neat compact package.			
Circulating Pumps	A range of circulation pumps are available for independent circulation of the system or to provide adequate flow and pressure to the controller.			
Buffers and Calibration solutions	Aquarius can supply all buffers, calibration solutions and standards for maintaining the system at world's best practice standard.			
Spare Parts and Replacements	Aquarius maintains a huge stock of spare and replacement parts for quick and easy delivery via overnight freight.			
Technical Bulletins	Visit our web site at <a href="http://www.aquariustech.com.au">www.aquariustech.com.au</a> for a range of Technical Bulletins to provide education and background to the water chemistry involved.			



SF100 Series



SF200 Controller

## Swimming Pool Controllers

Model	pH/ORP Probe	FAC Probe	FAC board	Flow/Temp probe	BCD Feeder	Modem	Relay	GPO	Pumps
SF100	PR_PHRG/_AU	PR_FAC_AU	included	PR_FCT	N/A	Option	Option	Option	Option
SF200*	PR_PHRG_AU	PR_FAC_PT	included	PR_FCT	N/A	GPRS/3G	10Amp	3 x Sockets	Option
SL100	PR_PHRG	Option	Option	PR_FCT	Option	Option	Option	Option	Option
SE100	PR_PHRG_AU	Option	Option	PR_FCT	Option	Option	Option	Option	Option
SC100**	PR_PHRG/_AU	Option	Option	PR_FCT	Option	Option	Option	Option	Option
SE100C**	PR_PHRG_AU	Option	Option	PR_FCT	Option	Option	Option	Option	Option
SPA_PACK	PR_PHRG	Option	Option	PR_FCT	4 KG	Option	Option	Option	1 L/H

\* probe is located in a flow Cell, PR\_FAC\_Flowcell

\*\* comes with CO2 diffuser and regulator



SC100 Series



SL100 Series



SPA\_PACK



## Other Sales Bulletins from Aquarius

KPI Intelligent Water Treatment Controllers  
Cooling Water Treatment Controllers  
Trade Waste or Effluent Controllers  
Potable Water Disinfection Controllers  
AquaReporter web access remote system  
and remote control interface from a PC  
Aquarius Peristaltic Pumps Range

*This document is subjected to Aquarius Technologies Pty Ltd trading terms and conditions  
which can be obtained from the following link <http://www.aquariustech.com.au/terms.html>*



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