



AQUARIUS TECHNOLOGIES PTY LTD

KPI₃ Intelligent Water Treatment Controller



KPI₃ Intelligent Cooling Water Treatment Controllers



The BEST investment
you could ever make!!

Owners of major assets with cooling tower equipment are usually faced with conflicting demands that are seeking high performance at lowest cost. Aquarius Technologies has placed particular emphasis on developing equipment that addresses those needs.

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

- guarantee you a high level of disinfection at all times?
- substantially reduce your water consumption costs?
- effectively drive down your chemical costs?
- slash your energy costs?
- shrink your maintenance costs?
- extend equipment replacement cycles?
- reduce exposure to facility downtime?

If the answer is yes, then the Aquarius KPI Intelligent Controller for Cooling Water Treatment will deliver that promise.

An Aquarius KPI Intelligent Controller will deliver the lowest cost of ownership of any cooling system controller available on the market today. It is a controller that by comparison is better than all alternative management systems.

It is the only controller that can effectively manage water chemistry to optimum performance without compromising your capital equipment. It is also the only programmed controller that considers corrosion in the management responses to the demands on the cooling system.

All of this being possible with less concern for frequent attendance by operators. The KPI Controller provides a 'self managed' system that informs operators of its needs to ensure appropriate controls are maintained. The controller can be configured with the optional remote control accessories that allow all its functions to be accessible from anywhere, anytime on a 24/7 basis. This configuration also allows the controller to transmit alarms when attention is necessary. So it is able to summon its own help if something is in need of attention.

Aquarius Technologies develops the most advance water treatment products in today's market.

Why is the KPI Intelligent Controller a better choice?

The KPI Intelligent Controller for Cooling Water Treatment is the only fully integrated system that incorporates accurate corrosion monitoring in its standard program.

Q: How important is corrosion monitoring in the management of water chemistry?

A: Many modern water treatment programs use highly corrosive chemicals. Without corrosion monitoring, the dosing must be moderated to prevent any possibility of high corrosion in the total cooling system. In most cases dosing is based on estimates of corrosion from measurements that do not accurately reflect the state of the system water, or do not respond rapidly to changes in corrosion rate. The KPI Intelligent Controller for Water Treatment takes continuous measurements of the sample water - evaluating the precise state of the water cooling system. This provides the opportunity to be more aggressive in the treatment regime without compromising the system itself.

B: The KPI Intelligent Controller for Cooling Water Treatment uses leading edge proprietary software that is proven to give better results in all control parameters.

Q: How is the KPI Intelligent Controller for Cooling Water Treatment smarter than others?

A: Most approaches to dosing still have attachments to the historical methods of timer and range response dosing. Aquarius Technologies Pty Ltd is a pioneer in the development of systems that understand the real-time needs of the facility by responding to the true system demand. Historical treatments have relied on analysis of recorded site averages to effect treatment. At any point in most systems the dosing regime will commonly use more chemicals than the actual system demand requires.

When both concepts are combined, the KPI Intelligent Controller for Water Treatment will deliver substantial savings in water, energy, chemicals, and operator time.

Introducing the NEW - **KPI₃ Intelligent** Water Treatment Controller for applications in cooling water treatment programs

KPI Intelligent Controller features

1. A fully integrated management system using proprietary demand response software. The unit uses a range of system inputs including pH, ORP, conductivity, corrosion, and chemical tank status. A comprehensive arrangement of user defined settings then allows the generation of control system outputs such as dispersant dosing, pH dosing, ORP dosage of oxidants, secondary biocide dosage, inhibitor dosing, bleed control, optional BCDMH feeder dosing, and alarm states.
2. The physical configuration of the KPI Intelligent Controller for Cooling Water Treatment can be tuned to cooling systems of any size. For most applications it is ideally suited to be teamed with the Aquarius High Performance peristaltic dosing pumps (tri-roller 'squeeze' pumps rated to 350 kPa / 50 psi and outputs of 1.0 lts/hr and 3.0 lts/hr). On systems that require larger dosing volumes there are options to configure 3rd party pumps and BCD feeders.
3. The Controller is in fact an Information Centre with data analysis capabilities. Data logging and event logging now retain a history of all parameters and significant events. New calculations for oxidant values as Free Available Halogen (FAH), and the Langelier Saturation Index (LSI) are included.
4. The current series controller features a boot loader capability which may be coupled with a PC or laptop to upgrade the systems firmware or carried out remotely with a GSM modem fitted.

KPI Intelligent Controller benefits

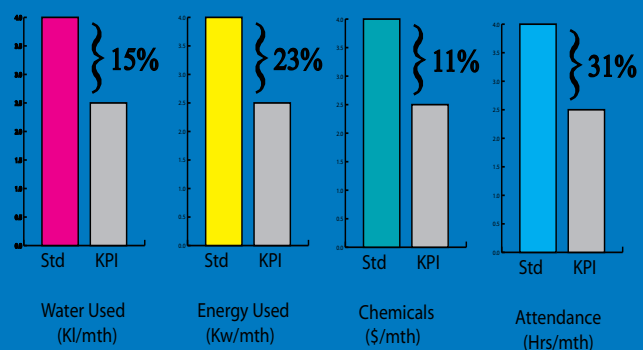
1. The cooling system can be managed to a variety of water chemistry principles, but is always optimised for the lowest operation cost. This Intelligent Controller is compatible with all chemical brands and combinations of chemical compositions. A chemical treatment program can be customised for the individual facility and optimised to reflect the nature of real-time demand. When you buy a KPI Intelligent Controller for Cooling Water Treatment you are buying a management system that gives you reliable and competent control, and peace of mind in knowing that your valuable asset is giving its optimum performance.
2. The purchase of a KPI Intelligent Controller for Cooling Water Treatment will afford complete flexibility and scalability to meet the current and future needs of any facility. The unit also enables you to standardise equipment across many installations on a single site, or even across a portfolio of sites that might be over a large geographical area.
3. An historical record available as proof of compliance with the nominated Key Performance Indicators set for the cooling system.
 - Downloadable data is available for development of reports
 - Valuable reference that reflects all changes and updates
4. The controller is able to send alarms to 3 nominated phone numbers for quick response to service on a 24/7 basis

How much do you really save?

More importantly, the Aquarius KPI Intelligent Controller for Cooling Water Treatment will in most cases save more than its cost to purchase and install in less than one year of operation. How can we make this bold claim? Independent analysis has shown that for an average cooling system of 4000 kW, the average annual water savings is 15%, savings in electricity is 23%, chemical savings is 11%, and a 31% dollar savings in attendance by operators.

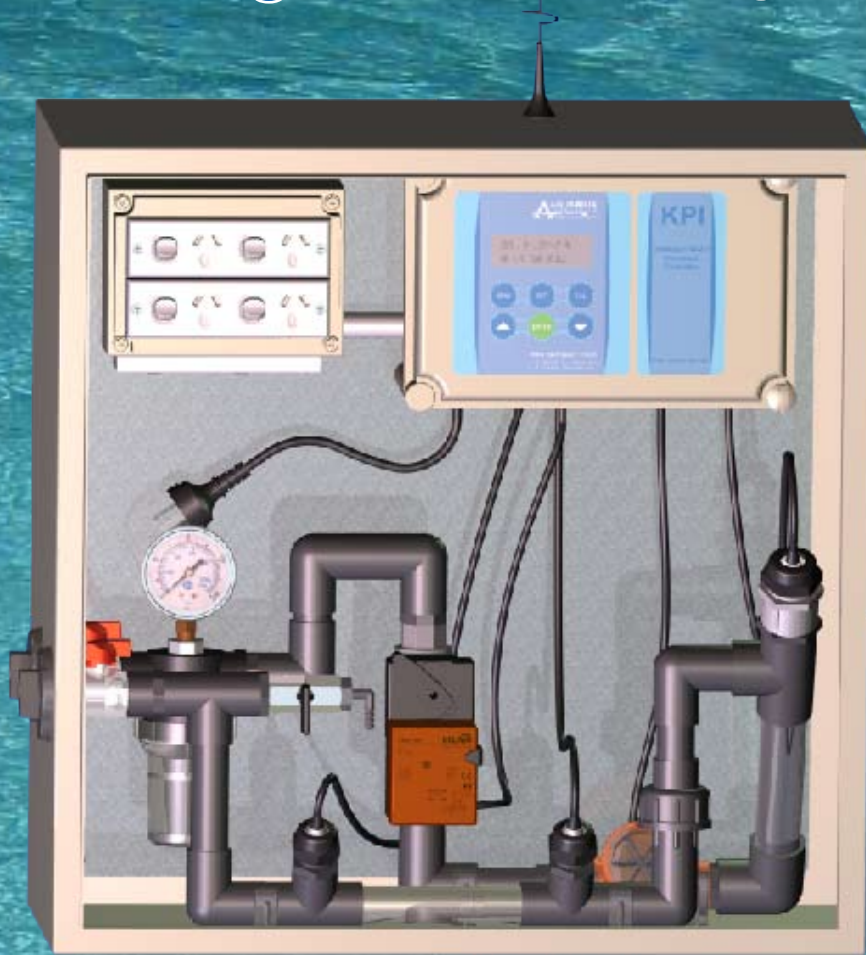
Disclaimer – some elements of cost will vary from different locations, and some systems have higher or lower demand depending on their application. For example, a shopping centre is active for fewer hours than a hospital. Some industrial applications may have to deal with more demands.

Possible Cost Savings - KPI Intelligent controller vs Standard management Systems.

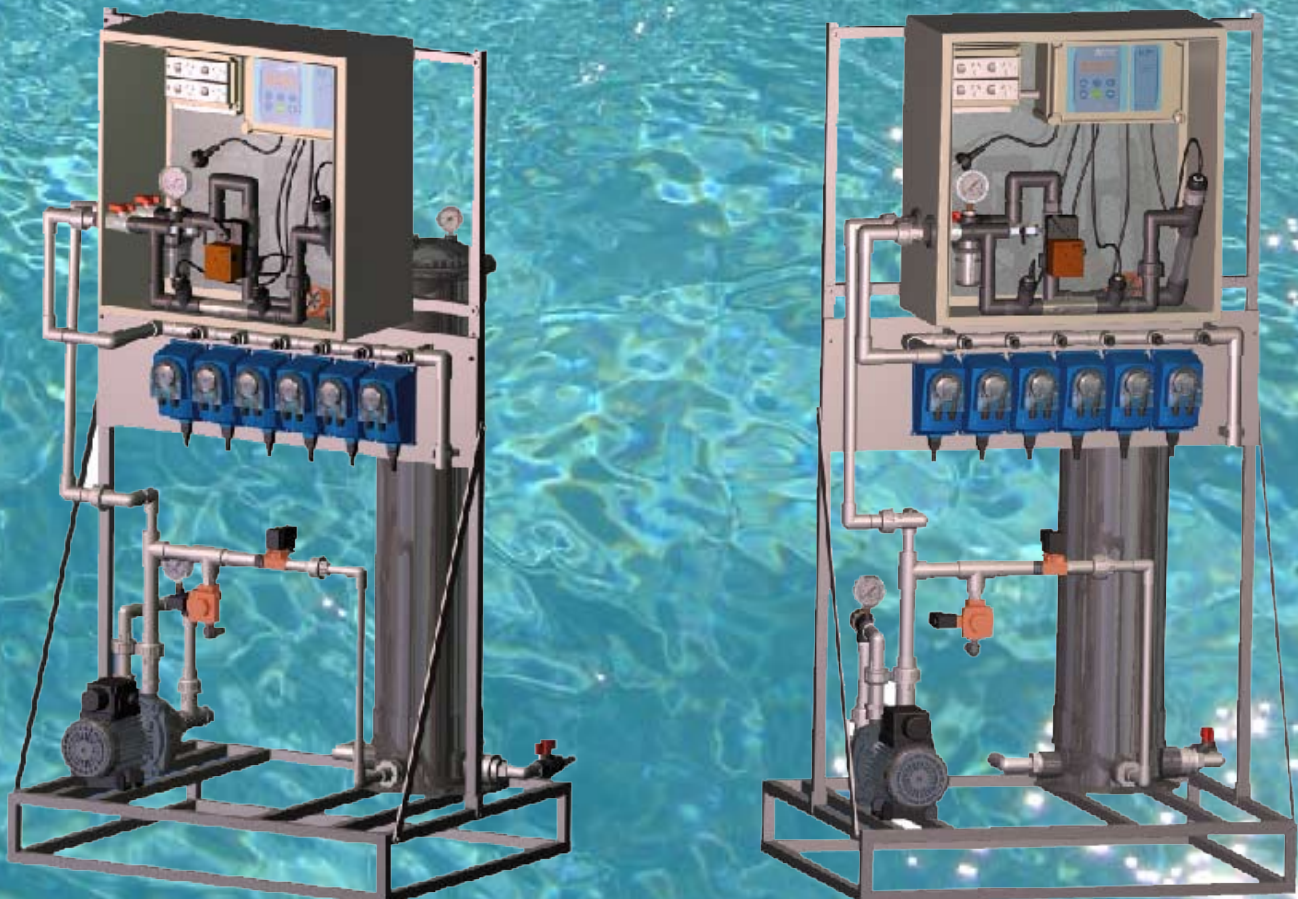


Possible Cost Savings - KPI Intelligent controller vs Standard management Systems.

KPI₃ Controller Only

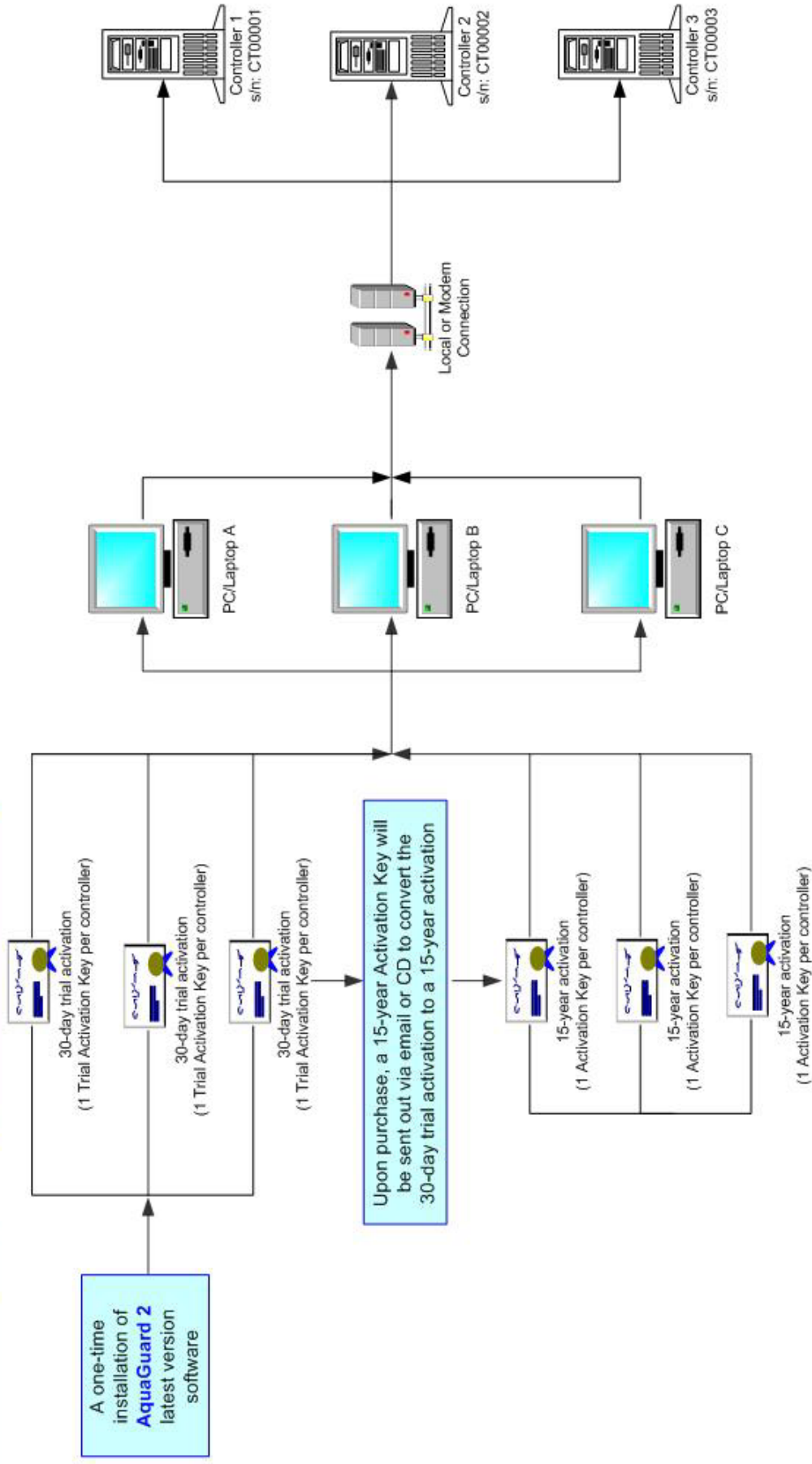


KPI3 Controller SS Skid Mounted with Circ pump, Dosage pumps, & BCD Feeder



AquaGuard 2 User Flow Diagram

A 30-day Trial Activation Key comes
FREE with purchase of controller



Note:

- 1 Activation Key can be used on multiple pc/laptop
- 1 Activation Key can only be used for 1 controller
- 30-day trial usage can be converted to 15-year period by purchase of Activation Key

Specifications for the KPI 3 Intelligent Cooling Water Treatment Controller

Microprocessor	Units are fitted with a high reliability industrial 16 Bit 20 MHz microprocessor. The electronics include a boot loader capability which enables upgrade of software from the Serial port either locally or via GSM modem.
Enclosure	Epoxy Coated Mild Steel Enclosure – IP53 – 600 mm x 600 mm x 300 mm - maximum ambient 40 °C
Electrical Ratings	Clean mains supply of 220 – 250 Vac at 50 or 60 Hz. and 10 Amp supply.
Shipping Weight	Weight – 36 kgs for Controller with enclosure – add weight for pumps, solenoids, skid, as selected.

Options and Accessories for KPI Remote Control and Alarms

GSM Modem	When used together with AquaGuard 2 software, it allows user with remote control capability on the controller. It also provides SMS alarms to 3 phones via mobile GSM network. A data SIM card is required.
AquaGuard 2 Software	Software that allows remote control from a PC. Able to change set points, start up disinfection, download data, and export to Excel spreadsheet for water treatment summary, trend charts, and a database history of results in case of litigation, either through local connection or via the mobile data network.
ModBus	Industry standard protocol for data communications between BCMS and controller.
BMS 4 - 20 mA outputs	Plug on card provides 8 analog signals at 4 - 20 mA as contact only signals as means of data transfer to a BMS system.

Other Options to complete and maintain the KPI system

Bleed Solenoid Kit	Bleed Solenoid Kits are available for 15 mm, 20 mm and 25 mm.
Extended Solenoid Cable	5m extension cable to service remote bleed solenoids
4 - 20 mA outputs	Accepts a 4-20mA signal from a stand-alone meter. Data are displayed on the Aquarius controller and data logged. Alarm can also be activated via SMS.
Power Outlets	Independent isolated power outlets, relay activated 10 Amp, 15 Amp mains.
KPI - Dose manifold	A 20 mm PVC manifold housing non return valve with 6 chemical injection points
Dosage Pumps	The Aquarius range of peristaltic pumps were specifically designed for this application, available in 1 and 3 lts/hr and rated to 350 kPa. pressure. Higher outputs or pressure pumps are also available
Dosage Pumps outputs	Connectors are provided where dosage pumps and solenoids are supplied. The unit can be upgraded to a junction box or 5 off 240 Vac 3 pin Australian sockets
BCDMH Feeder - Control Solenoids	BCD Feeder Control Solenoid of 15, 20 & 25 mm suitable for BCD16, BCD33 & BCD100 feeders respectively are available
BCDMH Feeder Models	BCD16 = 13 kgs, BCD33 = 33 kgs & BCD100 = 100 kgs capacity of BCDMH tablets
Water Usage Metering (WUM)	By adding a WUM card, water usage readings will be reflected on the controller and can be data logged. Readings will show month-to-date and year-to-date figures of make-up, bleed and backwash usage
Water Meter	An impulse water meter that provides pulses proportional to flow. This is to allow Inhibitor dosage in proportion to system make-up rate
Condenser Pump	Condenser Pump override facility during biocide dosing
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 worlds best practice standard.
SS_RACK	Stainless steel skid and base for mounting the controller, circulation pump, dosage pumps and BCD feeder in a neat compact package.
Tank Alarm	To provide warning when chemical tank is near empty. Alarm can also be sent via SMS when Comms_Bundle is installed.

Other Sales Bulletins from Aquarius

Cooling Water Treatment Controllers
Swimming Pool Disinfection Controllers
Trade Waste or Effluent Controllers
Potable Water Disinfection Controllers
AquaGuard 2 Water Management Software
for Remote Control and Alarms
Aquarius Peristaltic Pumps Range



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