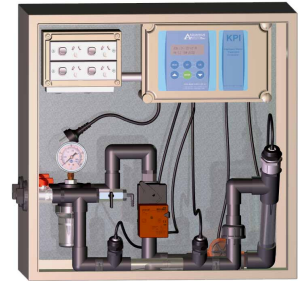


## Specifications Sheet – KPI 3 Controller

**K**PI3 is Aquarius's top of the range water treatment controller with Linear Polarisation Corrosion monitoring. It provides ORP, pH, Conductivity, LSI and Temperature readings with online monitoring of corrosion in your cooling system. All dosing equipment can be selected using Aquarius peristaltic pumps based on your customised needs or you can input your own pumps into this excellent product.

Please see the chart of available solenoid kits containing various sizes.

Note: For solenoid sizes over 20mm a separate take off may be required and designated to the erosion feeder to ensure adequate flow.



<b>KPI 3 Intelligent Cooling Water Treatment Controller</b>	
<b>Model</b>	<b>KPI 3</b>
<b>Dose – Inhibitor</b>	Optional
<b>Dose – pH</b>	Optional
<b>Dose – BCDMH</b>	Optional
<b>Dose – Sec. Biocide</b>	Optional
<b>Dose – Dispersant</b>	Optional
<b>Dose – Sodium Hypo</b>	Optional
<b>Dose – LBR</b>	Optional
<b>Sensors Fitted</b>	Flow/Conductivity/Temperature, pH/ORP/Ground Reference Probes, Flow Regulator & Corrosion Probe with 2 metals
<b>Corrosion Sensor with 2 Metal Rings</b>	Ring specimens are machined from 19mm heat exchanger tubing to ensure correct metallurgy. Carbon Steel & Copper are supplied as standard. Options for Stainless Steel 304, Stainless Steel 316, Brass, & Aluminium are available.
<b>Linear Polarisation Monitoring</b>	On-line electronic monitoring of corrosion & pitting rates in the system allowing immediate remedial action to be taken against any corrosion issue.
<b>Shipping Dim. &amp; Weight</b>	62cm x 62cm x 33cm and cubic weight is 36kgs
<b>Communications Port</b>	Interfaced to any RS232 device via the DB9 plug on the circuit board located internally
<b>Electrical Supply</b>	220 – 250Vac 50 or 60 Hz, 10Amp continuously powered "clean" mains supply – 7Amp output relays
<b>Alarms - User Defined</b>	All defined set points are able to be associated with alarm outputs as +, -, or +/- ranges. The alarm signals may be directed to various output destinations.
<b>Alarms - No-volt Contact</b>	A standard common no-volt alarm is incorporated in all controllers for DDC operation.
<b>Data Logging</b>	Data logging of analogue readings and the relay ON times is standard – Log can be set from 1 min to 240 min intervals. At 30 min intervals, the log can contain more than 30 days of data, downloaded either locally to a laptop or remotely via a GSM modem.
<b>Manifold Ratings Press. &amp; Temp. rating Flow Velocity Plumbing Strainer</b>	Manifolds are designed from uPVC and rated to 700 kPa at 50 °C. Velocity is controlled to suit the corrosion specimens – can be set from 0.3 – 5.0 m/s Plumbing inlet & outlets are 20mm BSP fem. Threads or can be fitted with 19mm hosetails Wire type 80 mesh with clear view bowl
<b>Non-Oxidising &amp; Oxidising: Bio. Programs &amp; Timer Control</b>	ORP (when selected) & Bio B are controlled by 2 independent timers, microprocessor controlled to operate on an individual day, Mon to Fri, Mon+Wed+Fri or everyday basis. Pre-bleed & bleed lockout facilities can be programmed for each timer to operate in conjunction with biocide dosing. Activation is to 12.5% of conductivity set-point - below for pre-bleed & above for bleed lockout Timer on ORP models can be used to control ORP output in TMR mode.
<b>Inhibitor Dosing</b>	Inhibitor can be dosed according to impulse from water metering. Water Meter is an add-on based on the size required. Other modes include Bleed, Continuous or against Flow.
<b>Langelier Saturation Index (LSI)</b>	This is a calculated value to predict the scale level in the water. User will need to enter the calcium hardness factor.

<b>Pumps Models</b>	
<b>Peristaltic</b>	Available in 1 & 3 ltr/hr @ 350kPa. These pumps are specially designed to be used with APL control and recommended to be used at 50% duty cycle
<b>Peristaltic - Variable</b>	Available in 1 & 3 ltr/hr @ 350kPa. These pumps are specially designed to be used with APL control and recommended to be used at 50% duty cycle
<b>High Pressure Pumps</b>	Available in 1, 2, 5, 10 & 20 ltr/hr with variable control.

<b>Module Designation</b>	<b>pH</b>	<b>ORP mV</b>	<b>Conductivity mS/cm</b>	<b>Temperature °C</b>	<b>Flow Velocity m/s</b>	<b>Corrosion Rate Metal 1 Umpy &amp; Metal 2 uPIT</b>	
<b>Operating Range</b>	0 – 14	0 – 999	0 – 9.99	0 – 100	0 – 5.00	0 – 999	0 – 999
<b>Resolution</b>	0.01	1	0.01	0.1	0.05	1	1
<b>Accuracy</b>	+/-0.02	+/-1	+/-0.02	+/-0.2	+/-0.02	+/-5	+/-5
<b>Repeatability</b>	+/-0.02	+/-2	+/-0.01	+/-0.2			
<b>Alarm Range</b>	+/-0 – 3.5	+/-0 – 400	+/-0 – 2	N/A	+/-0 – 1.5	1 - 500	1 – 500
<b>Dead Band</b>	N/A	N/A	0.05	N/A	N/A	N/A	N/A
<b>Control Type</b>	APL	APL	On/Off	N/A	MAN or AUTO	As Selected	As Selected
<b>Sensor Press. Rating</b>	700 kPa	700 kPa	700 kPa	700 kPa	700 kPa	700 kPa	700 kPa
<b>Sensor Temp. Rating</b>	50 °C	50 °C	50 °C	50 °C	50 °C	50 °C	50 °C

<b>Accessories to Complete and Maintain the System</b>	
<b>Bleed Solenoid</b>	Standard Bleed Solenoid 15mm comes standard with controller. Options of 20mm, 25mm, 40mm & 50mm are available
<b>BCD Solenoid Kits</b>	Options of 15mm, 20mm or 25mm with non-return valve are offered to suit your BCD size
<b>BCD Feeders</b>	BCD Feeders are available in 13kgs, 33kgs and 100kgs models
<b>Weatherproof Socket</b>	10 Amp weatherproof power sockets with relay activation
<b>Extended Solenoid Cable</b>	240 Vac extension cable of 5m or longer for remote bleed solenoids
<b>Water Meter</b>	An impulse water meter that provides pulses proportional to flow. This is to allow Inhibitor dosage in proportion to system make-up rate
<b>Water Usage Metering (WUM)</b>	By adding a WUM card, water usage readings will be reflected on the controller and can also be data logged. Readings will show month-to-date and year-to-date figures of make-up, bleed and backwash
<b>Tank Alarm</b>	To provide warning when chemical tank is near empty. Alarm can also be sent via SMS when Communications Bundle is installed

<b>Optional Communications Package to Enhance the System</b>	
<b>Communications Bundle</b>	GSM modem with AquaGuard 2 software can be added to enable remote access and downloading of data from the controller. User will also be able to receive controller alarm via SMS
<b>AquaGuard 2</b>	AquaGuard 2 software for local access/downloading of data from controller into computer spreadsheet and graph format
<b>4-20mA Analogue Input</b>	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.
<b>BMS_8 Card</b>	A plug-on card that provides 8 analogue signals as 4 - 20 mA + 4 events as contact only signals – means of data transfer to BMS system
<b>Modbus</b>	Modbus 485 card to enhance digital data communications (2 way) between BCMS and controller

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