AQUARIUS TECHNOLOGIES PTY LTD
WATER QUALITY CONTROL

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Quality Endorsed Company ISO 9001 Lic 5403

Maintaining an Aquarius Controller

In order to extend the life span of the Aquarius controllers, the following maintenance procedures should be performed:

1. **Pumps:** (Look at the Bulletins regarding maintenance and trouble shooting of Peri-pumps)
   a. Squeeze tubes, (inspect every month, lubricate them and replace when required)
   b. Suction tubes, (inspect regularly for possible damage and replace if required).
   c. Discharge tube, (inspect regularly for possible damage and replace if required).
   d. Injectors (inspect regularly for possible damage and replace if required).
   e. Injector rubber, inspect regularly. When cleaning the injector, it is recommended to replace the rubber.
   f. Roller Block, (inspect regularly for possible damage, lubricate and replace if required)
   g. Inspect the entire AP Peri Pump on a regular basis
   h. Use a silicon lubricant gel (PUMP_GREASE) for lubrication

2. **Probes**
   a. Flow/Cond/Temp (FCT) probe also known as Flow Switch, should be cleaned regularly to remove any scale or build up. This is dependent on the water quality.

      - Aquarius recommends cleaning at a minimum interval, once every 3 months using cleaning solution, AS9500.
      - Use 360 wet and dry sandpaper to clean the black contacts on the probe. Remember to wash the carbon off, prior to replacing the probe.
      - Calibration is required after cleaning.

   b. pH/ORP/Gnd Ref Probe: Depending on water quality, frequent cleaning of pH/ORP probes is recommended (at a minimum once every 3 months). Use the cleaning solution: AS9500. pH probes deteriorate over time. The maximum recommended life span of a pH probe is 2 to 3 years. The probe should be replaced within this time.
   c. Corrosion Probe (Only for KPI): The corrosion probes should be inspected monthly making sure there are no deposits or corrosion buildup on them. The probe can be cleaned manually using an 800 wet and dry sand paper with tap water.

3. **Manifold**
   a. The manifold should be inspected every two months, for possible fouling or deposits.
   b. The bleed solenoid should be inspected every 2-3 months and replaced if faulty.
   c. The Strainer should be inspected on a regular basis which will be dependent on the water quality and replaced if damaged
      - The strainer lid seal needs to be inspected and replaced if damaged
   d. Rota Flow (for KPI only): If the flow rate is not displaying the correct values, inspect for deposits or blockages. Yearly cleaning is recommended. Replace if required.

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4. **Circuit Board.** There is no specific maintenance for the circuit boards. The following parts may need to be changed if damaged:
   a. Fuses: 100mA fuse protects the electronics and the 2A fuse protects the outputs. The fuses can be procured from local market.
      1. 100mA 250Vac 20x5mm Slow Blow (manufacturer used Busman BK/S500-100-R)
      2. 2A 250Vac 20x5mm Fast Blow fuse (manufacturer used Busman BK/S500-2-R)
   b. If there is an Output problem, the panel should be returned to Aquarius for repairs. The output design has been overrated with additional protection. To diagnose an output problem use the test output functionality on the controller.
   c. Key Pad: Depending on the age and environment (i.e. contact with chemicals etc) the keypad may start working incorrectly (i.e. detect key presses etc). To repair, return the panel to Aquarius.

5. **Calibration**

Aquarius recommends all probes are calibrated at least once every 3 months.

Buffer, Calibration and Cleaning Solutions:

Code	Description
AS4250	pH 4.01/ ORP 250 mV **Combination Buffer** and Calibration solution - 500 ml
AS7086	pH 7.01/ ORP 86 mV **Combination Buffer** and Calibration solution - 500 ml
AS1413	**Conductivity** Standard 1413 uS/cm or 1.43 mS/cm at 25C - 500 ml
AS2764	**Conductivity** Standard 2764 uS/cm or 2.76 mS/cm at 25C - 500 ml
AS5475	**ORP** verification solution - **475 mV** – 500 ml
AS7004	**pH Buffer** solution - **4.01** - 500 ml
AS7007	**pH Buffer** solution - **7.01** - 500 ml
AS9500	**Electrode Cleaning** Solution - for removal of inorganic deposits - 500 ml
AS6443	**Conductivity** Standard 6443 uS/cm or 6.44 mS/cm at 25c – 500ml