



OPERATION AND MAINTENANCE MANUAL

Industrial Models
Floating

Version 3
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07 3118 5927 • info@solariwater.com.au • PO Box 3069 Clontarf DC QLD 4019

www.SolariWater.com.au

This Operation and Maintenance Manual is for use with the RMA QA 15, RMA QA 30 and RMA QA 60 floating Aeration and Mixing product with patented Aeration Generator Heads that create a range of bubbles in the water body.

The Industrial Models are constructed with

- Full metal carcass
- Industrial strength covers
- Buoys capable of withstanding gun shots and still keep the unit floating
- Industrial strength submersible pumps fit for purpose for use in sewage, fresh, acid, salt water and similar
- Stainless Steel or Specific Nylon Aeration Generator Heads.
- Suited screening around the pump inlet

Model Reference

RMA QA 15 is a two head model powered by a 1.5kW submersible pump

RMA QA 30 is a three head model powered by a 2.89kW submersible pump

RMA QA 60 is a six head model powered by a 6.0kW submersible pump

The easiest way to work out the model is to count the number of air delivery tubes fitted to the unit. SOTR per head is 1.25.

Floating Requirements

These models are designed to float in the water body with a preference to not be sitting on the bottom of the pond. Depth of water required is as below:

RMA QA 15	800mm
RMA QA 30	800mm
RMA QA 60	1000mm

The product can sit on the base of the pond provided the pump is submersed sufficiently and in this instance it will create its own 'hole' to allow it to float after a short working period.

Insertion in the Water Body



All models are fitted with a lifting hook in the middle of the top of the product. Note the hook in the centre top of the product in manufacture to the left.

This allows the product to be lifted by a crane and extended out to the correct positioning in the water body. This hook is designed to lift more than the weight of the unit.

Provided the unit can float it can be placed in the water body close to the bank and towed out to its final position within the water body.

Tethering of the Unit

All models floating in a pond need to be tethered to prevent them moving within the water body. Tethering is a simple thing and can be using 12mm rope, wire rope, D Shackles and similar.

Ensure the tether is secured at the bank to a structure that is strong enough to hold the pressure of the unit. This can be a star picket rammed far enough into the ground, small posts, small tree, existing infrastructure or similar.

There is only light pressure exerted on the tether.

Multiple tether points are provided on all models to allow maximum flexibility for tethering options.

Pump Positioning

The pump is positioned towards the base of the of the product and as such means the bulk of the weight of the product is below the water line. As such it needs to be remembered should the buoys be removed the weight of the pump will cause the unit to sink.



The photo to the left (RMA QA 30 model shown) shows the pump mounted below the main body of the RMA QA Unit. Note the bolts that hold the pump to the unit body. To replace the pump is as simple as unbolting four bolts, and bolting the new pump in place (remember seal). Note pump shown without screening.

Pump Rotation

The aerator pump is designed to rotate in one direction only. The machine is supplied with this clearly indicated on the pump as shown.



To change pump rotation, you will need to change the wiring within the electrical 3 phase connection to match the supply of the 3 phase power as well as the correct rotation on the pump.

Always check pump rotation before installation in the water body.

Pump Details

For pump details refer to the data sheet provided with your unit. Specific pumps are fitted to be 'fit for purpose' and as such not all units will have the same pump installed.

Pump Automatic Cut-off

All pumps used across these models have an automatic cut-off installed to protect the pump should it overheat. Overheating is normally caused by the water level being too low for the pump to safely operate.

Overheating can also be caused by a faulty pump. If the water levels are fine and there is enough water for the product to float correctly and the pump continues to cut-off call Solari for advice.

Installation of Thermal Overload Control Box

Whilst the pumps are supplied with a thermistor cut off capability, many situations require the installation of a separate control box to prevent overheating and burn out of the motor. All Local Councils will require this to be installed and it makes good sense to have all installations utilising this additional control.

This is not supplied standard with the aerator and needs to be purchased and installed by an authorised electrician.

Centre of Gravity

The centre of gravity of all models is approximately 2/3 of way up the framing around the pump with measurement taken from the bottom of the framing.

Note: This framing may be covered by protection screens.

Protection Screens

Protection screens are fitted to most models to protect the pump from damage that could be caused by a blockage with sludge, rags or similar.



The photo to the left shows the product in a swimming pool where an under view is easily seen. Note the screening around the pump.

This screening is also across the bottom of the frame to ensure full protection.

If sat fully on the bottom of a pond the bottom framing will take the weight however risk does exist that the bottom screen may be damaged and as such the

unit should be removed once floating correctly and the bottom screen checked. If damaged it should be replaced. Sharp stones or sticks are the most likely cause of damage.

Cleaning of Screens

The screens need to be checked periodically to ensure free water flow is delivered to the pump. Screens can be cleaned in-situ by using a water craft to approach the machine and sweep the side screens with a soft broom. The best cleaning is to lift the machine from the water body and wash the screens with clean water from a hose. This also allows for inspections of damage of the screens.

Buoys

The buoys are made of marine grade material and are filled with a substance that ensures the product will always float. These materials are used in marine buoys that can be found in the middle of the Pacific Ocean for ~ 30 years.

Should the buoys be damaged by gun shot or similar the product will still float. There is no need to immediately replace a buoy damaged in such a manner and replacement can be effected at a later time.

We do recommend replacing damaged buoys within 24 months of the damage. Seriously damaged buoys should be replaced as soon as possible. To replace the product will need to be returned to our manufacturing facility in Toowoomba Queensland.

Top Cover

The fibreglass top cover is designed to protect the manifold and inner plumbing of the product. It does not suffer from any major stress from the unit working. Damage is expected to be long term UV exposure only. It is designed to protect satisfactorily for many years.

We suggest checking the top cover for damage at any time the unit is undergoing service or shifting. If the cover is damaged a new cover can be ordered from Solari and can be fitted easily without the need to return the unit.

Patented Aeration Generator Heads

The Aeration Generator Heads are patented single units that includes the head and a specific tube as one unit. The head is fixed inside the tube.

Heads are designed for different needs. The head supplied with your product is chosen to be fit for need for the environment the product is designed to operate within.

Heads should not need any service under normal operating circumstances.

Heads will wear over time and will need replacement. New heads can be ordered direct from Solari. Replacement is as easy as loosening the clip, taking to old head away and replacing by holding in position and retightening the head. This is easiest with two people but can be managed by one person.

Electrical Cabling

The supplied electrical cabling is designed to be used in a wet/water environment. Should additional cabling be required and supplied by others then you must be sure it is suited to the need.



Floats are supplied with the cable as shown on the photo to the left. Cable is to be slid through the floats and spaced along the cable roughly evenly to allow the cable to easily float on the water surface.

Floats will eventually break down in UV situations after some years and additional floats are available by phoning Solari.

Pond side cabling electrical connections should be similar as shown in the photo above. These connections are to be installed by a licensed electrician.

3 Phase Electrical Plug

This plug is not supplied with the product and should be ordered and installed by a licensed electrician.

Note: the polarity of the plug needs to be carefully checked to ensure the pump is rotating in the correct direction. If incorrect, then the wires in the plug needs to be reversed.

Service and Maintenance Schedule

We recommend the following service schedule:

Cleaning of screens	In the first instance we recommend a two-week cleaning schedule. This will show you how often the screens will foul and give you the ability to determine if the time line between cleaning can be lengthened. Once you understand the way your machine is operating in situ then you will be able to determine the best time for your situation
Cleaning of Heads	As required. Unlikely to be needed. If needed simply unfasten the clip, remove the head, wash it out and replace
Pump	The pump requires no servicing. It will operate until it needs to be replaced. If the pump cuts out due to overheat follow instruction in the document.
Wash Down	From time to time a wash down is recommended to remove environmental build-up on the machine. Any car wash system is suited for this action with the most common being a wash down by a Gerni or similar machine.
Tethering and electrical cable	We recommend rope tethering is checked monthly whereas wire rope or fixed tethering requires a check every 6 months. If tethering shows damage replace as needed. Electrical cable should be checked regularly for damage and replaced as needed