



Technical Data Sheet

Product: Aquamatics Ioniser

Product Code: MK Series

"Ionisation" refers to the process of enhancing or maintaining water quality by the electrolysis of pure copper, or copper and silver alloys. The selection of these metals is based upon the algacidal properties of Copper and the bactericidal properties of Silver. When produced in an ionised form by electrolysis, the result is a cost effective, environmentally friendly and low maintenance solution to the question of water quality in swimming pools, spas, fountains, water features, fishponds etc.

Anecdotally, Ionisation has been with us for centuries. The Pharos and the Romans were aware of the beneficial effects of copper storage vessels and in the Middle Ages, the choice of silver for goblets and ceremonial utensils may well be related to bactericidal effects of direct contact with the precious metal. More recently, silver ionisers were used for water sterilisation in NASA's Apollo spacecraft missions (Albright, Nachum, Lechtman et al 1967).

The soluble Copper and Silver emitted by the process becomes part of the water chemistry. The concentration of Copper ions varies with the application but for those a little nervous about the mention of copper and potable water, we are not aware of any scientific data which supports claims of toxicity of copper in drinking water. Excessive ingestion of Silver can cause a rare condition called Argyria, which is a darkening of the skin but Silver is easily excreted and is considered to be the least toxic of the heavy metals.

Direct experience with a number of water features containing Koi and Goldfish found that the livestock were unaffected by the presence of the metals. In fact, an official at a 200,000-litre ionised pool remarked that the fish appeared to be multiplying at an alarming rate! Laboratory testing for one of our leading Zoos also confirmed that creatures as diverse as fresh water Tabbies are unaffected by the process (Aquamatics P/L for Taronga Park Zoo/Tokyo Zoo 1994)

Although ionisation has been used extensively in the U.K, EU countries, SE Asia, the USA and many other countries for many years, the development of an ever-increasing range of non-chlorine sanitisers has triggered a renaissance here in Australia, and ionisers are increasingly being recognised as a legitimate, low chemical alternative to conventional recreational water maintenance systems.

In common with a number of alternatives, the effectiveness of ionisation is in some way dependant on a level of attention to the water's basic chemistry or balance, with TDS, TA, Ca, temperature and pH all playing important roles.

For ionisation to be effective, there are several prerequisites, which must be acknowledged. The first is that the system should have an effective and well-maintained pumping system. The effectiveness or otherwise of the installation will be proportional to the degree of circulation.

The second is that somebody must take responsibility for the water chemistry. Water is a living, breathing thing and must be monitored and adjusted as required. For public swimming pools, the

frequency and extent of the testing is closely controlled by local authorities, but private pools need only be tested weekly.

With the public's ever-growing awareness of the need to find "greener" solutions to everyday problems, indications are that ionisation will be with us for some time to come. There is a very definite groundswell of people seeking better and smarter ways of purifying water and increasingly, they are turning their backs on complex chemical solutions.

Aquamatics MK5 Ioniser



These units are arguably the highest selling ioniser on the Australian market today, and have evolved from the time-proven MK4, many of which are still in service today. It's very sophisticated control system gives the owner/operator absolute control over both ionising current and ioniser run time, a feature that makes them suitable for any volume of water, from 100 litres to 60,000 litres. They are designed to drive one pair of electrodes (shown in the picture) which may either be installed directly into the lid of a pool pump, or in a separate flowcell if required. Dimension for the MK5 are 200 x

100mm x 65mm deep. Please allow 50mm for cabling shown in the above picture, plus room above the ionizer to access the single screw that enables removal of the units cover.

Note that for larger bodies of water, the Aquamatics range of ionisers also includes:

- MK9 for volumes up to 200,000 litres (unit dimensions 300x 100 x 65mm) and
- MK10 for volumes up to 1,000,000 litres (unit dimensions 300 x 100 x 90mm).

AquaVic C40M Mk II Flowcell



These compact units are designed for in-line mounting in either 40mm or 50 mm PVC pipe work and their rugged construction allows them to withstand higher than normal working pressures and water hammer. A feature of the design is the clear acrylic high impact mounting plate which also serves as an inspection window for monitoring electrodes.

Although they are designed specifically for swimming pools and spas, they may also be used on water features where high flow rates are a consideration.

These cells can accommodate two pairs of electrodes.

Dimensions 170mm long, 110mm diameter and height 130mm to top of electrodes. Please allow 150mm to allow easy remove of the screw top for servicing.

The life of the electrodes depends on a number of factors and as a guide their life in a typical 60,000 litre swimming pool is approximately 3 years.