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AQUAVIC MADE IN AUSTRALIA
QUERCUS MAGNAE A GLANDIBUS CRESCANT
THE OFFICIAL MOUTHPIECE OF THE AQUAVIC IONISER USER'S GROUP

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Drinking quality water in your pool - fact or fantasy?

Just over 2 decades ago, a small family-owned company called **Aquavic** took its first tentative steps into the world of ioniser-based fresh water pool systems, a move judged by many to be ill-advised as others had gone before, and most had failed miserably. In light of that it was a bold move indeed as the technicalities of swimming pool hydraulics and water chemistry were far removed from our decades of experience in industrial process and built-environment engineering services. However, shortly after, and then with a far better appreciation of the process, we felt confident in coining this IP-protected phrase:

"If you wouldn't drink it, why would you let your children swim in it."

In the past couple of years, there have been some interesting developments in the Recreational Waters Industry - RWI - namely the decline of chlorine-based systems and the emergence of "fresh water" alternatives. Whilst we welcome any low chemical, low energy system - the more the merrier - some of the claims made by others are not telling the complete story. Closer scrutiny confirms that whilst they do in fact employ copper and silver ionisation, their ionisers run in parallel with a common salt chlorinator-oxidiser which functions by converting mineral salt into liquid chlorine, the very same chlorine that can be found in household bleach!

On the one hand, we have an Aquavic **ioniser** producing drinking-quality water, and on the other, we have an **ioniser / salt chlorinator-oxidiser combo** which only functions in saline water. This is a significant difference alone, but there are several other vital differences between the two systems, namely the cost of the electrical energy, and running times required to support claimed performance - and the impact on your wallet.

It is these differences that really separate "them and us" so let's have a closer look at each and compare our simple ioniser package with a typical ioniser / salt chlorinator-oxidiser combo. For the purposes of this exercise we have assumed a 5 year cycle, a typical outdoor domestic pool of 40,000 litres, mains water with a TDS* of around 35 ppm. Electricity supply tariff is $0.45 / kWh.

**TDS = Total Dissolved Solids = the arithmetic some of everything dissolved in the water. It is also directly proportional to the all-important conductivity the water. Our ionisers function in water with a TDS as low as 150 ppm. Salt chlorinators need a TDS minimum of 900 ppm.*

Raising the Conductivity:

Because of the difference in TDS of mains water to our operating minimum, it will be necessary to raise the conductivity of the water to "*kick start*" the system. Any chemicals added to the pool and dissolved therein will increase the conductivity, but pool salt is usually chosen because it is cheap and readily available. We have assumed 5.0 kgs. for this exercise. It is a once-only application for the life of the pool water.

A typical **ioniser / salt chlorinator-oxidiser combo** would then require a minimum of 150 kgs of pool salt - 6 x 25 kgs bags - to start the oxidising process, but as the salt is progressively consumed by conversion to hypochlorous acid and then to liquid chlorine, the need to maintain salt levels in the now-saline water is on-going for the life of the water. Drinking quality water is claimed for these systems but unless you have a salt fixation, I doubt if you would drink it. I certainly wouldn't.

Having established the criteria let us now take a closer look and how each system "ticks" and just how much power is consumed to achieve the claimed performance. Firstly, and whilst we acknowledge that the ionising performance of both systems is controlled by ***Faraday's Constant*** - and is probably identical - there is a significant difference in the size and running times of the filtration pumps, and the running times of the **salt chlorinator-oxidiser combo**. This is known as the Point of Separation - the **POS.**

Aquavic Series 3 Ioniser with 0.35 kW pump.

Ioniser:
DC volts: (7.8 x 0.25 A) 1.95W x 3.0 hrs / day = 5.85 Wh / day x 5 yrs = $ 4.80
Pump: 0.35 kW x 3.0 hrs / day = 1.05 kWh / day x 5 years = $ 862.31
Tariff: $ 0.45/kWh.

Total: = $ 867.11

Ioniser / chlorinator-oxidiser combo with 1.1 kW pump.
Ioniser: DC volts: (7.8 @ 0.25 A) 1.95W x 3.0 hrs / day = 5.85 Wh / day x 5 yrs = $ 4.80
Pump: 1.1 kW @ 6.0 hrs / day = 6.6 kWh / day x 5 yrs = $ 5420 .25
Oxidiser: DC volts: (8.0 @15.0A) 120W x 6.0 hrs / day = 720 Wh/day x 5 years = $ 591.30
Tariff: $ 0.45/kWh.

Total: = $ 6016.35

A staggering savings of **$5149.24,** more than enough to cover the cost of that post-Covid beachside holiday you've been planning for some years. *And we haven't even looked at the differences in buying price!*

You will have noticed significant differences between the pump size and run times (ours) and the pump size and run times (theirs). The difference is that because the copper-and silver ions have such a strong residual* and are unaffected by water temperature, or the chlorine killing effects of the sun's UV, we do not need prolonged run times or "white water rafting conditions" for them to be effective.

Pic.1 attached shows the 350 Watt filtration and ionising pump* on the company's 65,000 litre pool.

***** *Although calculated on running 3.0 hrs per day every day for 5 years for this exercise, the reality is that the run times are significantly less. For example in the off-season, the run times are in fact 20 minutes / day x 3 days per week, putting even less pressure on your energy dollars.*

On the other hand, because chlorine has virtually next to no residual - it is quickly killed by the sun's UV - the pump and the salt chlorinator must be run for very much longer periods to maintain the required free chlorine levels required.

SPECIAL OFFER - THIS EDITION:
A complete ready-to-install Aussie made Aquavic pool ioniser package comprising fully programmable Series 3 electronic control unit, 40 or 50-mm flowcell, electrodes, and a copper test kit.
Our unique Lifetime Warranty applies.

Your buying price this edition: $1150.00 GST and postage included anywhere within Australia included.

To place an order. or to find out more about this offer, contact Aquavic:
e: aquavic@optusnet.com.au ph: +61 3 9723 4223 m: 0401 691 984

Pic.1: 500 Watt filtration / ionising pump on the company's pool. Normally set to 350 Watts max.

Pic.2: 'The Director' cooling off in the company's pool. Drinking quality water? Absolutely.

"If you're not prepared to drink it, why would you let your children swim in it?"