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THE OFFICIAL MOUTHPIECE OF THE AQUAVIC IONISER USER'S GROUP

Vol. 15 no.1 Autumn 2015

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From the Director:

Late again, but I thought that I'd better get *something* out there before winter. If you're wondering why you didn't receive this edition in December, it's simply that, once again, there were not enough hours in the day. We have never been so busy! With the Christmas holiday season approaching, we would normally have had more than enough time to do our Christmas shopping, run up a summer edition, and would have had sufficient stock to see us through the usually quiet Christmas-New Year holiday period. Contrary to expectations, not only did we sell most of our historically slow moving Series 1's, but we sold all of our Series II's and the electrodes as well. Can anybody recommend a "Crystal Ball" app for the office computer?

More stock was ordered and delivered in good time, but it also started to disappear at a great rate. It may be good for the bottom line but I'd rather not have to tell our customers that we're out of stock but we expect another delivery next week. We were forever mindful that an old salesman friend was often heard to say, "If you haven't got it, you can't sell it." So true, Maurice, old friend. So very true. And in the middle of all that we were attempting to finalise our latest industrial R & D project. Never a dull moment at Aquavic's head office.

Snail Mail:

If you've been receiving your copies by Snail Mail, then the mooted 43% increase in the cost of postage that is in the air will put an abrupt end to bulk mail-outs. Printing, folding, stapling etc. has always been a very time-consuming exercise, as has keeping the mail-out data base up to date, but at \$1.00 per copy, it would be a bridge too far and an expense we could well do without. However, the good news is that we'll still be emailing and posting each edition on our website. http://www.aquavic.com.au/latest_news.htm.

Moving on:

On a lighter note, a customer recently complained that his ioniser's electrodes had turned purple (see pic below) a condition with which I was not familiar, but our consulting chemist "*The Guru*" was. It is a condition which would have also rung bells with students of the English Monarchy, particularly so with Mad King George III.

What did this customer's electrodes and Mad King George have in common? Well the answer is the colour purple. In the case of Mad King George, he presented with water "samples" that turned purple when exposed to sunlight, and in the case of my customer, his swimming pool ioniser's electrodes turned purple after exposure to sunlight.



In people, this is a medical condition called “*porphyria*” but in our customer’s case, it was to do with sunlight, the 40 kgs of salt added to 20,000 litres of pool water, and the silver component in the electrodes – and the perfect segue to the next item.....

Conductivity #1:

When following up with the owner of the purple electrodes above, it transpired that he was concerned about the apparent low conductivity of the pool water as shown by a yellow LED on the IONISING array (see pic left below) and so added some pool salt. In a brand new, or recently refilled pool with good quality town water, this is standard practice, but on older pools, unless a large percentage of the water has been lost and replaced with fresh* the conductivity has been well and truly established. In fact, the older the water is, the higher the concentration of dissolved solids, the higher the conductivity is more likely to be.

Generally speaking, if your ioniser is showing signs of failing ionising capability, the first step always is to check the condition of the electrodes and the cleanliness of the terminals. If they’ve burnt away to less than the size of the black rubber sealing washer, then a new pair is required. In many pools filled or topped up or refilled with water of indifferent quality (see pic right below for an extreme example) electrodes can form a significant layer of scale which, if allowed to go unchecked, forms a dielectric, or insulating layer, which severely retards the free flow of current from one electrode to the other.



But before you even contemplate dumping many kilos of pool salt into what is already water of ideal conductivity, clean both electrodes back to bare metal, and *then* check the IONISING array. If there is no appreciable shift to the right, then you can add salt – but never more than about 2.0 kgs, per serve – and allow plenty of time for it dissolve and thoroughly circulate. If it fails to make a difference, give us call. BTW, if any of the “Ionising” LED’s are on, the system is working and needs no further assistance.

** generally speaking, rain events have very little effect on the TDS / conductivity of pool water, cyclone-prone areas excepted. But even then, I’d need to be convinced.*

Conductivity #2:

Just prior to the Easter break, we received a cry for help from the owner of an (ionised) pool that was running a Sherwood ioniser, and had been operating virtually chemical free for about 15 years. The conductivity display on the old Sherwood confirmed signs of low conductivity, but in this case, the owner removed the electrodes and correctly identified the cause as badly fouled electrodes. Both electrodes were descaled and ground back to bare metal, but when recommissioned, there was no apparent sign of improvement at all, and a call was made to Aquavic for assistance.

The vintage Sherwood controller appeared to be well protected from the weather and was in good condition aesthetically. A quick check with the multimeter and a dummy load confirmed that there was still plenty of life in the old dog yet, giving the strong indication that the problem was water of low conductivity, and not the ioniser or the electrodes - and was probably the cause of the fouling due to insufficient current required to maintain self-cleaning.

In this particular example, because of the owner's extreme sensitivity to the chemical cocktails so openly promoted by others, this pool was genuinely a fresh water pool by anybody's definition, although low doses of chlorine has been added occasionally to clear the water (ionisers do not oxidise). The condition of the electrodes indicated that the pool had been operating at the bottom end of the "conductivity scale" for quite some time and recent heavy rainfall events had just diluted the (outdoor) pool to below that critical point where the current flow from one electrode to the other was no longer happening.

No current flow = no ionising = fouled electrodes. We needed to increase the conductivity to re-establish ionising, and, as the old hands know, the easiest and cheapest way to do this is to add several kilos of pool salt, with about 5 to 10 kilos being about the norm for a freshly filled typical domestic pool – not 40 kgs as per example one above. This was done and the old Sherwood is up and running again, and as soon as the algae that developed while the ioniser was having a holiday is removed, all will be back to normal.

Filters:

It is a matter of record that ionisers get blamed for everything that ails a pool, and over the years that we've been in business, we thought we'd heard them all, but recently, we were asked about the possibility of an adverse impact that ionisers may have on the efficiency of cartridge filters! The short answer is 'none whatsoever'.

Generally speaking, swimming pool cartridge filters are rated in the order of 8 to 15 microns, which, incidentally, is about the same micron rating as some of the granular media on offer, whereas an "ion" by definition, is an atom, or atoms, that have either gained or lost an electron – and that's small, very bloody small. And very much smaller than wind-borne dust particles that drop into your pool - or accumulate on your glass-topped poolside table after rain. The bottom line is that if your cartridge filter was fine enough to capture copper and silver ions, you'd have no water flow – and therefore no filtration - whatsoever. Absolutely zilch.

With over two decades of experience with ionisers, and several more with hydraulics generally, we can say that if you have a cartridge filter which requires an abnormal amount of cleaning, I'd put very good money on it being installed in an outdoor pool, and one which is probably exposed to high levels of fine particulate matter. It is my view that cartridge filters are for indoor pools, or pools in protected environments, not for outdoor pools which collect all the airborne contaminants that happen to be passing at the time. If you're looking for somebody to blame, blame whomever it was that recommended a cartridge filter for your outdoor pool. Don't blame the ioniser.

In outdoor environments, common sand or granular media filters are far more forgiving. They have less impact on water flow – and therefore pool turn-over rates – are much easier to clean and maintain, and if you're in an area not blessed with copious quantities of fresh water, you can collect the backwash and use it for lawns, gardens, stock watering etc. with impunity, something that you very definitely can't do with saline water.

Pressure Gauge:

Whilst on the subject of filters, let's not forget the most ignored, neglected and misunderstood piece of equipment on your pool's filtration system – the pressure gauge. See pic below for a typical example. Contrary to popular belief, it hasn't been put there simply to plug a hole. It serves a very valuable function, and that is as a filter condition monitor. As the filter progressively removes suspended matter from the water, so the back-pressure will gradually rise until it gets to a point where the flow is dramatically reduced, or ceases altogether. If running a cartridge filter, you need to remove and clean the filter cartridge, or replace it. If a sand filter, it needs to be backwashed. In extreme cases, you can actually see the filter body expand when the pump starts.



How do you know when to service the filter? The first thing you do is to make a note of the pressure gauge reading with a freshly cleaned filter (with the pump running of course). A texta mark on the glass will help to jog the memory - but make sure that the glass is secure and not able to rotate in the housing. Then, as a “rule of thumb” whenever the pressure rises to about 50 kPa higher than the “clean filter” mark, then it's time to clean it.

It is the pressure gauge that dictates the frequency of cleaning, not the calendar.

Oh, and by the way. If you're running a cartridge filter, don't forget to bleed the air out of the filter body from time to time – especially so after cleaning. If you don't bleed the air out, the entrapped “bubble” dramatically reduces the efficiency of the filter. The bigger the bubble, the less efficient is the filter. This is also done with the pump running. If your pressure gauge has failed or missing, we'd only be too happy to supply a replacement. Contact our office for advice.



The Director