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The Handyman France Idiots' Guide to Automated Pool Systems

For some, checking the pool chemicals and adding chlorine, pH+ or pH- etc is a welcome part of owning a pool. For others, it is a chore that they can best do without, sometimes because they just can't get to grips with it. And if the pool is left unattended for long periods, it can be a real problem. For those, an automatic system is perhaps a good idea. But which one? And at what cost? And how good are they?

Automatic chemical systems range from very simple and very inexpensive to to more technical and costly. You pays your money and you takes your choice.

So let's start with the most simple, and end with what is, in my opinion, simply the best...

...but first, it's worth noting that for best results all of the systems here benefit from a pH dispenser. Usually only pH- is needed, as most pools have a tendency for the pH to increase. But not always, and dual machines for both pH- and pH+ are available. Maintaining pH levels at around 7.2 – 7.4 is essential for any system to work efficiently.

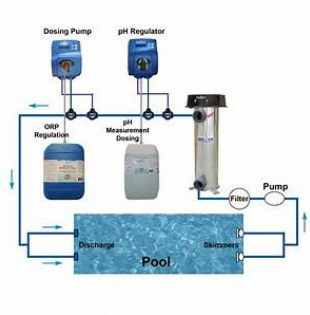
An **automatic chlorine/bromine dispenser** is inexpensive and simple to use. It fits onto the pipework returning water to the pool, and is simply a container for chlorine (or bromine) tablets - they usually hold up to eight, so your pool should be good for chlorine for several weeks. The only minor difficulty is setting the water flow through the container so that the correct level of chlorine is maintained. That process can take several days of testing and adjusting. But be very careful when opening it! Chlorine gas will be present – very unpleasant and quite dangerous.

A machine to **dispense liquid chlorine** is also available. Again, a degree of calibration is needed but once done you can forget about it until the liquid chlorine runs out. Usually in 20 litre containers, it should last several weeks, but it depends on the size of the pool. A probe is installed

so that chlorine is dispensed only when needed for maximum efficiency. You can even have a single machine to deal with chlorine and pH- if you like.

But what if you don't want chlorine? What alternatives are there?

Bio UV systems are favoured by many. Technically quite complex, but fairly straightforward to use. An extremely powerful UV bulb (in a housing) is installed on the pipe returning water to the pool. The power and intensity of the UV light is such that it disrupts the DNA of any living thing that passes before it. Once this has happened, even if the organism isn't killed, it certainly can't reproduce. But this alone doesn't sanitise the water completely, so a liquid agent is also needed. Usually called 'active oxygen', it is in fact H^2O^2, more commonly known as hydrogen peroxide. This used to be used extensively for cleaning wounds, is very gentle on even the most sensitive skin and is odourless. It is dispensed via a pump, and is simply set up on a timer. The major drawbacks with this system are that the UV bulbs have a limited lifespan, and can cost hundreds of Euros – yes, hundreds! Both elements of the system need to be operating, as neither can independently do everything. And as the UV only works when water is flowing through the system, the pump needs to run for much longer periods than almost any other system. Very, very expensive to buy and have installed. But it is a chlorine-free system, though some may think that the hydrogen peroxide is close enough to the bleach group of chemicals to negate that argument.



Saline systems are, in my humble opinion, simply the best. Salt (technically known as NaCl, or sodium chloride) is added to the water, but in such low dosage that you should hardly be able to taste it. An electrolysis unit is used to separate the sodium from the chloride, and the chloride sanitises the water. So, in effect, you still have a chlorine system. But the slight difference in the chemistry means there is never a smell of chlorine. The salt water has a nice feel to the skin. And most importantly, the water quality is almost guaranteed. Crystal clear water with virtually no effort on the part of the owner. On the odd occasion when there is an algae problem, traditional chlorine can be used to clear it quickly without any need to reset the system, but in any event usually it's enough to simply turn up the electrolysis unit to increase chloride production for a while. Once the salt level is set at around 4000 ppm (parts per million) at the start of the season, that's usually good enough for the whole season. If not, it's simply a matter of adding a couple of 25kg bags of salt – just throw it in. More expensive than an automatic chlorine dispenser, but easier to use as there is no need to monitor the liquid chlorine remaining in the container. The electrolysis unit tells you when salt is needed. What are the drawbacks? In my experience, on a day to day basis there are none. Several pools that I have converted over the years that had a history of problems (often due to the owners' absence or inability to cope with chlorine systems), now run trouble-free.

Sadly, none of these systems remove the need to vacuum the pool (though robots are available to remove the manual labour element from this task) and you still need to remove leaves etc from the skimmers. You still need to backwash and rinse every week. An automatic system is even available

for this task, though without an automatic system to replace the water lost in the process it would be rather pointless.

But what about the installation of these systems?

None are too difficult, but if you're not used to the procedure for cutting and gluing pool pipework you need to be careful that you don't cause leaks.

The importance of getting the sequence correct for the various components cannot be overstated. And it can seem quite daunting. So, let's say you have a sand filter system, and you already have a pool heater so you're really just completing the ideal pool set-up. And we'll assume that you're probably fitting a saline system (because it's my favourite, OK?) and a pH- dispenser.

Fit the probe for the pH machine before the sand filter, usually between the pump and the filter but it's OK to fit it before the pump. Water leaving the filter often has a lower pH than the pool, and it is the water in the pool that needs to be measured. After the filter, the heater is next. Then the saline electrolysis unit. And last, the pH dispenser. Why? Because the levels of chloride immediately after the electrolysis unit is very high, and could damage the heater. The acidity of the water immediately after the pH- doser will almost certainly cause damage to any equipment immediately after it – don't worry though, by the time it reaches the pool, it's diluted to harmless levels.

So, the order of the various pieces of hardware are -

1. Pump
2. pH probe and/or Redox probe (for chlorine dispenser)
3. Filter
4. Heater
5. Electrolysis unit (or chlorine dispenser)
6. pH dispenser
7. Pool

If you're fitting your own Bio UV system -

1. Pump
2. pH probe
3. Filter
4. Heater
5. UV lamp
6. H^2O^2 dispenser
7. pH dispenser
8. Pool

And if your pump room looks anything like the photo on the right, give up!

No system is perfect, and before spending any money on the more expensive systems perhaps a little research into health concerns could be advisable. It's almost certain that every system could be linked to health issues. It's up to you to decide which, if any, research you take notice of.

Bon swimming!