

natural, chlorine-free swimming pools

NHVL has recently discovered that there are now firms in Australia building natural filtration plants for swimming pools, small or large, that require no chlorine or other chemicals for water purification. Roger French contacted one such firm, *Aquaviva*, and here is their explanation of how the system works.



HOW NATURAL FILTRATION WORKS

As can be seen in the photos, the system comprises an ordinary swimming pool plus an extra pool that is small, shallow and abundant with water plants that provide the purification.

The size of the filtration pond is based on a ratio of 15 – 20% for filtration and 80 – 85% for swimming. Accordingly, an eight-metre by four-metre pool would require about six square metres of filtration pond.

The depth of water in the filtration pond is about 10 cm and under that is about 60 cm filled with seven layers of different filtration granules. Three of these layers are different grades of a very porous rock called zeolite. Another layer is granules that slowly release specially designed plant fertiliser. The top layer is various sizes of river stones that don't leach calcium into the water.

The water is pumped from the bottom of the filtration zone up through the seven layers and then overflows back into the pool. Some firms use gravity feed, but these tend to clog up. The pump is set to provide the correct flow rate.

Natural filtration of pools began in Austria about 12 years ago in response to demand for chlorine-free swimming pools.

More and more people were developing sensitivities to chemicals, especially chlorine. Children were the most vulnerable because they spend many hours of the day in the pool.

In Europe, a normal pool cannot be used perhaps eight months of the year because of the weather, and it has to be emptied in winter so it is just a hole in the ground. The natural pool, with its display of flora is more appealing, more natural looking and can be a garden feature.

The Europeans first built pond-type pools that didn't need to be emptied. In summer they would swim in the pond and in winter skate on the ice. As a bonus, the pond was a habitat for all sorts of animals.

Later they began building architectural-style swimming pools, the kind that is in our backyards today. These natural pools are not only chemical-free, they are also nicely decorated with plants.

In Europe Aquaviva has now sold over 6,000 natural pools. Our firm has just commenced in Australia in 2009 and has produced four natural pools so far. The system is now beginning to create interest here.





The size of a pool that is naturally filtered can be as small as a plunge pool of two metres or as big as a large communal lake.

As with any pool, the natural version still needs a vacuum cleaner for the pool itself.

WHAT ARE THE PLANTS?

We put in six plants per square metre. Almost any kind of water plant can be used – the customer tells us what he/she wants. The plants can be either deciduous or evergreen. With deciduous plants, the leaves die off and need to be removed. The evergreen plants work quite well and keep growing indefinitely. The maintenance required is keeping the plants free of dead matter and excessive growth, just like weeding your garden.

In contrast to a chemically-balanced pool which needs more and more chemicals, the natural pool has nutrition in the water from the bits of plants that die and put organic substances back in the water. This is what the plants live on.

With the natural pool, the water never needs to be changed. The bacteria are all taken care of by the microbiology provided by the porous zeolites. The zeolites do not need to be replaced because the plants take out the nutrition again.

COST

Modern pools are made with either concrete, liner or fibreglass, and the filtration zone can be the same material. For a standard home pool of eight metres by four metres, the filtration unit would cost between \$10,000 and \$15,000 approximately. This is in addition to the cost of the basic pool – but, remember, there are no ongoing costs for chlorine, etc.

Aquaviva doesn't build the pool itself, we only build the filtration unit.

People can construct their own natural filtration unit very cost effectively. It can either be built simultaneously with a new pool or added to an existing pool so as to convert it to natural filtration. The filtration unit can be easily connected to the pool via the existing pool piping.

Aquaviva will soon offer on our website a do-it-yourself kit to enable people to install their own natural filtration. Alternatively, a handbook will explain how to do it. These instructions will enable the builder of a new pool to include a unit, or the owner of an existing pool to do it themselves.

At my home, I have diverted the roof water into my pond-type pool, and I am using it as a water tank. The water is so clean, you could drink it.

Aquaviva is looking for partners to be installers for our filtration units. We are in the early stages of setting up in Australia and are working at expanding.



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