



FLOW SURFACE DESIGN
technology



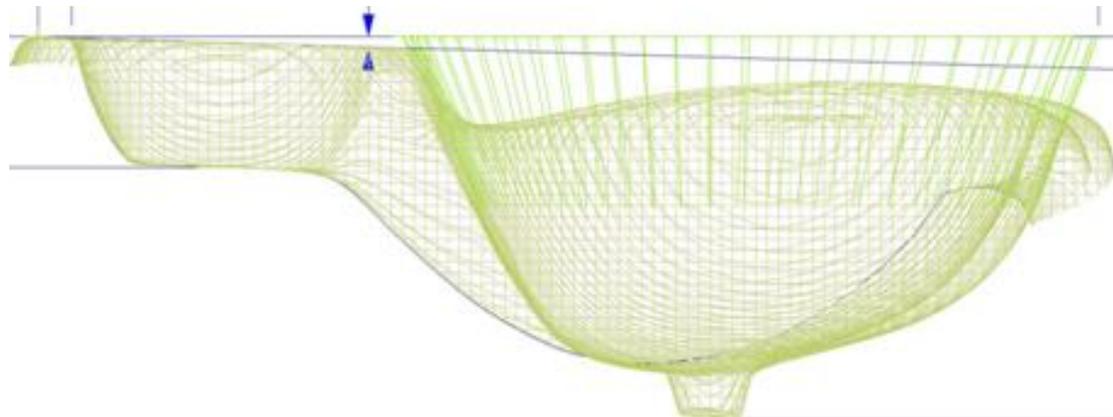
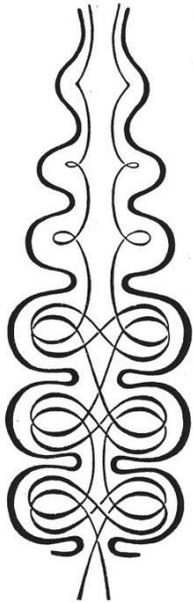
Flow Surface Design Technology

creating

COMPLEX DYNAMIC FLOW

in water

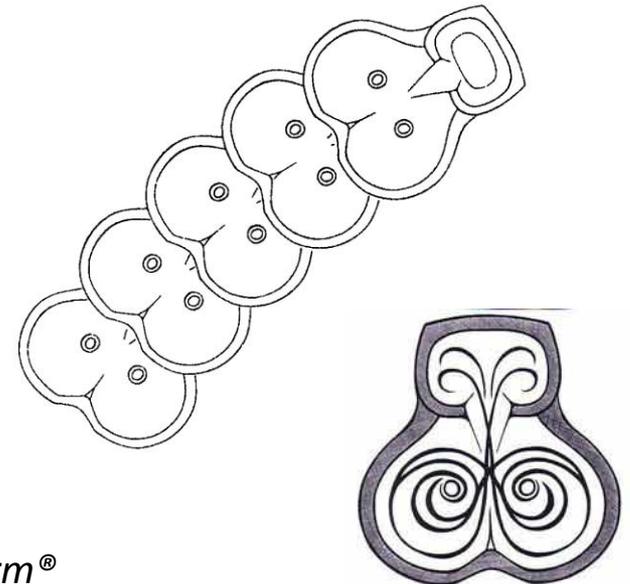
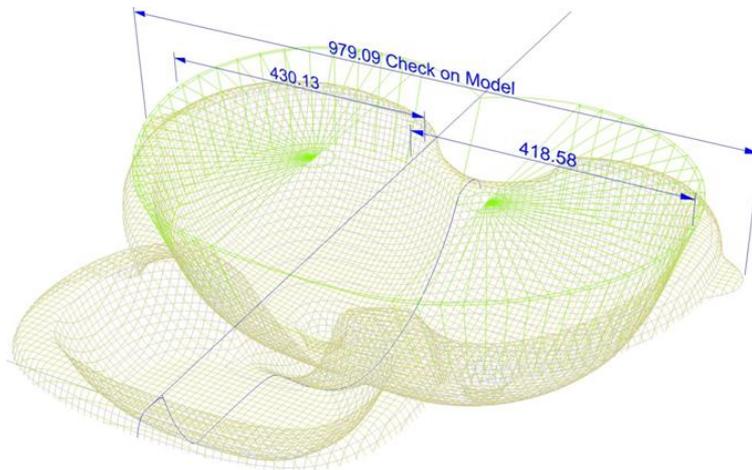
intensifying highly effective flow processes
that work in nature's water cycle
to improve water quality



Unique Design – *Flowform*[®] Principle

Flowform[®] flow surface design technology is not simply a natural flow copied from nature. It is an unique industrial design which is copyrighted and patented.

The *Flowform*[®] Principle discovered in 1970 by John Wilkes (d 2011) as a result of decades of research into flow processes, and designed by mathematical and hydrology experts, creates an unique repeating figure8 stream resulting in 1 metre of *Flowform*[®] 'complex dynamic flow' being similar in impact to 10 metres of a mountain cascade



Since 1970 there have been over 5000 *Flowform*[®] projects in more than 50 countries

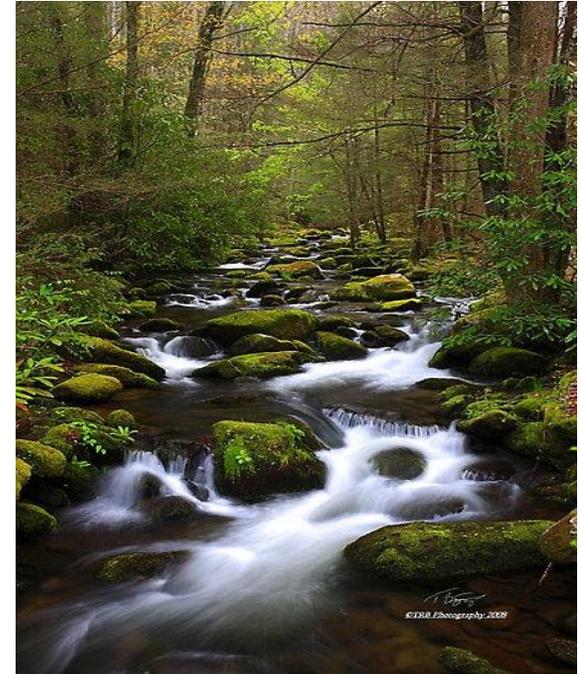
What major problem does 'flow surface design' technology solve?

WATER TAKEN FROM ITS NATURAL ENVIRONMENT loses its good quality because it no longer moves dynamically. Loss of dynamic movement results in stagnant water



How do we know this?

Because the worldwide water quality business applied to municipalities, agriculture and, industry is at least a \$100 billion per year problem using chemicals, mechanical oxygenation and filtration to overcome stagnancy issues in water



Moving dynamically in the 'water cycle', water doesn't need mechanical oxygenation or chemicals. It is high quality water in all aspects. Oxygen is bonded at a molecular level through complex dynamic flow, which quantum physics is only recently understanding

WATER SECTORS with water problems caused by lack of flow

Each of these sectors below has multiple niche markets.

- Agriculture
- Horticulture
- Aquaculture
- Food processing
- Drink processing
- Municipal water supply
- Urban catchment run off
- Effluent treatment ponds
- Swim pools and garden ponds
- Lakes affected by nitrogen run off
- Monsoonal ponds which develop mosquito populations



Typical stagnant dairy effluent pond

Flow Surface Design technology can be applied to all of these sectors to improve water quality through intensified 'complex dynamic flow' in captured water for human use



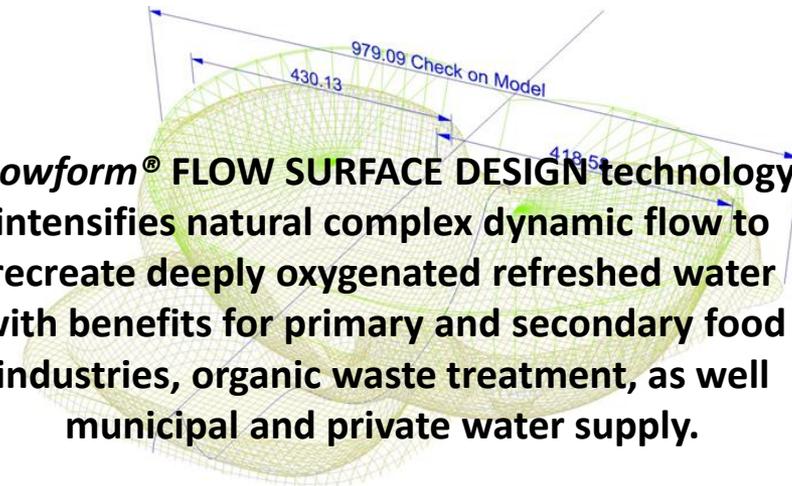
Flowform project town of Giubiasco, Switzerland, municipal water supply

Flowform[®] Flow Surface Design technology intensifies the oxygenation of water in 10x less space than a mountain cascade in nature, because of the repeating figure8 streaming flow in every vessel

Water taken out of the 'water cycle' for human purposes can have good water quality recreated through dynamic flow reducing added chemical impact on the natural environment

The central and vital fact about water and movement

Water scientists such as P.Gross, M.Schiff, E. del Giudice, G.H.Pollack and E.F.Block have shown, in the last decades, that water induced by dynamic flow moves into a fluid-crystalline, electric-dipole state caused by shear forces which cause water molecules to open up and bond hydrogen with introduced oxygen. Such oxygen becomes stable in this restructured or refreshed water, whereas mechanical bubbling into inert stagnant water does not remain there



Flowform® FLOW SURFACE DESIGN technology intensifies natural complex dynamic flow to recreate deeply oxygenated refreshed water with benefits for primary and secondary food industries, organic waste treatment, as well municipal and private water supply.

Using natural flow methods can greatly reduce the costs and negative effects of mechanical treatment of water



Niche Study –Dairy Effluent into Liquid Fertiliser

Flowform® Vortex Cascade system operating on dairy farms in NZ and Australia

Reference - Greg Hill, Hauraki Plains, New Zealand

I own a 100 hectare dairy farm servicing 240 cows. We installed the Flowform Vortex 5 series in late 2011, and has been in operation for the last 2 seasons. The Installation is next to the first pond, approximately 40 metres long and 7 meters wide and 2 meters deep, into which flows all the cow effluent. The pond used to crust up prior to using Flowform and was smelly and dark brown. I turn over the pond and then spray onto the paddocks, the result being an aerobic semi-clear golden liquid that has a sweet smell. There is no resulting sludge and the cows are back on the nicely growing grass after 2-3 days instead of weeks.



Peter Bacchus, Hauraki Plains, NZ

On the farm I manage we are increasing grass growth and production as well as animal quality as a result of using Flowform. Independent observation suggests the grass is growing twice as fast as last year and twice as fast as the neighbour's property where management and grass growth were similar last year. No other system in the world I know of can add so much for so little.

Oxygenation Trials on *Flowform*® Flow Surface Design systems

Varied 'dissolved oxygen' and 'biological oxygen demand' trials with human and cow effluent, with clear water and water with microorganisms have been conducted and the results show very efficient oxygen input which remains in the water far longer than from bubbling systems. These trials are available to view.

As *Flowform*® flow surface design systems are the result of studying nature's remarkably efficient methods of water quality improvement and then applying these processes to solve human problems, it is not surprising that they are effective.



Water treatment projects for German swim pool minus chemicals, and the Dutch ING bank's urban roof catchment run-off pond being treated with bioremediation and *Flowform*®





Water treatment projects for
ponds, effluent and a
commercial bakery

 **FLOWFORM**[®]

FLOW SURFACE DESIGN technology

Flowform[®] is a forerunner of Biomimicry, a new science that studies nature's remarkably efficient processes and then uses these designs to solve human problems.

Biomimicry discovers that living technologies are often harmonious, where design and function meet in balance with no reduction of technical effectiveness

Flowform[®] Flow Surface Design technology is transferrable across many design themes and sectors, wherever water has quality issues

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