

VI~AQUA

WATER TREATMENT FOR NATURAL TURFGRASS ENHANCEMENT

**Effective, chemical-free treatment to preserve and improve water
resources**

TONICK WATER WORKS

Distributed by

Tonick Watering

Manufactured by ZPM Europe Ltd

The Vi~Aqua turfgrass enhancement system is an innovative, clean process based on many years research into the influence of electromagnetic fields on the molecular structure of colloids.

Benefits

Improved turfgrass quality and lush appearance
Save money on fertilizers
Improves disease resistance
Enhances root development
Reduces watering times
Optimised water utilisation
De-scaling effect on pipework and nozzles
Low running cost

Features

Increased solubility of nutrients
All natural process
Environmentally safe
No chemicals used
No need for pH correction for up to pH9
Simple, quick installation – no special tools or skills needed
Thoroughly tested & proven
Supervision not required – switch on and forget
Totally safe
CE marked

How does it work?

Vi~Aqua basically continuously injects medium frequency radio power directly into the irrigation water flow. So doing favourably modifies the molecular structure of the water by imparting electronegative charge enhancement; this greatly benefits the growth characteristics of turfgrass (or any other plant).

Several things happen to the water to benefit the turfgrass:

*Surface tension is reduced by some 20% by altering the natural surface charge of suspended particles –

- This facilitates nutrient uptake since fertilizer becomes more soluble
- Fertiliser is absorbed more effectively and less is therefore required
- The increased Nitrogen uptake reduces Nitrogen run-off into the water table
- The applied water percolates more quickly through the soil and sand; less watering is required, root depth is stimulated and “black layer” overcome
- Potassium uptake is increased and results in stronger grass

- The benefits are equally effective in soft and hard water and water with a high pH value (up to pH9)
- Silica from the soil is better absorbed and is converted to Silicone at the plant surface; Silicone is the natural defence mechanism of plants against insects and fungus

*Hydrogen Peroxide is produced –

- This stimulates root formation
- Root penetration is strengthened

*Continuous benefits - Due to the “memory” of the water molecular structure, the treatment of the water lasts for 16 hours – adequate time for irrigation and take up. Remember that the process is continuous and so are the benefits

and Photosynthesis is enhanced –

- Results in faster, stronger growth, especially in shaded location and in Winter
- Better resilience to damage with quicker structural recovery
- Greater CO₂ absorption helps reduction of the Greenhouse effect

Is it proven?

In both scientific tests and prestige installations, the Vi~Aqua system has proved highly effective

- In the research and development phase, extensive, published testing was carried out in Ireland at the University of Limerick, the Research Unit at Teagse, Co Meath and at Warrenstown Agricultural College
- Proven installation sites include the K club Golf course, Ireland which is hosting the 2006 Ryder Cup, several premiership football clubs and several international stadia including the Millenium Stadium, Cardiff.

Is it safe?

Totally safe to both plants and man. The electromagnetic field produced by Vi~Aqua antenna is of relatively low frequency and is contained within the treated water.

- It does not form ionizing or harmful electromagnetic fields
- It does not induce the formation of radicals or reactive elements
- It does not cause DNA modification

The equipment is CE marked and the control unit is housed in a weatherproof enclosure to IP66. The antenna is fully immersible.

How is it installed?

Unlike traditional water treatment systems, Vi~Aqua is easily and quickly installed in any application. It comprises two units which are connected to each other via a single, electrical cable. **The control unit** is a surface mounting box to which the 220/240V ac supply is connected; the **antenna** which connects to the control unit is located at the water inlet, fully immersed. Simply switch on and treatment starts immediately. It runs continuously without the need for supervision, maintenance or chemicals.

Testimonials

“We have decided to continue using the Vi~Aqua water treatment in conjunction with the other maintenance programme currently in use at our Course, in preparation for the Ryder Cup 2006.”

Gerard Byrne

Golf Course Superintendent. The K club, Ireland.

“A great asset, the first in Ireland and indeed in Europe is Mel Flanagan’s pioneering use of the new Vi~Aqua system. The results (of using Vi~Aqua) at Abbeyliex are visible and tangible, a spectacular dark green sward on the new greens which offer a perfect durable putting surface.”

Gerry O’Hara

Hon. Secretary. Abbeyliex Golf Club, Ireland.

“The grass experiment concluded that the (Vi~Aqua) treated samples produced significantly higher carbohydrate concentration, which would increase the ensilability of the grass even under conditions climatically unfavourable for grass growth.”

Chemical & Environmental Science Department. University of Limerick, Ireland.

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For the Technically minded

More about how Vi~Aqua works

Vi~Aqua continuously applies electromagnetic field to the water via a submersed antenna. The relatively low frequency radiation is safe in its own right and in any event, confined within the body of water.

The Vi~Aqua system works by altering the natural surface charge of suspended particles and acts to change the Zeta potential. The negative charge induced by the applied field enhances the stability of the suspension by means of increased electrostatic repulsion between particles. This is due to the resultant double layer of ions that surround particles and vessel / pipe surfaces which are in contact with the water.

The altered “zeta – potential” facilitates improved hydration of solids and reduced surface tension of the water which brings the various benefits described earlier in this brochure.

Specifications

- Mechanical: The Vi~Aqua system comprises 2 assemblies
- a) Power Supply / Control Box
 - Dimensions: 22cm (W) x 30cm (H) x 8cms(D)
 - Weight: 3kg
 - IP66 rated (weatherproof) secure, enclosure, CE marked.
 - Input – supply voltage
 - Output – connection to antenna assembly

 - b) Antenna
 - Dimensions: 14cm(dia.) x 40cm(l) overall
 - Weight: 4.5kg
 - b) Flanged Antenna
 - Dimensions: 29cms(dia.) flange x 40cms (l) overall
 - Weight: 5kg
 - Maximum Operating Pressure: 5Bar; for installation on Inlet Side or in sump of irrigation system
- Note:** Clearance of at least 50mm must be allowed between the lower face of the antenna and any metal surface.
- Electrical:
- a) Power supply /Control Box
 - Supply: 89-264V ac 50/60Hz
 - Output: 24V dc to antenna
 - Power consumption: 24W per hour

 - c) Antenna
 - Power supply: 24V dc from Control Box
 - Propagation: 30MHz propagation directly into water inlet or sump.
- Capacity: Treats 500,000 litres volume or 100,000 litres /hour flow

All dimensions are approximate. Specifications may be subject to change.

Tonick Watering Ltd is the sole, UK Golf-course Distributor for Vi~Aqua. Vi~Aqua is manufactured by ZPM Europe Ltd; Limerick & is patented.

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