

## First Aid For Activated Sludge Plants

Euroby Limited is pioneering the use of mobile self-contained Oxygen Generation and Diffusion systems **for emergency use** in the municipal sludge treatment market.

The System – called Oxfiniti™ - is a complete mobile oxygenation system which can produce up to 1000kg of pure oxygen per day.

The unit is self-contained and houses an oxygen generator, but the patented IP is in the oxygen injection and distribution system. Unlike the conventional methods of using air and fine bubble diffusers Oxfiniti™ is able to entrain pure oxygen in a side stream taken from the ditch, basin etc. and reintroduce it into the system at a more or less molecular level.

This breakthrough offers some major advantages. Entirely self-contained, it can be brought to site and be up and running effectively – usually in a day– or even hours in some instances.

The novel design addresses two concerns of importance to operators:

- The patented Oxfiniti™ process involves direct injection of pure oxygen from a generator (no bottled gas or storage required) into a stream taken from the basin/ditch in question. There is no hardware required in the ditch/basin other than suction and discharge pipes, so H&S issues are much reduced
- Unlike conventional aeration systems which produce bubbles that are retained for seconds, the molecular nature of the O<sub>2</sub> enables dissolution of the oxygen enabling it to be retained in solution - for up to several days. This allows more efficient take up of dissolved oxygen, speeding up recovery and getting the process back on line as quickly as possible.

As a **long term or permanent solution Oxfiniti™** offers further benefits. It is highly efficient - it can reduce energy costs by up to 30% compared with surface aeration or membrane diffusers; around 20% less if it is just used as a base load.

There is therefore no maintenance in the basin required – e.g. cleaning/replacement of membranes.

The aeration bubbles are extremely small – almost molecular levels - giving much better retention and distribution. There is also some evidence that any “conventionally” derived oxygen may be being picked up by the process and retained longer. The result of this is significant reduction in sludge levels. The recent trial showed sludge volume reduction from 18 to 11%.

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