

### **Odour Control Systems**

Ever higher environmental standards impose responsibilities upon undertakings with malodorous processes. Fortunately a range of technologies is available to provide costeffective answers to most problems.

Forbes design engineers have extensive experience of odour control and are able to advise on the most appropriate system from a range of in-house technologies. The principal solutions we offer include wet chemical, biological and activated carbon systems.

We can, as required, provide a complete solution including installation and commissioning of the process unit and collection ductwork. We will alternatively design and supply the process unit for end user or contract installation.

## IMPARTIAL ADVICE; COST EFFECTIVE HIGH QUALITY SOLUTIONS

Our wide range of tank production capabilities allows our design engineers to propose the optimum solution to liquids handling and storage requirements. Similarly, the range of our odour control technologies permits us to tailor a solution precisely to your needs. As ever, our in-house design capabilities and the high proportion of projects we are able to manufacture ourselves mean that our offers are cost-effective and delivery timescales and quality more controllable. We are always willing to discuss whole life costs and to demonstrate how economic our proposals are.

#### **EXPERIENCE**

There is no substitute for experience. Assessing your problems, asking the right questions, knowing what works. When you work with Forbes you don't just get a product, you plug in to our internal network of experts - sharing their expertise on your behalf.





#### WET CHEMICAL SCRUBBING

Wet Chemical Scrubbing, embracing packed towers, fluidised bed and venturi scrubbing, covers the widest range of duties. The process can accommodate high airflows, and both constant and intermittent contaminant loads.

#### **BIOLOGICAL SCRUBBING**

Biological scrubbers are capable of handling airflows with high non-fluctuating concentrations of odours. They can be designed to use treated effluent from the site processes as nutrient for the 'odour-eating' biomass which is grown on a packed bed.

#### **BIOLOGICAL FILTRATION**

Where biofilters are suitable for an application they offer substantial benefits. In particular, whole life costs are advantageous and low levels of contamination can be treated without the production of effluents or discharges which require further treatment.

Forbes has selected a biofiltration medium (on which the active bacteria and fungi multiply) which is wood based but not chemically treated, so it can be easily handled and safely disposed when the time comes.

A major advantage of this woody medium is that it is less prone to compaction than most other organic media. In consequence it does not impose the same pressure drop as media liable to compaction so fans do not have to be overspecified and running costs are lower. It does not require topping up so operating conditions are constant throughout its lifetime.

In most applications our special bed medium offers exceptionally long replacement cycles, which can significantly reduce the whole life cost of the system.

#### **CARBON ADSORPTION**

Activated carbon scrubbing is ideal for intermittent high level loads of most malodours, including solvents and VOCs.

This technology can also be used to polish the outlets from other systems so that the low outlet levels typical of carbon systems can be provided with reduced running costs.



### **TECHNICAL NOTES**

#### WET CHEMICAL SCRUBBING

Used particularly for high or fluctuating contaminant levels.

Flow rates up to 50,000 m<sup>3</sup>/hour can be treated in a single unit.

#### **BIOLOGICAL SCRUBBING**

Used principally in sewage treatment works for high constant contaminant loads (20 to 500ppm)

#### **BIOLOGICAL FILTRATION**

Used particularly for constant contaminant levels up to 50ppm.

Maximum flow rate is dictated by the space available but typically up to 20000 m<sup>3</sup>/hr

#### **CARBON ADSORPTION**

Used particularly for intermittent duties or in passive systems.



### Do you need . .

- .. to store or process liquids of virtually any description from ultra pure water and liquid sugar to hazardous chemicals or effluents?
- . . a constant supply of saturated brine ?
- . . to store plastics granules, salt or other flowing solids?

# Do you have a problem with . .

- . . chemical or process fumes?
- . . or other pollution ?

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#### **FORBES**

New Road Crimplesham Norfolk PE33 9AS UK Tel + 44 (0)1366 389 600 Fax + 44 (0)1366 385 274 Email sales@forbesgroup.co.uk Website www.forbesgroup.co.uk

