



## DRY VAPOUR SYSTEMS

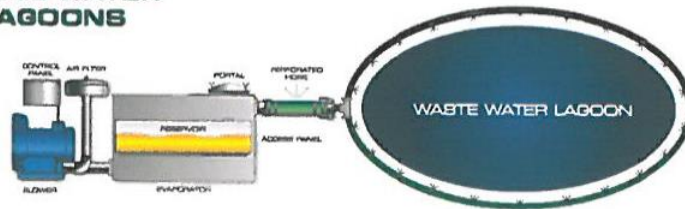




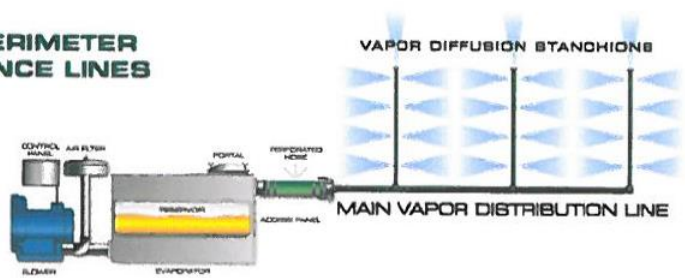
## DRY VAPOUR SYSTEMS



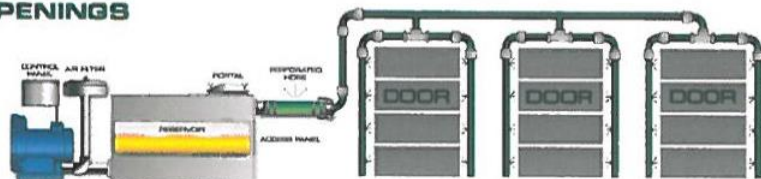
**WASTE WATER  
LAGOONS**



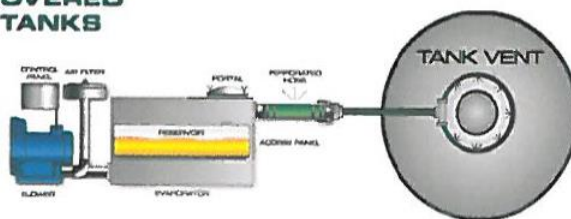
**PERIMETER  
FENCE LINES**



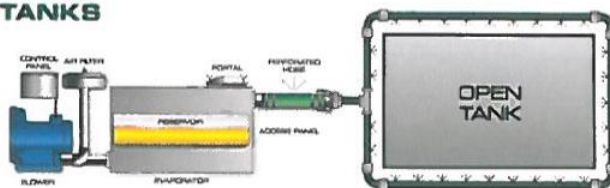
**DOOR  
OPENINGS**



**COVERED  
TANKS**



**OPEN  
TANKS**



The **Cobra Hydro UK** dry vapour system is an innovative odour suppression system which has the ability to neutralise odours without wetting and without maintenance. This unique equipment has eliminated odour problems on various sites within Europe and the U.K.

**The Dry Vapour product has significant advantages over traditional reagents:**

- Non-toxic and non-corrosive.
- No need for large storage tanks.
- No need for dosing equipment.
- Replaces the traditional reactive agent and operates at a molecular level.
- Economical to use.
- No water supply needed.
- Can be used anywhere, inside buildings, open yards; exhaust stacks and ventilation systems.
- Has an immediate impact.
- Neutralises a wide variety of odours.
- Several delivery methods available depending on application requirements.
- Simple to operate and install.

**Evaporation.**

Evaporation from fluids takes place when the liquid molecules at the liquid surface have enough momentum to overcome the intermolecular cohesive forces and escape to the atmosphere. When heat is added to the liquid the molecular momentum and the evaporation increases. A reduction of the pressure above a liquid will reduce the momentum needed for molecules to escape the liquid and increase the evaporation.

### **Dry saturated vapour.**

A vapour is a gas - there is no significant physical or chemical difference between a vapour and a gas. Dry saturated vapour is free from liquid particles: all particles are vaporised - any decrease in the vapour temperature or increase in the vapour pressure, will condensate liquid particles in the vapour. A dry saturated vapour is a substance in the gaseous state which does not follow the general gas law.

### **Odour Neutralisation with Essential Oils.**

When it comes to the control of non-specific odours from municipal waste, food waste, bio-remediation, landfill etc, little works better than neutralising with essential oils.

Essential oils are liquids extracted from plant material by pressing, solvent extraction or steam distillation. These organic, naturally occurring essential oils are extracted from the seeds, bark, roots, leaves, flowers, wood, balsam, resin and fruit of plants. The oils are then re-distilled or rectified to remove any unwanted materials.

Essential oils evaporate easily, infusing the air without leaving an oily residue behind. They are extremely complex organic compounds consisting of hundreds of components and trace elements. The **Oxi-Max DV** odour neutraliser for example, contains over 200 trace elements at concentrations of less than one percent. As in all natural oils, trace elements supply the delicate, extremely complex nuances that provide a unique odour neutralising quality. The synergistic effect of trace elements enhances the blending and performance of the odour neutralising product. The blended product actually becomes greater in effectiveness and allows for a broader range of application than the oils would if used individually.

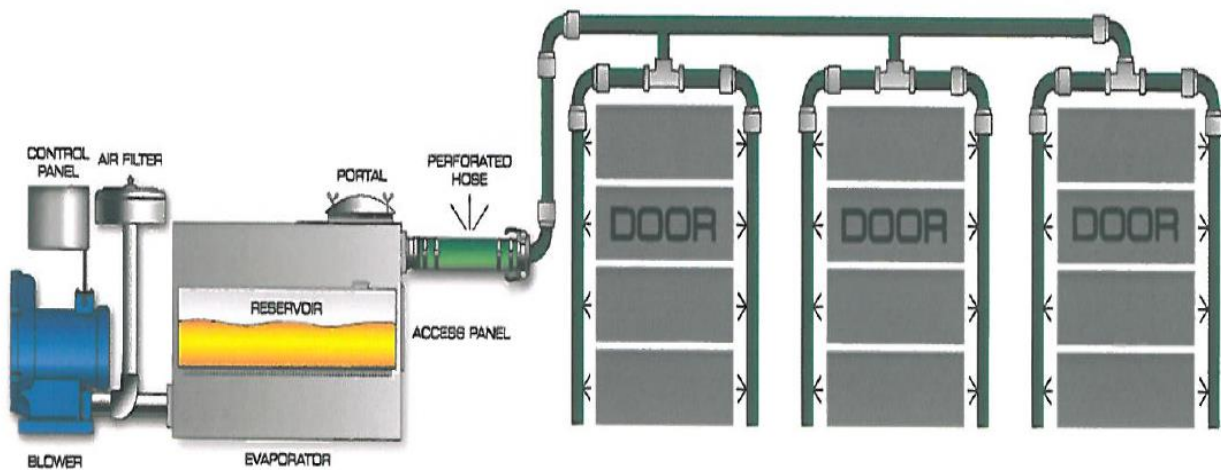
Odour neutralising agents are different from masking agents, which cover unpleasant smells with another, more pleasant scent. The essential oils are fed to the air in a fashion that will initiate and optimise absorption and adsorption, the two physical processes that occur in the vapor phase between the essential oil and the odorous material.

Surface area, contact time, particle size, temperature, and the concentration of both materials will be important in optimizing the efficiency of the neutralising processes. The essential oil will physically combine with the odorous material to form a new physical compound. This new combined product will have a net zero odour. **Hydrocarbons (heavy and/or saturated) H<sub>2</sub>S, mercaptans, NH<sub>3</sub> and most amine odours can be neutralised.**

### **Odour Neutralisation with Oxi-Max products.**

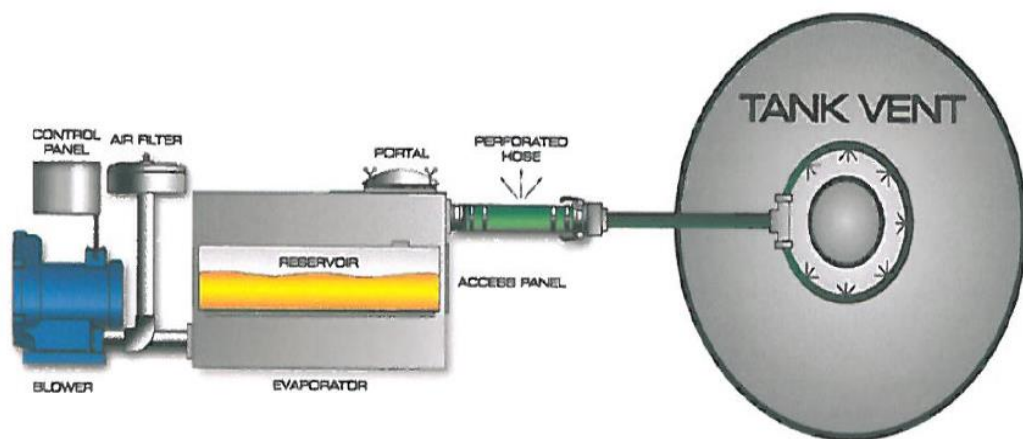
Some site-specific situations offer very few choices other than vapour phase or air contact treatment. **Oxi-Max** odour neutralisers can be atomised as fine mist or vaporised and eliminate odours by air contact. Special equipment is required to atomise or vaporise the **Oxi-Max** product into the air, enabling the physical reaction between its many constituents and the odorous gases. This may be applied in either indoor or outdoor applications, and requires corresponding equipment and technology, depending on the exact situation.

## DOOR OPENINGS

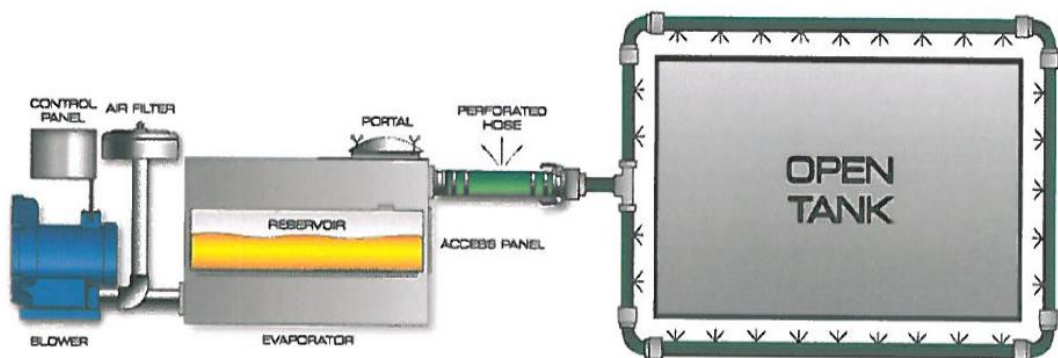




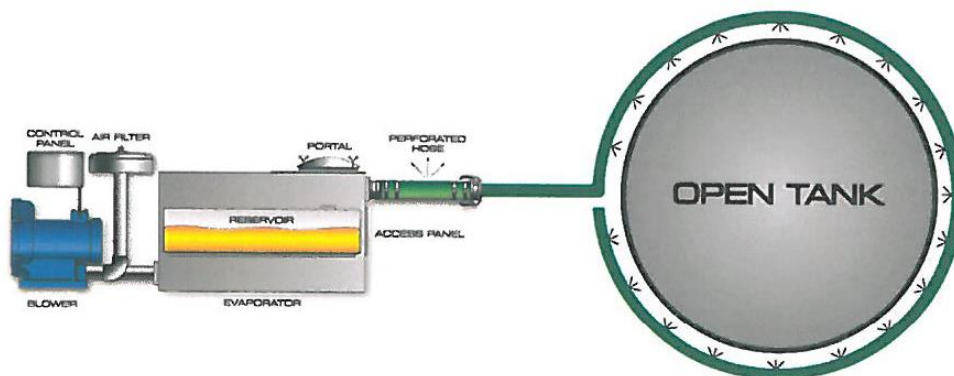
## COVERED TANKS



## OPEN TANKS

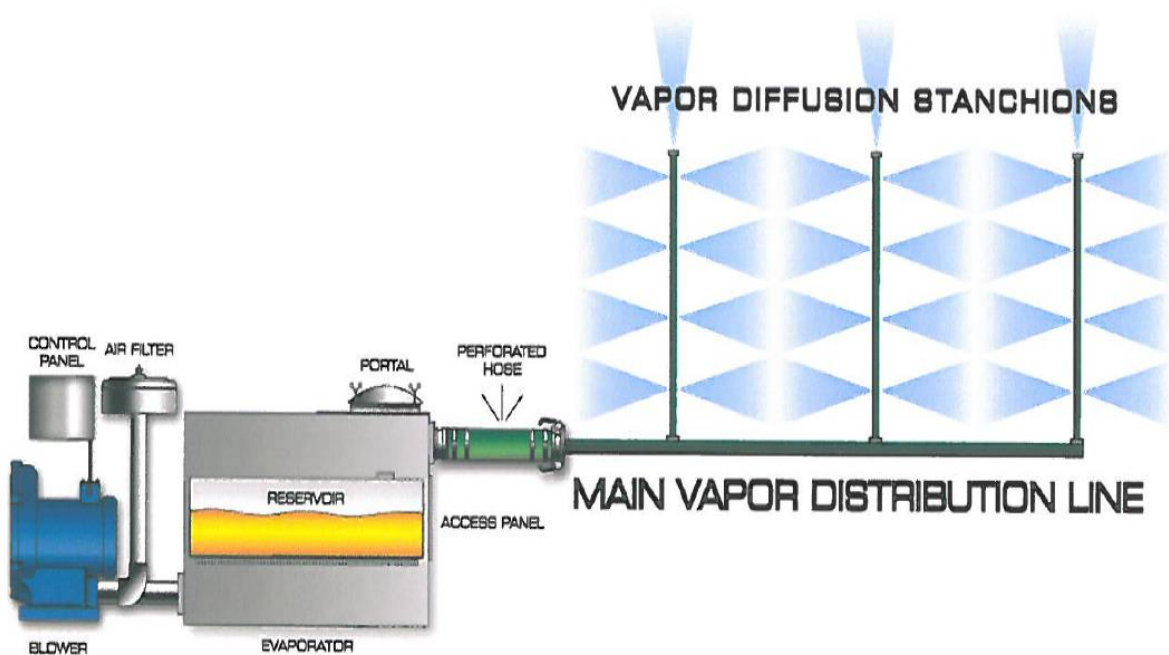


## OPEN TANKS





## PERIMETER FENCE LINE



## WASTE VEHICLE MOBILE UNIT

