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SUSTAINABLE
RECYCLING



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SUPERIOR
SKILL SET

OUTSTANDING
SERVICE

MIRINZ BIOFILTER

Biofiltration has become a widely used method for reduction of odours. The odorous gas is passed through a bed of organic material such as compost, tree bark, peat, soil, rice husks etc... The filter medium absorbs the odorous compounds that are then broken down to non-odorous compounds by microorganisms in the medium.



Advantages

- Environmentally friendly.
- High odour removal efficiency.
- Long life and reliable.
- Low maintenance.
- Low pressure drop.

Process Description

The MIRINZ Biofilter is sized to match the volume, odour intensity and characteristics of the incoming gas. It comprises the following:

Gas Distribution System

The gas distribution system comprises a large distribution pipe running along the length of the biofilter. From the central pipe run a number of lateral perforated pipes to ensure even gas distribution through the biofilter medium. The distribution system is set in a deep bed of coarse gravel or alternative permeable medium.

Leachate Collection System

The design of the biofilter includes an impermeable layer at the base of the biofilter to prevent leachate from entering the groundwater. Leachate and stormwater run into a drainage collection system terminating at a collection sump.

Medium

The medium used in the MIRINZ Biofilter has a large active particle surface area to absorb gases, attach microorganisms and effect good water holding. It is also porous to maintain a low pressure drop and provide good drainage.

Pine bark has proven to be an effective medium but the MIRINZ Biofilter can usually be designed around locally available materials.

Moisture Control

The Biofilter is provided with an irrigation system for watering during dry weather. On some applications humidification of the incoming gas is also required to ensure the medium stays moist throughout.

Medium Containment

The MIRINZ Biofilter can be above or below ground but above ground is a better solution for most sites. The medium is contained by a retaining wall of concrete block, timber or earth.

Applications

Some of the applications biofilters have proven to be effective:

- meat rendering
- fishmeal
- wastewater treatment plants
- food manufacturing
- mushroom growing
- brewing and distilling
- pulp & paper
- processing of agricultural waste.

Performance

Tests carried out on **MIRINZ Biofilters** in New Zealand and Australia have shown odour efficiencies of 95 – 99%.