Biological Deodorization
Gas scrubbing system through humidification tower and biological bed

Dimamex designs and manufactures assemblies of gas treatment facilities, for urban and industrial wastewater treatment plants. The principle of operation of this technology is the same as that of the percolating biofilters, but replacing the continuous recirculation by a humidification system of the bed in a discontinuous and controlled manner.

Characteristics of the Process

Conventional biofilters are a bioreactor configuration for the treatment of odors, characterized by:

- Use of an organic filler material suitable for the biological process
- The degradation is carried out by the microorganisms, however to increase the efficiency of the treatment, the installation of a reagent dispenser is optional.
- Elimination of contaminants by biological transformation and not by absorption in a concentrated liquid effluent that would require further treatment as a sub-waste.

Operation of the Process

These are installations that use adsorption techniques for the elimination of odors. The odor particles are trapped on the surface of the elements of the bed of the biofilter where they serve as sustenance for the microbial fauna that is inoculated therein. It is a wet system, consisting of putting air in contact with odors saturated with humidity with a fixed bed of biomass (pine bark, coconut ...). To achieve saturation of the gas stream, a wetting tower is used before driving the air to the biofilter.

Dimamex: the union between manufacturing and engineering
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The biggest advantage of the biofiltration deodorization system compared to classical methods is its low operating cost, since the addition of expensive and dangerous reagents is not required nor the frequent replenishment of the biomass bed.

In our study we considered the flow rate to be deodorized, the chemical compounds present in the stream and the abundance of them, to fully customize the needs of each installation.