Biological Deodorization

Gas scrubbing system through humidification tower and biological bed

Dimasa Grupo 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.

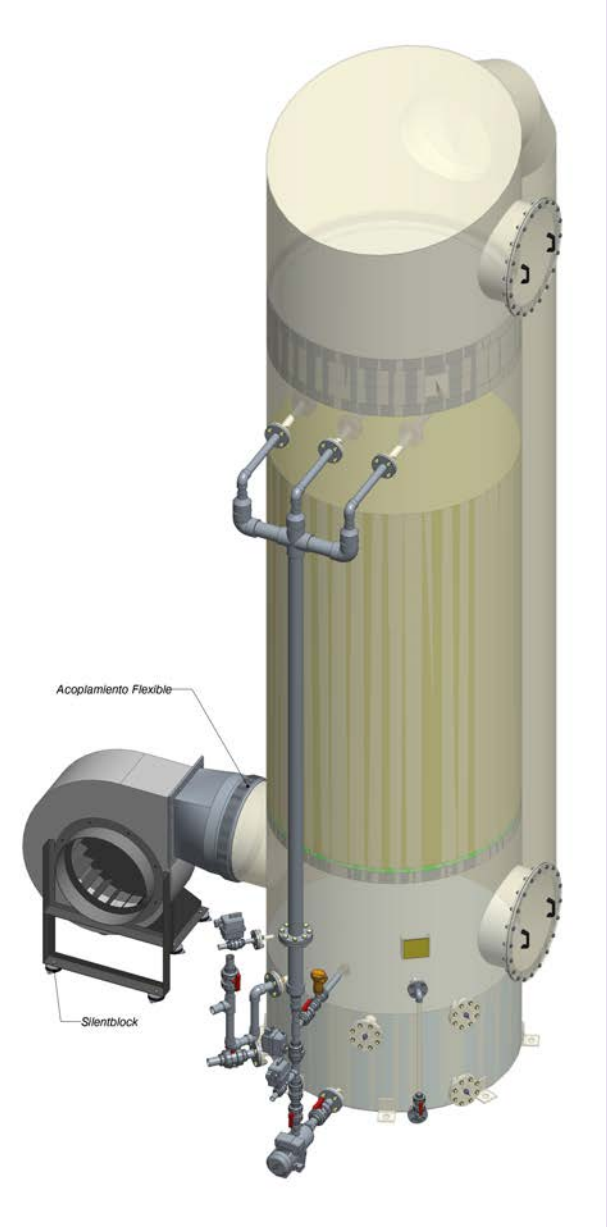
Operation of the Process

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.

Dimasa Grupo: the union between manufacturing and engineering
We directly manufacture all the equipment designed by our engineering department

Fundamental parts of the installation

Humidification tower



The gas flow, driven by the fan, passes through a layer of absorbent filler (Pall rings), receives a rain of water through the diffusers, to reach a droplet separator. The gas, already humidified, crosses a large pipe to the biomass bed.

Suction pipes

To complete the deodorization, we also offer the option to design and install pipes, both in PPH and GRP. We are experts in working with Polyester Reinforced with Fiberglass, a material that presents a great resistance to corrosion, ideal for a WWTP.

Biomass bed

Through the adsorption system, organic matter maintained at an adequate humidity is used for the bed to allow the microbial development that will absorb and degrade odorous compounds. The filling costs are very low and guarantee a long durability.

Centrifugal ventilator

We guarantee low energy consumption thanks to the use of high performance elements, designed to minimize the load losses of the installations.

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.**