

TWT EXPERIENCE

Customer	MULTIUTILITY
Sector	WASTE TRANSFER STATION
Plant	DRY CHEMICAL FILTER

CONTEXT

The wastewater from Housing units located in the City must be conveyed to the Waste Water Treatment Plant, which is located a few kilometers away. The territory is flat and the slope of the sewers is very low, so **the stagnation phenomena of the wastewater in anaerobic conditions results in the production of H₂S.**

PROBLEM STATEMENT

Hydrogen sulfide has a low olfactory threshold and its presence in transfer stations creates a lot of complaints from citizens. **The aim of the system is to reduce the H₂S** present before it is dispersed into the environment, reducing corrosion phenomena and odors. **The system must have a minimum maintenance activity because it is located in the city.**

PLANT

The system consists of a multilayer dry chemical filter, with preliminary humidity reduction through metal mesh.

TECHNOLOGY

Odors abatement is ensured through a physical-chemical absorption process taking place on a filtering bed made of multiple layers containing various reagents, adequately sized for the type of effluent to be treated.

Selecting absorbing materials and pre-impregnations, specifically designed for the various types of compounds, also permits a selective abatement of odorigenous substances, **yielding olfactometric efficiencies of 99%.**

The process of the abatement is structured as follows:

- Absorption in solution added with sulfuric acid;
- Absorption in solution added with sodium hydroxide and sodium hypochlorite;
- Separation of condensation by a demister;
- Suction fan section.
- Deodorization with olfactometric finishing using ultrasound, with specific product.



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INSTALLATION

Installation is very simple: the waste transfer station is placed under depression by a fan of suitable capacity. The dimension of all equipment is not too big, and the system can be placed either inside or outside.

MONITORING

Monitoring is very easy, too: it is sufficient to check the pressure drops of the filtering material to understand when it is exhausted. Its replacement is absolutely quick and simple.

RESULTS • YIELD

The intervention has been decisive / effective in that the Hydrogen sulfide content in the emission was reduced. Same the odour up to 90%.

APPLICATIONS

The system is very versatile and can be used in many sectors in waste treatment.

OSMOGENIC BARRIERS

Sometimes, when the odour is too much, **it is possible to add a spray system at the end of the abatement process, utilizing Osmogenic Barriers Technology.**

In this case, an olfactometric abatement will be longer, reducing costs for the substitution of filtering bed.

CHARACTERISTICS OF THE SYSTEM

Treatment Capacity
From 50 to 10.000 m³/h

Work Temperature
From -20° to +80° C

Structural Material
PP

Load Losses
60-220 mm Water Column

Filtering Material Tipology
Depend of polluting compounds

