



# LAGUN'AIR

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Highly efficient multifunctional system  
for reducing olfactory pollution from  
process water treatment  
and storage lagoons



# BIOTHYS™

## YOUR REFERENCE IN ODOR NEUTRALIZATION SOLUTIONS

**Biothys™** is specialized in consulting, design and produce world wide application of individual solutions of smell neutralization for all sectors. Our competitive advantage is the result of 30 years of experience in this sector. This allows us to offer customized and turnkey solutions for all sectors. **Biothys™** technologies are patented and used in many countries all over the world.

- **TURNKEY SOLUTION BASED ON YOURS NEEDS.**
- **EXPERIENCED DESIGNERS, ENGINEERS,**
- **TECHNICIANS AND SALESPEOPLE.**
- **SIMPLIFIED SOLUTION CUSTOMIZED TO MEET YOUR NEEDS.**
- **EASY INSTALLATION AND MAINTENANCE.**

**ECO-FRIENDLY**  
**BIOTHYS™** offers environmentally friendly, sustainable treatments.

**CUSTOMIZED**  
**BIOTHYS™** is an expert consulting agency, analyzing your situation and thus being able to offer an individual, customized solution.

**SAVINGS**  
**BIOTHYS™** offers savings in installation and reduces investment costs to a minimum.

**TRENDSETTING**  
**BIOTHYS™** offers technologies which are not based on the application of sprayed liquids, allowing for homogenous, inobstrusive treatments.

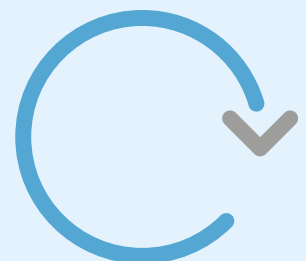
## HIGHLIGHTS OF THE LAGUN'AIR TECHNOLOGY



**EASY  
MAINTENANCE**



**EASY  
INSTALLATION**



**PERMANENT  
TREATMENT**

# BIOTHYS™ TECHNOLOGY APPLICATION FIELD



## WASTE

BIOTHYS™ successfully treats waste deposit sites, waste storage, garbage bins, trucks and many more. Our solutions range from the treatment of small household waste bins to large waste disposal sites. Especially for municipalities we can offer a simple and comprehensive solution.



## TRANSPORT

BIOTHYS™ offers perfect solutions for trains, airports, VIP lounges, buses, stations and many more



## SERVICE SECTOR

BIOTHYS™ offers unique and advanced solutions for hotels, airports, smoker lounges and rest rooms



## INDUSTRY

BIOTHYS™ as key partner for all industries neutralizes odour emissions from production and storage sites



## PETROCHEMISTRY

BIOTHYS™ treats smells of refineries and oil storage, meeting explosion protection requirements (EX-areas)



## WASTE WATER

BIOTHYS™ is an expert in all areas of waste water treatment, industrial and urban sites, canals etc.



QUALITY  
GUARANTEE



LOWED  
COST



TARGETED  
TREATMENT

# HOW LAGUN'AIR TECHNOLOGY WORKS?

Many industries are faced with the problem of olfactory pollution of process water when it is stored in lagoons, sedimentation tanks or effluent treatment stations.

To meet this type of need, the Biothys Research and Development laboratory has developed a simple and ingenious procedure, the **LAGUN'AIR** technology, for the treatment of olfactory pollution.

**LAGUN'AIR** technology can be applied to all types of tanks or lagoons, whatever their size or depth. **LAGUN'AIR VIII** products are formulated to treat all types of water.

**LAGUN'AIR** devices use only the **LAGUN'AIR VIII** product range, in pure and undiluted form. The **LAGUN'AIR VIII** range, specially created by **BIOTHYS™**, is a powerful odor inhibitor with a broad spectrum of action.

The **LAGUN'AIR VIII** product is distributed on the water surface using the **LAGUN'AIR** device. When the tiny drops of product rise to the surface, the drops turn into hydrophobic mixtures and spread very rapidly over the entire surface of the lagoon due to the low specific surface tension of the mixture. This dispersion process is called "micelle dispersion".

A large exchange surface is obtained between the inhibitors contained in the mixtures and the foul-smelling gaseous phase released by the water. The active ingredients evaporate slowly and come into contact with the malodorous molecules as soon as they surface on the water (similar to the boiling process). The active ingredients reduce bad odors almost immediately.

The reduction of bad odors is obtained by means of a physical-chemical reaction between the two gaseous phases and by means of olfactory compensation of the gaseous residue after the reaction.

The low vapor pressure of the active agents significantly reduces their volatility and causes the agents to be extremely persistent and effective over a long period of time.

**LAGUN'AIR** devices can be programmed and sized according to need.

The **LAGUN'AIR** Device, is designed and manufactured according the technical standards. The development was based on the safety standards and guidelines. The device corresponds to the directive of machines 2006/42/EG, electrical directive 2006/95/EG and VDE regulations

The **LAGUN'AIR** device is reliable and corresponds to a high-quality standard. Easy use and maintenance is a part of this devices.

# THE MAJOR FEATURES

Proven +30 years experience

**LAGUN'AIR VIII** technology can be applied to all types of reservoirs or lagoons, whatever their size or depth

High Homogeneity: There is a maximum contact-surface between molecules and smell-contaminated air

Direct Treatment: The charged air will be treated directly, and not the substances which cause the smell

Non-invasive, the system aims to achieve complete olfactory neutralization, almost all odor-related problems can be resolved

High Efficiency: With **BIOTHYS™** products the treatment results in a much higher level of neutralisation due to the resulting higher contact with the surface

Energy efficiency: consumption only when the equipment is operational

The **LAGUN'AIR VIII** range, specially created by **BIOTHYS™** is a powerful odor inhibitor with a wide range of action.

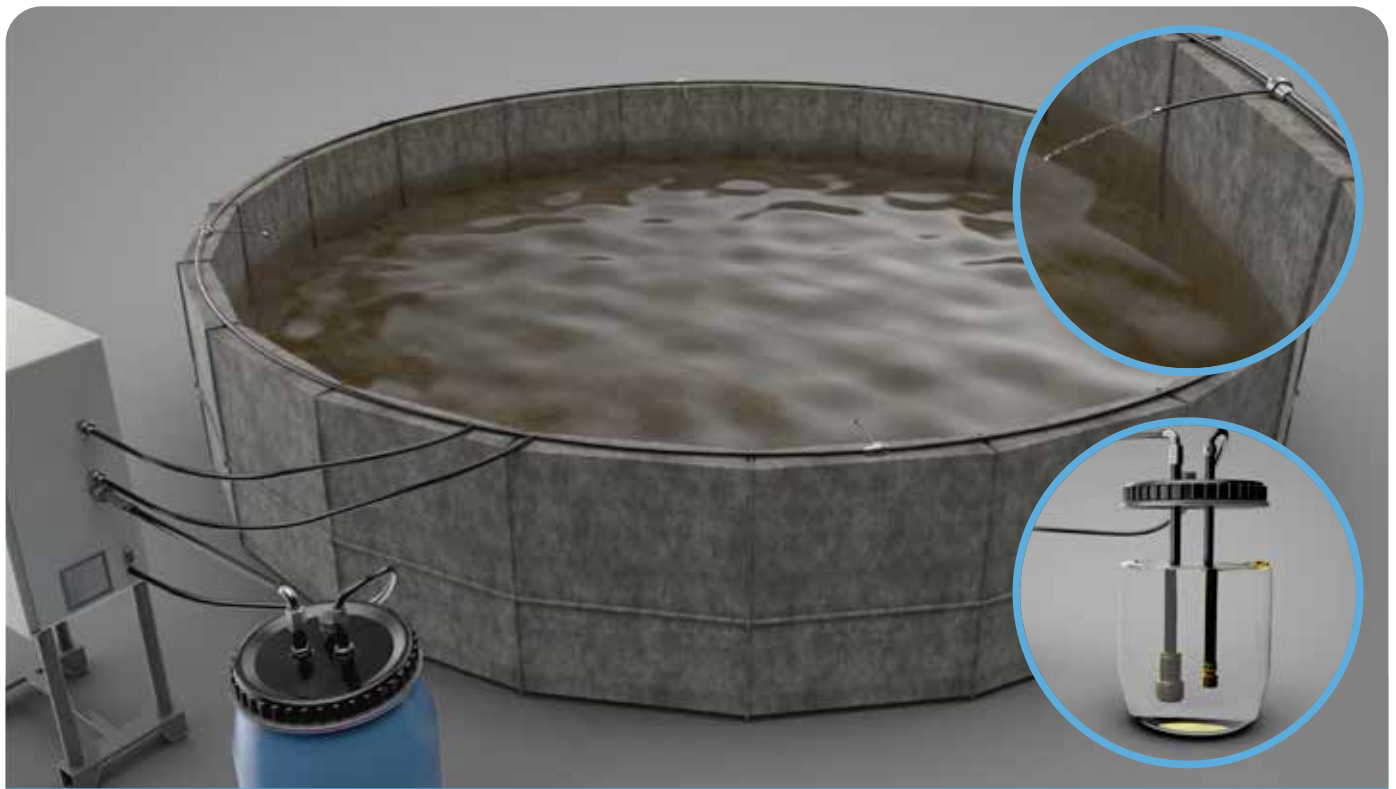
Flexible: Depending on the smell-emission, operation times can be optimized

Free of disturbance: Hardly any noise, no splashing, no risk of germs

Low maintenance



## OF LAGUN'AIR



## DIRECT TREATMENT VIA SPECIAL PIPES

# LAGUN'AIR TARGETED TREATMENT FOR PROCESS WATER AND FROM STORAGE LAGOONS

The modular solution, intended for industries in many sectors, for the neutralization and reduction of olfactory pollution deriving from the treatment of process water and from storage lagoons

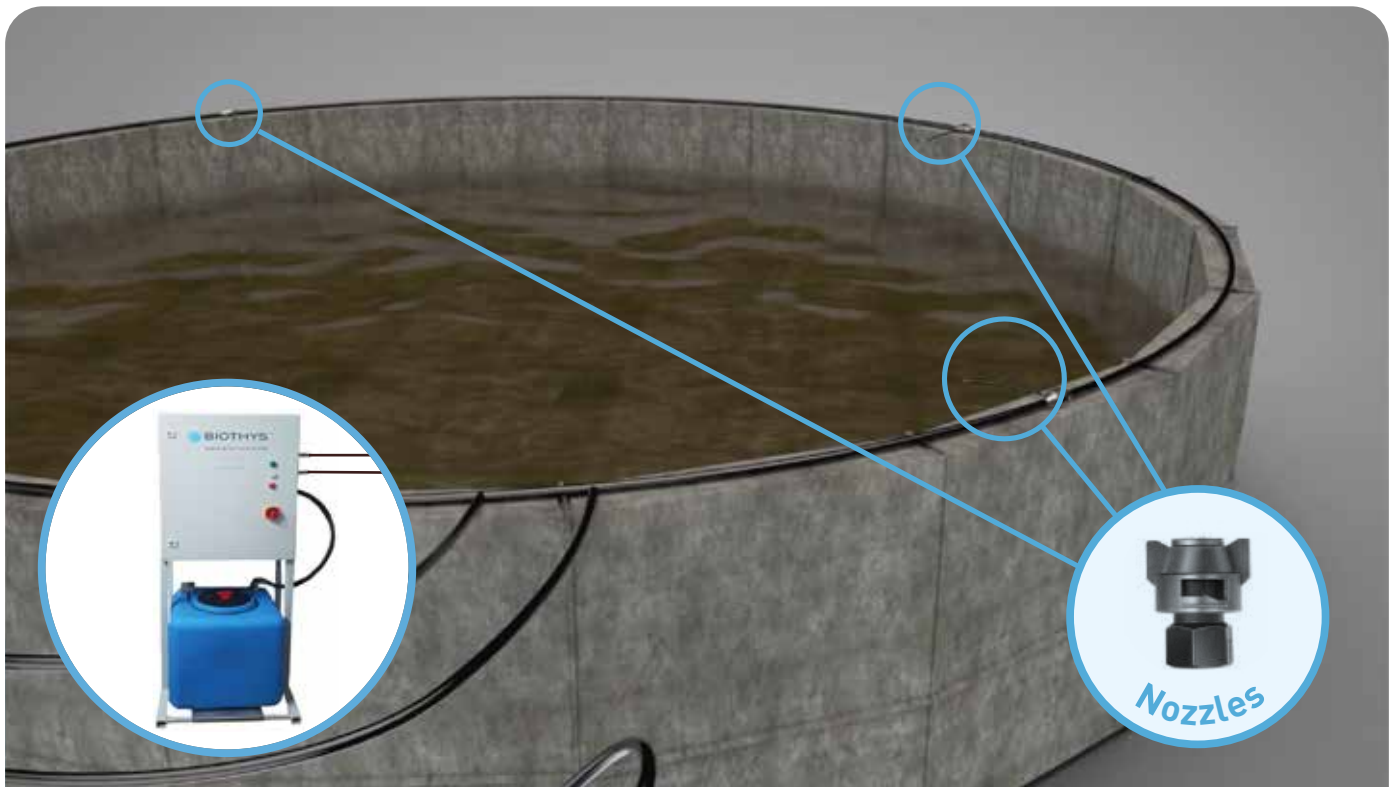


Nozzles



Wind direction transmitter

**LAGUN'AIR** technology can be applied to all types of tanks or lagoons, whatever their size and depth. The products in the **LAGUN'AIR VIII** range are formulated to treat all types of water.



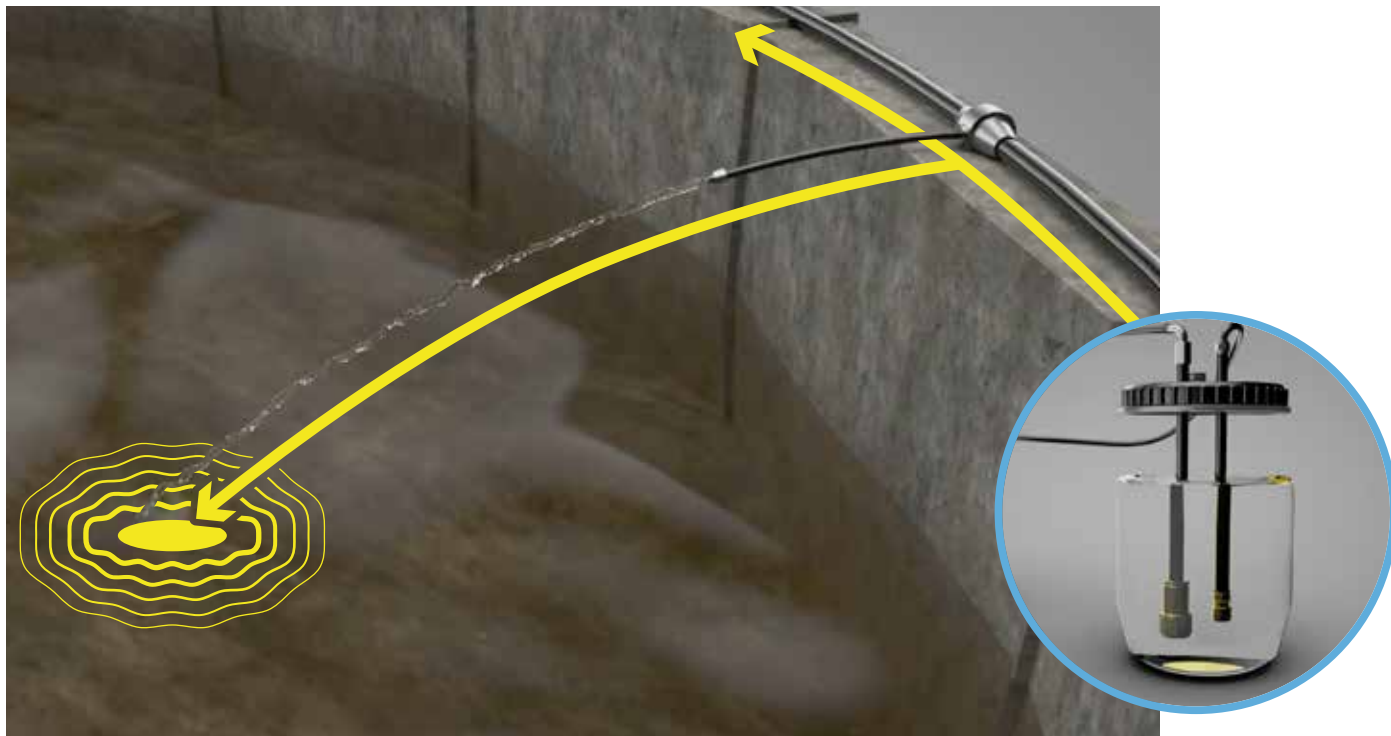
## APPLICATION OF LAGUN'AIR TECHNOLOGY TO A PROCESS WATER TREATMENT TANK



## EXAMPLES OF LAGUN'AIR TECHNOLOGY APPLICATION

# THE LAGUN'AIR VIII PROCESS + LAGUN'AIR TECHNOLOGY

The particularity in the treatment of olfactory problems is based on an efficiency process **BIOTHYS™** "micelle dispersion" - **LAGUN'AIR** implementation technology" a high performance gas phase neutralization treatment.



- High performance
- Direct treatment in the gas phase.
- Continuous treatment (24 hours/day and 365 days/year) or sequential treatment with variable diffusion rate.
- Constant and homogeneous contact between the active ingredients and the malodorous molecules.
- Scalable treatable air volume m<sup>3</sup>/h
- Low investment and reduced running costs.
- Ecologically - highly power efficient
- Nanometric diffusion resulting in a lower amount of product in the air but resulting in a larger exchange surface for greater efficiency.
- Easy to install

**MAIN OLFACTORY PROBLEMS THAT CAN BE SOLVED WITH THE BIOTHYS™ NEUTRALIZING POWER.**



# LAGUN'AIR POWERED BY LAGUN'AIR VIII RANGE

The range **LAGUN'AIR VIII** active components is recommended for the treatment of odorous gas emissions and comes in the form of several products whose responsiveness meets the different types of gaseous odors or structures they are confronted with.

**LAGUN'AIR VIII** Base is a liquid mixture of hydrophobic inhibitors active ingredients whose specific gravity is lower than the density of water.

Using the **LAGUN'AIR** device, the **LAGUN'AIR VIII** is applied to the surface of the water to be treated (lagoon, settling basins, industrial waste water, etc...) so that the active molecules are distributed above or below the water surface.

When the tiny drops of product rise to the surface, the drops transform into hydrophobic micelles and spread very rapidly over the entire surface of the water to be treated thanks to the specific low surface tension of the mixture. This method of dispersion is called "micelle dispersion".

This creates a large exchange surface between the inhibitors contained in the micelles and the foul-smelling gaseous phase released by the water.

The active ingredients evaporate slowly and come into contact with malodorous molecules as soon as they surface on the water (similar to boiling). The active ingredients reduce bad odors almost immediately.

Bad smells are reduced thanks to a physical-chemical reaction between the two gaseous phases and an olfactory compensation of the gaseous residues left after the reaction.

The low vapor pressure of the active ingredients significantly reduces their volatility, making the active ingredients extremely persistent and effective over a long period of time.



**LAGUN'AIR** devices use exclusively **LAGUN'AIR VIII** range, in pure and undiluted form. The **LAGUN'AIR VIII** range, specially created by **BIOTHYS™** is a powerful odor inhibitor with a wide range of action.

The **LAGUN'AIR VIII** device can be applied to all types of basins, waste water storage, lagoons or settling ponds, regardless of their size.

The **LAGUN'AIR** Base are formulated for the treatment of all types of waste water.

**LAGUN'AIR VIII** is the main product with a wide range of neutralization capabilities, for targeted needs special recipes are available for special needs. The ideal product can be determined through a prequalification study or on site.

The consumption of **LAGUN'AIR VIII** depends on the size of the surfaces to be treated, the intensity of the nuisance odor and the atmospheric conditions (temperature, air flow).



The malodorous molecules will react with the active agents to obtain an ideal neutralization. Our technology can provide, in some cases, a reduction of up to 95%.



The dry mist that is passing through the piping system, whether static or ventilated, acts as a vector for the distribution of the active agents in the air.

# THE DEVICES



## LAGUN'AIR (WITH 2 ELECTROVALVE AND PROGRAMMING MÜLLER)

The device is used to distribute odor-neutralizing **BIOTHYS™** range. The housing of the spray device **LAGUN'AIR** is made of powder-coated sheet steel. It is equipped with two electric valves, an oil pump, a pressure gauge and an electric box. The Müller clock is mounted in the electrical box.

A 100-liter tank (product container) is connected to the above oil pump by a hose. The inlet air filter installed in the housing wall ensures ventilation with dust-free air in the housing.

The operating times of the **LAGUN'AIR** device is controlled by a programmable Müller timer.



## DEVICE FEATURES

### Lagun'Air

|   |               |
|---|---------------|
| <b>Consumption in continous service</b> | 0,015 l/h     |
| <b>Nozzles</b>                          | 1-8           |
| <b>Pressure</b>                         | 3 bar - 6 bar |
| <b>Tank capacity</b>                    | 100 Liter     |
| <b>Temperature Operation</b>            | 5°C – 40°C    |
| <b>Storage</b>                          | 5°C – 40°C    |
| <b>Power Supply</b>                     | 230 V/ 50 Hz  |

The **LAGUN'AIR** device allows:

- to have different delivery programs
- connect from 1 to 8 product dispensing nozzles

Example of average daily consumption with standard programming:

- 1 second of delivery every hour = 15 ml or 0,015 Litres/Hour of product for each nozzle
- Daily consumption (24 hours) = 0,36 Litres/Day

The consumption of **LAGUN'AIR** depends on the size of the surfaces to be treated, the intensity of the nuisance odor and the atmospheric conditions (temperature, air flow).





# BIOTHYS™

OLFACTIVE SILENCE™



MADE IN GERMANY,  
PERFORMING WORLDWIDE.

## Biothys™ GmbH

Gewerbestr. 6 | D-77731 Willstätt  
Phone: +49-7854-98954-0  
Fax: +49-7854-98954-99  
[www.biothys.com](http://www.biothys.com)  
[info@biothys.com](mailto:info@biothys.com)

Authorized Reseller



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OLFACTIVE SILENCE™

