



BIOBOX[®]

ORGANIC MATTER

Waters with high organic matter loads

The problem in wastewater



It is common to find wastewater with a high organic load content.

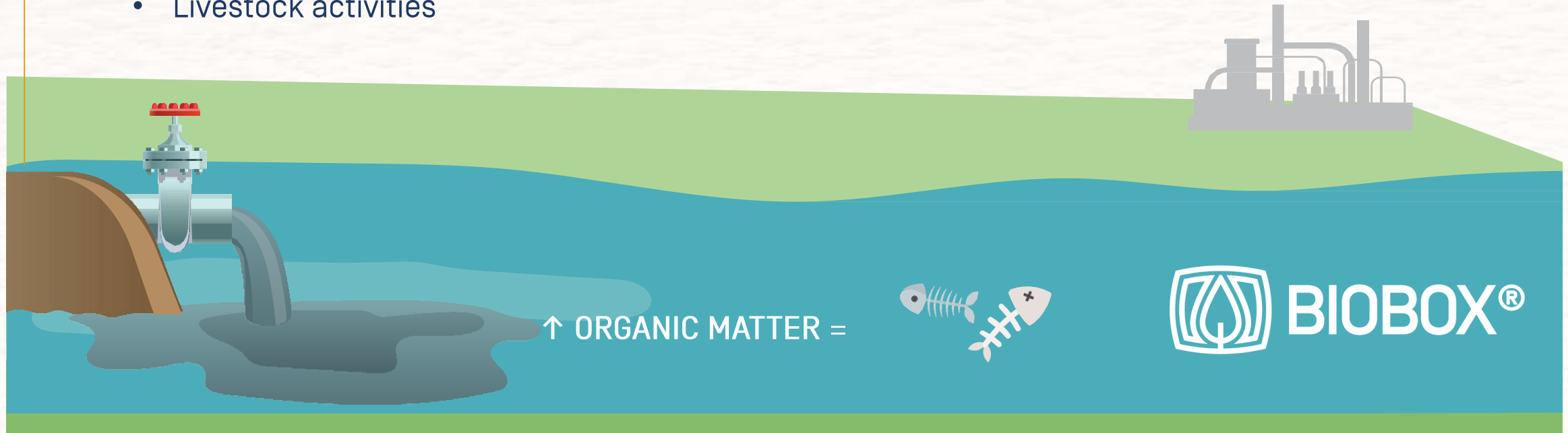
The WHO establishes as limit 1000 mg/L of DBO_5 [Discharge in sewage system] / 25 mg/l of DBO_5 [discharge into public watercourse] in wastewater.

Causes

- Urban runoff
- Agricultural or industrial runoff
- Livestock activities

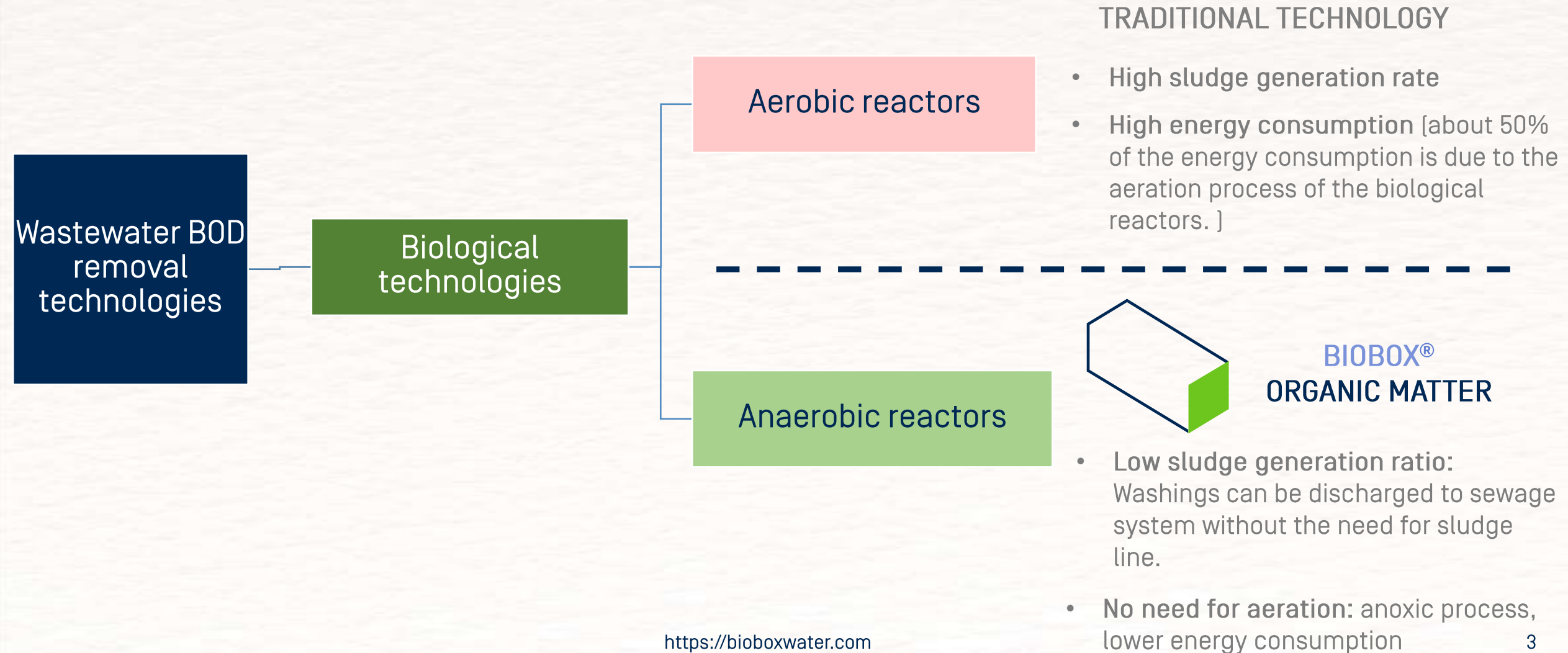


It is necessary to **control these parameters** to ensure good discharge quality and to comply with legal regulations without creating environmental disturbances.



Waters with high organic matter loads

Technologies available on the market



Water with organic matter load

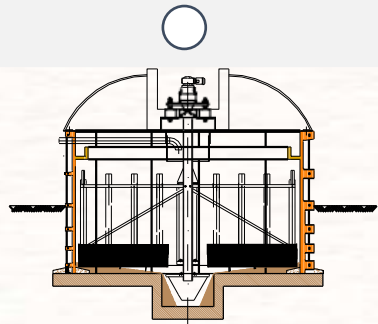
Sludge and sludge generation

The problem of aerobic reactors
High sludge generation rate

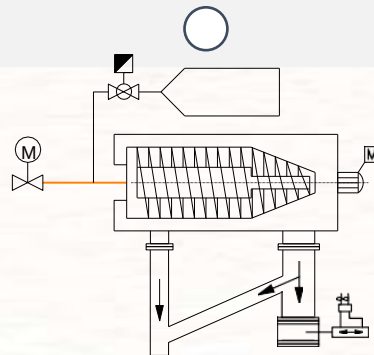
Treating the sludge produced is a very costly problem, especially in plants with a **low organic matter load** [in terms of operating costs, the cost of sludge disposal treatment is very high in relation to the organic matter to be removed].

The sludge must pass through a specific treatment train, be stored, and transport must be contracted for its final disposal.

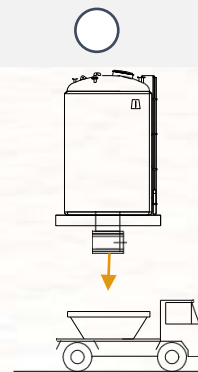
Sludge
thickener



Centrifugal sludge
decanter



Sludge silo



DESCARGA

With **BIOBOX®**
ORGANIC MATTER there is no
need for a sludge treatment line

[↓operating costs ↑ profitability]

BIOBOX ORGANIC MATTER

BIOBOX Technology



1. Introduction

BIOBOX ORIGIN



What is BIOBOX?

The philosophy of BIOBOX focuses on making advanced proprietary technology accessible to all types of companies, which until now has only been available to large plants.

Its approach is centered on solving unique problems and scenarios with customized, cost-effective, automated, and efficient solutions in a minimal space.

Origins of BIOBOX

BIOBOX® is the result of intense research, development, and innovation work backed by years of experience and learning. It works closely with Ingeniería de Obras Zaragoza S.L., thanks to their experience gained in engineering projects and the advanced technology developed by Inngen.io, which integrates into their BIOBOX® plants.



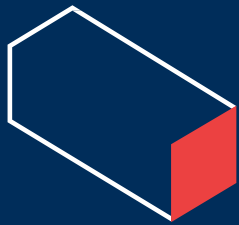
1. Introduction

BIOBOX

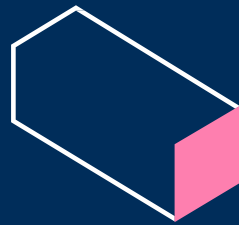


BIOBOX PRODUCTS

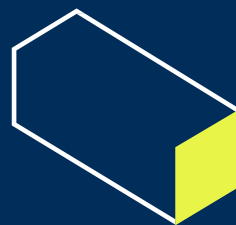
BIOBOX® technology has been implemented to address different types of contaminants present in drinking water, urban wastewater and industrial water.



BIOBOX
NITRATE



BIOBOX
IRON & MANGANESE



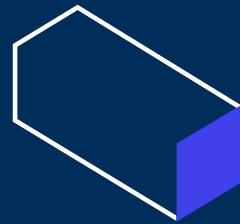
BIOBOX
AMMONIUM



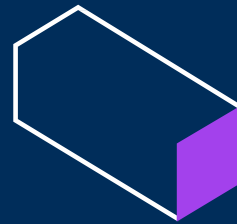
BIOBOX
ORGANIC MATTER



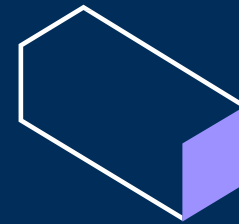
BIOBOX
REUSE



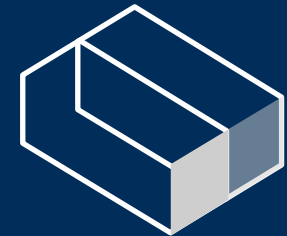
BIOBOX
HEAVY METALS



BIOBOX
PHOSPHORUS



BIOBOX
TURBIDITY



BIOBOX
COMBINED
CONTAMINANTS

2. Products

BIOBOX



BIOBOX FORMATS

We are able to carry out integral projects as well as to adapt to already existing installations.



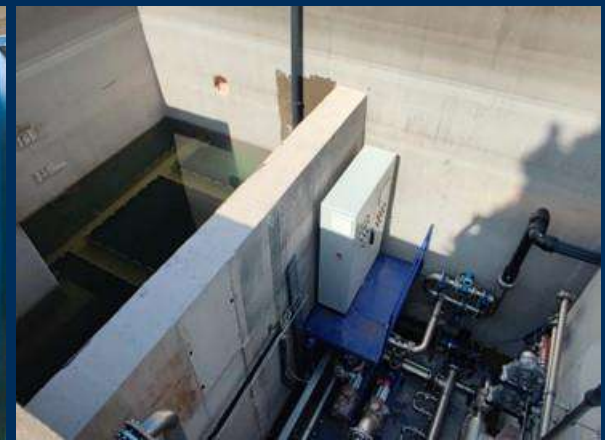
**DEMONSTRATION
SERVICE
(PILOT)**



SKID



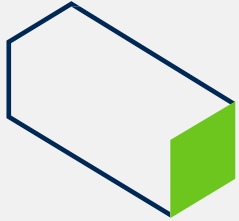
CONTAINER



SPECIAL EXECUTIONS

2. BIOBOX Organic Matter

The technology



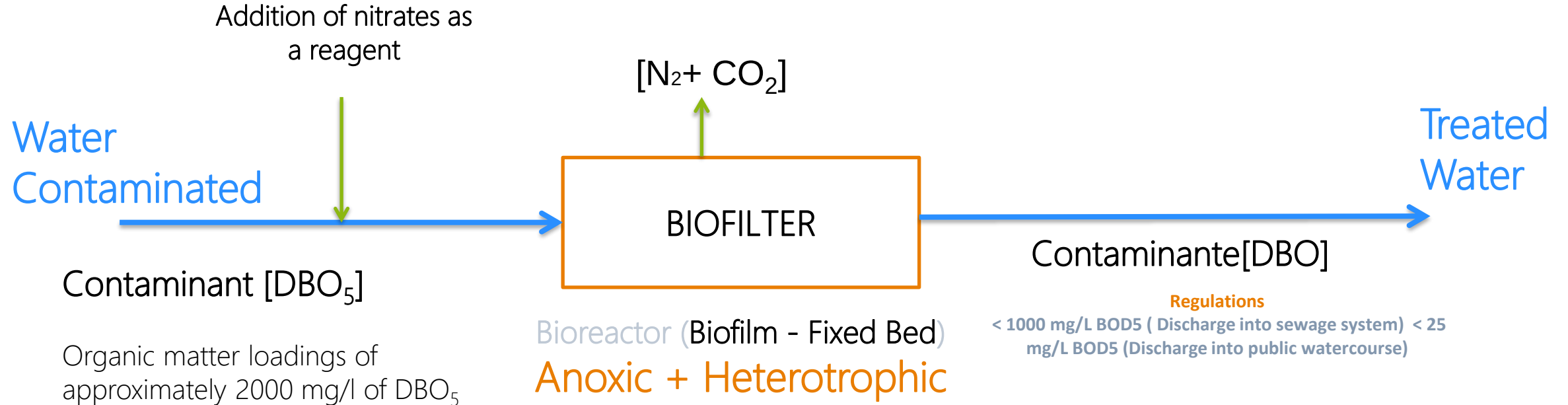
BIOBOX® Organic Matter integrates a proprietary patented technology (**Puremust-SN®**) capable of eliminating the organic matter present, taking advantage of a biological denitrification process in a cost-effective and efficient way. It consists of an **innovative system capable of ensuring a high quality of treated water, which generates little sludge and saves energy in the process.**



2. BIOBOX Organic Matter

The process

The same process that occurs in nature,
intensified and automated.



2. BIOBOX Organic Matter

Advantages of technology



It generates a quality backwash water that you can discharge directly into the sewage system.



Certified by **SGS**



Organic matter removal performance above **95%**.



Improvement of the quality of the water discharged into the natural environment (no traces of nitrates in the treated water and less organic matter)



OPEX around **0,10 €/m³** for each 100 mg/l of DBO₅ removed

2. BIOBOX Organic Matter

Advantages of technology



It is able to work correctly from 7°C of water up to 39°C of water



Lower Hydraulic Retention Time (HRT)
(↓space - ↓investment)



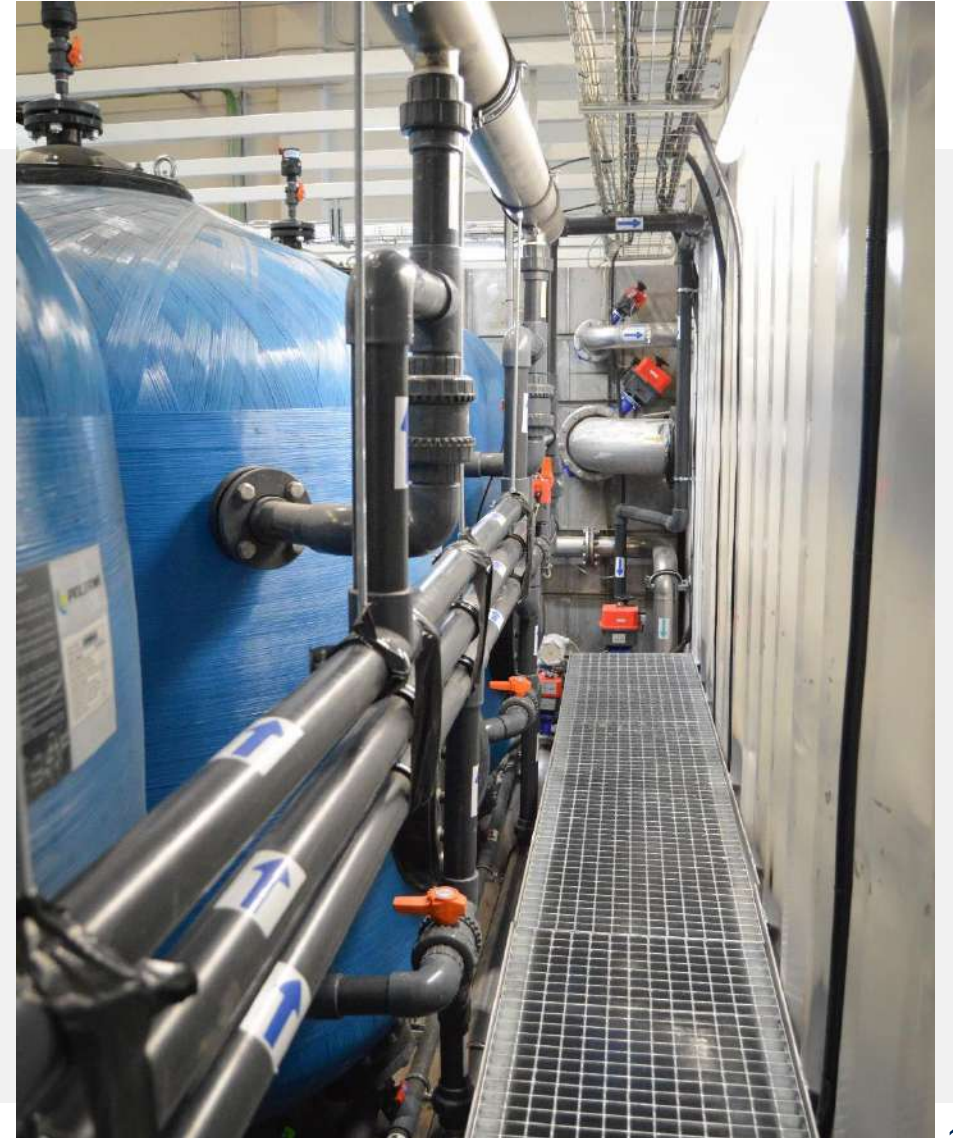
100% automated and remotely controlled plant

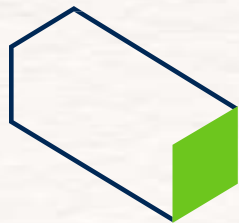


Easy to install



Environmentally friendly solution





BIOBOX®
ORGANIC MATTER

Powered by  Puremust-sn



The keys to the biofiltration process (Puremust-SN®)

1

INTEGRATED AUTOMATION FOR
STAND-ALONE AND REMOTE
OPERATION

2

FILTRALITE as carrier



As a result:

The system is able to work
optimizing process costs, with
safety and low O&M costs.

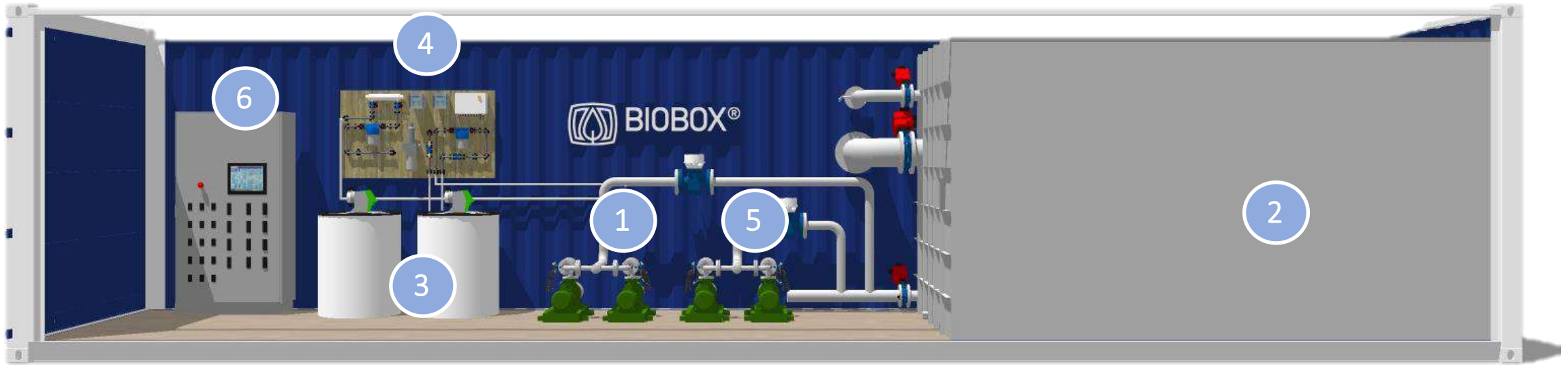
Compact plants due to low TRH, low
CAPEX and **reduced footprint**.
Biofiltration with Filtralite® allows
working at very low temperatures.



2. BIOBOX Organic Matter

Components and design basis

BIOBOX® ORGANIC MATTER



- 1 Pumping unit for the introduction of water
- 2 Treatment line with a single filter for biological organic matter removal
- 3 Automatic chemical dosing system

- 4 Instrumentation panel
- 5 A pumping unit for backwashing.
- 6 An electrical and automation cabinet

2. BIOBOX Organic Matter

Summary



1

Lower Hydraulic
Retention Time [HRT]

↓space - ↓investment

2

Eliminates more
than 90% of BOD.
**No pollutant
rejections.**

3

Works with a fair and
controlled dosage of
nitrates
(no traces of nitrates in the
treated water)

4

100% automated and
remotely controlled

5

Fully tested for
several years

6

Able to work properly from
7° C water to 39° C water.

7



SGS

8

Lowest OPEX and
CAPEX in the market

9

Up to 2,600 mg/l of
biodegradable organic
matter

<https://bioboxwater.com>



Innovative DNA for small and medium flow
rates



THANK YOU!

For more information, please contact:

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<https://biobox-water.com/>



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