



SERVICES+

TOTAL PEACE OF MIND SOLUTIONS



WATERLEAU

protecting the 4 elements



CONTACT

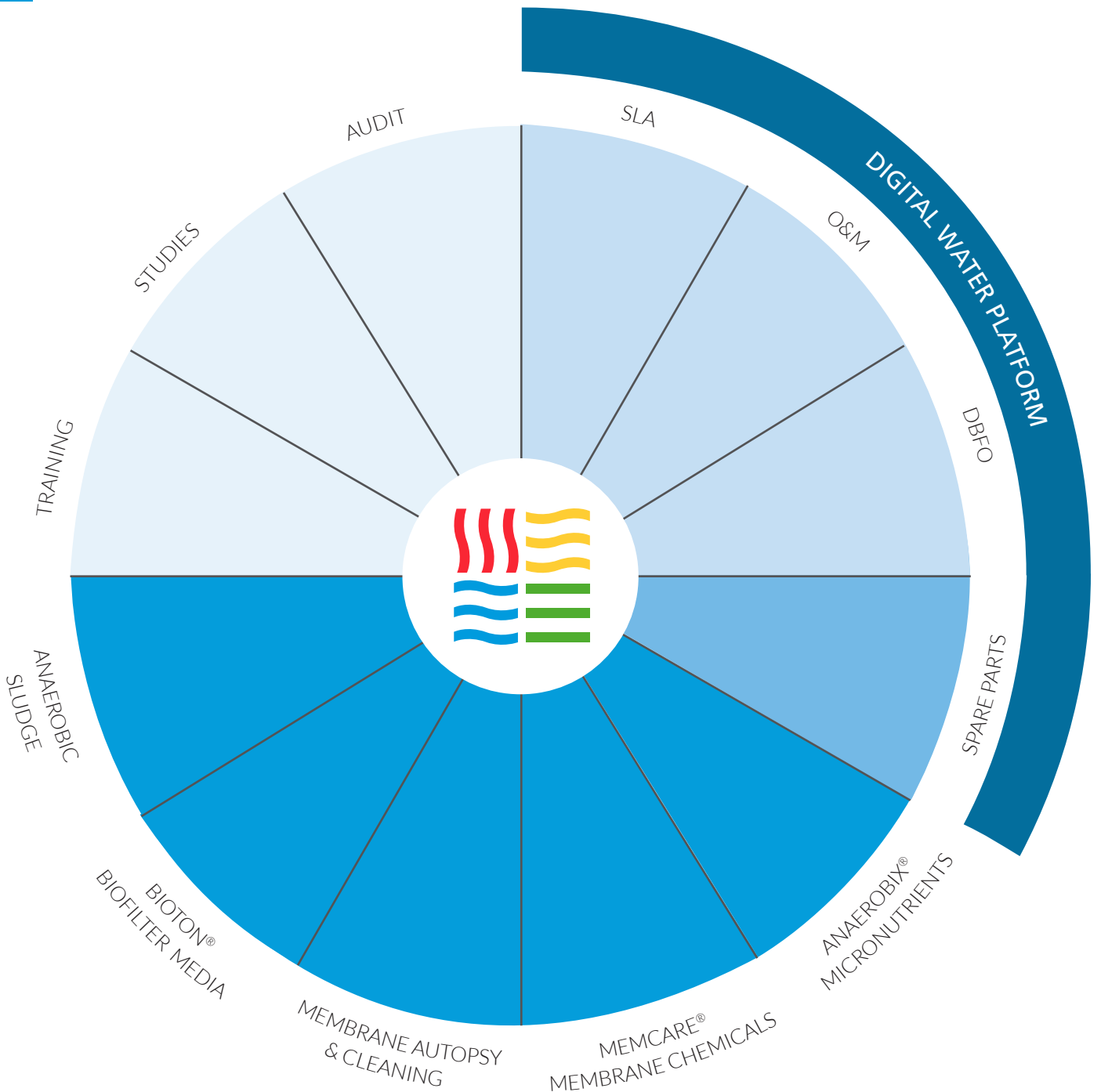
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WATERLEAU SERVICES PORTFOLIO

- CONSULTANCY SERVICES
- OUTSOURCED OPERATIONS
- SPARE PARTS
- CHEMICALS & CONSUMABLES





CONSULTANCY SERVICES

ANALYZE - STUDY - OPTIMIZE

AUDITS, TRAININGS, FEED STUDIES & TREATMENT PLANT ASSESSMENTS



AUDITS

Casting doubts on your water or wastewater treatment plant's performance? Our process audits identify potential problems and help you to reconfigure your plant at its optimal operation set point.

WATERLEAU process experts will get your water or wastewater treatment plant back in perfect condition and advise on quick wins and sustainable improvements. Looking for permanent support? Our Service Level Agreement (SLA) program combines optimal plant performance with total peace of mind.

(FEED) STUDIES + LAB TESTING

Does your wastewater treatment plant need an upgrade? WATERLEAU FEED studies will provide future-proof designs for retrofits and complex upgrades. Prior to construction, new designs can be validated at lab scale through proof of concept testing.

TRAININGS

ON-SITE TRAININGS

Water and wastewater treatment plant's Key Performance Indicators depend largely on the training and qualification of its operators. Our operator-training program comes standard with the project handover. A customized training program is often recommended making sure all operating areas have been covered thoroughly.

ONLINE TRAININGS

Waterleau's online training center is a comprehensive, flexible, updated and cost-effective training program for water and wastewater treatment operators. The online training program is included in our Service Level Agreement (SLA) support. Turn your operators into five star treatment specialists through our 40 comprehensive training video's covering water treatment basics, lab testing, water and wastewater technology as well as hands-on maintenance guidance. Request your account at:

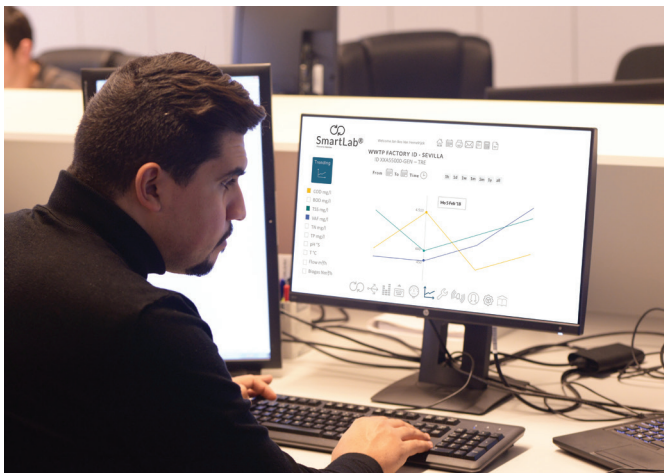
www.waterleau.com/trainings



OUTSOURCED OPERATIONS

SERVICE LEVEL AGREEMENT

DISTANCE SUPPORT FOR MAXIMUM PERFORMANCE
REAL TIME ASSISTANCE FROM OUR HQ CONTROL ROOM



SERVICE LEVEL AGREEMENT (SLA)

An SLA keeps the doctor away. It is WATERLEAU's opinion that a water or wastewater treatment plant will perform at its optimum point when a Service Level Agreement (SLA) with WATERLEAU is concluded.

SLA's are based on a set of Key Performance Indicators (KPI's): threshold values are set for final water quality, chemical and electrical consumption, sludge production and biogas production. An SLA will help you meet the plant's set of KPI's, reducing OPEX and improving the bottom line.

DISTANCE SUPPORT

WATERLEAU can monitor your treatment plant's performance in real time from its central control room. A chat function allows instant support for the site operators.

PROCESS VISITS

Our process engineers are process experts. They have been monitoring and benchmarking KPI's in similar treatment plants and industries all over the world. A five-day visit will allow them to assess your plant's performance and to share learnings, best practices and improvements with your operators. Upon request, process visits can be assessed on a regular bases. A full report is drafted with each visit.

MAINTENANCE VISITS

Our WATERLEAU maintenance engineers will help you to assess the state of your treatment facility. Where needed, they will perform preventive maintenance of key-equipment. Our specialists will also assess your operator's maintenance interventions and provide additional training where necessary. Log records and maintenance sheets will be checked. Special attention will be given to spare parts management. The maintenance report will also include a list of recommended spare parts together with the maintenance report.

For even better performances, SLA's can be upgraded with our digital SmartLab® .



OUTSOURCED OPERATIONS

OPERATION & MAINTENANCE

STAY FOCUSED ON YOUR CORE BUSINESS
WHILE WE FOCUS ON YOUR TREATMENT PLANT



O&M OUTSOURCING

You are a specialist in production and value creation. We are specialists in water and wastewater treatment. We both excel in what we do. Outsourcing water treatment operations can help you to stay focused on your production efficiency while we can take care of the full operations and maintenance of your water and wastewater facilities.

We are operating and maintaining complex water and wastewater treatment facilities in all continents. More than 200 Waterleau specialists ensure optimal treatment efficiency for clients in all industries.

More and more clients prefer a performance commitment. Why not agree on a fixed price per m³ treated or per Nm³ biogas produced? We are confident to deliver.

FROM AD HOC MANPOWER SUPPLY...

We can supply qualified manpower to operate your plant. Depending on your needs, we can provide manpower ad hoc and follow the installation online, or we can provide a full time operator on site.

...TO FULL O&M

If your option is to outsource the operation & maintenance of your treatment facility, we will commit to the plant's performance and will take care of hiring the qualified labor, supplying original spare parts, membranes, filters, as well as chemicals (ANAEROBIX®, MEMCARE®). A performance-based commitment can be agreed on based on a EUR/m³ engagement or similar.

A full O&M agreement includes our cloud based and digital SmartLab® asset management tool ensuring top efficiency: less downtime, higher reliability, lower operational costs, reduced maintenance as well as reduced chemical and energy consumption.



OUTSOURCED OPERATIONS

DBFO – BO(O)T – MOBILE WATER

WATER AS A SERVICE:
SPEND NO CAPEX, PAY PER CUBIC METER



WATER AS A SERVICE

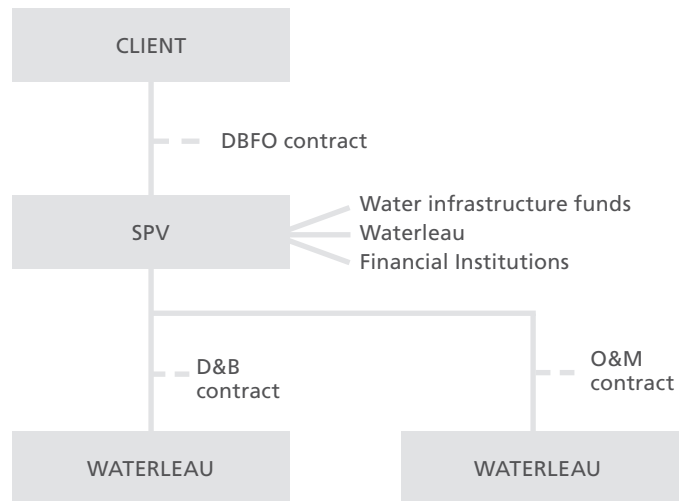
Want to keep the CAPEX for value creation rather than for water or wastewater treatment capacity expansion? WATERLEAU will build, finance and operate your treatment plant shifting your CAPEX into OPEX.

WATERLEAU can Design & Build (DB) your water or wastewater treatment plant and take care of its Operation and Maintenance (O). We can even provide the necessary funds (F). For such DBFO project a Special Purpose Vehicle (SPV) is created.

MOBILE WATER

Mobile water services can be deployed for emergencies, to meet temporary increased treatment needs or for long-term lease. Contact us for more details on our mobile fleet, available 24/7.

SPV SETUP

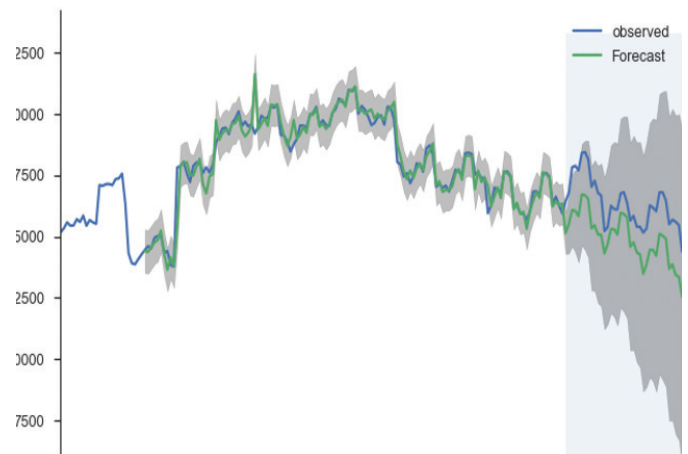
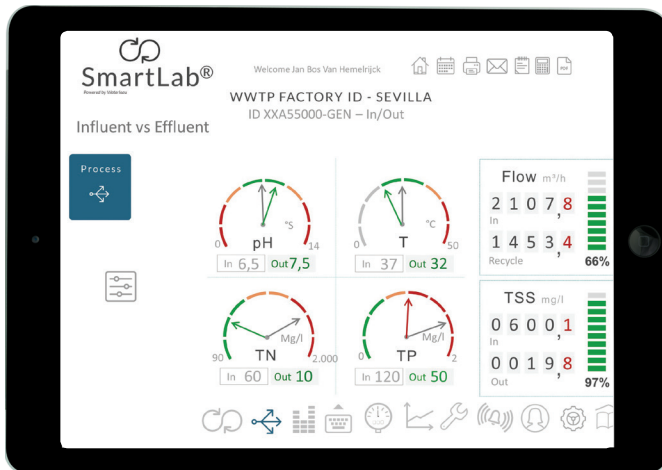




DIGITAL WATER PLATFORM

SMARTLAB® DASHBOARD & AI

SMARTLAB® A DIGITAL DASHBOARD AND AI TO INCREASE RELIABILITY AND PERFORMANCE



SMARTLAB®

The Industrial Internet of Things (IIoT) connects and collects data from probes, pumps, sensors, lab reports, SCADA and countless other data generating sources from plant operations. Our cloud based SmartLab® asset management tool transforms big data into an easy to use visual management application and comprehensive dashboard.

Relying on our vast expertise in water and wastewater treatment, Waterleau experts have designed intelligent algorithms adding artificial intelligence to these cloud based data flows, improving the decision-making process and overall plant performance. Available 24/7, based on real-time big data and AI enabled, our SmartLab® management tool becomes a powerful asset in improving plant performance.

Waterleau embraces digitalization, big data and artificial intelligence. Our SmartLab® management tool is key in our differentiation from competition. It will considerably improve your systems efficiency and support you in making the right business decisions.

DIGITAL DASHBOARD

SmartLab® transforms your complex process facility into an easy-to use management dashboard. Stay connected anywhere, anytime and on any device. From your car or meeting room, our cloud based asset management tool will keep you updated 24/7 on your treatment plant's performance: real time monitoring, KPI's & trending, alarm notifications etc.

ARTIFICIAL INTELLIGENCE

Our experts have designed intelligent algorithms using historic data to generate predictive data. Whenever the observed data deviates significantly from the forecasted data, an alarm is generated and preventive instead of corrective actions are triggered automatically. As such, your wastewater treatment plant is becoming even smarter than its operators.



SPARE PARTS

SPARE PARTS MADE EASY

ENSURE YOUR PLANT UPTIME BY HAVING SPARE PARTS AVAILABLE
WATERLEAU QR SCANNING - SPARE PARTS ORDERING MADE EASY



WHY?

The availability of spare parts guarantees maximum uptime of your water or wastewater treatment plant. Having the right spares in stock will eliminate downtime and extends the plants overall lifetime.

WATERLEAU can organize your spare parts management and ensure all critical spares are always available. Need spares urgently? Contact our after-sales team. We will help you get back in business in no time.

SMARTPART® SPARE PARTS MADE EASY

Our digital spare parts app SmartPart® allows QR Scanning of individual TAG Plates. The part's QR code refers to a unique link in our WEP database (WATERLEAU Engineering Platform). All spare part information becomes instantly available. The QR Scanning service is available in combination with a Service Level Agreement (SLA).





CHEMICALS & CONSUMABLES

ANAEROBIX® MICRONUTRIENTS

ANAEROBIX® MICRONUTRIENT MIX
FOR OPTIMAL ANAEROBIC BIODEGRADATION AND YIELDS



ANAEROBIX® MICRONUTRIENTS

WHY

Very often minerals and trace elements in the raw water are unbalanced. Waterleau ANAEROBIX® Micro-nutrient mix provides most essential minerals and trace elements for optimal anaerobic microbiological degradation. This will maximize COD removal and biogas production.

ADVANTAGES DURING START-UP (DOSING 2-3 L/TON COD)

Reduce start-up time

ADVANTAGES DURING OPERATION (DOSING 0,2-0,3 L/TON COD)

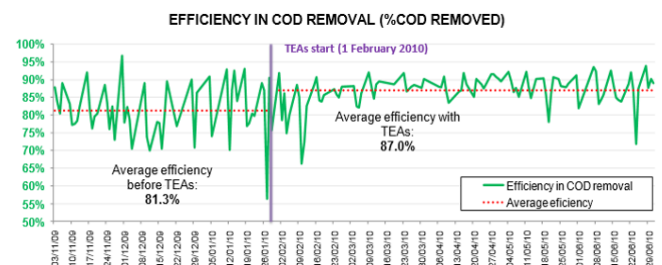
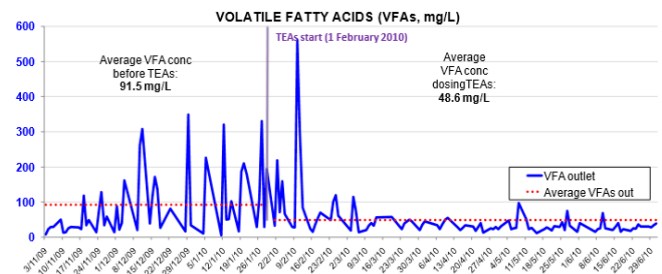
- Higher COD removal rates
- Increased methane production
- Lower VFA residuals in the reactor
- Higher reliability in case of calamities

CASE STUDY HEINEKEN SEVILLA

Anaerobix Micronutrients dosing at 0,25 L/ton of COD

- Avg. VFA concentration in reactor dropped with 88%
- Avg. COD removal efficiency increased from 81 to 87%
- Specific biogas production / kg of COD removed increased by 13%

CASE STUDY RESULTS





CHEMICALS & CONSUMABLES

MEMCARE® MEMBRANE PROTECTION

MEMCARE® ANTISCALANT & CLEANERS FOR OPTIMAL MEMBRANE EFFICIENCY



MEMCARE® ANTISCALANT

WHAT

MEMCARE® is the optimal product for high silica waters. It is most efficient against carbonate and sulfate scales but also for the elimination of hardness and iron. MEMCARE® 3001 retards the precipitation of silica and hardness salts and as such increases their effective solubility.

APPLICATION

The dosage of MEMCARE® 3001 is usually very low, in the range of 0.5-4.0 mg per liter, although the correct treatment level depends on temperature, pH-value and chemical characteristics of the raw water.

SLA

Within an SLA agreement, WATERLEAU will continuously monitor and advise on the optimum dosing rate to keep your membrane system in top condition.

MEMCARE® CLEANERS

WHAT

MEMCARE® 1001 is an acid cleaner and the optimal product for scale removal caused by the high salt concentration generated by a membrane separation process. MEMCARE® 1001 can be used for all membrane separation processes.

MEMCARE® 2001 is an alkaline cleaner and the optimal solution for removal of biofouling or organic fouling. MEMCARE® 2001 can be used for all membrane separation processes.

APPLICATION

Generally concentrations from 0.5 up to 2.5 % are recommended. MEMCARE® 1001 and 2001 are already highly effective at ambient temperatures but can also be used at higher temperature (30°C) to further increase the cleaning potential.

SUPPLY

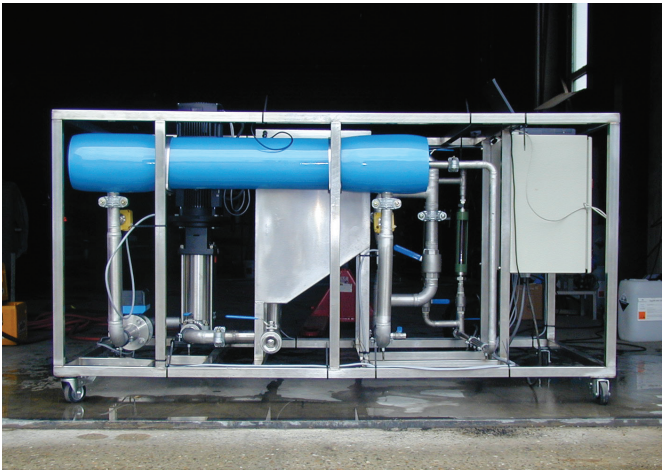
Waterleau's MEMCARE® Products can be supplied in canisters of 20L or IBC's of 1000L.



CHEMICALS & CONSUMABLES

MEMBRANE AUTOPSY & CLEANING OPTIMIZATION

MEMBRANE CLEANING OPTIMIZATION & AUTOPSY SERVICE



MEMBRANE CLEANING OPTIMIZATION

WATERLEAU has developed a small-scale single element CIP unit. This CIP unit allows performing multiple CIP tests on a single 8040 RO or NF membrane element to detect the best suited cleaning chemical or combination of chemicals.

For organic and bio fouling, the lead element is generally subjected to the cleaning tests while for scaling the final element is typically used.

The CIP cleaning optimization can be carried out using a single membrane element, keeping the full-scale system operational during testing. This allows fine-tuning harsh recovery cleanings without endangering the complete membrane set.

Our compact and mobile CIP unit allows cleaning tests to be performed in Waterleau's lab and pilot facilities or even at the client's site.

MEMBRANE AUTOPSY

Membrane autopsies will identify specific foulants (organic and biofouling) and scaling on the membrane surface. They will also determine if a membrane has been chemically or mechanically damaged, help to identify the cause of the problem and even define the solution to be put in place.

A membrane autopsy is often conducted when membranes start underperforming and significant losses in permeate flow or qualities have arisen. Preventive membrane autopsies will ensure membrane system to operate with minimized fouling and scaling, resulting in a higher uptime, lower energy consumption and lower chemical consumption. Membrane autopsies will lower total lifecycle cost.

WATERLEAU Membrane autopsies comprise a general visual inspection, microbiological investigation and a deposit analysis to determine organic, biological and inorganic fouling constituents. A cleaning test is performed to determine the possibilities for recovery cleaning.



CHEMICALS & CONSUMABLES

BIOTON® BIOLOGICAL OXIDATION FILTER MEDIUM

BIOTON GREEN: A SUSTAINABLE & HIGH EFFICIENCY FILTER MEDIUM FOR VOC & ODOR REMOVAL



BIOTON®

BIOTON® biofilter medium is WATERLEAU's proprietary technology for the treatment of polluted air containing volatile organics carbon, nitrogen or sulphur-based compounds.

The BIOTON® biofilter process uses a fixed bed of a well-defined suitable mixture of inorganic / organic media, which contains micro-organisms used to oxidize the volatile organics, nitrogen and sulphur based compounds contained in a polluted air stream.

The pollutants are first transferred from the gas phase to the water phase, and then to the biofilm attached to the BIOTON® medium, where they are oxidized by the micro-organisms.

The main advantages are a low operating cost, high VOC and odor destruction, an environmental friendly solution. There are more than 100 successful BIOTON® references in Europe alone.

APPLICATIONS

- Flavors and fragrances industry
- Industrial and municipal wastewater treatment
- Waste handling
- Composting
- Tobacco
- Solvent users
- Food processing
- Chemical manufacturing
- Solvent-based printing

BIOTON® GREEN

The new-patented BIOTON® Green medium is an updated and sustainable mixture of stabilized compost and PLA (Poly Lactic Acid, a biopolymer), which decomposes at high temperature and can be disposed of safely at life end.



CHEMICALS & CONSUMABLES

GRANULAR ANAEROBIC SEED SLUDGE

ANAEROBIC GRANULAR SLUDGE FOR STARTUP, MAINTENANCE
DISRUPTIONS OR SYSTEM UPSET



ANAEROBIC SLUDGE

WATERLEAU is a top-3 player in the field of anaerobic wastewater treatment globally, offering a complete range of adapted anaerobic reactor types, capable of treating wastewater and biosolids with different organic loads and dry matter contents.

Anaerobic treatment is based on complex microbiological processes, in which the organic pollution in the water is transformed into a mixture of methane (CH_4) and carbon dioxide (CO_2), called biogas.

Two major advantages of anaerobic wastewater treatment explain its progress at the expense of the classic aerobic activated sludge treatment: first of all the production of biogas which can be used for electricity production and/or heating purposes, and second a sludge growth which is significantly less compared to aerobic treatment.

Anaerobic Granular Sludge is therefore a valuable product, which is required for the startup of every new anaerobic reactor.

APPLICATION

Anaerobic Sludge is used to accelerate the start-up of your anaerobic reactor by inoculating concentrated granular anaerobic mesophilic sludge with a high methanogenic activity. Typical applications are:

- Startup of a new plant
- Capacity extension
- Anaerobic Reactor System upset
- Anaerobic Reactor Maintenance

QUALITY CONTROL

WATERLEAU has an in-house laboratory which is able to quickly validate the methanogenic activity, the granule diameter and the sedimentation velocity of granular sludge.

AVAILABILITY

With a worldwide network of more than 400 anaerobic reactors, WATERLEAU can supply granular anaerobic seeds sludge anywhere in the world, limiting the transportation cost to a minimum.

MAXIMISE PERFORMANCE,
MINIMISE COST.
BUY PEACE OF MIND WITH
SERVICES+

DESIGN
ENGINEERING
CONSTRUCTION
OPERATION
MAINTENANCE
SERVICES
RENTAL

PROTECTING THE 4 ELEMENTS



We all have the responsibility to handle our natural resources in a careful and sustainable way. Waterleau develops environmental technologies and offers sustainable solutions for water, air and waste treatment, as well as for energy recovery. As an EPC contractor and operator, Waterleau counts more than 2000 references for municipal and industrial clients around the world.



WATERLEAU

protecting the 4 elements

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