



Leachate Treatment Plant

Microbiology At Work



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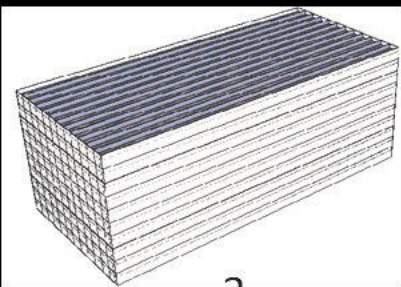
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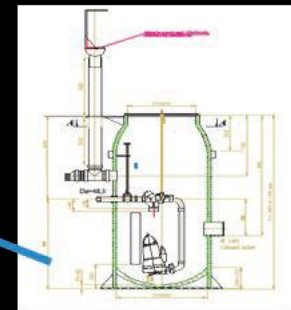
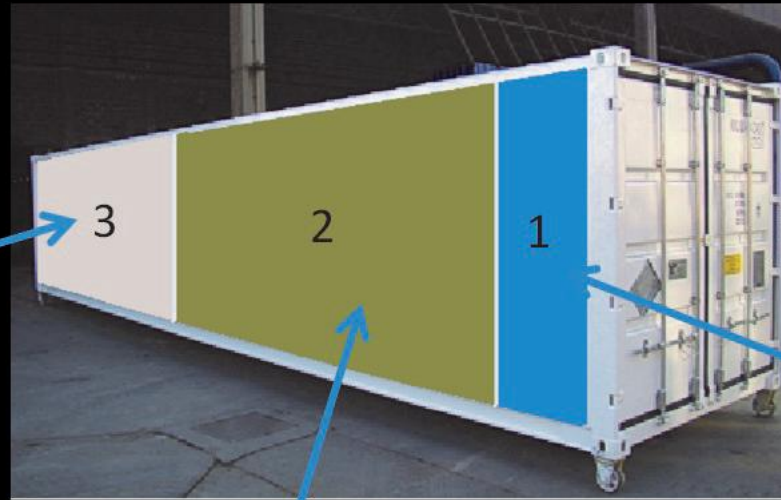
Distribution list:

The Plant

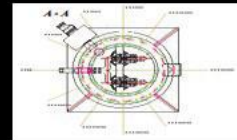


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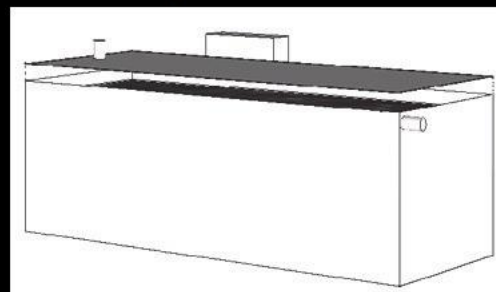
Bio-filter Tray Section



Grundfos DH300-2 Pump
PHD-300-2-DN40-2000-3500



1
Pump Section



2

Hydrolysis and Additive Dosage Section

Our Technology

Our technology provides the most effective and economical technology for Waste Water Treatment (WWT).

- Dramatically exceeds performance of SBR processes at a fraction of the competitors cost;
- No O₂ or aeration required;
- Employs novel technologies for filtration, biological nutrient reduction and odor elimination in a very small footprint;
- Accomplishes nitrification/de-nitrification in an Anaerobic Digestion (AD) process;
- Produces effluent which meets EU discharge requirements;
- Very little maintenance, personnel or equipment required;
- Low Retention Time (4-5 hours);
- Solves the problem of ammoniacal nitrogen (NH₃-N) via biological ion exchange.

Effluent

Effluent is:

- Safe for re-cycling as industrial process water;
- Safe for release into drains or watercourses.



Multiple modules can be installed in parallel or in series to achieve high flow rates and treatment capacities.

No further wastewater treatment is required!

Provides a technological leap in leachate treatment.

How It Works – Enhanced Filtration

Our plant bio-media is packed into the bio-filter and offers the following attributes:

- Physical filtration capacity which exceeds that of activated charcoal or other filtration media - without the replacement requirements
- Exponential surface area increases for anaerobic bacteria culture growth - 1 km² of surface area for every m² of media!

Our plant bio-media is volcanic, natural stone which is chemically and biologically inert. It is 97% silica and is especially porous, light-weight, and robust. Due to its vulcanization, it does not compress and acts to prevent clogging. Most importantly, it “shelters” microorganisms in its vast surface area and allows for exponential increases in numbers of bacterial “workers”. These bacteria keep the media clean - consistently regenerating the surface area of the system.

How It Works – Anaerobic Digestion

Anaerobic digestion (AD) uses microbial action to digest and detoxify leachate. While AD is one of the central technologies used in wastewater treatment, it is thought to be ineffective in treating leachate... until now. Our process promotes anaerobes which digest the toxic components of leachate, putting the nitrogen cycle to work by creating a huge bacterial culture. We have developed a number of innovations which speed and protect the performance of AD microorganisms. This overall stabilizing effect means rapid, problem-free, efficient decomposition of leachate.



How It Works – Biological Ion Exchange

Our system provides an ion-exchange mechanism. The negative charge in the Waste Water Treatment Plant (WWTP) offers" negative ions to cation (positively-charged) elements in the water (ammoniacal nitrogen, hydrogen sulfide...). This ion-exchange capacity over-comes the NH₃-N₃ stumbling block in leachate treatment and invites biology back into the process so that AD is effective.

We are at the forefront of waste treatment technology via the biological ion-exchange capacities of our products.



How It Works – Marine Algae Additive

Our unique marine algae suspension feeds and protects the microorganisms which do the work.

Our system is:

- Highly-efficient under any environmental conditions;
- Self-cleaning;
- Capable of handling high nutrient loads;
- Eliminates need for sludge handling.
- Low cost;
- Decentralized;
- Small footprint;
- Odor-free;
- **GREEN**

