PTE
POLISHING PROCESS

SOLUTIONS
- INDUSTRIAL

LEACHATE TREATMENT SYSTEM

Premier Tech
Environment

DESCRIPTION

The system may include one or two serial polishing stages, depending on the organic loading rate and the effluent quality to achieve.

The process is especially suited for polishing landfill leachate that has undergone primary treatment in a series of anaerobic and aerobic lagoons.

It may also be used to polish other types of leachate (composting, bark, etc.) including industrial wastewater.

FEATURES

- Meets effluent quality criteria (BOD_5, SS, COD, NH_4, iron, fecal coliforms, phenols, etc.)
- Steady performance regardless of variations in leachate/wastewater quality
- Long-term treatment efficiency
- Simple process that provides nitrification (NH_4 removal)
- Integration with existing systems

COST-EFFECTIVE AND EASY OPERATION SOLUTION

PTE has developped a complete line of decentralized wastewater treatment products and services. The polishing process PTE is based on the principle of aerobic biofiltration using a percolating filter bed.

SIMPLE AND EFFICIENT OPERATING PRINCIPLE

TWO-STEP POLISHING UNIT (NEW LEACHATES)

For more recent leachates that are very loaded and easily biodegradable, the polishing process consists of two sequential steps: the first one is composed of factory-built biofiltration units with composite filtering media coupling synthetic (textile) and organic (peat) layers placed in a layout allowing high oxidation capacity of carbonaceous and nitrogenous pollution.

The second polishing step consists of an organic filtering media ensuring an excellent residual pollutants removal.

For both approaches, the water to be treated is distributed on the biofilters via a low pressure distribution system with passive aeration of the filtering media.

ONE-STEP POLISHING UNIT (LONG-STANDING LEACHATES)

For long-standing leachates that are not easily biodegradable, the polishing process consists of one or more organic filter beds. Wastewater to be treated is distributed on the filtering peat-based media via a low pressure dosing system equipped with deflector plates.

APPLICATIONS

Industrial

- Landfill leachate site (LES and LET)
- Composting site
- Other industrial sites generating leachates


Industrial application

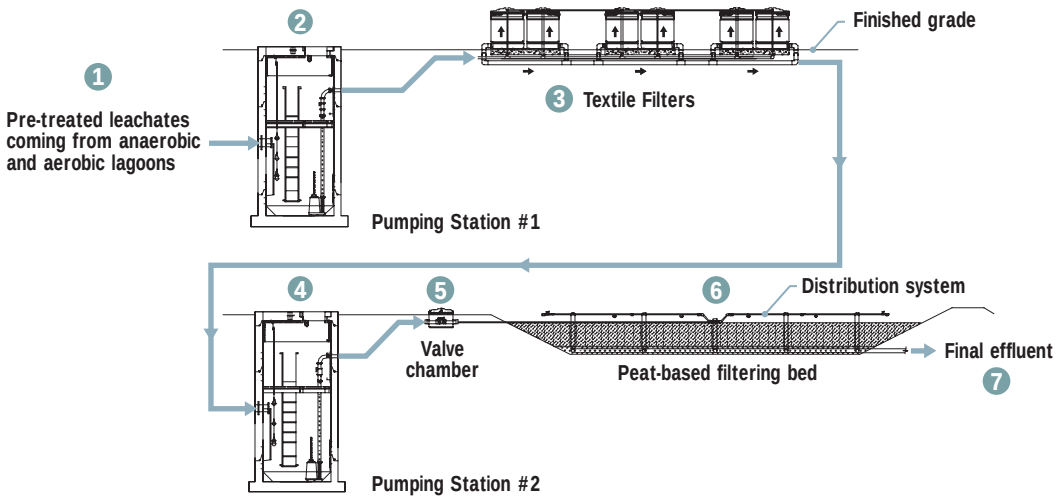

Stocking lagoons


Textile Filters


Organic filter bed

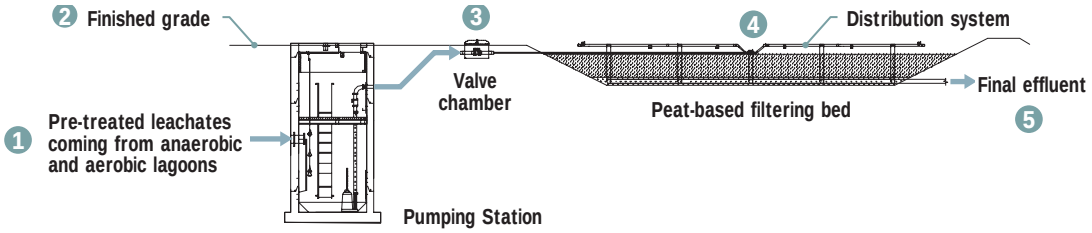
POLISHING PROCESS TREATMENT SYSTEM

TWO-STEP POLISHING UNIT (NEW LEACHATES)



1. Previously treated leachates by a series of anaerobic and aerobic lagoons.
2. Factory-built pumping station including one or several pumps working alternately.
3. The first polishing step consists of cells of Textile Filter units with composite filtering media allowing high pollutants oxidation.
4. Factory-built pumping station including one or several pumps working alternately.
5. Mechanical or manual valve chamber allowing isolation of each polishing field.
6. The second polishing step consists of one or more peat-based filtering beds ensuring residual pollutants elimination.
7. Effluent final disposal towards a watercourse or a ditch.

ONE-STEP POLISHING UNIT (LONG-STANDING LEACHATES)



1. Previously treated leachates by a series of anaerobic and aerobic lagoons.
2. Factory-built pumping station including one or several pumps working alternately.
3. Mechanical or manual valve chamber allowing isolation of each polishing bed.
4. Polishing bed composed of a peat-based filtering media on which wastewater is distributed via a low pressure dosing system.
5. Effluent final disposal towards a watercourse or a ditch.

TREATMENT LEVELS ACHIEVED BY SINGLE AND TWO-PHASE POLISHING SYSTEMS

	LEACHATE CONCENTRATION (mg/l)					
	BOD_5	COD	NH_4	TSS	FE	FEC. COL. (CFU/100ml)
SINGLE-PHASE PROCESS						
Inflow*	50-120	250-500	50-100	30-60	5-10	1 000-20 000
Effluent**	< 10	200-300	10-20	< 10	< 1	< 100
TWO-PHASE PROCESS						
Inflow*	100-300	500-800	100-150	50-100	10-15	10 000-100 000
Effluent**	< 10	200-300	10-20	< 10	< 2	< 100

* Leachate pre-treated in a series of anaerobic and aerobic lagoons
** Performances may vary in accordance to leachate concentration

SO MANY MORE ADVANTAGES

- **AMMONIACAL REMOVAL**
- **PASSIVE DISINFECTION (COLIFORMS REDUCTION)**
- **MODULAR CONSTRUCTION, SYSTEM CAN BE EASILY EXPENDED AS NEEDS GROW**
- **CONTROLLED DESIGN FLOW OF 5-200 M^3/D (1,000 TO 50,000 GPD)**
- **LOW ENERGY CONSUMPTION**
- **EASY AND ECONOMICAL MAINTENANCE AND OPERATION (NO INJECTION OF CHEMICAL PRODUCTS)**

IT'S GUARANTEED:
THE BEST SERVICE ON THE MARKET

When you buy a **PTE** solution, you don't just buy a product, you get true piece of mind. In addition to offer reliable and efficient solutions, **PTE** assures you an incomparable technical support before and after the purchase of a technology. A specialized team of engineers, agents, technicians and coordinators is available to answer all your questions and give you the technical support needed for your commercial and communal projects: choice of appropriate technology (recommendation following the study of flow and charges to treat), collaboration to plans and quotes, presence on the field to assure installation quality, unparalleled after-sales service, required environmental follow-ups carried out by our team and many more.

The peat-based filtering beds and the other components are guaranteed for a period of 2 years against all manufacturing fault.

Premier Tech is a company with over 80 years of experience in its field with more than 1,500 team members of which 175 work for **Premier Tech Environment** (PTE).

Internationally renowned, as much in Canada and the United States, as in Europe and Asia, PTE operates in the field of decentralized wastewater treatment for the residential, commercial, community, municipal and industrial sectors. PTE is considered a leader in its field through its innovative approach and its different technologies commercialized for the last 30 years.

PTE consolidates its services and local partners in an efficient network that brings peace of mind to its users, just as if they were connected to a municipal sewer system.

PTE coordinates its activities around three divisions:

- The **Residential division** offers an array of solutions for small flow rate applications for individual homes. This division supports a network of over 1 000 service providers through a complete training and marketing program and a multidisciplinary technical support.
- The **Municipal, Commercial, Community and Industrial division** (MCI) concentrates on larger flow rate and high strength applications with its team of engineers specialized in advanced biological treatment technologies; this division competes on the national and international markets by offering cost-effective solutions.
- The **Service division** is responsible for the entire technical support of all PTE technologies.

To learn more, to plan your construction or your renovation or to contact your local installer, contact us.

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