

# Leachate treatment



## Leachate treatment

Domestic waste, has been / being placed on communal landfills, contains highly concentrated biodegradable organic materials. Treatment of leachate - arising from its moisture and rainfall – is difficult due to its unstable characteristics, high organic and ammonia content, but is essential to avoid huge environmental risks.

Pureco provides turn-key, containerized leachate treatment units, equipped with the latest technological development with the so-called Spacer Tube Module® (STM) operating with Reverse Osmosis technology, installed after suitable pre-treatment steps.

Making the technology available in container means transportable, complex, easy to install solution for purifying the dirtiest water of human consumption.



technological development  
compact solution  
containerized system  
membrane technology

## Advantages of the STM®

The main advantage of these STM® is the large surface area of the membranes, compared to the disc membranes accommodated in the same sized membrane vessels. The larger surface area ensures lower membrane flux (ltr / hr / m<sup>2</sup>) at identical flow rate, or the possibility pressing higher flow rate through the membrane at constant membrane flux.

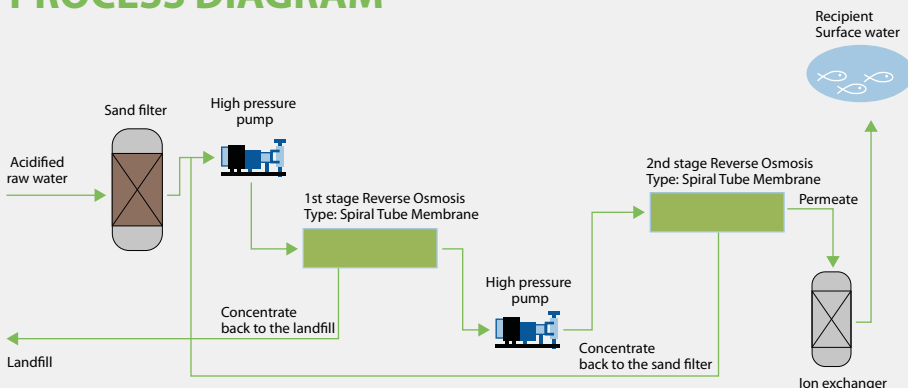
Due to this phenomena, the RO membrane cleaning becomes less frequent and therefore the cleaned water yield is significantly increased.

## Main Technological Steps of Pure-RO/LWTC

- Sand filtration to remove coarse TSS particles
- Cartridge Filtration to remove the fine TSS particles
- STM® designed in one, two or in three-staged configuration depending on the discharge and influent parameters
  - RO membranes allow high organics concentration in the feed flow
  - Possible to operate between 60 – 90 bar pressure within fiberglass housing
  - Concentrate minimization at 120 bar pressure within stainless steel housing (concentrate stage)
- Instead of NaOH dosing, CO<sub>2</sub> de-gassing is applied to increase the effluent pH
- Ion exchanger might be applied, in order to remove the majority of the remaining ammonia and CaCO<sub>3</sub> from the RO concentrate
  - Regeneration of the resin (filling material of the ion exchanger) is possible to be done on spot

As dedicated in our activities of environmental protection with the creation and conservation of a liveable and clear natural environment in mind, we developed our technology for leachate treatment in a complex and sustainable way.

## PROCESS DIAGRAM



## Membrane advantages:

- No sludge generation from pre-treatment process
- High rejection of contaminants such as COD; BOD; TDS & heavy Metals etc.
- Large surface area of membrane
- Greater resistance to scalling and fouling
- Low space requirement
- Low flux

Partner in production

