

## Leachate treatment with SPM Modules

Exclusive system for the purification of contaminated water

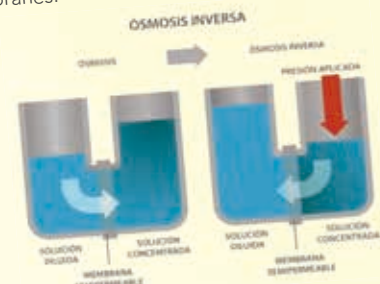
Leachates are one of the most polluted and complicated waters to treat that we can find in landfills. For its treatment, **Dim Water Solutions uses reverse osmosis membranes**, capable of retaining this type of contaminant. These are **modules in horizontal arrangement**.

### Advantages and benefits

- **Easy maintenance.** It does not need periodic checks.
- **Quick installation and start-up**
- Our systems allow **to treat leachates of low, medium and high load, retaining all the salts and contaminants**, leaving the water suitable for other uses.
- **Prevents rapid soiling and reduces the risk of clogging of the membranes and their washing cycles.**
- **Longer life of the membrane module.**
- **Saves time, energy and water** between washings.
- **Mobile units for easy transport and assembly.**

Polluted waters, in our case leachates, are solutions made up of molecules, salts and other solutes from different origins.

Reverse osmosis is a specific case of separation of substances contained in a liquid through the use of membranes.



The SPM module is designed for application in the field of contaminated water, giving special attention to landfill leachates due to their special characteristics. Its design has been **a task of many years of research**, since conventional membrane technologies, due to their configuration, prevented **the use of the reverse osmosis technique** with such a charged liquid. Now, that problem we have solved.

A fluid dynamics has been created that reduces the incrustations on the membrane and facilitates cleaning tasks (essential for its application). The SPM module **combines the advantages of the spiral module (larger membrane surface) and the disk module (open channel for cleaning)**.

We use a dynamic separator in parallel between the different layers of membranes (flexible open channel separator). In addition, the SPM module has other improvements, such as the use of a membrane that offers a **higher permeability (25%)** than conventional membranes, and allows cleaning at temperatures above 40°, making them **more effective**.

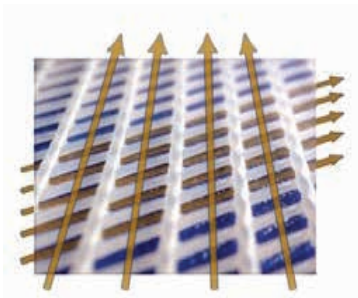
## Why extract and treat leachate from landfills?

- **Increase in the volume of the landfill**, being able to increase the waste capacity.
- **More capacity to generate biogas.**
- **It favors the compaction of waste in the landfill** and avoids the instability of it.

The SPM module is the core of the purification plants. **The module is powered through a dual channel.** The superposition of the two feed channels is specifically designed to combine the advantages of open channel technology and a higher density of membrane surface packing per module. The current through the membrane flows equally through two feed channels at an angle of 45°, **this generates high turbulence and cutting forces that reduce fouling.**

### Technical characteristics

- Suitable for any type of wastewater and leached.
- High permeability It supports higher temperatures.
- Direct treatment High recoveries of permeate.
- Large membrane surface per module: 25 m<sup>2</sup>
- Long-lasting open channel modules.
- Low load losses and low differential pressures.



Modules with 45° channels



Interior views Membranes



### Success stories



Landfill leachates



Waters with high organic load



Mining industry



Contaminated water

**Dim Water Solutions: the union between engineering and manufacturing**

We manufacture all the equipment designed by our Engineering Department