



### Seal-less pumps enable pioneering process to turn landfill wastewater to drinking water quality

Wanner International's seal-less pumps are enabling the production of effluent water with drinking water quality from a contaminated landfill site. Wanner has supplied three, T100 ultra-high-pressure reverse osmosis (RO) process pumps to APATEQ, manufacturers of custom water treatment systems.

APATEQ required high-pressure pumps for a part of their 5 RO stages for processing leachate<sup>1</sup> at a treatment plant run by the largest private landfill owner in Sicily, Italy. Using APATEQ'S pioneering processes, the contaminated water from the landfill site is turned into drinking water quality providing invaluable cost savings and environmental benefits by reducing the high cost for transport and treating of the leachate at an external facility on the Italian mainland.

Ulrich Bäuerle, Chief Technology Officer, at APATEQ said: "We have decades of experience in the water and wastewater business and global industrial product manufacturing and commercialisation. Our corporate and technical teams are comprised of dedicated experts that aim for environmental protection and water conservation. As Hydra-Cell pumps have proven reliability, this provided the ideal solution for use with our smart water treatment systems".

Paul Davis, Managing Director at Wanner International said: "We were delighted that the proven reliability of our Hydra-Cell RO pumps helped APATEQ to provide a complete solution to help reduce overall costs for their customer as well as being part of APATEQ's innovate and pioneering water treatment systems to help tackle the ongoing waste problems and impact on the environment".

APATEQ's Ultrafiltration pre-treatment removes approx. 100% of suspended solids and microorganism from the contaminated water. There is then a post treatment with a 3-stage reverse osmosis to treat the UF permeate, which removes the rest of the dissolved salts and other solubles. The effluent water is purified enough to achieve drinking water quality. Two additionally high pressure reverse osmosis systems will be used for to reduce the volume of the first reverse osmosis stage brine flow.



Wanner's Hydra-Cell pumps are running up to 10 m<sup>3</sup>/h @ 120 bar (1740 psi) at the two high pressure reverse osmosis systems and up to 15 m<sup>3</sup>/h @ 80 bar at the reverse osmosis stage 1.

When processing a high concentration of chloride in the process liquid, the seals and packing in competitor pumps will deteriorate very quickly. The seal-less design of the Hydra-Cell pumps reliably handle corrosive liquids eliminating unplanned downtime and reducing maintenance costs associated with the need to replace expensive seals and packing.

Hydra-Cell's seal-less pump design ensures that the T100 can reliably handle liquids containing particles from 0.1 to 800 microns, and more abrasives with less wear than on axial piston or plunger pumps.

[www.hydra-cell.co.uk/ROpumps](http://www.hydra-cell.co.uk/ROpumps)

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<sup>1</sup> water that has percolated through a solid and leached out some of the constituents.

*Notes for editors:*

- Clean-tech innovator **APATEQ** provides green and cost-efficient one-stop solutions for selected markets in the water and wastewater industry by means of unique, membrane-based systems with an extremely long lifetime of reliable operation. In addition to systems for the treatment of vessels scrubber water, APATEQ develops and manufactures turnkey produced water treatment systems for oil and gas field operators, compact wastewater treatment plants for demanding applications and full solution systems for the treatment of industrial wastewater
- APATEQ is, among others, winner of the Frost & Sullivan Best Practices Award, the Red Herring Global 100 Award and has been selected Technology Pioneer by the World Economic Forum
- Wanner International sell unique, seal-less diaphragm pumps for real cost reductions. over 40 years of design, manufacturing and supplying Hydra-Cell pumps with customer service and support in over 70 countries.

[www.apateq.com](http://www.apateq.com)



[www.hydra-cell.co.uk/Industry/Reverse-Osmosis-Pumps](http://www.hydra-cell.co.uk/Industry/Reverse-Osmosis-Pumps)

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