

Application story



Pioneering RO Leachate Treatment

Location	Sicily	Hydra-Cell model	T100HRSGNNETAC & T100KRGGNNETAC
Type of application	Leachate Reverse Osmosis	Flow rate	max 15 m ³ /h
Liquid	Leachate	Pressure	max 120 bar (1740 psi)
Application details	APATEQ, manufacturers of custom water treatment systems, was awarded a contract for the construction of a leachate treatment system for Sicily's largest private landfill site. In order to produce effluent that meets legislation for direct discharge into the environment, the Company combined field-proven, on-site, ultra-filtration and reverse osmosis with innovative technologies, in a multiple stage process using Hydra-Cell pumps. Two Hydra-Cell T100H pumps, running in parallel, pump the leachate through an initial ultra-filtration pre-treatment stage to remove suspended solids and microorganisms. The leachate is then pumped at high-pressure by a Hydra-Cell T100K through a three stage reverse osmosis process that finally makes the effluent suitable for discharge into the environment or for use in irrigation, truck washing or dust control of the landfill's crushed rock roads. Wanner's Hydra-Cell pumps are running up to 10 m³/h @ 120 bar (1740 psi) at the two high pressure reverse osmosis systems and up to 15 m³/h @ 80 bar at the reverse osmosis stage 1. A major project objective was to reduce costs through on-site processing, as previously the leachate had been disposed of on the Italian mainland.		
Advantages of Hydra-Cell pump on this application	Hydra-Cell was chosen for its proven reliability, high efficiency and lowest projected cost of ownership. The Hydra-Cell seal-less design reliably handles corrosive and non-lubricating liquids, eliminating unplanned downtime and reducing maintenance costs with no expensive seals or packing to replace.		

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