

Application story



Reverse Osmosis for Remote Farm Locations

Location	UAE	Hydra-Cell model	G35XKSGHFEMB
Type of application	Reverse Osmosis for Remote Farm Locations	Flow rate	Up to 140 l/min (37 gpm)
Liquid	Brackish Water Salt Water Saline Water	Pressure	Up to 83 bar (1200 psi)
Application details	Solar-powered Hydra-Cell G35 pumps, which replaced piston pumps on Reverse Osmosis systems supplying water for desert farming in Abu Dhabi, were reportedly still operating successfully six years after installation. Groundwater is a significant source of water in Abu Dhabi but its quality varies widely. Desalination and other purification techniques are often needed in order to use it. A particular challenge is presented when the RO plant is in a location remote from any city or establishment able to provide repair facilities or spare parts. The farm has animals, including cattle and horses. Fresh water is needed for drinking and also for irrigation of the crop produced for cattle food. The only local water source is in the form of seepage from higher ground. This is collected in a reservoir at the farm, which lies in a valley. The salinity of the water is very high - 95,000 TDS, expressed in milligrams/litre. This is well above that of most seawater. In 2008 Hydra-Cell G35 pumps (one on each of two farms) were installed in place of the piston pumps. The pumps have proved their reliability in locations where service and repair support is not easily accessible, and where ease of maintenance is most appreciated. And unlike piston pumps they do not need fine filtration. A simple measure of this is the cost of the filters they use. With the G35 installed in the system, filters cost \$3 – and do not have to be changed as often as the \$200 filters required by the piston pumps.		
Advantages of Hydra-Cell pump on this application	High pumping efficiency, low and sustainable energy consumption. Reliable pumping in desert conditions, remote from engineering help and supplies. Seal-less design, with no need for fine filtration. Simple maintenance.		

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