



Single-Source System Provider

Water-to-Wire, Turbine-Valve-Controls Integration,
Motion & Control Engineered Systems

Fresh Water Now Flowing in Kingdom of Jordan Thanks to Sorensen Systems

The capital city of Amman, Jordan, faced a crisis where 40 percent of its four million inhabitants only had running water from their taps one day a week. To address this critical shortage, the United States and the country of Jordan embarked on an ambitious development plan to convert the brackish water from three large “wadis” (streambeds) near the Dead Sea into fresh drinking water. The plan utilized reverse osmosis as part of a desalination process to recover up to 85 percent of water put through its planned water treatment plant.

Power Units

Sorensen Systems was privileged to provide six complete hydraulic power operating systems, one each for six pumping stations in series, along the pipeline to lift the treated water from the desalination plant to the National Park Pump Station site in southern Amman. Today, approximately 700,000 people, about one third of the water distributed in the Greater Amman area receive water directly from this system. The project delivers 100,000 cubic meters of water each day to the city, a distance of 25 miles.

According to Mike Gardella, Vice President of Engineering and Manufacturing at Sorensen Systems,



Pumping Station Controls and Automatic Backup Pump

Sorensen Systems designed and built six complete hydraulic power operating systems, one each for six pumping stations in series, along the pipeline to convey treated water from the desalination plant to the water treatment plant site in Amman, Jordan. The control panels designed and built by Sorensen System are responsible for controlling the movement of four massive stainless steel roller gates, each 18 feet wide and 28 feet high, which required a robust system of piping, motors, and valves assembled on skids.

the power units designed and built for the project provide the system with a nominal 2,000 psi self-contained, pressurized hydraulic fluid system capable of simultaneously operating the valves at the specified speeds against the specified operating head requirements. In addition, the hydraulic fluid system was designed to automatically, simultaneously and immediately close the valves upon a loss of main electrical power or emergency shut down condition.

Reverse Osmosis

The project is referred to by names of the three “wadis” in the region, Ma’in, Zara Springs, and Mujib. The brackish water available from these streambeds will be subjected to a reverse osmosis (RO) desalination process, which is being increasingly used around the world as an efficient, reliable and cost-effective technology. The RO process uses the osmosis phenomenon, i.e.,

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