

Case story | Suez

SUEZ and Danfoss retrofit containerized SWRO unit in Aruba to save energy and maintenance



20%

lower energy costs after retrofitting to APP pump

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Highlights

- Significant energy & OPEX savings
- No maintenance for 20,000 hours
- Easy retrofit

SUEZ Water Technologies & Solutions and Danfoss High Pressure Pumps have collaborated to deliver energy-efficient SWRO pumping solutions for many years.

In Aruba, SUEZ recently replaced a centrifugal pump in one of its many containerized water treatment units with a Danfoss APP pump to significantly lower the operating costs of the BOO plant.

The challenge:

Replace an obsolete multistage centrifugal pump to **reduce energy** and **maintenance costs**

SUEZ operates a BOO desalination plant at WEB-Aruba that comprises a number of containerized SeaTech84 units to deliver drinking water to the island. When the aging centrifugal pump in one of these units required more and more maintenance just to keep running, it was time to think about retrofitting.

"The centrifugal pump looked like something out of a Mad Max movie," recalls Bryan de Souza, senior process engineer at SUEZ Water Technologies & Solutions. "It was big, noisy, belt-driven, and required an increasing amount of maintenance. Its time had come."

SUEZ engineers decided it was time to take a look at energy costs, too. "A lot has happened within energy-efficient technology during the last 20 years," says de Souza, "including high-pressure pumps for SWRO."

The solution:

An **energy-efficient** Danfoss APP 65 displacement pump

"SUEZ has partnered with Danfoss for a number of years, also in Aruba, so we were quite familiar with the APP range," says de Souza.

"For a BOO installation like this one, the APP 65 was the logical upgrade. We calculated that we could save 15-20% in energy costs from day one, and because it has much simpler maintenance requirements than a centrifugal pump, we would also save a lot of hours and headaches throughout the life of the plant."



The result:

20% lower energy costs and **no maintenance** for the first 20,000 hours

According to de Souza, installation of the APP 65 pump within the existing container was straightforward. "APP pumps are considerably more compact than centrifugal pumps with similar output, so space is not an issue. And with few moving parts, no belts, and simple connections, retrofitting the pump into our container resulted in little downtime and a cleaner, neater plant."

After 20,000 hours with no maintenance and energy savings of 20% compared to the previous pump, de Souza is satisfied with the upgrade. "The APP 65 is just a workhorse," he concludes, "and we plan to use it to retrofit more of our SeaTech84 containerized plants in Aruba to get the same OPEX advantages."



SUEZ Water Technologies & Solutions offers the world's largest fleet of comprehensive mobile water treatment systems, providing pre-treatment, high-purity demineralization, filtration, softening, deoxygenation/decarbonization, effluent reuse/reclamation and process separations technologies quickly and efficiently – available for either emergency or planned temporary mobile and wastewater bridge solutions. In addition, SUEZ designs, builds, operates, and maintains water and wastewater systems that produce the quality and quantity of water needed throughout the length of the contracts. These long-term services offer many financial and technical advantages over capital investment in treatment systems, including multiple technologies, the world's largest mobile fleet as backup and, with a priority service agreement, guaranteed water quality and quantity.

For more information, see <https://www.suezwatertechnologies.com>

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