


Case story

Simple maintenance and low TCO make Danfoss pumps ideal for Cabo San Lucas retrofit



Danfoss APP pump ensure fresh water flowing at winning TCO

24/7

hpp.danfoss.com

When an aging reciprocal pump suddenly failed at a Cabo San Lucas resort, Gemini Water Systems recommended a new Danfoss APP to replace it. The retrofit would be the first time an axial piston pump was installed in a region long dependent on reciprocating pumps for SWRO.

The short lead time to source and install the new pump initially caught resort managers' interest. But the most convincing reasons for the decision were radically simplified maintenance routines and lower total costs of ownership.

The challenge: Replace an old pump fast, and keep the water flowing at a busy resort

Located at the southern end of the arid Baja Peninsula, the Los Cabos region is Mexico's fastest-growing tourist destination. Pueblo Bonito Sunset Beach Golf & Spa Resort, a popular luxury resort, is located at the very tip of the peninsula by Cabo San Lucas, the area's biggest city. Like practically everywhere else in the desalination-dependent region, the resort's SWRO plants used reciprocating pumps to supply the high pressure. Until recently.

"Los Cabos has traditionally been dominated by reciprocating pumps," explains Dean Bedford of Gemini Seawater Systems. "In terms of SWRO, it's a conservative market that has not been very open to change. So, when Pueblo Bonito Sunset Beach needed to replace a failed pump fast without disrupted service, it was Danfoss's relatively short lead times that initially enabled us to get the APP onto their radar. This opened the door to more important long-term considerations, not least maintenance and TCO."

The solution: The first Danfoss APP pump in Cabo San Lucas

Gemini Seawater Systems has built its business on designing and modernizing SWRO plants with the lowest possible life-cycle costs. Practical field experience, premium components, and a relentless focus on training local maintenance personnel are all key elements of its success.

"Best-in-class components are an essential part of our approach," says Bedford, "but what really sets us apart is the importance we place on understanding local operational contexts and training and communicating with the people who will actually be responsible for plant operations and maintenance."

These are the things that ultimately make or break a plant's success, so integrating operations into plant design and TCO calculations just makes good sense."

"The Danfoss APP removes a lot of unknowns from the maintenance equation. Will staff remember lubrication schedules, or won't they? Will they keep an eye on belts and the pump's vibration effects on other system components? With APPs, we reduce the number of things that can go wrong and really simplify maintenance. We also save serious money on energy costs. Both things go hand in hand with our business model – and with our customers' long-term interests."

The results: Quick retrofit with long-lasting benefits

Working closely with their local partner in Cabo San Lucas, Polymetrics, the retrofitted pump was installed within weeks instead of months.



RO system with one APP 26 pump installed at the Cabo San Lucas resort. General manager Goyita Osako Cruz and maintenance manager Ramiro Chavez, both saw the performance and value proposition the Danfoss pump offered, and trusted Polymetrics' expertise to incorporate and maintain the technology in the existing system.

"The new Danfoss APP 26 pump runs 24 hours a day, producing 117 gallons per minute," says Joseph E. Rafferty, president of Polymetrics. "It takes just half the space of its predecessor and is also much quieter, something the resort is particularly happy about. But they're even happier about all the electricity they're saving day in and day out."

Dean Bedford is convinced that the APP 26 will not be the last installed in Cabo San Lucas. "When most of the region's the big plants went online years ago, the APP pump line-up was either non-existent or still so small that they couldn't produce the necessary volumes. Things have changed, and axial piston technology is now providing pressure for systems producing up to 88 m³ per hour. I believe the Danfoss APP is the pump of the future – also in Cabos San Lucas."



About Gemini Seawater Systems LLC

Gemini Seawater Systems LLC is a custom desalination design manufacturer based in Gainesville, Florida. Gemini is headed by Dean Bedford, who has over 33 years in membrane systems design, fabrication and operations. Dean is recognized by many desalination pioneers as a leader in SWRO design and fabrication for superior, reliable performance. For more information, visit <https://www.geminiseawatersystems.com/>

About Polymetrics

Led by Joseph E. Rafferty, Polymetrics Mexico was established in Cabo San Lucas, Mexico in 2008 as a successor to Polymetrics Seawater Systems, Inc. which was based in San Jose, California. Building on over 30 years of experience in the water treatment industry, specifically seawater reverse osmosis desalination, Polymetrics provides operation and maintenance contracts throughout the state of Baja California Sur in Mexico, as well as consultation services. For more information, visit <http://www.polymetricsmx.com/>

Danfoss A/S . High Pressure Pumps . Nordborgvej 81 . DK-6430 Nordborg, Denmark

Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without consequential changes being necessary in specifications already agreed. All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.