

Case story | NTesco

NTesco chooses **Danfoss** for **high-efficiency SWRO** at Vietnamese shrimp farm

4 years
of operation
with only minor
maintenance

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Highlights

- Highly energy-efficient
- Small footprint
- Low maintenance

When Nam Trinh Environment Solution Company (NTESCO), one of Vietnam's leading water treatment EPCs, was asked to provide a high-efficiency SWRO plant for an aquaculture in an environmentally sensitive area in southern Vietnam, they chose a Danfoss high-pressure pump and ERD as the heart of the energy-efficient and compact system.

The challenge:

Provide **reliable and energy-efficient** fresh water for a shrimp farm in an environmentally sensitive area

Aquaculture is big business in Vietnam. What began as small-scale farms has now evolved into one of the country's largest industries and is a vital export product for the country's growing economy. The Vietnamese government has ambitious plans to further develop the shrimp farming industry but also places increasing emphasis on sustainable production and protection of coastal environments.

So, when an international agricultural and food conglomerate wanted to build a new shrimp farm near Vung Tau in Vietnam's picturesque Con Dao archipelago, a major tourist destination and an environmentally sensitive area, demands were high.

"The government does not usually allow shrimp farms in this area," explains U.G. Kriangsak, NTESCO's project manager, "and this had consequences for the SWRO plant that was critical to the farm's operations. For one thing, electricity supply in the remote area can sometimes be unreliable, so solar energy is necessary to supplement power from the public grid. This meant that the SWRO plant we designed had to be as energy efficient as possible as it would run from batteries as well as the grid. The farm's out-of-the-way location also meant that equipment must be very reliable and easy to maintain without frequent visits for repairs and support. Furthermore, the operators required a plant that was as small as possible in order to maximize usage of the land for production of shrimp – not fresh water."

The solution:

A 500 m³/day train built around an **APP 22** and an **iSave 40**

To provide a SWRO plant that met these customer needs, NTESCO's engineers designed a 500 m³/day solution based on Danfoss's APP 22 high-pressure pump and an iSave 40 ERD.

"We know Danfoss from a number of other SWRO projects we have delivered throughout Vietnam," says Kriangsak, "so we were confident in specifying these central components. The combination of energy efficiency, low maintenance, and small footprint is ideal for a project of this character."

NTESCO established the SWRO plant in a compact, purpose-built building in order to leave as many square meters as possible for shrimp production.

The result:

Plenty of **reliable, energy-efficient** fresh water for all the farm's needs

Four years after commissioning the plant, NTESCO is satisfied with the results. "When the customer is happy, NTESCO is happy," he smiles.

"The plant has now run for four years with only the little maintenance we expected," he says. "Its energy efficiency makes use of solar power possible, and this is something we expect to see more of in Vietnam in the future."

"Another interesting aspect of this project is what the farm does with the brine," he continues. "Instead of simply pouring it back into the coastal waters, the operators use the brine to adjust the salinity of the shrimp ponds – another step towards more sustainable shrimp farming and future of aquaculture business."

NTESCO intends to install several similar SWRO plants in other parts of Vietnam.



About NTESCO: Nam Trinh Environment Solution Company (NTESCO) is a leading Vietnamese water treatment company with projects throughout Vietnam and a growing number of projects in other countries in Southeast Asia. Dedicated to understanding customer needs and designing sustainable solutions that meet those requirements, NTESCO designs and produces a broad range of innovative wastewater and desalination systems for industrial, Food & Beverage, Pharmaceutical, agricultural and municipal applications. To learn more, visit <http://ntesco.com>

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