

FIRST LOW-PRESSURE PX INSTALLATION IN SOUTH AMERICA FOR SUSTAINABLE AGRICULTURE



LOCATION
Ica, Peru

CUSTOMER

Agrícola Don Ricardo

FACILITY CAPACITY

1,920 m³/day of permeate

CO₂ EMISSIONS AVOIDED

23 metric tons/year

OEM

ReliX Water Peru

EST. ENERGY SAVINGS

48,000 kWh/year

THE CHALLENGE

Ensuring High Water Quality for Sustainable Blueberry Production

Agriculture accounts for 80% of water use in Peru, and more recently, brackish water reverse osmosis (BWRO) is becoming a more prevalent process to provide water for irrigation. Fundo Yancay, a large agricultural estate owned by Agrícola Don Ricardo, needed a solution to produce quality water for growing their blueberries.

Peru is the world's largest supplier of blueberries, and Fundo Yancay is a critical producer of this essential export for the country. However, blueberries require a lower water salinity (<250 uS/cm) compared to other types of produce. To achieve the required water salinity, the estate sought a modern brackish water RO treatment plant that could save energy while meeting sustainability standards to obtain LEAF Marque certification.

BWRO Facility for Fundo Yancay in Ica, Peru

- The agricultural estate spans an area of **154 hectares**
- The facility treats water from underground wells, with an electrical conductivity **>1500 (uS/cm)**
- The BWRO facility operates at a flow rate of **80 m³/h** and at **80%** recovery

THE SOLUTION

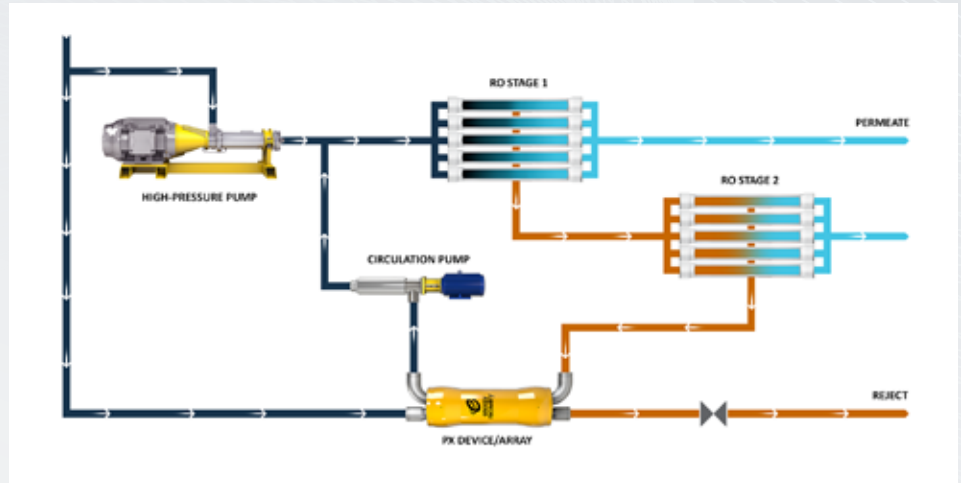
Low-Pressure PX[®] Pressure Exchanger[®] for a Modern BWRO System

Agrícola Don Ricardo selected ReliX Water, a leading water treatment system provider for the agricultural sector, to design a modern, high-recovery BWRO treatment plant that met sustainability standards while producing high-quality water. Focused on energy-saving technology, ReliX Water chose Energy Recovery's low-pressure PX[®] Pressure Exchanger[®] (LP PX) to reduce the energy consumption and associated emissions of the BWRO system, integrating one PX L140 in the double-stage design.




DON RICARDO
- A FRUTURA COMPANY -

The low-pressure PX was chosen for its industry-leading reliability (99.8% uptime) and because it can operate across varying pressure ranges (5.5 - 27.6 bar; 80 - 400 psi), flow rates, and total dissolved solids (TDS). It is installed at the brine stream of the final RO stage and transfers the hydraulic energy from the brine to the raw feedwater stream, reducing the work on the high-pressure pump.



“ We chose the innovative PX[®] Pressure Exchanger[®] to help us achieve significant energy savings and reach our sustainability goals. As the designers of the brackish water reverse osmosis system for Fundo Yancay, we implemented the PX into our facility with ease for successful operation and hope to utilize it for future projects. ”

– ReliX Water Peru

THE RESULT

Energy Recovery's LP PX Reduces Energy Consumption for Agricultural Estate

The integration of the LP PX helped the facility reduce its associated emissions by an estimated 23 metric tons annually to reach sustainability targets, including lowered carbon emissions. The end-user is in the process of obtaining LEAF Marque certification for sustainable practices, and implementing the energy recovery system has helped them meet the certification criteria.

Additionally, the system can save an estimated 48,000 kWh

per year. Initial data from the early startup of the site showed that the PX reduced energy consumption by an estimated 15% and will achieve payback in less than three to four years.

With the integration of Energy Recovery's LP PX, Agrícola Don Ricardo's estate in Peru can cost-effectively achieve its sustainability goals while ensuring high-quality water for the growth of blueberries.

To learn more, visit energyrecovery.com



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