



NIROBOX™ BW



A modular, high output, reliable
Brackish Water Reverse Osmosis Solution





NIROBOX BW

Designed for Flexibility

NIROBOX BW is a modular, highly-efficient desalination solution for treating brackish water that delivers high-quality potable water, industrial process water or irrigation-quality water.

Designed for flexibility, **NIROBOX BW** treats water from a wide variety of sources, including surface water and well water, and can handle turbidity, salinity, and a wide range of contaminants, up to 10,000 ppm total dissolved solids (TDS).

Two cost-effective models are available to meet your water treatment requirements and deliver high-quality results:

- **NIROBOX BW LS (Low Salinity)** is designed to operate with feed water containing up to 3,700 ppm TDS
- **NIROBOX BW HS (High Salinity)** is designed to operate with feed water containing up to 10,000 ppm TDS

Each **NIROBOX BW** model is available in two feed capacities: 1,000 and 2,000 m³/day. Output water capacity depends on recovery and feed-water specifications.

Our **NIROBOX BW** desalination systems are pre-engineered, pre-assembled and ISO factory tested to minimize installation and start-up time.

Key Advantages

- **Cost-effective:** pre-assembled, housed in a standard 40-foot shipping container. Engineered for fast deployment, simple operation and maintenance
- **Sustainable:** low energy consumption and chemical usage reduces the environmental footprint, and features a **high recovery** rate which means less waste discharge
- **Compact:** small footprint minimizes site impact, lowers the cost of site development, and ensures easy expansion
- **Flexible and scalable configuration:** intended for large-scale water needs, with smart pre-engineering and design to suit any site requirements, facilitating fast delivery, integration, commissioning and operation

High Recovery Rate, Low Chemical and Power Consumption

NIROBOX BW offers recovery rates of **up to 90%**, while boasting low chemical and energy consumption.

NIROBOX BW decentralized water treatment systems are designed to supply local populations and industries with high quality water at a viable cost. They are ideal for a wide variety of applications, delivering the reliability and robustness needed to meet the operational requirements of municipalities, industries, commercial water supply, power plants, hotels & resorts, and others. Ideal for:

- Small-medium municipalities
- Construction and housing development sites
- Commercial establishments
- Resorts, hotels and golf clubs
- Remote oil & gas facilities
- Industrial operations
- Power plants
- Agriculture irrigation
- Mining camps and operations



Smart Operations

Fully automated, remotely monitored and operated systems

- Keeps ongoing equipment, operation and maintenance expenses in check
- PLC-based HMI with remote monitoring
- Data and reports are easily accessible from anywhere on any platform
- Real-time alerts for system malfunctions or abnormal performance

Modular and Scalable

NIROBOX building blocks are modular and can be adapted to your requirements, providing an independent solution on virtually any scale, from single, self-contained units to large water treatment plants.

Main Advantages:

- **Modular**
- **Fast delivery and deployment**
- **Lower CAPEX**
- **Lower operation and maintenance costs**

NIROPLANT™

- Niropant uses the boxes as stand-alone units with a centralized control unit and optional post-treatment. This allows the plant to be scaled up or down without losing the individual operability of each box.
- Niropants can handle up to 20,000 m³/d.
- Units can be easily removed and relocated according to changing requirements.

NIROSITE™

As an end-to-end solution, NiroSite achieves greater operating and maintenance efficiencies for larger capacity plants.

- NiroSite installations feature centralized peripheral functions, including control, air compression, chemical dosing, clean-in-place (CIP) and post treatment option.
- Expandable through the addition of operating clusters.



Specifications

	Model			
	NIROBOX BW-LS L	NIROBOX BW-LS XL	NIROBOX BW-HS L	NIROBOX BW-HS XL
Permeate flow (m ³ /day) *	600-900	1200-1800	600-900	1200-1800
Feed flow (m ³ /day)	1000 (183 gpm)	2000 (366 gpm)	1000 (183 gpm)	2000 (366 gpm)
TDS (Total Dissolved Solids) (mg/l)	up to 3,700		3,500-10,000	
Recovery	60-90%		60-90%	
Energy consumption (KWh/m ³)	0.65 **		0.9 ***	
Availability	97%		97%	
Turbidity (NTU)	< 20		< 20	
Temperature (°C)	10-35		10-35	
Number of containers	1 X 40'		1 X 40'	

Additional Features Available

Additional pre-treatment, post treatment options are also available

Pre-treatment	<ul style="list-style-type: none"> Hypochlorite Dosing skid Solids Removal Oil Removal
Post-treatment	<ul style="list-style-type: none"> Remineralization pH adjustment Chlorination

What's in the box?

- Multimedia filters
- Cartridge filters
- Brackish water RO membranes and pressure vessels
- Main high pressure pump - Centrifugal
- Inter stage booster pump
- Variable frequency drivers
- PLC touch screen HMI with remote monitoring (optional)
- IP-54 MCC panel
- Clean in place (CIP) & flushing system
- Dosing systems (HCL Anti scalant)
- Extra chemical injection units option
- Pressurized air system
- Instrumentation (pressure, flow, pH, redox, feed and product conductivities)
- Product blend (bypass)

* Permeate flow values are subject to water temperature, salinity, and feed water chemical composition.

** Based on 2,000 ppm and 25°C.

*** Based on 5,000 ppm and 25°C.

Fluence profile

Named 2018 Global Company of the Year for Decentralized Water & Wastewater Treatment by Frost & Sullivan, Fluence has experience operating in over 70 countries worldwide and employs more than 300 highly trained water professionals around the globe. The Company specializes in design, manufacturing and implementation of local, sustainable water sourcing, wastewater treatment and water reuse solutions, while empowering businesses and communities worldwide to make the most of their water resources.

Fluence offers an integrated range of products and services across the complete water cycle, from early stage evaluation, through design and delivery to ongoing support and optimization of water related assets. With established operations in North America, South America, the Middle East and Europe, Fluence is also expanding into China's rural wastewater treatment market.

Fluence is a public company traded on the Australian Securities Exchange (FLC).