

# SWC5-LD

**High Performance, Low Fouling Seawater RO membranes for Desalination and Power Industry**

**SWC5-LD from the LD Technology™ innovative low fouling membranes, achieves superior salt and boron rejection to give a consistently pure end-product from a variety of feedwaters at low operating pressures**

With the desalination industry poised to meet the world's fresh water demand, it has become critical to obtain fresh water in an environmentally friendly and economical manner.

At Hydranautics, we understand the needs of the desalination industry to maintain the highest purity of the produced water while optimizing flow and reducing the power consumption of the desalination system.

The SWC5-LD Seawater Reverse Osmosis membrane from Nitto Denko - Hydranautics combines the best of the seawater desalination technology with the cutting edge of the low fouling LD Technology™. The SWC5-LD gives you the highest flow rates, highest ion rejection and the lowest energy consumption combined with reduced biological and colloidal fouling.

The SWC5-LD is the most suitable membrane for desalination applications for conventional as well as hybrid plants. When desalination is used for applications such as boiler feedwater for power plants and agricultural application, you can trust the SWC5-LD to give you the performance you need!

## Applications:

- Boiler makeup water in power industry
- Conventional and hybrid desalination plants
- Boron reduction for agricultural application

## Performance:

Permeate Flow	9,000 gpd (34.1 m <sup>3</sup> /d)
Salt Rejection	99.8 % (99.7 % minimum)
Boron Rejection (Typical):	92.0%†

† When tested at standard test conditions with 5.0 ppm Boron in feed solution

## Applications Data:

pH Range, Continuous (Cleaning)	2-11 (1-13)*
Maximum Feedwater SDI (15 min)	5.0
Maximum Feed Flow	75 GPM (17.0 m <sup>3</sup> /h)

\* The limitations shown here are for general use. For specific projects, operating at more conservative values may ensure the best performance and longest life of the membrane. See Hydranautics Technical Bulletins for more detail on operation limits, cleaning pH, and cleaning temperatures.

## Test Conditions:

The stated performance is initial (data taken after 30 minutes of operation), based on the following conditions

32,000 ppm NaCl
800 psi (5.5 MPa) Applied Pressure
77 F (25 C) Operating Temperature
10% Permeate Recovery
6.5 - 7.0 pH Range

## Key benefits

- High permeate flow - 9,000 gpd (34.1 m<sup>3</sup>/d)
- High salt rejection - 99.8% (99.7% minimum)
- 92% boron rejection
- Lowest biological and colloidal fouling
- Greater tolerance to high pH cleanings
- Lower energy consumption



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**Features:**

- **Enhanced membrane chemistry** for increased chemical resistance
- **Innovative spacer design** to minimize trapping of small colloidal particles
- **HYDRAblock™ technology** providing biostatic properties to minimize proliferation of biological fouling
- **Proprietary vented seal carrier** to eliminate pressure-shock damage during system startup.

**SWC5-LD, Sea Water Composite RO Membranes,****For All Your Desalination Needs!**

Nitto Denko-Hydranautics is a global leader in research, including reverse osmosis, nanofiltration, ultrafiltration, and microfiltration.

Our membrane products (SWC, CPA, ESPA, LFC, ESNA, HYDRAcap, and HYDRAsub) are used extensively in municipal & industrial water and wastewater treatment.

Nitto Denko and Hydranautics have over 40 years experience in the membrane technology arena and are committed to creating innovative membrane technologies which provide clean water to a thirsty world.

Our global membrane division is headquartered in Oceanside, CA, USA. With three state-of-the-art manufacturing sites located in Oceanside - CA - USA, Shiga - Japan and Shanghai – China, Hydranautics has a combined manufacturing area in excess of 131,000 m<sup>2</sup> (1,400,000 ft<sup>2</sup>). Our world-wide sales and customer service offices are located throughout Europe, Asia, the Middle East, North America and South America.

**Solutions You Need.****Technologies You Trust!**

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