

## SWC

### The First Choice in Seawater Desalination

Hydranautics is the world leader in seawater desalination, producing over 500 million gallons (2 million m<sup>3</sup>) of purified water every day. With more installed capacity than any other manufacturer, SWC membranes provide unparalleled consistent operating performance. High productivity SWC membranes offer a consistently pure end-product with lowest energy consumption at varying levels of seawater salinities worldwide.

Hydranautics offers Integrated Membrane Solutions® (IMS) combining a range of RO, NF, UF and MF membrane technologies to achieve the most comprehensive, effective and low-cost solutions for the industry.

#### SWC Applications:

- Conventional and hybrid seawater desalination plants
- Boron reduction for potable and agricultural water

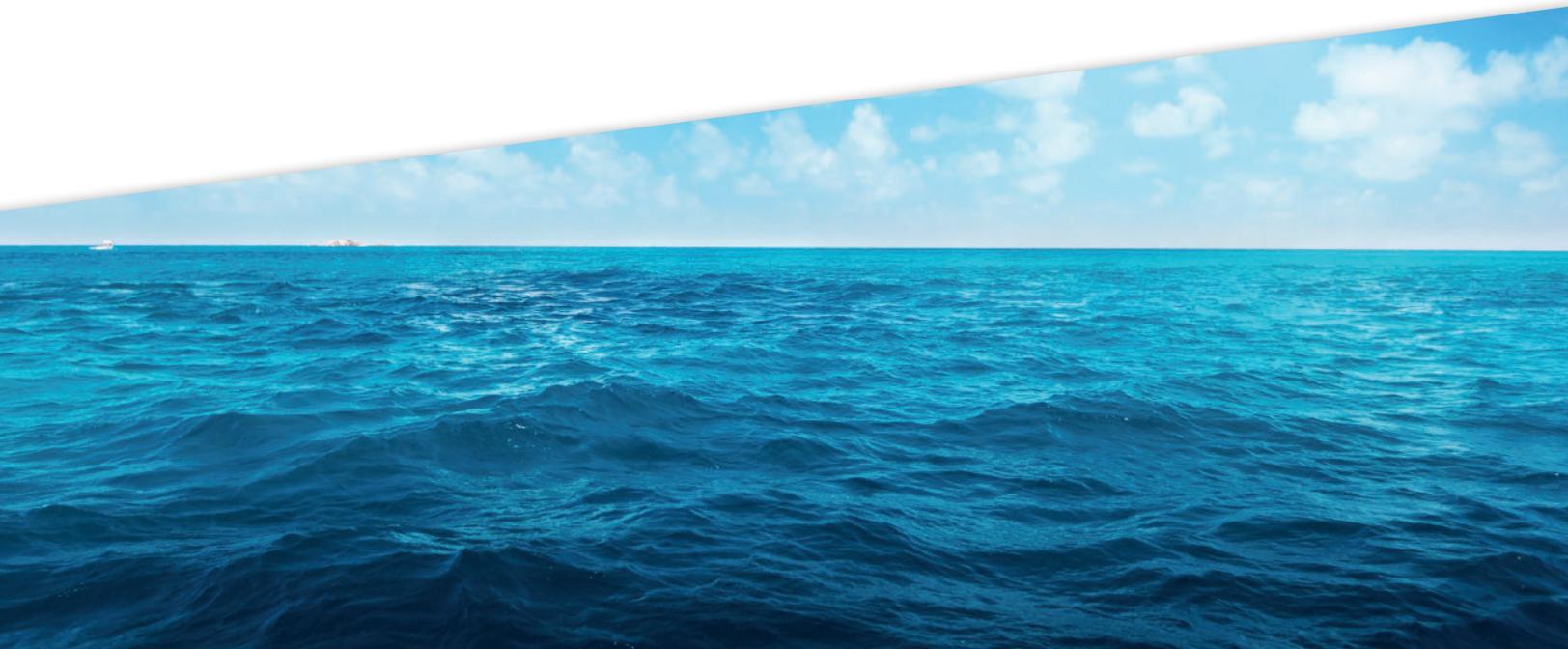
#### SWC Product Offerings:

- **SWC4:** SWC4, the highest salt rejecting membranes, treat varying levels of seawater salinities and produce low TDS permeate. SWC4 is popularly used in the treatment of sea and highly brackish waters.
- **SWC5:** SWC5 membranes provide optimum salt rejection and permeate flows. They are chosen when lower permeate TDS and lower feed pressures are needed. SWC5 membranes offer highest energy efficiency at lowest costs and are used in mega desalination plants.
- **SWC6:** SWC6 are the lowest feed pressure membranes offering low energy consumption. They are preferred when the seawater feed temperature is lower which requires high feed pressures. SWC6 membranes result in low energy consumption and lower treatment costs.

Above membranes are available in two different types of variants, LD and MAX.

Low differential LD Technology® models are offered to minimize colloidal fouling when used with conventional pre-treatment equipment. They offer consistently low feed pressures and the highest duration between two successive cleanings.

The MAX models have a 440 ft<sup>2</sup> (40.9 m<sup>2</sup>) active membrane surface area. They provide excellent performance with high TDS and boron removal from warm waters.



## SWC Product Performance:

Membrane Product	Model	Permeate flow gpd (m <sup>3</sup> /d)	Salt Rejection* (nominal)	Feed Spacer Thickness (mil)	Membrane Active Area, ft <sup>2</sup> (m <sup>2</sup> )
SWC4	<b>SWC4-LD</b>	6,500 (24.6)	99.8%	34	400 (37.2)
	<b>SWC4 MAX</b>	7,200 (27.3)	99.8%	26-28	440 (40.9)
SWC5	<b>SWC5-LD-4040</b>	1,750 (6.62)	99.7%	34	80 (7.4)
	<b>SWC5-LD</b>	9,000 (34.1)	99.8%	34	400 (37.2)
	<b>SWC5 MAX</b>	9,900 (37.5)	99.8%	26-28	440 (40.9)
SWC6	<b>SWC6-LD</b>	Low pressure 6,000 (22.7)	99.6%	34	400 (37.2)
		High flow 12,000 (45.5)			
	<b>SWC6 MAX</b>	Low pressure 6,600 (25)	99.6%	26-28	440 (40.9)
		High flow 13,200 (50)			

\*Specified Performance is based on data taken after approximately 30 minutes of operation. Actual testing of elements may be done at conditions which vary from these exact values; in which case, the performance is normalized back to these standard conditions. Permeate flow for individual elements may vary  $\pm 15$  percent from the value specified.



Hydranautics - A Nitto Group Company is a global leader in research, including reverse osmosis, nanofiltration, ultrafiltration, and microfiltration. Our membrane products (PRO series, CPA, ESPA, LFC, SWC, ESNA, HYDRAcapMAX and HYDRAsub) are used extensively in municipal & industrial water and wastewater treatment.

Hydranautics has over 50 years' experience in the membrane technology arena, and we are committed to creating innovative membrane technologies that provide clean water to a thirsty world.

Our Global Membrane Division is headquartered in Oceanside, CA, USA, and two state-of-the-art manufacturing sites are located in Oceanside, CA, USA, and Shiga, Japan. 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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