

# SWC

## Purifying the oceans of the world

### The World Leader in Desalination

264,000,000 gpd/  
1,000,000 m<sup>3</sup>/d  
of seawater into  
drinking water  
every day



## The first choice in seawater desalination

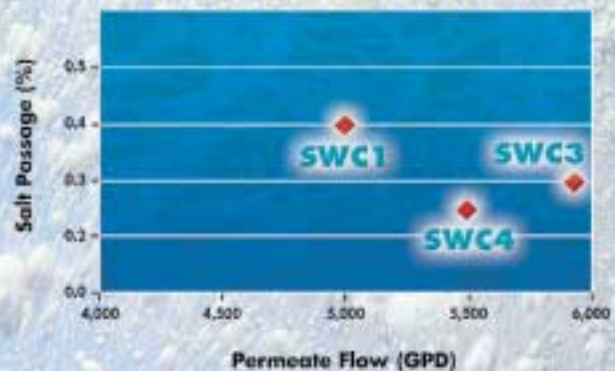
Hydranautics' SWC (Seawater Composite) membrane is currently in use on five continents and countless island communities around the globe. With more installed capacity than any other competitor, the SWC membrane provides unparalleled and consistent operating performance.

SWC seawater desalination membranes range from high productivity 8-inch and 4-inch elements to small shipboard models, all offering the highest levels of salt rejection and a consistently pure end product. Membrane formulations are designed to accommodate varying levels of seawater salinities worldwide with reliable field-proven performance.

There's an SWC solution to fit all your most demanding seawater treatment needs. Call today to find out why SWC is the world leader in desalination - only from Hydranautics!

- **SWC1** - The worldwide choice for seawater desalting
- **SWC3** - SWC1 performance in a high-area element
- **SWC4** - High temperature, highest rejection membrane

### SWC Performance



**HYDRANAUTICS**

A Nitto Denko Company  
[www.membranes.com](http://www.membranes.com)

## Test Conditions

The stated performance is initial (data taken after 60 minutes of operation), based on the following conditions:

NaCl Solution, PPM	32,000
Applied Pressure, psig (MPa)	.800 (5.5)
Operating Temperature, °F (°C)	.77° (25°)
Permeate Recovery	.10%
pH Range	.6.5 - 7.5

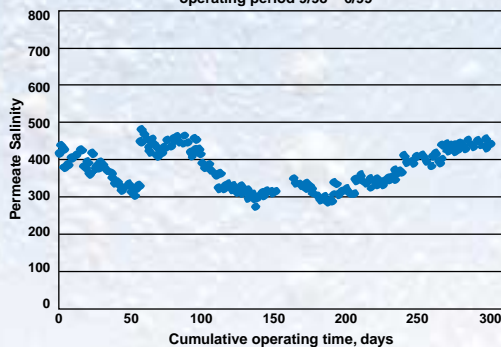
## Application Data

Maximum Applied Pressure, psig (MPa)	1200 (8.27)
Maximum Feed Flow, GPM (m³/h)	4040-16(3.6), 8-inch -75(17.0)
Maximum Operating Temperature, °F (°C)	.113° (45°)
Feedwater pH Range*	.3.0 - 10.0
Maximum Feedwater Turbidity, NTU	.1.0
Maximum Feedwater SDI (15 mins)	.5.0
Maximum Chlorine Concentration, PPM	<.0.1
Maximum Ratio of Concentrate to Permeate Flow for Any Element	.5:1
Maximum Pressure Drop for Each Element, psig	.10

\*See technical literature for extended pH limits



Feed salinity 39,000 PPM TDS, 1.6 MGD (6,000 m³/d) unit capacity, operating period 9/98 – 6/99



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## Element Performance

Element Type	Min. Salt Rej., %	Nom. Salt Rej., %	Permeate Flow, GPD	(m³/d)
SWC1	.99.5	.99.6	.5,000	.(18.9)
SWC1-4040	.99.5	.99.6	.1,200	.(4.5)
SWC3	.99.5	.99.7	.5,900	.(22.33)
SWC4	.99.7	.99.8	.5,500	.(20.81)



SWC installation at Carboneras, Spain

## Recent Project References for Hydranautics' SWC Membrane Elements

- Tampa, Florida . . . . .25.0 MGD (94,636 m³/d) of potable water from the Gulf of Mexico
- Fujirah, UAE . . . . .45.0 MGD (170,000 m³/d) of potable water from the Persian Gulf
- Carboneras, Spain . . . . .32.0 MGD (120,000 m³/d) of potable water from the Mediterranean Sea
- Cartagena, Spain . . . . .17.0 MGD (65,000 m³/d) of potable water from the Mediterranean Sea



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