

# Data Sheet



**Seawater  
Reverse Osmosis (RO) Membranes  
LG SW 400 ES**

## Overview

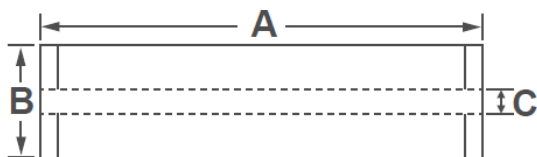
LG Chem's NanoH<sub>2</sub>O™ seawater RO membranes, incorporated with innovative Thin Film Nanocomposite (TFN) technology, reduce the cost of desalination while delivering superior water quality. Our seawater RO membranes provide industry leading salt rejection and produce 20% more flow than membranes manufactured with conventional technologies. We continue to leverage the technological advantages of our seawater RO membranes to expand our market share, accruing more than 3,000 Million Liter per Day (MLD) projects for both new and replacement market since the establishment.

LG SW ES (Energy Saving) membranes offer significant energy savings while producing good water quality; suitable for low to medium salinity seawater applications.

## Product Specifications

Active Membrane Area, ft <sup>2</sup> (m <sup>2</sup> )	Permeate flow rate, GPD (m <sup>3</sup> /d)	Stabilized Salt Rejection, %	Minimum Salt Rejection, %	Boron Rejection, %	Feed Spacer, mil
400 (37)	13,700 (51.9)	99.8	99.6	89	34

Test Conditions : 32,000 ppm NaCl, 5 ppm boron at 25°C (77°F), 800 psi (55 bar), pH 8, Recovery 8%.  
Permeate flows for individual elements may vary +/-15%.



A, mm (in.)	B, mm (in.)	C, mm (in.)	Weight, kg (lbs.)
1,016 (40)	200 (7.9)	28.6 (1.125)	16 (35)

All dimensional information is indicative and for reference purpose only. Please contact LG Chem for detailed technical specification.

## Operating Specifications

For more information and operating guidelines, visit [www.lgwatersolutions.com](http://www.lgwatersolutions.com)

<b>Max. Applied pressure</b>	1,200 psi (82.7 bar)
<b>Max. Chlorine concentration</b>	< 0.1 ppm
<b>Max. Operating temperature</b>	45°C (113°F)
<b>pH Range, Continuous (Cleaning)</b>	2-11 (2-13)
<b>Max. Feedwater turbidity</b>	1.0 NTU
<b>Max. Feedwater SDI (15 mins)</b>	5.0
<b>Max. Feed flow</b>	75 gpm (17 m <sup>3</sup> /h)
<b>Min. Ratio of concentrate to permeate flow for any element</b>	5 : 1
<b>Max. Pressure drop (ΔP) for each element</b>	15 psi (1.0 bar)

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# Data Sheet



**Seawater  
Reverse Osmosis (RO) Membranes  
LG SW 400 GR**

## Overview

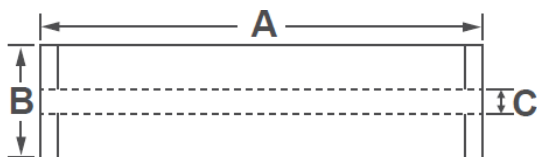
LG Chem's NanoH<sub>2</sub>O™ seawater RO membranes, incorporated with innovative Thin Film Nanocomposite (TFN) technology, reduce the cost of desalination while delivering superior water quality. Our seawater RO membranes provide industry leading salt rejection and produce 20% more flow than membranes manufactured with conventional technologies. We continue to leverage the technological advantages of our seawater RO membranes to expand our market share, accruing more than 3,000 Million Liter per Day (MLD) projects for both new and replacement market since the establishment.

LG SW GR (Great Rejection) membranes offer a combination of high rejection and low energy requirements to reduce the total cost of desalination; suitable for high salinity seawater applications.

## Product Specifications

Active Membrane Area, ft <sup>2</sup> (m <sup>2</sup> )	Permeate flow rate, GPD (m <sup>3</sup> /d)	Stabilized Salt Rejection, %	Minimum Salt Rejection, %	Boron Rejection, %	Feed Spacer, mil
400 (37)	7,500 (28.4)	99.85	99.7	93	28 or 34

Test Conditions : 32,000 ppm NaCl, 5 ppm boron at 25°C (77°F), 800 psi (55 bar), pH 8, Recovery 8%.  
Permeate flows for individual elements may vary +/-15%.



A, mm (in.)	B, mm (in.)	C, mm (in.)	Weight, kg (lbs.)
1,016 (40)	200 (7.9)	28.6 (1.125)	16 (35)

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## Operating Specifications

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<b>Max. Applied pressure</b>	1,200 psi (82.7 bar)
<b>Max. Chlorine concentration</b>	< 0.1 ppm
<b>Max. Operating temperature</b>	45°C (113°F)
<b>pH Range, Continuous (Cleaning)</b>	2-11 (2-13)
<b>Max. Feedwater turbidity</b>	1.0 NTU
<b>Max. Feedwater SDI (15 mins)</b>	5.0
<b>Max. Feed flow</b>	75 gpm (17 m <sup>3</sup> /h)
<b>Min. Ratio of concentrate to permeate flow for any element</b>	5 : 1
<b>Max. Pressure drop (ΔP) for each element</b>	15 psi (1.0 bar)

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# Data Sheet



Seawater Reverse Osmosis (RO) Membranes

**LG SW 400 GR G2**

## Overview

The next generation LG SW G2 membranes have achieved record-breaking salt rejection, improving the product quality up to 45% compared with the conventional technology. With enhanced Thin Film Nanocomposite (TFN) technology, LG SW G2 membranes can significantly reduce the cost of desalination.

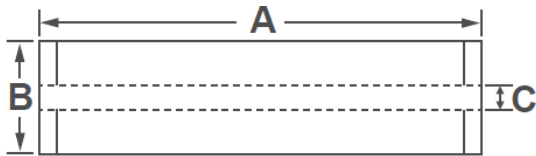
LG SW GR (Great Rejection) membranes offer a combination of high rejection and low energy requirements to reduce the total cost of desalination; suitable for high salinity seawater applications.

- LG SW G2 Benefits**
- ▶ **Improved permeate quality** without increasing operating pressure
  - ▶ **Reduced energy cost** without sacrificing the permeate quality
  - ▶ **Reduced capital and operation costs** for multi-pass SWRO systems

## Product Specifications

Active Membrane Area, ft <sup>2</sup> (m <sup>2</sup> )	Permeate Flow Rate, GPD (m <sup>3</sup> /d)	Stabilized Salt Rejection, %	Minimum Salt Rejection, %	Boron Rejection, %	Feed Spacer, mil
400 (37)	7,500 (28.4)	99.89	99.75	93	28 or 34

Test Conditions : 32,000 ppm NaCl, 5 ppm boron at 25°C (77°F), 800 psi (55 bar), pH 8, Recovery 8%.  
Permeate flows for individual elements may vary +/-15%.



A, mm (in.)	B, mm (in.)	C, mm (in.)	Weight, kg (lbs.)
1,016 (40)	200 (7.9)	28.6 (1.125)	16 (35)

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## Operating Specifications

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<b>Max. Applied pressure</b>	1,200 psi (82.7 bar)
<b>Max. Chlorine concentration</b>	< 0.1 ppm
<b>Max. Operating temperature</b>	45°C (113°F)
<b>pH Range, Continuous (Cleaning)</b>	2-11 (2-13)
<b>Max. Feedwater turbidity</b>	1.0 NTU
<b>Max. Feedwater SDI (15 mins)</b>	5.0
<b>Max. Feed flow</b>	75 gpm (17 m <sup>3</sup> /h)
<b>Min. Ratio of concentrate to permeate flow for any element</b>	5 : 1
<b>Max. Pressure drop (ΔP) for each element</b>	15 psi (1.0 bar)

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(20.07.06.)

# Data Sheet



**Seawater  
Reverse Osmosis (RO) Membranes  
LG SW 400 R**

## Overview

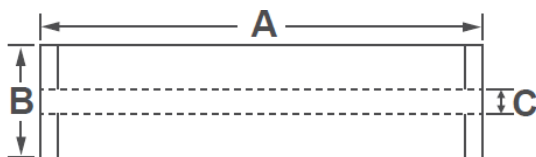
LG Chem's NanoH<sub>2</sub>O™ seawater RO membranes, incorporated with innovative Thin Film Nanocomposite (TFN) technology, reduce the cost of desalination while delivering superior water quality. Our seawater RO membranes provide industry leading salt rejection and produce 20% more flow than membranes manufactured with conventional technologies. We continue to leverage the technological advantages of our seawater RO membranes to expand our market share, accruing more than 3,000 Million Liter per Day (MLD) projects for both new and replacement market since the establishment.

LG SW R (High Rejection) membranes offer a combination of high rejection and low energy requirements to reduce the total cost of desalination; suitable for medium to high salinity seawater applications.

## Product Specifications

Active Membrane Area, ft <sup>2</sup> (m <sup>2</sup> )	Permeate flow rate, GPD (m <sup>3</sup> /d)	Stabilized Salt Rejection, %	Minimum Salt Rejection, %	Boron Rejection, %	Feed Spacer, mil
400 (37)	9,000 (34.1)	99.85	99.7	93	28 or 34

Test Conditions : 32,000 ppm NaCl, 5 ppm boron at 25°C (77°F), 800 psi (55 bar), pH 8, Recovery 8%.  
Permeate flows for individual elements may vary +/-15%.



A, mm (in.)	B, mm (in.)	C, mm (in.)	Weight, kg (lbs.)
1,016 (40)	200 (7.9)	28.6 (1.125)	16 (35)

All dimensional information is indicative and for reference purpose only. Please contact LG Chem for detailed technical specification.

## Operating Specifications

For more information and operating guidelines, visit [www.lgwatersolutions.com](http://www.lgwatersolutions.com)

<b>Max. Applied pressure</b>	1,200 psi (82.7 bar)
<b>Max. Chlorine concentration</b>	< 0.1 ppm
<b>Max. Operating temperature</b>	45°C (113°F)
<b>pH Range, Continuous (Cleaning)</b>	2-11 (2-13)
<b>Max. Feedwater turbidity</b>	1.0 NTU
<b>Max. Feedwater SDI (15 mins)</b>	5.0
<b>Max. Feed flow</b>	75 gpm (17 m <sup>3</sup> /h)
<b>Min. Ratio of concentrate to permeate flow for any element</b>	5 : 1
<b>Max. Pressure drop (ΔP) for each element</b>	15 psi (1.0 bar)

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# Data Sheet



## Seawater Reverse Osmosis (RO) Membranes LG SW 400 R G2

### Overview

The next generation LG SW G2 membranes have achieved record-breaking salt rejection, improving the product quality up to 45% compared with the conventional technology. With enhanced Thin Film Nanocomposite (TFN) technology, LG SW G2 membranes can significantly reduce the cost of desalination.

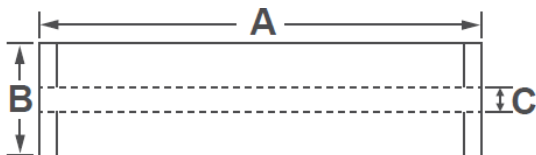
LG SW R (High Rejection) membranes offer a combination of high rejection and low energy requirements to reduce the total cost of desalination; suitable for medium to high salinity seawater applications.

- LG SW G2 Benefits**
- ▶ **Improved permeate quality** without increasing operating pressure
  - ▶ **Reduced energy cost** without sacrificing the permeate quality
  - ▶ **Reduced capital and operation costs** for multi-pass SWRO systems

### Product Specifications

Active Membrane Area, ft <sup>2</sup> (m <sup>2</sup> )	Permeate Flow Rate, GPD (m <sup>3</sup> /d)	Stabilized Salt Rejection, %	Minimum Salt Rejection, %	Boron Rejection, %	Feed Spacer, mil
400 (37)	9,000 (34.1)	99.88	99.75	93	34

Test Conditions : 32,000 ppm NaCl, 5 ppm boron at 25°C (77°F), 800 psi (55 bar), pH 8, Recovery 8%.  
Permeate flows for individual elements may vary +/-15%.



A, mm (in.)	B, mm (in.)	C, mm (in.)	Weight, kg (lbs.)
1,016 (40)	200 (7.9)	28.6 (1.125)	16 (35)

All dimensional information is indicative and for reference purpose only. Please contact LG Chem for detailed technical specification.

### Operating Specifications

For more information and operating guidelines, visit [www.lgwatersolutions.com](http://www.lgwatersolutions.com)

Max. Applied pressure	1,200 psi (82.7 bar)
Max. Chlorine concentration	< 0.1 ppm
Max. Operating temperature	45°C (113°F)
pH Range, Continuous (Cleaning)	2-11 (2-13)
Max. Feedwater turbidity	1.0 NTU
Max. Feedwater SDI (15 mins)	5.0
Max. Feed flow	75 gpm (17 m <sup>3</sup> /h)
Min. Ratio of concentrate to permeate flow for any element	5 : 1
Max. Pressure drop (ΔP) for each element	15 psi (1.0 bar)

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# Data Sheet



**Seawater  
Reverse Osmosis (RO) Membranes  
LG SW 400 SR**

## Overview

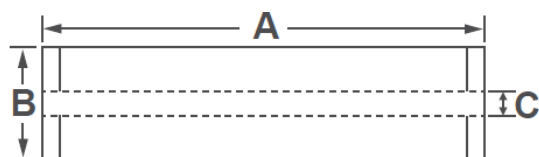
LG Chem's NanoH<sub>2</sub>O™ seawater RO membranes, incorporated with innovative Thin Film Nanocomposite (TFN) technology, reduce the cost of desalination while delivering superior water quality. Our seawater RO membranes provide industry leading salt rejection and produce 20% more flow than membranes manufactured with conventional technologies. We continue to leverage the technological advantages of our seawater RO membranes to expand our market share, accruing more than 3,000 Million Liter per Day (MLD) projects for both new and replacement market since the establishment.

LG SW SR (Super Rejection) membranes offer the highest rejection for the best product water quality; suitable for high salinity seawater applications.

## Product Specifications

Active Membrane Area, ft <sup>2</sup> (m <sup>2</sup> )	Permeate flow rate, GPD (m <sup>3</sup> /d)	Stabilized Salt Rejection, %	Minimum Salt Rejection, %	Boron Rejection, %	Feed Spacer, mil
400 (37)	6,000 (22.7)	99.85	99.7	93	28 or 34

Test Conditions : 32,000 ppm NaCl, 5 ppm boron at 25°C (77°F), 800 psi (55 bar), pH 8, Recovery 8%.  
Permeate flows for individual elements may vary +/-15%.



A, mm (in.)	B, mm (in.)	C, mm (in.)	Weight, kg (lbs.)
1,016 (40)	200 (7.9)	28.6 (1.125)	16 (35)

All dimensional information is indicative and for reference purpose only. Please contact LG Chem for detailed technical specification.

## Operating Specifications

For more information and operating guidelines, visit [www.lgwatersolutions.com](http://www.lgwatersolutions.com)

<b>Max. Applied pressure</b>	1,200 psi (82.7 bar)
<b>Max. Chlorine concentration</b>	< 0.1 ppm
<b>Max. Operating temperature</b>	45°C (113°F)
<b>pH Range, Continuous (Cleaning)</b>	2-11 (2-13)
<b>Max. Feedwater turbidity</b>	1.0 NTU
<b>Max. Feedwater SDI (15 mins)</b>	5.0
<b>Max. Feed flow</b>	75 gpm (17 m <sup>3</sup> /h)
<b>Min. Ratio of concentrate to permeate flow for any element</b>	5 : 1
<b>Max. Pressure drop (ΔP) for each element</b>	15 psi (1.0 bar)

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# Data Sheet



**Seawater Reverse Osmosis (RO) Membranes**  
**LG SW 400 SR G2**

## Overview

The next generation LG SW G2 membranes have achieved record-breaking salt rejection, improving the product quality up to 45% compared with the conventional technology. With enhanced Thin Film Nanocomposite (TFN) technology, LG SW G2 membranes can significantly reduce the cost of desalination.

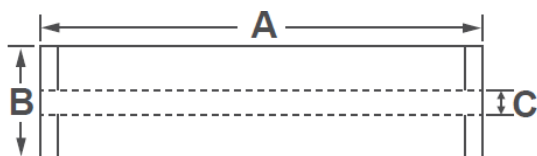
LG SW SR (Super Rejection) membranes offer the highest rejection for the best product water quality; suitable for high salinity seawater applications.

- LG SW G2 Benefits**
- ▶ Improved permeate quality without increasing operating pressure
  - ▶ Reduced energy cost without sacrificing the permeate quality
  - ▶ Reduced capital and operation costs for multi-pass SWRO systems

## Product Specifications

Active Membrane Area, ft <sup>2</sup> (m <sup>2</sup> )	Permeate Flow Rate, GPD (m <sup>3</sup> /d)	Stabilized Salt Rejection, %	Minimum Salt Rejection, %	Boron Rejection, %	Feed Spacer, mil
400 (37)	6,000 (22.7)	99.89	99.75	93	28 or 34

Test Conditions : 32,000 ppm NaCl, 5 ppm boron at 25°C (77°F), 800 psi (55 bar), pH 8, Recovery 8%.  
 Permeate flows for individual elements may vary +/-15%.



A, mm (in.)	B, mm (in.)	C, mm (in.)	Weight, kg (lbs.)
1,016 (40)	200 (7.9)	28.6 (1.125)	16 (35)

All dimensional information is indicative and for reference purpose only. Please contact LG Chem for detailed technical specification.

## Operating Specifications

For more information and operating guidelines, visit [www.lgwatersolutions.com](http://www.lgwatersolutions.com)

Max. Applied pressure	1,200 psi (82.7 bar)
Max. Chlorine concentration	< 0.1 ppm
Max. Operating temperature	45°C (113°F)
pH Range, Continuous (Cleaning)	2-11 (2-13)
Max. Feedwater turbidity	1.0 NTU
Max. Feedwater SDI (15 mins)	5.0
Max. Feed flow	75 gpm (17 m <sup>3</sup> /h)
Min. Ratio of concentrate to permeate flow for any element	5 : 1
Max. Pressure drop (ΔP) for each element	15 psi (1.0 bar)

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# Data Sheet



**Seawater  
Reverse Osmosis (RO) Membranes  
LG SW 440 ES**

## Overview

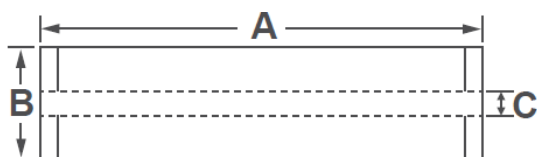
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LG SW ES (Energy Saving) membranes offer significant energy savings while producing good water quality; suitable for low to medium salinity seawater applications.

## Product Specifications

Active Membrane Area, ft <sup>2</sup> (m <sup>2</sup> )	Permeate flow rate, GPD (m <sup>3</sup> /d)	Stabilized Salt Rejection, %	Minimum Salt Rejection, %	Boron Rejection, %	Feed Spacer, mil
440 (41)	15,070 (57.0)	99.8	99.6	89	28

Test Conditions : 32,000 ppm NaCl, 5 ppm boron at 25°C (77°F), 800 psi (55 bar), pH 8, Recovery 8%.  
Permeate flows for individual elements may vary +/-15%.



A, mm (in.)	B, mm (in.)	C, mm (in.)	Weight, kg (lbs.)
1,016 (40)	200 (7.9)	28.6 (1.125)	16 (35)

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<b>Max. Applied pressure</b>	1,200 psi (82.7 bar)
<b>Max. Chlorine concentration</b>	< 0.1 ppm
<b>Max. Operating temperature</b>	45°C (113°F)
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# Data Sheet



**Seawater  
Reverse Osmosis (RO) Membranes  
LG SW 440 GR**

## Overview

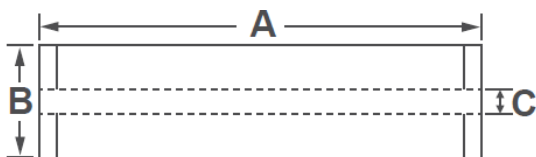
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LG SW GR (Great Rejection) membranes offer a combination of high rejection and low energy requirements to reduce the total cost of desalination; suitable for high salinity seawater applications.

## Product Specifications

Active Membrane Area, ft <sup>2</sup> (m <sup>2</sup> )	Permeate flow rate, GPD (m <sup>3</sup> /d)	Stabilized Salt Rejection, %	Minimum Salt Rejection, %	Boron Rejection, %	Feed Spacer, mil
440 (41)	8,250 (31.2)	99.85	99.7	93	28

Test Conditions : 32,000 ppm NaCl, 5 ppm boron at 25°C (77°F), 800 psi (55 bar), pH 8, Recovery 8%.  
Permeate flows for individual elements may vary +/-15%.



A, mm (in.)	B, mm (in.)	C, mm (in.)	Weight, kg (lbs.)
1,016 (40)	200 (7.9)	28.6 (1.125)	16 (35)

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<b>Max. Applied pressure</b>	1,200 psi (82.7 bar)
<b>Max. Chlorine concentration</b>	< 0.1 ppm
<b>Max. Operating temperature</b>	45°C (113°F)
<b>pH Range, Continuous (Cleaning)</b>	2-11 (2-13)
<b>Max. Feedwater turbidity</b>	1.0 NTU
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<b>Max. Feed flow</b>	75 gpm (17 m <sup>3</sup> /h)
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# Data Sheet



## Seawater Reverse Osmosis (RO) Membranes LG SW 440 GR G2

### Overview

The next generation LG SW G2 membranes have achieved record-breaking salt rejection, improving the product quality up to 45% compared with the conventional technology. With enhanced Thin Film Nanocomposite (TFN) technology, LG SW G2 membranes can significantly reduce the cost of desalination.

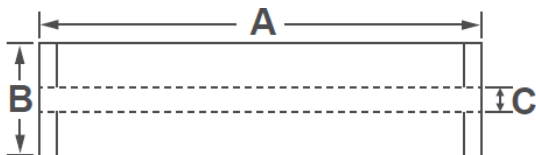
LG SW GR (Great Rejection) membranes offer a combination of high rejection and low energy requirements to reduce the total cost of desalination; suitable for high salinity seawater applications.

- LG SW G2 Benefits**
- ▶ **Improved permeate quality** without increasing operating pressure
  - ▶ **Reduced energy cost** without sacrificing the permeate quality
  - ▶ **Reduced capital and operation costs** for multi-pass SWRO systems

### Product Specifications

Active Membrane Area, ft <sup>2</sup> (m <sup>2</sup> )	Permeate Flow Rate, GPD (m <sup>3</sup> /d)	Stabilized Salt Rejection, %	Minimum Salt Rejection, %	Boron Rejection, %	Feed Spacer, mil
440 (41)	8,250 (31.2)	99.89	99.75	93	28

Test Conditions : 32,000 ppm NaCl, 5 ppm boron at 25°C (77°F), 800 psi (55 bar), pH 8, Recovery 8%.  
Permeate flows for individual elements may vary +/-15%.



A, mm (in.)	B, mm (in.)	C, mm (in.)	Weight, kg (lbs.)
1,016 (40)	200 (7.9)	28.6 (1.125)	16 (35)

All dimensional information is indicative and for reference purpose only. Please contact LG Chem for detailed technical specification.

### Operating Specifications

For more information and operating guidelines, visit [www.lgwatersolutions.com](http://www.lgwatersolutions.com)

<b>Max. Applied pressure</b>	1,200 psi (82.7 bar)
<b>Max. Chlorine concentration</b>	< 0.1 ppm
<b>Max. Operating temperature</b>	45°C (113°F)
<b>pH Range, Continuous (Cleaning)</b>	2-11 (2-13)
<b>Max. Feedwater turbidity</b>	1.0 NTU
<b>Max. Feedwater SDI (15 mins)</b>	5.0
<b>Max. Feed flow</b>	75 gpm (17 m <sup>3</sup> /h)
<b>Min. Ratio of concentrate to permeate flow for any element</b>	5 : 1
<b>Max. Pressure drop (ΔP) for each element</b>	15 psi (1.0 bar)

The information and data contained herein are deemed to be accurate and reliable and are offered in good faith, but without guarantee of performance. LG Chem assumes no liability for results obtained or damages incurred through the application of the information contained herein. Customer is responsible for determining whether the products and information presented herein are appropriate for the customer's use and for ensuring that customer's workplace and disposal practices are in compliance with applicable laws and other governmental enactments. Specifications subject to change without notice. NanoH<sub>2</sub>O is the Trademark of The LG Water Solutions or an affiliated company of LG Chem. All rights reserved. © LG Chem, Ltd.

# Data Sheet



Seawater Reverse Osmosis (RO) Membranes

**LG SW 440 R**

## Overview

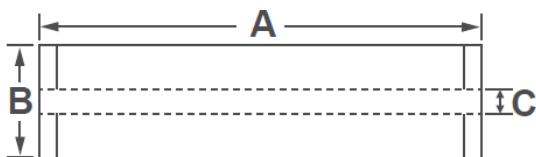
LG Chem's NanoH<sub>2</sub>O™ seawater RO membranes, incorporated with innovative Thin Film Nanocomposite (TFN) technology, reduce the cost of desalination while delivering superior water quality. Our seawater RO membranes provide industry leading salt rejection and produce 20% more flow than membranes manufactured with conventional technologies. We continue to leverage the technological advantages of our seawater RO membranes to expand our market share, accruing more than 3,000 Million Liter per Day (MLD) projects for both new and replacement market since the establishment.

LG SW R (High Rejection) membranes offer a combination of high rejection and low energy requirements to reduce the total cost of desalination; suitable for medium to high salinity seawater applications.

## Product Specifications

Active Membrane Area, ft <sup>2</sup> (m <sup>2</sup> )	Permeate flow rate, GPD (m <sup>3</sup> /d)	Stabilized Salt Rejection, %	Minimum Salt Rejection, %	Boron Rejection, %	Feed Spacer, mil
440 (41)	9,900 (37.5)	99.85	99.7	93	28

Test Conditions : 32,000 ppm NaCl, 5 ppm boron at 25°C (77°F), 800 psi (55 bar), pH 8, Recovery 8%. Permeate flows for individual elements may vary +/-15%.



A, mm (in.)	B, mm (in.)	C, mm (in.)	Weight, kg (lbs.)
1,016 (40)	200 (7.9)	28.6 (1.125)	16 (35)

All dimensional information is indicative and for reference purpose only. Please contact LG Chem for detailed technical specification.

## Operating Specifications

For more information and operating guidelines, visit [www.lgwatersolutions.com](http://www.lgwatersolutions.com)

Max. Applied pressure	1,200 psi (82.7 bar)
Max. Chlorine concentration	< 0.1 ppm
Max. Operating temperature	45°C (113°F)
pH Range, Continuous (Cleaning)	2-11 (2-13)
Max. Feedwater turbidity	1.0 NTU
Max. Feedwater SDI (15 mins)	5.0
Max. Feed flow	75 gpm (17 m <sup>3</sup> /h)
Min. Ratio of concentrate to permeate flow for any element	5 : 1
Max. Pressure drop (ΔP) for each element	15 psi (1.0 bar)

The information and data contained herein are deemed to be accurate and reliable and are offered in good faith, but without guarantee of performance. LG Chem assumes no liability for results obtained or damages incurred through the application of the information contained herein. Customer is responsible for determining whether the products and information presented herein are appropriate for the customer's use and for ensuring that customer's workplace and disposal practices are in compliance with applicable laws and other governmental enactments. Specifications subject to change without notice. NanoH<sub>2</sub>O is the Trademark of The LG Water Solutions or an affiliated company of LG Chem. All rights reserved. © LG Chem, Ltd.

# Data Sheet



## Seawater Reverse Osmosis (RO) Membranes LG SW 440 R G2

### Overview

The next generation LG SW G2 membranes have achieved record-breaking salt rejection, improving the product quality up to 45% compared with the conventional technology. With enhanced Thin Film Nanocomposite (TFN) technology, LG SW G2 membranes can significantly reduce the cost of desalination.

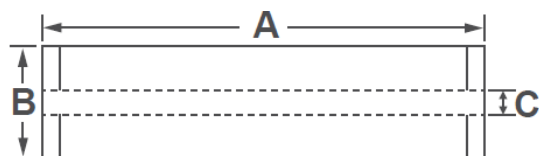
LG SW R (High Rejection) membranes offer a combination of high rejection and low energy requirements to reduce the total cost of desalination; suitable for medium to high salinity seawater applications.

- LG SW G2 Benefits**
- ▶ **Improved permeate quality** without increasing operating pressure
  - ▶ **Reduced energy cost** without sacrificing the permeate quality
  - ▶ **Reduced capital and operation costs** for multi-pass SWRO systems

### Product Specifications

Active Membrane Area, ft <sup>2</sup> (m <sup>2</sup> )	Permeate Flow Rate, GPD (m <sup>3</sup> /d)	Stabilized Salt Rejection, %	Minimum Salt Rejection, %	Boron Rejection, %	Feed Spacer, mil
440 (41)	9,900 (37.5)	99.88	99.75	93	28

Test Conditions : 32,000 ppm NaCl, 5 ppm boron at 25°C (77°F), 800 psi (55 bar), pH 8, Recovery 8%.  
Permeate flows for individual elements may vary +/-15%.



A, mm (in.)	B, mm (in.)	C, mm (in.)	Weight, kg (lbs.)
1,016 (40)	200 (7.9)	28.6 (1.125)	16 (35)

All dimensional information is indicative and for reference purpose only. Please contact LG Chem for detailed technical specification.

### Operating Specifications

For more information and operating guidelines, visit [www.lgwatersolutions.com](http://www.lgwatersolutions.com)

<b>Max. Applied pressure</b>	1,200 psi (82.7 bar)
<b>Max. Chlorine concentration</b>	< 0.1 ppm
<b>Max. Operating temperature</b>	45°C (113°F)
<b>pH Range, Continuous (Cleaning)</b>	2-11 (2-13)
<b>Max. Feedwater turbidity</b>	1.0 NTU
<b>Max. Feedwater SDI (15 mins)</b>	5.0
<b>Max. Feed flow</b>	75 gpm (17 m <sup>3</sup> /h)
<b>Min. Ratio of concentrate to permeate flow for any element</b>	5 : 1
<b>Max. Pressure drop (ΔP) for each element</b>	15 psi (1.0 bar)

The information and data contained herein are deemed to be accurate and reliable and are offered in good faith, but without guarantee of performance. LG Chem assumes no liability for results obtained or damages incurred through the application of the information contained herein. Customer is responsible for determining whether the products and information presented herein are appropriate for the customer's use and for ensuring that customer's workplace and disposal practices are in compliance with applicable laws and other governmental enactments. Specifications subject to change without notice. NanoH<sub>2</sub>O is the Trademark of The LG Water Solutions or an affiliated company of LG Chem. All rights reserved. © LG Chem, Ltd.

# Data Sheet



**Seawater  
Reverse Osmosis (RO) Membranes  
LG SW 440 SR**

## Overview

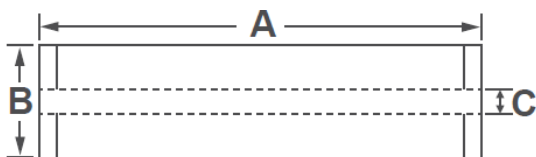
LG Chem's NanoH<sub>2</sub>O™ seawater RO membranes, incorporated with innovative Thin Film Nanocomposite (TFN) technology, reduce the cost of desalination while delivering superior water quality. Our seawater RO membranes provide industry leading salt rejection and produce 20% more flow than membranes manufactured with conventional technologies. We continue to leverage the technological advantages of our seawater RO membranes to expand our market share, accruing more than 3,000 Million Liter per Day (MLD) projects for both new and replacement market since the establishment.

LG SW SR (Super Rejection) membranes offer the highest rejection for the best product water quality; suitable for high salinity seawater applications.

## Product Specifications

Active Membrane Area, ft <sup>2</sup> (m <sup>2</sup> )	Permeate flow rate, GPD (m <sup>3</sup> /d)	Stabilized Salt Rejection, %	Minimum Salt Rejection, %	Boron Rejection, %	Feed Spacer, mil
440 (41)	6,600 (25.0)	99.85	99.7	93	28

Test Conditions : 32,000 ppm NaCl, 5 ppm boron at 25°C (77°F), 800 psi (55 bar), pH 8, Recovery 8%.  
Permeate flows for individual elements may vary +/-15%.



A, mm (in.)	B, mm (in.)	C, mm (in.)	Weight, kg (lbs.)
1,016 (40)	200 (7.9)	28.6 (1.125)	16 (35)

All dimensional information is indicative and for reference purpose only. Please contact LG Chem for detailed technical specification.

## Operating Specifications

For more information and operating guidelines, visit [www.lgwatersolutions.com](http://www.lgwatersolutions.com)

<b>Max. Applied pressure</b>	1,200 psi (82.7 bar)
<b>Max. Chlorine concentration</b>	< 0.1 ppm
<b>Max. Operating temperature</b>	45°C (113°F)
<b>pH Range, Continuous (Cleaning)</b>	2-11 (2-13)
<b>Max. Feedwater turbidity</b>	1.0 NTU
<b>Max. Feedwater SDI (15 mins)</b>	5.0
<b>Max. Feed flow</b>	75 gpm (17 m <sup>3</sup> /h)
<b>Min. Ratio of concentrate to permeate flow for any element</b>	5 : 1
<b>Max. Pressure drop (ΔP) for each element</b>	15 psi (1.0 bar)

The information and data contained herein are deemed to be accurate and reliable and are offered in good faith, but without guarantee of performance. LG Chem assumes no liability for results obtained or damages incurred through the application of the information contained herein. Customer is responsible for determining whether the products and information presented herein are appropriate for the customer's use and for ensuring that customer's workplace and disposal practices are in compliance with applicable laws and other governmental enactments. Specifications subject to change without notice. NanoH<sub>2</sub>O is the Trademark of The LG Water Solutions or an affiliated company of LG Chem. All rights reserved. © LG Chem, Ltd.

# Data Sheet



**Seawater Reverse Osmosis (RO) Membranes**  
**LG SW 440 SR G2**

## Overview

The next generation LG SW G2 membranes have achieved record-breaking salt rejection, improving the product quality up to 45% compared with the conventional technology. With enhanced Thin Film Nanocomposite (TFN) technology, LG SW G2 membranes can significantly reduce the cost of desalination.

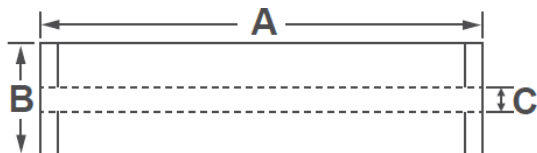
LG SW SR (Super Rejection) membranes offer the highest rejection for the best product water quality; suitable for high salinity seawater applications.

- LG SW G2 Benefits**
- ▶ Improved permeate quality without increasing operating pressure
  - ▶ Reduced energy cost without sacrificing the permeate quality
  - ▶ Reduced capital and operation costs for multi-pass SWRO systems

## Product Specifications

Active Membrane Area, ft <sup>2</sup> (m <sup>2</sup> )	Permeate Flow Rate, GPD (m <sup>3</sup> /d)	Stabilized Salt Rejection, %	Minimum Salt Rejection, %	Boron Rejection, %	Feed Spacer, mil
440 (41)	6,600 (25.0)	99.89	99.75	93	28

Test Conditions : 32,000 ppm NaCl, 5 ppm boron at 25°C (77°F), 800 psi (55 bar), pH 8, Recovery 8%.  
 Permeate flows for individual elements may vary +/-15%.



A, mm (in.)	B, mm (in.)	C, mm (in.)	Weight, kg (lbs.)
1,016 (40)	200 (7.9)	28.6 (1.125)	16 (35)

All dimensional information is indicative and for reference purpose only. Please contact LG Chem for detailed technical specification.

## Operating Specifications

For more information and operating guidelines, visit [www.lgwatersolutions.com](http://www.lgwatersolutions.com)

Max. Applied pressure	1,200 psi (82.7 bar)
Max. Chlorine concentration	< 0.1 ppm
Max. Operating temperature	45°C (113°F)
pH Range, Continuous (Cleaning)	2-11 (2-13)
Max. Feedwater turbidity	1.0 NTU
Max. Feedwater SDI (15 mins)	5.0
Max. Feed flow	75 gpm (17 m <sup>3</sup> /h)
Min. Ratio of concentrate to permeate flow for any element	5 : 1
Max. Pressure drop (ΔP) for each element	15 psi (1.0 bar)

The information and data contained herein are deemed to be accurate and reliable and are offered in good faith, but without guarantee of performance. LG Chem assumes no liability for results obtained or damages incurred through the application of the information contained herein. Customer is responsible for determining whether the products and information presented herein are appropriate for the customer's use and for ensuring that customer's workplace and disposal practices are in compliance with applicable laws and other governmental enactments. Specifications subject to change without notice. NanoH<sub>2</sub>O is the Trademark of The LG Water Solutions or an affiliated company of LG Chem. All rights reserved. © LG Chem, Ltd.

# Data Sheet



**Seawater  
Reverse Osmosis (RO) Membranes  
LG SW 4040 R**

## Overview

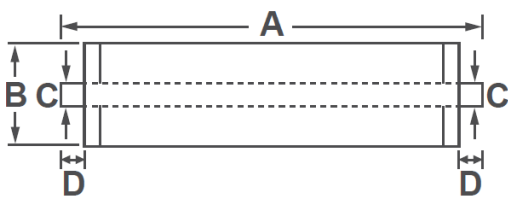
LG Chem’s NanoH<sub>2</sub>O™ seawater RO membranes, incorporated with innovative Thin Film Nanocomposite (TFN) technology, deliver industry-leading salt rejection and 20% more flow than the membranes manufactured from conventional technologies. Our seawater RO membranes significantly reduce the cost of desalination while delivering superior water quality. In LG Chem, we do our utmost to fulfill customer needs and provide additional values from excellent commercial and technical supports. With state-of-the-art technology and customer focus, LG Chem has been awarded more than 3,000 Million Liter per Day (MLD) seawater projects since its establishment.

LG SW R (High Rejection) membranes offer a combination of high rejection and low energy requirements to reduce the total cost of desalination; suitable for medium to high salinity seawater applications.

## Product Specifications

Active Membrane Area, ft <sup>2</sup> (m <sup>2</sup> )	Permeate Flow Rate, GPD (m <sup>3</sup> /d)	Stabilized Salt Rejection, %	Minimum Salt Rejection, %	Feed Spacer, Mil
80 (7.4)	1,950 (7.4)	99.7	99.5	28

Test Conditions: 32,000 ppm NaCl at 25°C (77°F), 800 psi (55 bar), pH 8, Recovery 8%.  
Permeate flows for individual elements may vary +/-20%.



A, mm (in.)	B, mm (in.)	C, mm (in.)	D, mm (in.)	Weight kg (lbs.)
1,016 (40)	100 (3.9)	19 (0.75)	29 (1.1)	4.2 (9.3)

All dimensional information is indicative and for reference purpose only. Please contact LG Chem for detailed technical specification.

## Operating Specifications

For more information and operating guidelines, visit [www.lgwatersolutions.com](http://www.lgwatersolutions.com)

<b>Max. Applied pressure</b>	1,200 psi (82.7 bar)
<b>Max. Chlorine concentration</b>	< 0.1 ppm
<b>Max. Operating temperature</b>	45°C (113°F)
<b>pH Range, Continuous (Cleaning)</b>	2-11 (2-13)
<b>Max. Feedwater turbidity</b>	1.0 NTU
<b>Max. Feedwater SDI (15 mins)</b>	5.0
<b>Max. Feed flow</b>	15 gpm (3.4 m <sup>3</sup> /h)
<b>Min. Ratio of concentrate to permeate flow for any element</b>	5 : 1
<b>Max. Pressure drop (ΔP) for each element</b>	15 psi (1.0 bar)

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