

SanRO-HS

SanRO-HS Heat Sanitizable, High Rejection RO Composite Membrane Elements are designed specifically for High Performance in USP and other high purity water systems. Elements with Sanitary, Full-fit outer-wraps eliminate “dead flow” areas for maximum bacteria control. SanRO-HS components conform to FDA regulation CFR Title 21.

Products:

Membrane Type	Description	Element Performance*			System Performance**	
		Permeate Flow and Rejection		% Rej	Applied Pressure psig (MPa)	Permeate TDS, PPM
		GPD (m ³ /day)				
		8040	4040			
SanRO-HS	Heat Sanitizable, High Rejection Composite	8800 (33.3) SANRO HS-8	2200 (8.4) SANRO HS-4	99.7	180 (1.24)	6.6
SanRO-HS2	Heat Sanitizable, High Flux, High Rejection Composite	14,000 (53) SANRO HS2-8	3000 (11.4) SANRO HS2-4	99.6	129 (0.89)	12.5

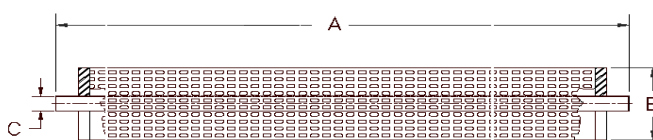
* Element Performance is at 225 psig (1.55 MPa), 1500 mg/L NaCl, 15% Recovery, 77°F (25 °C).

** Applied Pressure and Permeate TDS are projected values for a 2:2:1 array system operating at 15 GFD (26 LMH) average flux with 500 mg/L TDS feed (NaCl), 80% Recovery, pH 7, 77°F (25 °C).

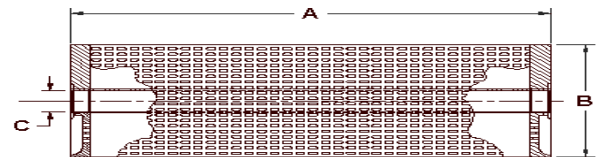
Type	Configuration:	Sanitary (Full-Fit) Spiral Wound
	Membrane Polymer:	Composite Polyamide

Application Data[†]	Maximum Applied Pressure	600 psig (4.14 MPa)
	Maximum Chlorine Concentration	< 0.1 PPM
	Maximum Operating Temperature	131 °F (55 °C)
	Sanitizing Temperature/Pressure Max.	185/25 °F/psig (85/0.17 °C/MPa)
	Operating pH Range:	2.0 - 10.0
	Cleaning pH Range:	1.0 - 12.0
	Maximum Pressure Drop for a vessel	60 psig (0.41 MPa)

[†] The limitations shown here are for general use. The values may be more conservative for specific projects to 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.



4040



8040

Size	A in (cm)	B in (cm)	C in (cm)	Area ft ² (m ²)
4040	40.0 (102)	3.98 (10.1)	0.750 (1.9) O.D.	90 (8.3)
8040	40.0 (102)	7.90 (20.1)	1.125 (2.9) I.D.	380 (35.2)

Notice: Elements are enclosed in a sealed polyethylene bag containing less than 1.0% sodium meta-bisulfite solution, and then packaged in a cardboard box. All SanROHS elements are heat set at the factory with a one hour vacuum rinse at 85 C. Elements include interconnector assembly, ATDs, and one brine seal. Hydranautics believes the information and data contained herein to be accurate and useful. The information and data are offered in good faith, but without guarantee, as conditions and methods of use of our products are beyond our control. Hydranautics assumes no liability for results obtained or damages incurred through the application of the presented information and data. It is the user's responsibility to determine the appropriateness of Hydranautics' products for the user's specific end uses. 5/13/14

Ultra Low Pressure RO Membrane Element 4040

APPLICATIONS

- Groundwater, tap water treatment etc.
- Dairy and beverage production, water vending machine, water purify equipment in medical lab, drinking equipment in office or residential site etc.
- Feed TDS below 2000mg/L.

BENEFITS

- High Rejection Rate and Strong Stability
- Economical and Applicability

SPECIFICATIONS

Model	Active Area ft2(m2)	Feed Spacer Thickness(mil)	Permeate Flow Rate GPD(m3/d)	Stabilized Salt Rejection (%)
MBR-4040 ULP	100(9.3)	28	2400(9.1)	99.60

STANDARD TEST CONDITION

Solution	Temperature (°C)	pH	Operating Pressure psi(MPa)	Recovery (%)
1500mg/L NaCl	25	7.5-8.0	150(1.03)	15

Individual flow rate may vary ±15%

ELEMENT DIMENSIONS AND OPERATING LIMITS

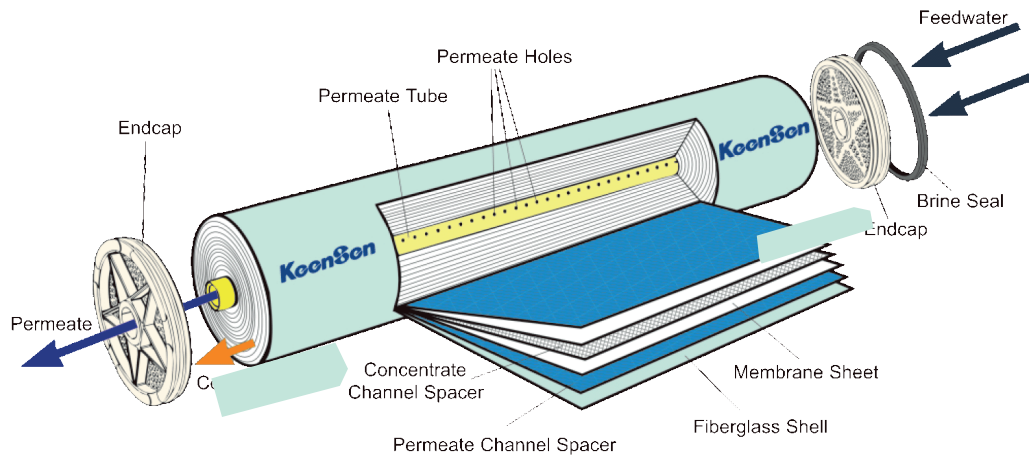
Model	Length		Diameter		Permeate Tube inner Diameter		Permeate Tube Extension Length	
	inch	mm	inch	mm	inch	mm	inch	mm
4040	40	1016	3.9	99	0.75	19.1	1.04	26.5

+55 32 99112-2628

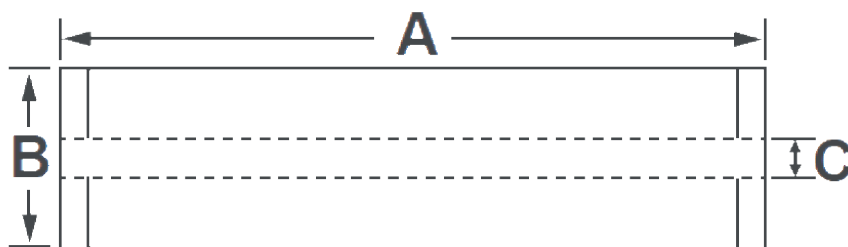
+55 11 3500-9975

info@membras.com

Ultra Low Pressure RO Membrane Element 4040



Maximum Operating Pressure	600psi(4. 14MPa)
Maximum Operating Temperature	45°C
Maximum Feed Silt Density Index	5.0
Free Chlorine Tolerance	0. 1mg/L
pH Range,Continuous Operation	3- 10
pH Range,Short-Term Cleaning	1- 13
Maximum Element Pressure Drop	15psi(0. 1MPa)



DIMENSIONS			
A mm (in.)	B mm (in.)	C mm (in.)	D mm (in.)
1,016 (40)	200 (7.9)	28.6 (1.125)	16 (.35)

The dimensional information is indicative and is provided as a reference. Please contact us for detailed technical specifications.

Brackish Water RO Membrane Element 8040

APPLICATIONS

- Brackish water, groundwater, surface water, tap water treatment etc.
- Liquid concentration, sewage wastewater and reclaimed water recycle etc.
- Feed TDS below 5000mg/L.
- Production water supply system for electronics, power, steel & iron, pharmacy, thermoelectric, petrochemical, coal to chemicals etc.

BENEFITS

- High Rejection Rate and Strong Stability
- Economical and Applicability

SPECIFICATIONS

Model	Active Area ft ² (m ²)	Feed Spacer Thickness(mil)	Permeate Flow Rate GPD(m ³ /d)	Stabilized Salt Rejection (%)
MBR-8040 LE	440(40.9)	28	13000(49.2)	99.50

STANDARD TEST CONDITION

Solution	Temperature (°C)	pH	Operating Pressure psi(MPa)	Recovery (%)
2000mg/L NaCl	25	7.5-8.0	225(1.55)	15

Individual flow rate may vary ±15%

ELEMENT DIMENSIONS AND OPERATING LIMITS

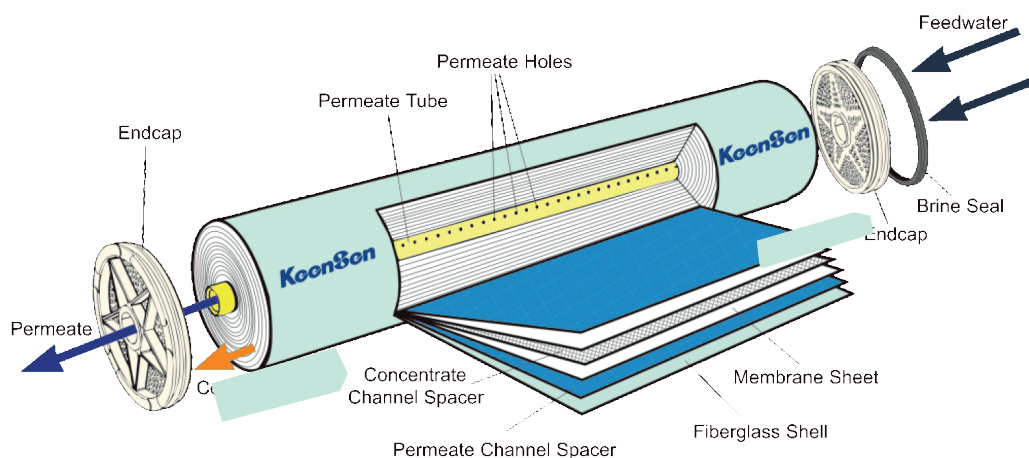
Model	Active Area ft ² (m ²)		Feed Spacer Thickness(mil)		Permeate Flow Rate GPD(m ³ /d)	
	inch	mm	inch	mm	inch	mm
8040	40	1016	7.9	201	1.12	28.5

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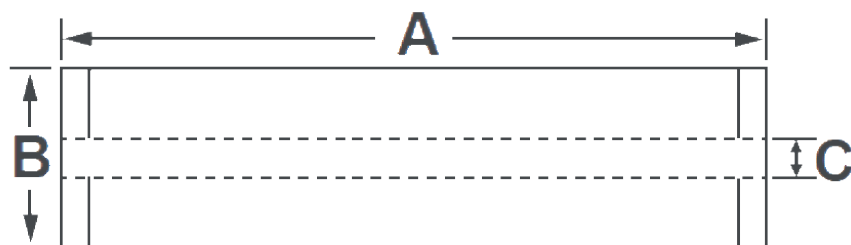
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Brackish Water RO Membrane Element 8040



Maximum Operating Pressure	600psi(4. 14MPa)
Maximum Operating Temperature	45°C
Maximum Feed Silt Density Index	5.0
Free Chlorine Tolerance	0. 1mg/L
pH Range,Continuous Operation	3- 10
pH Range,Short-Term Cleaning	1- 13
Maximum Element Pressure Drop	15psi(0. 1MPa)



DIMENSIONS			
A mm (in.)	B mm (in.)	C mm (in.)	D mm (in.)
1,016 (40)	200 (7.9)	28.6 (1.125)	16 (.35)

The dimensional information is indicative and is provided as a reference. Please contact us for detailed technical specifications.

Ultra Low Pressure RO Membrane Element 8040

APPLICATIONS

- Groundwater, tap water treatment etc.
- Dairy and beverage production, water vending machine, water purify equipment in medical lab, drinking equipment in office or residential site etc.
- Feed TDS below 2000mg/L.

BENEFITS

- High Rejection Rate and Strong Stability
- Economical and Applicability

SPECIFICATIONS

Model	Active Area ft2(m2)	Feed Spacer Thickness(mil)	Permeate Flow Rate GPD(m3/d)	Stabilized Salt Rejection (%)
MBR-8040 ULP	440(40.9)	28	12500(47.3)	99.65

STANDARD TEST CONDITION

Solution	Temperature (°C)	pH	Operating Pressure psi(MPa)	Recovery (%)
1500mg/L NaCl	25	7.5-8.0	150(1.03)	15

Individual flow rate may vary ±15%

ELEMENT DIMENSIONS AND OPERATING LIMITS

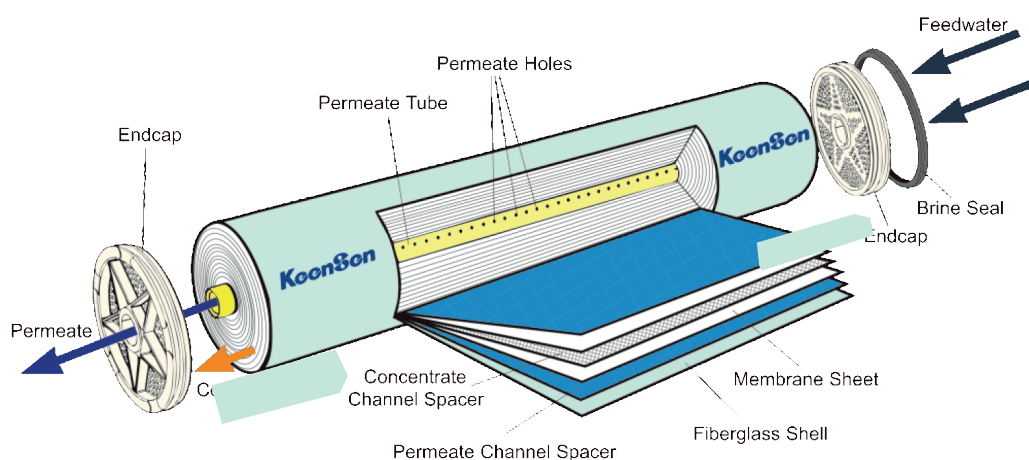
Model	Length		Diameter		Permeate Tube inner Diameter	
	inch	mm	inch	mm	inch	mm
8040	40	1016	7.9	201	1.12	28.50

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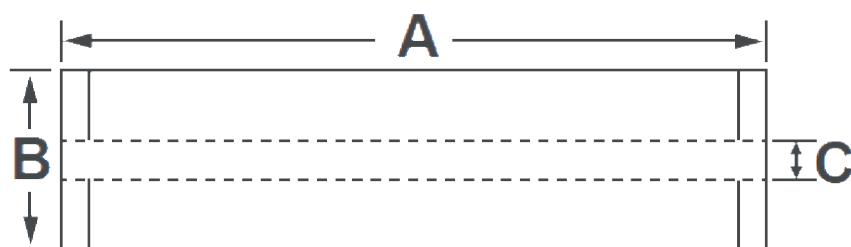
+55 11 3500-9975

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Ultra Low Pressure RO Membrane Element 8040



Maximum Operating Pressure	600psi(4. 14MPa)
Maximum Operating Temperature	45°C
Maximum Feed Silt Density Index	5.0
Free Chlorine Tolerance	0. 1mg/L
pH Range,Continuous Operation	3- 10
pH Range,Short-Term Cleaning	1- 13
Maximum Element Pressure Drop	15psi(0. 1MPa)



DIMENSIONS			
A	B	C	D
mm (in.)	mm (in.)	mm (in.)	mm (in.)
1,016 (40)	200 (7.9)	28.6 (1.125)	16 (35)

The dimensional information is indicative and is provided as a reference. Please contact us for detailed technical specifications.

Ficha de dados



Membranas de Osmose Reversa (OR) para água salobra
LG BW 400 ES



Visão geral

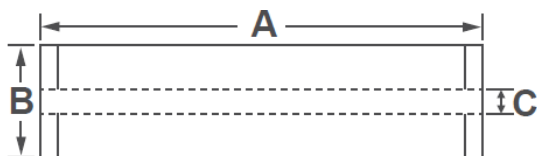
As membranas de OR para água salobra NanoH₂O™ da LG Chem atendem a diversas aplicações municipais e industriais e estão em operação nas principais concessionárias do mundo. As membranas BWRO da LG, todas incorporadas com a tecnologia inovadora de nanocompósitos de película fina (Thin Film Nanocomposite, TFN), são oferecidas em configurações padrão do setor e podem ser facilmente adaptadas a plantas de OR existentes e novas.

As membranas LG BW ES (Energy Saving, economia de energia) oferecem alta permeabilidade a baixa pressão de alimentação, reduzindo significativamente os custos operacionais; adequadas para aplicações de água salobra de baixa a média salinidade.

Especificações do produto

Área ativa da membrana, ft ² (m ²)	Fluxo de permeado, GPD (m ³ /d)	Rejeição estabilizada de sal, %	Rejeição mínima de sal, %	Espaçador, mil
400 (37)	10,500 (39.7)	99.6	99.5	34

Condições de teste: 2.000 ppm de NaCl a 25°C (77°F), 150 psi (10,3 bar), pH 7, 15% recuperação. Fluxos de permeado para elementos individuais podem variar +/- 15%.



A mm (in)	B [D.E.] mm (in)	C [D.I.] mm (in)	Peso kg (lbs)
1,016 (40)	200 (7.9)	28.6 (1.125)	16 (35)

Especificações de operação

Para mais informações e diretrizes operacionais, visite o site www.lgwatersolutions.com

Pressão máx. aplicada	600 psi (41 bar)
Concentração máx. de cloro	< 0,1 ppm
Temperatura máx. de operação	45°C (113°F)
Faixa de pH, contínua (limpeza)	2-11 (2-12)
Turbidez máx. da água de alimentação	1,0 NTU
SDI máx. da água de alimentação (15 min)	5.0
Fluxo máx. de alimentação	75 gpm (17 m ³ /h)
Queda máx. de pressão (ΔP) para cada elemento	15 psi (1,0 bar)

As informações e dados contidos aqui são considerados precisos e confiáveis e são oferecidos de boa-fé, mas sem garantia de desempenho. A LG Chem não se responsabiliza por resultados obtidos ou danos ocorridos através da aplicação das informações aqui contidas. O cliente é responsável por determinar se os produtos e as informações aqui apresentadas são apropriados para seu uso e por garantir que seu local de trabalho e suas práticas de descarte estejam em conformidade com as leis aplicáveis e outros decretos governamentais. As especificações estão sujeitas a alterações sem aviso prévio. NanoH₂O é a marca registrada da LG Water Solutions ou uma empresa afiliada da LG Chem. Todos os direitos reservados. © LG Chem, Ltd.

Entre em contato com a LG Water Solutions
www.lgwatersolutions.com | waterinfo@lgchem.com

Rev.K (12.12)

NanoH₂O™

MEMBRAS
Membranas de Osmose Reversa

Data Sheet



Brackish Water Reverse Osmosis (RO) Membranes

LG BW 4040 ES
Energy Saving



Overview

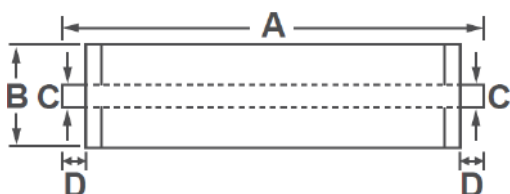
LG Chem's NanoH₂O™ brackish water RO membranes serve various municipal and industrial applications and have been operating in the major utilities around the world. Incorporating innovative Thin Film Nanocomposite (TFN) technology, all LG BWRO membranes provide superior performance along with intrinsic anti-fouling property and are suitable for applications where consistent and reliable performance is a must.

LG BW ES membranes offer high permeability at low feed pressure, significantly reducing operating costs: suitable for low to medium salinity brackish water applications.

Product Specifications

Active Membrane Area, ft ² (m ²)	Permeate flow rate, GPD (m ³ /d)	Stabilized Salt Rejection, %	Minimum Salt Rejection, %	Feed Spacer, mil
85 (7.9)	2,500 (9.5)	99.5	99.2	28

Test Conditions : 2,000 ppm NaCl at 25°C (77°F), 150 psi (10.3 bar), pH 7, Recovery 15%. 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)	4.0 (8.8)

Operating Specifications

For more information and operating guidelines, visit www.lgwatersolutions.com

Max. Applied pressure	600 psi (41 bar)
Max. Chlorine concentration	< 0.1 ppm
Max. Operating temperature	45°C (113°F)
pH Range, Continuous (Cleaning)	2-11 (2-12)
Max. Feedwater turbidity	1.0 NTU
Max. Feedwater SDI (15 mins)	5.0
Max. Feed flow	16 gpm (3.6 m ³ /h)
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. NanoH₂O is the Trademark of The LG Water Solutions or an affiliated company of LG Chem. All rights reserved. © LG Chem, Ltd.

Rev. C (03.15)



Data Sheet



Brackish Water
Reverse Osmosis (RO) Membranes

LG BW 4040 R
High Rejection



Overview

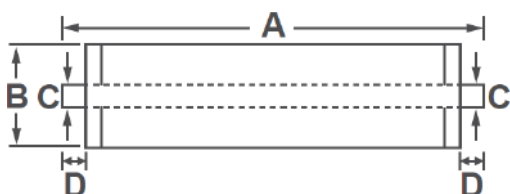
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LG BW R membranes offer a combination of high rejection and reliability: suitable for high salinity brackish water and wastewater reuse applications.

Product Specifications

Active Membrane Area, ft ² (m ²)	Permeate flow rate, GPD (m ³ /d)	Stabilized Salt Rejection, %	Minimum Salt Rejection, %	Feed Spacer, mil
85 (7.9)	2,500 (9.5)	99.6	99.3	28

Test Conditions : 2,000 ppm NaCl at 25°C (77°F), 225 psi (15.5 bar), pH 7, Recovery 15%. 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)	4.0 (8.8)

Operating Specifications

For more information and operating guidelines, visit www.lgwatersolutions.com

Max. Applied pressure	600 psi (41 bar)
Max. Chlorine concentration	< 0.1 ppm
Max. Operating temperature	45°C (113°F)
pH Range, Continuous (Cleaning)	2-11 (2-12)
Max. Feedwater turbidity	1.0 NTU
Max. Feedwater SDI (15 mins)	5.0
Max. Feed flow	16 gpm (3.6 m ³ /h)
Max. Pressure drop (ΔP) for each element	15 psi (1.0 bar)

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Rev. L (03.15)

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