

Naviblue™ RO membrane element

SW-HRLE series

BHM's reverse osmosis membrane technology applies decades of R&D and precision automated manufacturing under ISO 9001 for consistency in product quality. Naviblue™ SW-HRLE series are high-end RO elements featuring a supporting layer with high compression resistance, thick and dense flawless thin film layer. The elements are durable, high-rejection, high-productivity seawater elements for use in high-fouling or challenging feed water conditions, helping to support smooth operations and low cost of water.

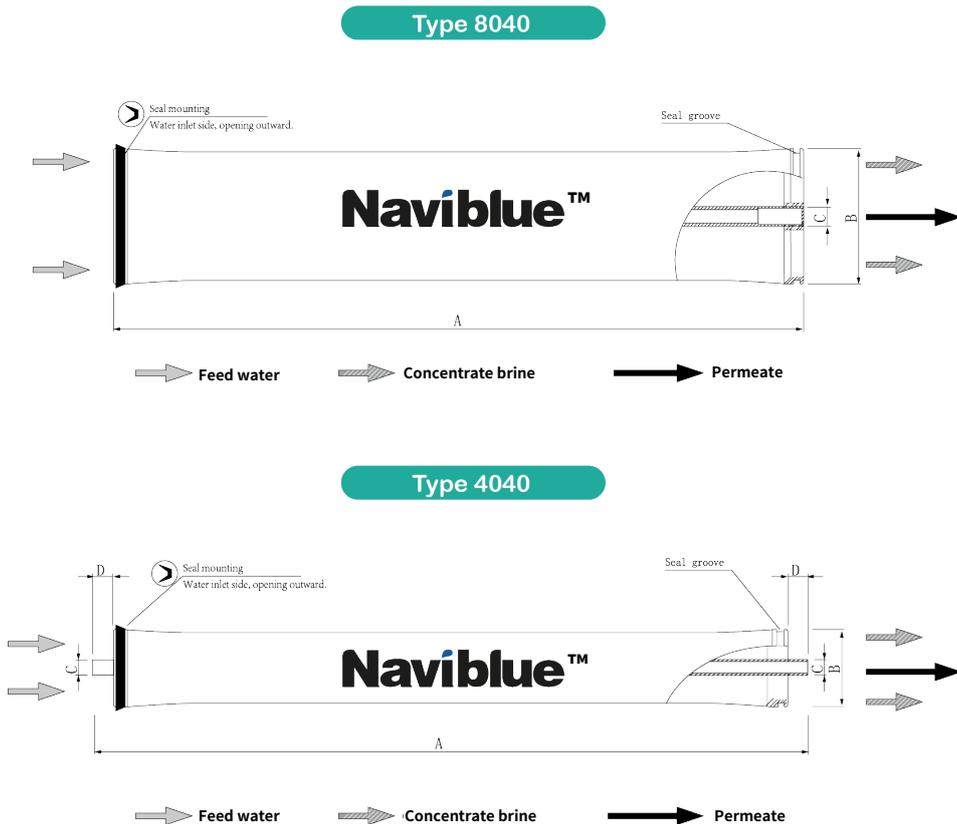
Advantages

- High rejection rate of salts;
- High compression and fouling resistance and high cleaning efficiency;
- Cost-saving of seawater desalination system.

Market Applications

Seawater desalination; Municipal drinking water purification; Industrial desalination.

Product Dimensions



Unit: mm (in.)	A	B	C	D
Type 8040	1016 (40)	207 (7.9)	29 (1.125)	-
Type 4040	1016 (40)	101 (4)	19 (0.75)	26 (1.05)

SW-HRLE Series Product Specifications

Type				
Model		SW-8040-400HRLE	SW-8040-440HRLE	SW-4040-82HRLE
Diameter		8 inch		4 inch
Membrane Material		Aramid		
Product specifications				
Membrane area	m ²	37.2	40.8	7.6
	ft ²	400	440	82
Feed spacer thickness	mil	34	28	28
	mm	0.864	0.711	0.711
Salt rejection	Stabilized	99.8		
	Minimum	99.7		
Product flow rate	m ³ /d	28.0	31.0	5.5
	GPD	7500	8200	1450
Test Conditions				
Feed water concentration as NaCl	mg/L	32000±100		
Feed water pressure	psi (Mpa)	800 (5.52)		
Feed water temperature	°C	25.0±1.0		
Recovery rate	%	8±1		
Feed water pH		7-8		
Operation Limits				
Maximum operating pressure	psi (Mpa)	1200 (8.3)		
Maximum feed water temperature	°C	45		
Feed water pH range		2-11		
Chemical cleaning pH range		1-13		
Maximum feed water turbidity	NTU	1.0		
Maximum Feed Silt Density Index SDI ₁₅		5		
Free Chlorine Tolerance	mg/L	0.1		
Maximum Element Pressure Drop	psi (Mpa)	15 (0.1)		

Notes

- Permeate flow for individual elements may vary ±15% from the value specified.
- Active membrane area guaranteed ±4%.
- Stabilized salt rejection is generally achieved within 24-48 hours of continuous use; Depending upon feed water characteristics and operating conditions.

Operation Information

- Product performance technical indicators are based on standard test conditions. In practical applications, products performance will fluctuate with different application scenarios, water quality conditions, operating conditions and other factors. Effective cyst and pathogen reduction is dependent on the complete system design and on the operation and maintenance of the system. Please consult BHM for technical support. Not strictly following the operating limits stated in this bulletin will void and nullify the Limited Warranty.
- RO elements are generally dry packed, If there are performance testing needs or special requirements of wet elements will be communicated with customers in advance to confirm. Wet element treated with a 1 percent by weight sodium bisulfite storage solution to prevent microbial contamination.
- Dry elements storages under 45°C, wet elements storages at 2-40 °C, away from direct sunlight, and away from fire, corrosion, and humidity.
- Permeate obtained from the first hour of operation should be discarded. Avoid static permeate-side backpressure at all times.
- Keep elements moist at all times after initial wetting.
- The customer is fully responsible for the effects of chemicals that are incompatible with the elements. Their use will void the element Limited Warranty.
- Maximum operating pressure will vary depending on feed temperature. Please ask for detailed information from BHM if needed.



Naviblue™ RO membrane element

SW-XHR series

BHM's reverse osmosis membrane technology applies decades of R&D and precision automated manufacturing under ISO 9001 for consistency in product quality. Naviblue™ SW-XHR series are a premium-grade seawater reverse osmosis element featuring both high active area and high salt rejection to offer the best long-term economics for seawater desalination systems. The elements deliver high performance over their operating lifetime without the use of oxidative post treatments like many competitive products. This is one reason why the elements are more durable and may be cleaned more effectively over a wider pH range than other RO elements.

Advantages

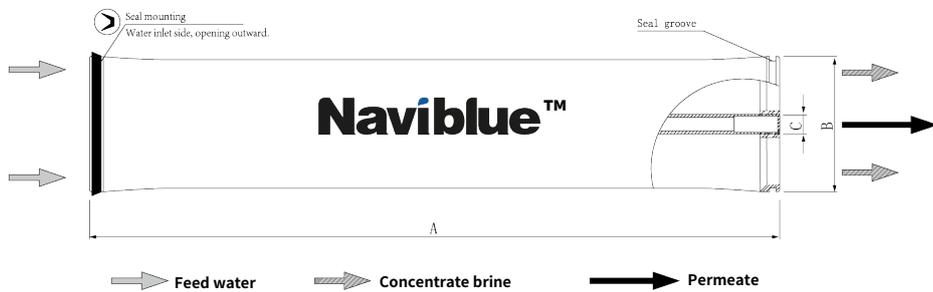
Naviblue™ SW-XHR series membranes excel in rejection rate, permeate flow rate, compression resistance, fouling resistance, and membrane performance consistency.

Market Applications

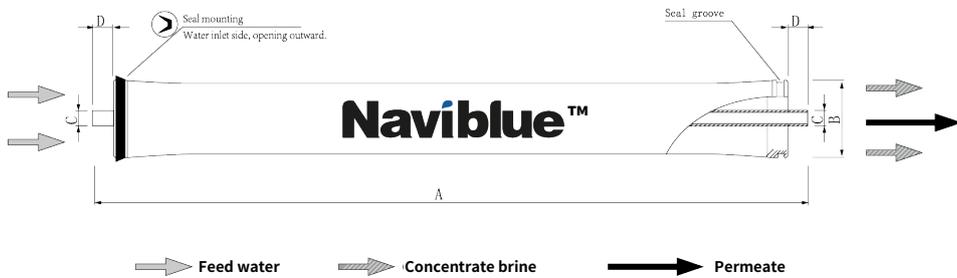
With high salt rejection rate, SW-XHR series RO membranes are engineered specifically for seawater, high salinity water, and concentrated brackish water with the total salt content exceeds 10,000 ppm.

Product Dimensions

Type 8040



Type 4040



Unit: mm (in.)	A	B	C	D
Type 8040	1016 (40)	207 (7.9)	29 (1.125)	-
Type 4040	1016 (40)	101 (4)	19 (0.75)	26 (1.05)

SW-XHR Series Product Specifications

Type				
Model		SW-8040-400XHR	SW-8040-440XHR	SW-4040-82XHR
Diameter		8 inch		4 inch
Membrane Material		Aramid		
Product Specifications				
Membrane area	m ²	37.2	40.8	7.6
	ft ²	400	440	82
Feed spacer thickness	mil	34	28	28
	mm	0.864	0.711	0.711
Salt rejection	Stabilized	99.82%		99.75%
	Minimum	99.70%		99.65%
Product flow rate	m ³ /d	23.0	25.0	4.5
	GPD	6000	6600	1180
Test Conditions				
Feed water concentration as NaCl	mg/L	32000±100		
Feed water pressure	psi (Mpa)	800 (5.52)		
Feed water temperature	°C	25.0±1.0		
Recovery rate	%	8±1		
Feed water pH		7-8		
Operation Limits				
Maximum operating pressure	psi (Mpa)	1200 (8.3)		
Maximum feed water temperature	°C	45		
Feed water pH range		2-11		
Chemical cleaning pH range		1-13		
Maximum feed water turbidity	NTU	1.0		
Maximum Feed Silt Density Index SDI ₁₅		5		
Free Chlorine Tolerance	mg/L	0.1		
Maximum Element Pressure Drop	psi (Mpa)	15 (0.1)		

Notes

- Permeate flow for individual elements may vary ±15% from the value specified.
- Active membrane area guaranteed ±4%.
- Stabilized salt rejection is generally achieved within 24-48 hours of continuous use; Depending upon feed water characteristics and operating conditions.

Operation Information

- Product performance technical indicators are based on standard test conditions. In practical applications, products performance will fluctuate with different application scenarios, water quality conditions, operating conditions and other factors. Effective cyst and pathogen reduction is dependent on the complete system design and on the operation and maintenance of the system. Please consult BHM for technical support. Not strictly following the operating limits stated in this bulletin will void and nullify the Limited Warranty.
- RO elements are generally dry packed, If there are performance testing needs or special requirements of wet elements will be communicated with customers in advance to confirm. Wet element treated with a 1 percent by weight sodium bisulfite storage solution to prevent microbial contamination.
- Dry elements storages under 45°C, wet elements storages at 2-40°C, away from direct sunlight, and away from fire, corrosion, and humidity.
- Permeate obtained from the first hour of operation should be discarded. Avoid static permeate-side backpressure at all times.
- Keep elements moist at all times after initial wetting.
- The customer is fully responsible for the effects of chemicals that are incompatible with the elements. Their use will void the element Limited Warranty.
- Maximum operating pressure will vary depending on feed temperature. Please ask for detailed information from BHM if needed.