ADH2OC industrial

Product Information

MEMBRANE XLE-4040

Description

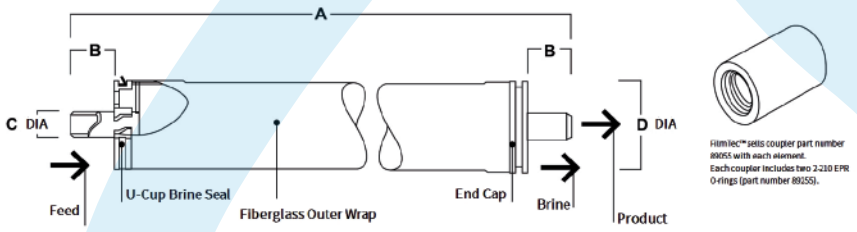
New FilmTec™ XLE Elements offer better system performance and economics by operating at very low applied pressure. XLE membrane, made with a patented technology, provides consistent and reliable system performance. And for added convenience, FilmTec™ XLE Elements are available in a dry state for rapid start-up (see Figure 2 on reverse). The new XLE series of elements replaces TW30LE elements which were made with an older membrane technology.

Typical Properties

Product	Part Number	Applied Pressure psig (bar)	Permeate Flow Rate gpd (m^3/d)	Stabilized Salt Rejection (%)
XLE-2521	154530	100 (6.9)	365 (1.4)	99.0
XLE-2540	154543	100 (6.9)	850 (3.2)	99.0
XLE-4021	154540	100 (6.9)	1,025 (3.9)	99.0
XLE-4040	154546	100 (6.9)	2,600 (9.8)	99.0

1. Permeate flow and salt rejection based on the following test conditions: 500 ppm NaCl feedstream, pressure specified above, 77°F (25°C) and the following recovery rates: XLE-2521, XLE-4021 – 8%; XLE-2540, XLE-4040 – 15%.
2. Minimum salt rejection is 97.0%.
3. Permeate flows for individual elements may vary +/-20%.
4. For the purpose of improvement, specifications may be updated periodically.

Element Dimensions



Product	Maximum Feed Flow Rate gpm (m^3/h)	Dimensions – Inches (mm) A	B	C	1 inch = 25.4 mm D
XLE-2521	6 (1.4)	21.0 (533)	1.19 (30.2)	0.75 (19)	2.4 (61)
XLE-2540	6 (1.4)	40.0 (1,016)	1.19 (30.2)	0.75 (19)	2.4 (61)
XLE-4021	14 (3.2)	21.0 (533)	1.05 (26.7)	0.75 (19)	3.9 (99)
XLE-4040	14 (3.2)	40.0 (1,016)	1.05 (26.7)	0.75 (19)	3.9 (99)

1. Refer to FilmTec™ Design Guidelines for multiple-element systems of midsize elements (Form No. 45-D01588-en).
2. XLE-2521 and XLE-2540 Elements fit nominal 2.5-inch I.D. pressure vessel. XLE-4021 and XLE-4040 Elements fit nominal 4-inch I.D. pressure vessel.

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General Information

- Keep elements moist at all times after initial wetting.
- If operating limits and guidelines given in this bulletin are not strictly followed, the limited warranty will be null and void.
- To prevent biological growth during prolonged system shutdowns, it is recommended that membrane elements be immersed in a preservative solution.
- The customer is fully responsible for the effects of incompatible chemicals and lubricants on elements.
- Maximum pressure drop across an entire pressure vessel (housing) is 30 psi (2.1 bar).
- Avoid static permeate-side backpressure at all times.

Product Stewardship

DuPont has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with DuPont products—from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

DuPont strongly encourages its customers to review both their manufacturing processes and their applications of DuPont products from the standpoint of human health and environmental quality to ensure that DuPont products are not used in ways for which they are not intended or tested. DuPont personnel are available to answer your questions and to provide reasonable technical support. DuPont product literature, including safety data sheets, should be consulted prior to use of DuPont products. Current safety data sheets are available from DuPont.

Please be aware of the following:

- The use of this product in and of itself does not necessarily guarantee the removal of cysts and pathogens from water. Effective cyst and pathogen reduction is dependent on the complete system design and on the operation and maintenance of the system.
- Permeate obtained from the first hour of operation should be discarded.

Operating and Cleaning Limits

Membrane Type	Polyamide Thin-Film Composite
Maximum Operating Temperature[a]	113°F (45°C)
Maximum Operating Pressure	600 psi (41 bar)
Maximum Pressure Drop	13 psig (0.9 bar)
pH Range	
Continuous Operation[a]	2 - 11
Short-Term Cleaning[b]	1 - 13
Maximum Feed Silt Density Index	SDI 5
Free Chlorine Tolerance[c]	<0.1 ppm

a. Maximum temperature for continuous operation above pH 10 is 95°F (35°C).
b. Refer to FilmTec™ Cleaning Guidelines (Form No. 45-D01696-en)..
c. Under certain conditions, the presence of free chlorine and other oxidizing agents will cause premature membrane failure. Since oxidation damage is not covered under warranty, DuPont Water Solutions recommends removing residual free chlorine by pretreatment prior to membrane exposure. Please refer to Dechlorinating Feedwater (Form No. 45-D01569-en) for more information.

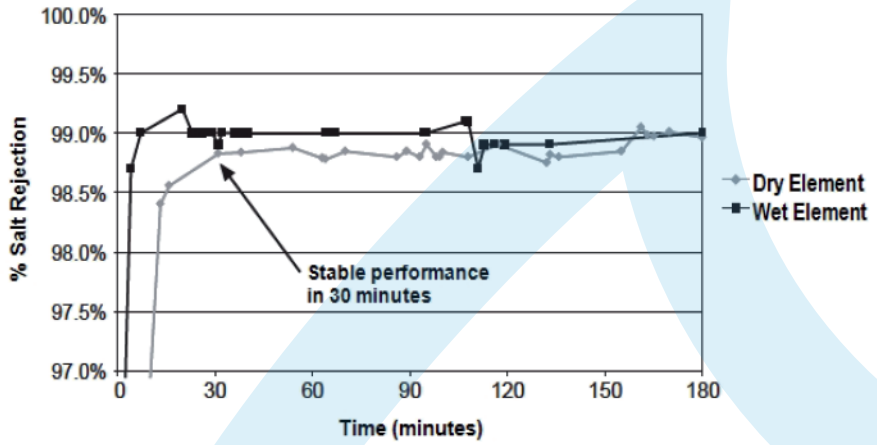

Figure 2: XLE-4040 start-up data

Important Information

Proper start-up of reverse osmosis water treatment systems is essential to prepare the membranes for operating service and to prevent membrane damage due to overfeeding or hydraulic shock. Following the proper start-up sequence also helps ensure that system operating parameters conform to design specifications so that system water quality and productivity goals can be achieved.

Before initiating system start-up procedures, membrane pretreatment, loading of the membrane elements, instrument calibration and other system checks should be completed.

Please refer to the application information literature entitled Start-Up Sequence (Form No. 45-D01609-en).) for more information.

Operation Guidelines

Avoid any abrupt pressure or cross-flow variations on the spiral elements during start-up, shutdown, cleaning or other sequences to prevent possible membrane damage. During start-up, a gradual change from a standstill to operating state is recommended as follows:

- Feed pressure should be increased gradually over a 30-60 second time frame.
- Cross-flow velocity at set operating point should be achieved gradually over 15-20 seconds.