Product Data Sheet

DuPont™ TapTec™ Membranes

Large Commercial TapTec™ LC HF-4040 Reverse Osmosis Elements

Description

DuPont™ TapTec™ LC HF-4040 is a product that is specially developed for commercial segments, such as drinking water applications that require high flow rate. DuPont's quality process enables the most consistent products in the industry that minimize the total cost of ownership of water treatment systems.

TapTec™ HF-4040 offers the following benefits:

1. DuPont™ TapTec™, powered by more than 40 years of membrane innovation.
2. Advanced membrane technologies can achieve ultra-high flow and good salt rejection.
3. Proven consistency and reliability with quick stabilization.

Product Type

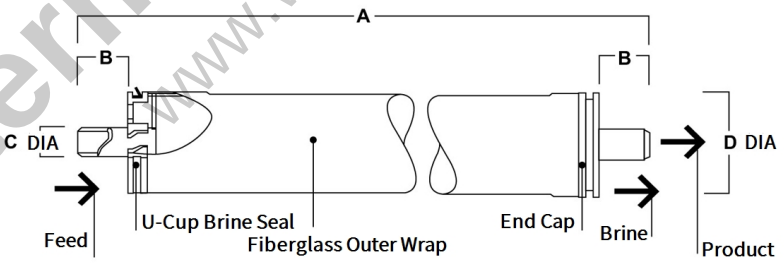
Spiral-wound element with polyamide thin-film composite membrane

Typical Properties

Product	Feed Spacer Thickness (mil)	Average Permeate Flow Rate gpd (m^3/d)	Minimum Salt Rejection (%)	Stabilized Salt Rejection (%)
LC HF-4040	31	2800 (10.6)	98.5	99.0

1. Permeate flow and salt rejection based on the following test conditions: 1500 ppm NaCl, 77°F (25°C), 15% recovery, pH 7, and applied pressure 150 psig.
2. Minimum permeate flow for individual elements should be no less than -15%.

Element Dimensions



Product	A Inches (mm)	B Inches (mm)	C Inches (mm)	D Inches (mm)
LC HF-4040	40.00 (1016)	1.06 (27)	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. LC HF-4040 Elements fit nominal 4-inch I.D. pressure vessel.

Operating and Cleaning Limits

Membrane type	Polyamide Thin-Film Composite
Maximum operating temperature	95°F (35°C)
Maximum operating pressure [a]	600 psi (41 bar)
Maximum pressure drop	15 psi (1.0 bar)
Maximum feed flow rate, gpm (m^3/h)	16 gpm (3.6 m^3/h)
pH range	
Continuous operation	3-10
Cleaning	2-12
Maximum Feed Silt Density Index	5
Free chlorine concentration [b]	< 0.1 ppm

a. This element is optimized to operate below 300 psi. However, exposure to feed water pressures of 600 psi will not negatively impact the long-term performance.
b. 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 recommends removing residual free chlorine and other oxidants by pretreatment prior to membrane exposure. Please refer to Dechlorinating Feedwater (Form No. 45-D01569-en) for more information.

General 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.

Important Information

Keep elements moist at all times after initial wetting.

For successful operation of Reverse Osmosis (RO) and Nanofiltration (NF) membrane systems, the operation must follow the guidelines provided in the FilmTec™ Reverse Osmosis / Nanofiltration Elements Operation Excellence and Limiting Conditions Tech Fact (Form No. 45-D04388-en).

To prevent biological growth during prolonged system shutdowns, it is recommended that membrane elements be immersed in a storage 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 50 psi (3.4 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.

Regulatory Note

This product may be subject to drinking water application restrictions in some countries; please check the application status before use and sale.

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