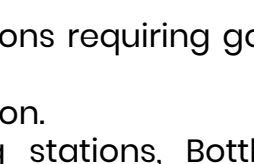


FilmTec™ LC LE PRO-4040



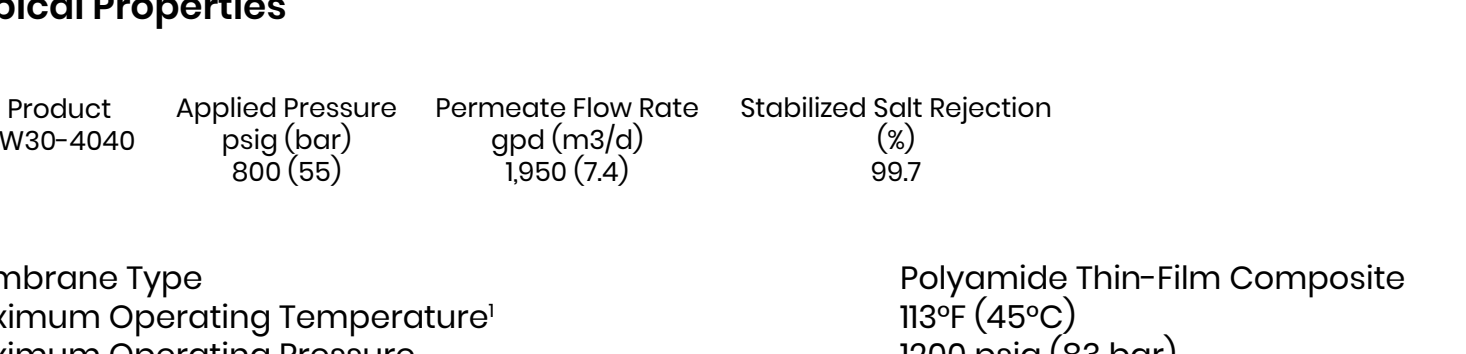
- Key Features:**
- LC LE PRO-4040 delivers high quality water at low pressure at harsh water conditions, using DuPont's innovative, proprietary technology for low energy applications.
 - Industry leading active area (94 sqft) which provides less fouling due to low operating flux while still achieving higher flow.
 - Offers high salt rejection at low pressure in harsh water conditions.
 - Provides most effective cleaning performance, robustness and durability due to it's widest cleaning pH range (1-3) and chemical tolerance.

- Key Application:**
- Light industrial applications requiring good permeate quality.
 - Harsh feed water condition.
 - Drinking water-Refilling stations, Bottling plants, Hotels, Schools, Institutions etc.

Typical Properties

Product	Part Number	Permeate Flow Rate	Minimum Salt Rejection	Stabilized Salt Rejection
LC LE PRO-4040	12081512	gpd (m3/d) 2600 (9.8)	(%) 90.0	(%) 99.5

Membrane Type	Polymide Thin-Film Composite
Maximum Operating Temperature¹	113°F (45°C)
Maximum Operating Pressure	600 psig (41 bar)
Maximum Pressure Drop	
Per Element	15 psig (1.0 bar)
pH Range	
Continuous Operation¹	2-11
Short-Term Cleaning (30 min.)²	1-13
Maximum Feed Silt Density Index	SDI 5
Free Chlorine Tolerance⁴	<0.1 ppm



FilmTec™ Membrane SW-30-4040

FilmTec™ Seawater RO Elements for Commercial Systems



- Key Features:**
- FilmTec Membranes offer the highest productivity while maintaining excellent Salt Rejection.
 - FilmTec SW30 Membrane Elements have the highest flow rates available to meet the water demands of both sea-based and land-based desalimators.
 - FilmTec SW30 elements may also be operated at lower pressure to reduce pump size, Cost and operating expenses.
 - Improved FilmTec Seawater Membrane combine with automated, precious element fabrication result in the most consistent product performance available.

- Key Application:**
- Commercial Solutions.

Typical Properties

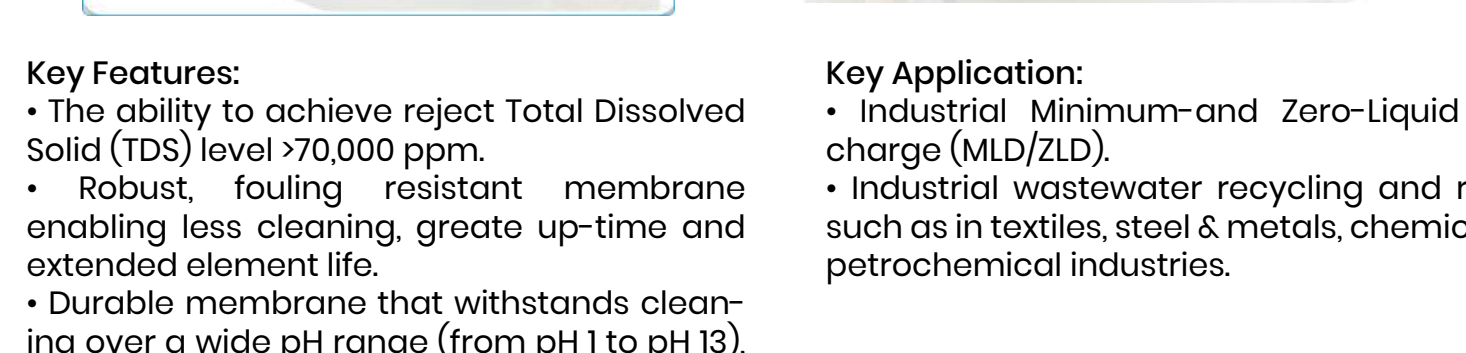
Product	Applied Pressure	Permeate Flow Rate	Stabilized Salt Rejection
SW30-4040	psig (bar) 800 (55)	gpd (m3/d) 1,950 (7.4)	(%) 99.7

Membrane Type	Polymide Thin-Film Composite
Maximum Operating Temperature¹	113°F (45°C)
Maximum Operating Pressure	1200 psig (83 bar)
Maximum Pressure Drop	15 psig (1.0 bar)

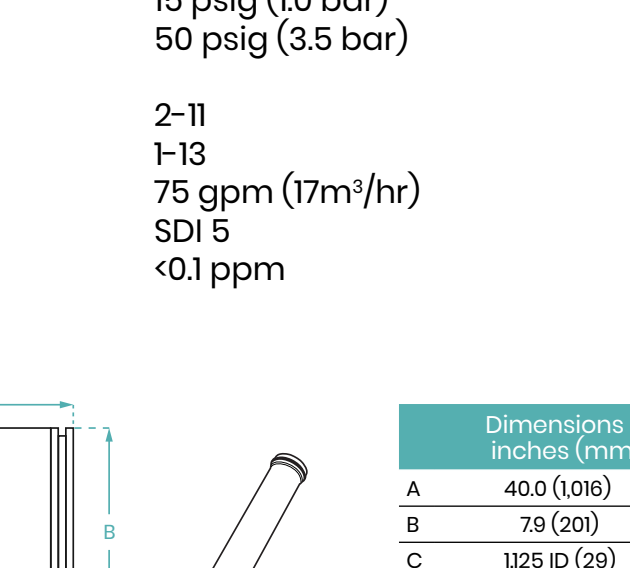
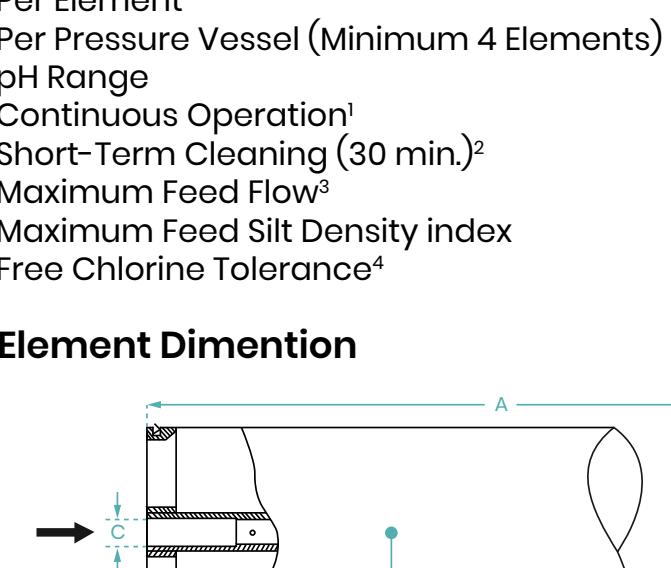
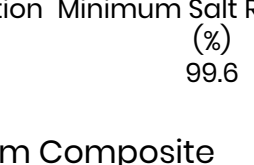
pH Range	2-11
Continuous Operation²	1-13
Short-Term Cleaning³	1-11

Maximum Feed Silt Density Index	SDI 5
Free Chlorine Tolerance⁴	<0.1 ppm

Element Dimention



FilmTec™ Membrane SW30XFR-400/34 Element



- Key Features:**
- Optimized combination of water production, permeate quality, and fouling resistance reducing the number of chemical cleanings.
 - Excellent durability resulting in stable long-term performance
 - Longer storage time and warranty coverage with improved sustainability footprint versus our wet RO membrane elements.
 - More efficient cleaning of biofilm, organic compounds and scale, achieved through one of the widest pH range in cleaning.

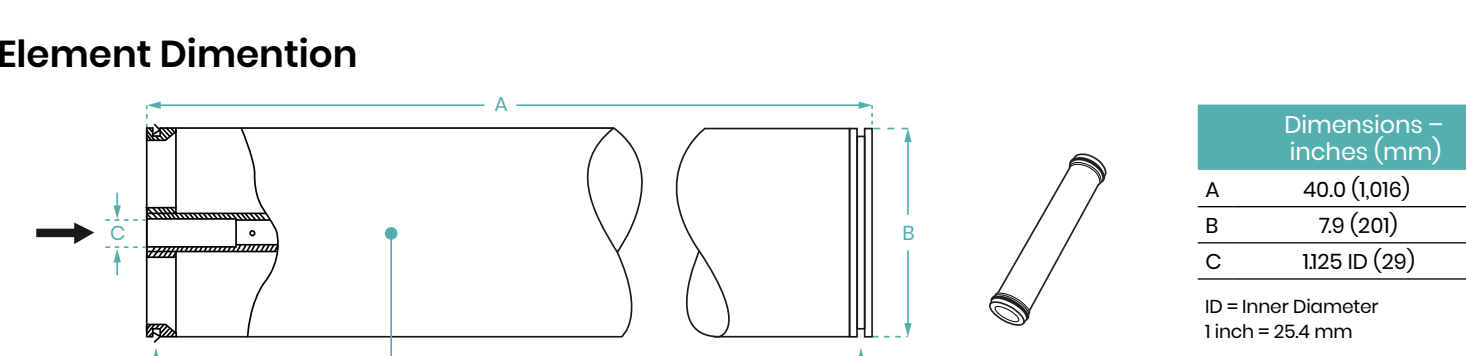
- Key Application:**
- Seawater installations with challenging or high fouling feedwater conditions
 - Suitable for medium and high feed water salinity
 - Offers balance between permeate quality and energy consumption

Typical Properties

FilmTec	Active Area	Feed Spacer Thickness	Permeate Flow Rate	Stabilized Salt Rejection	Minimum Salt Rejection
SW30XFR-400/34	ft2 (m2) 400 (37)	(mil) 34	gpd (m3/d) 7,500 (28)	(%) 99.7	(%) 99.85

Membrane Type	Polymide Thin-Film Composite
Maximum Operating Temperature¹	113°F (45°C)
Maximum Operating Pressure	1200 psig (83 bar)
Maximum Pressure Drop	
Per Element	15 psig (1.0 bar)
Per Pressure Vessel (Minimum 4 Elements)	50 psig (3.5 bar)

pH Range	2-11
Continuous Operation¹	1-13
Short-Term Cleaning (30 min.)²	75 gpm (17m³/hr)
Maximum Feed Flow³	SDI 5
Maximum Feed Silt Density Index	<0.1 ppm
Free Chlorine Tolerance⁴	



FilmTec™ Fortilife™ XC70 Element



- Key Features:**
- The ability to achieve reject Total Dissolved Solid (TDS) level >70,000 ppm.
 - Robust, fouling resistant membrane enabling less cleaning, greater up-time and extended element life.
 - Durable membrane that withstands cleaning over a wide pH range (from pH 1 to pH 13), ensuring a long service life of element and cost-effective maintenance.

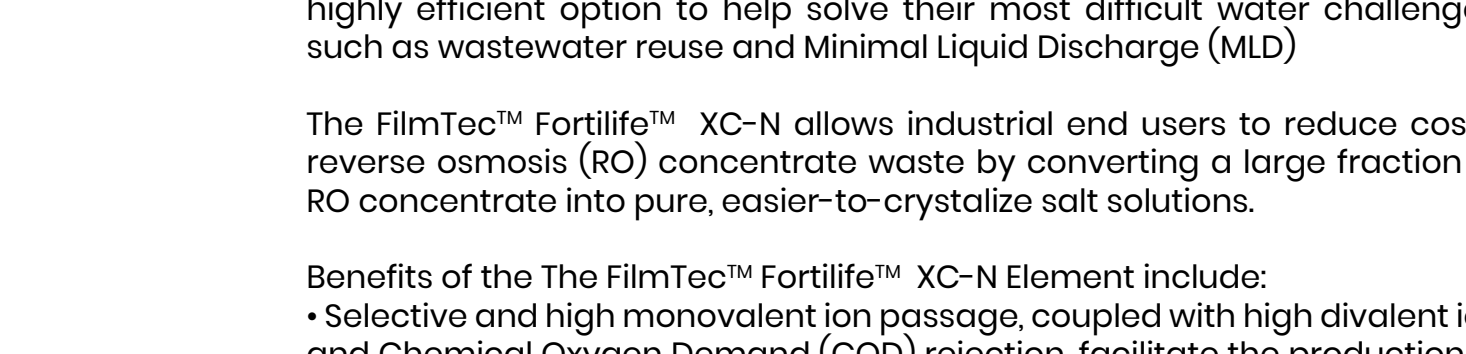
- Key Application:**
- Industrial Minimum- and Zero-Liquid Discharge (MLD/ZLD).
 - Industrial wastewater recycling and reuse such as in textiles, steel & metals, chemicals & petrochemical industries.

Typical Properties

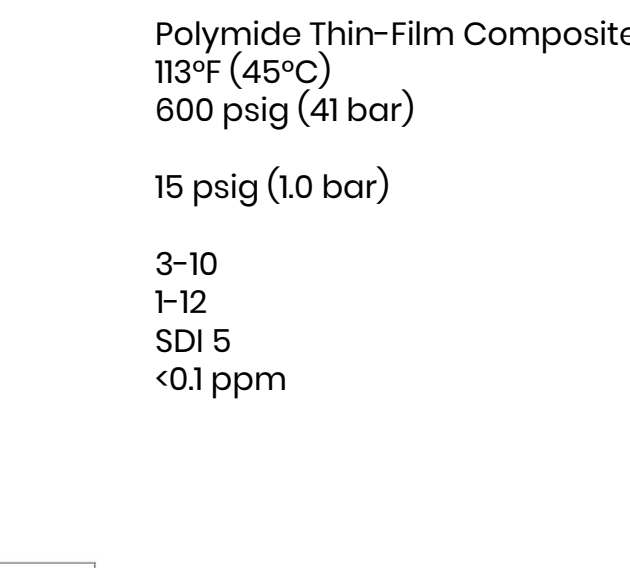
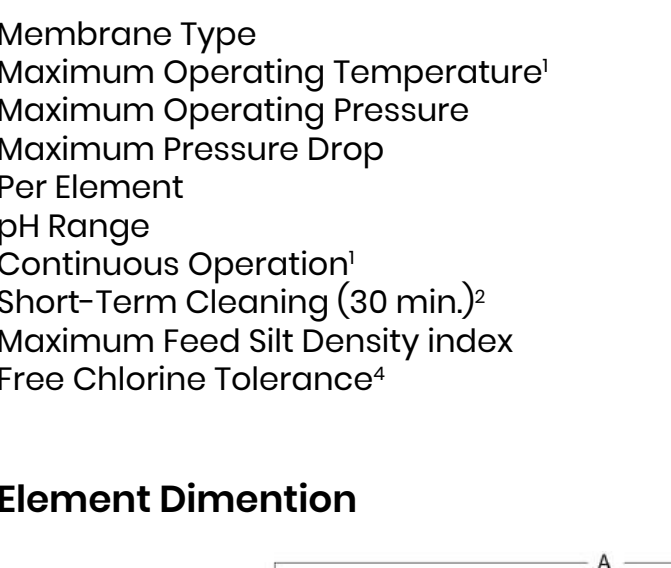
FilmTec™ Fortilife™	Active Area	Feed Spacer Thickness	Permeate Flow Rate	Stabilized Salt Rejection	Minimum Salt Rejection
XC70 element	ft2 (m2) 400 (37)	(mil) 34	gpd (m3/d) 8,800 (33.3)	(%) 99.75	(%) 99.6

Membrane Type	Polymide Thin-Film Composite
Maximum Operating Temperature¹	113°F (45°C)
Maximum Operating Pressure	1200 psig (41 bar)
Maximum Pressure Drop	
Per Element	15 psig (1.0 bar)
Per Pressure Vessel (Minimum 4 Elements)	50 psig (3.5 bar)

pH Range	2-11
Continuous Operation¹	1-13
Short-Term Cleaning (30 min.)²	75 gpm (17m³/hr)
Maximum Feed Flow³	SDI 5
Maximum Feed Silt Density Index	<0.1 ppm
Free Chlorine Tolerance⁴	



FilmTec™ Fortilife™ XC80 Element



- Key Features:**
- The ability to achieve reject Total Dissolved Solid (TDS) level >80,000 ppm.
 - Ability to tolerate challenging feed water aided by fouling resistant membrane.
 - Durable membrane that withstands cleaning over a wide pH range (from pH 1 to pH 13), ensuring a long service life of an element and cost-effective maintenance.

- Key Application:**
- Industrial Minimum- and Zero-Liquid Discharge (MLD/ZLD).
 - Industrial wastewater recycling and reuse such as in textiles, steel & metals, chemicals & petrochemical industries.

Typical Properties

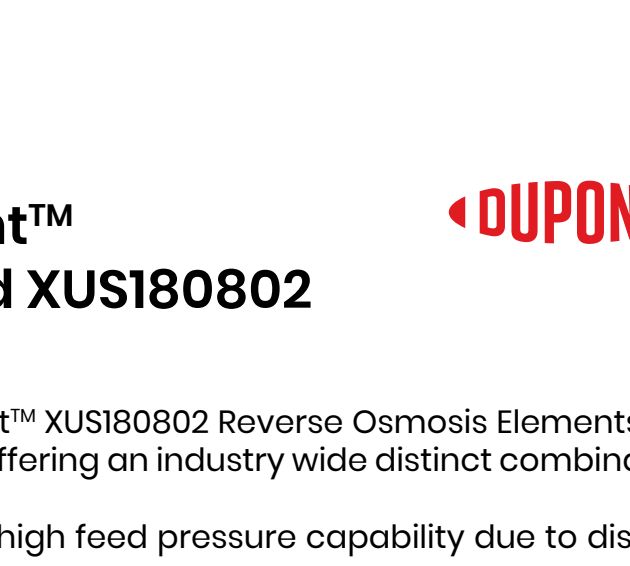
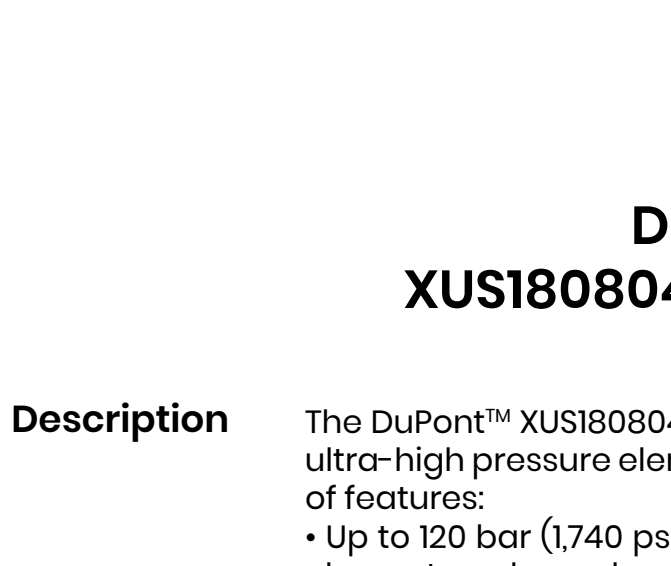
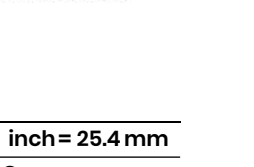
FilmTec™ Fortilife™	Active Area	Feed Spacer Thickness	Permeate Flow Rate	Stabilized Salt Rejection	Minimum Salt Rejection
XC80 element	ft2 (m2) 440 (41)	(mil) 28	gpd (m3/d) 9,050 (34.2)	(%) 99.47	(%) 99.25

Membrane Type	Polymide Thin-Film Composite
Maximum Operating Temperature¹	113°F (45°C)
Maximum Operating Pressure	1200 psig (83 bar)
Maximum Pressure Drop	
Per Element	15 psig (1.0 bar)
Per Pressure Vessel (Minimum 4 Elements)	50 psig (3.5 bar)

pH Range	2-11
Continuous Operation¹	1-13
Short-Term Cleaning (30 min.)²	75 gpm (17m³/hr)
Maximum Feed Flow³	SDI 5
Maximum Feed Silt Density Index	<0.1 ppm
Free Chlorine Tolerance⁴	



FilmTec™ Fortilife™ XC120 Element



- Key Features:**
- Ability to achieve reject Total Dissolved Solids (TDS) level >120,000 ppm within standard RO system operating conditions.
 - Robust membrane and module design for reliable long-term performance in challenging environments.
 - Durable membrane that withstands cleaning over a wide pH range (from pH 1 to pH 13), ensuring a long service life of an element and cost-effective maintenance.

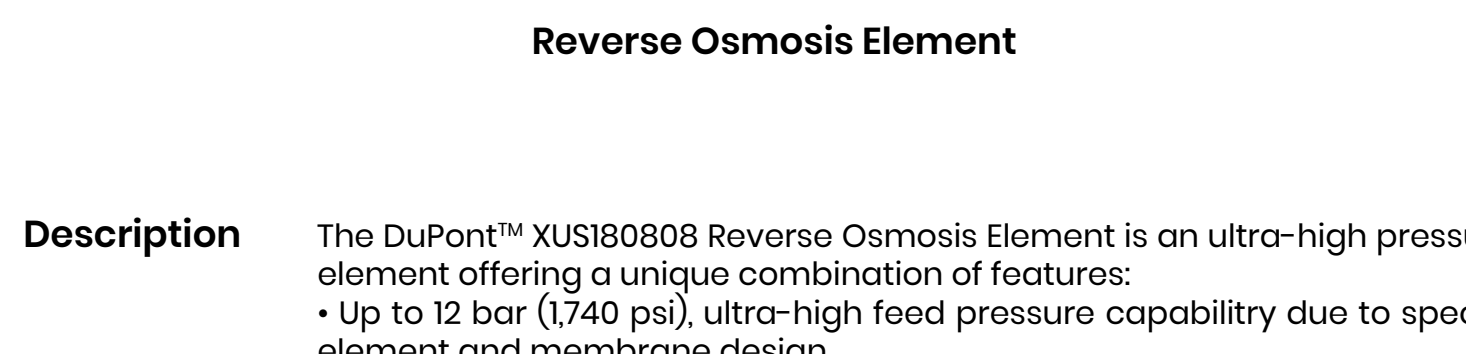
- Key Application:**
- Industrial Minimum- and Zero-Liquid Discharge (MLD/ZLD).
 - Industrial wastewater recycling and reuse such as in textiles, steel & metals, chemicals & petrochemical industries.

Typical Properties

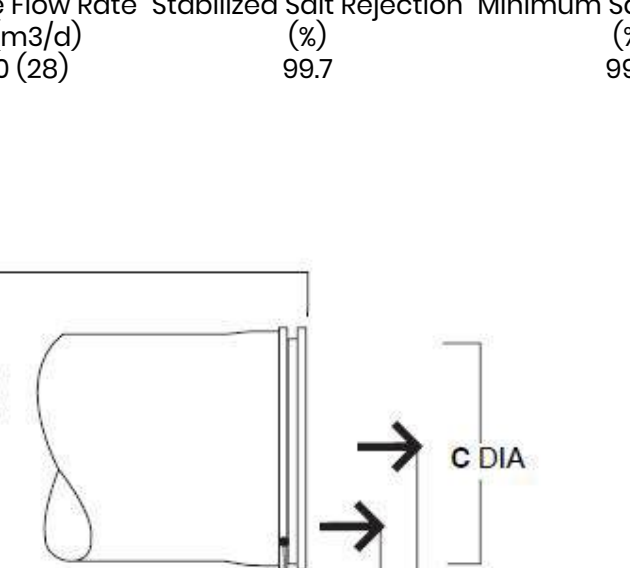
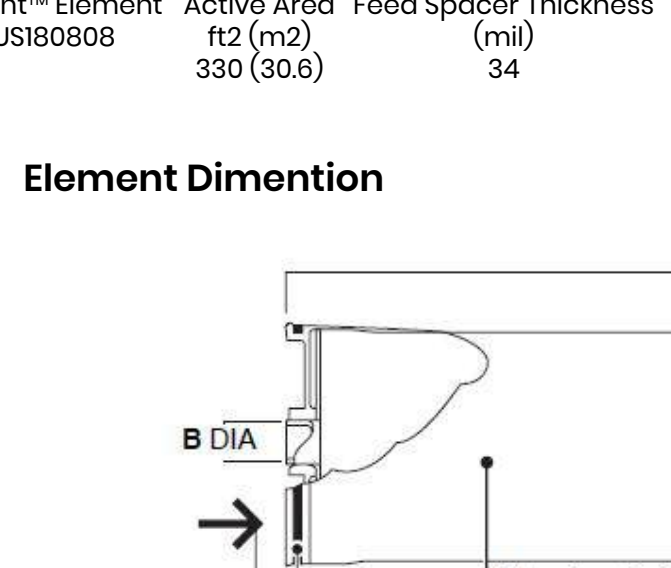
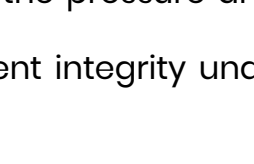
FilmTec™ Fortilife™	Active Area	Feed Spacer Thickness	Permeate Flow Rate	Stabilized Salt Rejection	Minimum Salt Rejection
XC120 element	ft2 (m2) 370 (34.4)	(mil) 34	gpd (m3/d) 12,000 (45.4)	(%) 90	(%) 80

Membrane Type	Polymide Thin-Film Composite
Maximum Operating Temperature¹	113°F (45°C)
Maximum Operating Pressure	1200 psig (83 bar)
Maximum Pressure Drop	
Per Element	15 psig (1.0 bar)
Per Pressure Vessel (Minimum 4 Elements)	50 psig (3.5 bar)

pH Range	2-11
Continuous Operation¹	1-13
Short-Term Cleaning (30 min.)²	75 gpm (17m³/hr)
Maximum Feed Flow³	SDI 5
Maximum Feed Silt Density Index	<0.1 ppm
Free Chlorine Tolerance⁴	



FilmTec™ Fortilife™ XC120 Element



- Key Features:**
- Ability to achieve reject Total Dissolved Solids (TDS) level >120,000 ppm within standard RO system operating conditions.
 - Robust membrane and module design for reliable long-term performance in challenging environments.
 - Durable membrane that withstands cleaning over a wide pH range (from pH 1 to pH 13), ensuring a long service life of an element and cost-effective maintenance.

- Key Application:**
- Industrial Minimum- and Zero-Liquid Discharge (MLD/ZLD).
 - Industrial wastewater recycling and reuse such as in textiles, steel & metals, chemicals & petrochemical industries.

Typical Properties

FilmTec™ Fortilife™	Active Area	Feed Spacer Thickness	Permeate Flow Rate	Stabilized Salt Rejection	Minimum Salt Rejection
XC120 element	ft2 (m2) 370 (34.4)	(mil) 34	gpd (m3/d) 12,000 (45.4)	(%) 90	(%) 80

Membrane Type	Polymide Thin-Film Composite
Maximum Operating Temperature¹	113°F (45°C)
Maximum Operating Pressure	1200 psig (83 bar)
Maximum Pressure Drop	
Per Element	15 psig (1.0 bar)
Per Pressure Vessel (Minimum 4 Elements)	50 psig (3.5 bar)

pH Range	2-11
Continuous Operation¹	1-13
Short-Term Cleaning (30 min.)²	75 gpm (17m³/hr)
Maximum Feed Flow³	SDI 5
Maximum Feed Silt Density Index	<0.1 ppm
Free Chlorine Tolerance⁴	

FilmTec™ Fortilife™ XC-N Element

- Description**
- The FilmTec™ Fortilife™ product line offers industrial users a reliable and highly efficient option to help solve their most difficult water challenges, such as wastewater reuse and Minimal Liquid Discharge (MLD).
- The FilmTec™ Fortilife™ XC-N allows industrial end users to reduce costly reverse osmosis (RO) concentrate waste by converting a large fraction of RO concentrate into pure, easier-to-crystallize salt solutions.

- Benefits of the The FilmTec™ Fortilife™ XC-N Element include:
- Selective and high monovalent ion passage, coupled with high divalent ion and Chemical Oxygen Demand (COD) rejection, facilitate the production of high purity salt solution in permeate while reducing concentrate waste
 - High permeability membrane chemistry allows for increased water recovery and/or low energy operation
 - Robust membrane and reliable long-term performance

Typical Properties

FilmTec™ Fortilife™	Active Area	Feed Spacer Thickness	Permeate Flow Rate	Stabilized Salt Rejection	Minimum Salt Rejection
XC-N	ft2 (m2) 365 (34)	(mil) 34	gpd (m3/d) 8,375 (31)	(%) 99.0	(%) 98.0

Membrane Type	Polymide Thin-Film Composite
Maximum Operating Temperature¹	113°F (45°C)
Maximum Operating Pressure	600 psig (41 bar)
Maximum Pressure Drop	
Per Element	15 psig (1.0 bar)

pH Range	3-10
Continuous Operation¹	1-12
Short-Term Cleaning (30 min.)²	SDI 5
Maximum Feed Flow³	<0.1 ppm
Maximum Feed Silt Density Index	
Free Chlorine Tolerance⁴	

Dimensions—Inches (mm)					1 inch = 25.4 mm	
					A	B
					(in.)	(mm)
					1.016	25.6 ID
						7.9

FilmTec™ Fortilife™ XC-N HP Element

Description

The FilmTec™ Fortilife™ XC-N and XC-N HP Elements allow industrial wastewater containing salt to become a resource of purified salts for re-use and allow industries to implement circular salt principles.

When treating a water containing a mixture of mono- (e.g. chloride) and divalent (e.g. sulfate) ions, applied pressures greater than 400 psi may be needed. The The FilmTec™ Fortilife™ XC-N HP Elements offer improved separation efficiency over the standard XC-N Element for systems operating between 400-1200 psi. The expanded pressure range of the The FilmTec™ Fortilife™ XC-N HP Elements along with the high ion-selective membrane enables system operations that:

- Minimize monovalent ions (e.g chloride) remaining in the concentrate water
- Minimize divalent ion (e.g. sulfate) passage to the permeate
- Are up to 15% smaller system when using the high active area element design.

Typical Properties

FilmTec™ Fortilife™	Active Area	Feed Spacer Thickness	Permeate Flow Rate	Stabilized Salt Rejection	Minimum Salt Rejection
XC-N HP	ft2 (m2) 400 (37)	(mil) 34	gpd (m3/d) 8,200 (31)	(%) 99.2	(%) 98.0

Membrane Type	Polymide Thin-Film Composite
Maximum Operating Temperature¹	113°F (45°C)
Maximum Operating Pressure	1200 psig (83 bar)
Maximum Pressure Drop	
Per Element	15 psig (1.0 bar)

pH Range	3-10
Continuous Operation¹	1-12
Short-Term Cleaning (30 min.)²	75 gpm (17m³/hr)
Maximum Feed Flow³	SDI 5
Maximum Feed Silt Density Index	<0.1 ppm
Free Chlorine Tolerance⁴	

Dimensions—Inches (mm)					1 inch = 25.4 mm	
					A	B
					(in.)	(mm)
					40.0	1.016
					1.016	1.03
					1.03	26
					28.0 ID	7.9
						201

DuPont™ XUS180804 and XUS180802

Description

The DuPont™ XUS180804 DuPont™ XUS180802 Reverse Osmosis Elements are ultra-high pressure elements offering an industry wide distinct combination of features:

- Up to 120 bar (1,740 psi), ultra-high feed pressure capability due to distinct element and membrane design.
- Increasing the overall efficiency of Zero-Liquid-Discharge (ZLD) by achieving very high solute concentrations thus helping to reduce the size of downstream thermal treatment
- Excellent for recovery of salts in process streams
- Robust FilmTec™ reverse osmosis (RO) membrane sheet
- 34 mil feed spacer to lessen the impact of fouling on the pressure drop across a vessel and to enhance cleaning effectiveness.
- Rigid glass-fiber composite outer wrap ensures element integrity under the most demanding operating conditions.

Typical Properties

DuPont™	Active Area	Feed Spacer Thickness	Minimum ATD OD	ATD included
XUS180804	ft2 (m2) 73 (6.8)	(mil) 34	(in.) 3.9	yes
XUS180802	ft2 (m2) 22 (2.0)	(mil) 34	(in.) 2.5	yes

Membrane Type	Polymide Thin-Film Composite
Maximum Operating Temperature¹	113°F (45°C)
Maximum Operating Pressure	1740 psig (120 bar)
Maximum Pressure Drop	
Per Element	15 psig (1.0 bar)

pH Range	2-11
Continuous Operation¹	1-13
Short-Term Cleaning (30 min.)²	75 gpm (17m³/hr)
Maximum Feed Flow³	SDI 5
Maximum Feed Silt Density Index	<0.1 ppm
Free Chlorine Tolerance⁴	

Dimensions—Inches (mm)					1 inch = 25.4 mm	
					A	B
					(in.)	(mm)
					40.0	1.016
					1.016	1.03
					1.03	26