BW30 XHR PRO - 400/34

Key Features:
- Offers Exceptional permeate quality
- Delivers excellent silica, boron, nitrate, TOC and ammonium rejection
- Excellent durability resulting in stable, long-term performance
- Enhanced foulin protection thanks to 34 mil feed spacer

Key Application:
- Demineralization for industrial applications, such as: Powder Generation, Steel & Metal, Chemical & Petro-chemical
- Municipal water purification
- Applications requiring stringent permeate quality

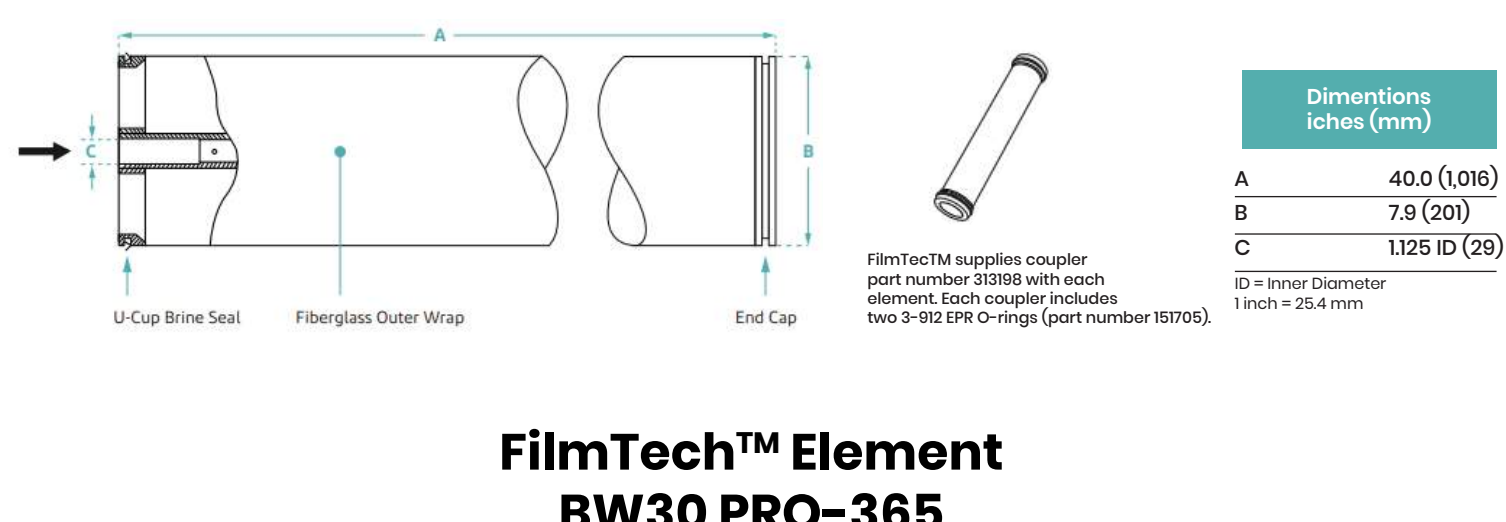
Typical Properties

FilmTech™ Element	Active Area ft² (m²)	Feed Spacer Thickness (mil)	Permeate Flow Rate gpd (m³/d)
BW30 XHR PRO-400/34	400 (37)	34-LDP	11,500 (43.5)

Stabilized Salt Rejection (%)	Minimum Salt Rejection (%)
99.8	99.6

Membrane Type	Polyamide Thin-Film Composite
Maximum Operating Temperature[1]	113°F (45°C)
Maximum Operating Pressure	600 psig (41 bar)
pH Range	
Continuous Operation[1]	2-11
Short-Term Cleaning (30 min.)[2]	1-13
Maximum Feed Flow[3]	75 gpm (17m³/hr)
Maximum Feed Silt Density index	SDI 5
Free Chlorine Tolerance[4]	<0.1 ppm

Element Dimention



FilmTecTM supplies coupler part number 313198 with each element. Each coupler includes two 3-912 EPR O-rings (part number 151705).

Dimentions iches (mm)	
A	40.0 (1,016)
B	7.9 (201)
C	1.125 ID (29)

ID = Inner Diameter
1 inch = 25.4 mm

FilmTech™ Element BW30 PRO-365

Key Features:
- Delivers consistent water quality and higher rejection and flow than previous generation BW30 product.
- Based on historical BW30 Industry-Standard RO Membrane with decades of proven performance.
- Excelent durability resulting in stable, long-term performance.
- Enhance fouling protection thanks to 34 mil feed spacer.

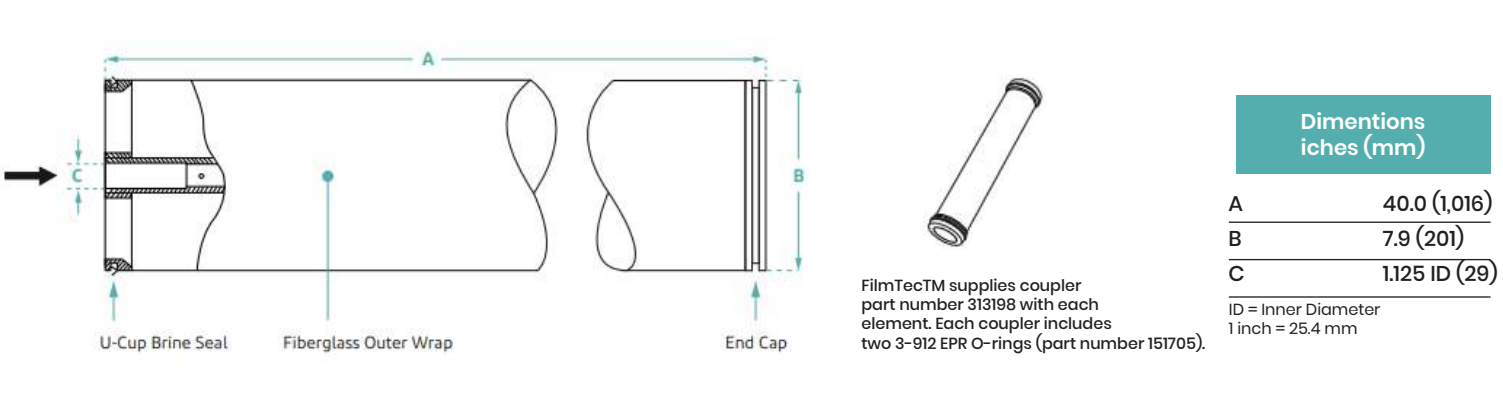
Key Application:
- Product replacement in existing systems
- Demineralization for industrial applications, such as: Power Generation, Steel & Metal, Chemical & Petro-chemical

Typical Properties

FilmTech™ Element	Active Area ft² (m²)	Feed Spacer Thickness (mil)	Permeate Flow Rate gpd (m³/d)	Stabilized Salt Rejection (%)	Minimum Salt Rejection (%)
BW30 PRO-365	365 (34)	34	10,000 (38)	99.55	99.35

Membrane Type	Polymide Thin-Film Composite
Maximum Operating Temperature[1]	113°F (45°C)
Maximum Operating Pressure	600 psig (41 bar)
pH Range	
Continuous Operation[1]	2-11
Short-Term Cleaning (30 min.)[2]	1-13
Maximum Feed Flow[3]	65 gpm (15m³/hr)
Maximum Feed Silt Density Index (SDI)	SDI 5
Free Chlorine Tolerance[4]	<0.1 ppm

Element Dimention



FilmTecTM supplies coupler part number 313198 with each element. Each coupler includes two 3-912 EPR O-rings (part number 151705).

Dimentions iches (mm)	
A	40.0 (1,016)
B	7.9 (201)
C	1.125 ID (29)

ID = Inner Diameter
1 inch = 25.4 mm

FilmTech™ Element BW30 PRO-400

DUPONT

Key Features:
- Delivers consistent water quality and higher rejection and flow than previous generation BW30 product.
- Based on historical BW30 Industry-dtandard RO membrane with decades of proven performance.
- Excellent durability resulting in stable long term performance.

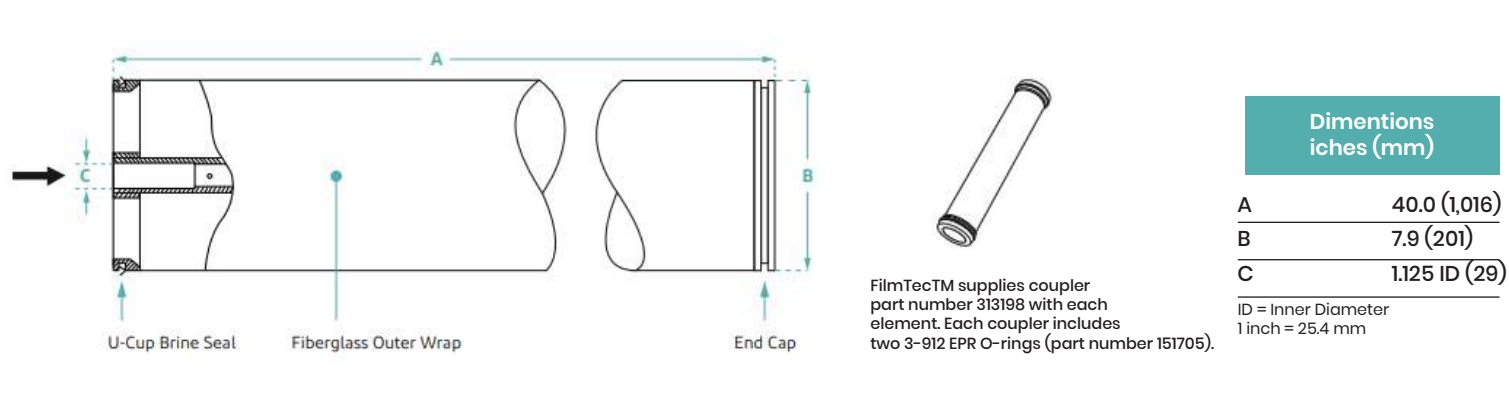
Key Application:
- Demineralization for industrial applictions, such as: Power Generationm Steel & Metal, Chemical & Petrochemical
- Municipal Water Purification

Typical Properties

FilmTech™ Element	Active Area ft² (m²)	Feed Spacer Thickness (mil)	Permeate Flow Rate gpd (m³/d)	Stabilized Salt Rejection (%)	Minimum Salt Rejection (%)
BW30 PRO-400	400 (37)	28	11,000 (42)	99.6	99.4

Membrane Type	Polyamide Thin-Film Composite
Maximum Operating Temperature[1]	113°F (45°C)
Maximum Operating Pressure	600 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	
Continuous Operation[1]	2-11
Short-Term Cleaning (30 min.)[2]	1-13
Maximum Feed Flow[3]	75 gpm (17m³/hr)
Maximum Feed Silt Density index	SDI 5
Free Chlorine Tolerance[4]	<0.1 ppm

Element Dimention



FilmTecTM supplies coupler part number 313198 with each element. Each coupler includes two 3-912 EPR O-rings (part number 151705).

Dimentions iches (mm)	
A	40.0 (1,016)
B	7.9 (201)
C	1.125 ID (29)

ID = Inner Diameter
1 inch = 25.4 mm

FilmTech™ Element BW30 PRO-4040 & 2540

Key Features:
- Delivers consistent water quality and higher rejection and flow than previous generation BW30 product.
- Based on historical BW30 Industry-dtandard RO membrane with decades of proven performance.
- Outstanding durability resulting in stable, long-term performance and sustainable water solutions.
- Enhance fouling protection.
- Dry elements achieve quick stabilization.

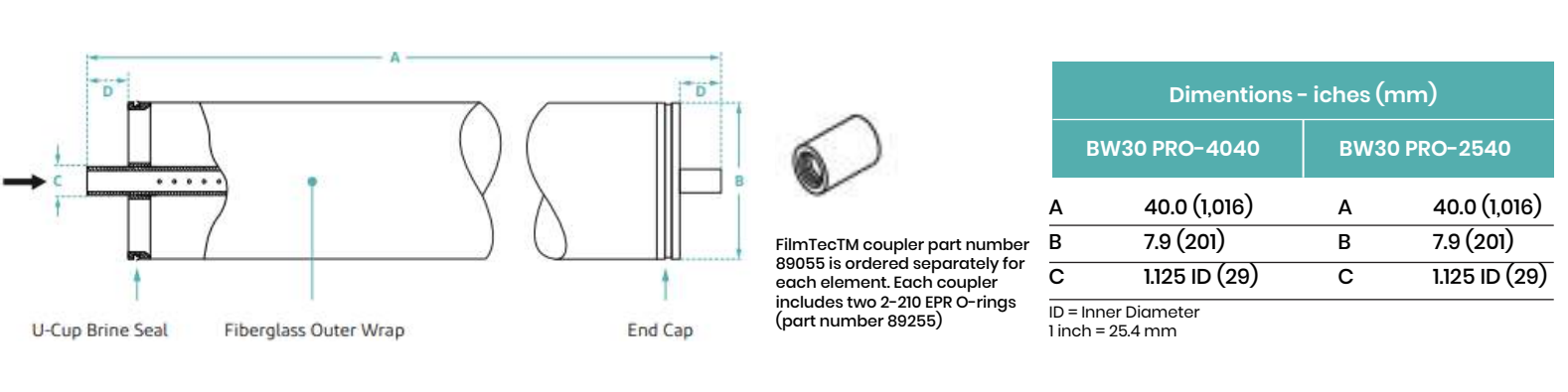
Key Application:
- Light industrial & Drinking water Applications
applications requiring Stringent permeate quality
- Harsh Feed water condition.

Typical Properties

Product	Active Area ft² (m²)	Permeate Flow Rate gpd (m³/d)	Stabilized Salt Rejection (%)	Minimum Salt Rejection (%)
BW30 PRO-4040	85 (7.9)	2,600 (9.8)	99.7	99.5
BW30 PRO-2540	28 (2.6)	1,000 (3.8)	99.7	99.5

Membrane Type	Polymide Thin-Film Composite
Maximum Operating Temperature[1]	113°F (45°C)
Maximum Operating Pressure	600 psig (41 bar)
Maximum Feed Flow Rate	
4040 Elements	16 gpm (3.6m³/h)
2540 Elements	6 gpm (1.4 m³/h)
pH Range	
Continuous Operation[a]	2-11
Short-Term Cleaning (30 min.)[b]	1-13
Maximum Feed Silt Density Index (SDI)	SDI 5
Free Chlorine Tolerance[c]	<0.1 ppm

Element Dimention



FilmTecTM coupler part number 89055 is ordered separately for each element. Each coupler includes two 2-210 EPR O-rings (part number 89255)

Dimentions - iches (mm)			
BW30 PRO-4040		BW30 PRO-2540	
A	40.0 (1,016)	A	40.0 (1,016)
B	7.9 (201)	B	7.9 (201)
C	1.125 ID (29)	C	1.125 ID (29)

ID = Inner Diameter
1 inch = 25.4 mm

FilmTec™ Fortilife™ CR200 Element

DUPONT

Key Features:
- Enables up to 10% higher productivity relative to FilmTec™ Fortilife™ CR100 element.
- Ultra-low pressure drop element design to help provide.
- Robust, fouling resistant membrane and module design delivering up to 50% reduction in the number of cleanings caused by biological fouling.
- Durable membrane that withstands cleaning over a wide pH range (from pH 1 to pH 13) for a long service life of an element and cost-effective maintenance.

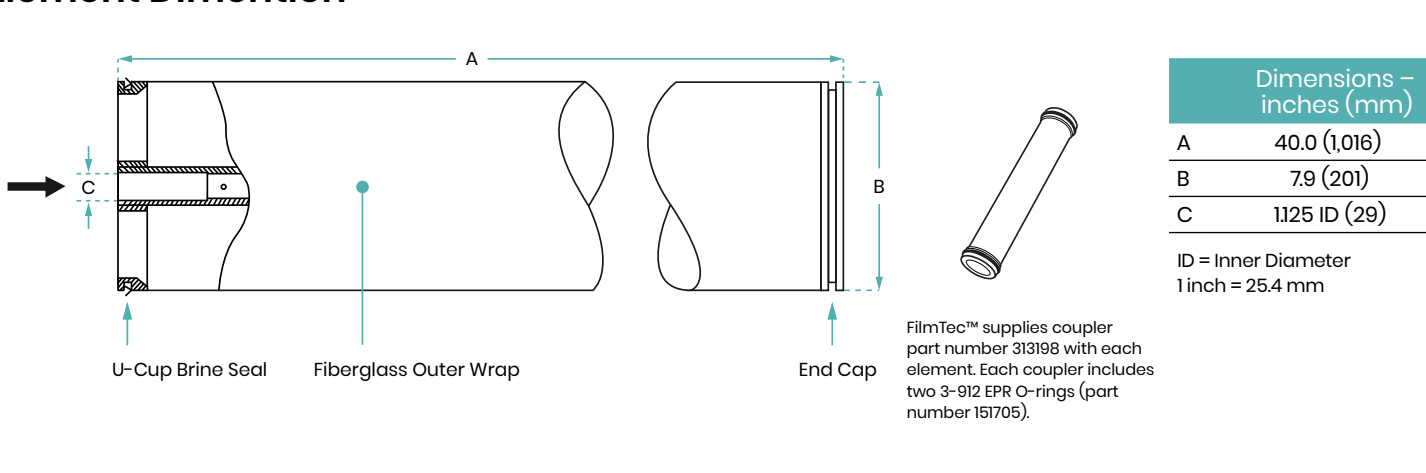
Key Application:
- Industrial and Municipal Wastewater reuse such as in textiles, steel & metals, chemical & petrochemical
- Demineralization for industrial utility water with challenging feedwater.

Typical Properties

lmTec™ Fortilife™ CR200 element	Active Area ft2 (m2)	Feed Spacer Thickness (mil)	Permeate Flow Rate gpd (m3/d)	Stabilized Salt Rejection (%)	Minimum Salt Rejection (%)
	400 (37)	34	12,500 (47.3)	99.7	99.4

Membrane Type	Polyamide Thin-Film Composite
Maximum Operating Temperature[1]	113°F (45°C)
Maximum Operating Pressure	600 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	
Continuous Operation[1]	2-11
Short-Term Cleaning (30 min.)[2]	1-13
Maximum Feed Flow[3]	75 gpm (17m³/hr)
Maximum Feed Silt Density index	SDI 5
Free Chlorine Tolerance[4]	<0.1 ppm

Element Dimention



Dimensions - inches (mm)	
A	40.0 (1,016)
B	7.9 (201)
C	1.125 ID (29)

ID = Inner Diameter
1 inch = 25.4 mm

FilmTec™ supplies coupler part number 313198 with each element. Each coupler includes two 3-912 EPR O-rings (part number 151705).

FilmTech™ Element HSRO-390-FF

Key Features:
- Delivers outstanding quality water with the added capability to withstand sanitization with hot water to eliminate the need to for chemical sanitizers.
- High active membrane area that allows system design with either lower operating flux or cost savings from fewer membrane elements.
- Full-fit configuration design that helps minimizes stagnant areas for sanitary designs.

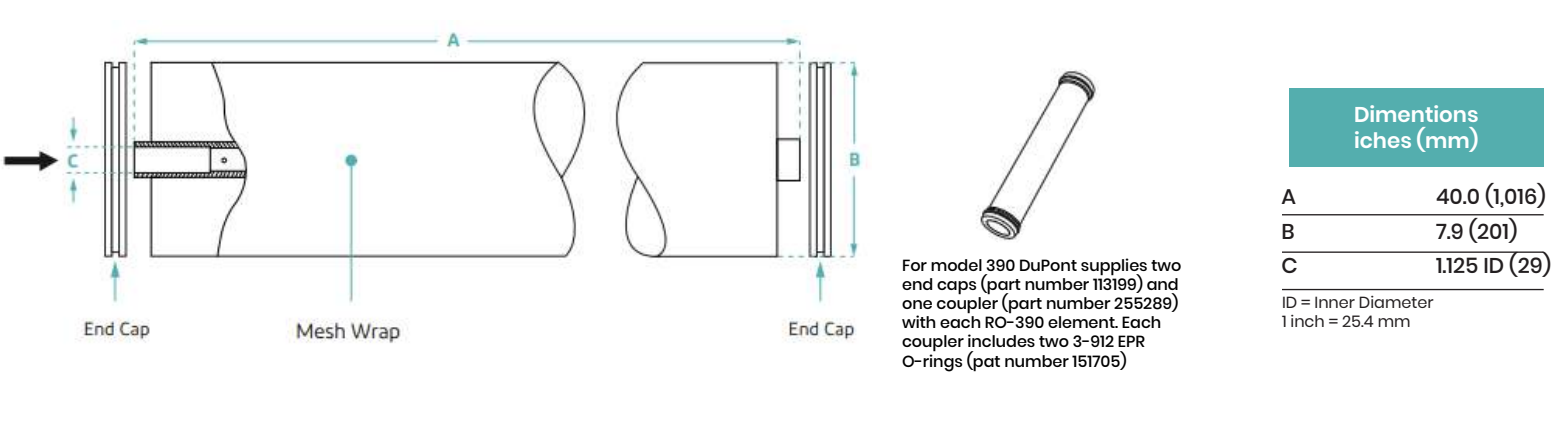
Key Application:
- Purified water in the Pharmaceutical, Medical, and Biotechnology applications.
- Permeate polishing in food and dairy processes.

Typical Properties

FilmTech™ Element	Part Number	Active Area ft2 (m2)	Permeate Flow Rate gpd (m3/d)	Minimum Salt Rejection (%)
HSRO-390-FF	170701	390 (36)	14,500 (55)	97

Membrane Type	Polyamide Thin-Film Composite
Maximum Operating Temperature[a]	113°F (45°C)
Maximum Sanitization Temperature (@ 25 psig)	600 psig (41 bar)
pH Range	
Continuous Operation[a]	2-11
Short-Term Cleaning [b]	1-12
Maximum Feed Silt Density index	SDI 5
Free Chlorine Tolerance[c]	<0.1 ppm

Element Dimention



For model 390 DuPont supplies two end caps (part number 113199) and one coupler (part number 255289) with each RO-390 element. Each coupler includes two 3-912 EPR O-rings (pat number 151705)

Dimentions iches (mm)	
A	40.0 (1,016)
B	7.9 (201)
C	1.125 ID (29)

ID = Inner Diameter
1 inch = 25.4 mm

FilmTech™ SW30HRLE-400

Sea Water High Permeate Quality Reverse OsmosisMembrane Element

Key Features:
- Optimized combination of water production and permeate quality.
- Excellent durability resulting in stable, long-term performance.
- Longer storage time and warranty coverage with improved sustainability footprint versus our wet RO membrane elements.

Key Application:
- Sea Water desalination for municipal and industrial applications.
- Suitable for medium and high feed water salinity.
- Offers balance between permeate quality and energy consumption.
- Applicable for optimized Internally Stage Designs (ISD) in combination with other FilmTech™ sea water membranes.

Typical Properties

FilmTech™ Element	Active Area ft2 (m2)	Feed Spacer Thickness (mil)	Permeat Flow Rate gpd (m3/d)	Stabilized Boron Rejection (%)	Stabilized Salt Rejection (%)	Minimum Salt Rejection (%)
SW30HRLE-400	400 (37)	28	7,500 (28)	92	99.80	99.65

Membrane Type	Polyamide Thin-Film Composite
Maximum Operating Temperature[2,3]	113°F (45°C)
Maximum Operating Pressure[3]	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	
Continuous Operation[2]	2-11
Short-Term Cleaning (30 min.)[4]	1-13
Maximum Feed Silt Density index	SDI 5
Free Chlorine Tolerance[5]	<0.1 ppm

Element Dimention

FilmTecTM supplies coupler part number 313198 with each element. Each coupler includes two 3-912 EPR O-rings (part number 151705).

Dimentions iches (mm)	
A	40.0 (1,016)
B	7.9 (201)
C	1.125 ID (29)

ID = Inner Diameter
1 inch = 25.4 mm

Fortilife™ CR50

Key Features:
- Durable membrane with a cleaning tolerance over a wide pH range (pH 1-13) for consistent, long-lasting lifetime and economically effective cleaning.
- Contaminant resistant element design provides reliable system performance.
- Improved flowrate with lower energy consumption.

Key Application:
- Industrial and Municipal Wastewater reuse.
- Demineralization for industrial utility water with challenging feedwater.

Typical Properties

FilmTech™ Element	Active Area ft² (m²)	Feed Spacer Thickness (mil)	Permeate Flow Rate gpd (m³/d)
Fortilife™ CR50	400 (37)	34-LDP	11,500 (43.5)

Stabilized Salt Rejection (%)	Minimum Salt Rejection (%)
99.6	99.4

Maximum Operating Temperature[a]	113°F (45°C)
Maximum Operating Pressure	600 psig (41 bar)
Maximum Element Pressure Drop	15 psig (1.0 bar)
pH Range	
Continuous Operation[a]	2-11
Short-Term Cleaning (30 min.)[b]	1-13
Maximum Feed Flow[3]	75 gpm (17m³/hr)
Maximum Feed Silt Density index (SDI)	SDI 5
Free Chlorine Tolerance[c]	<0.1 ppm

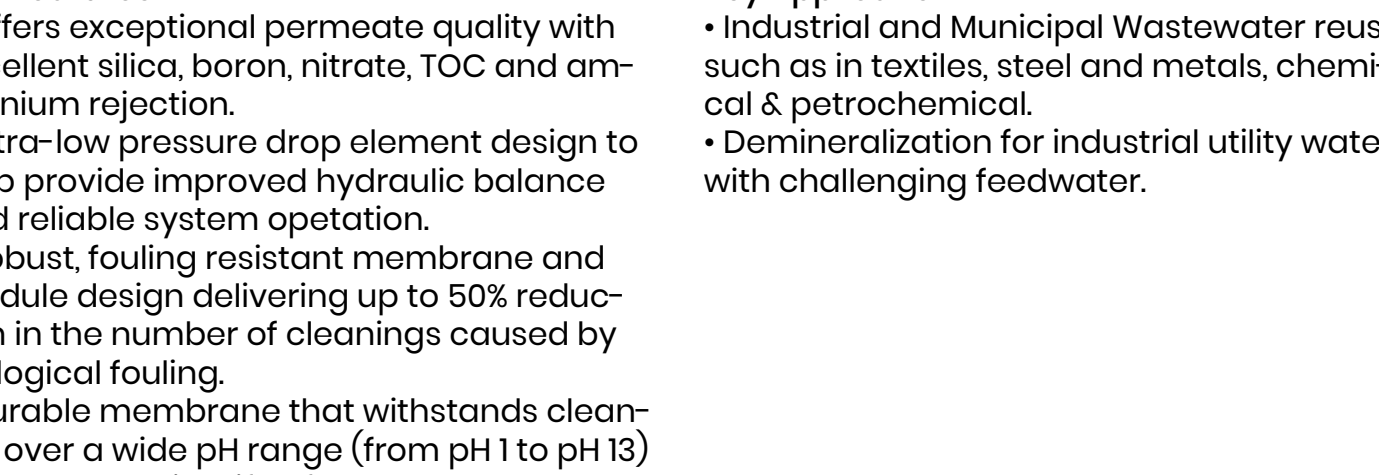
Element Dimention

FilmTecTM supplies coupler part number 313198 with each element. Each coupler includes two 3-912 EPR O-rings (part number 151705).

Dimentions iches (mm)	
A	40.0 (1,016)
B	7.9 (201)
C	1.125 ID (29)

ID = Inner Diameter
1 inch = 25.4 mm

FilmTech™ Fortilife™ CR100 Element



Key Features:
- Offers exceptional permeate quality with excellent silica, boron, nitrate, TOC and ammonium rejection.
- Ultra-low pressure drop element design to help provide improved hydraulic balance and reliable system opetation.
- Robust, fouling resistant membrane and module design delivering up to 50% reduction in the number of cleanings caused by biological fouling.
- Durable membrane that withstands cleaning over a wide pH range (from pH 1 to pH 13) for a long service life of an element and cost-effective maintenance.

Key Application:
- Industrial and Municipal Wastewater reuse such as in textiles, steel and metals, chemical & petrochemical.
- Demineralization for industrial utility water with challenging feedwater.

Typical Properties

FilmTech™ Fortilife™	Active Area ft² (m²)	Permeate Flow Rate gpd (m3/d)	Minimum Salt Rejection (%)	Stabilized Salt Rejection (%)
CR100 Element	400 (37)	11,500 (43.5)	99.6	99.8

Membrane Type	Polyamide Thin-Film Composite
Maximum Operating Temperature[a]	113°F (45°C)
Maximum Operating Pressure	600 psig (41 bar)
Maximum Element Pressure Drop	15 psig (1.0 bar)
pH Range	
Continuous Operation[a]	2-11
Short-Term Cleaning (30 min.)[b]	1-13
Maximum Feed Flow[3]	75 gpm (17m³/hr)
Maximum Feed Silt Density index (SDI)	SDI 5
Free Chlorine Tolerance[c]	<0.1 ppm

Element Dimention

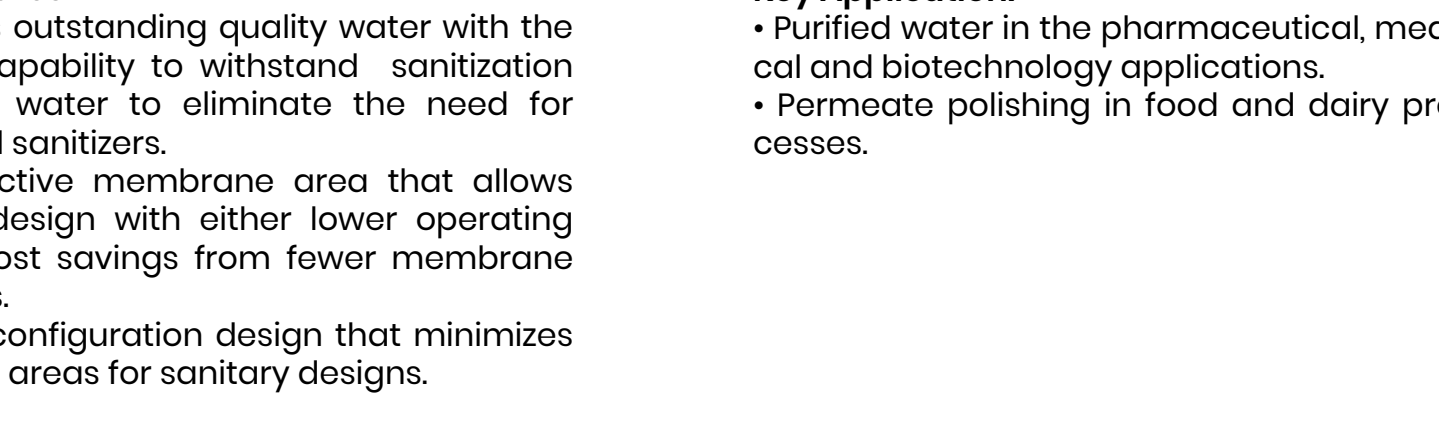
FilmTecTM supplies coupler part number 313198 with each element. Each coupler includes two 3-912 EPR O-rings (part number 151705).

Dimentions iches (mm)	
A	40.0 (1,016)
B	7.9 (201)
C	1.125 ID (29)

ID = Inner Diameter
1 inch = 25.4 mm

FilmTech™ Fortilife™ HSRO-4040-FF

Heat Sanitizable Reverse Osmosis Element



Key Features:
- Delivers outstanding quality water with the added capability to withstand sanitization with hot water to eliminate the need for chemical sanitizers.
- High active membrane area that allows system design with either lower operating flux or cost savings from fewer membrane elements.
- Full-fit configuration design that minimizes stagnant areas for sanitary designs.

Key Application:
- Purified water in the pharmaceutical, medical and biotechnology applications.
- Permeate polishing in food and dairy processes.

Typical Properties

FilmTech™ Element	Active Area ft² (m²)	Permeate Flow Rate gpd (m³/d)	Minimum Salt Rejection (%)
HSRO-4040-FF	90 (8.4)	2,900 (11)	97

Membrane Type	Polyamide Thin-Film Composite
Maximum Operating Temperature[a]	113°F (45°C)
Maximum Sanitization Temperature (@ 25 psig)	185°F (85°C)
Maximum Operating Pressure	600 psig (41 bar)
Maximum Pressure Drop	
Per Element	15 psig (1.0 bar)
Per Vessel (Housing)	60 psig (4.1 bar)
pH Range	
Continuous Operation[a]	2-11
Short-Term Cleaning [b]	1-12
Maximum Feed Silt Density index (SDI)	SDI 5
Free Chlorine Tolerance[c]	<0.1 ppm

DuPont supplies two end caps (part number 102109) with each HSRO-4040-FF element. DuPont seels coupler (part number 89048) for use in multiple element housing. Each coupler includes two 2-210 EPR O-rings (part number 89255).

Dimentions iches (mm)	
A	40.0 (1,0
B	7.9 (201)
C	1.125 ID (
D	1.05 (27)

ID = Inner Diameter
1 inch = 25.4 mm

DuPont™ TapTec™ LC HF-4040

DUPONT

Reverse Osmosis Element

Description

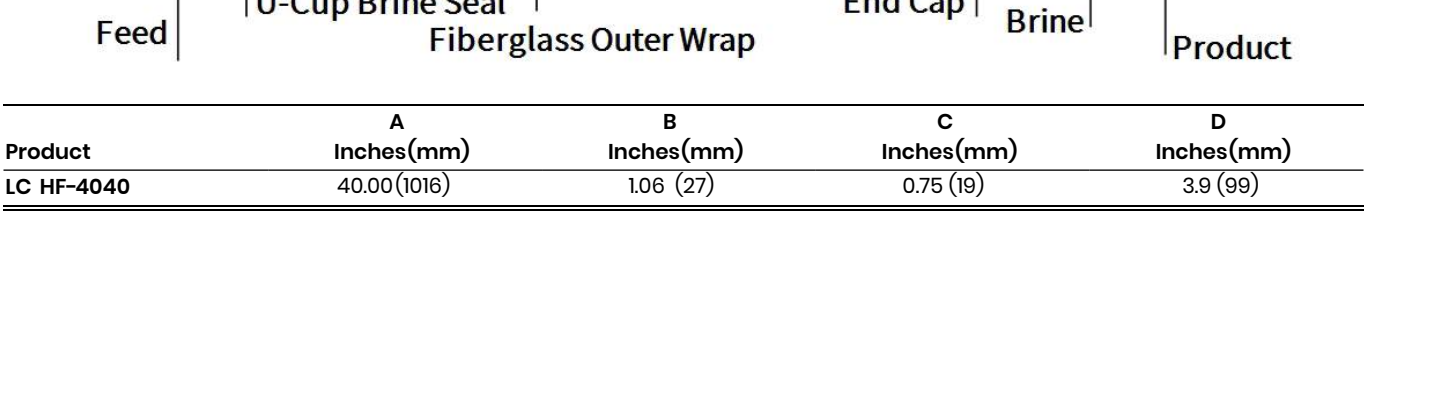
The DuPont™ TapTec™ LC HF-4040 is a product that is specially developed for commercial segments, such as drinking water applications that require high flow rate. DuPont's quality process enables the most consistent products in the industry that minimize the total cost of ownership of water treatment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

TapTec™ HF-4040 offers the following benefits:
- The DuPont™ TapTec™ powered by more than 40 years of membrane innovation.
- Advanced membrane technologies can achieve ultra-high flow and good salt rejection.
- Proven consistency and reliability with quick stabilization.

Typical Properties

Product	Feed Spacer Thickness (mil)	Average Permeate Flow Rate gpd (m³/d)	Minimum Salt Rejection (%)	Stabilized Salt Rejection (%)
HF-	31	2800 (10.6)	98.5	99.0

Membrane Type	Polymide Thin-Film Composite
Maximum Operating Temperature[1]	95°F (35°C)
Maximum Operating Pressure	600 psig (41 bar)
Maximum Pressure Drop	
Per Element	15 psig (1.0 bar)
pH Range	
Continuous Operation[1]	3-10
Cleaning	2-12
Maximum Feed Silt Density index	SDI 5
Free Chlorine Tolerance[4]	<0.1 ppm



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)