Product Data Sheet

FilmTec™ TW30-1812-50HR Element

Description

FilmTec™ Residential Reverse Osmosis (RO) Elements are some of the most reliable and consistent elements manufactured in the industry. Advanced membrane technology and precision manufacturing result in elements produced to tight, pre-defined specifications with consistent RO element performance. DuPont's focus on manufacturing excellence is an essential measure to ensure OEM and brand owner customers develop and maintain their reputation for building world class, reliable water purifiers that produce water consumers can trust.

FilmTec™ TW30-1812-50HR Residential RO Elements offer quick stabilization at high rejection and flow performance, and long effective lifetimes. Element performance is achieved by coupling FilmTec™ patented membrane flat sheet technology with efficient element designs that are less prone to flux loss due to scaling. Systems are enabled to produce reliable, high quality water with minimal system maintenance costs. A summary of the element features includes:

- High rejection at start-up and after stabilization
- Up to 20% higher flow rates than competitive elements operated at the same pressure
- Stable, reliable performance even when treating high hardness waters
- NSF International safety certification and ability for NSF data transfer to reduce certification costs
- Dry shipping for convenient handling and long shelf-life

Product Type

Spiral-wound element with polyamide thin-film composite membrane

Typical Properties

	Applied Pressure		Permeate Flow Rate		
FilmTec™ Element	**(psig)**	**(bar)**	**(GPD)**	**(L/h)**	**Typical Stabilized Salt Rejection (%)**
TW30-1812-50HR	50	3.4	50	7.9	99

1. Permeate flow and salt rejection based on the following test conditions: 500 ppm $NaHCO_3$, 77°F (25°C), pH 8.0, 15% recovery and the specified applied pressure.
2. Minimum salt rejection is 98.0%.
3. Permeate flows for individual elements may vary +25/-15%.

Form No. 45-D01750-en, Rev. 5
January 2021

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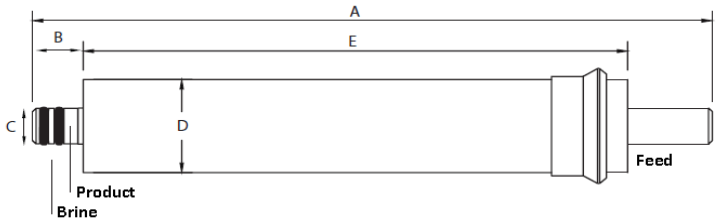
Element Dimensions



COMPONENT

This component is Tested and Certified by NSF International against NSF/ANSI Standard 58 for material requirements only.

	A		B		C		D		E	
FilmTec™ Element	**(in.)**	**(mm)**	**(in.)**	**(mm)**	**(in.)**	**(mm)**	**(in.)**	**(mm)**	**(in.)**	**(mm)**
TW30-1812-50HR	11.74	298	0.875	22.2	0.68	17	1.75	44.5	9.4	239

1. TW30-1812 Residential Elements seal at a standard 2.0 inch – 2.05 inch I.D. within pressure vessels

Figure 1: Impact of Pressure on Target Permeate Flow

(constant temperature, recovery)

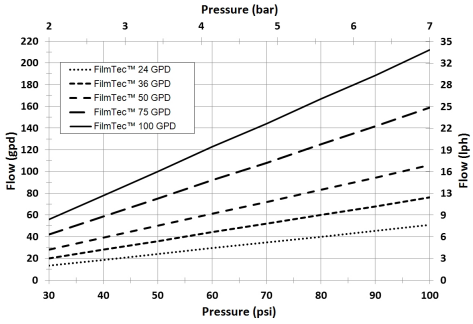
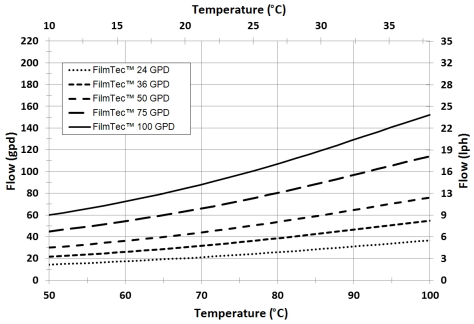


Figure 2: Impact of Temperature on Target Permeate Flow

(constant pressure, recovery)



Operating and Cleaning Limits

Maximum Operating Temperature [a]	113°F (45°C)
Maximum Operating Pressure	150 psig (10 bar)
Maximum Feed Flow Rate	2.0 gpm (7.6 lpm)
pH Range, Continuous Operation	2 – 11
Maximum Feed Silt Density Index (SDI)	SDI 5
Free Chlorine Tolerance [b]	< 0.1 ppm

a. Maximum temperature for continuous operation above pH 10 is 95°F (35°C).
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 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.

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Additional Important Information

- Keep elements moist at all times after initial wetting.
- To ease installation, it is recommended to use a lubricant safe for indirect water contact on all seals. Potential options include water, glycerin based lubricants, and Molykote® 111 Compound.
- Rotate the element about a quarter turn to ease installation and removal of the element. Ensure good interface between the o-rings and brine seal with their connection surfaces.
- FilmTec™ Residential RO Elements may be covered under the FilmTec™ Residential Element(s) Limited Warranty (Form No. 45-D00982-en). Contact a DuPont representative for more information.

If operating limits and guidelines given in this Product Information Bulletin are not strictly followed, the Limited Warranty will be null and void.

Storage

Refer to Storage and Shipping of New FilmTec™ Elements (Form No. 45-D01633-en) for further information.

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

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

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