



## 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

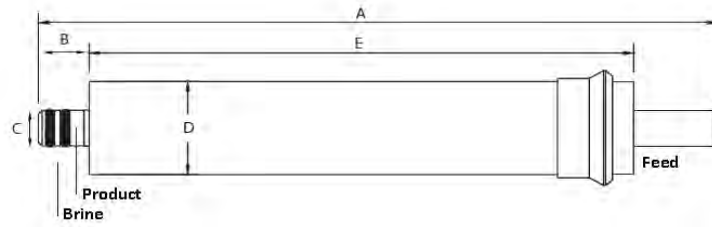
Spiral-wound element with polyamide thin-film composite membrane

#### Typical Properties

| FilmTec™ Element | Applied Pressure |       | Permeate Flow Rate |       | Typical Stabilized Salt Rejection (%) |
|------------------|------------------|-------|--------------------|-------|---------------------------------------|
|                  | (psig)           | (bar) | (GPD)              | (L/h) |                                       |
| 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<sub>3</sub>, 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%.

# Element Dimensions

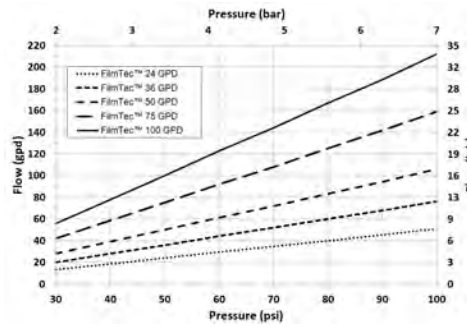


**COMPONENT**  
 This component is Tested and Certified by NSF International against NSF/ANSI Standard 58 for material requirements only.

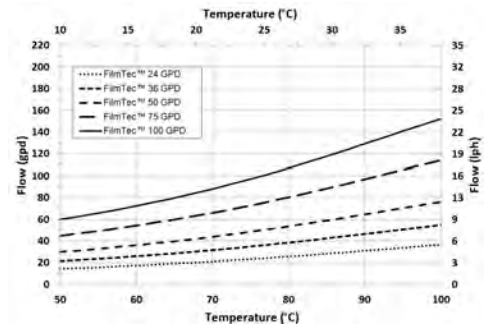
|                  | A     |      | B     |      | C     |      | D     |      | E     |      |
|------------------|-------|------|-------|------|-------|------|-------|------|-------|------|
| FilmTec™ Element | (in.) | (mm) | (in.) | (mm) | (in.) | (mm) | (in.) | (mm) | (in.) | (mm) |
| TW30-1812-50HR   | 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 <sup>a</sup> | 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 <sup>b</sup>       | < 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.

## **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.

**Have a question? Contact us at:**

[www.dupont.com/water/contact-us](http://www.dupont.com/water/contact-us)

All information set forth herein is for informational purposes only. This information is general information and may differ from that based on actual conditions. Customer is responsible for determining whether products and the information in this document are appropriate for Customer's use and for ensuring that Customer's workplace and disposal practices are in compliance with applicable laws and other government enactments. The product shown in this literature may not be available for sale and/or available in all geographies where DuPont is represented. The claims made may not have been approved for use in all countries. Please note that physical properties may vary depending on certain conditions and while operating conditions stated in this document are intended to lengthen product lifespan and/or improve product performance, it will ultimately depend on actual circumstances and is in no event a guarantee of achieving any specific results. DuPont assumes no obligation or liability for the information in this document. References to "DuPont" or the "Company" mean the DuPont legal entity selling the products to Customer unless otherwise expressly noted. NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED. No freedom from infringement of any patent or trademark owned by DuPont or others is to be inferred.

© 2021 DuPont. DuPont™, the DuPont Oval Logo, and all trademarks and service marks denoted with ™, ℠ or © are owned by affiliates of DuPont de Nemours Inc., unless otherwise noted.

