

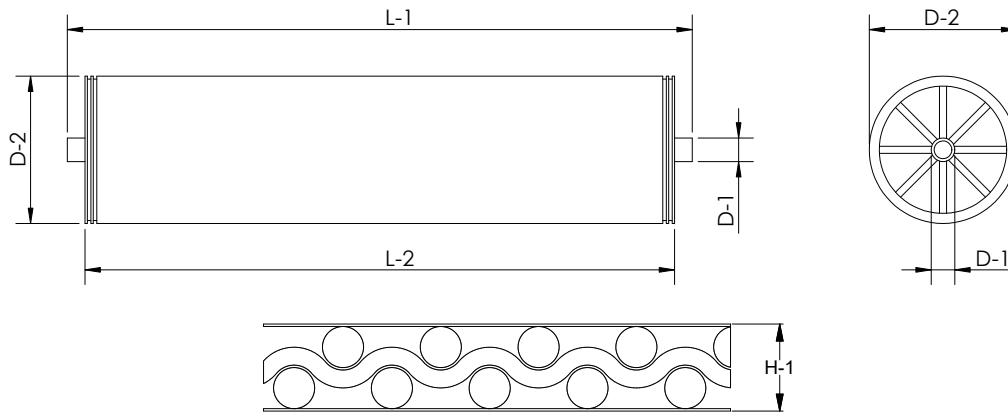
## PolyCera® Titan 70 Ultrafiltration High Flow Spiral Monolith® Element Specifications

### Performance & Operating Parameters

Membrane Material:	PolyCera Titan
Nominal Pore Size/MWCO:	5 nm/70 kDa
Operating pH Ranges:	1.0 – 10.0 @ T ≤ 70°C (158°F), 1.0 – 13.5 @ T ≤ 50°C (122°F)
Operating Temperature Ranges:	5°C – 70°C (41°F – 158°F)
Maximum Inlet Pressure:	8.3 bar (120 psi)
Maximum Cross-Flow Per Element:	17 m <sup>3</sup> /h (75 gpm)
Max Pressure Drop Per Element:	1.6 bar (24 psi)
Feed Free Oil & Grease:	≤ 500 mg/L
Feed Total Suspended Solids:	≤ 100 mg/L
Continuous Free Chlorine:	≤ 2 mg/L
Typical Operating Flux:	20 - 200 LMH (12 - 118 GFD)
Recommended Pre-Filter:	75 µm

Model Number Size	Titan70XB-1812- 32HF-TWM 1812	Titan70XB-4040- 32HF-TWM 4040	Titan70XB-8040- 32HF-FRF 8040
<b>Active Area</b> <i>m<sup>2</sup> (ft<sup>2</sup>)</i>	<b>0.36 (3.9)</b>	<b>6.2 (67)</b>	<b>26.5 (286)</b>
<b>Weight</b> <i>kg (lb)</i>	<b>0.45 (1)</b>	<b>3.5 (8)</b>	<b>13 (29)</b>
<b>Outer Wrap</b>	<b>Tape</b>	<b>Tape</b>	<b>Fiberglass</b>
<b>Endcap</b>	<b>Male</b>	<b>Male</b>	<b>Female</b>
<b>Recommend crossflow</b> <i>m<sup>3</sup>/h (gpm)</i>	<b>0.8 (3)</b>	<b>4 (17)</b>	<b>17 (75)</b>
<b>Filtrate flowrate*</b> <i>m<sup>3</sup>/h (gpm)</i>	<b>0.06 (0.3)</b>	<b>1.1 (4.7)</b>	<b>4.6 (20.1)</b>
<b>Permeate connection D-1**</b> <i>cm (in)</i>	<b>1.71 (0.67)</b>	<b>1.90 (0.75)</b>	<b>2.86 (1.13)</b>
<b>Element diameter D-2</b> <i>cm (in)</i>	<b>4.6 (1.80)</b>	<b>10.2 (4.00)</b>	<b>20.3 (8.00)</b>
<b>Element length (Female) L-1</b> <i>cm (in)</i>	<b>30.48 (12.00)</b>	<b>101.6 (40.00)</b>	<b>NA</b>
<b>Element length (Male) L-1</b> <i>cm (in)</i>	<b>29.8 (11.75)</b>	<b>96.1 (37.93)</b>	<b>101.6 (40.00)</b>
<b>Feed channel height H-1</b> <i>mm (mil)</i>	<b>0.81 (32)</b>	<b>0.81 (32)</b>	<b>0.81 (32)</b>

**Note:** \*Testing condition: de-ionized water, 25°C, 1.7 bar (25 psi) transmembrane pressure. Actual results will vary depending on feed water quality and operation conditions.  
\*\*All element dimensions have specified tolerances of +0.00/-0.06”.



## Cleaning & Chemical Exposure Guidelines

Maximum Backwash Pressure:	1.7 bar (25 psi)
Backwash Flux:	40 - 240 LMH (24 - 144 GFD)
Standard Backwash Duration:	30 seconds
Maximum Backwash Duration:	2 minutes
Maximum Cleaning Temperature:	85°C (185°F) @ $1 < \text{pH} \leq 10$ , 50°C (122°F) @ $10 < \text{pH} \leq 13.5$
Maximum Cleaning pH:	$1.0 < \text{pH} < 13.5$ @ 50°C (122°F), $1.0 < \text{pH} < 10.0$ @ 85°C (185°F)
Hydrochloric Acid:	$\leq 0.4\%$ or 1.0 Normal (pH > 1.0)
Citric Acid:	$\leq 20\%$ or 1.0 Normal (pH > 1.0)
Sodium Hydroxide:	$\leq 4\%$ or 1.0 Normal (pH < 13.5)
Free Chlorine Instantaneous/Total:	50 ppm/100,000 ppm hour @ pH 11
Peroxide/Ozone:	Not compatible

- Notes:** 1) Increased crossflow during backwash enhances cleaning efficacy  
2) Backwash flux should be 1.5 to 2 times of operating flux

## Handling & Storage Instructions

### **New Element Handling & Storage Guidelines**

- ◇ Recommended storage temperature: 5°C – 20°C (41°F – 68°F). Do not freeze element
- ◇ Handle with care. Damage to elements/end-caps/ATDs can compromise performance
- ◇ It is recommended to store elements wet and horizontally
- ◇ Whenever possible, store elements in original packaging
- ◇ Drying can damage membrane surface and compromise performance
- ◇ Membrane elements should be stored in dry, dark, and ventilated conditions

## Installation & Initial Use Guidelines

- ◇ Prior to use, soak element for 24 hours with portable water then flush for at least 30 minutes
- ◇ Elements can be mounted vertically or horizontally
- ◇ When mounted vertically, it is recommended to orient feed to flow from top to bottom
- ◇ Use water or glycerin to lubricate seal

## After Use Storage & Preservation Guidelines

Use standard CIP procedure to clean feed and filtrate from the elements prior to shut down. Then perform element preservation as recommended below:

- ◇ 1 – 7 days: Sanitize element by flushing with 10 ppm bleach and adjust to pH 11 for 30 minutes. Fill up element and housing with fresh 1 ppm bleach solution, seal the housing and store
- ◇ 1 week to 6 months: Fill up element and housing with 0.3% Saniclean\* solution, seal the housing and store. Every two weeks drain the Saniclean solution from the system and flush with clean water. Refill the element and housing with 0.3 % Saniclean solution, seal the housing and store.
- ◇ More than 6 months: Contact PolyCera, Inc. for further information.

**Note:** Saniclean is a USDA accepted, low-foaming acid anionic rinse product made by Five Star Chemicals & Supplies, Inc. (Colorado, USA). Please contact Five Star Chemicals & Supplies, Inc. or PolyCera, Inc. for further information.

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