

PolyCera® Titan 70 Ultrafiltration

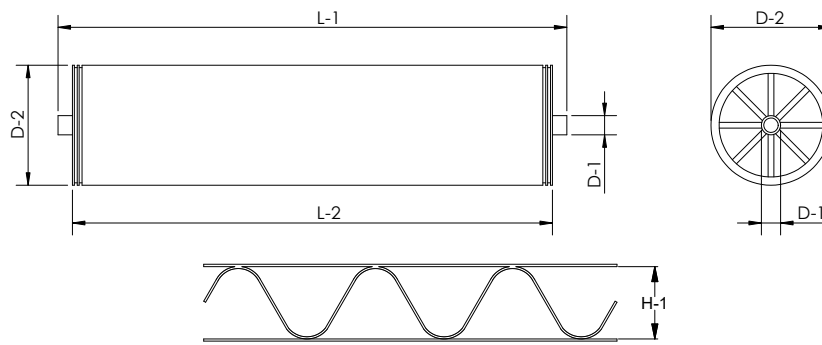
Ultra-High Flow Spiral Monolith®

Performance & Operating Parameters		Cleaning & Chemical Exposure Guidelines	
Membrane Material:	PolyCera Titan	Max Backwash Pressure:	1.7 bar (25 psi)
Nominal Pore Size/MWCO:	5 nm/70 kDa	Backwash Flux:	40 - 240 LMH (24 - 144 GFD)
Operating pH Ranges:	1.0 – 10.0 @ T ≤ 70°C (158°F), 1.0 – 13.5 @ T ≤ 50°C (122°F)	Standard Backwash Duration:	30 seconds
Operating Temperature Ranges:	5°C – 70°C (41°F – 158°F)	Max Backwash Duration:	2 minutes
Max Inlet Pressure:	8.3 bar (120 psi)	Max Cleaning Temperature:	85°C (185°F) @ 1 < pH ≤ 10, 50°C (122°F) @ 10 < pH ≤ 13.5
Max Cross-Flow Per Element:	34.1 m³/h (150 gpm)		
Max Pressure Drop Per Element:	1.72 bar (25 psi)	Max Cleaning pH:	1.0 < pH < 13.5 @ 50°C (122°F), 1.0 < pH < 10.0 @ 85°C (185°F)
Max Free Oil & Grease:	≤ 5,000 mg/L		
Max Total Suspended Solids:	≤ 1,000 mg/L	Hydrochloric Acid:	≤ 0.4% or 1.0 Normal (pH > 1.0)
Continuous Free Chlorine:	≤ 2 mg/L	Citric Acid:	≤ 20% or 1.0 Normal (pH > 1.0)
Typical Operating Flux:	20 - 200 LMH (12 - 118 GFD)	Sodium Hydroxide:	≤ 4% or 1.0 Normal (pH < 13.5)
Recommended Pre-Filter:	100 µm	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			

Model Number	Titan 70XB-1812-UHF-TWM	Titan 70XB-4040-UHF-TWM	Titan 70XB-8040-UHF-FRF
Size	1812	4040	8040
Active Area m² (ft²)	0.32 (3.4)	5.5 (60)	23.6 (254)
Weight kg (lb)	0.45 (1)	3.5 (8)	13 (29)
Outer Wrap	Tape	Tape/Fiberglass	Fiberglass
Endcap	Male	Male	Female
Recommend crossflow m³/h (gpm)	1.1 (5)	5.7 (25)	34.1 (150)
Filtrate flowrate* m³/h (gpm)	0.06 (0.2)	0.95 (4.2)	4.1 (17.9)
Permeate connection D-1** cm (in)	1.71 (0.67)	1.90 (0.75)	2.86 (1.125)
Element diameter D-2 cm (in)	4.6 (1.80)	10.2 (4.00)	20.3 (8.00)
Element length (male) L-1 cm (in)	30.48 (12.00)	101.6 (40.00)	NA
Element length (female) L-2 cm (in)	29.8 (11.75)	96.1 (37.93)	101.6 (40.00)
Feed channel height H-1 mm (mil)	1.02 (40)	1.02 (40)	1.02 (40)
Notes: *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".			



ELEMENT SPECIFICATIONS



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 environmental 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 four 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. If Saniclean solution is not available, use 0.2% sodium azide solution or 45% glycerin solution instead.
- More than 6 months: Contact PolyCera, Inc. for further information.

*: Saniclean is a USDA accepted, low-foaming acid anionic rinse product made by Five Star Chemicals & Supplies, Inc. (Colorado, USA).

PolyCera, Inc.
721 S Glasgow Ave.
Unit D
Los Angeles, CA 90301

T +1.424.331.7700
W www.polyceramembranes.com
E info@polyceramembranes.com

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