PolyCera®

ELEMENT SPECIFICATIONS

PolyCera® Titan Nanofiltration

65 mil Spiral Wound Element

Performance & Operating Parameters			
Membrane Material:	PolyCera Titan	Dye (Rose Bengal) rejection:	> 99%
Molecular weight cut-off:	500 Da	Monovalent ion rejection:	< 1%
Operating pH Ranges:	1.0 – 10.0 @ T≤ 70°C (158°F), 1.0 – 13.5 @ T ≤ 50°C (122°F)	Divalent ion (Hardness) rejection:	< 5%
Operating Temperature Ranges:	5°C – 70°C (41°F – 158°F)	Free Chlorine Instantaneous/Total:	50 ppm/100,000 ppm hour @ pH 11
Max Inlet Pressure:	20.7 bar (300 psi)	Max Cleaning Temperature:	85°C (185°F) @ 1< pH ≤ 10, 50°C (122°F) @ 10 < pH ≤ 13.5
Max Cross-Flow Per Element:	33 m^3/h (143 gpm)		
Max Pressure Drop Per Element:	1.7 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 Total Suspended Solids:	≤ 100 mg/L		
Continuous Free Chlorine:	≤ 5 mg/L	Hydrochloric Acid:	≤ 0.4% or 1.0 Normal (pH > 1.0)
Typical Operating Flux:	5 - 40 LMH (3 - 24 GFD)	Citric Acid:	≤ 20% or 1.0 Normal (pH > 1.0)
Recommended Pre-Filter:	100 µm	Sodium Hydroxide:	≤ 4% or 1.0 Normal (pH < 13.5)
		Peroxide/Ozone:	Not compatible

Model Number	Titan NF-2540-65-FRP	Titan NF-4040-65-FRP	Titan NF-8040-65-FRF
Size	**2540**	**4040**	**8040**
Active Area m^2 (ft^2)	1.3 (14)	4.5 (48)	18.8 (202)
Weight kg (lb)	1.8 (4)	3.5 (8)	13 (29)
Outer Wrap	Tape/Fiberglass	Tape/Fiberglass	Tape/Fiberglass
Endcap	Male	Male	Female
Recommend crossflow m^3/h (gpm)	5 (22)	10 (44)	33 (143)
Filtrate flowrate* m^3/d (gpd)	0.6 (161)	2.2 (591)	9.3 (2468)
Permeate connection D-1** cm (in)	1.9 (0.75)	1.90 (0.75)	2.86 (1.125)
Element diameter D-2 cm (in)	6.4 (2.5)	10.2 (4.00)	20.3 (8.00)
Element length (male) L-1 cm (in)	101.6 (40.00)	101.6 (40.00)	NA
Element length (female) L-2 cm (in)	101.6 (40.00)	101.6 (40.00)	101.6 (40.00)
Feed channel height H-1 mm (mil)	1.7 (65)	1.7 (65)	1.7 (65)

Notes: *Testing condition: de-ionized water, 25°C, 10.3 bar (150psi) 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".

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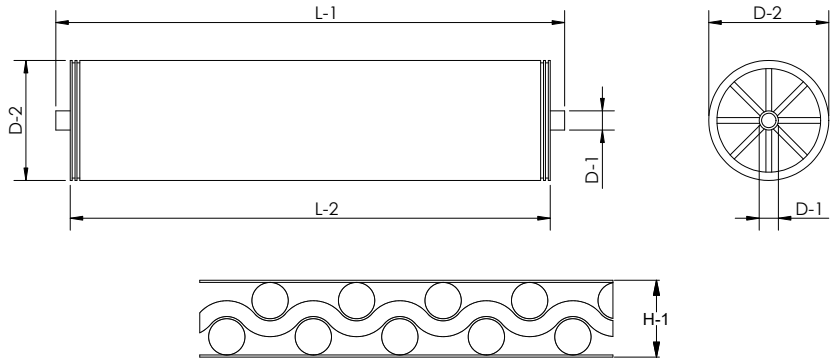

Handling & Storage Instructions

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 at 10 bar (150 psi) transmembrane pressure 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 avalible, 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