

PolyCera® Titan Off-Shore Ultrafiltration

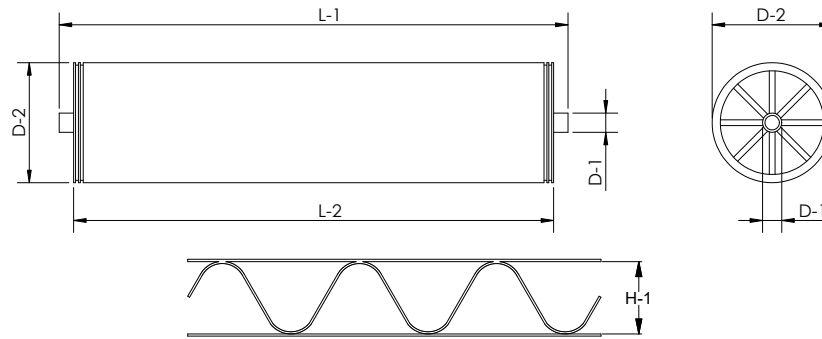
High Temperature, High Oil Tolerant Spiral Monolith®

| 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: | 0 – 10.0 @ T ≤ 90°C (194°F), 0 – 13.5 @ T ≤ 50°C (122°F) | Standard Backwash Duration: | 30 seconds |
| Operating Temperature Ranges: | 5°C – 90°C (41°F – 194°F) | Max Backwash Duration: | 2 minutes |
| Max Inlet Pressure: | 8.3 bar (120 psi) | Max Cleaning Temperature: | 90°C (194°F) @ 0 < 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: | 0 < pH < 13.5 @ 50°C (122°F), 0 < pH < 10.0 @ 90°C (194°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) |
| Max BTEX : | ≤ 500 mg/L | Citric Acid: | ≤ 20% or 1.0 Normal (pH > 1.0) |
| Continuous Free Chlorine: | ≤ 5 mg/L | Sodium Hydroxide: | ≤ 4% or 1.0 Normal (pH < 13.5) |
| Typical Operating Flux: | 20 - 200 LMH (12 - 118 GFD) | Free Chlorine Instantaneous/Total: | 50 ppm/100,000 ppm hour @ pH 11 |
| Recommended Pre-Filter: | 100 µm | 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-4040-UHF-OS-TWM | Titan 70XB-8040-UHF-OS-FRF |
|-------------------------------------|--|----------------------------|
| Size | 4040 | 8040 |
| Active Area m² (ft²) | 5.5 (60) | 23.6 (254) |
| Weight kg (lb) | 3.5 (8) | 13 (29) |
| Outer Wrap | Tape/Fiberglass | Fiberglass |
| Endcap | Male | Female |
| Recommend crossflow m³/h (gpm) | 5.7 (25) | 29 (128) |
| Filtrate flowrate* m³/h (gpm) | 0.38 (1.7) | 1.65 (7.3) |
| Permeate connection D-1** cm (in) | 1.90 (0.75) | 2.86 (1.125) |
| Element diameter D-2 cm (in) | 10.2 (4.00) | 20.3 (8.00) |
| Element length (male) L-1 cm (in) | 101.6 (40.00) | NA |
| Element length (Female) L-2 cm (in) | 96.1 (37.93) | 101.6 (40.00) |
| Feed channel height H-1 mm (mil) | 1.02 (40) | 1.02 (40) |
| Notes: | *Testing condition: synthetic produced water feed stream with 1,000 mg/L crude oil, 30°C (86°F), 15.9 m³/h (70 gpm, 8040 element) cross-flow, 2 bar (29 psi) transmembrane pressure, 10% recovery. 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).

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