OsmoF₂O™ FO Industrial Membrane

Model#: FO-8040-CTA-85-SDS

FTS's **OsmoF₂O**™ FO industrial membrane products utilizes low fouling cellulose membranes. The **FO - 8040** element with open chevron feed spacer for high solid feed streams and standard draw solution spacer for low-viscous draw solutions.

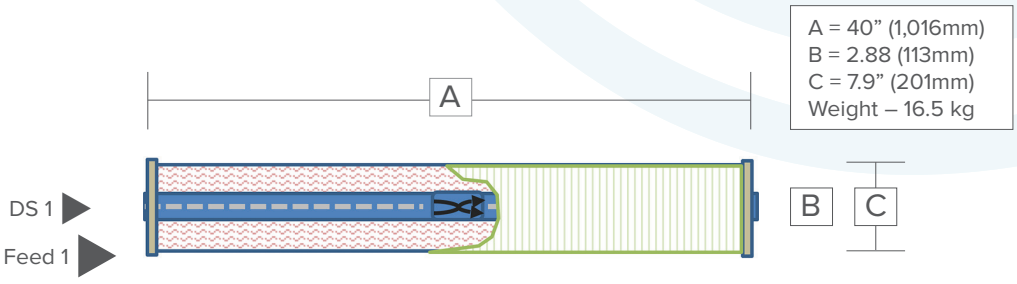
The membrane can handle very dirty high TSS and TDS wastewaters without extensive pretreatment such as landfill leachate. They require less frequency to clean. FTS's **OsmoF₂O**™FO industrial membranes are robust and easy-to-clean with high flux recovery over many cleaning cycles providing long membrane life. The 8040 and 4040 dimensions fit a wide range of conventional membrane module housings.

Features and Benefits:

- The most fouling, abrasion and chlorine resistant FO membrane.
- Used in multiple element housings.
- The most fouling resistant feed spacer (85-mil or 2.1-mm thick) providing stable FO fluxes.
- The SDS standard draw solution spacer (20mil or 0.5mm permeate spacer) for low viscosity draw solutions.

Performance – Brackish Wastewater - (shown in diagram below):

- Water Permeation: 330 gpd (1.2 m^3/d)
- Active Area: 139 ft^2 (13.0 m^2)
- Draw Solution Salt Rejection: 99.9%
- Test Conditions:
  - Feed (side ports): 100 gpm (23 m^3/h) 65,000 TDS wastewater feed at 77°F (25°C) and 15 psi (100 kPa) exit
  - Draw (end ports): 2.0 gpm (0.45 m^3/h) 105,000 TDS NaCl at 10 psi (70 kPa)
  - Rejection, typically, greater than 99.9% rejection of NaCl (draw solution salt) into feed: {1 – [(kg draw transferred to feed) / (kg water removed)]}* 100



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Brief Operating Limits and Guidelines:

Membrane Requirements	Membrane must be kept moist at all times (do not allow to freeze).
Membrane Type	Cellulose Triacetate (CTA)
Max. Operating Temp.	120°F (50°C)
Max. Side-Port Pressure	75 psi (0.5 MPa)
Minimum Transmembrane Pressure(*)	5 psi (35 kPa)
pH Operating Range	3 to 7
Maximum Chlorine	2 ppm
Maximum Silt Density Index	very high, can concentrate landfill leachate
Maximum NTU	greater than 1000
Recommended Pre-filtration	100 µm

(*) Failure to maintain higher pressure on the side ports than the end ports can result in element seam failure, which is not covered under warranty after initial start-up.

Configurations for different applications

- FO-CTA-8040–85. For treating High Fouling wastewaters (such as landfill leachate).
- FO-CTA-8040-45. For treating Moderate Fouling wastewaters (such as dirty seawater and other contaminated brine streams).
- FO-CTA-8040-31. For treating Low Fouling wastewaters (such as clean brines).
- FO-CTA-4040. The elements are identical to the 8040 models but instead of an eight-inch (203 mm) diameter, the model has a four-inch diameter (102 mm). This model is used for smaller volumes and specialty applications (such as pharmaceuticals).