FORTEX ZLD-HC series – Special Membranes for High Efficiency Concentration/Separation

Product description:

FORTEX ZLD-HC series is a range of membranes specifically developed for high-concentration applications, Zero Liquid Discharge (ZLD), and resource recovery. A core advantage of this series lies in its ability to replace ultra-high-pressure operating requirements: it achieves efficient high-concentration treatment and high-salt separation under sub-high-pressure conditions. This design not only meets the rigorous separation demands of high-salinity streams but also significantly reduces operational energy consumption—delivering both performance and cost efficiency for intensive water treatment scenarios.

Product Highlights:

* Superior energy efficiency: Completes high-concentration separation tasks (traditionally requiring ultra-high pressure) under sub-high pressure conditions, directly slashing operational energy consumption.

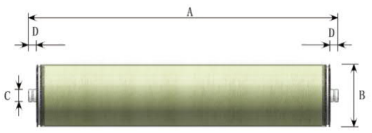
* Exceptional concentration capability: Enables brine concentration up to 290,000 ppm, meeting the ultra-high salinity enrichment demands of advanced scenarios like resource recovery and intensive ZLD.

* Robust pressure resistance: Through a specialized membrane sheet manufacturing process, the element achieves a pressure tolerance of up to 83 bar (1200 psi), ensuring stable performance under high-pressure operating conditions.

* Tailored customization: Supports customized production based on specific application fields and the properties of target concentrated / separated substances, maximizing adaptability to diverse treatment requirements.

Product Dimensions:

Membrane Code	Dim. A		Dim. B		Dim. C		Dim. D	
	mm	inch	mm	inch	mm	inch	mm	inch
FORTEX-ZLD-HC-1	1016	40	201	7.9	29	1.125		
FORTEX-ZLD-HC-2	1016	40	201	7.9	29	1.125		
FORTEX-ZLD-HC-3	1016	40	201	7.9	29	1.125		
FORTEX-ZLD-HC-4	1016	40	201	7.9	29	1.125		



Product Specifications:

Membrane Code	Effective Area		Permeate flowrate		Min Rejection (%)	Stable Rejection (%)	Concentrate TDS (ppm)	Material
	(m2)	(ft2)	(m3/d)	(gpd)				
FORTEX-ZLD-HC-1	37	400	48	12650		≥90	290000	
FORTEX-ZLD-HC-2	37	400	35.2	9300		≥97	250000	
FORTEX-ZLD-HC-3	37	400	32	8450		≥98		
FORTEX-ZLD-HC-4	37	400	30.2	7980		≥95	105000	

Note: Flux and rejection rate is based on the following standard test conditions:
- HC1, HC2 and HC3: 25℃(77℉) Na2SO4 solution, pH 8.
- HC4: 25℃(77℉) NaCl solution, pH 8.

Operation & Cleaning Limits:

* Maximum Operating Pressure: 83 bar (1200 psi)
* Maximum Operating Temperature: 45°C (113°F)
* Maximum Element Pressure Drop: 1.0 bar (15psi)
* pH Range Continuous Operation: 3-10
* pH Range Short-Term (Cleaning): 2-12
* Maximum Feed SDI (SDI_{15}): 5.0
* Free Chlorine Tolerance: < 0.1 ppm

Notes:

* Permeate flow for individual elements may vary ±15 percent from the value specifed.

* Active membrane area guaranteed ±4%.

* Stabilized salt rejection is generally achieved within 24-48 hours of continuous use; depending uponfeedwater characteristics and operating conditions.