MARIS HRLE series – High Rejection & Low Energy Sea Water RO Membranes

Product description:

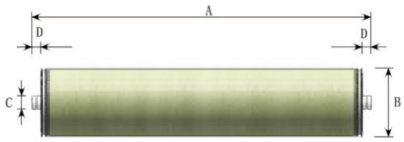
The MARIS-HRLE membrane tackles the high energy intensity of conventional seawater RO systems. Through optimized membrane chemistry and module structural design, these elements achieve exceptional rejection performance at lower operating pressures-delivering substantial energy savings without sacrificing water quality or system productivity.

Product Highlights:

* Sustained high rejection efficiency even at reduced operating pressures
* Substantial energy consumption reduction enabled by optimized flux characteristics
* SNon-oxidative post-treatment ensures long-term chemical stability and extended service life
* Shortened membrane leaves enhance flow dynamics, reduce concetration polarization and minimize fouling propensity

Product Dimensions:

Membrane Code	Dim. A		Dim. B		Dim. C		Dim. D	
	mm	inch	mm	inch	mm	inch	mm	inch
MARIS-HRLE-8x40-400	1016	40	201	7.9	29	1.125		
MARIS-HRLE-8x40-440	1016	40	201	7.9	29	1.125		
MARIS-HRLE-4x40-82	963	37.9	99	3.9	19	0.75	26.7	1.05



Product Specifications:

Membrane Code	Effective Area		Permeate flowrate		Min Rejection (%)	Stable Rejection (%)	Boron rejection (%)	Material
	(m2)	(ft2)	(m3/d)	(gpd)				
MARIS-HRLE-8x40-400	37.2	400	28	7400	99.65	99.80	92.00	
MARIS-HRLE-8x40-440	41	440	30	7900	99.65	99.80	92.00	
MARIS-HRLE-4x40-82	7.6	82	6.1	1600	99.60	99.70	-	

Note: Flux and rejection rate is based on the following standard test conditions: 5.5 MPa (800 psi) pressure, 25°C (77°F), 32000 ppm NaCl solution and pH 8 for feedwater, and 8% recovery.

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: 2-11
* pH Range Short-Term (Cleaning): 1-13
* 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.