AK Series

FACT SHEET

Low energy brackish water reverse osmosis spiral wound membranes

The AK Series family of proprietary thin-film reverse osmosis (RO) spiral wound membranes is selected when energy savings from low operating pressures are desired. The AK Series is specifically designed for lower salinity feed water.

Table 1:Specification

Membrane	Thin-film membrane (TFM)

Model	Average Permeate Flow gpd (m^3/day) (1,3)	Average NaCl Rejection (2,3)	Minimum NaCl Rejection (2,3)
AK2540TM	750 (2.8)	99.0%	98.0%
AK4040FM	2,200 (8.3)	99.0%	98.0%
AK4040TM	2,200 (8.3)	99.0%	98.0%
AK8040F	10,000 (37.9)	99.0%	98.0%
AK8040F-400	11,000 (41.6)	99.0%	98.0%
AK8040F-440	12,000 (45.4)	99.0%	98.0%

(1) Individual flow rate may vary ±20%.

(2) Stabilized salt rejection after 24 hours of operation.

(3) Testing conditions: 500 ppm NaCl solution at 115 psi (793 kPa) operating pressure, 77°F (25°C), pH 7.5 and 15% recovery.



Table 2:Properties (4)

Model	Active Area ft^2 (m^2)	Outer Wrap	Feed Spacer mil (mm)	Part Number
AK2540TM	27 (2.5)	Tape	30 (0.76)	1206082
AK4040FM	85 (7.9)	Fiberglass	34 (0.86)	3039082
AK4040TM	85 (7.9)	Tape	34 (0.86)	3039149
AK8040F	365 (33.9)	Fiberglass	34 (0.86)	3039160
AK8040F-400	400 (37.2)	Fiberglass	34 (0.86)	3039161
AK8040F-440	440 (40.9)	Fiberglass	28 (0.71)	3194308

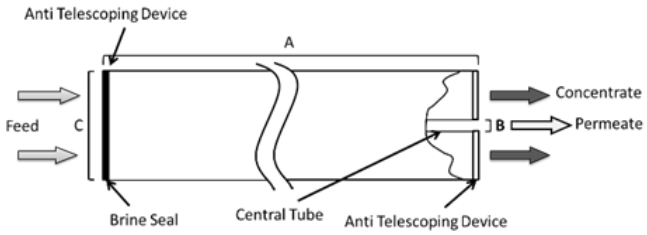

Figure 1:Dimensions Diagram for AK Series Models with 8040 Designation

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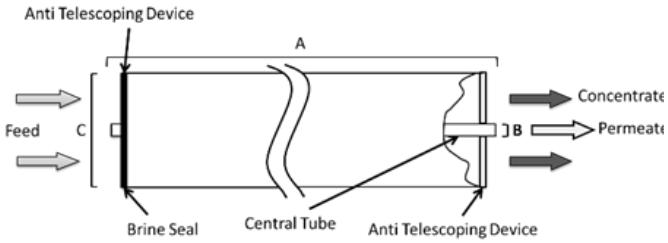

Figure 2:Dimensions Diagram for AK Series Models with 4040 or 2540 Designation

Table 3: Dimensions and Weight [4]

Model	Figure	Dimensions, inches (cm)			Boxed Weight lbs (kg)
		A	B	C	
AK2540	2	40.0 (101.6)	0.75 (1.9)	2.4 (6.1)	5 (2.3)
AK4040FM	2	40.0 (101.6)	0.75 (1.9)	3.9 (9.9)	9 (4)
AK4040TM	2	40.0 (101.6)	0.75 (1.9)	3.9 (9.9)	9 (4)
AK8040F	1	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	35 (16)
AK8040F-400	1	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	35 (16)
AK8040F-440	1	40.0 (101.6)	1.125 (2.86)	7.9 (20.1)	35 (16)

Table 4: Operating and CIP Parameters [4]

Typical Operating Pressure	100 psi (689 kPa)
Typical Operating Flux	10-20 GFD (15-35 LMH)
Maximum Operating Pressure	600 psi (4,136 kPa)
Maximum Temperature	Continuous operation: 122°F (50°C) Clean In Place (CIP): 122°F (50°C)
pH Range	Optimum rejection: 7.0-7.5, Continuous operation: 2.0-11.0, Clean In Place (CIP): 1.0-13.0 [5]
Maximum Pressure Drop	Over an element: 15 psi (103 kPa) Per housing: 50 psi (345 kPa)
Chlorine Tolerance	1,000+ ppm x hours, dechlorination recommended [6]
Feedwater	NTU < 1 SDI_{15} < 5

(4) Spiral wound membrane properties and parameters are indicative numbers. Specific values by spiral wound membrane may vary within normal manufacturing tolerances.

(5)Refer to Technical Bulletin TB1194 "Operating Guidelines - Cleaning Spiral Wound Membranes". Veolia recommends the use of Veolia-labeled chemical products for the operation of systems that use Veolia spiral wound membranes. These chemical products (such as antiscalants and membrane cleaners) have been specifically developed to be used with Veolia spiral wound membrane technologies and are approved by Veolia technical services.

(6) Under certain conditions, the presence of free chlorine and other oxidants can lead to premature membrane failure. Since oxidative damage is not covered under warranty, we recommend removing residual free chlorine through pretreatment before membrane exposure.

Contact Information

To learn more, contact your Veolia representative, or visit our website.

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