

▶ FD RO Series

Dairy Reverse Osmosis Membrane Elements Series

Product Performance and Features

Dairy Reverse Osmosis (FDRO) membrane elements are high-rejection RO membrane elements specially designed and developed for dairy processing applications. The full product range is certified with sanitary permits.

The fully-contoured membrane housing design minimizes dead areas to meet hygienic requirements. Reduced bypass flow maximizes cross-flow velocity across the membrane surface, resulting in higher permeate flow rate and recovery rate. Meanwhile, due to lower external bypass flow, the required feed flow rate is approximately 20% lower than that of membrane elements with conventional housings at the same pressure drop, leading to a significant reduction in energy consumption.

Product Parameters

Membrane element model	Stable salt rejection (%)	Width of channel mil	Average permeate flow GPD (m ³ /d)	Effective membrane area ft ² (m ²)
FDRO-3838/31	99.5	31	1750(6.6)	81(7.5)
FDRO-3938/31	99.5	31	1800(6.8)	85(7.8)
FDRO-3840/31	99.5	31	1800(6.8)	85(7.8)
FDRO-8038/28	99.5	28	9000(34.0)	390(36.2)
FDRO-8038/34	99.5	34	8500(32.2)	370(34.4)
FDRO-8038/48	99.5	48	6200(23.5)	290(27)

Test conditions

Test pressure	150 psi(1.03 MPa)
Test solution temperature	25°C
Test solution concentration (NaCl)	2000mg/L
Test solution pH	7
Recovery rate of single membrane element	15%

Extreme conditions

Maximum operating pressure	600 psi (4.14 MPa)
Maximum operating temperature	45°C
Maximum feedwater temperature	85°C
Maximum feedwater SDI ₁₅	5
Feedwater free chlorine concentration	<0.1 mg/L
Allowed pH range for feedwater in operation.	2-11
Allowed pH range for feedwater during chemical cleaning	1-12
Maximum pressure drop of single membrane element	15 psi(0.1 MPa)

Tel: +86 21 34501290

Phone: +86 18221094035

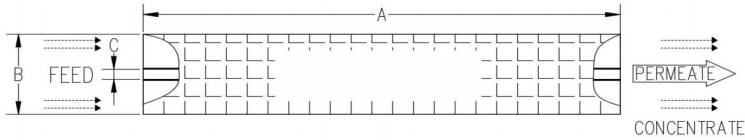
Web: www.shanghai-cm.com

Email: info@shchenmo.com

Add: No. 1188 Jiangyue Road , Minhang District , Shanghai , China



Membrane element dimensions



Membrane element model	A		B		C(ID)	
	Inches	Millimeters	Inches	Millimeters	Inches	Millimeters
FDRO-3838/31	38	965	3.8	96	0.831	21.1
FDRO-3938/31	38	965	3.9	99	0.831	21.1
FDRO-3840/31	38.75	984	3.8	96	0.831	21.1
FDRO-8038/28	38	965	7.9	200	1.125	28.58
FDRO-8038/34	38	965	7.9	200	1.125	28.58
FDRO-3838/48	38	965	7.9	200	1.125	28.58

Important information

1. The water production values listed in the table are average values, and the water production error of a single membrane element is within 20%.
2. The permeate produced in the first hour of initial use of the membrane element shall be drained and not used.
3. Dry membrane elements are shipped without preservation solution. Once wetted, the elements must be kept moist at all times.
4. Feed water pressure should be increased gradually over a period of 30–60 seconds; otherwise, irreversible damage to the membrane element may occur.
5. Back pressure on the permeate side must be avoided at all times.
6. Wet membrane elements are tested with water before shipment, preserved in a 1.5% sodium bisulfite solution (with 10% propylene glycol antifreeze added in winter), and then vacuum-packed.
7. For long-term system shutdowns, to prevent microbial growth, it is recommended that membrane elements be immersed in a 1.5% (by weight) food-grade sodium bisulfite preservation solution, which should be replaced regularly.