

▶ HC RO Series

High-Recovery RO Membrane Elements Series

Product Performance and Features

High-concentration reverse osmosis membrane elements are suitable for concentrating and reducing high-salinity water in near-zero discharge applications, enabling resource recycling and reuse. HC70, HC80, HC120 and HC160 can concentrate brine TDS to 70 g/L, 80 g/L, 120 g/L and 160 g/L respectively, with a maximum operating pressure of 90 bar.

HP120 is an ultra-high pressure concentrated reverse osmosis membrane, designed for concentrating and reducing brine with TDS ranging from 50 g/L to 80 g/L, and its maximum operating pressure can reach 120 bar.

Product Parameters

Membrane element model	Stable salt rejection (%)	Minimum salt rejection (%)	Average permeate flow GPD (m ³ /d)	Effective membrane area ft ² (m ²)
HC70	99.75	99.6	8800(33.3)	400(37.2)
HC80	99.45	99.25	9100(34.4)	440(40.9)
HC120	90	85	11500(43.5)	370(34.4)
HC160	85	80	13500(51.1)	370(34.4)
HP120	99.75	99.6	7400(28.0)	330(30.7)

Test conditions

Test pressure	800 psi(5.50 MPa) (HC70, HP120) 600 psi(4.14 MPa) (HC80, HC120, HC160)
Test solution temperature	25°C
Test solution concentration (NaCl)	32000mg/L
Test solution pH	7.5
Recovery rate of single membrane element	8% , 15% (HC120,HC160)

Test conditions

Maximum operating pressure	1305 psi(9.0 MPa) (HC70, HC80, HC120, HC160) 1740 psi(12.0 MPa) (HP120)
Maximum feed flow rate	75 gpm(17 m ³ /h)
Maximum feed water temperature	45°C
Maximum feed water SDI ₁₅	5
Feed water free chlorine concentration	<0.1ppm
Feed water pH range for continuous operation	2-11
Feed water pH range for chemical cleaning	1-13
Maximum pressure drop per membrane element	15 psi(0.1 MPa)

Tel: +86 21 34501290

Phone: +86 18221094035

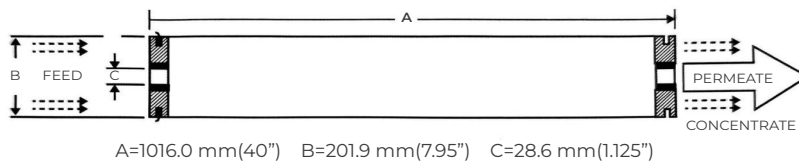
Web: www.shanghai-cm.com

Email: info@shchenmo.com

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



Membrane element dimensions



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.

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