

CSM[®] REGIONAL PRESENCE



Version 2023.11

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The Right Fit

CSM[®]

Product Catalog for Industrial RO/NF/UF Elements

TORAY

Toray Advanced Materials Korea Inc.



Design Software

CSMPRO v6.2 is available on the CSM website.

Visit our website : www.csmfilter.com

BWM - Brackish Water RO Elements

BE Series

High Rejection RO elements for Brackish Water

Model Name	Flow Rate(GPD)	Salt Rejection(%)	Effective Area(ft ²)	Feed Spacer(mil)
RE8040-BE440	12,000	99.7	440	28
RE8040-BE34	11,000	99.7	400	34
RE8040-BE	11,000	99.7	400	32
RE4040-BE	2,400	99.7	85	32
RE4021-BE	1,200	99.5	35	32
RE2540-BE	1,000	99.5	27	28

Test Conditions 40": NaCl 2,000 mg/L, Pressure 225 psi, Temperature 25°C, pH 6.5-7.0, Recovery 15%
21": NaCl 2,000 mg/L, Pressure 225 psi, Temperature 25°C, pH 6.5-7.0, Recovery 8%

BL Series

Energy Saving High Flux Elements

RE8040-BLN440	13,000	99.5	440	28
RE8040-BLN	12,000	99.5	400	32
RE8040-BLR440	11,000	99.6	440	28
RE8040-BLR	10,000	99.6	400	32
RE4040-BLN	2,600	99.4	85	32
RE4040-BLR	2,100	99.6	85	32
RE4021-BLN	1,200	99.2	35	32
RE4021-BLR	1,000	99.4	35	32
RE2540-BLN	930	99.2	27	28
RE2540-BLR	740	99.4	27	28

Test Conditions 40": NaCl 1,500 mg/L, Pressure 150 psi, Temperature 25°C, pH 6.5-7.0, Recovery 15%
21": NaCl 1,500 mg/L, Pressure 150 psi, Temperature 25°C, pH 6.5-7.0, Recovery 8%

BLF Series

Ultra Low Pressure High Productivity Elements

RE8040-BLF440	12,650	99.2	440	28
RE8040-BLF	11,500	99.2	400	32
RE4040-BLF	2,500	99.2	85	32
RE4021-BLF	1,200	99.2	85	32
RE2540-BLF	930	99.2	27	28

Test Conditions 40": NaCl 500 mg/L, Pressure 100 psi, Temperature 25°C, pH 6.5-7.0, Recovery 15%
21": NaCl 500 mg/L, Pressure 100 psi, Temperature 25°C, pH 6.5-7.0, Recovery 8%

Operating Limits(8 inch BW)

- Max. Operating Pressure	600 psi (4.14 MPa)	- Operating pH Range	2.0-11.0
- Max. Pressure Drop / Element	15 psi (0.1 MPa)	- CIP pH Range	1.0-13.0
- Max. Pressure Drop / 240" Vessel	60 psi (0.41 MPa)	- Max. Turbidity	1.0 NTU
- Max. Feed Flow Rate	75 gpm (17.0 m/hr)	- Max. SDI (15 min)	5.0
- Min. Concentrate Flow Rate	16 gpm (3.6 m/hr)	- Max. Chlorine Concentration	< 0.1 mg/L
- Max. Operating Temperature	113°F (45°C)		

Saturation Limits with Antiscalant or Scale Inhibitor

- LSI	<+1.5	- SrSO ₄	800% saturation
- SDSI	<+0.5	- BaSO ₄	6,000% saturation
- CaSO ₄	230% saturation	- SiO ₂	100% saturation

FRM - Fouling Resistant RO Elements

FEN Series

Industry Leading Fouling Resistant Elements

Model Name	Flow Rate(GPD)	Salt Rejection(%)	Effective Area(ft ²)	Feed Spacer(mil)
RE8040-FEN440	12,000	99.7	440	28
RE8040-FEN34	11,000	99.7	400	34
RE8040-FEN	11,000	99.7	400	32
RE4040-FEN	2,400	99.7	85	32
RE2540-FEN	1,000	99.5	27	28

Test Conditions NaCl 2,000 mg/L, Pressure 225 psi, Temperature 25°C, pH 6.5-7.0, Recovery 15%

FL Series

Energy Saving Fouling Resistant Elements

RE8040-FLR34	10,000	99.6	400	34
RE8040-FLR	10,000	99.6	400	32
RE8040-FLF440	13,000	99.6	440	28
RE8040-FLF34	12,000	99.6	400	34
RE4040-FLR	2,100	99.6	85	32

Test Conditions NaCl 1,500 mg/L, Pressure 150 psi, Temperature 25°C, pH 6.5-7.0, Recovery 15%

NF – Nanofiltration Elements

NF elements are unique in the industry due to the selective rejection ranging from 40-95% for monovalent ions. This property gives a competitive edge for the elements to be used for separation, extraction, and concentration applications.

Model Name	Flow Rate(GPD)	NaCl Rejection(%)	MgSO ₄ Rejection(%)	Effective Area(ft ²)
NE8040-40	12,000	20-40	99	400
NE8040-70	9,000	30-70	99	400
NE8040-90	8,000	90-97		400
NE4040-40	2,500	20-40	99	85
NE4040-70	1,900	30-70	99	85
NE4040-90	1,700	90-97		85

Test Conditions NaCl 2,000 mg/L, Pressure 75 psi, Temperature 25°C, pH 6.5-7.0, Recovery 15%
MgSO₄ 2,000 mg/L, Pressure 75 psi, Temperature 25°C, pH 6.5-7.0, Recovery 15%

UF – Ultrafiltration Elements

Ultrafiltration Elements cannot remove dissolved ions but can remove small particles usually anything under 0.01µm. It can be used for pretreatment, ultrapure water polishing and residential water treatment.

Model Name	Flow Rate(GPD, m3/d)	Molecular Weight Cut-Off(MWCO)	Effective Area(ft ²)	Feed Spacer(mil)
UE8040-ES10	8,000	10K	400	32
UE8040-PF	16,000	50K-100K	400	32

Test Conditions NaCl 2,000 mg/L, Pressure 75 psi, Temperature 25°C, pH 6.5-7.0, Recovery 15%



Certified to
NSF/ANSI/CAN 61