RE8040-BN



Low pressure grade RO element with thick feed spacer for brackish water

SPECIFICATIONS:

General **Features**

Permeate flow rate:

9,500 GPD (36.0 m³/day)

Nominal salt rejection:

99.7%

Effective membrane area:

365 ft² (33.9 m²)

- 1. The stated product performance is based on data taken after 30 minutes of operation at the following test conditions:
 - 2,000 mg/L NaCl solution at 225 psig (1.5 MPa) applied pressure
 - 15% recovery
 - 77 °F (25 °C)
 - pH 6.5-7.0
- 2. Minimum salt rejection is 99.4%.
- 3. Permeate flow rate for each element may vary but will be no more than 10%.
- 4. All elements are vacuum sealed in a polyethylene bag containing 1.0% SBS (sodium bisulfite) solution and individually packaged in a cardboard box.

Membrane type:

Thin-Film Composite

Membrane material:

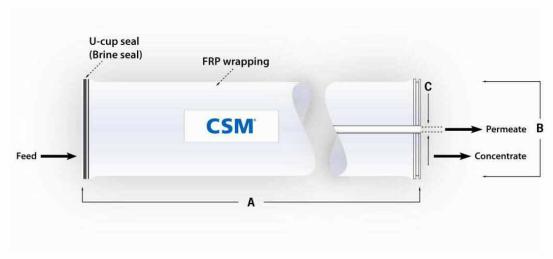
Polyamide (PA)

Element configuration:

Spiral-Wound, FRP Wrapping

Dimensions

A = 40.0 inch (1,016 mm) B = 8.0 inch (201 mm) C = 1.12 inch (28 mm)



- 1. Each membrane element supplied with one brine seal, one interconnector (coupler) and four o-rings.
- 2. All RE8040 elements fit nominal 8.0 inch (201 mm) I.D. pressure vessels.

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2012 A 04-03-06-EN

RE8040-BN



Low pressure grade RO element with thick feed spacer for brackish water

APPLICATION DATA:

Operating Limits	Max. Pressure Drop / Element	15 psi (0.1 MPa)
udeka (■ Presidenci direkentitati (■ e = udatekutatidiketa	Max. Pressure Drop / 240" Vessel	60 psi (0.41 Mpa)
	Max. Operating Pressure	600 psi (4.14 MPa)
	· Max. Feed Flow Rate	75 gpm (17.0 m³/hr)
	Min. Concentrate Flow Rate	16 gpm (3.6 m³/hr)
	· Max. Operating Temperature	113 °F (45 °C)
	Operating pH Range	2.0-11.0
	CIP pH Range	1.0-13.0
	Max. Turbidity	I.0 NTU
	· Max. SDI (15 min)	5.0
	Max. Chlorine Concentration	< 0.1 mg/L
Design Guidelines for Various	· Wastewater Conventional (SDI < 5)	8–12 gfd
Water Sources	· Wastewater Pretreated by UF/MF (SDI < 3)	10-14 gfd
	Seawater, Open Intake (SDI < 5)	7–10 gfd
	Seawater, Beach Well (SDI < 3)	8–12 gfd
	· Surface Water (SDI < 5)	12-16 gfd
	Surface Water (SDI < 3)	13-17 gfd
	Well water (SDI < 3)	13-17 gfd
	RO permeate (SDI < I)	21-30 gfd
Saturation Limits	· Langlier Saturation Index (LSI)	<+1.5
$(Using Antiscalants)^T$	Stiff and Davis Saturation Index (SDSI)	<+0.5
	· CaSO ₄	230% saturation
	· SrSO ₄	800% saturation
	· BaSO4	6,000% saturation
	· SiO ₂	100% saturation
	[†] The above saturation limits are typically accepted by proprietary antiscalant manufacturers. It is the user's responsibility to ensure proper chemical(s) and concentration are dosed ahead of the membrane system to prevent scale formation anywhere within the membrane system. Membrane elements fouled or damaged due to scale formation are not covered by the limited warranty.	

GENERAL HANDLING PROCEDURES

- Elements contained in the boxes must be kept dry at room temperature (7–32°C; 40–95°F) and should not be stored in direct sunlight. If the polyethylene bag is damaged, a new preservative solution (sodium bisulfite) must be added and air-tight sealed to prevent drying and biological growth.
- Permeate from the first hour of operation should be discarded to flush out the preservative solution.
- Elements should be immersed in a preservative solution during storage, shipping and system shutdowns to prevent biological growth and freezing. The standard storage solution contains 1% by weight sodium bisulfite or sodium metabisulfite (food grade). For short term storage (i.e. one week or less) 1% by weight sodium metabisulfite solution is adequate for preventing biological growth.
- Keep elements moist at all times after initial wetting.
- · Avoid excessive pressure and flow spikes.
- Only use chemicals compatible with the membrane elements and components. Use of such chemicals may void the element limited warranty.
- Permeate pressure must always be equal or less than the feed/concentrate pressure. Damage caused by permeate back pressure voids the element limited warranty.

2012 A 04-03-06.2-EN

RE8040-BE



High productivity RO element for brackish water

SPECIFICATIONS:

General **Features**

Permeate flow rate:

10,500 GPD (39.7 m³/day)

Nominal salt rejection:

99.7%

Effective membrane area:

400 ft² (37.2 m²)

- 1. The stated product performance is based on data taken after 30 minutes of operation at the following test conditions:
 - 2,000 mg/L NaCl solution at 225 psig (1.5 MPa) applied pressure
 - 15% recovery
 - 77 °F (25 °C)
 - pH 6.5-7.0
- 2. Minimum salt rejection is 99.4%.
- 3. Permeate flow rate for each element may vary but will be no more than 10%.
- 4. All elements are vacuum sealed in a polyethylene bag containing 1.0% SBS (sodium bisulfite) solution and individually packaged in a cardboard box.

Membrane type:

Thin-Film Composite

Membrane material:

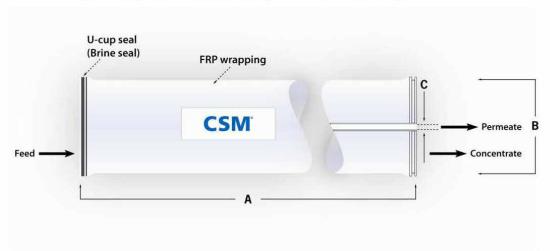
Polyamide (PA)

Element configuration:

Spiral-Wound, FRP Wrapping

Dimensions

A = 40.0 inch (1,016 mm) B = 8.0 inch (201 mm) C = 1.12 inch (28 mm)



- 1. Each membrane element supplied with one brine seal, one interconnector (coupler) and four o-rings.
- 2. All RE8040 elements fit nominal 8.0 inch (201 mm) I.D. pressure vessels.

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2012 A 04-03-07-EN

RE8040-BE



High productivity RO element for brackish water

APPLICATION DATA:

Operating Limits	· Max. Pressure Drop / Element	15 psi (0.1 MPa)
	· Max. Pressure Drop / 240" Vessel	60 psi (0.41 Mpa)
	Max. Operating Pressure	600 psi (4.14 MPa)
	Max. Feed Flow Rate	75 gpm (17.0 m ³ /hr)
	Min. Concentrate Flow Rate	16 gpm (3.6 m³/hr)
	· Max. Operating Temperature	113 °F (45 °C)
	· Operating pH Range	2.0-11.0
	· CIP pH Range	1.0-13.0
	· Max. Turbidity	I.0 NTU
	· Max. SDI (15 min)	5.0
	· Max. Chlorine Concentration	< 0.1 mg/L
Design Guidelines for Various Water Sources	· Wastewater Conventional (SDI < 5)	8–12 gfd
	· Wastewater Pretreated by UF/MF (SDI < 3)	10-14 gfd
	· Seawater, Open Intake (SDI < 5)	7-10 gfd
	Seawater, Beach Well (SDI < 3)	8–12 gfd
	· Surface Water (SDI < 5)	12–16 gfd
	Surface Water (SDI < 3)	13-17 gfd
	· Well water (SDI < 3)	13–17 gfd
	· RO permeate (SDI < I)	21-30 gfd
Saturation Limits	· Langlier Saturation Index (LSI)	<+1.5
(Using Antiscalants) [†]	Stiff and Davis Saturation Index (SDSI)	<+0.5
	· CaSO ₄	230% saturation
	· SrSO ₄	800% saturation
	· BaSO ₄	6,000% saturation
	· SiO ₂	100% saturation
	[†] The above saturation limits are typically accepted by proprietary antiscalant manufacturers. It is the user's responsibility to ensure proper chemical(s) and concentration are dosed ahead of the membrane system to prevent scale formation anywhere within the membrane system. Membrane elements fouled or damaged due to scale formation are not covered by the limited warranty.	

GENERAL HANDLING PROCEDURES

- Elements contained in the boxes must be kept dry at room temperature (7–32°C; 40–95°F) and should not be stored in direct sunlight. If the polyethylene bag is damaged, a new preservative solution (sodium bisulfite) must be added and air-tight sealed to prevent drying and biological growth.
- Permeate from the first hour of operation should be discarded to flush out the preservative solution.
- Elements should be immersed in a preservative solution during storage, shipping and system shutdowns to prevent biological growth and freezing. The standard storage solution contains 1% by weight sodium bisulfite or sodium metabisulfite (food grade). For short term storage (i.e. one week or less) 1% by weight sodium metabisulfite solution is adequate for preventing biological growth.
- Keep elements moist at all times after initial wetting.
- · Avoid excessive pressure and flow spikes.
- Only use chemicals compatible with the membrane elements and components. Use of such chemicals may void the element limited warranty.
- Permeate pressure must always be equal or less than the feed/concentrate pressure. Damage caused by permeate back pressure voids the element limited warranty.

2012 A 04-03-07.2-EN

RE8040-BE440



High productivity RO element with extended area for brackish water

SPECIFICATIONS:

General **Features**

Permeate flow rate:

11,500 GPD (43.5 m³/day)

Nominal salt rejection:

99.7%

Effective membrane area:

440 ft² (40.9 m²)

- 1. The stated product performance is based on data taken after 30 minutes of operation at the following test conditions:
- 2,000 mg/L NaCl solution at 225 psig (1.5 MPa) applied pressure
- 15% recovery
- 77 °F (25 °C)
- pH 6.5-7.0
- 2. Minimum salt rejection is 99.4%.
- 3. Permeate flow rate for each element may vary but will be no more than 10%.
- 4. All elements are vacuum sealed in a polyethylene bag containing 1.0% SBS (sodium bisulfite) solution and individually packaged in a cardboard box.
- 5. CSM BE440 elements are made equivalent to BN and BE elements but produces more permeate flow due to its extended membrane area.

Membrane type:

Thin-Film Composite

Membrane material:

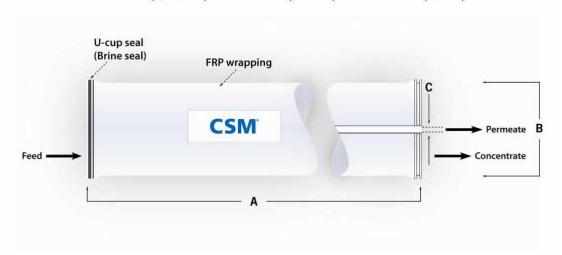
Polyamide (PA)

Element configuration:

Spiral-Wound, FRP Wrapping

Dimensions

A = 40.0 inch (1,016 mm) B = 8.0 inch (201 mm) C = 1.12 inch (28 mm)



- 1. Each membrane element supplied with one brine seal, one interconnector (coupler) and four o-rings.
- 2. All RE8040 elements fit nominal 8.0 inch (201 mm) I.D. pressure vessels.

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2012 A 04-03-08-EN

RE8040-BE440



High productivity RO element with extended area for brackish water

APP	LICAT	ION	DATA:

Operating Limits	Max. Pressure Drop / Element	15 psi (0.1 MPa)
	Max. Pressure Drop / 240" Vessel	60 psi (0.41 Mpa)
	· Max. Operating Pressure	600 psi (4.14 MPa)
	· Max. Feed Flow Rate	75 gpm (17.0 m³/hr)
	· Min. Concentrate Flow Rate	16 gpm (3.6 m³/hr)
	Max. Operating Temperature	113 °F (45 °C)
	Operating pH Range	2.0-11.0
	· CIP pH Range	1.0-13.0
	· Max.Turbidity	I.0 NTU
	· Max. SDI (15 min)	5.0
	· Max. Chlorine Concentration	< 0.1 mg/L
Design Guidelines for Various	· Wastewater Conventional (SDI < 5)	8–12 gfd
Water Sources	• Wastewater Pretreated by UF/MF (SDI < 3)	10-14 gfd
	· Seawater, Open Intake (SDI < 5)	7-10 gfd
	Seawater, Beach Well (SDI < 3)	8–12 gfd
	· Surface Water (SDI < 5)	12-16 gfd
	· Surface Water (SDI < 3)	13–17 gfd
	Well water (SDI < 3)	13–17 gfd
	· RO permeate (SDI < I)	21-30 gfd
Saturation Limits	· Langlier Saturation Index (LSI)	<+1.5
$(Using Antiscalants)^T$	· Stiff and Davis Saturation Index (SDSI)	<+0.5
	· CaSO ₄	230% saturation
	· SrSO ₄	800% saturation
	· BaSO ₄	6,000% saturation
	· SiO ₂	100% saturation
	¹ The above saturation limits are typically accepted by proprietary antiscalant manufacturers. It is the user's responsibility to ensure proper chemical(s) and concentration are dosed ahead of the membrane system to prevent scale formation anywhere within the membrane system. Membrane elements fouled	

GENERAL HANDLING PROCEDURES

- Elements contained in the boxes must be kept dry at room temperature (7–32°C; 40–95°F) and should not be stored in direct sunlight. If the polyethylene bag is damaged, a new preservative solution (sodium bisulfite) must be added and air-tight sealed to prevent drying and biological growth.
- Permeate from the first hour of operation should be discarded to flush out the preservative solution.
- Elements should be immersed in a preservative solution during storage, shipping and system shutdowns to prevent biological growth and freezing. The standard storage solution contains 1% by weight sodium bisulfite or sodium metabisulfite (food grade). For short term storage (i.e. one week or less) 1% by weight sodium metabisulfite solution is adequate for preventing biological growth.
- Keep elements moist at all times after initial wetting.
- · Avoid excessive pressure and flow spikes.

or damaged due to scale formation are not covered by the limited warranty.

- Only use chemicals compatible with the membrane elements and components. Use of such chemicals may void the element limited warranty.
- Permeate pressure must always be equal or less than the feed/concentrate pressure. Damage caused by permeate back pressure voids the element limited warranty.

2012 A 04-03-08.2-EN

RE8040-BR



Normal grade RO element with thick feed spacer for brackish water

SPECIFICATIONS:

General **Features**

Permeate flow rate:

6,000 GPD (22.7 m3/day)

Nominal salt rejection:

99.75%

Effective membrane area:

380 ft² (35.3 m²)

- 1. The stated product performance is based on data taken after 30 minutes of operation at the following test conditions:
 - 2,000 mg/L NaCl solution at 225 psig (1.5 MPa) applied pressure
 - 15% recovery
 - 77 °F (25 °C)
 - pH 6.5-7.0
- 2. Minimum salt rejection is 99.4%.
- 3. Permeate flow rate for each element may vary but will be no more than 10%.
- 4. All elements are vacuum sealed in a polyethylene bag containing 1.0% SBS (sodium bisulfite) solution and individually packaged in a cardboard box.

Membrane type:

Thin-Film Composite

Membrane material:

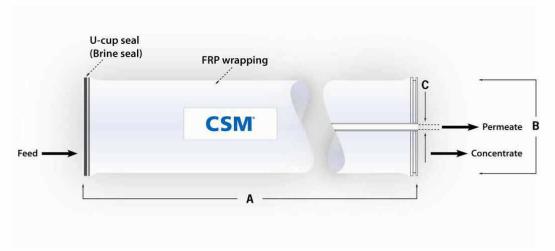
Polyamide (PA)

Element configuration:

Spiral-Wound, FRP Wrapping

Dimensions

A = 40.0 inch (1,016 mm) B = 8.0 inch (201 mm) C = 1.12 inch (28 mm)



- 1. Each membrane element supplied with one brine seal, one interconnector (coupler) and four o-rings.
- 2. All RE8040 elements fit nominal 8.0 inch (201 mm) I.D. pressure vessels.

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2012 A 04-03-09-EN

RE8040-BR



Normal grade RO element with thick feed spacer for brackish water

APPLICATION DATA:

Operating Limits	· Max. Pressure Drop / Element	15 psi (0.1 MPa)
	· Max. Pressure Drop / 240" Vessel	60 psi (0.41 Mpa)
	Max. Operating Pressure	600 psi (4.14 MPa)
	· Max. Feed Flow Rate	75 gpm (17.0 m³/hr)
	· Min. Concentrate Flow Rate	16 gpm (3.6 m³/hr)
	· Max. Operating Temperature	113 °F (45 °C)
	Operating pH Range	2.0-11.0
	· CIP pH Range	1.0-13.0
	· Max.Turbidity	I.0 NTU
	· Max. SDI (15 min)	5.0
	· Max. Chlorine Concentration	< 0.1 mg/L
Design Guidelines for Various	· Wastewater Conventional (SDI < 5)	8–12 gfd
Water Sources	· Wastewater Pretreated by UF/MF (SDI < 3)	10-14 gfd
	Seawater, Open Intake (SDI < 5)	7–10 gfd
	Seawater, Beach Well (SDI < 3)	8-12 gfd
	· Surface Water (SDI < 5)	12–16 gfd
	· Surface Water (SDI < 3)	13-17 gfd
	· Well water (SDI < 3)	13-17 gfd
	· RO permeate (SDI < I)	21-30 gfd
Saturation Limits	· Langlier Saturation Index (LSI)	<+1.5
(Using Antiscalants) [†]	· Stiff and Davis Saturation Index (SDSI)	<+0.5
	· CaSO ₄	230% saturation
	· SrSO ₄	800% saturation
	· BaSO4	6,000% saturation
	· SiO ₂	100% saturation
	[†] The above saturation limits are typically accepted by	proprietary antiscalant

GENERAL HANDLING PROCEDURES

- Elements contained in the boxes must be kept dry at room temperature (7-32°C; 40-95°F) and should not be stored in direct sunlight. If the polyethylene bag is damaged, a new preservative solution (sodium bisulfite) must be added and air-tight sealed to prevent drying and biological growth.
- Permeate from the first hour of operation should be discarded to flush out the preservative solution.
- Elements should be immersed in a preservative solution during storage, shipping and system shutdowns to prevent biological growth and freezing. The standard storage solution contains 1% by weight sodium bisulfite or sodium metabisulfite (food grade). For short term storage (i.e. one week or less) 1% by weight sodium metabisulfite solution is adequate for preventing biological growth.
- Keep elements moist at all times after initial wetting.
- · Avoid excessive pressure and flow spikes.

manufacturers. It is the user's responsibility to ensure proper chemical(s) and concentration are dosed ahead of the membrane system to prevent scale formation anywhere within the membrane system. Membrane elements fouled or damaged due to scale formation are not covered by the limited warranty.

- Only use chemicals compatible with the membrane elements and components. Use of such chemicals may void the element limited warranty.
- Permeate pressure must always be equal or less than the feed/concentrate pressure. Damage caused by permeate back pressure voids the element limited warranty.

2012 A 04-03-09.2-EN

RE8040-BR400



Normal grade RO element with thick feed spacer for brackish water

SPECIFICATIONS:

General **Features**

Permeate flow rate:

6,600 GPD (24.9 m³/day)

Nominal salt rejection:

99.75%

Effective membrane area:

400 ft² (37.2 m²)

- 1. The stated product performance is based on data taken after 30 minutes of operation at the following test conditions:
 - 2,000 mg/L NaCl solution at 225 psig (1.5 MPa) applied pressure
 - 15% recovery
 - 77 °F (25 °C)
 - pH 6.5-7.0
- 2. Minimum salt rejection is 99.4%.
- 3. Permeate flow rate for each element may vary but will be no more than 10%.
- 4. All elements are vacuum sealed in a polyethylene bag containing 1.0% SBS (sodium bisulfite) solution and individually packaged in a cardboard box.

Membrane type:

Thin-Film Composite

Membrane material:

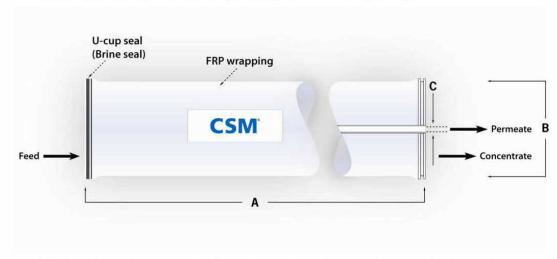
Polyamide (PA)

Element configuration:

Spiral-Wound, FRP Wrapping

Dimensions

A = 40.0 inch (1,016 mm) B = 8.0 inch (201 mm) C = 1.12 inch (28 mm)



- 1. Each membrane element supplied with one brine seal, one interconnector (coupler) and four o-rings.
- 2. All RE8040 elements fit nominal 8.0 inch (201 mm) I.D. pressure vessels.

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2012 A 04-03-10-EN

RE8040-BR400



Normal grade RO element with thick feed spacer for brackish water

APPLICATION DATA:

Operating Limits	Max. Pressure Drop / Element	15 psi (0.1 MPa)
	Max. Pressure Drop / 240" Vessel	60 psi (0.41 Mpa)
	Max. Operating Pressure	600 psi (4.14 MPa)
	Max. Feed Flow Rate	75 gpm (17.0 m³/hr
	· Min. Concentrate Flow Rate	16 gpm (3.6 m³/hr)
	· Max. Operating Temperature	113 °F (45 °C)
	Operating pH Range	2.0-11.0
	· CIP pH Range	1.0-13.0
	· Max.Turbidity	I.0 NTU
	· Max. SDI (15 min)	5.0
	· Max. Chlorine Concentration	< 0.1 mg/L
Design Guidelines for Various Water Sources	· Wastewater Conventional (SDI < 5)	8–12 gfd
	• Wastewater Pretreated by UF/MF (SDI < 3)	10-14 gfd
	Seawater, Open Intake (SDI < 5)	7-10 gfd
	Seawater, Beach Well (SDI < 3)	8-12 gfd
	· Surface Water (SDI < 5)	12–16 gfd
	· Surface Water (SDI < 3)	13-17 gfd
	· Well water (SDI < 3)	13-17 gfd
	· RO permeate (SDI < I)	21–30 gfd
Saturation Limits (Using Antiscalants) [†]	· Langlier Saturation Index (LSI)	<+1.5
	· Stiff and Davis Saturation Index (SDSI)	<+0.5
	· CaSO ₄	230% saturation
	· SrSO ₄	800% saturation
	· BaSO4	6,000% saturation
	· SiO ₂	100% saturation
	[†] The above saturation limits are typically accepted by proprietary antiscalant manufacturers. It is the user's responsibility to ensure proper chemical(s) and concentration are dosed ahead of the membrane system to prevent scale formation anywhere within the membrane system. Membrane elements fouled	

GENERAL HANDLING PROCEDURES

- Elements contained in the boxes must be kept dry at room temperature (7–32°C; 40–95°F) and should not be stored in direct sunlight. If the polyethylene bag is damaged, a new preservative solution (sodium bisulfite) must be added and air-tight sealed to prevent drying and biological growth.
- Permeate from the first hour of operation should be discarded to flush out the preservative solution.
- Elements should be immersed in a preservative solution during storage, shipping and system shutdowns to prevent biological growth and freezing. The standard storage solution contains 1% by weight sodium bisulfite or sodium metabisulfite (food grade). For short term storage (i.e. one week or less) 1% by weight sodium metabisulfite solution is adequate for preventing biological growth.
- Keep elements moist at all times after initial wetting.
- · Avoid excessive pressure and flow spikes.
- Only use chemicals compatible with the membrane elements and components. Use of such chemicals may void the element limited warranty.
- Permeate pressure must always be equal or less than the feed/concentrate pressure. Damage caused by permeate back pressure voids the element limited warranty.

2012 A 04-03-10.2-EN