



# TurboClean® Beverage Cellulose Acetate RO and NF Elements



Certified to  
NSF/ANSI 61

TurboClean® Beverage Cellulose Acetate (CA) elements are the best performing CA membrane elements for producing high quality water for soft drinks, energy drinks or bottled water. These elements have been certified to NSF/ANSI Standard 61 for use in drinking water systems. The combination of patented TurboClean hard shell technology with the chlorine tolerance of CA membranes makes these elements optimal for ensuring a safe and sanitary system environment. With 60% less bypass flow than net-wrapped elements, TurboClean elements deliver energy savings, the most effective cleaning and sanitizing and the best performance.

## MEMBRANE CHARACTERISTICS

Membrane	Stabilized Salt Rejection (%)	Minimum Salt Rejection (%)
SB20 Cellulose Acetate (CA) RO	98.0	97.0
SB90 Cellulose Acetate (CA) NF	85.0	80.0

## DESIGN INFORMATION

Model	Permeate Flow m <sup>3</sup> /day (GPD) <sup>a</sup>	Membrane Area m <sup>2</sup> (ft <sup>2</sup> )	Feed Spacer Thickness (mil) <sup>b</sup>
TurboClean® Bev 8040-RO-CA	26.5 (7,000)	32.5 (350)	31
TurboClean® Bev 8040-RO-CA-O	26.5 (7,000)	32.5 (350)	31
TurboClean® Bev 8340-RO-CA-O	30.3 (8,000)	37.2 (400)	31
TurboClean® Bev 8040-NF-CA	32.6 (8,600)	32.5 (350)	31
TurboClean® Bev 8040-NF-CA-O	32.6 (8,600)	32.5 (350)	31
TurboClean® Bev 8340-NF-CA-O	37.5 (9,900)	37.2 (400)	31

a RO Test conditions: 2,000 ppm NaCl, 29.0 bar (420 psi), 25°C (77°F), 15% recovery, pH 5.5, 30 minutes operation.

NF Test conditions: 2,000 ppm NaCl, 15.5 bar (225 psi), 25°C (77°F), 15% recovery, pH 5.5, 30 minutes operation.

Flow rates will be no more than 15% below the values shown. Product specifications may change without notice as design revisions occur.

b All models on this sheet have TurboClean sanitary outer wrap and diamond shaped feed spacers. All models on this sheet include anti-telescoping devices (ATDs) attached to the ends of the element and one interconnector. A brine seal is not included and is not required.

## OPERATING PARAMETERS

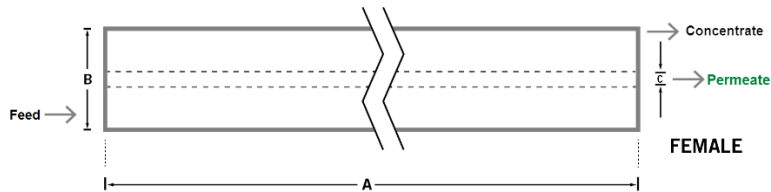
Maximum Operating Pressure	41 bar (600 psi)
Maximum Operating Temperature	32°C (90°F)
Nominal Operating pH	5.5
Cleaning pH Range <sup>1</sup>	2.0 – 7.5
Chlorine Tolerance	0.5 ppm nominal, 1 ppm max
Maximum Pressure Drop	1.4 bar (20 psi) per element; 6 bar (80 psi) per housing
Maximum SDI <sub>15</sub>	5.0
Maximum Turbidity	1 NTU

<sup>1</sup> Refer to temperature and pH limits in Membrane Cleaning Guide - Cellulose Acetate Elements (TSG-C-005).

PHYSICAL DIMENSIONS

Model	Element Weight kg (lb) <sup>c</sup>	Dim. A mm (inches)	Dim. B mm (inches)	Dim. C <sup>d</sup> mm (inches)	Permeate Tube
TurboClean® Bev 8040-RO-CA	16 (36)	1,016 (40.0)	201 (7.9)	28.6 (1.125)	Female
TurboClean® Bev 8040-RO-CA-O	16 (36)	1,016 (40.0)	201 (7.9)	28.9 (1.138)	Female
TurboClean® Bev 8340-RO-CA-O	18 (40)	1,016 (40.0)	211 (8.3)	28.9 (1.138)	Female
TurboClean® Bev 8040-NF-CA	16 (36)	1,016 (40.0)	201 (7.9)	28.6 (1.125)	Female
TurboClean® Bev 8040-NF-CA-O	16 (36)	1,016 (40.0)	201 (7.9)	28.9 (1.138)	Female
TurboClean® Bev 8340-NF-CA-O	18 (40)	1,016 (40.0)	211 (8.3)	28.9 (1.138)	Female

<sup>c</sup> Shipping weight is dependent on packaging material and quantity shipped.  
<sup>d</sup> Dimension "C" is the Inner Diameter.



IMPORTANT INFORMATION

- Start-up:** MANN+HUMMEL Water & Fluid Solutions recommends flushing elements for 30 minutes at low pressure and discarding permeate during the flush prior to operation. For a more detailed start-up procedure, please see Element Start-Up Guide – System Start-Up (TSG-O-005).
- Cleaning:** TurboClean® membrane elements must be cleaned periodically to ensure proper operation and to prevent membrane damage. Please see Membrane Cleaning Guide – Cellulose Acetate Elements (TSG-C-005).
- Storage:** TurboClean membrane elements must be stored appropriately to ensure proper operation and to prevent membrane damage. Please see Element Storage Guides (TSG-O-009 & TSG-O-010).
- Regulatory:** All models on this sheet are certified to NSF/ANSI Standard 61 for use in drinking water systems and use FDA (CFR Title 21) compliant materials.

CUSTOMIZABLE SPECIALTY ELEMENTS

MANN+HUMMEL Water & Fluid Solutions offers a full range of membranes and element designs for challenging water and process applications. Technologies include low-fouling RO, submerged UF, continuous high temperature, ultra-high pressure, unique sanitary designs and more. Contact us to customize a product that satisfies your specific requirements.

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