



# TurboClean® Beverage

## 10K Ultrafiltration Elements

TurboClean® Beverage UF elements deliver high quality water for soft drinks, energy drinks and bottled water. The patented TurboClean hard shell offers a safe and sanitary operating system with none of the stagnant areas created by the brine seals of fiberglassed membrane elements where bacterial growth is often found. 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

<b>Membrane</b>	UF10
<b>Membrane Type</b>	Polyethersulfone (PES)
<b>Nominal M.W.C.O. (Da)</b>	10,000

### DESIGN INFORMATION

<b>Model</b>	<b>Permeate Flow m<sup>3</sup>/day (GPD)<sup>a</sup></b>	<b>Membrane Area m<sup>2</sup> (ft<sup>2</sup>)</b>	<b>Feed Spacer Thickness (mil)<sup>b</sup></b>
<b>TurboClean® Bev 8040-UF</b>	35.6 (14,000)	33.0 (355)	31

- a Test conditions: Clean Water, 2.1 bar (30 psi), 25°C (77°F), 15% recovery, pH 8.0, 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 This model has a TurboClean sanitary outer wrap and diamond shaped feed spacers. This model includes 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

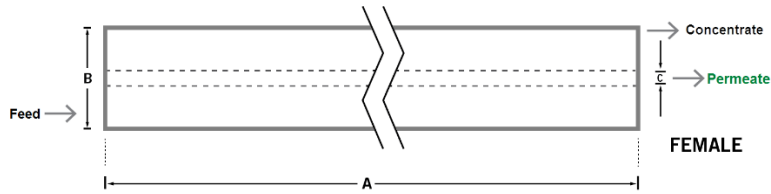
<b>Maximum Operating Pressure</b>	21 bar (300 psi)
<b>Maximum Operating Temperature</b>	50°C (122°F)
<b>Cleaning pH Range<sup>1</sup></b>	1.0 - 12.0
<b>Cleaning Chlorine Tolerance</b>	200 ppm (sanitization) at pH ≥ 10.5
<b>Maximum Pressure Drop</b>	1.4 bar (20 psi) per element; 6 bar (80 psi) per housing
<b>Maximum SDI<sub>15</sub></b>	5.0
<b>Maximum Turbidity</b>	1 NTU

<sup>1</sup> Refer to temperature and pH limits in Membrane Cleaning Guide - Water Application Elements (TSG-C-001).

PHYSICAL DIMENSIONS

Model	Element Weight kg (lb) <sup>b</sup>	Dim. A mm (inches)	Dim. B mm (inches)	Dim. C <sup>c</sup> mm (inches)	Permeate Tube
TurboClean® Bev 8040-UF	16 (36)	1,016 (40.0)	201 (7.9)	28.6 (1.125)	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 – Water Application Elements (TSG-C-001).
- 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 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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