

# TurboClean® Food & Dairy

## UF10 XT Series



TurboClean® XT elements feature a membrane cast on a polypropylene support material capable of being cleaned at high temperature and high pH conditions. To optimize system performance, these elements feature TurboClean technology, a patented sanitary hard-shell design that delivers better system performance due to about 60% less bypass flow than other sanitary elements. Lower bypass flow results in energy savings and/or higher flux rates as more of the feed flows across the membrane surface instead of around the outside of the element. Higher cross-flow velocity also results in the most effective membrane cleaning. TurboClean elements are stronger than net-wrapped sanitary elements and are able to withstand higher pressure drops. And with the tightest OD tolerance and optimal circularity, TurboClean elements are the easiest elements to load and unload.

- Strongest Sanitary Element
- Longer Operating Life
- Better Performance
- Most Effective Cleaning
- Easiest Installation

### MEMBRANE CHARACTERISTICS

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

### DESIGN INFORMATION

| Model                         | Membrane Area<br>m <sup>2</sup> (ft <sup>2</sup> ) | Feed Spacer<br>Thickness (mil) <sup>a</sup> |
|-------------------------------|--|---|
| TurboClean® UF 6338-UF10XT-31 | 17.7 (190)   | 31  |
| TurboClean® UF 6338-UF10XT-46 | 14.4 (155)   | 46  |
| TurboClean® UF 6338-UF10XT-65 | 11.6 (125)   | 65  |
| TurboClean® UF 6338-UF10XT-80 | 9.8 (105)  | 80  |
| TurboClean® UF 8038-UF10XT-31 | 28.8 (310)   | 31  |
| TurboClean® UF 8038-UF10XT-46 | 22.8 (245)   | 46  |
| TurboClean® UF 8038-UF10XT-65 | 19.0 (205)   | 65  |
| TurboClean® UF 8038-UF10XT-80 | 18.8 (170)   | 80  |

<sup>a</sup> All models on this sheet have TurboClean sanitary outer wrap and diamond shaped feed spacers.

### OPERATING PARAMETERS

|   |  |
|---|--|
| <b>Maximum Operating Pressure</b>       | 10 bar (145 psi)   |
| <b>Maximum Operating Temperature</b>    | 60°C (140°F)   |
| <b>Maximum Cleaning Temperature</b>     | 75°C (167°F)   |
| <b>Maximum Sanitization Temperature</b> | 85°C (185°F) at 1.7 bar max pressure, pH 6.0 - 8.0       |
| <b>Cleaning pH Range<sup>1</sup></b>    | 1.0 - 13.0   |
| <b>Cleaning Chlorine Tolerance</b>      | 200 ppm for sanitization at pH ≥ 10.5                    |
| <b>Maximum Pressure Drop</b>            | 1.4 bar (20 psi) per element; 6 bar (80 psi) per housing |

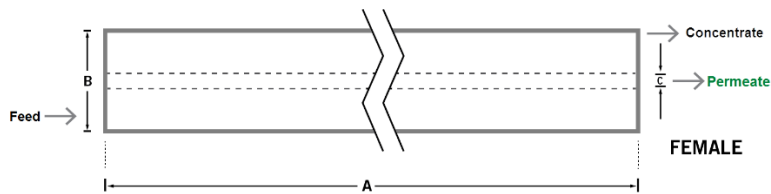
<sup>1</sup> Refer to temperature and pH limits in Membrane Cleaning Guide - Food & Dairy: XT Elements (TSG-C-007).

PHYSICAL DIMENSIONS

| Model                         | Element Weight<br>kg (lb) <sup>b</sup> | Dim. A<br>mm (inches) | Dim. B<br>mm (inches) | Dim. C <sup>c</sup><br>mm (inches) | Permeate Tube |
|-------------------------------|--|-----------------------|-----------------------|------------------------------------|---------------|
| TurboClean® UF 6338-UF10XT-31 | 11 (24)                                | 965 (38.0)            | 160 (6.3)             | 28.9 (1.138)                       | Female        |
| TurboClean® UF 6338-UF10XT-46 | 11 (24)                                | 965 (38.0)            | 160 (6.3)             | 28.9 (1.138)                       | Female        |
| TurboClean® UF 6338-UF10XT-65 | 11 (24)                                | 965 (38.0)            | 160 (6.3)             | 28.9 (1.138)                       | Female        |
| TurboClean® UF 6338-UF10XT-80 | 11 (24)                                | 965 (38.0)            | 160 (6.3)             | 28.9 (1.138)                       | Female        |
| TurboClean® UF 8038-UF10XT-31 | 16 (36)                                | 965 (38.0)            | 201 (7.9)             | 28.9 (1.138)                       | Female        |
| TurboClean® UF 8038-UF10XT-46 | 16 (36)                                | 965 (38.0)            | 201 (7.9)             | 28.9 (1.138)                       | Female        |
| TurboClean® UF 8038-UF10XT-65 | 16 (36)                                | 965 (38.0)            | 201 (7.9)             | 28.9 (1.138)                       | Female        |
| TurboClean® UF 8038-UF10XT-80 | 16 (36)                                | 965 (38.0)            | 201 (7.9)             | 28.9 (1.138)                       | Female        |

<sup>b</sup> Shipping weight is dependent on packaging material and quantity shipped.

<sup>c</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 – Food & Dairy: TurboClean® Extreme (XT) Elements (TSG-C-007).
- 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 conform to USDA 3A sanitary standard 45-03, use FDA (CFR Title 21) compliant materials, comply with EU regulation (EC) No. 1935/2004 and No. 10/2011, and have Halal and Kosher certifications.

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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