

# TurboClean® Food & Dairy

## UF5 Series



TurboClean® elements feature 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>	UF5
<b>Membrane Type</b>	Polyethersulfone (PES)
<b>Nominal M.W.C.O. (Da)</b>	5,000

### DESIGN INFORMATION

Model	Membrane Area m <sup>2</sup> (ft <sup>2</sup> )	Feed Spacer Thickness (mil) <sup>a</sup>
TurboClean® UF 3838-UF5-31	6.5 (70)	31
TurboClean® UF 3838-UF5-46	4.9 (53)	46
TurboClean® UF 3838-UF5-65	3.9 (42)	65
TurboClean® UF 6338-UF5-31	20.9 (225)	31
TurboClean® UF 6338-UF5-46	16.3 (175)	46
TurboClean® UF 6338-UF5-65	12.8 (138)	65
TurboClean® UF 6338-UF5-80	10.9 (117)	80
TurboClean® UF 6438-UF5-31	20.9 (225)	31
TurboClean® UF 6438-UF5-46	16.3 (175)	46
TurboClean® UF 8038-UF5-31	33.0 (355)	31
TurboClean® UF 8038-UF5-46	26.9 (290)	46
TurboClean® UF 8038-UF5-65	20.9 (225)	65
TurboClean® UF 8038-UF5-80	16.7 (180)	80
TurboClean® UF 8338-UF5-31	36.2 (390)	31
TurboClean® UF 8338-UF5-46	28.8 (310)	46

<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>	55°C (131°F)
<b>Cleaning pH/Temperature Range<sup>1</sup></b>	1.5 – 11.5 at 55°C (131°F)
<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

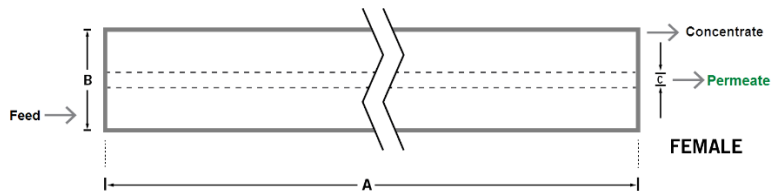
<sup>1</sup> Refer to temperature and pH limits in Membrane Cleaning Guide – Food & Dairy: UF & MF Elements (TSG-C-004).

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® UF 3838-UF5-31	4 (9)	965 (38.0)	96 (3.8)	21.2 (0.83)	Female
TurboClean® UF 3838-UF5-46	4 (9)	965 (38.0)	96 (3.8)	21.2 (0.83)	Female
TurboClean® UF 3838-UF5-65	4 (9)	965 (38.0)	96 (3.8)	21.2 (0.83)	Female
TurboClean® UF 6338-UF5-31	11 (24)	965 (38.0)	160 (6.3)	28.9 (1.138)	Female
TurboClean® UF 6338-UF5-46	11 (24)	965 (38.0)	160 (6.3)	28.9 (1.138)	Female
TurboClean® UF 6338-UF5-65	11 (24)	965 (38.0)	160 (6.3)	28.9 (1.138)	Female
TurboClean® UF 6338-UF5-80	11 (24)	965 (38.0)	160 (6.3)	28.9 (1.138)	Female
TurboClean® UF 6438-UF5-31	11 (24)	965 (38.0)	162 (6.4)	28.9 (1.138)	Female
TurboClean® UF 6438-UF5-46	11 (24)	965 (38.0)	162 (6.4)	28.9 (1.138)	Female
TurboClean® UF 8038-UF5-31	16 (36)	965 (38.0)	201 (7.9)	28.9 (1.138)	Female
TurboClean® UF 8038-UF5-46	16 (36)	965 (38.0)	201 (7.9)	28.9 (1.138)	Female
TurboClean® UF 8038-UF5-65	16 (36)	965 (38.0)	201 (7.9)	28.9 (1.138)	Female
TurboClean® UF 8038-UF5-80	16 (36)	965 (38.0)	201 (7.9)	28.9 (1.138)	Female
TurboClean® UF 8338-UF5-31	18 (40)	965 (38.0)	211 (8.3)	28.9 (1.138)	Female
TurboClean® UF 8338-UF5-46	18 (40)	965 (38.0)	211 (8.3)	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: UF & MF Elements (TSG-C-004).
- 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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