

TurboClean Food & Dairy

UP005 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
- Most Effective Cleaning
- Longer Operating Life
- Easiest Installation
- Better Performance

MEMBRANE CHARACTERISTICS

Membrane	UP005
Membrane Type	Polyethersulfone (PES)
Nominal M.W.C.O. (Da)	5,000

DESIGN INFORMATION

Model	Membrane Area m ² (ft ²)	Feed Spacer Thickness (mil) ^a
TurboClean UF 3838-UP005-31	6.0 (65)	31
TurboClean UF 3838-UP005-46	4.6 (50)	46
TurboClean UF 3838-UP005-65	3.5 (38)	65
TurboClean UF 3838-UP005-80	3.1 (33)	80
TurboClean UF 6338-UP005-31	19.0 (205)	31
TurboClean UF 6338-UP005-46	15.3 (165)	46
TurboClean UF 6338-UP005-65	12.1 (130)	65
TurboClean UF 6338-UP005-80	10.2 (110)	80
TurboClean UF 6438-UP005-31	19.0 (205)	31
TurboClean UF 6438-UP005-46	15.3 (165)	46
TurboClean UF 6438-UP005-65	12.1 (130)	65
TurboClean UF 6438-UP005-80	10.2 (110)	80
TurboClean UF 8038-UP005-31	30.2 (325)	31
TurboClean UF 8038-UP005-46	24.2 (260)	46
TurboClean UF 8038-UP005-65	19.4 (209)	65
TurboClean UF 8038-UP005-80	17.2 (185)	80

^a All models on this sheet have TurboClean sanitary outer wrap and diamond shaped feed spacers.

OPERATING PARAMETERS

Maximum Operating Pressure	10 bar (145 psi)
Maximum Operating Temperature	55°C (131°F)
Cleaning pH/Temperature Range¹	1.5 - 11.5 at 55°C (131°F)
Cleaning Chlorine Tolerance	200 ppm for sanitization at pH ≥ 10.5
Maximum Pressure Drop	1.4 bar (20 psi) per element; 6 bar (80 psi) per housing

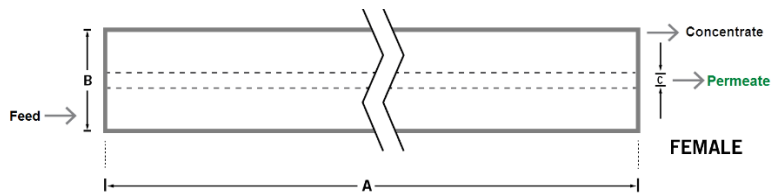
¹ Refer to temperature and pH limits in Membrane Cleaning Guide - Food & Dairy: UF & MF Elements (TSG-C-004).

PHYSICAL DIMENSIONS

Model	Element Weight kg (lb) ^b	Dim. A mm (inches)	Dim. B mm (inches)	Dim. C ^c mm (inches)	Permeate Tube
TurboClean UF 3838-UP005-31	4 (9)	965 (38.0)	96 (3.8)	21.2 (0.83)	Female
TurboClean UF 3838-UP005-46	4 (9)	965 (38.0)	96 (3.8)	21.2 (0.83)	Female
TurboClean UF 3838-UP005-65	4 (9)	965 (38.0)	96 (3.8)	21.2 (0.83)	Female
TurboClean UF 3838-UP005-80	4 (9)	965 (38.0)	96 (3.8)	21.2 (0.83)	Female
TurboClean UF 6338-UP005-31	11 (24)	965 (38.0)	160 (6.3)	28.9 (1.138)	Female
TurboClean UF 6338-UP005-46	11 (24)	965 (38.0)	160 (6.3)	28.9 (1.138)	Female
TurboClean UF 6338-UP005-65	11 (24)	965 (38.0)	160 (6.3)	28.9 (1.138)	Female
TurboClean UF 6338-UP005-80	11 (24)	965 (38.0)	160 (6.3)	28.9 (1.138)	Female
TurboClean UF 6438-UP005-31	11 (24)	965 (38.0)	162 (6.4)	28.9 (1.138)	Female
TurboClean UF 6438-UP005-46	11 (24)	965 (38.0)	162 (6.4)	28.9 (1.138)	Female
TurboClean UF 8038-UP005-31	16 (36)	965 (38.0)	201 (7.9)	28.9 (1.138)	Female
TurboClean UF 8038-UP005-46	16 (36)	965 (38.0)	201 (7.9)	28.9 (1.138)	Female
TurboClean UF 8038-UP005-65	16 (36)	965 (38.0)	201 (7.9)	28.9 (1.138)	Female
TurboClean UF 8038-UP005-80	16 (36)	965 (38.0)	201 (7.9)	28.9 (1.138)	Female
TurboClean UF 8338-UP005-31	18 (40)	965 (38.0)	211 (8.3)	28.9 (1.138)	Female
TurboClean UF 8338-UP005-46	18 (40)	965 (38.0)	211 (8.3)	28.9 (1.138)	Female

^b Shipping weight is dependent on packaging material and quantity shipped.

^c 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.

Contact

Americas
 USA: +1 805 964 8003
 sales.mnus@microdyn-nadir.com

Asia
 China: +86 10 8413 9860
 waterchina@mann-hummel.com
 SEA: +65 6457 7533
 Info.wfs@mann-hummel.com

Europe
 Germany: +49 611 7118 7480
 Italy: +39 0721 1796201
 Info.wfs@mann-hummel.com