

TurboClean® Food & Dairy

UP020 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

Membrane	UP020
Membrane Type	Polyethersulfone (PES)
Nominal M.W.C.O. (Da)	20,000

DESIGN INFORMATION

Model	Membrane Area m ² (ft ²)	Feed Spacer Thickness (mil) ^a
TurboClean® UF 3838-UP020-31	6.0 (65)	31
TurboClean® UF 3838-UP020-46	4.6 (50)	46
TurboClean® UF 3838-UP020-65	3.5 (38)	65
TurboClean® UF 3838-UP020-80	3.1 (33)	80
TurboClean® UF 6338-UP020-31	19.0 (205)	31
TurboClean® UF 6338-UP020-46	15.3 (165)	46
TurboClean® UF 6338-UP020-65	12.1 (130)	65
TurboClean® UF 6338-UP020-80	10.2 (110)	80
TurboClean® UF 6438-UP020-31	19.0 (205)	31
TurboClean® UF 6438-UP020-46	15.3 (165)	46
TurboClean® UF 6438-UP020-65	12.1 (130)	65
TurboClean® UF 6438-UP020-80	10.2 (110)	80
TurboClean® UF 8038-UP020-31	32.1 (345)	31
TurboClean® UF 8038-UP020-46	25.5 (275)	46
TurboClean® UF 8038-UP020-65	20.0 (215)	65
TurboClean® UF 8038-UP020-80	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

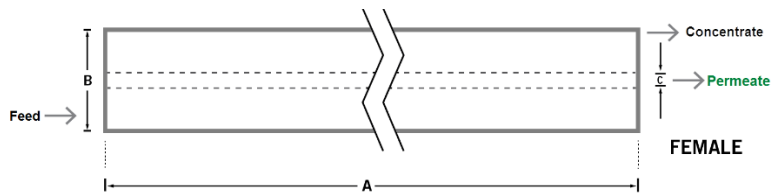
¹ Refer to temperature and pH limits in Membrane Cleaning Guide – Food & Dairy: UF & MF Elements (TSG-C-004).

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-UP020-31	4 (9)	965 (38.0)	96 (3.8)	21.2 (0.83)	Female
TurboClean® UF 3838-UP020-46	4 (9)	965 (38.0)	96 (3.8)	21.2 (0.83)	Female
TurboClean® UF 3838-UP020-65	4 (9)	965 (38.0)	96 (3.8)	21.2 (0.83)	Female
TurboClean® UF 3838-UP020-80	4 (9)	965 (38.0)	96 (3.8)	21.2 (0.83)	Female
TurboClean® UF 6338-UP020-31	11 (24)	965 (38.0)	160 (6.3)	28.9 (1.138)	Female
TurboClean® UF 6338-UP020-46	11 (24)	965 (38.0)	160 (6.3)	28.9 (1.138)	Female
TurboClean® UF 6338-UP020-65	11 (24)	965 (38.0)	160 (6.3)	28.9 (1.138)	Female
TurboClean® UF 6338-UP020-80	11 (24)	965 (38.0)	160 (6.3)	28.9 (1.138)	Female
TurboClean® UF 6438-UP020-31	11 (24)	965 (38.0)	162 (6.4)	28.9 (1.138)	Female
TurboClean® UF 6438-UP020-46	11 (24)	965 (38.0)	162 (6.4)	28.9 (1.138)	Female
TurboClean® UF 8038-UP020-31	16 (36)	965 (38.0)	201 (7.9)	28.9 (1.138)	Female
TurboClean® UF 8038-UP020-46	16 (36)	965 (38.0)	201 (7.9)	28.9 (1.138)	Female
TurboClean® UF 8038-UP020-65	16 (36)	965 (38.0)	201 (7.9)	28.9 (1.138)	Female
TurboClean® UF 8038-UP020-80	16 (36)	965 (38.0)	201 (7.9)	28.9 (1.138)	Female
TurboClean® UF 8338-UP020-31	18 (40)	965 (38.0)	211 (8.3)	28.9 (1.138)	Female
TurboClean® UF 8338-UP020-46	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.

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