



TurboClean® Food & Dairy

UP020 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

Membrane	UP020 XT
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-UP020XT-31	5.1 (55)	31
TurboClean® UF 3838-UP020XT-46	4.2 (45)	46
TurboClean® UF 3838-UP020XT-65	3.3 (36)	65
TurboClean® UF 3838-UP020XT-80	2.8 (30)	80
TurboClean® UF 6338-UP020XT-31	17.7 (190)	31
TurboClean® UF 6338-UP020XT-46	14.4 (155)	46
TurboClean® UF 6338-UP020XT-65	11.1 (120)	65
TurboClean® UF 6338-UP020XT-80	9.8 (105)	80
TurboClean® UF 6438-UP020XT-31	17.7 (190)	31
TurboClean® UF 6438-UP020XT-46	14.4 (155)	46
TurboClean® UF 6438-UP020XT-65	11.1 (120)	65
TurboClean® UF 6438-UP020XT-80	9.8 (105)	80
TurboClean® UF 8038-UP020XT-31	29.3 (315)	31
TurboClean® UF 8038-UP020XT-46	23.7 (255)	46
TurboClean® UF 8038-UP020XT-65	19.0 (205)	65
TurboClean® UF 8038-UP020XT-80	15.8 (170)	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	60°C (140°F)
Maximum Cleaning Temperature	75°C (167°F)
Maximum Sanitization Temperature	85°C (185°F) at 1.7 bar max pressure, pH 6.0 – 8.0
Cleaning pH Range¹	1.0 – 13.0
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

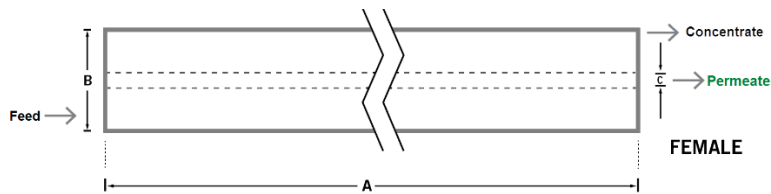
¹ Refer to temperature and pH limits in Membrane Cleaning Guide – Food & Dairy: XT Elements (TSG-C-007).

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-UP020XT-31	4 (9)	965 (38.0)	96 (3.8)	21.2 (0.83)	Female
TurboClean® UF 3838-UP020XT-46	4 (9)	965 (38.0)	96 (3.8)	21.2 (0.83)	Female
TurboClean® UF 3838-UP020XT-65	4 (9)	965 (38.0)	96 (3.8)	21.2 (0.83)	Female
TurboClean® UF 3838-UP020XT-80	4 (9)	965 (38.0)	96 (3.8)	21.2 (0.83)	Female
TurboClean® UF 6338-UP020XT-31	11 (24)	965 (38.0)	160 (6.3)	28.9 (1.138)	Female
TurboClean® UF 6338-UP020XT-46	11 (24)	965 (38.0)	160 (6.3)	28.9 (1.138)	Female
TurboClean® UF 6338-UP020XT-65	11 (24)	965 (38.0)	160 (6.3)	28.9 (1.138)	Female
TurboClean® UF 6338-UP020XT-80	11 (24)	965 (38.0)	160 (6.3)	28.9 (1.138)	Female
TurboClean® UF 6438-UP020XT-31	11 (24)	965 (38.0)	162 (6.4)	28.9 (1.138)	Female
TurboClean® UF 6438-UP020XT-46	11 (24)	965 (38.0)	162 (6.4)	28.9 (1.138)	Female
TurboClean® UF 8038-UP020XT-31	16 (36)	965 (38.0)	201 (7.9)	28.9 (1.138)	Female
TurboClean® UF 8038-UP020XT-46	16 (36)	965 (38.0)	201 (7.9)	28.9 (1.138)	Female
TurboClean® UF 8038-UP020XT-65	16 (36)	965 (38.0)	201 (7.9)	28.9 (1.138)	Female
TurboClean® UF 8038-UP020XT-80	16 (36)	965 (38.0)	201 (7.9)	28.9 (1.138)	Female
TurboClean® UF 8338-UP020XT-31	18 (40)	965 (38.0)	211 (8.3)	28.9 (1.138)	Female
TurboClean® UF 8338-UP020XT-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: 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.

Contact

Europe
 Germany: +49 611 962 6001
 Italy: +39 0721 1796201
 info@microdyn-nadir.com

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

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