



TurboClean® Warm Temp Membrane Elements

LENNTECH
WATER TREATMENT SOLUTIONS

MANN+HUMMEL Water & Fluid Solutions offers TurboClean® Warm Temperature elements for all of our membranes capable of continuous operation at temperature up to 60°C. These elements feature a patented sanitary hard-shell design that delivers better system performance due to about 60% less bypass flow than other sanitary elements. 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	Membrane Type	Nominal Solute Rejection or M.W.C.O.	Solute
ACM2	Polyamide RO	99.5%	NaCl
X-20™	Low Fouling Polyamide RO	99.5%	NaCl
UP005	Polyethersulfone UF	5,000 Da.	-
UP010	Polyethersulfone UF	10,000 Da.	-

DESIGN INFORMATION

Model	Maximum Operating Pressure	Membrane Area m ² (ft ²)	Feed Spacer Thickness (mil) ^a
TurboClean® WT 8038-RO-34	27.6 bar @ 60°C	32.5 (350)	34
TurboClean® WT 8040-RO-34	27.6 bar @ 60°C	32.5 (350)	34
TurboClean® WT 8040-X20-34	27.6 bar @ 60°C	32.5 (350)	34
TurboClean® WT 8038-UP005-34	10.0 bar @ 60°C	30.7 (330)	34
TurboClean® WT 8040-UP005-34	10.0 bar @ 60°C	30.7 (330)	34
TurboClean® WT 8038-UP010-34	10.0 bar @ 60°C	30.7 (330)	34
TurboClean® WT 8040-UP010-34	10.0 bar @ 60°C	30.7 (330)	34

^a All models on this sheet have TurboClean sanitary outer wrap and diamond feed spacers. All 8040 models on this sheet include anti-telescoping devices (ATDs) attached to the ends of the element and one interconnector.

OPERATING PARAMETERS

Maximum Operating Temperature	60°C (140°F)
Cleaning pH Range ¹	1.0 – 12.0
Chlorine Tolerance (RO models) ²	< 0.1 ppm
Chlorine Tolerance (UF models)	200 ppm (sanitization) at pH ≥ 10.5
Maximum Pressure Drop at 30°C	1.4 bar (20 psi) per element; 6 bar (80 psi) per housing
Maximum Pressure Drop at 60°C	1 bar (15 psi) per element; 4 bar (60 psi) per housing

¹ Refer to temperature and pH limits in our Membrane Cleaning Guides.

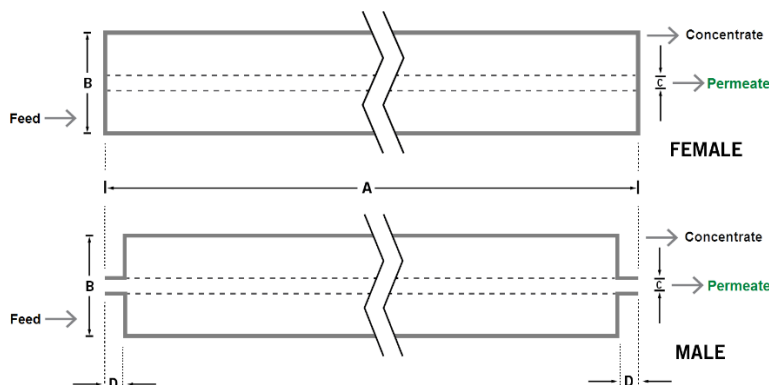
² Pretreatment is recommended for the removal of free chlorine and other oxidizing agents to prevent damage to membranes. Oxidizing agents, such as free chlorine, in contact with polyamide membranes may result in shortened operating life or membrane failure. Such oxidation damage is excluded from warranty. Refer to Membrane Operating Guide - Recommendations for Water Purification (TSG-O-012).

PHYSICAL DIMENSIONS

Model	Element Weight kg (lb) ^b	Dim. A mm (inches)	Dim. B mm (inches)	Dim. C ^c mm (inches)	Permeate Tube
TurboClean® WT 8038-RO-34	16 (36)	965 (38.0)	201 (7.9)	28.6 (1.125)	Female
TurboClean® WT 8040-RO-34	16 (36)	1,016 (40.0)	201 (7.9)	28.6 (1.125)	Female
TurboClean® WT 8040-X20-34	16 (36)	1,016 (40.0)	201 (7.9)	28.6 (1.125)	Female
TurboClean® WT 8038-UP005-34	16 (36)	965 (38.0)	201 (7.9)	28.9 (1.138)	Female
TurboClean® WT 8040-UP005-34	16 (36)	1,016 (40.0)	201 (7.9)	28.6 (1.125)	Female
TurboClean® WT 8038-UP010-34	16 (36)	965 (38.0)	201 (7.9)	28.9 (1.138)	Female
TurboClean® WT 8040-UP010-34	16 (36)	1,016 (40.0)	201 (7.9)	28.6 (1.125)	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 our Membrane Cleaning Guides.
- 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 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. All 38 inch long models conform to USDA 3A sanitary standard 45-03.

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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