

# Cross Flow Ultrafiltration Membrane Systems

*Envirogen Cross Flow Ultrafiltration Membrane Systems are ideal for high solids applications including industrial wastewater, process water or as an RO pretreatment. The cross flow filtration system is designed to whisk contaminants away from the membrane surface to prevent fouling and assuring continuous high flux rates.*



## Membrane System Features and Benefits

Feature	Benefit
Membrane flows from inside to out	More effective cleaning; longer life; no exterior abrasion
Crossflow filtration	High flux rates with minimal membrane fouling
Modular system	Sized to meet your flow requirements; Scalable
Unique Helix technology	For enhanced flux; more turbulence for reduced membrane fouling
High Quality Effluent	The clear water permeate has no suspended solids. The effluent is discharged or forwarded for reuse or additional treatment.

## Membrane Characteristics

- Hydrophilic polyvinylidene fluoride (PVDF) membrane on a polyester woven/non-woven carrier
- 0.03µm (30 nm) pore size
- Asymmetric microporous structure
- High performance and resistant to fouling

## System Characteristics

- Polyvinylchloride (PVC-C) housings and piping
- Drinking water quality potting EP resin
- 8" X 3-meter modules (horizontally orientated)
- Feed pump included
- Optional –Membrane elements can be backpulsed for efficient membrane cleaning and a higher average product flux

## Applications

Food & Beverage – cheese, wine, enzyme recovery, fruit juice clarification  
 Metals removal following co-precipitation  
 Concentration of fermentation broth  
 Purification of yeast solutions  
 Concentration of biomass  
 Produced water – oil/water separation  
 Paper mill effluent

## Operating Conditions

Max. system pressure	-600kPa/87 psi/6 bar @ 20-60C
Max. transmembrane pressure (27 m2 modules)	-60 to +250kPa @ 20-60C
Max. transmembrane pressure (33 m2 modules)	-100 to + 250kPa @40C; -50 to +250@ 60C
Max. transmembrane pressure (75 m2 modules)	-100 to + 250 kPa @40C; -50 to +250@ 50C
Max. permeate pressure	650kPa/94 psi/6 bar @20C; 300kPa/43 psi/3 bar@ 60C
Maximum Temp	60°C /140 °F for 27 and 33 m2; 50C for 75 m2 Modules

## Cleaning Chemical Resistance

NaOCl (active chlorine) 500 ppm max.	Phosphoric acid pH ≥ 1
H2O2 1000 ppm max.	EDTA pH ≤ 11
NaOH pH ≤ 11	Citric acid
Nitric acid pH ≥ 1	Enzymatic compounds

*Note: It is recommended to keep the pH between 1 and 11 and not exceed a temperature of 40 °C during cleaning and/or disinfection*

## System Specifications – 8 mm Tubular Membranes with Helix Technology

Model Name	Banks	# Modules per Bank	Area (M <sup>2</sup> )	Target Flow (GPM)	Flow (GPD)	Min (GPM)	Max (GPM)
UF1B227	1	2	27	7	10,272	0.7	19
UF1B327	1	3	27	11	15,408	1.1	29
UF1B427	1	4	27	14	20,544	1.4	38
UF1B527	1	5	27	18	25,680	1.8	48
UF1B627	1	6	27	21	30,816	2.1	57
UF2B227	2	2	27	14	20,544	1.4	38
UF2B327	2	3	27	21	30,816	2.1	57
UF2B427	2	4	27	29	41,089	2.9	76
UF2B527	2	5	27	36	51,361	3.6	95
UF2B627	2	6	27	43	61,633	4.3	114
UF3B227	3	2	27	21	30,816	2.1	57
UF3B327	3	3	27	32	46,225	3.2	86
UF3B427	3	4	27	43	61,633	4.3	114
UF3B527	3	5	27	54	77,041	5.4	143
UF3B627	3	6	27	64	92,449	6.4	171
UF4B527	4	5	27	71	102,721	7.1	190
UF4B627	4	6	27	86	123,266	8.6	228

System Specifications – 5.2 mm Tubular Membranes with Helix Technology

Model Name	Banks in Service	# Modules per Bank	Area (M <sup>2</sup> )	Target Flow (GPM)	Flow (GPD)	Min (GPM)	Max (GPM)
UF1B233	1	2	33	15	20,925	0.9	29
UF1B333	1	3	33	22	31,387	1.3	44
UF1B433	1	4	33	29	41,849	1.7	58
UF1B533	1	5	33	36	52,312	2.2	73
UF1B633	1	6	33	44	62,774	2.6	87
UF2B433	2	4	33	58	83,699	3.5	116
UF2B533	2	5	33	73	104,624	4	145
UF2B633	2	6	33	87	125,548	5	174
UF1B175	1	1	75	17	23,778	1	33
UF1B275	1	2	75	33	47,556	2	66
UF1B375	1	3	75	50	71,334	3	99
UF1B475	1	4	75	66	95,112	4	132
UF1B575	1	5	75	83	118,890	5	165
UF1B675	1	6	75	99	142,668	6	198
UF2B475	2	4	75	132	190,225	8	264
UF2B575	2	5	75	165	237,781	10	330
UF2B675	2	6	75	198	285,337	12	396
UF3B575	3	5	75	248	356,671	15	495
UF3B675	3	6	75	297	428,005	18	594
UF4B575	4	5	75	330	475,561	20	661
UF4B675	4	6	75	396	570,674	24	793

Ordering Guide

Product Series	Banks in Service	Number of Modules per Bank	Series (Area per module)
UF	1B, 2B, 3B, 4B	2, 3, 4, 5, 6	27
	1B, 2B	2, 3, 4, 5, 6	33
	1B, 2B, 3B, 4B	1, 2, 3, 4, 5, 6	75

*Replacement modules and ongoing service plans are available.*

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