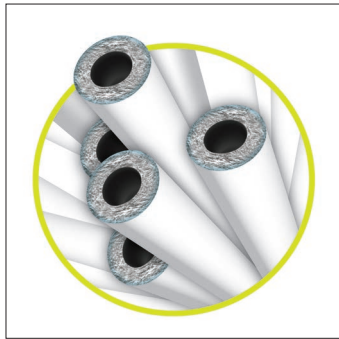


Membrane Bioreactor

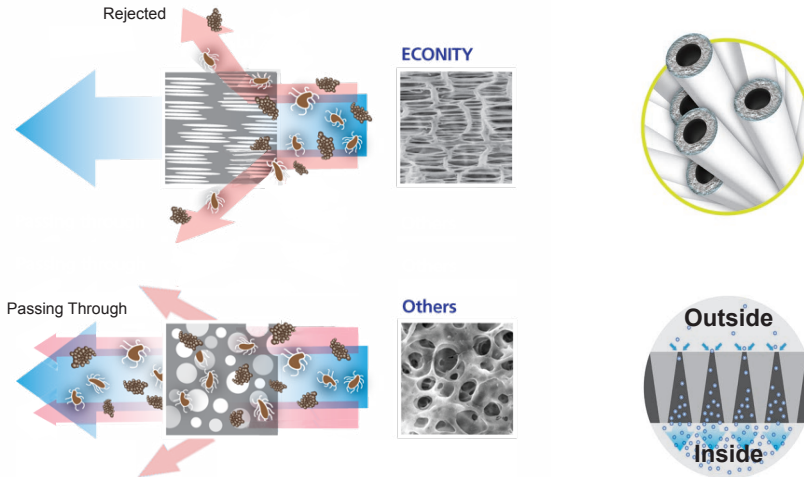
Submerged Hollow Fiber Membrane



Hollow Fiber Membrane

CF Series (E-Type)

For wastewater, water, and industrial applications, the Econity CF Series MBR is the world's first PVDF hollow fiber membrane using the TIPS + Stretching method of manufacturing. With the highest tensile strength and pure water flux, the technology is California Title 22 approved. This unique manufacturing process creates an asymmetric pore structure that allows high flux rates and excellent removal efficiency.



E-Type Specifications	
Materials	PVDF (Polyvinylidene Fluoride)
Type	Hollow Fiber
Pore Structure	Asymmetric
Nominal Pore Size	0.1 micron
O.D. / I.D.	1.2 mm / 0.7 mm
Operating Flux	~ 15 gal/ft ² *d (~25 LMH)
Chlorine Resistance	1,500,000 ppm-hrs

End-Free Design

Econity membranes have been in use for over 20 years in more than 2,000 installations around the world at facilities up to 50 mgd in daily flows. The unique end-free cartridge design provides an economical alternative to traditional longer fibers that are restrained on both ends and prone to fouling and more difficult maintenance procedures.

E-Type Hollow Fiber Membrane Properties

- ① Membrane fibers “potted” only at the bottom prevents fouling at top of unit increasing run times and reduces manual cleaning efforts.
- ① End-free fibers effectively eliminate possibility of fiber breakage.
- ① Shorter overall membrane fiber length reduces the internal pressure losses within the fibers which increases flux rates.
- ① Efficient air scouring with bubble confinement
- ① Highest packing density allows greatest flux rate in equivalent footprints
- ① Modular design allows for easy retrofit into existing installations



End-Free Fibers Prevent Fouling



Cut-Away of End-Free Cartridge

Customized Cassette Assembly

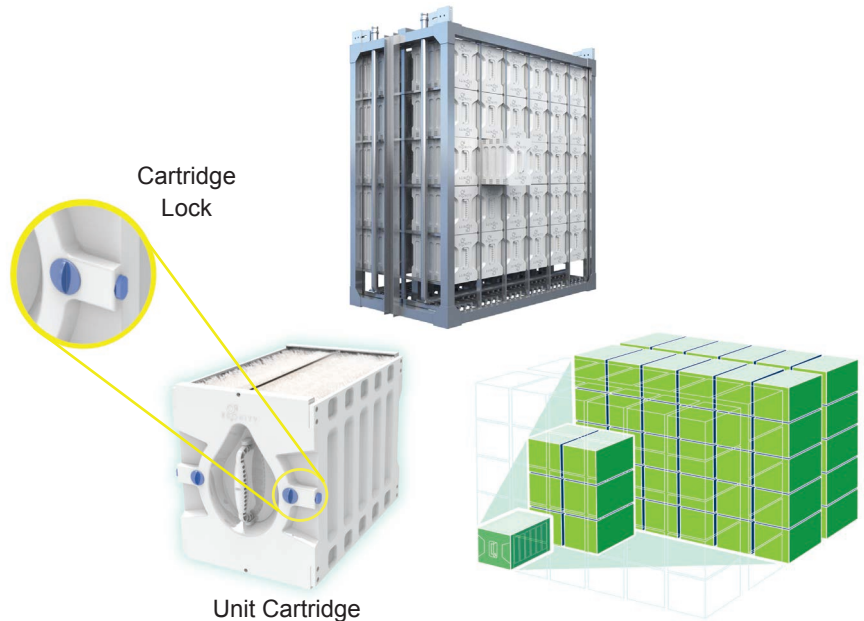
Cartridges are assembled into larger cassettes to suit the capacity and footprint of each installation. This modularity enables the MBR cartridges to be configured to retrofit existing tanks while simultaneously increasing performance.

Higher Operation Flux

- ④ Higher fiber packing density
- ④ Suitable for large and small plants
- ④ Compact footprint

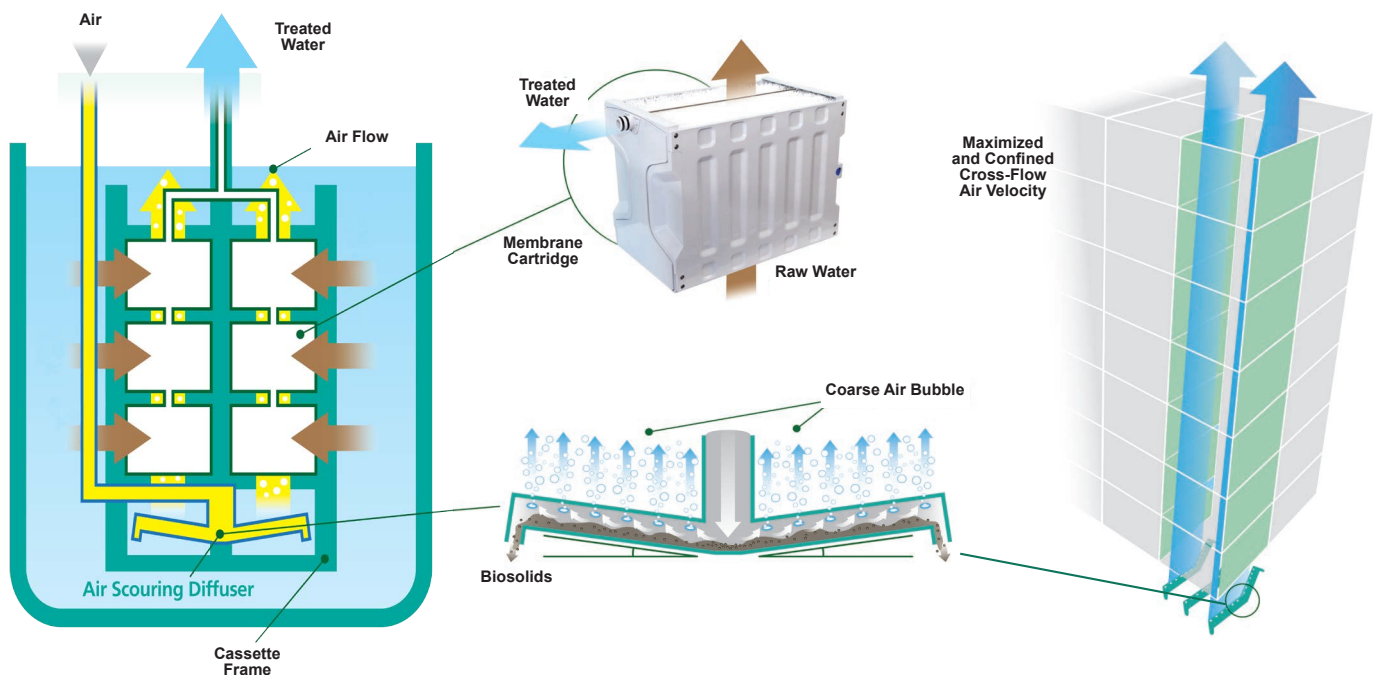
Convenient Design

- ④ Drawer-type cartridge for ease of installation and removal
- ④ Simple lock and release connections
- ④ Easily retrofit existing installations



Process Operation

Air scour is confined within membrane cartridges, allowing maximum efficiency and minimizing power usage. The highest packing density minimizes overall footprint and air scour requirements as compared to competing brands.

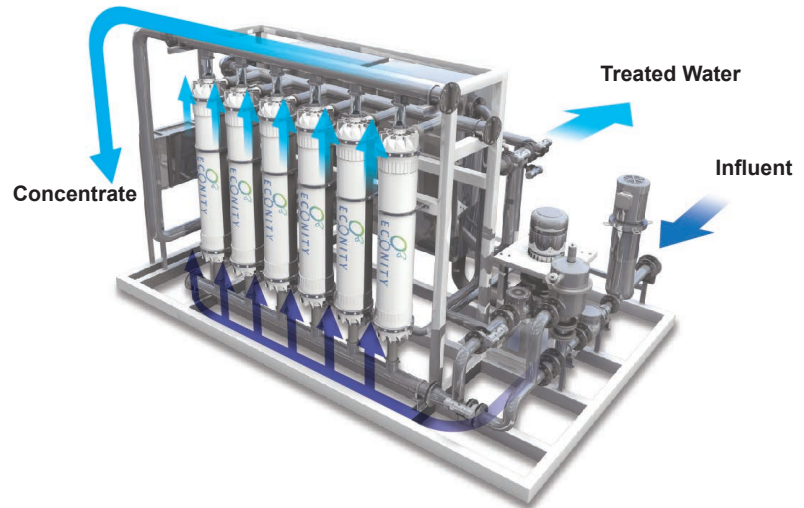


Pressurized Membrane Modules

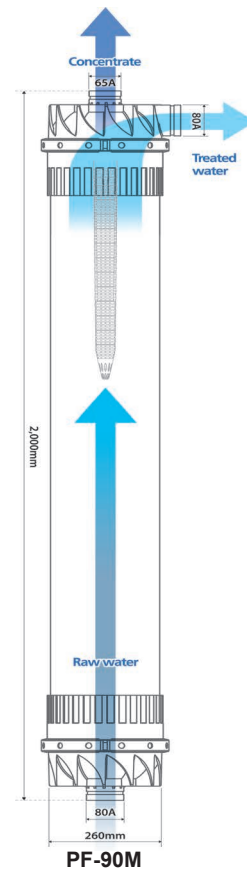
PF Series

The world's first hollow fiber membranes fabricated from PVDF utilizing both the TIPS and stretching method of fabrication yielding world class tensile strength and flux rates. The PF series pressurized membranes feature:

- ④ NSF/ANSI 61, CA Title 22, and Long Term 2 (LT2) Certifications
- ④ Large capacity modules
- ④ Reduced footprint requirements
- ④ PVDF material is exceptionally resistant to chemicals
- ④ Reduced membrane fouling
- ④ Suitable for drinking water, water reuse, and desalination pretreatment



Category		Econity PF-90M	Econity PF-70M
Membrane Fiber	Material	PVDF (Polyvinylidene Fluoride)	
	Type	Hollow-Fiber	
	Pore Structure	Asymmetric	
	Pore Size	0.1 micron	
	OD/ID	1.2 / 0.7 mm	
	Tensile Strength Connector OD	> 1,300 f/fil	
Module	Material	ABS	ABS
	Potting	PU (Polyurethane)	PU (Polyurethane)
	Length	2,000 mm (80")	1,670 mm (65")
	Diameter	260 mm (10")	260 mm (10")
	Connector OD	3" / 3" / 2.5"	3" / 3" / 2.5"
	Surface Area	90 m ² (969 ft ²)	70 m ² (753 ft ²)
	Weight (Dry/Delivery/Wet)	93 lb / 154 lb / 242 lb	77 lb / 132 lb / 198 lb
Operating Requirements	Inlet Pressure	2.5 bar maximum	
	TMP	1.5 bar maximum	
	Water Temperature	40°C (104°F) maximum	
	Optimum pH	Optimum pH 2~10 / During Cleaning 1~11	
	Filtration Type	Outside to Inside	



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