

PULSION® MBR System

Low-Energy Submerged Hollow Fiber Ultrafiltration



K KOCH[™]
SEPARATION SOLUTIONS

Separation Technologies for a Better Future[™]

Optimized Design for High Performance

Over 50 Years of Membrane Experience

Koch Separation Solutions (KSS) is a global leader in membrane filtration technologies with over 50 years of membrane experience and thousands of system installations worldwide. The PULSION® MBR is the next-generation PURON® MBR, featuring reduced energy requirements, a smaller footprint, and a simplified design and operation. Suited for both municipal and industrial water and wastewater applications, the PULSION MBR is our cost-effective, compact, and automated solution.

PURON Membrane

The uniquely designed PURON membrane is a 0.03 micron reinforced PVDF ultrafiltration membrane that acts as an excellent barrier to suspended solids, bacteria, and other pathogens. The narrow pore size distribution ensures high permeability and sustainable, uninterrupted operation with reduced maintenance and cleaning requirements.

PULSION MBR Module

The PULSION MBR ultrafiltration system features our unique single-header design where fibers are fixed only on the bottom and can float freely to eliminate clogging and buildup. Additionally, the PULSION MBR introduces an innovative and patented air scour method. A large air bubble is pulsed through the chambered fiber bundle, creating a highly efficient piston-like pumping action. This unique design results in up to 40% lower air and aeration energy requirements than traditional air scour methods.

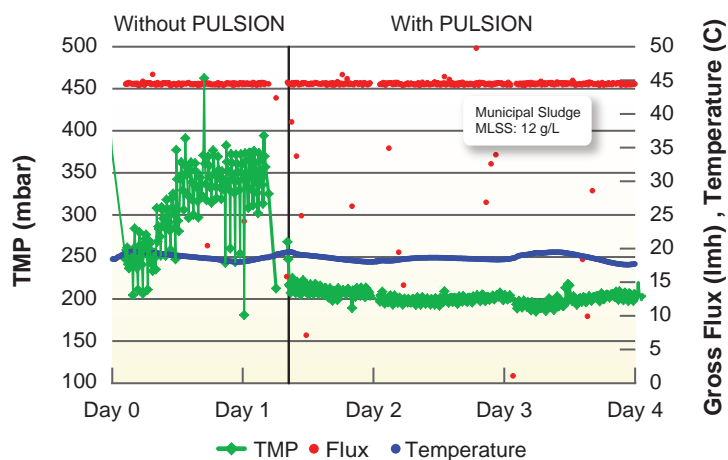
Improved recirculation of mixed liquor within the membrane module not only results in lowered air requirements, but also boosts achievable fluxes. Optimized module design and flexible system

layout options reduce membrane tank sizing.

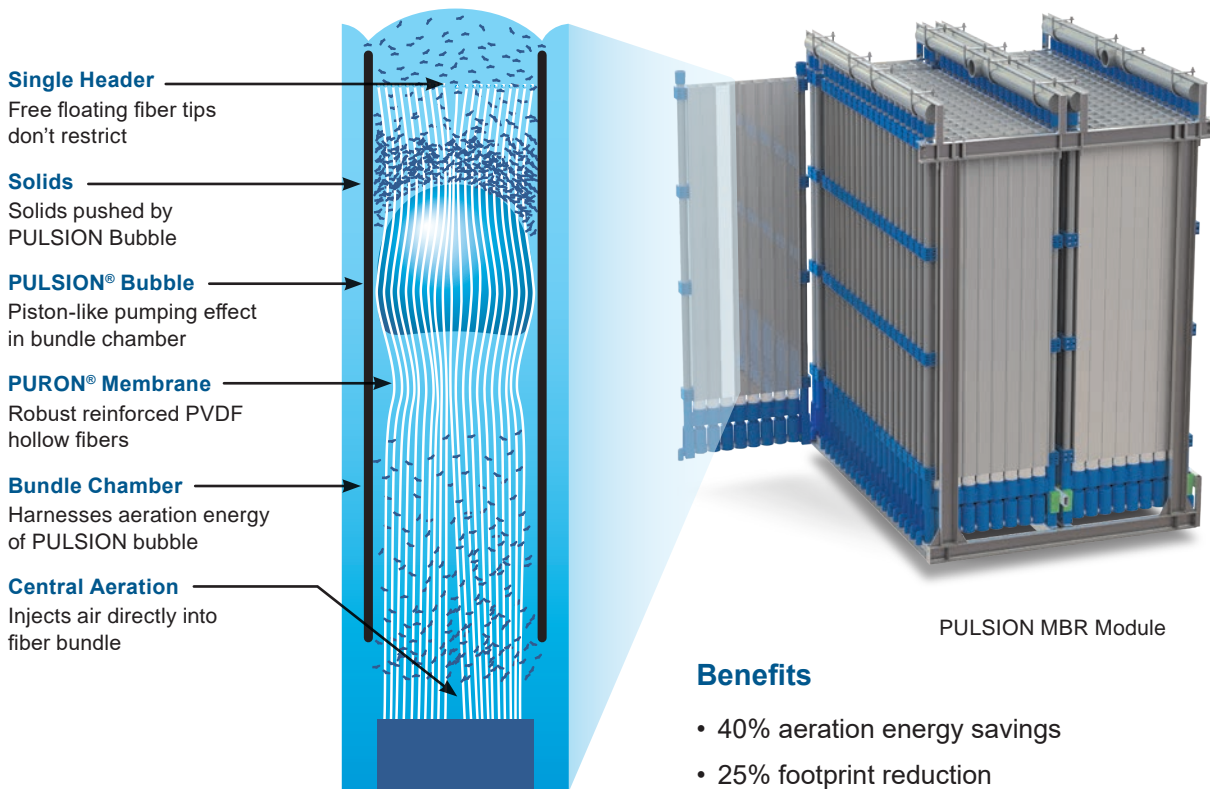
The combination of greater productivity, increased packing density, and a streamlined system configuration allows the overall system footprint to be significantly reduced.

The size of the air delivery equipment is reduced by up to 50% and air cycle valves are eliminated because of a reduced air flow rate applied continuously to the membranes as opposed to a higher rate applied cyclically. This simplified blower arrangement and train configuration further reduce equipment and engineering costs associated with the design, construction, and operation of PULSION MBR systems.

Impact of Effective Solids Removal



High-Efficiency, Low-Energy Submerged Hollow Fiber Ultrafiltration



Benefits

- 40% aeration energy savings
- 25% footprint reduction
- Simplified design and operation

Packaged MBR Systems

KSS pre-engineered systems feature comprehensive, complete packaged MBR systems for flow rates up to 250,000 GPD (950 m³/day). This system is designed to treat municipal and industrial water and wastewater for a variety of applications, including food, beverage, dairy, leachate, and produced water. Benefiting from the robust PURON hollow fiber membrane and a comprehensive biological system, these systems can reduce BOD and nitrogen concentrations down to 5 and 10 mg/L, respectively.





Koch Separation Solutions

Koch Separation Solutions (KSS) is a global leader in separation technologies. With best-in-class domain expertise, technologies and systems, KSS is uniquely positioned to help customers purify and recover valuable process streams and achieve sustainability goals across food and beverage, life science, and general industrial markets.

Services & Support

KSS ASSIST™ Service & Maintenance Program • RELCO After-Market Services • SepTrac™ Smart System



www.kochseparation.com • getinfo@kochsep.com

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