Water & Wastewater

PURON® PULSION® MBR

Solutions

Comparable life cycle costs with conventional systems for competitive water and wastewater treatment

KOCH MEMBRANE SYSTEMS

Market-Driven Solutions

Complete Solids Tolerance Solutions

Koch Membrane Systems offers a wide range of ultrafiltration products to meet any application challenge.

TARGA® II
Up to 50 mg/L

PURON® MP
Up to 1000 mg/L

PURON® HF
Up to 3,000 mg/L

PURON® MBR
Up to 15,000 mg/L

ABCOR®
Up to 500,000 mg/L

PULSION® MBR – Driving Efficiency. Comparable Overall Life Cycle Costs to Conventional Systems.

Koch Membrane Systems' (KMS) family of PURON® Submerged Membrane Modules provide treatment for industrial and municipal water and wastewater applications.

Up to 40% Aeration Energy Reduction

PULSION MBR pulses a large bubble through a chambered fiber bundle creating a highly efficient piston-like pumping action resulting in lower air and aeration energy requirements than traditional air scour methods. This innovative patented product is able to harness the aeration energy utilizing the unique single header and central aeration design of the PURON membrane module.

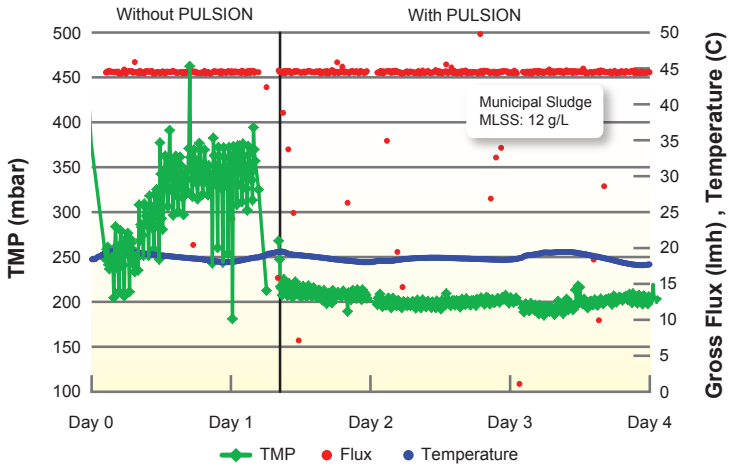
25% Footprint Reduction

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, increase in packing density, along with a streamlined system configuration allows the overall system footprint to be significantly reduced.

Simplified Design and Operation

Operating with a continuous supply of air eliminates the need for air cycle valves. A reduced air flow rate applied to the membranes on a continuous basis instead of high air flows applied cyclically reduces the size of the air delivery equipment by 50%. This simplified blower arrangement and train configuration further reduce equipment and engineering costs associated with the design, construction and operation of PULSION MBR systems.

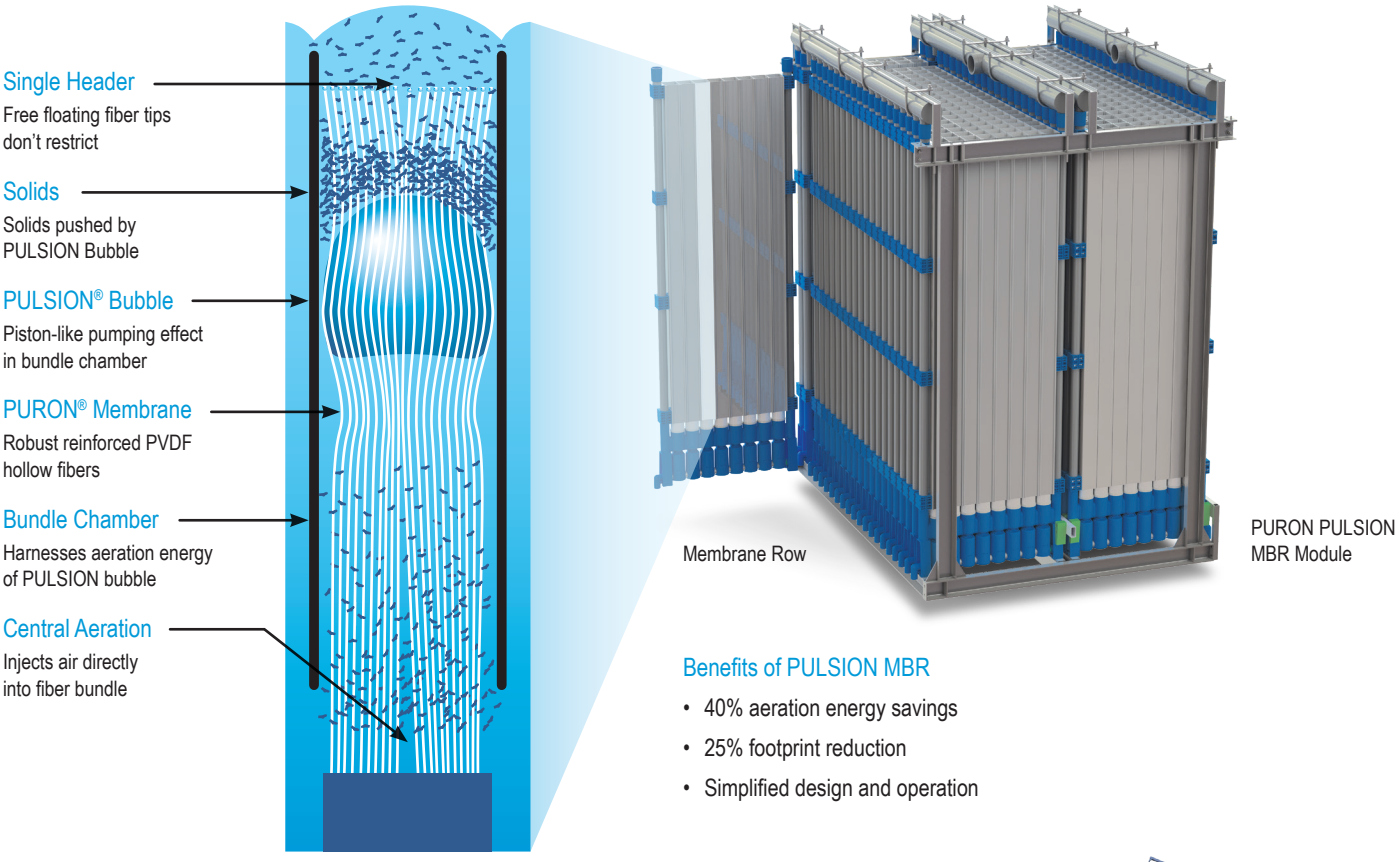
Impact of Effective Solids Removal



Meaningful Product Features

Effluent quality superior to conventional treatment technology.

Cost effective, compact and automated, KMS Ultrafiltration Systems provide treatment for municipal and industrial effluents and produce high quality, consistent filtrate.

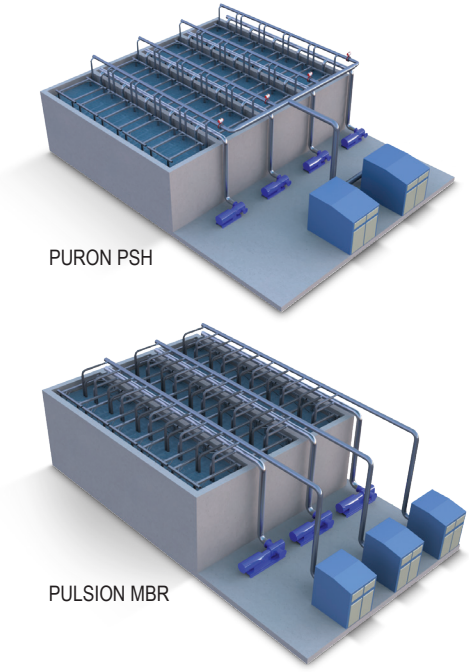


Benefits of PULSION MBR

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

PULSION MBR System Design 5 MGD Comparison

Design Parameter	PURON PSH	PULSION MBR	% Reduction
Number of Trains	4	3	25%
Installed Membrane Area	1X	0.9X	10%
System Footprint (m^2)	276	164	41%
Total Membrane Tank Volume (m^3)	444	264	41%
Membrane Blowers (m^3/hr)	2 x 3,600	3 x 1,806	25%
Stainless Steel Air Header Sizing	12" / DN300	8" / DN200	33%
Aeration Cycle Valves Req'd	Yes	No	100%



The PULSION® Solution

Our best-in-class designs provide a truly integrated solution, from membrane chemistry, morphology and fabrication to process and application design, with dedicated technical support every step of the way.

KMS isn't just a membrane company. The KMS global team of engineers is ready to assist you with:

- Process & System Design
- Piloting
- Mechanical Design
- Global Fabrication
- Project Management
- Start Up and Commissioning
- KMS ASSIST® Service and Maintenance Program

Piloting – Unique solutions are our specialty...

> *Not all process streams are alike. New and specialized applications can benefit from pilot testing to develop and validate system designs.*

Our Process Engineering Group stands ready to support those applications that require more process expertise, attention or testing. With a sizeable inventory of pilot systems in our fleet, a testing program can be up and running at your facility in a matter of days.

Contact your local Koch Membrane Systems representative for more information:

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