Low energy, cost-effective MBR wastewater treatment
PURON® technology and solutions.

The Koch Membrane Systems’ (KMS) family of PURON submerged membrane modules is providing industries and municipalities around the world with economical, comprehensive wastewater solutions.

PURON Membrane

The PURON membrane, consisting of a 0.03 micron PVDF Ultrafiltration membrane provides excellent physical barrier to suspended solids, bacteria and other pathogens. The narrow pore size distribution ensures high permeability and sustainable operation.

PURON MBR Modules

The latest generation of high flux PURON modules for MBR applications are newly-designed and improved, while continuing to leverage the innovative PURON central aeration and single header design.

PURON MBR Systems

KMS isn’t just a membrane company. PURON PLUS Engineered Systems feature comprehensive, complete packaged MBR systems for flow rates up to 200,000 GPD (760 m3/day). For larger flow rates, KMS offers pre-engineered modular MBR filtration systems for flow rates up to 1.8 MGD (6,840 m3/day) per train. KMS modular MBR systems can be arranged to meet almost any plant layout or required flow rate.

PURON Single Header Design

- Single Header: Virtually eliminates clogging
- Central Aeration: Improves scouring efficiency
Value-Added Benefits

*Our membrane bioreactor modules and systems bring energy-efficient solutions to communities everywhere.*

Treatment plants faced with the challenges of a growing population, changing regulations, failing infrastructure, or outdated technology turn to KMS for answers.

**Why PURON® MBR?**

Unlike conventional wastewater treatment technology, PURON MBR ultrafiltration modules act as a physical barrier to bacteria, produce high quality effluent, require minimal space, and eliminate the need for secondary clarification.

PURON modules use a single header design with reinforced braided hollow fibers that are fixed only at the bottom. The sealed upper ends of the fibers are allowed to float freely. The modules are submerged in activated sludge, and a slight vacuum draws water from the outside wall of the fiber to the inside where it flows as clean filtrate. Only PURON modules position the aeration nozzle in the center of the fiber bundle to scour the entire fiber length, minimizing power consumption.

Not all submerged MBR membrane modules are the same. PURON single header design has quickly become the technology of choice for companies looking to reduce energy, minimize downtime, and increase flux, all within a small footprint.

**Over 200 PURON MBR installations worldwide in municipal and industrial applications**

Santa Paula, California USA

3.2 MGD (12,000 m³/day) MBR System for treatment of municipal wastewater

Aquapoło, São Paulo, Brazil

14.8 MGD (56,200 m³/d) Tertiary MBR System for treatment of municipal wastewater

Dongyang, Nanjing, China

13.2 MGD (50,000 m³/d) MBR system for treatment of a mixture of Industrial and Municipal Wastewater

Taixing, Jiangsu, China

13.2 MGD (50,000 m³/d) MBR system for treatment of a mixture of Industrial and Municipal Wastewater

**Benefits**

- **Built-in Reliability**
  - Single header design – minimal clogging
  - Braided membrane fibers – no fiber breaks, minimal downtime
  - Central aeration – highly effective, crash-resistant air scouring

- **Low Life-cycle Costs**
  - Efficient system design – less infrastructure, lower construction costs
  - One of the lowest energy demand products in the market
  - Best solids management – high productivity
  - Title 22 compliant
The PURON® MBR 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.