



Industrial & Life Sciences

# Solutions

Cost effective membrane solutions to clarify, concentrate, separate and recover





*Concentrating, clarifying, and purifying process streams to increase yield and reduce cost*

**In a global marketplace, continually enhancing products while reducing costs is paramount. That's why our sanitary line of membrane separation technologies and systems play such a vital role in the Industrial & Life Sciences industries.**

Koch Membrane Systems (KMS) offers numerous solutions to keep stakeholders in the industrial and life sciences industries ahead of the curve with high-tech, high-quality products that meet both customer and regulatory standards.

KMS isn't just a membrane company. Our skilled engineering teams can optimize your existing systems and help you address new applications as needed. Our R&D group continually

develops novel membranes and systems, ensuring that state-of-the-art products are always available to you. And our Process Technology and Technical Services team provides on-going technical assistance, from staff training to operation assessments.

Let us design a solution to meet your needs. From concept to piloting to on-going support, we have the experience to provide an exceptional outcome.

# Solutions

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|------------------------------------|--|
| Membranes                          | <ul style="list-style-type: none"><li>• Largest array of membrane products in the industry</li><li>• Microfiltration (MF), ultrafiltration (UF), nanofiltration (NF), and reverse osmosis (RO)</li><li>• Hollow fiber, spiral, and tubular configurations</li></ul>                                  |
| Piloting & Application Development | <ul style="list-style-type: none"><li>• Membrane, process and system design validation for new and specialized applications</li><li>• Extensive fleet of highly instrumented, PLC-controlled pilot systems and lab-scale units</li><li>• Full support of our experienced process engineers</li></ul> |
| Systems & Engineering              | <ul style="list-style-type: none"><li>• Engineered-to-order systems</li><li>• Unmatched process and system design expertise</li><li>• Lower overall cost of ownership</li></ul>  |
| System Audits                      | <ul style="list-style-type: none"><li>• Optimization of your existing systems</li><li>• Improved cleaning strategy</li><li>• Lower energy and filtration costs</li></ul>   |
| Service & Maintenance              | <ul style="list-style-type: none"><li>• Startup commissioning &amp; training</li><li>• Field service/support</li><li>• Replacement membranes</li></ul>   |

**Markets We Serve:**

**Food:** Our membranes and systems remove contaminants, recover materials, and purify process streams within the plant.

- Sugar & Starch
- Protein
- Vinegar
- Nutraceuticals
- Food & Feed

**Dairy:** KMS sanitary dairy membranes reduce operating costs, increase productivity, and keep dairy operations running smoothly – and profitably.

- Milk
- Whey
- Brine
- Chemical recovery
- Water reuse

**Beverage:** KMS offers a multitude of efficient solutions that help beverage manufacturers concentrate, clarify, and purify products.

- Bottled Water
- Juice
- Wine

**General Industrial:** Membranes are widely used in many industries.

- Selective Separation of Compounds
- Purification of Liquid Streams
- Concentration & Clarification

**Automotive & Appliance:**

Our electrocoat paint systems allow 96-98% of paint to be recovered, dramatically reducing waste.

- Electrocoat Paint
- Electro Dialysis Processes

**Industrial Biotechnology:** We apply our selective membrane separation technology to process streams assisting the economical recovery of valuable fermentation derived products.

- Biochemicals and catalysts
- Biopolymers
- Biofuels

**Pharmaceutical Intermediates:**

Our membranes deliver efficient concentration, desalting and purification duties for biopharmaceutical and active pharmaceutical intermediates manufacture.

- Antibiotics, enzymes, vaccines
- Therapeutic proteins
- Medical imaging contrast media
- Ultrapure water endotoxin removal

**Characteristics of Membrane Products Used In the ILS Market**

	Membrane Type	Separation Range	Typical Applications
 <p><b>Spiral</b></p>	TFC® Sanitary RO Series	Reverse Osmosis	Whey, milk, lactose concentration and clarification; de-ashing whey
	SR Sanitary NF Series	Nanofiltration	Desalting and concentrating proteins and lactose, lactose rejection; de-ashing whey; chemical purification
	HFK Series	Ultrafiltration	Protein, whey, milk concentration; clarification and concentration at high temperature
	MFK Series	Microfiltration	Clarification, fractionation
	KPAK E-Coat Series SPIRAPAK E-Coat Series	Ultrafiltration	Electrocoat paint recovery
	SeIRO® NF Series	Nanofiltration	Chemical recovery
	SPIRAPRO NF Series SPIRAPRO UF Series	Nanofiltration Ultrafiltration	Separation of pharmaceutical and industrial biotechnology intermediates
 <p><b>Hollow Fiber</b></p>	PM Series	Ultrafiltration	Protein separation; protein, juice, wine, citrus, and vinegar clarification and concentration; industrial biotechnology and general industry applications
	WINEFILTER Series	Microfiltration	Wine clarification
 <p><b>Tubular</b></p>	SUPER-COR® UF Series	Ultrafiltration	Juice clarification
	SUPER-COR MF Series	Microfiltration	Dark juice clarification
	SUPER-G® Series	Ultrafiltration	Juice clarification
	ULTRA-COR® Series	Ultrafiltration	Electrocoat paint recovery



For five decades, Koch Membrane Systems, Inc. has led the way in developing innovative membrane technologies that serve a diverse range of industries and applications around the globe. KMS provides solutions to markets including industrial and municipal water and wastewater, food and life sciences and industrial processes helping thousands of clients reduce their water footprint, increase productivity, and reduce costs. With an installed base approaching 20,000 systems throughout the world, KMS is setting the standard as a comprehensive membrane solutions provider.

KMS is based in Wilmington, Massachusetts, USA with factory direct representatives around the world and manufacturing locations in Wilmington, Massachusetts and Aachen, Germany.

Contact your local Koch Membrane Systems representative for more information:

#### Corporate Headquarters

##### **Koch Membrane Systems, Inc.**

850 Main Street  
Wilmington, Massachusetts 01887-3388  
USA

Tel: +1-888-677-KOCH

Tel: +1-978-694-7000

Fax: +1-978-657-5208

#### International Offices

##### **Europe/Middle East/Africa**

Aachen, Germany  
Dubai, UAE  
Lyon, France  
Madrid, Spain  
Rogierowko, Poland  
Stafford, United Kingdom  
Vimercate, Italy  
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Beijing, China  
Mumbai, India  
New Delhi, India  
Shanghai, China  
Singapore  
Sydney, Australia

##### **Latin America**

Sao Paulo, Brazil

For complete contact information, visit:

[www.kochmembrane.com](http://www.kochmembrane.com)

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