Wine Filtration Solutions
Your Partner for All Your Separation Needs

Separation Technologies for Quality, Cost, and Sustainability

Separation Technologies for a Better Future™
How can KSS help you?

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 20,000 system installations worldwide. We manufacture our membranes in our state of the art facility in the US and we apply them in our systems.

As a complete solution provider, we have applied our experience and expertise to develop our wine crossflow filtration cartridges and the Wine-COR system line. We topped this with our unique Lees-COR systems, utilizing wide channel tubular products to increase even more the efficiency and recovery of your wine production line.

Our broad portfolio includes water filtration solutions to meet the process water demand and wastewater treatment solutions to treat the plant wastewater for discharge or reuse. These filtration solutions are energy efficient, and are environmentally friendly to help your company comply with increasing stringent regulatory requirements.

Combined Solution Approach to all your Filtration Challenges

You will find in KSS an experienced partner to all your filtration needs. Your winery will benefit from our PURON® MP water filtration systems, which will reliably produce high quality water for your crushing and barrel rinse operations. Our Wine-COR crossflow filtration systems will clarify your wine, producing ready to bottle, full of aroma wine. To increase the efficiency of your operations, our Lees-COR systems will be used to squeeze more wine from wine and juice lees.

On the backside of your operations, our unique Causti-COR® technology will recover the spent caustic from the CIP operations, reducing your waste stream and cutting down your chemical costs. Lastly, we will help you treat your wastewater using our PULSION® MBR systems, for safe discharge or reuse, meeting most stringent regulations.
**Wine Clarification**

**WINEFILTER Microfiltration Cartridges**

The WINEFILTER crossflow membrane was designed specifically for wine filtration. The asymmetric microfiltration membrane pore structure has been optimized to achieve maximum wine clarity while maintaining color, taste, aroma and alcohol content.

Our WINEFILTER cartridges utilize an optimized microfiltration hollow fiber membrane, that gently filters your wine to remove sediments and particles and produce clear wine with the richest taste, color and aroma. The cartridges are available in different dimensions to fit different system configurations. WINEFILTER cartridges are easy to install, easy to operate and easy to clean. They provide large membrane area, up to 185 ft² (17.2 m²) active membrane area in our 6-inch diameter by 60-inch long cartridge.

**Wine-COR Systems for Crossflow Wine Clarification**

The Wine-COR crossflow microfiltration systems are modular, to easily expand as filtration demand increases. The Wine-COR M line is best suited for the small to medium-sized wineries with filtration needs of 6-60 gallons per minute (gpm) (1.4 m³/hr-14 m³/hr). For larger filtration needs, we have developed the Wine-COR F line to offer large wine processors the most economical filtration solution. These crossflow filtration systems are designed to reduce the total cost of ownership with low energy consumption and sustained filtration runs.

**Wine-COR Systems Benefits**

- Maintains color, taste, aroma, and alcohol content
- Compact, mobile design, easily expandable
- High yield, at 95% or over
- Eliminates Diatomaceous Earth (DE)
Lees Filtration

SUPER-G® Large Diameter Crossflow Tubular Modules

When industry required a super high-performance clarification solution, KSS developed the SUPER-G family of products. Remarkably durable, these tubular membranes can achieve the highest solids concentration seen in the market. Unmatched in the industry for beverage and lees clarification, these modules enhance color, flavor, and stability at high flux, effective cleaning and long life.

Lees-COR Systems for Lees Treatment

When it comes to challenges, KSS finds the solution. KSS Lees filtration systems demonstrate the most efficient design in the market to treat lees. Our Lees-COR Systems are complete tubular membrane systems designed specifically for the treatment of juice and post fermentation lees. Lees-COR systems are designed to treat flow rates between 5 and 40 gpm (1 and 10 m³/hr).

Lees-COR Systems Benefits

• Robust system design to maximize solids level
• Increased product yield
• Reduced system footprint
• Simple automated operation with safety features
• Eliminates Diatomaceous Earth (DE)
• Utilize KSS proven wide channel tubular modules
White Wine Lees Filtration Comparison

Caustic Recovery
Our Causti-COR® Systems offer a cost effective, environmentally friendly way to recover the expensive caustic solutions used to clean your process equipment. Causti-COR systems utilize our patented SelRO® membranes to recover up to 95% of caustic for reuse by removing low molecular weight organic and inorganic contaminants from your spent caustic. Our systems are available in small batch design for treatment of streams ranging from 5,000 to 50,000 gallons per day (1-8 m³/hr) and in large, pre-engineered designs for larger flow rates.

Caustic Recycling Benefits
• Less spending on caustic and neutralization acids
• Reduction in effluent volume going to waste treatment ponds
• Lower energy consumption

Color Concentration
Our membrane portfolio is one of the largest in the market. Our experienced process engineers have developed different processes, utilizing various membranes to concentrate juice color. These processes use our sanitary Reverse Osmosis, Nanofiltration and Ultrafiltration spiral wound elements and tight ultrafiltration hollow fiber cartridges.

Membranes for all Applications
KSS’ portfolio offers solutions to many separation and filtration challenges in the winemaking process. You can partner with us to address such processes, including:
• VA removal (RO/NF with Ion Exchange)
• Alcohol Adjustment (RO coupled with other technologies)
Water and Wastewater Solutions

PURON® MBR Systems for Water Treatment

Our engineers are well familiar with the type of wastewater generated in a winery plant. We have the knowledge and expertise to provide you with a comprehensive solution to treat your wastewater economically, comply with discharge limits or treat the water for reuse.

Unlike retention ponds commonly used for winery wastewater treatment, and other conventional wastewater treatment technologies, MBR technology involves Ultrafiltration membranes, which act as a physical barrier to solids and bacteria, producing high quality effluent. MBR technology easily achieves a sustainable operation, through treatment of wastewater to produce high effluent quality for irrigation or reuse.

MBR Technology Benefits

• Produces lower organic content, lower color and lower turbidity than ponds
• Requires minimal space
• Low maintenance, eliminates the need for residual management and pond sludging

KSS MBR Products

KSS is equipped with the optimal solution for all winery needs. If your facility is relatively small, a boutique style operation, our tubular 1-inch KONSOLIDATOR Ultrafiltration crossflow membrane systems will effectively clarify activated sludge to produce high quality effluent. Our PURON PLUS MBR systems are available in small, packaged plants to treat up to 120,000 gallons per day (19 m³/hr), and in larger pre-engineered systems for larger flow rates.

Due to the membrane and module design and operation practices, the PURON MBR product has quickly become the technology of choice for companies looking to reduce energy, minimize downtime, and increase flux, all within a small footprint.
PURON® MP Systems for Water Treatment

Meet the highest water quality standards and regulations for your process water with our innovative hollow fiber ultrafiltration technology. Easily installed and serviced, the PURON MP systems are designed for longevity and performance. These water treatment systems offer robust engineering and reliable operation at low cost of ownership and small footprint.

The PURON MP product innovation starts at the membrane; strong fiber, practically unbreakable, with optimal pore size distribution awarded this membrane drinking water certification for reliable bacteria and virus removal. Superior cartridge design, including efficient air scouring and single potting improves the solids management, bringing to the small, medium and large wineries a low maintenance, cost effective and reliable means of water treatment.

Our PURON MP systems are available in small, packaged plants to treat up to 200,000 gallons per day (32 m³/hr), and in larger pre-engineered skidded systems for larger demand.
KSS will partner with you throughout the life cycle of your membrane filtration system. Our experienced technical team will provide global service and support and will work directly with you to maximize process efficiency. KSS ASSIST®, our service and maintenance program, provides the tools to keep your system operation at the highest level, including:

- Membrane Process Optimization
- Plant Audits
- Data Collection, Analysis & Reporting
- Operator Training
- Telephone Support

Koch Separation Solutions

Koch Separation Solutions (KSS) is a global leader in membrane filtration technologies with over 50 years of membrane experience. With best-in-class domain expertise, technology and systems, KSS is uniquely positioned to help customers purify and recover valuable process streams and achieve sustainability goals.