

# Sani-Pro®

Extended Life Sanitary Spiral Elements



**K KOCH**<sup>TM</sup>  
SEPARATION SOLUTIONS

*Separation Technologies for a Better Future™*

# Cutting-Edge Sanitary Spiral Wound Elements

## Over 50 Years of Membrane Experience

Koch Separation Solutions (KSS) is a global leader in innovative membrane filtration technologies. We have used our extensive industry experience with unmatched engineering and technical expertise to design the Sani-Pro® sanitary spiral wound elements specifically for the most demanding food and beverage applications.

## Longer Operating Life with Improved Productivity and Energy Efficiency

Sani-Pro elements combine innovative construction techniques, optimized subcomponents, and our portfolio of industry-proven membranes into the most advanced crossflow filtration membranes in the market. These elements are designed to improve energy efficiency, reduce operating cost, increase productivity and decrease contamination risk. They are constructed to withstand harsh chemical cleaning which extends their operating life.

### Sani-Pro Technologies

- Microfiltration (MF)
- Ultrafiltration (UF)
- Nanofiltration (NF)
- Reverse Osmosis (RO)

### Benefits of Sani-Pro Products

- High Productivity
- Energy Efficient Operation
- Blister Resistant
- Long Operating Life
- Robust Construction
- FDA, 3-A, EU, and Halal Compliant



## A Sani-Pro for any Application

	Benefits	Applications	Membrane Type
<b>MF</b>	<ul style="list-style-type: none"> <li>• High Temperature Capability up to 85°C (185°F)</li> <li>• High Flux</li> <li>• BAND-TITE® Construction for Easy Installation and Removal</li> </ul>	<ul style="list-style-type: none"> <li>• Sugar &amp; Sweetener Clarification</li> <li>• Fermentation Broth Clarification</li> </ul>	<ul style="list-style-type: none"> <li>• MFK603 (0.1 micron)</li> <li>• MFK618 (0.1 micron)</li> </ul>
<b>UF</b>	<ul style="list-style-type: none"> <li>• Increased Throughput up to 15%*</li> <li>• Lower Energy Consumption by 25%*</li> <li>• Blister Free</li> <li>• Chlorine Tolerant HpHT</li> </ul>	<ul style="list-style-type: none"> <li>• Plant and Animal-Base Protein Separation</li> <li>• Gelatin, Pectin and Polysaccharide Concentration</li> <li>• Blood Plasma Processing</li> <li>• Extract Purification</li> </ul>	<ul style="list-style-type: none"> <li>• HFK328 (5k)</li> <li>• HFK525 (7.5k)</li> <li>• HFK131 (10k)</li> <li>• HFM140 (70k)</li> </ul>
<b>NF</b>	<ul style="list-style-type: none"> <li>• Lower Energy Consumption by 15%</li> <li>• Blister Resistant</li> <li>• CIP Temperatures up to 60°C (140°F)</li> <li>• BAND-TITE Construction for Easy Installation and Removal</li> </ul>	<ul style="list-style-type: none"> <li>• Protein, Peptide and Protein Hydrolysate Separation</li> <li>• Fermentation Product Concentration and Desalting</li> <li>• Product Purification</li> </ul>	<ul style="list-style-type: none"> <li>• SR3D - 200 Da</li> <li>• SR4 - 150 Da</li> </ul>
<b>RO</b>	<ul style="list-style-type: none"> <li>• Lower Energy Consumption by 15%</li> <li>• Blister Resistant</li> <li>• CIP Temperatures up to 60°C (140°F)</li> <li>• Pressure Capability up to 800 psi (55 bar)</li> <li>• BAND-TITE Construction for Easy Installation and Removal</li> </ul>	<ul style="list-style-type: none"> <li>• Sugar Concentration</li> <li>• Juice Concentration</li> <li>• Amino Acid and Fermentation Product Concentration</li> <li>• UF Permeate Polishing for Water Reuse</li> </ul>	<ul style="list-style-type: none"> <li>• HRX (99.5% NaCl)</li> </ul>

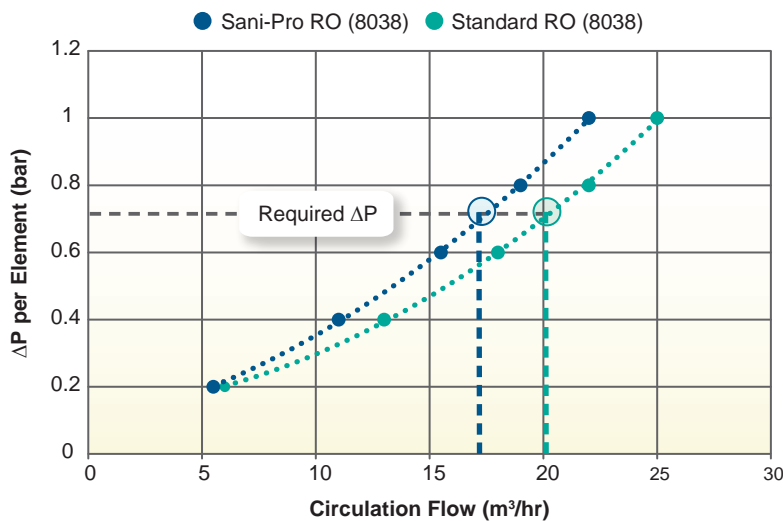
\* Not yet available with HpHT elements.

# Benefits for Every Food and Beverage Process

## Reduced Energy Consumption

Circulation pumps are typically the largest energy consumer in a crossflow membrane system. Sani-Pro® feed-spacers are specially designed to maximize membrane productivity while minimizing circulation flow requirements. Installation of Sani-Pro elements in your system can reduce overall energy consumption by up to 25% for UF and 15% for RO/NF.

## Circulation Flow Comparison



## Increased Productivity

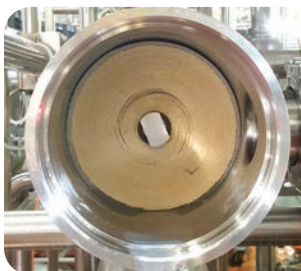
Over the years, KSS has continuously improved the construction techniques used for spiral wound elements. These improvements are rolled into Sani-Pro elements, allowing for increased membrane area, up to +15% productivity improvement, without compromising separation properties.

## Robust Construction with BAND-TITE Straps

BAND-TITE® Technology, consisting of our patented reinforced Teflon bands, prevents element unwinding. This technology is implemented in all Sani-Pro NF and RO elements and in high temperature MF, HpHT elements.

## Benefits of BAND-TITE Technology

- Proper size element diameter for ease of loading and unloading
- Excellent element integrity
- Effective cleaning
- Long membrane life
- No more ineffective cleaning leading to reduced productivity and poor permeate quality
- No more unwinding and channeling



Standard Element



BAND-TITE Element as removed from housing



## 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



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