

FLUID SYSTEMS® RO & NF

High Quality at an Affordable Cost



 **KOVALUS**
Separation Solutions™

High Purity Water Recovery RO and NF Membrane Technology

Over 50 Years of Membrane Experience

KOVALUS SEPARATION SOLUTIONS™ (KSS) is a global leader in membrane filtration technologies with over 50 years of membrane experience. We manufacture our membranes in our state-of-the-art facility in the US and employ them in our systems. Water and wastewater filtration is among our specialties, and our FLUID SYSTEMS® reverse osmosis (RO) and nanofiltration (NF) membranes are ideal solutions for high purity and high recovery applications across a variety of industries.

FLUID SYSTEMS pioneered modern RO technology beginning in 1967 when they developed and patented the first spiral-wound element. This led to the first cellulose acetate RO membrane installation and later the creation of the first multi-leaf spiral element, eventually paving the way for the modern-day thin film composite membrane, TFC™ - now a worldwide industry standard. In 1998, FLUID SYSTEMS became a part of KSS, complementing our portfolio of MBR, MF, and UF technologies for municipal and industrial water and wastewater treatment.

The FLUID SYSTEMS RO and NF Products

Our RO and NF products are available in standard 8" FRP hard overwrap configuration (8040) in standard and high area construction. All products have drinking water certification under NSF/ANSI Standards 61 and 372. We offer a wide range of reverse osmosis and nanofiltration products to serve in municipal and industrial water applications:

- **TFC SW:** High rejection seawater RO membranes for treatment of high TDS industrial streams and seawater desalination
- **TFC HR:** Robust high rejection and low fouling brackish water RO products for consistent operation treating industrial streams and wastewater effluents
- **TFC ULP™:** Ultra low-pressure RO membranes for reduced energy consumption and enhanced efficiency in low-TDS municipal and industrial water and wastewater streams
- **TFC SR:** Low energy NF products for water softening, hardness, and sulfate removal from seawater and removal of organics

Type	KSS Model	Diameter (in)	Membrane Area		Feed Spacer	Salt Rejection (%) ¹
			(ft ²)	(m ²)		
ULP	8040-ULP-400	8	400	37.2	28	99.2
	8040-ULP-400-34		400	37.2	34	
	8040-ULP-440-28		440	40.9	28	
	8040-ULP-HF-400		400	37.2	28	
HR	8040-HR-400	8	400	37.2	28	99.5
	8040-HR-400-34		400	37.2	34	
	8040-HR-440-28		440	40.9	28	
SW	8040-SW-400	8	400	37.2	28	99.7
	8040-SW-400-34		400	37.2	34	
	8040-SW-440-28		440	40.9	28	
	8040-HF-400		400	37.2	28	
SR	8040-SR-400	8	400	37.2	28	99.4
	8040-SR-375		375	34.8	31	

Notes:

(1) 2000 mg/L NaCl for ULP, HR and SW membrane types; 5000 mg/L MgSO₄ for SR membrane type.

(2) 4" elements are available upon request.

Comprehensive Solutions

RO and NF System Offering

KSS pre-engineered, packaged RO and NF membrane systems allow for optimal water and wastewater treatment within a compact, skid-mounted package. These standard packaged plants come complete with all necessary equipment for quick and easy installation. We also offer modular systems without auxiliary equipment for larger projects. Our team of highly experienced engineers can design and build custom systems to meet your specifications, including high recovery options to optimize yields and reduce waste.

Both our packaged and custom system offerings provide a flexible, cost-effective design with lower auxiliary equipment costs, fast installation and start-up, and production of high-quality permeate water.



Benefits of KSS RO Systems

- Proven performance record in the most demanding applications
- Compact design
- High recovery option, up to 95%
- Simple to operate, reliable and dependable
- Supported by an experienced team of application, process, and field engineers

Common Applications of FLUID SYSTEMS® RO and NF Systems

RO and NF membrane technology is found in virtually every manufacturing process from food, beverage, and dairy markets to automotive, pulp & paper, textile, and municipal markets.

- Industrial water and wastewater
- Municipal water and wastewater
- Wastewater treatment for reuse
- Polishing of UF or MF permeate
- Production of high purity, deionized water
- Brackish water treatment
- Seawater desalination



KOVALUS SEPARATION SOLUTIONS

KOVALUS 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

After-Sales Services & Maintenance Programs • SepTrac™ Smart System



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KOVALUS
Separation Solutions™

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