

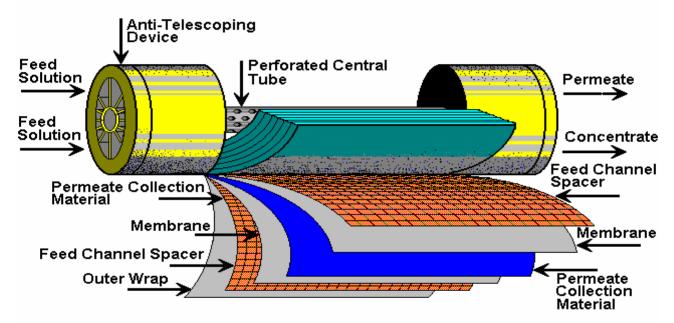
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FOOD AND BEVERAGE APPLICATION PRODUCT CONCENTRATION & RECOVERY

BENEFITS OF ESMIL PROCESS SYSTEMS MEMBRANE SYSTEMS

Membrane systems supplied by Esmil Process Systems have the following in benefits:

- Robust polyamide and polysulphone construction
- Low fouling ultra-smooth 3 layer membrane
- High surface area
- Easy-clean construction enabling high / low pH CIP
- Sanitary specification enabling high temperature sterilization



Spiral-wound element: A closer look

Membrane Type	Rejection
Microfiltration	Suspended Particles
Ultra-filtration	Macromolecules Protein Starch
Nano-filtration	Sugars Divalent Ions
Reverse Osmosis	Monovalent Ions BOD / COD



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FOOD & BEVERAGE INDUSTRY

BENEFIT SUMMARY

APPLICATION	Technology	ADVANTAGES
Fat Removal	MF Membranes	Removes soluble and emulsified fats Removes lubricating oils
Dextrose Clarification	MF / UF Membranes	Less than 1 micron filters More efficient than media filters
Colour Removal	UF / NF Membranes	Removes soluble metals Removes organics No chemicals required
Starch & Sugar Concentration	R0 Membranes	High temperature operation
Polishing Evaporator Concentrate	UF Membranes	High temperature operation