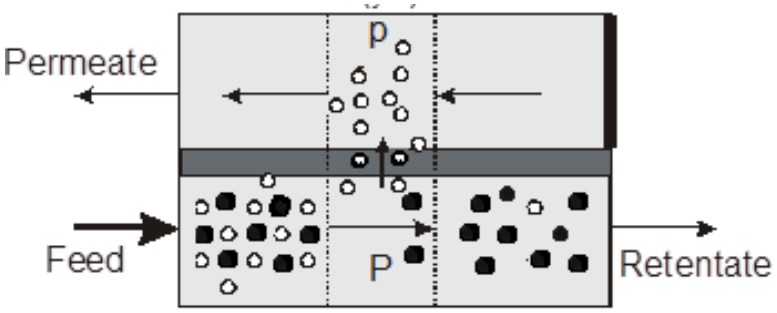
LEMAR INDUSTRIES, Inc.

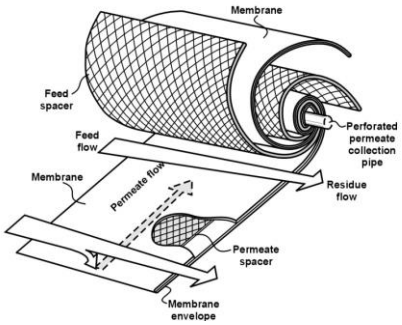
NANOFILTRATION MEMBRANE CBD

FOR FILTRATION AND CONCENTRATION.

To purify the final product requires removal of impurities, such as: water, chlorophyll, etc. and removal of solvent. Novel technology - Nanofiltration (NF) - is a relatively recent membrane filtration process, where the separation done allowing lower molecular size materials to go through Nano size pores where larger ones left outside.

Nanofiltration membrane available in three molecular weight cut offs at present; 100-150 Dalton; 200-300 Dalton; 300-400 Dalton; 600-800 Dalton.





Nano membranes allow to purify and concentrate CBD oil in three stages: 1st - Remove chlorophyll, wax and lipids; 2nd - Ethanol Removal; 3rd - Molecular Distillation in Wiped Film Type Distillation Column or Column Chromatography.

NANOFILTRATION MEMBRANES ARE:

1. Alcohol Stable
2. High temperature stable
3. Net outer wrap for sanitary application

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COMPARISON DISTILLATION VS MEMBRANE SEPARATION

	DISTILLATION	MEMBRANE
Temperature	High	Low
Product Quality	May be lower	Highest
Solvent Extraction	88%	94%
Energy Consumption	High (heating needed)	Low (no heating needed)
Materials Change	Absorption Materials when clogged.	Membranes every 18 months
CAPEX	The same	The same
OPEX	Higher due to cost of materials (clay, silica or carbon, etc.)	Less 30% in cost of materials
Maintenance	More	Less

LeMar designs and build complexes as per customer application for capacity and space.