Stainless Steel Ultrafiltration: Raw Dairy Manure

Rev. 1.5

Technology Description:

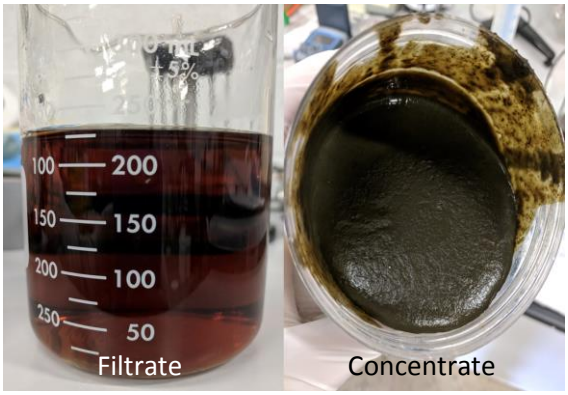
- Porous stainless-steel tubular membranes (3/4”) with internal titanium dioxide coating for abrasion resistance
- Robust design handles high temperatures, high solids, high viscosities, and extremes in pH
- Cleans quickly using standard chemistries
- Welded and bolted construction in ASME pressure vessel
- Designed to last 10-15 years in challenging applications with little downtime, maintenance, or repair
- No internal moving parts with one external centrifugal pump
- Can operate in batch-mode or continuously and be mounted horizontally or vertically
- Proudly manufactured in the USA

Performance

- Solids-laden liquids are readily filtered, producing a transparent liquid filtrate and concentrated product
- Removes nearly all suspended solids, phosphorus, oils, bacteria/pathogens, and a large fraction of organic matter
- Permeate recoveries as high as 90%

Data from filtering raw liquid dairy manure after screw-pressing (lbs/1000 gal):

Parameter	Feed	Filtrate	Conc.	Removal
Dry Matter (%)	4.7	0.9	19.1	82%
Total Nitrogen	24.1	7.5	61.4	69%
Phosphorus (P2O5)	9.4	0.4	50.2	96%
Potassium (K2O)	19.9	11.4	21.7	43%
Sulfur	3.4	1.7	7.5	49%



Facility Benefits

- Manure can be filtered to create low phosphorus tea-water (filtrate) and concentrated fertilizer (concentrate)
- Reduce manure hauling/spreading costs while optimizing nutrient application and uptake
- Opportunities to capture phosphorus and carbon credits through improved management
- Opportunity to use pathogen-free and solids-free filtrate for sand washing or flushing

Please call us today for a customized quotation and to learn more about our pilot testing services.