DTRO MEMBRANE MODULE FOR FOOD & BEVERAGE INDUSTRY

SANITARY DESIGN

Membrane processes are extensively used in the food industry, especially in the dairy, wine and beer, fruit juice, and sugar industries.

In the dairy industry, removal of bacteria and spores from skim milk (cold pasteurization), separation of casein micelles, separation and fractionation of fat globules from whole milk, concentration and demineralization of whey and milk ultrafiltration permeate, fractionation of whey proteins, and desalination of whey membrane processes are realized by membrane processes.

In the wine and beer industry, cross-flow of wines and beer clarification and stabilization of wines by electrodialysis are of common use. Fruit juice processing involves clarification, concentration, and deacidification.

In the sugar industry, purification and demineralization are realized by membrane processes.

Disk-Tube Reverse Osmosis (DTRO) in Food & Beverage Processing

Disc Tube module offers numerous advantages over traditional spiral or tubular membrane modules. Including open-channel structure, low risk of blockage or crystallization, easy maintenance.

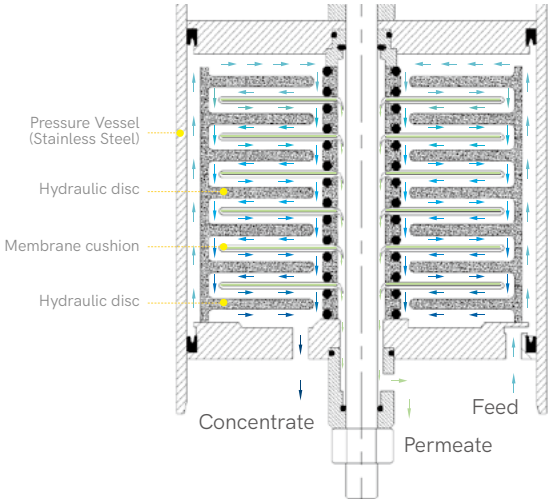
Reverse Osmosis, due to its consistency and high-quality results, it is well known applied for concentration of fruits and vegetable juices, pre-concentration of milk and whey, and dealcoholization of alcoholic beverage.

This FDA standard DTRO (Disk-Tube Reverse Osmosis) membrane components have excellent anti fouling performance and are specifically designed for concentration and purification for food and beverage processing.

Sanitary DTRO Module

UNISOL's food grade DTRO membrane components are low-cost solutions for food concentration, such as coffee concentration. The product has high desalination rate, water flux, COD retention rate, and strong pollution resistance. It can adapt to various high concentration and difficult concentration conditions, and operates economically and efficiently.

With this product, the combination of DTRO with other membrane filtration systems well contributes in redesigning the traditional processing of food and beverages within the logic of the process intensification strategy. with remarkable benefits in terms of product quality, plant compactness, environmental impact, and energetic aspects.



Top

Bottom

SS316L Stainless Steel Design

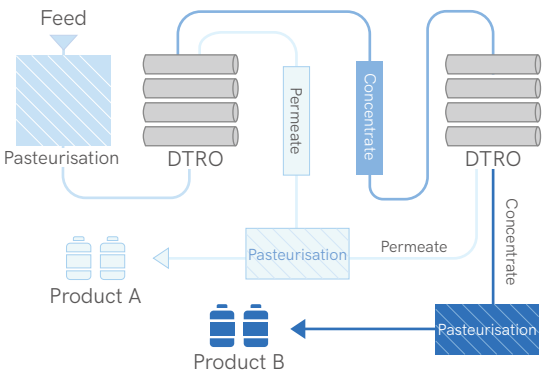
The SS316L is highly resistant to acids. It has good resistance to the attack of organic products and withstands the attack of bases, including sodium hydroxide solutions which is a common cleaning agent in CIP processes and can be repeatedly sterilized without degrading the material.

Specification

Max. Operating Pressure	70bar
Effective Membrane Area	9.405m^2
Temperature Max	45°C
pH Range	3-11 (Operating), 2-12 (CIP)
Wet Weight	110kg
Rejection	99%
Flux	>250L/H

Applications

- Food & beverage purification and concentration.
- High magnification concentration of materials.



Advantages

- Open flow channel, more suitable for complex feed concentration.
- Strong pollution resistance. Long membrane life.
- Module can be opened, easy to maintenance.
- No physical clogging, minimal level of membrane fouling and scaling. Easy to clean and keep clean.
- Each membranes can be replaced separately. Low cost of membrane element replacement.
- High recovery rate and low energy consumption.
- Sanitary and hygienic design, safe for food processing.
- Food safety and regulatory compliance.

UNISOL Membrane Technology

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