

Global Market for Membrane Microfiltration

Market Research Report | 2023-04-27 | 191 pages | BCC Research

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Report description:

Description

Report Scope:

This report covers the technological, economic and business considerations of the microfiltration membrane market, with analyses and forecasts provided for global markets. Included in the report are descriptions of market forces relevant to the ultrafiltration membrane market and their areas of application.

Global markets are presented by type of microfiltration membrane along with growth forecasts through 2027. Estimates on sales value are based on the price in the supply chain at which the membranes are procured by the manufacturers.

Market-driving forces and industry structure are examined. International aspects are analyzed for all world regions and types of microfiltration membranes. Brief profiles of major global manufacturers are presented.

The COVID-19 pandemic affected the progress of economies across the world. In addition to taking measures to lock down their respective countries to contain the spread of the coronavirus, especially in affected cities, various governments across the world took measures necessary to contain the economic slowdown.

Report Includes:

- 125 data tables and 35 additional tables
- An overview of the global market for membrane microfiltration
- Estimation of the market size and analyses of market trends, with data from 2021, 2022, and projections of compound annual growth rates (CAGRs) through 2027

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- Explanation of market drivers, restraints and other forces impacting the global market
- Detailed description of filtration mechanism, filtration categories, microfiltration history, and other process
- Information on MF membrane products by the major applications of the technology: food and beverage processing, biopharmaceuticals manufacture, potable water production, wastewater treatment, industrial processes, and semiconductor fabrication
- Discussion of pricing considerations, R&D, government regulations and competitive technologies
- Coverage of events like mergers & acquisitions, joint ventures, collaborations or partnerships, and other key market strategies and a relevant patent analysis
- Company profiles of major players within the industry, including 3M, Merck KGaA, Mitsubishi Chemical Corp., and Toray Industries Inc.

Executive Summary

Summary:

Microfiltration is a type of membrane filtration wherein forces such as pressure or concentration gradients proceed through a semipermeable membrane to isolation. Microfiltration membranes require less energy consumption for semi dead-end set-up, compared to nano-filtration or reverse osmosis. Also, the pressure required in microfiltration membranes is much lesser than other membranes due to larger pore size. The demand of microfiltration membrane is high in industrial water treatment because it does not require energy-consuming phase transfer such as the evaporation technique.

Different type of modules can be used for microfiltration processes depending on the shape and material of the membrane. Commercial designs that are available for microfiltration modules differ depending on the hydrodynamic and economic constraints and the mechanical stability of the device under operating pressure. The microfiltration modules used in the industry are -

- Tubular modules.
- Hollow fiber.
- Spiral-wound modules.
- Flat sheet.

These membranes are widely used in a range of industries including water treatment, food and beverage processing, pharmaceutical manufacturing, and biotechnology.

One of the most common applications of microfiltration membranes is in water treatment. In this process, the membranes are used to remove suspended solids, bacteria, and other contaminants from water. Microfiltration membranes are particularly useful in the treatment of surface waters and wastewaters, as they can remove a wide range of contaminants without the use of chemicals.

In food and beverage processing, microfiltration membranes are used to remove bacteria, yeast, and other microorganisms from liquids such as milk, beer, and wine. This process is important for ensuring the safety and quality of these products, as well as for extending their shelf life.

In the pharmaceutical industry, microfiltration membranes are used to purify drugs and other pharmaceutical products. The membranes can remove bacteria, viruses, and other contaminants from the products, ensuring their safety and efficacy.

In biotechnology, microfiltration membranes are used for cell separation and clarification. The membranes can remove cells and other particles from culture fluids, allowing for the production of pure cell cultures and other biotechnology products.

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Overall, the use of microfiltration membranes has many advantages over other filtration technologies. These membranes operate at low pressures, which results in low energy consumption and operational costs. They are also highly effective in removing particles and microorganisms from fluids, and do not require chemical agents or extensive pre-treatment of the fluid being filtered.

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3M

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DONALDSON COMPANY INC.

EVOQUA WATER TECHNOLOGIES LLC

KOCH SEPARATION SOLUTIONS

MANN+HUMMEL

MERCK KGAA

MITSUBISHI CHEMICAL CORP.

PALL CORP.

PENTAIR

SARTORIUS AG

SYNDER FILTRATION INC.

TORAY INDUSTRIES INC.

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