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Global Membrane Separation Technologies

March 2019



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About This Report

Scope

This report forecasts to 2023 global demand for membranes by product, market, and major world region in nominal US dollars at the manufacturer level. Product segments include:

- microfiltration
- ultrafiltration
- reverse osmosis
- other membranes such as nanofiltration, electrodialysis, and pervaporation

Reported markets encompass:

- water treatment
- wastewater treatment
- food and beverage processing
- pharmaceutical and medical
- other markets such as chemical processing, commercial and consumer water treatment, and electronics processing

Major world regions include North America, Western Europe, the Asia/Pacific region, and all other regions.

To illustrate historical trends, world, product, market, and regional demand (including product and market segments) are provided for 2008, 2013, and 2018.

This report covers the global market for membranes, which are permeable surfaces with pore sizes of less than 10 micrometers (μm). Only the membrane elements themselves are included in the scope of this report; membrane filtration units and other related equipment are excluded. Conventional particle filtration (i.e., filters with pore sizes greater than 10 μm) are also excluded.

Demand encompasses the sale of a membrane element from the manufacturer to distributors or end users. Additional markups due to the inclusion of the membrane in a larger system or from related services are excluded.

For any given historical year, US dollar amounts are obtained from values expressed in the applicable local currency. These local currency values are converted to US dollars at the average annual exchange rate for that year. For forecast years, the US dollar amounts assume the same annual exchange rate as that prevailing in 2018.

Other various topics, including profiles of pertinent leading suppliers, are covered in this report. A full outline of report items by page is available in the Table of Contents.

Sources

Global Membrane Separation Technologies (FW35047) is based on a [comprehensive industry study](#) published by The Freedonia Group. Reported findings represent the synthesis and analysis of data from various primary, secondary, macroeconomic, and demographic sources, such as:

- firms participating in the industry, and their suppliers and customers
- government/public agencies
- intergovernmental and non-governmental organizations
- trade associations and their publications
- the business and trade press
- indicator forecasts by The Freedonia Group
- the findings of other reports and studies by The Freedonia Group

Specific sources and additional resources are listed in the Resources section of this publication for reference and to facilitate further research.

Industry Codes

Table 9 | NAICS & SIC Codes Related to Membranes

NAICS/SCIAN 2007		SIC	
North American Industry Classification System		Standard Industrial Classification	
325188	All Other Basic Inorganic Chemical Manufacturing	2819	Industrial Inorganic Chemicals, NEC
325211	Plastics Material and Resin Manufacturing	2821	Plastics Materials, Synthetic Resins, and Nonvulcanizable Elastomers
325212	Synthetic Rubber Manufacturing	2822	Synthetic Rubber (Vulcanizable Elastomers)
325220	Artificial and Synthetic Fibers and Filaments Manufacturing	2823	Cellulosic Manmade Fibers
325221	Cellulosic Organic Fiber Manufacturing	2824	Noncellulosic Manmade Fibers
325222	Noncellulosic Organic Fiber Manufacturing	2830	Chemicals & Allied Products
325414	Biological Product (except Diagnostic) Manufacturing	2836	Biological Products, Except Diagnostic Substances
327110	Pottery, Ceramics, and Plumbing Fixture Manufacturing	3496	Miscellaneous Fabricated Wire Products
332618	Other Fabricated Wire Product Manufacturing		
333318	Other Commercial and Service Industry Machinery Manufacturing		
333999	All Other Miscellaneous General Purpose Machinery Manufacturing		

Source: US Census Bureau

About This Report

Table 10 | HS Codes Related to Membranes

HS Code	Definition
8421	Centrifuges, including centrifugal dyers; filtering or purifying machinery and apparatus, for liquids or gases; parts thereof

Source: United Nations Statistics Division

Table 11 | NACE Codes Related to Membranes

NACE Code	Definition
2229	Manufacture of other plastic products
2344	Manufacture of other technical ceramic products
2893	Manufacture of machinery for food, beverage and tobacco processing
2899	Manufacturing of other special-purpose machinery, NEC

Source: European Commission

Freedonia Methodology

The Freedonia Group, a subsidiary of MarketResearch.com, has been in business for more than 30 years and in that time has developed a comprehensive approach to data analysis that takes into account the variety of industries covered and the evolving needs of our customers.

Every industry presents different challenges in market sizing and forecasting, and this requires flexibility in methodology and approach. Freedonia methodology integrates a variety of quantitative and qualitative techniques to present the best overall picture of a market's current position as well as its future outlook: When published data are available, we make sure they are correct and representative of reality. We understand that published data often have flaws either in scope or quality, and adjustments are made accordingly. Where no data are available, we use various methodologies to develop market sizing (both top-down and bottom-up) and then triangulate those results to come up with the most accurate data series possible. Regardless of approach, we also talk to industry participants to verify both historical perspective and future growth opportunities.

Methods used in the preparation of Freedonia market research include, but are not limited to, the following activities: comprehensive data mining and evaluation, primary research, consensus forecasting and analysis, ratio analysis using key indicators, regression analysis, end use growth indices and intensity factors, purchase power parity adjustments for global data, consumer and end user surveys, market share and corporate sales analysis, product lifespan analysis, product or market life cycle analysis, graphical data modeling, long-term historical trend analysis, bottom-up and top-down demand modeling, and comparative market size ranking.

About This Report

Freedonia quantifies trends in various measures of growth and volatility. Growth (or decline) expressed as an average annual growth rate (AAGR) is the least squares growth rate, which takes into account all available datapoints over a period. The volatility of datapoints around a least squares growth trend over time is expressed via the coefficient of determination, or r^2 . The most stable data series relative to the trend carries an r^2 value of 1.0; the most volatile – 0.0. Growth calculated as a compound annual growth rate (CAGR) employs, by definition, only the first and last datapoints over a period. The CAGR is used to describe forecast growth, defined as the expected trend beginning in the base year and ending in the forecast year. Readers are encouraged to consider historical volatility when assessing particular annual values along the forecast trend, including in the forecast year.

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Resources

The Freedonia Group

Global Membrane Separation Technologies

Freedonia Industry Studies

Consumer Water Treatment Systems in the US

Food Safety Products in the US

Global Activated Carbon

Global Aquaculture: Feed, Equipment, & Chemicals

Global Consumer Water Treatment Systems

Global Nonwovens

Global Pumps Market

Global Water Disinfection Equipment Market

Global Water Filtration Equipment Markets

Pipe: Products & Markets

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Beverages: United States

Food Retail: United States

Global Consumer Water Treatment Systems

Healthcare: United States

Pharmaceuticals: United States

Potable Water Pipe: United States

Water: United States

World Air & Fluid Filters

Freedonia Custom Research

Trade Publications

Beverage Industry

Filtration + Separation

Filtration News

Food Processing

Process Industry Informer

Processing Magazine

Treatment Plant Operator

Water & Wastewater News

Water Conditioning and Purification

Water Desalination + Reuse

Water Online

Water Technology

WaterWorld

Agencies & Associations

American Membrane Technology Associations
American Water Works Association
Caribbean Desalination Association
Eurostat
International Desalination Association
International Monetary Fund
North American Membrane Society
Organisation for Economic Co-operation and Development
Russian Membrane Network
Southeast Desalting Association
United Nations Comtrade
United States Census Bureau
United States International Trade Commission
Water Quality Association
World Association of Membrane Societies
World Bank