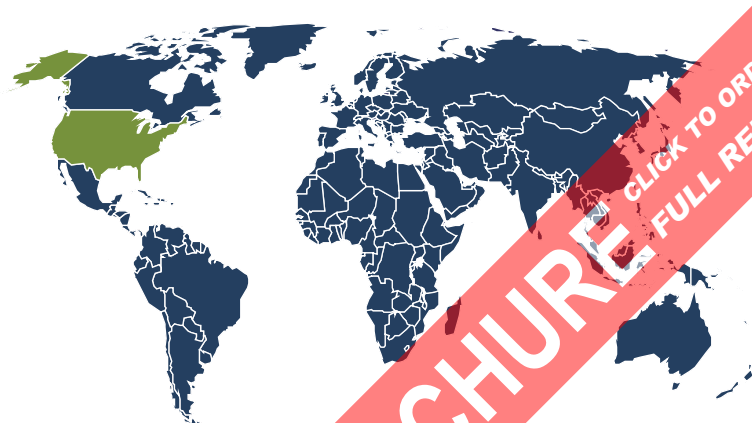




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# Membrane Separation Technologies: United States

March 2019



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# Table of Contents

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<b>1. Highlights</b>	<b>3</b>
<b>2. Market Environment</b>	<b>4</b>
Historical Trends	4
Key Economic Indicators	5
Technology	6
Environmental & Regulatory Factors	9
North America Regional Outlook	11
<b>3. Segmentation &amp; Forecasts</b>	<b>13</b>
Products	13
Microfiltration	14
Reverse Osmosis	15
Ultrafiltration	16
Other Membranes	16
Markets	19
Water Treatment	20
Food & Beverage Processing	21
Wastewater Treatment	21
Pharmaceutical & Medical	22
Other Markets	22
<b>4. Industry Structure</b>	<b>24</b>
Industry Characteristics	24
Market Leaders	25
Danaher	26
Merck	27
SUEZ	27
<b>5. About This Report</b>	<b>28</b>
Scope	28
Sources	28
Industry Codes	29
Freedonia Methodology	29
Resources	31

# List of Tables & Figures

---

Figure 1   Key Trends in the US Membrane Market, 2018 – 2023	3
Figure 2   US Membrane Demand Trends, 2008 – 2018	4
Table 1   Key Indicators for US Membrane Demand, 2008 – 2023 (US\$ bil)	5
Table 2   Advantages & Disadvantages of Membrane Separation Technologies	7
Figure 3   North America Membrane Demand by Country, 2018 (%)	11
Figure 4   US Membrane Demand by Product, 2008 – 2023 (US\$ mil)	13
Table 3   US Membrane Demand by Product, 2008 – 2023 (US\$ mil)	13
Figure 5   US Membrane Demand by Product, 2008 – 2023 (%)	18
Figure 6   US Membrane Demand by Market, 2008 – 2023 (US\$ mil)	19
Table 4   US Membrane Demand by Market, 2008 – 2023 (US\$ mil)	19
Figure 7   US Membrane Demand by Market, 2008 – 2023 (%)	23
Table 5   Selected Suppliers to the US Membrane Market	26
Table 6   NAICS & SIC Codes Related to Membranes	29

# About This Report

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## Scope

This report forecasts to 2023 US membrane demand in nominal US dollars at the manufacturer level. Total demand is segmented by product in terms of:

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

Total demand is also segmented by market as follows:

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

To illustrate historical trends, total demand is provided in annual series from 2008 to 2018; the various segments are reported at five-year intervals for 2008, 2013, and 2018.

This report covers the market for membranes, which are permeable surfaces with pore sizes of less than 10 micrometers ( $\mu\text{m}$ ). 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  $\mu\text{m}$ ) 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.

Key macroeconomic indicators are also provided with quantified trends. 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

*Membrane Separation Technologies: United States* (FF35047) is based on [Global Membrane Separation Technologies](#), a comprehensive industry study published by The Freedonia

## About This Report

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 6 | 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

## 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.

## About This Report

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.

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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*Consumer Water Treatment Systems: United States*

*Food Retail: United States*

*Healthcare: United States*

*Pharmaceuticals: United States*

*Potable Water Pipe: United States*

*Water: United States*

### 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  
International Desalination Association  
North American Membrane Society  
Southeast Desalting Association  
United States Census Bureau  
United States Environmental Protection Agency  
United States Food and Drug Administration  
United States International Trade Commission  
Water Quality Association  
World Association of Membrane Societies