

# Global Fluorine-Free Proton Exchange Membrane Market Growth 2026-2032

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## Abstracts

The global Fluorine-Free Proton Exchange Membrane market size is predicted to grow from US\$ 9.39 million in 2025 to US\$ 27.74 million in 2032; it is expected to grow at a CAGR of 17.6% from 2026 to 2032.

A fluorine-free proton exchange membrane is a type of polymer membrane that does not contain fluorine and can conduct protons in fuel cells or water electrolysis systems. These membranes typically offer high ionic conductivity, good mechanical strength, and chemical resistance, while avoiding the high cost and environmental concerns of fluorinated membranes.

The global production of fluorine-free proton exchange membranes is projected to reach 8,000 square meters by 2025, with an average price of US\$1,200 per square meter.

Fluorine-free proton exchange membranes are polymer membranes that do not contain fluorine, used in fuel cells and water electrolysis systems to conduct protons while separating electrochemical reactions. The upstream mainly includes monomer suppliers, polymer manufacturers, and membrane processing companies, with key materials typically consisting of fully fluorine-substituted polymers, aromatic polymers, or sulfonated polymers. The downstream applications focus on hydrogen fuel cell vehicles, portable fuel cells, stationary distributed energy systems, and water electrolysis units, where high requirements exist for proton conductivity, chemical resistance, thermal stability, and mechanical strength.

The development trend of fluorine-free proton exchange membranes focuses on increasing proton conductivity, reducing production costs, enhancing durability, optimizing membrane thickness and structure, and achieving scalable industrial

production. Driving factors include rapid growth of the global hydrogen and fuel cell markets, environmental regulations limiting fluorinated materials, cost pressures, and increasing demand for high-performance fuel cells. Challenges include long R&D cycles for new polymers, complex membrane fabrication, insufficient durability and chemical stability validation, and compatibility issues with existing systems. Gross margins are relatively high, around 30% to 45%, due to the technical barrier of high-performance membranes, but may gradually decline as technology matures and production scales up.

LP Information, Inc. (LPI) ' newest research report, the “Fluorine-Free Proton Exchange Membrane Industry Forecast” looks at past sales and reviews total world Fluorine-Free Proton Exchange Membrane sales in 2025, providing a comprehensive analysis by region and market sector of projected Fluorine-Free Proton Exchange Membrane sales for 2026 through 2032. With Fluorine-Free Proton Exchange Membrane sales broken down by region, market sector and sub-sector, this report provides a detailed analysis in US\$ millions of the world Fluorine-Free Proton Exchange Membrane industry.

This Insight Report provides a comprehensive analysis of the global Fluorine-Free Proton Exchange Membrane landscape and highlights key trends related to product segmentation, company formation, revenue, and market share, latest development, and M&A activity. This report also analyzes the strategies of leading global companies with a focus on Fluorine-Free Proton Exchange Membrane portfolios and capabilities, market entry strategies, market positions, and geographic footprints, to better understand these firms' unique position in an accelerating global Fluorine-Free Proton Exchange Membrane market.

This Insight Report evaluates the key market trends, drivers, and affecting factors shaping the global outlook for Fluorine-Free Proton Exchange Membrane and breaks down the forecast by Type, by Application, geography, and market size to highlight emerging pockets of opportunity. With a transparent methodology based on hundreds of bottom-up qualitative and quantitative market inputs, this study forecast offers a highly nuanced view of the current state and future trajectory in the global Fluorine-Free Proton Exchange Membrane.

This report presents a comprehensive overview, market shares, and growth opportunities of Fluorine-Free Proton Exchange Membrane market by product type, application, key manufacturers and key regions and countries.

Segmentation by Type:

Aromatic Heterocyclic Compounds

Polyolefins

Composites

Others

#### Segmentation by Preparation Process:

Solution Casting

Coating

In-Situ Polymerization

Electrospinning

Chemical Grafting

#### Segmentation by Proton-Conducting Groups:

Sulfonic Acid Group (-SO<sub>3</sub>H)

Phosphoric Acid Group (-PO<sub>3</sub>H<sub>2</sub>)

Basic Nitrogen-Containing Group

Others

#### Segmentation by Application:

Fuel Cells

Water Electrolysis Hydrogen Production

Electrochemical Separation

Energy Storage Systems

This report also splits the market by region:

#### Americas

United States

Canada

Mexico

Brazil

#### APAC

China

Japan

Korea

Southeast Asia

India

Australia

#### Europe

Germany

France

UK

Italy

Russia

Middle East & Africa

Egypt

South Africa

Israel

Turkey

GCC Countries

The below companies that are profiled have been selected based on inputs gathered from primary experts and analysing the company's coverage, product portfolio, its market penetration.

Ionomr

Cellfion

PBI Performance Products

Advent Technologies

Blue World Technologies

FuMA-Tech

Key Questions Addressed in this Report

What is the 10-year outlook for the global Fluorine-Free Proton Exchange Membrane market?

What factors are driving Fluorine-Free Proton Exchange Membrane market growth, globally and by region?

Which technologies are poised for the fastest growth by market and region?  
How do Fluorine-Free Proton Exchange Membrane market opportunities vary by end market size?  
How does Fluorine-Free Proton Exchange Membrane break out by Type, by Application?

## Contents

### 1 SCOPE OF THE REPORT

- 1.1 Market Introduction
- 1.2 Years Considered
- 1.3 Research Objectives
- 1.4 Market Research Methodology
- 1.5 Research Process and Data Source
- 1.6 Economic Indicators
- 1.7 Currency Considered
- 1.8 Market Estimation Caveats

### 2 EXECUTIVE SUMMARY

#### 2.1 World Market Overview

- 2.1.1 Global Fluorine-Free Proton Exchange Membrane Annual Sales 2021-2032
- 2.1.2 World Current & Future Analysis for Fluorine-Free Proton Exchange Membrane by Geographic Region, 2021, 2025 & 2032
- 2.1.3 World Current & Future Analysis for Fluorine-Free Proton Exchange Membrane by Country/Region, 2021, 2025 & 2032

#### 2.2 Fluorine-Free Proton Exchange Membrane Segment by Type

- 2.2.1 Aromatic Heterocyclic Compounds
- 2.2.2 Polyolefins
- 2.2.3 Composites
- 2.2.4 Others
- 2.2.5 Fluorine-Free Proton Exchange Membrane Sales by Type
  - 2.2.5.1 Global Fluorine-Free Proton Exchange Membrane Sales Market Share by Type (2021-2026)
  - 2.2.5.2 Global Fluorine-Free Proton Exchange Membrane Revenue and Market Share by Type (2021-2026)
  - 2.2.5.3 Global Fluorine-Free Proton Exchange Membrane Sale Price by Type (2021-2026)

#### 2.3 Fluorine-Free Proton Exchange Membrane Segment by Preparation Process

- 2.3.1 Solution Casting
- 2.3.2 Coating
- 2.3.3 In-Situ Polymerization
- 2.3.4 Electrospinning
- 2.3.5 Chemical Grafting

### 2.3.6 Fluorine-Free Proton Exchange Membrane Sales by Preparation Process

2.3.6.1 Global Fluorine-Free Proton Exchange Membrane Sales Market Share by Preparation Process (2021-2026)

2.3.6.2 Global Fluorine-Free Proton Exchange Membrane Revenue and Market Share by Preparation Process (2021-2026)

2.3.6.3 Global Fluorine-Free Proton Exchange Membrane Sale Price by Preparation Process (2021-2026)

### 2.4 Fluorine-Free Proton Exchange Membrane Segment by Proton-Conducting Groups

2.4.1 Sulfonic Acid Group (-SO<sub>3</sub>H)

2.4.2 Phosphoric Acid Group (-PO<sub>3</sub>H<sub>2</sub>)

2.4.3 Basic Nitrogen-Containing Group

2.4.4 Others

2.4.5 Fluorine-Free Proton Exchange Membrane Sales by Proton-Conducting Groups

2.4.5.1 Global Fluorine-Free Proton Exchange Membrane Sales Market Share by Proton-Conducting Groups (2021-2026)

2.4.5.2 Global Fluorine-Free Proton Exchange Membrane Revenue and Market Share by Proton-Conducting Groups (2021-2026)

2.4.5.3 Global Fluorine-Free Proton Exchange Membrane Sale Price by Proton-Conducting Groups (2021-2026)

### 2.5 Fluorine-Free Proton Exchange Membrane Segment by Application

2.5.1 Fuel Cells

2.5.2 Water Electrolysis Hydrogen Production

2.5.3 Electrochemical Separation

2.5.4 Energy Storage Systems

2.5.5 Fluorine-Free Proton Exchange Membrane Sales by Application

2.5.5.1 Global Fluorine-Free Proton Exchange Membrane Sale Market Share by Application (2021-2026)

2.5.5.2 Global Fluorine-Free Proton Exchange Membrane Revenue and Market Share by Application (2021-2026)

2.5.5.3 Global Fluorine-Free Proton Exchange Membrane Sale Price by Application (2021-2026)

## 3 GLOBAL BY COMPANY

### 3.1 Global Fluorine-Free Proton Exchange Membrane Breakdown Data by Company

3.1.1 Global Fluorine-Free Proton Exchange Membrane Annual Sales by Company (2021-2026)

3.1.2 Global Fluorine-Free Proton Exchange Membrane Sales Market Share by Company (2021-2026)

### 3.2 Global Fluorine-Free Proton Exchange Membrane Annual Revenue by Company (2021-2026)

#### 3.2.1 Global Fluorine-Free Proton Exchange Membrane Revenue by Company (2021-2026)

#### 3.2.2 Global Fluorine-Free Proton Exchange Membrane Revenue Market Share by Company (2021-2026)

### 3.3 Global Fluorine-Free Proton Exchange Membrane Sale Price by Company

### 3.4 Key Manufacturers Fluorine-Free Proton Exchange Membrane Producing Area Distribution, Sales Area, Product Type

#### 3.4.1 Key Manufacturers Fluorine-Free Proton Exchange Membrane Product Location Distribution

#### 3.4.2 Players Fluorine-Free Proton Exchange Membrane Products Offered

### 3.5 Market Concentration Rate Analysis

#### 3.5.1 Competition Landscape Analysis

#### 3.5.2 Concentration Ratio (CR3, CR5 and CR10) & (2024-2026)

### 3.6 New Products and Potential Entrants

### 3.7 Market M&A Activity & Strategy

## **4 WORLD HISTORIC REVIEW FOR FLUORINE-FREE PROTON EXCHANGE MEMBRANE BY GEOGRAPHIC REGION**

### 4.1 World Historic Fluorine-Free Proton Exchange Membrane Market Size by Geographic Region (2021-2026)

#### 4.1.1 Global Fluorine-Free Proton Exchange Membrane Annual Sales by Geographic Region (2021-2026)

#### 4.1.2 Global Fluorine-Free Proton Exchange Membrane Annual Revenue by Geographic Region (2021-2026)

### 4.2 World Historic Fluorine-Free Proton Exchange Membrane Market Size by Country/Region (2021-2026)

#### 4.2.1 Global Fluorine-Free Proton Exchange Membrane Annual Sales by Country/Region (2021-2026)

#### 4.2.2 Global Fluorine-Free Proton Exchange Membrane Annual Revenue by Country/Region (2021-2026)

### 4.3 Americas Fluorine-Free Proton Exchange Membrane Sales Growth

### 4.4 APAC Fluorine-Free Proton Exchange Membrane Sales Growth

### 4.5 Europe Fluorine-Free Proton Exchange Membrane Sales Growth

### 4.6 Middle East & Africa Fluorine-Free Proton Exchange Membrane Sales Growth

## **5 AMERICAS**

- 5.1 Americas Fluorine-Free Proton Exchange Membrane Sales by Country
  - 5.1.1 Americas Fluorine-Free Proton Exchange Membrane Sales by Country (2021-2026)
  - 5.1.2 Americas Fluorine-Free Proton Exchange Membrane Revenue by Country (2021-2026)
- 5.2 Americas Fluorine-Free Proton Exchange Membrane Sales by Type (2021-2026)
- 5.3 Americas Fluorine-Free Proton Exchange Membrane Sales by Application (2021-2026)
- 5.4 United States
- 5.5 Canada
- 5.6 Mexico
- 5.7 Brazil

## **6 APAC**

- 6.1 APAC Fluorine-Free Proton Exchange Membrane Sales by Region
  - 6.1.1 APAC Fluorine-Free Proton Exchange Membrane Sales by Region (2021-2026)
  - 6.1.2 APAC Fluorine-Free Proton Exchange Membrane Revenue by Region (2021-2026)
- 6.2 APAC Fluorine-Free Proton Exchange Membrane Sales by Type (2021-2026)
- 6.3 APAC Fluorine-Free Proton Exchange Membrane Sales by Application (2021-2026)
- 6.4 China
- 6.5 Japan
- 6.6 South Korea
- 6.7 Southeast Asia
- 6.8 India
- 6.9 Australia
- 6.10 China Taiwan

## **7 EUROPE**

- 7.1 Europe Fluorine-Free Proton Exchange Membrane by Country
  - 7.1.1 Europe Fluorine-Free Proton Exchange Membrane Sales by Country (2021-2026)
  - 7.1.2 Europe Fluorine-Free Proton Exchange Membrane Revenue by Country (2021-2026)
- 7.2 Europe Fluorine-Free Proton Exchange Membrane Sales by Type (2021-2026)
- 7.3 Europe Fluorine-Free Proton Exchange Membrane Sales by Application

(2021-2026)

7.4 Germany

7.5 France

7.6 UK

7.7 Italy

7.8 Russia

## **8 MIDDLE EAST & AFRICA**

8.1 Middle East & Africa Fluorine-Free Proton Exchange Membrane by Country

8.1.1 Middle East & Africa Fluorine-Free Proton Exchange Membrane Sales by Country (2021-2026)

8.1.2 Middle East & Africa Fluorine-Free Proton Exchange Membrane Revenue by Country (2021-2026)

8.2 Middle East & Africa Fluorine-Free Proton Exchange Membrane Sales by Type (2021-2026)

8.3 Middle East & Africa Fluorine-Free Proton Exchange Membrane Sales by Application (2021-2026)

8.4 Egypt

8.5 South Africa

8.6 Israel

8.7 Turkey

8.8 GCC Countries

## **9 MARKET DRIVERS, CHALLENGES AND TRENDS**

9.1 Market Drivers & Growth Opportunities

9.2 Market Challenges & Risks

9.3 Industry Trends

## **10 MANUFACTURING COST STRUCTURE ANALYSIS**

10.1 Raw Material and Suppliers

10.2 Manufacturing Cost Structure Analysis of Fluorine-Free Proton Exchange Membrane

10.3 Manufacturing Process Analysis of Fluorine-Free Proton Exchange Membrane

10.4 Industry Chain Structure of Fluorine-Free Proton Exchange Membrane

## **11 MARKETING, DISTRIBUTORS AND CUSTOMER**

## 11.1 Sales Channel

### 11.1.1 Direct Channels

### 11.1.2 Indirect Channels

## 11.2 Fluorine-Free Proton Exchange Membrane Distributors

## 11.3 Fluorine-Free Proton Exchange Membrane Customer

# **12 WORLD FORECAST REVIEW FOR FLUORINE-FREE PROTON EXCHANGE MEMBRANE BY GEOGRAPHIC REGION**

## 12.1 Global Fluorine-Free Proton Exchange Membrane Market Size Forecast by Region

### 12.1.1 Global Fluorine-Free Proton Exchange Membrane Forecast by Region (2027-2032)

### 12.1.2 Global Fluorine-Free Proton Exchange Membrane Annual Revenue Forecast by Region (2027-2032)

## 12.2 Americas Forecast by Country (2027-2032)

## 12.3 APAC Forecast by Region (2027-2032)

## 12.4 Europe Forecast by Country (2027-2032)

## 12.5 Middle East & Africa Forecast by Country (2027-2032)

## 12.6 Global Fluorine-Free Proton Exchange Membrane Forecast by Type (2027-2032)

## 12.7 Global Fluorine-Free Proton Exchange Membrane Forecast by Application (2027-2032)

# **13 KEY PLAYERS ANALYSIS**

## 13.1 Ionomr

### 13.1.1 Ionomr Company Information

### 13.1.2 Ionomr Fluorine-Free Proton Exchange Membrane Product Portfolios and Specifications

### 13.1.3 Ionomr Fluorine-Free Proton Exchange Membrane Sales, Revenue, Price and Gross Margin (2021-2026)

### 13.1.4 Ionomr Main Business Overview

### 13.1.5 Ionomr Latest Developments

## 13.2 Cellfion

### 13.2.1 Cellfion Company Information

### 13.2.2 Cellfion Fluorine-Free Proton Exchange Membrane Product Portfolios and Specifications

### 13.2.3 Cellfion Fluorine-Free Proton Exchange Membrane Sales, Revenue, Price and Gross Margin (2021-2026)

- 13.2.4 Cellfion Main Business Overview
- 13.2.5 Cellfion Latest Developments
- 13.3 PBI Performance Products
  - 13.3.1 PBI Performance Products Company Information
  - 13.3.2 PBI Performance Products Fluorine-Free Proton Exchange Membrane Product Portfolios and Specifications
  - 13.3.3 PBI Performance Products Fluorine-Free Proton Exchange Membrane Sales, Revenue, Price and Gross Margin (2021-2026)
  - 13.3.4 PBI Performance Products Main Business Overview
  - 13.3.5 PBI Performance Products Latest Developments
- 13.4 Advent Technologies
  - 13.4.1 Advent Technologies Company Information
  - 13.4.2 Advent Technologies Fluorine-Free Proton Exchange Membrane Product Portfolios and Specifications
  - 13.4.3 Advent Technologies Fluorine-Free Proton Exchange Membrane Sales, Revenue, Price and Gross Margin (2021-2026)
  - 13.4.4 Advent Technologies Main Business Overview
  - 13.4.5 Advent Technologies Latest Developments
- 13.5 Blue World Technologies
  - 13.5.1 Blue World Technologies Company Information
  - 13.5.2 Blue World Technologies Fluorine-Free Proton Exchange Membrane Product Portfolios and Specifications
  - 13.5.3 Blue World Technologies Fluorine-Free Proton Exchange Membrane Sales, Revenue, Price and Gross Margin (2021-2026)
  - 13.5.4 Blue World Technologies Main Business Overview
  - 13.5.5 Blue World Technologies Latest Developments
- 13.6 FuMA-Tech
  - 13.6.1 FuMA-Tech Company Information
  - 13.6.2 FuMA-Tech Fluorine-Free Proton Exchange Membrane Product Portfolios and Specifications
  - 13.6.3 FuMA-Tech Fluorine-Free Proton Exchange Membrane Sales, Revenue, Price and Gross Margin (2021-2026)
  - 13.6.4 FuMA-Tech Main Business Overview
  - 13.6.5 FuMA-Tech Latest Developments

## **14 RESEARCH FINDINGS AND CONCLUSION**

## List Of Tables

### LIST OF TABLES

- Table 1. Fluorine-Free Proton Exchange Membrane Annual Sales CAGR by Geographic Region (2021, 2025 & 2032) & (\$ millions)
- Table 2. Fluorine-Free Proton Exchange Membrane Annual Sales CAGR by Country/Region (2021, 2025 & 2032) & (\$ millions)
- Table 3. Major Players of Aromatic Heterocyclic Compounds
- Table 4. Major Players of Polyolefins
- Table 5. Major Players of Composites
- Table 6. Major Players of Others
- Table 7. Global Fluorine-Free Proton Exchange Membrane Sales by Type (2021-2026) & (Sq m)
- Table 8. Global Fluorine-Free Proton Exchange Membrane Sales Market Share by Type (2021-2026)
- Table 9. Global Fluorine-Free Proton Exchange Membrane Revenue by Type (2021-2026) & (\$ million)
- Table 10. Global Fluorine-Free Proton Exchange Membrane Revenue Market Share by Type (2021-2026)
- Table 11. Global Fluorine-Free Proton Exchange Membrane Sale Price by Type (2021-2026) & (US\$/Sq m)
- Table 12. Major Players of Solution Casting
- Table 13. Major Players of Coating
- Table 14. Major Players of In-Situ Polymerization
- Table 15. Major Players of Electrospinning
- Table 16. Major Players of Chemical Grafting
- Table 17. Global Fluorine-Free Proton Exchange Membrane Sales by Preparation Process (2021-2026) & (Sq m)
- Table 18. Global Fluorine-Free Proton Exchange Membrane Sales Market Share by Preparation Process (2021-2026)
- Table 19. Global Fluorine-Free Proton Exchange Membrane Revenue by Preparation Process (2021-2026) & (\$ million)
- Table 20. Global Fluorine-Free Proton Exchange Membrane Revenue Market Share by Preparation Process (2021-2026)
- Table 21. Global Fluorine-Free Proton Exchange Membrane Sale Price by Preparation Process (2021-2026) & (US\$/Sq m)
- Table 22. Major Players of Sulfonic Acid Group (-SO<sub>3</sub>H)
- Table 23. Major Players of Phosphoric Acid Group (-PO<sub>3</sub>H<sub>2</sub>)

Table 24. Major Players of Basic Nitrogen-Containing Group

Table 25. Major Players of Others

Table 26. Global Fluorine-Free Proton Exchange Membrane Sales by Proton-Conducting Groups (2021-2026) & (Sq m)

Table 27. Global Fluorine-Free Proton Exchange Membrane Sales Market Share by Proton-Conducting Groups (2021-2026)

Table 28. Global Fluorine-Free Proton Exchange Membrane Revenue by Proton-Conducting Groups (2021-2026) & (\$ million)

Table 29. Global Fluorine-Free Proton Exchange Membrane Revenue Market Share by Proton-Conducting Groups (2021-2026)

Table 30. Global Fluorine-Free Proton Exchange Membrane Sale Price by Proton-Conducting Groups (2021-2026) & (US\$/Sq m)

Table 31. Global Fluorine-Free Proton Exchange Membrane Sale by Application (2021-2026) & (Sq m)

Table 32. Global Fluorine-Free Proton Exchange Membrane Sale Market Share by Application (2021-2026)

Table 33. Global Fluorine-Free Proton Exchange Membrane Revenue by Application (2021-2026) & (\$ million)

Table 34. Global Fluorine-Free Proton Exchange Membrane Revenue Market Share by Application (2021-2026)

Table 35. Global Fluorine-Free Proton Exchange Membrane Sale Price by Application (2021-2026) & (US\$/Sq m)

Table 36. Global Fluorine-Free Proton Exchange Membrane Sales by Company (2021-2026) & (Sq m)

Table 37. Global Fluorine-Free Proton Exchange Membrane Sales Market Share by Company (2021-2026)

Table 38. Global Fluorine-Free Proton Exchange Membrane Revenue by Company (2021-2026) & (\$ millions)

Table 39. Global Fluorine-Free Proton Exchange Membrane Revenue Market Share by Company (2021-2026)

Table 40. Global Fluorine-Free Proton Exchange Membrane Sale Price by Company (2021-2026) & (US\$/Sq m)

Table 41. Key Manufacturers Fluorine-Free Proton Exchange Membrane Producing Area Distribution and Sales Area

Table 42. Players Fluorine-Free Proton Exchange Membrane Products Offered

Table 43. Fluorine-Free Proton Exchange Membrane Concentration Ratio (CR3, CR5 and CR10) & (2024-2026)

Table 44. New Products and Potential Entrants

Table 45. Market M&A Activity & Strategy

Table 46. Global Fluorine-Free Proton Exchange Membrane Sales by Geographic Region (2021-2026) & (Sq m)

Table 47. Global Fluorine-Free Proton Exchange Membrane Sales Market Share Geographic Region (2021-2026)

Table 48. Global Fluorine-Free Proton Exchange Membrane Revenue by Geographic Region (2021-2026) & (\$ millions)

Table 49. Global Fluorine-Free Proton Exchange Membrane Revenue Market Share by Geographic Region (2021-2026)

Table 50. Global Fluorine-Free Proton Exchange Membrane Sales by Country/Region (2021-2026) & (Sq m)

Table 51. Global Fluorine-Free Proton Exchange Membrane Sales Market Share by Country/Region (2021-2026)

Table 52. Global Fluorine-Free Proton Exchange Membrane Revenue by Country/Region (2021-2026) & (\$ millions)

Table 53. Global Fluorine-Free Proton Exchange Membrane Revenue Market Share by Country/Region (2021-2026)

Table 54. Americas Fluorine-Free Proton Exchange Membrane Sales by Country (2021-2026) & (Sq m)

Table 55. Americas Fluorine-Free Proton Exchange Membrane Sales Market Share by Country (2021-2026)

Table 56. Americas Fluorine-Free Proton Exchange Membrane Revenue by Country (2021-2026) & (\$ millions)

Table 57. Americas Fluorine-Free Proton Exchange Membrane Sales by Type (2021-2026) & (Sq m)

Table 58. Americas Fluorine-Free Proton Exchange Membrane Sales by Application (2021-2026) & (Sq m)

Table 59. APAC Fluorine-Free Proton Exchange Membrane Sales by Region (2021-2026) & (Sq m)

Table 60. APAC Fluorine-Free Proton Exchange Membrane Sales Market Share by Region (2021-2026)

Table 61. APAC Fluorine-Free Proton Exchange Membrane Revenue by Region (2021-2026) & (\$ millions)

Table 62. APAC Fluorine-Free Proton Exchange Membrane Sales by Type (2021-2026) & (Sq m)

Table 63. APAC Fluorine-Free Proton Exchange Membrane Sales by Application (2021-2026) & (Sq m)

Table 64. Europe Fluorine-Free Proton Exchange Membrane Sales by Country (2021-2026) & (Sq m)

Table 65. Europe Fluorine-Free Proton Exchange Membrane Revenue by Country

(2021-2026) & (\$ millions)

Table 66. Europe Fluorine-Free Proton Exchange Membrane Sales by Type

(2021-2026) & (Sq m)

Table 67. Europe Fluorine-Free Proton Exchange Membrane Sales by Application

(2021-2026) & (Sq m)

Table 68. Middle East & Africa Fluorine-Free Proton Exchange Membrane Sales by Country (2021-2026) & (Sq m)

Table 69. Middle East & Africa Fluorine-Free Proton Exchange Membrane Revenue Market Share by Country (2021-2026)

Table 70. Middle East & Africa Fluorine-Free Proton Exchange Membrane Sales by Type (2021-2026) & (Sq m)

Table 71. Middle East & Africa Fluorine-Free Proton Exchange Membrane Sales by Application (2021-2026) & (Sq m)

Table 72. Key Market Drivers & Growth Opportunities of Fluorine-Free Proton Exchange Membrane

Table 73. Key Market Challenges & Risks of Fluorine-Free Proton Exchange Membrane

Table 74. Key Industry Trends of Fluorine-Free Proton Exchange Membrane

Table 75. Fluorine-Free Proton Exchange Membrane Raw Material

Table 76. Key Suppliers of Raw Materials

Table 77. Fluorine-Free Proton Exchange Membrane Distributors List

Table 78. Fluorine-Free Proton Exchange Membrane Customer List

Table 79. Global Fluorine-Free Proton Exchange Membrane Sales Forecast by Region (2027-2032) & (Sq m)

Table 80. Global Fluorine-Free Proton Exchange Membrane Revenue Forecast by Region (2027-2032) & (\$ millions)

Table 81. Americas Fluorine-Free Proton Exchange Membrane Sales Forecast by Country (2027-2032) & (Sq m)

Table 82. Americas Fluorine-Free Proton Exchange Membrane Annual Revenue Forecast by Country (2027-2032) & (\$ millions)

Table 83. APAC Fluorine-Free Proton Exchange Membrane Sales Forecast by Region (2027-2032) & (Sq m)

Table 84. APAC Fluorine-Free Proton Exchange Membrane Annual Revenue Forecast by Region (2027-2032) & (\$ millions)

Table 85. Europe Fluorine-Free Proton Exchange Membrane Sales Forecast by Country (2027-2032) & (Sq m)

Table 86. Europe Fluorine-Free Proton Exchange Membrane Revenue Forecast by Country (2027-2032) & (\$ millions)

Table 87. Middle East & Africa Fluorine-Free Proton Exchange Membrane Sales Forecast by Country (2027-2032) & (Sq m)

Table 88. Middle East & Africa Fluorine-Free Proton Exchange Membrane Revenue Forecast by Country (2027-2032) & (\$ millions)

Table 89. Global Fluorine-Free Proton Exchange Membrane Sales Forecast by Type (2027-2032) & (Sq m)

Table 90. Global Fluorine-Free Proton Exchange Membrane Revenue Forecast by Type (2027-2032) & (\$ millions)

Table 91. Global Fluorine-Free Proton Exchange Membrane Sales Forecast by Application (2027-2032) & (Sq m)

Table 92. Global Fluorine-Free Proton Exchange Membrane Revenue Forecast by Application (2027-2032) & (\$ millions)

Table 93. Ionomr Basic Information, Fluorine-Free Proton Exchange Membrane Manufacturing Base, Sales Area and Its Competitors

Table 94. Ionomr Fluorine-Free Proton Exchange Membrane Product Portfolios and Specifications

Table 95. Ionomr Fluorine-Free Proton Exchange Membrane Sales (Sq m), Revenue (\$ Million), Price (US\$/Sq m) and Gross Margin (2021-2026)

Table 96. Ionomr Main Business

Table 97. Ionomr Latest Developments

Table 98. Cellfion Basic Information, Fluorine-Free Proton Exchange Membrane Manufacturing Base, Sales Area and Its Competitors

Table 99. Cellfion Fluorine-Free Proton Exchange Membrane Product Portfolios and Specifications

Table 100. Cellfion Fluorine-Free Proton Exchange Membrane Sales (Sq m), Revenue (\$ Million), Price (US\$/Sq m) and Gross Margin (2021-2026)

Table 101. Cellfion Main Business

Table 102. Cellfion Latest Developments

Table 103. PBI Performance Products Basic Information, Fluorine-Free Proton Exchange Membrane Manufacturing Base, Sales Area and Its Competitors

Table 104. PBI Performance Products Fluorine-Free Proton Exchange Membrane Product Portfolios and Specifications

Table 105. PBI Performance Products Fluorine-Free Proton Exchange Membrane Sales (Sq m), Revenue (\$ Million), Price (US\$/Sq m) and Gross Margin (2021-2026)

Table 106. PBI Performance Products Main Business

Table 107. PBI Performance Products Latest Developments

Table 108. Advent Technologies Basic Information, Fluorine-Free Proton Exchange Membrane Manufacturing Base, Sales Area and Its Competitors

Table 109. Advent Technologies Fluorine-Free Proton Exchange Membrane Product Portfolios and Specifications

Table 110. Advent Technologies Fluorine-Free Proton Exchange Membrane Sales (Sq

m), Revenue (\$ Million), Price (US\$/Sq m) and Gross Margin (2021-2026)

Table 111. Advent Technologies Main Business

Table 112. Advent Technologies Latest Developments

Table 113. Blue World Technologies Basic Information, Fluorine-Free Proton Exchange Membrane Manufacturing Base, Sales Area and Its Competitors

Table 114. Blue World Technologies Fluorine-Free Proton Exchange Membrane Product Portfolios and Specifications

Table 115. Blue World Technologies Fluorine-Free Proton Exchange Membrane Sales (Sq m), Revenue (\$ Million), Price (US\$/Sq m) and Gross Margin (2021-2026)

Table 116. Blue World Technologies Main Business

Table 117. Blue World Technologies Latest Developments

Table 118. FuMA-Tech Basic Information, Fluorine-Free Proton Exchange Membrane Manufacturing Base, Sales Area and Its Competitors

Table 119. FuMA-Tech Fluorine-Free Proton Exchange Membrane Product Portfolios and Specifications

Table 120. FuMA-Tech Fluorine-Free Proton Exchange Membrane Sales (Sq m), Revenue (\$ Million), Price (US\$/Sq m) and Gross Margin (2021-2026)

Table 121. FuMA-Tech Main Business

Table 122. FuMA-Tech Latest Developments

## List Of Figures

### LIST OF FIGURES

- Figure 1. Picture of Fluorine-Free Proton Exchange Membrane
- Figure 2. Fluorine-Free Proton Exchange Membrane Report Years Considered
- Figure 3. Research Objectives
- Figure 4. Research Methodology
- Figure 5. Research Process and Data Source
- Figure 6. Global Fluorine-Free Proton Exchange Membrane Sales Growth Rate 2021-2032 (Sq m)
- Figure 7. Global Fluorine-Free Proton Exchange Membrane Revenue Growth Rate 2021-2032 (\$ millions)
- Figure 8. Fluorine-Free Proton Exchange Membrane Sales by Geographic Region (2021, 2025 & 2032) & (\$ millions)
- Figure 9. Fluorine-Free Proton Exchange Membrane Sales Market Share by Country/Region (2025)
- Figure 10. Fluorine-Free Proton Exchange Membrane Sales Market Share by Country/Region (2021, 2025 & 2032)
- Figure 11. Product Picture of Aromatic Heterocyclic Compounds
- Figure 12. Product Picture of Polyolefins
- Figure 13. Product Picture of Composites
- Figure 14. Product Picture of Others
- Figure 15. Global Fluorine-Free Proton Exchange Membrane Sales Market Share by Type in 2026
- Figure 16. Global Fluorine-Free Proton Exchange Membrane Revenue Market Share by Type (2021-2026)
- Figure 17. Product Picture of Solution Casting
- Figure 18. Product Picture of Coating
- Figure 19. Product Picture of In-Situ Polymerization
- Figure 20. Product Picture of Electrospinning
- Figure 21. Product Picture of Chemical Grafting
- Figure 22. Global Fluorine-Free Proton Exchange Membrane Sales Market Share by Preparation Process in 2026
- Figure 23. Global Fluorine-Free Proton Exchange Membrane Revenue Market Share by Preparation Process (2021-2026)
- Figure 24. Product Picture of Sulfonic Acid Group (-SO<sub>3</sub>H)
- Figure 25. Product Picture of Phosphoric Acid Group (-PO<sub>3</sub>H<sub>2</sub>)
- Figure 26. Product Picture of Basic Nitrogen-Containing Group

Figure 27. Product Picture of Others

Figure 28. Global Fluorine-Free Proton Exchange Membrane Sales Market Share by Proton-Conducting Groups in 2026

Figure 29. Global Fluorine-Free Proton Exchange Membrane Revenue Market Share by Proton-Conducting Groups (2021-2026)

Figure 30. Fluorine-Free Proton Exchange Membrane Consumed in Fuel Cells

Figure 31. Global Fluorine-Free Proton Exchange Membrane Market: Fuel Cells (2021-2026) & (Sq m)

Figure 32. Fluorine-Free Proton Exchange Membrane Consumed in Water Electrolysis Hydrogen Production

Figure 33. Global Fluorine-Free Proton Exchange Membrane Market: Water Electrolysis Hydrogen Production (2021-2026) & (Sq m)

Figure 34. Fluorine-Free Proton Exchange Membrane Consumed in Electrochemical Separation

Figure 35. Global Fluorine-Free Proton Exchange Membrane Market: Electrochemical Separation (2021-2026) & (Sq m)

Figure 36. Fluorine-Free Proton Exchange Membrane Consumed in Energy Storage Systems

Figure 37. Global Fluorine-Free Proton Exchange Membrane Market: Energy Storage Systems (2021-2026) & (Sq m)

Figure 38. Global Fluorine-Free Proton Exchange Membrane Sale Market Share by Application (2025)

Figure 39. Global Fluorine-Free Proton Exchange Membrane Revenue Market Share by Application in 2025

Figure 40. Fluorine-Free Proton Exchange Membrane Sales by Company in 2025 (Sq m)

Figure 41. Global Fluorine-Free Proton Exchange Membrane Sales Market Share by Company in 2025

Figure 42. Fluorine-Free Proton Exchange Membrane Revenue by Company in 2025 (\$ millions)

Figure 43. Global Fluorine-Free Proton Exchange Membrane Revenue Market Share by Company in 2025

Figure 44. Global Fluorine-Free Proton Exchange Membrane Sales Market Share by Geographic Region (2021-2026)

Figure 45. Global Fluorine-Free Proton Exchange Membrane Revenue Market Share by Geographic Region in 2025

Figure 46. Americas Fluorine-Free Proton Exchange Membrane Sales 2021-2026 (Sq m)

Figure 47. Americas Fluorine-Free Proton Exchange Membrane Revenue 2021-2026 (\$

millions)

Figure 48. APAC Fluorine-Free Proton Exchange Membrane Sales 2021-2026 (Sq m)

Figure 49. APAC Fluorine-Free Proton Exchange Membrane Revenue 2021-2026 (\$ millions)

Figure 50. Europe Fluorine-Free Proton Exchange Membrane Sales 2021-2026 (Sq m)

Figure 51. Europe Fluorine-Free Proton Exchange Membrane Revenue 2021-2026 (\$ millions)

Figure 52. Middle East & Africa Fluorine-Free Proton Exchange Membrane Sales 2021-2026 (Sq m)

Figure 53. Middle East & Africa Fluorine-Free Proton Exchange Membrane Revenue 2021-2026 (\$ millions)

Figure 54. Americas Fluorine-Free Proton Exchange Membrane Sales Market Share by Country in 2025

Figure 55. Americas Fluorine-Free Proton Exchange Membrane Revenue Market Share by Country (2021-2026)

Figure 56. Americas Fluorine-Free Proton Exchange Membrane Sales Market Share by Type (2021-2026)

Figure 57. Americas Fluorine-Free Proton Exchange Membrane Sales Market Share by Application (2021-2026)

Figure 58. United States Fluorine-Free Proton Exchange Membrane Revenue Growth 2021-2026 (\$ millions)

Figure 59. Canada Fluorine-Free Proton Exchange Membrane Revenue Growth 2021-2026 (\$ millions)

Figure 60. Mexico Fluorine-Free Proton Exchange Membrane Revenue Growth 2021-2026 (\$ millions)

Figure 61. Brazil Fluorine-Free Proton Exchange Membrane Revenue Growth 2021-2026 (\$ millions)

Figure 62. APAC Fluorine-Free Proton Exchange Membrane Sales Market Share by Region in 2025

Figure 63. APAC Fluorine-Free Proton Exchange Membrane Revenue Market Share by Region (2021-2026)

Figure 64. APAC Fluorine-Free Proton Exchange Membrane Sales Market Share by Type (2021-2026)

Figure 65. APAC Fluorine-Free Proton Exchange Membrane Sales Market Share by Application (2021-2026)

Figure 66. China Fluorine-Free Proton Exchange Membrane Revenue Growth 2021-2026 (\$ millions)

Figure 67. Japan Fluorine-Free Proton Exchange Membrane Revenue Growth 2021-2026 (\$ millions)

Figure 68. South Korea Fluorine-Free Proton Exchange Membrane Revenue Growth 2021-2026 (\$ millions)

Figure 69. Southeast Asia Fluorine-Free Proton Exchange Membrane Revenue Growth 2021-2026 (\$ millions)

Figure 70. India Fluorine-Free Proton Exchange Membrane Revenue Growth 2021-2026 (\$ millions)

Figure 71. Australia Fluorine-Free Proton Exchange Membrane Revenue Growth 2021-2026 (\$ millions)

Figure 72. China Taiwan Fluorine-Free Proton Exchange Membrane Revenue Growth 2021-2026 (\$ millions)

Figure 73. Europe Fluorine-Free Proton Exchange Membrane Sales Market Share by Country in 2025

Figure 74. Europe Fluorine-Free Proton Exchange Membrane Revenue Market Share by Country (2021-2026)

Figure 75. Europe Fluorine-Free Proton Exchange Membrane Sales Market Share by Type (2021-2026)

Figure 76. Europe Fluorine-Free Proton Exchange Membrane Sales Market Share by Application (2021-2026)

Figure 77. Germany Fluorine-Free Proton Exchange Membrane Revenue Growth 2021-2026 (\$ millions)

Figure 78. France Fluorine-Free Proton Exchange Membrane Revenue Growth 2021-2026 (\$ millions)

Figure 79. UK Fluorine-Free Proton Exchange Membrane Revenue Growth 2021-2026 (\$ millions)

Figure 80. Italy Fluorine-Free Proton Exchange Membrane Revenue Growth 2021-2026 (\$ millions)

Figure 81. Russia Fluorine-Free Proton Exchange Membrane Revenue Growth 2021-2026 (\$ millions)

Figure 82. Middle East & Africa Fluorine-Free Proton Exchange Membrane Sales Market Share by Country (2021-2026)

Figure 83. Middle East & Africa Fluorine-Free Proton Exchange Membrane Sales Market Share by Type (2021-2026)

Figure 84. Middle East & Africa Fluorine-Free Proton Exchange Membrane Sales Market Share by Application (2021-2026)

Figure 85. Egypt Fluorine-Free Proton Exchange Membrane Revenue Growth 2021-2026 (\$ millions)

Figure 86. South Africa Fluorine-Free Proton Exchange Membrane Revenue Growth 2021-2026 (\$ millions)

Figure 87. Israel Fluorine-Free Proton Exchange Membrane Revenue Growth

2021-2026 (\$ millions)

Figure 88. Turkey Fluorine-Free Proton Exchange Membrane Revenue Growth

2021-2026 (\$ millions)

Figure 89. GCC Countries Fluorine-Free Proton Exchange Membrane Revenue Growth

2021-2026 (\$ millions)

Figure 90. Manufacturing Cost Structure Analysis of Fluorine-Free Proton Exchange Membrane in 2026

Figure 91. Manufacturing Process Analysis of Fluorine-Free Proton Exchange Membrane

Figure 92. Industry Chain Structure of Fluorine-Free Proton Exchange Membrane

Figure 93. Channels of Distribution

Figure 94. Global Fluorine-Free Proton Exchange Membrane Sales Market Forecast by Region (2027-2032)

Figure 95. Global Fluorine-Free Proton Exchange Membrane Revenue Market Share Forecast by Region (2027-2032)

Figure 96. Global Fluorine-Free Proton Exchange Membrane Sales Market Share Forecast by Type (2027-2032)

Figure 97. Global Fluorine-Free Proton Exchange Membrane Revenue Market Share Forecast by Type (2027-2032)

Figure 98. Global Fluorine-Free Proton Exchange Membrane Sales Market Share Forecast by Application (2027-2032)

Figure 99. Global Fluorine-Free Proton Exchange Membrane Revenue Market Share Forecast by Application (2027-2032)

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