

# **Reverse Osmosis (RO) Membrane Market Report by Material Type (Cellulose-Based Membranes, Thin Film Composite Membranes), Filter Module (Plate and Frame (PF), Tubular-Shaped, Spiral-Wound, Hollow-Fiber), End-Use (Desalination Systems, Ro Purification Systems, Medical Devices and Diagnostics), and Region 2024-2032**

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## **Abstracts**

The global reverse osmosis (RO) membrane market size reached US\$ 4.2 Billion in 2023. Looking forward, IMARC Group expects the market to reach US\$ 10.5 Billion by 2032, exhibiting a growth rate (CAGR) of 10.3% during 2024-2032.

Reverse osmosis (RO) refers to a technology that deionizes or purifies water by pushing it through a semi-permeable membrane under high pressure. The RO membrane is a thin layer of filtering material that separates contaminating agents and dissolved salts from drinking water. It consists of three layers, namely a polyester support web, a microporous polysulfone interlayer and an ultra-thin polyamide barrier layer. These membranes can be used in both industrial processes and for obtaining potable water. Nowadays, they are increasingly being used across the globe for water purification, as the RO process offers an environment-friendly and cost-effective alternative to the conventionally used techniques such as distillation and evaporation.

In recent years, the rising pollution levels, industrial development, population growth, and climate change have resulted in the high demand for clean and fresh water worldwide. This, in turn, has prompted consumers to opt for numerous water filtration technologies, the most preferred among which is RO. Additionally, a significant number of countries are employing seawater desalination, which relies on the process of RO for

removing the excessive amount of salt from water to make it fit for use. Apart from this, the governments of various nations are spreading awareness among the masses about water-borne diseases and promoting the use of water filtration systems. Moreover, the leading companies are developing hybrid and advanced membrane technologies that can provide longer membrane life and lower the replacement rate. These advancements are expected to escalate the utilization of RO membranes in power plants, municipal water treatment, and mining and chemical industries.

#### Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each sub-segment of the global reverse osmosis (RO) membrane market report, along with forecasts at the global, regional and country level from 2024-2032. Our report has categorized the market based on material type, filter module and end-use.

#### Breakup by Material Type:

- Cellulose-Based Membranes
- Cellulose Acetate (CA) Membranes
- Nitrocellulose Membranes
- Thin Film Composite Membranes
- Polyamide (PA) Composite Membranes
- GO-Based Polyacrylonitrile Membrane

#### Breakup by Filter Module:

- Plate and Frame (PF)
- Spiral
- Pillow-Shaped
- Tubular-Shaped
- Spiral-Wound
- Hollow-Fiber

#### Breakup by End-Use:

- Desalination Systems
- Seawater
- Brackish Water
- Ro Purification Systems
- Residential and Commercial

Municipal  
Industrial  
Medical Devices and Diagnostics

#### Breakup by Region:

North America  
United States  
Canada  
Asia Pacific  
China  
Japan  
India  
South Korea  
Australia  
Indonesia  
Others  
Europe  
Germany  
France  
United Kingdom  
Italy  
Spain  
Russia  
Others  
Latin America  
Brazil  
Mexico  
Others  
Middle East and Africa

#### Competitive Landscape:

The competitive landscape of the industry has also been examined with some of the key players being Axeon Water Technologies, Dow Water & Process Solutions Inc., GE Water & Process Technologies, Hydranautics (A Nitto Denko Group Company), Keensen Technology Co. Ltd., Lanxess, LG Chem, Microdyn-Nadir GmbH, Toray Industries Inc., Toyobo Co. Ltd. and Vontron Membrane Technology Co. Ltd.

#### Key Questions Answered in This Report:

How has the global reverse osmosis membrane market performed so far and how will it

perform in the coming years?

What are the key regional markets?

What has been the impact of COVID-19 on the global reverse osmosis membrane market?

What is the breakup of the market based on the material type?

What is the breakup of the market based on the filter module?

What is the breakup of the market based on the end-use?

What are the various stages in the value chain of the industry?

What are the key driving factors and challenges in the industry?

What is the structure of the global reverse osmosis membrane market and who are the key players?

What is the degree of competition in the industry?

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