

Oxygenators Market ? Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Product Type (Bubble Oxygenator v/s Membrane Oxygenator), By Type (Adult Oxygenators v/s Pediatric Oxygenators), By Application (Respiratory, Cardiac, COVID-19, Others), By End User (Hospitals & Clinics, Ambulatory Care Centers, Others), By Region & Competition, 2021-2031F

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Abstracts

The Global Oxygenators Market is projected to expand from USD 0.49 Billion in 2025 to USD 0.66 Billion by 2031, reflecting a CAGR of 5.09%. These specialized medical devices are essential during cardiopulmonary bypass surgeries and extracorporeal membrane oxygenation procedures, temporarily assuming the lung's respiratory functions by enriching venous blood with oxygen and removing carbon dioxide before returning it to the arterial system. The market's foundation rests on the rising global incidence of severe cardiovascular diseases and respiratory failures that require invasive surgical solutions. For instance, the American Heart Association reported in 2024 that cardiovascular disease caused approximately 19.91 million deaths worldwide, highlighting the urgent and escalating need for effective cardiopulmonary support technologies.

Despite this robust demand, the industry encounters significant hurdles due to stringent regulatory frameworks concerning device approval and quality assurance.

Manufacturers must navigate complex compliance standards and conduct extensive clinical testing to guarantee patient safety, a process that considerably lengthens product development timelines. These exacting requirements escalate operational

expenses and establish high barriers to entry, which can delay the commercial introduction of innovative technologies and hinder the market's rapid expansion.

Market Driver

The increasing prevalence of cardiovascular and respiratory diseases acts as a primary catalyst for market growth, driving a higher frequency of invasive interventions like coronary artery bypass grafting and heart valve repairs. As the burden of these chronic conditions grows, the number of surgical procedures necessitating temporary cardiopulmonary support has risen, directly boosting the use of oxygenators. This trend is supported by data from major clinical registries; for example, The Society of Thoracic Surgeons reported in March 2025 that their Adult Cardiac Surgery Database included over 8.3 million cumulative procedures. This sustained clinical activity drives substantial financial results for major manufacturers, as evidenced by Terumo Corporation, which reported an annual revenue of \$1,036.2 billion in May 2025 for the fiscal year ending March 31, 2025, confirming the strong commercial momentum behind these therapies.

Concurrently, the wider clinical adoption of Extracorporeal Membrane Oxygenation (ECMO) is expanding the utility of oxygenators beyond traditional operating theaters into intensive care units. Improvements in device biocompatibility enable healthcare providers to use ECMO systems for extended periods to treat severe acute respiratory failure and cardiac arrest, generating a distinct and fast-growing revenue stream. The growing application of this life support modality is highlighted by global registry data; according to the Extracorporeal Life Support Organization, a cumulative total of 245,291 extracorporeal life support runs were recorded by April 2025, illustrating the deepening integration of these advanced technologies into critical care protocols.

Market Challenge

The Global Oxygenators Market currently contends with significant obstacles arising from rigorous regulatory frameworks for device approval and quality assurance. Although the clinical necessity for cardiopulmonary support is increasing, the intricate compliance standards required to launch these life-sustaining devices serve as a major bottleneck. Manufacturers are compelled to allocate substantial resources to satisfy these strict protocols, which drastically prolongs the timeline from product conception to market availability. This delay disrupts supply chains and prevents the timely delivery of advanced oxygenation technologies to healthcare providers.

Furthermore, the financial burden of these regulations establishes high barriers to entry

that restrict broader market expansion. Companies must shoulder elevated development costs for extended periods without immediate revenue generation. According to MedTech Europe, the average time to certification for medical devices under current regulations was reported in 2024 to range between 13 and 18 months. This extended cycle discourages investment in new product development and places a disproportionate strain on smaller innovators lacking the capital to survive such lengthy review processes, ultimately retarding the sector's overall growth rate.

Market Trends

The market is being transformed by the emergence of smart oxygenators equipped with integrated sensor monitoring, which enhances clinical decision-making during complex perfusion procedures. By incorporating real-time sensing capabilities directly into the device, these systems provide continuous feedback on vital parameters such as oxygen saturation and line pressure without the need for external probes. This integration optimizes perfusionist workflows and boosts operational efficiency by minimizing the equipment footprint in operating theaters. The commercial success of these systems is reflected in LivaNova PLC's October 2024 results, where Cardiopulmonary segment revenue rose by 15.6%, driven largely by sales of the Essenz Perfusion System and its consumables.

Simultaneously, the adoption of Polymethyl Pentene (PMP) hollow fiber technology is replacing traditional polypropylene membranes, especially for extended life support applications. PMP fibers provide superior resistance to plasma leakage, allowing oxygenators to operate effectively for days instead of hours, which supports the increasing requirement for long-duration extracorporeal membrane oxygenation (ECMO). This material innovation fuels the demand for durable disposables, even during broader supply chain fluctuations. For instance, Getinge noted in its interim report for July-September 2024, released in October 2024, that there was particularly strong growth in consumables within its Cardiopulmonary business area, underscoring the sustained reliance on these advanced technologies for acute care.

Key Market Players

Abbott Laboratories

F. Hoffmann-La Roche Ltd.

Thermo Fisher Scientific, Inc.

Siemens Healthcare GmbH

Bio-Rad Laboratories, Inc.

Koninklijke Philips N.V.

Toshiba Corporation

Agilent Technologies, Inc.

Illumina, Inc.

Merck KGaA
Danaher Corporation

Report Scope

In this report, the Global Oxygenators Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Oxygenators Market, By Product Type

Bubble Oxygenator v/s Membrane Oxygenator

Oxygenators Market, By Type

Adult Oxygenators v/s Pediatric Oxygenators

Oxygenators Market, By Application

Respiratory

Cardiac

COVID-19

Others

Oxygenators Market, By End User

Hospitals & Clinics

Ambulatory Care Centers

Others

Oxygenators Market, By Region

North America

United States

Canada

Mexico

Europe

France

United Kingdom

Italy

Germany

Spain

Asia Pacific

China

India

Japan

Australia

South Korea

South America

Brazil

Argentina

Colombia

Middle East & Africa

South Africa

Saudi Arabia

UAE

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global Oxygenators Market.

Available Customizations:

Global Oxygenators Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

Contents

1. PRODUCT OVERVIEW

- 1.1. Market Definition
- 1.2. Scope of the Market
 - 1.2.1. Markets Covered
 - 1.2.2. Years Considered for Study
 - 1.2.3. Key Market Segmentations

2. RESEARCH METHODOLOGY

- 2.1. Objective of the Study
- 2.2. Baseline Methodology
- 2.3. Key Industry Partners
- 2.4. Major Association and Secondary Sources
- 2.5. Forecasting Methodology
- 2.6. Data Triangulation & Validation
- 2.7. Assumptions and Limitations

3. EXECUTIVE SUMMARY

- 3.1. Overview of the Market
- 3.2. Overview of Key Market Segmentations
- 3.3. Overview of Key Market Players
- 3.4. Overview of Key Regions/Countries
- 3.5. Overview of Market Drivers, Challenges, Trends

4. VOICE OF CUSTOMER

5. GLOBAL OXYGENATORS MARKET OUTLOOK

- 5.1. Market Size & Forecast
 - 5.1.1. By Value
- 5.2. Market Share & Forecast
 - 5.2.1. By Product Type (Bubble Oxygenator v/s Membrane Oxygenator)
 - 5.2.2. By Type (Adult Oxygenators v/s Pediatric Oxygenators)
 - 5.2.3. By Application (Respiratory, Cardiac, COVID-19, Others)
 - 5.2.4. By End User (Hospitals & Clinics, Ambulatory Care Centers, Others)

- 5.2.5. By Region
- 5.2.6. By Company (2025)
- 5.3. Market Map

6. NORTH AMERICA OXYGENATORS MARKET OUTLOOK

- 6.1. Market Size & Forecast
 - 6.1.1. By Value
- 6.2. Market Share & Forecast
 - 6.2.1. By Product Type
 - 6.2.2. By Type
 - 6.2.3. By Application
 - 6.2.4. By End User
 - 6.2.5. By Country
- 6.3. North America: Country Analysis
 - 6.3.1. United States Oxygenators Market Outlook
 - 6.3.1.1. Market Size & Forecast
 - 6.3.1.1.1. By Value
 - 6.3.1.2. Market Share & Forecast
 - 6.3.1.2.1. By Product Type
 - 6.3.1.2.2. By Type
 - 6.3.1.2.3. By Application
 - 6.3.1.2.4. By End User
 - 6.3.2. Canada Oxygenators Market Outlook
 - 6.3.2.1. Market Size & Forecast
 - 6.3.2.1.1. By Value
 - 6.3.2.2. Market Share & Forecast
 - 6.3.2.2.1. By Product Type
 - 6.3.2.2.2. By Type
 - 6.3.2.2.3. By Application
 - 6.3.2.2.4. By End User
 - 6.3.3. Mexico Oxygenators Market Outlook
 - 6.3.3.1. Market Size & Forecast
 - 6.3.3.1.1. By Value
 - 6.3.3.2. Market Share & Forecast
 - 6.3.3.2.1. By Product Type
 - 6.3.3.2.2. By Type
 - 6.3.3.2.3. By Application
 - 6.3.3.2.4. By End User

7. EUROPE OXYGENATORS MARKET OUTLOOK

7.1. Market Size & Forecast

7.1.1. By Value

7.2. Market Share & Forecast

7.2.1. By Product Type

7.2.2. By Type

7.2.3. By Application

7.2.4. By End User

7.2.5. By Country

7.3. Europe: Country Analysis

7.3.1. Germany Oxygenators Market Outlook

7.3.1.1. Market Size & Forecast

7.3.1.1.1. By Value

7.3.1.2. Market Share & Forecast

7.3.1.2.1. By Product Type

7.3.1.2.2. By Type

7.3.1.2.3. By Application

7.3.1.2.4. By End User

7.3.2. France Oxygenators Market Outlook

7.3.2.1. Market Size & Forecast

7.3.2.1.1. By Value

7.3.2.2. Market Share & Forecast

7.3.2.2.1. By Product Type

7.3.2.2.2. By Type

7.3.2.2.3. By Application

7.3.2.2.4. By End User

7.3.3. United Kingdom Oxygenators Market Outlook

7.3.3.1. Market Size & Forecast

7.3.3.1.1. By Value

7.3.3.2. Market Share & Forecast

7.3.3.2.1. By Product Type

7.3.3.2.2. By Type

7.3.3.2.3. By Application

7.3.3.2.4. By End User

7.3.4. Italy Oxygenators Market Outlook

7.3.4.1. Market Size & Forecast

7.3.4.1.1. By Value

- 7.3.4.2. Market Share & Forecast
 - 7.3.4.2.1. By Product Type
 - 7.3.4.2.2. By Type
 - 7.3.4.2.3. By Application
 - 7.3.4.2.4. By End User
- 7.3.5. Spain Oxygenators Market Outlook
 - 7.3.5.1. Market Size & Forecast
 - 7.3.5.1.1. By Value
 - 7.3.5.2. Market Share & Forecast
 - 7.3.5.2.1. By Product Type
 - 7.3.5.2.2. By Type
 - 7.3.5.2.3. By Application
 - 7.3.5.2.4. By End User

8. ASIA PACIFIC OXYGENATORS MARKET OUTLOOK

- 8.1. Market Size & Forecast
 - 8.1.1. By Value
- 8.2. Market Share & Forecast
 - 8.2.1. By Product Type
 - 8.2.2. By Type
 - 8.2.3. By Application
 - 8.2.4. By End User
 - 8.2.5. By Country
- 8.3. Asia Pacific: Country Analysis
 - 8.3.1. China Oxygenators Market Outlook
 - 8.3.1.1. Market Size & Forecast
 - 8.3.1.1.1. By Value
 - 8.3.1.2. Market Share & Forecast
 - 8.3.1.2.1. By Product Type
 - 8.3.1.2.2. By Type
 - 8.3.1.2.3. By Application
 - 8.3.1.2.4. By End User
 - 8.3.2. India Oxygenators Market Outlook
 - 8.3.2.1. Market Size & Forecast
 - 8.3.2.1.1. By Value
 - 8.3.2.2. Market Share & Forecast
 - 8.3.2.2.1. By Product Type
 - 8.3.2.2.2. By Type

- 8.3.2.2.3. By Application
- 8.3.2.2.4. By End User
- 8.3.3. Japan Oxygenators Market Outlook
 - 8.3.3.1. Market Size & Forecast
 - 8.3.3.1.1. By Value
 - 8.3.3.2. Market Share & Forecast
 - 8.3.3.2.1. By Product Type
 - 8.3.3.2.2. By Type
 - 8.3.3.2.3. By Application
 - 8.3.3.2.4. By End User
- 8.3.4. South Korea Oxygenators Market Outlook
 - 8.3.4.1. Market Size & Forecast
 - 8.3.4.1.1. By Value
 - 8.3.4.2. Market Share & Forecast
 - 8.3.4.2.1. By Product Type
 - 8.3.4.2.2. By Type
 - 8.3.4.2.3. By Application
 - 8.3.4.2.4. By End User
- 8.3.5. Australia Oxygenators Market Outlook
 - 8.3.5.1. Market Size & Forecast
 - 8.3.5.1.1. By Value
 - 8.3.5.2. Market Share & Forecast
 - 8.3.5.2.1. By Product Type
 - 8.3.5.2.2. By Type
 - 8.3.5.2.3. By Application
 - 8.3.5.2.4. By End User

9. MIDDLE EAST & AFRICA OXYGENATORS MARKET OUTLOOK

- 9.1. Market Size & Forecast
 - 9.1.1. By Value
- 9.2. Market Share & Forecast
 - 9.2.1. By Product Type
 - 9.2.2. By Type
 - 9.2.3. By Application
 - 9.2.4. By End User
 - 9.2.5. By Country
- 9.3. Middle East & Africa: Country Analysis
 - 9.3.1. Saudi Arabia Oxygenators Market Outlook

- 9.3.1.1. Market Size & Forecast
 - 9.3.1.1.1. By Value
- 9.3.1.2. Market Share & Forecast
 - 9.3.1.2.1. By Product Type
 - 9.3.1.2.2. By Type
 - 9.3.1.2.3. By Application
 - 9.3.1.2.4. By End User
- 9.3.2. UAE Oxygenators Market Outlook
 - 9.3.2.1. Market Size & Forecast
 - 9.3.2.1.1. By Value
 - 9.3.2.2. Market Share & Forecast
 - 9.3.2.2.1. By Product Type
 - 9.3.2.2.2. By Type
 - 9.3.2.2.3. By Application
 - 9.3.2.2.4. By End User
- 9.3.3. South Africa Oxygenators Market Outlook
 - 9.3.3.1. Market Size & Forecast
 - 9.3.3.1.1. By Value
 - 9.3.3.2. Market Share & Forecast
 - 9.3.3.2.1. By Product Type
 - 9.3.3.2.2. By Type
 - 9.3.3.2.3. By Application
 - 9.3.3.2.4. By End User

10. SOUTH AMERICA OXYGENATORS MARKET OUTLOOK

- 10.1. Market Size & Forecast
 - 10.1.1. By Value
- 10.2. Market Share & Forecast
 - 10.2.1. By Product Type
 - 10.2.2. By Type
 - 10.2.3. By Application
 - 10.2.4. By End User
 - 10.2.5. By Country
- 10.3. South America: Country Analysis
 - 10.3.1. Brazil Oxygenators Market Outlook
 - 10.3.1.1. Market Size & Forecast
 - 10.3.1.1.1. By Value
 - 10.3.1.2. Market Share & Forecast

- 10.3.1.2.1. By Product Type
- 10.3.1.2.2. By Type
- 10.3.1.2.3. By Application
- 10.3.1.2.4. By End User
- 10.3.2. Colombia Oxygenators Market Outlook
 - 10.3.2.1. Market Size & Forecast
 - 10.3.2.1.1. By Value
 - 10.3.2.2. Market Share & Forecast
 - 10.3.2.2.1. By Product Type
 - 10.3.2.2.2. By Type
 - 10.3.2.2.3. By Application
 - 10.3.2.2.4. By End User
- 10.3.3. Argentina Oxygenators Market Outlook
 - 10.3.3.1. Market Size & Forecast
 - 10.3.3.1.1. By Value
 - 10.3.3.2. Market Share & Forecast
 - 10.3.3.2.1. By Product Type
 - 10.3.3.2.2. By Type
 - 10.3.3.2.3. By Application
 - 10.3.3.2.4. By End User

11. MARKET DYNAMICS

- 11.1. Drivers
- 11.2. Challenges

12. MARKET TRENDS & DEVELOPMENTS

- 12.1. Merger & Acquisition (If Any)
- 12.2. Product Launches (If Any)
- 12.3. Recent Developments

13. GLOBAL OXYGENATORS MARKET: SWOT ANALYSIS

14. PORTER'S FIVE FORCES ANALYSIS

- 14.1. Competition in the Industry
- 14.2. Potential of New Entrants
- 14.3. Power of Suppliers

- 14.4. Power of Customers
- 14.5. Threat of Substitute Products

15. COMPETITIVE LANDSCAPE

- 15.1. Abbott Laboratories
 - 15.1.1. Business Overview
 - 15.1.2. Products & Services
 - 15.1.3. Recent Developments
 - 15.1.4. Key Personnel
 - 15.1.5. SWOT Analysis
- 15.2. F. Hoffmann-La Roche Ltd.
- 15.3. Thermo Fisher Scientific, Inc.
- 15.4. Siemens Healthcare GmbH
- 15.5. Bio-Rad Laboratories, Inc.
- 15.6. Koninklijke Philips N.V.
- 15.7. Toshiba Corporation
- 15.8. Agilent Technologies, Inc.
- 15.9. Illumina, Inc.
- 15.10. Merck KGaA Danaher Corporation

16. STRATEGIC RECOMMENDATIONS

17. ABOUT US & DISCLAIMER

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