

Hollow-Fiber Bioreactors Market -Opportunities, Share, Growth and Competitive Analysis and Forecast 2029

The Business Research Company's Hollow-Fiber Bioreactors Global Market Report 2025 – Market Size, Trends, And Global Forecast 2025-2034

LONDON, GREATER LONDON, UNITED KINGDOM, September 11, 2025 /EINPresswire.com/ -- What Is The Forecast For The Hollow-Fiber Bioreactors Market From 2024 To 2029?



The market size of hollow-fiber bioreactors has experienced significant growth in recent years. The market size is projected to increase from \$1.37 billion in 2024 to \$1.50 billion in 2025, with a



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compound annual growth rate (CAGR) of 9.6%. The surge in the historical timeframe was due to factors such as the rise in monoclonal antibodies production, the growth in demand for vaccine manufacturing, increase in research funding for cell culture, advancements in ultrafiltration membrane performance, and the expansion of single-use bioprocessing platforms.

In the coming years, the <u>hollow-fiber bioreactors market</u> <u>size</u> is predicted to witness significant expansion. Projected to hit \$2.14 billion in 2029 with a compound annual growth

rate of 9.2%, this growth within the forecast period can be linked to an increase in the approval of cell-based therapies, expansion of the regenerative medicine market, rising cases of chronic and degenerative diseases, a shift towards continuous manufacturing methods, and a growing preference for personalized medicine. The emergence of trends such as the creation of nano structured polymer composite membranes, the integration of real-time sensor and automation technology, the use of artificial intelligence for process optimization, progress in surface functionalization techniques, and research into biodegradable hollow-fiber materials will characterize the forecast period.

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What Are The Core Growth Drivers Shaping The Future Of The Hollow-Fiber Bioreactors Market?

The growth of the hollow-fiber bioreactors market is anticipated to be boosted by the escalating demand for cell-based therapy production. This pertains to the creation of therapeutic products from living cells intended to manage an array of diseases from cancers to genetic conditions. This demand surge is attributed to the need for consistent manufacturing platforms, capable of supporting high cell densities while ensuring product quality. Hollow-fiber bioreactors ease cellbased therapy production, providing a closed, large-surface-area system for efficient expansion and harvesting of therapeutic cells under regulated conditions. For instance, the Switzerlandbased non-profit organization, International Federation of Pharmaceutical Manufacturers and Associations, reported in December 2024 that six breaking-new-ground cell and gene treatments were introduced in 2023, an increase of 50% from the previous year. Hence, the escalating demand for cell-based therapy production is fuelling the growth of the hollow-fiber bioreactors market. The hollow-fiber bioreactors market's progress is also propelled by the rising implementation of personalized medicine due to the adoption of advanced diagnostic technologies. Personalized medicine refers to healthcare providers adapting treatment strategies based on the needs and genetic attributes of each patient. The advent of advanced diagnostic technologies accurately identifying patient-specific disease processes facilitates the development of these personalized treatments. Hollow-fiber bioreactors aid in the evolution of personalized medicine by providing scalable, high-quality cell culture production that paves the way for patient-specific therapies. As per the Personalized Medicine Coalition, a US healthcare organization, the US federal agency Food and Drug Administration approved 16 personalized treatments for rare disease patients in 2023, a boost from six in 2022. Consequently, the rising prevalence of personalized medicine is fostering the growth of the hollow-fiber bioreactors market.

Which Companies Are Currently Leading In The Hollow-Fiber Bioreactors Market?

Major players in the Hollow-Fiber Bioreactors Global Market Report 2025 include:

- General Electric Company
- Veolia Environnement S.A.
- Thermo Fisher Scientific Inc.
- Mitsubishi Chemical Corporation
- Kubota Corporation
- DuPont de Nemours Inc.
- MANN+HUMMEL GmbH
- Alfa Laval AB
- Sartorius AG
- Repligen Corporation

What Are The Key Trends And Market Opportunities In The Hollow-Fiber Bioreactors Sector?

Key players in the hollow-fiber bioreactors market are concentrating their efforts on the creation of sophisticated systems, including automated dual-compartment systems, with an aim to improve cell culture efficiency and scalability. This type of system allows for the independent and automatic control of the cell culture within the hollow fibers as well as the environment for nutrient exchange, optimizing cell growth and productivity. In a recent development, in September 2022, Terumo Blood and Cell Technologies Inc., an American medical tech firm, unveiled the Quantum Flex Cell Expansion System. This device employs a continuously perfusion-based, hollow-fiber semipermeable membrane to establish a closed and automated cell culture environment. It comes in two different bioreactor sizes for scalability and flexibility in attaining the necessary cell counts. The system is supported by an integrated Cell Processing Application software for fleet management, process scalability, and adherence to good manufacturing practice. This system is intended for autologous and allogeneic applications, viral vector and exosome production, serving to introduce automation earlier in the process and diminish the requirement for bridging studies and tech transfers.

Comparative Analysis Of Leading Hollow-Fiber Bioreactors Market Segments

The hollow-fiber bioreactors market covered in this report is segmented

- 1) By Product Type: Single-Use Hollow-Fiber Bioreactors, Reusable Hollow-Fiber Bioreactors
- 2) By Application: Cell Culture, Tissue Engineering, Biopharmaceutical Production, Wastewater Treatment, Other Applications
- 3) By End-User: Pharmaceutical And Biotechnology Companies, Research Institutes, Contract Research Organizations, Other End-Users

Subsegments:

- 1) By Single-Use Hollow-Fiber Bioreactors: Pre-Assembled Single-Use Hollow-Fiber Bioreactors, Modular Single-Use Hollow-Fiber Bioreactors, Customizable Single-Use Hollow-Fiber Bioreactors, High-Throughput Single-Use Hollow-Fiber Bioreactors, Automated Single-Use Hollow-Fiber Bioreactors
- 2) By Reusable Hollow-Fiber Bioreactors: Fixed-Bed Reusable Hollow-Fiber Bioreactors, Modular Reusable Hollow-Fiber Bioreactors, High-Capacity Reusable Hollow-Fiber Bioreactors, Multipurpose Reusable Hollow-Fiber Bioreactors, Clean-In-Place Reusable Hollow-Fiber Bioreactors

View the full hollow-fiber bioreactors market report:

https://www.thebusinessresearchcompany.com/report/hollow-fiber-bioreactors-global-market-report

Which Regions Are Dominating The Hollow-Fiber Bioreactors Market Landscape?

In the Hollow-Fiber Bioreactors Global Market Report 2025, North America ranked as the leading region in the hollow-fiber bioreactors market in 2024. Asia-Pacific is predicted to display the most rapid growth over the projection period. The report includes comprehensive information about all the following regions: Asia-Pacific, Western Europe, Eastern Europe, North America, South America, the Middle East, and Africa.

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