

Bioprocess Containers Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, 2018-2028 Segmented by Type of Containers (2D Bioprocess Containers, 3D Bioprocess Containers, Other Containers and Accessories), By Application (Upstream Process, Downstream Process, Process Development), By End Users (Biopharmaceutical Companies, Life Science R&D Companies, Others), By Region, and By Competition

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# Abstracts

Bioprocess Containers market is anticipated to witness impressive growth during the forecast period. This can be ascribed to the rising demand for the implementation of automation and machine learning in the biopharmaceutical industry, along with the introduction of technologically advanced products for the development of novel products across the globe. Bioprocess containers are a critical component of the biopharmaceutical manufacturing process, providing a reliable and cost-effective alternative to traditional stainless-steel equipment. Over the past few years, there have been significant developments and trends related to bioprocess containers. The adoption of single-use bioprocess containers has been driven by their flexibility, scalability, and cost-effectiveness. Smart sensors and the Internet of Things (IoT) are transforming the biopharmaceutical industry, and bioprocess containers are no exception. Bioprocess containers are now being designed with smart sensors that provide real-time monitoring and control of critical process parameters such as temperature, pH, and dissolved oxygen levels. This enables biopharmaceutical manufacturers to optimize their processes, reduce waste, and improve product quality. One of the main challenges related to bioprocess containers is standardization.



Currently, there are no industry-wide standards for bioprocess containers, and each manufacturer may have their own design, material, and manufacturing process. This lack of standardization can make it challenging for biopharmaceutical manufacturers to compare and select bioprocess containers, which can lead to inefficiencies and added costs. Bioprocess containers offer several advantages over traditional stainless-steel equipment, including reduced capital expenditures, improved flexibility, and increased efficiency. The market for bioprocess containers is expected to continue to grow in the coming years as biopharmaceutical manufacturers seek to optimize their production processes and reduce costs. Scalability is another challenge related to bioprocess containers. Biopharmaceutical manufacturers may need to scale up or down their production processes quickly to meet changing demand. Bioprocess containers must be designed to accommodate these changes in production without compromising product quality or efficiency. This can be challenging, as bioprocess containers may need to be customized for specific applications and may not be easily scalable. Bioprocess containers are commonly used for cell culture in the biopharmaceutical industry. These containers are designed to support the growth and production of cells and can be easily customized to meet the specific needs of different cell lines. Bioprocess containers are also used in gene therapy, which involves the transfer of genetic material into a patient's cells to treat or prevent disease. These containers are used to culture and produce the viral vectors used in gene therapy and can be easily modified to meet the specific needs of different vector systems.

#### Increasing Demand for Biopharmaceutical Products

The demand for biopharmaceutical products has been increasing steadily over the past few years, driven by an aging population, rising incidence of chronic diseases, and the need for more effective treatments. Bioprocess containers offer several advantages over traditional manufacturing methods, including greater flexibility, reduced risk of contamination, and lower costs, making them an attractive option for companies looking to increase their production capacity. We can expect to see more customization and modularization in bioprocess container design as manufacturers look for more flexible solutions that can be easily adapted to different production processes. This will help to reduce costs and improve efficiency while still ensuring the quality and purity of biopharmaceutical products.

## Growing Adoption of Single-use Technologies

Bioprocess containers are a key component of single-use technologies, which are rapidly gaining traction in the biopharmaceutical industry. These technologies offer



several advantages over traditional stainless-steel equipment, including lower capital costs, reduced cleaning and validation requirements, and faster turnaround times. As the adoption of single-use technologies continues to increase, so too will the demand for bioprocess containers. Single-use technology has already revolutionized biopharmaceutical manufacturing, and we can expect to see continued growth in this area. This will include the development of new types of bioprocess containers, as well as other single-use components such as filters and pumps.

Growing demand for Cost-effective and efficient production methods

Bioprocess containers are designed to be cost-effective and efficient, making them an attractive option for companies looking to reduce manufacturing costs and increase production capacity. Compared to traditional stainless-steel equipment, bioprocess containers require less time for setup and cleaning, resulting in faster turnaround times and greater productivity. In addition, bioprocess containers can be customized to meet specific customer requirements, allowing for greater flexibility and efficiency in the manufacturing process. GE Healthcare launched a new bioreactor system in 2019. The ReadyToProcess WAVE 25 is a single-use bioreactor system that can be used for cell culture and fermentation processes. The system features a pre-assembled single-use bioprocess container and can be easily integrated into existing manufacturing processes. Bioprocess containers are typically made from materials that are resistant to biopharmaceutical products and are designed to minimize the risk of contamination. This can help ensure the quality and purity of biopharmaceutical products, which is critical for regulatory compliance and patient safety.

Effect of the COVID-19 Pandemic

The COVID-19 pandemic has had a significant impact on the biopharmaceutical industry, with companies around the world ramping up production of vaccines and other biologics. Bioprocess containers have played a critical role in this effort, enabling companies to rapidly scale up production and meet the growing demand for these products. As the pandemic continues to affect populations around the world, the demand for bioprocess containers is likely to remain strong.

Increased Focus on Sustainability and Environmental Friendliness

Sustainability and environmental friendliness are becoming increasingly important for biopharmaceutical manufacturers. Many companies are now focused on reducing their carbon footprint and minimizing waste. Bioprocess containers are playing a significant



role in this trend, as they are designed for single-use applications, reducing the need for cleaning and sterilization processes. Moreover, many bioprocess container manufacturers are using environment-friendly materials and manufacturing processes to reduce their impact on the environment. Merck launched its Mobius MyWay portfolio in 2020, which includes a range of single-use bioprocess containers, filtration products, and other components. The MyWay portfolio is designed to provide customized solutions for different biopharmaceutical manufacturing processes. Bioprocess containers are designed for single use, which means they can be easily disposed of after use. This eliminates the need for time-consuming cleaning and sterilization processes, which can improve overall manufacturing efficiency. Additionally, bioprocess containers can be pre-assembled and pre-sterilized, which further reduces the time and effort required for setup.

Growing Technological Advancements

Advancements in bioprocess container technology have also contributed to the growth of the market. For example, the development of high-performance films and coatings has enabled bioprocess containers to withstand more extreme conditions, such as high pressures and temperatures. In addition, the use of smart sensors and RFID technology has enabled greater control and monitoring of the manufacturing process, improving product quality and safety.

The past three years have seen several product launches related to bioprocess containers that have aimed to improve the efficiency, reliability, and performance of biopharmaceutical manufacturing. These product launches have incorporated new film technology, advanced sensors, and unique impeller technology, among other innovations. As the biopharmaceutical industry continues to evolve, we can expect to see further product launches aimed at improving the efficiency and reliability of bioprocess containers. Overall, the increasing demand for biopharmaceuticals and the need for more efficient and cost-effective manufacturing solutions are expected to continue to drive the growth of the bioprocess container market during the forecast period.

## Recent Development

In 2020, Sartorius launched its BIOSTAT STR single-use bioreactor, designed for large-scale cell culture processes. The bioreactor features a unique rocking motion that mimics the gentle agitation of stirred-tank bioreactors, ensuring consistent mixing and oxygen transfer. The system also includes a range of



sensors for real-time monitoring and control of the bioprocess.

In 2020, Pall Corporation launched its Allegro single-use systems, designed for biopharmaceutical manufacturing applications. The system includes a range of single-use containers, including bags, tubing, and connectors, designed for fluid management, filtration, and bioreactor applications. The Allegro system is designed to reduce contamination risks and increase process flexibility and scalability.

In 2019, Thermo Fisher Scientific launched its HyPerforma Single-Use Bioreactor, designed for high-density cell culture processes. The bioreactor incorporates a new film technology that allows for enhanced oxygen transfer, better mixing, and improved pH control. The system also features advanced sensors for real-time monitoring and control of the bioprocess.

#### Market Segmentation

Global Bioprocess Containers market is further segmented on the basis of type of containers, application, end user, and region. Based on the type of containers, the market can be segmented into 2D Bioprocess Containers, 3D Bioprocess Containers, Other Containers, and Accessories. Based on application, the market can be further split into upstream process, downstream process, and process development. Based on end users, the market can be further divided into Biopharmaceutical Companies, Life Science R&D Companies, and Others. On the basis of region, North America dominated the market among Asia Pacific, Europe, Middle East & Africa, and South America. Among the different countries, the United States dominated the global bioprocess containers market on account of the established biopharmaceutical industry and the increasing adoption of single-use technologies in these regions.

#### **Market Players**

Thermo Fisher Scientific Inc., Cytiva Europe GmbH., Saint-Gobain Group., Lonza Group AG., Avantor Funding Inc., Merck KGaA., Sartorius AG., CellBios Healthcare and Lifesciences Pvt Ltd., Cole-Parmer Instrument Co., Biomass Ventures Pte Ltd. are some of the leading players operating in the Global Bioprocess Containers Market.

#### Report Scope:



In this report, global Bioprocess Containers market has been segmented into the following categories, in addition to the industry trends, which have also been detailed below:

Bioprocess Containers Market, By Type of Containers:

2D Bioprocess Containers

3D Bioprocess Containers

Other Containers and Accessories

Bioprocess Containers Market, By Application:

**Upstream Process** 

**Downstream Process** 

**Process Development** 

Bioprocess Containers Market, By End User:

**Biopharmaceutical Companies** 

Life Science R&D Companies

Others

Bioprocess Containers Market, By Region:

North America

? United States

#### ? Canada

? Mexico



Europe

- ? France
- ? Germany
- ? United Kingdom
- ? Italy
- ? Spain

Asia Pacific

- ? China
- ? India
- ? Japan
- ? South Korea
- ? Australia

South America

- ? Brazil
- ? Argentina
- ? Colombia

Middle East & Africa

#### ? South Africa

Bioprocess Containers Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, 2018-2028 Segme...



? Saudi Arabia

? UAE

Competitive Landscape

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

Available Customizations:

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).



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