# Single-use Bioprocessing Market, Size, Share, Growth, Opportunity and Forecast, 2021-2028 | DataM Intelligence

The Global Single-use Bioprocessing Market is expected to grow at a high CAGR of 12.8% during the forecasting period (2021-2028).



### Kentucky, Nicholasville, Aug 9, 2021 (<u>Issuewire.com</u>) - Market Overview

Single-use bioprocessing systems are the bioprocessing equipment that is used once and disposed of. Single-use bioprocessing systems are made up of plastic components that can be sterilized and sealed by using gamma irradiation. Single-use bioprocessing systems are used for mixing, filtration, purification, upstream expression, storage, and separation of biopharmaceutical products. The market is dominated by the availability of several single-use bioprocessing systems such as bioreactors & fermenters, mixers, bags, bioprocess containers, filtration devices, tubing, sampling systems, connectors & clamps, and probes & sensors.

## **Market Dynamics:**

The market is driven by the increasing demand for <u>single-use bioprocessing systems</u> with the growing penetration of biopharmaceuticals. Single-use bioprocessing systems are widely used for the production of the biopharmaceutical products such as vaccines, monoclonal antibodies (mAbs), personalized medicine, and others. Single-use bioprocessing systems have several advantages such as high energy efficiency, low water usage, less floor space requirement, and very low or no risk of product cross-

contamination. Single-use bioprocessing systems are faster to implement.

There is an increase in the launch of single-use bioprocessing systems. For instance, in September 2019, ABEC had launched a single-use bioreactor system with a working volume of 6,000 L three times that of the industry's standard upper limit.

In January 2019, Sartorius Stedim Biotech had launched the Biostat RM TX with Flexsafe RM TX for producing consistent quality cellular products. Biostat RM TX is a single-use bioreactor, a new wave mixed system developed specifically for closed, automated expansion of consistent quality cell products such as ex vivo cellular immunotherapies. It combines single-use Flexsafe bag technology with the company's expertise in biopharmaceutical automation. Biostat RM TX is designed for scale-out expansion of cells including patient-specific T cells and is a closed system, comprising of an automated control unit and up to two rocking platforms to gently agitate single-use Flexsafe RM TX bags.

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The market is witnessing technological advancement for the development of single-use bioprocessing systems. For instance, in February 2019, Applikon Biotechnology B.V. had launched the single-use AppliFlex ST lab-scale bioreactor as a significant extension to its range of innovative bioreactor systems. AppliFlex ST is a fully customizable and scalable stirred-tank single-use bioreactor that uses 3D printing technology to provide a head plate that is uniquely configured to each individual process, including custom impeller design, and different samples port connections. The 3D printing production technology had allowed the multiple options such as designed on-demand impellers in Helical, Hydrofoil, Marine, or Rushton formats. It provides the complete reproducibility between the different customized bioreactors, providing exact identical conditions between runs.

However, the extractability and leachability issues regarding disposable components like plastic bags are hindering the market growth. Environmental and economic concerns with the usage of single-use bioprocessing systems could have a negative impact on the market.

#### **Segmentation Analysis**

The single-use bioprocessing market is segmented based on the product as the media bags and containers, filtration assemblies, disposable/single-use bioreactors, disposable mixers, and others. The disposable/single-use bioreactors segment accounts for a significant market share of XX% in 2019. The disposable/single-use bioreactors comprised of the disposable bag instead of a culture vessel. Disposable/single-use bioreactors that are ideal for mammalian cell culture depending on the high celldensity or microcarrier-based processes. Single-use bioreactors reduce the cleaning and sterilization demands. These bioreactors are effective for enhancing biological and process safety. The market is dominated by the availability of several disposable/single-use bioreactors. For instance, Sartorius's single-use bioreactors i.e., Ambr15 to BiostatSTR 2,000 L have been developed to ensure easy and straightforward scale-up and scale-down. It is combined with unprecedented high performance even at a large scale. These bioreactors make the products perfectly suitable to serve all the current and future needs from process development to commercial production phases. Several companies are expanding their manufacturing facilities with the use of disposable/single-use bioreactors. For instance, MilliporeSigma had expanded its single-use cGMP facility with the addition of the Mobius 2,000 L singleuse bioreactor, enabling the company to provide upstream development and manufacturing services using its own equipment through its Provantage End-to-End Services offering

Further, the single-use bioprocessing market is also classified based on the end-users as the

biopharmaceutical manufacturers, life science R&D companies, academic research institutes, contract research organizations & manufacturers, and others. The contract research organizations & manufacturers segment accounts for the highest market share of XX% in 2019. Contract research organizations & manufacturers are focusing on installing single-use bioprocessing products at their manufacturing facilities. Contract research organizations & manufacturers are installing single-use bioprocessing equipment including bioreactors at a large scale for in-house biomanufacturing. Contract research organizations & manufacturers are using single-use blood bags, transfer sets, T-flasks, and pipettes for cell therapy-based clinical research.

#### **Geographical Presentation**

By region, the <u>single-use bioprocessing market</u> is segmented into North America, South America, Europe, Asia-Pacific, Middle-East, and Africa. Among all of the regions, North America dominated the single-use bioprocessing market due to the higher adoption of single-use bioprocessing systems for the production of vaccines, monoclonal antibiotics, cell therapies, and other therapies. The single-use bioprocessing systems are manufactured by using high-grade polymer materials and plastic composites that provide the enhanced integral strength. Several manufacturers are using single-use bioprocessing systems as the use of these systems reduced the overall operational costs and provides continuity in biomanufacturing. There is a presence of large-scale biopharmaceutical manufacturing facilities. The market is witnessing technological advancement including automation, big data, and machine learning (ML) solutions in bioprocessing. These technological advancements are useful for predicting errors and improving accuracy during medical procedures.

The Asia-Pacific is expected to witness positive market growth over the forecasted period. There is growing usage of single-use bioprocessing systems as these bioprocessing systems have made the drug manufacturing process faster, simpler, and cheaper. The use of single-use bioprocessing systems increases the productivity of the manufacturing of the products. There is a presence of several companies developing single-use bioprocessing systems. Several public and private players are raising the investment for the development of single-use bioprocessing systems.

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#### **Competitive Analysis**

The Single-use Bioprocessing market is highly competitive with the presence of several international and local market players. Product diversification, technological advancement, revenue generation, and opportunities intensify the market competition. 3M Company, Applikon Biotechnology, Cesco Bioengineering Co., Danaher Corporation, General Electric Company, Merck KGaA, PBS Biotech Inc., and Thermo Fisher Scientific Inc. are the leading Market players with significant market share.

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