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Tangential Flow Filtration Market by Product (Systems, Membrane Filters), Material (PES, PVDF, PTFE), Technique (Ultrafiltration, Microfiltration), Application (Final Product Processing,Cell Separation), End User, Region - Global Forecast to 2028

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Abstracts

The global tangential flow filtration market is projected to USD 3.6 billion by 2028 from USD 1.9 billion in 2023, at a CAGR of 13.5% during the forecast period. Factors such as, increasing adoption of single-use technologies, and growing R&D spending in pharma-biotech companies are driving the market growth.

“In 2022 the systems segment accounted for the largest share of the tangential flow market”

The tangential flow filtration market is segmented into systems, membrane filters, and other tff products, on the basis of products. In 2022, the systems segment dominated the market with the largest share and is anticipated to grow at the highest CAGR during 2023-2028. Tangential filtration systems consist of automated and mechanical filtration systems. These systems provide maximum operational reliability. Some of the benefits associated with these systems include a high retention rate, less consumption of energy, low cost, and reduced cross-contamination risk. With the help of such systems, pharmaceutical companies can achieve the highest quality products. The systems segment is further segmented into single-use and reusable systems. Single-use systems are gaining importance in separation and purification applications. Developments in research techniques and increased demand for more specificity in the filtration process are increasing the adoption of single-use technologies in many small-

scale biopharmaceutical processes. All the factors are driving the growth for the systems segment.

“The microfiltration techniques dominated the market the largest t share of the technique segment in 2022”

On the basis of technique, the tangential flow filtration market is segmented into microfiltration, ultrafiltration, nanofiltration, and other techniques. The microfiltration segment dominated the market with highest market share in 2022. Microfiltration involves the filtration of particles in the range of 0.1 microns to 1 micron. Microfilters for tangential flow filtration are available in pore sizes of 0.1, 0.2, 0.45, and 0.65 microns. Molecules are filtered by applying a pressure of 100 kPa to 400 kPa. The filters used in this technique can be in a submerged configuration or a pressure vessel configuration; they can either be hollow fibers or flat, tubular, or spiral filters. The filters used in this technique can be in a submerged configuration or a pressure vessel configuration; they can be hollow fibers, flat, sheet, tubular, or spiral.

“The final product processing application accounted for the largest market share of this market in 2022”

Based on application, the tangential flow filtration market is segmented into final product processing, raw material filtration, cell separation, and water purification. In 2022, the final product processing segment accounted for the largest share of the global tangential flow filtration market. Final product processing forms the largest and fastest-growing application segment in the tangential flow filtration market. Final product processing includes the manufacturing, extraction, purification, and packaging of chemical or biological composition to be used as medications in humans. The final product processing segment is further divided into active pharmaceutical ingredient (API) filtration, protein purification, vaccine and antibody processing, formulation and filling solutions, and viral clearance, based on the desired final product. According to the CGMP guidelines by the US FDA, final product processing is a crucial part of the manufacturing of drugs, and thus the regulatory guidelines are very stringent. This creates a demand for using superior quality filters, and thus the market is constantly growing for final product processing. The final product processing steps in TFF are critical to produce high-quality biologics.

Merck KGaA (Germany), Danaher Corporation (US), Sartorius AG (Germany), Parker Hannifin Corporation (US), Repligen Corporation (US), Alfa Laval Corporate AB (Sweden), Andritz (Austria), Meissner Filtration Products, Inc. (US), Antylia Scientific

(US), Donaldson Company, Inc. (US), Koch Separation Solutions (US), Sterlitech Corporation (US), Synder Filtration, Inc (US), PendoTECH LLC (US), Microfilt India Pvt. Ltd. (India), BIONET (Spain), Sysbiotech GmbH (Austria), Hangzhou Cobetter Filtration Equipment (China), FORMULATRIX, Inc (US), Mantec Technical Ceramics (UK), Smartflow Technologies, Inc. (US), Tami Industries (France), SPF Technologies (US), NovaSep (France), and ABEC, Inc. (US) are some of the major players operating in the market.

“Asia Pacific: The fastest-growing region in the tangential flow filtration market”

The tangential flow filtration market is divided into five regions including, North America, Europe, Asia Pacific, Latin America and Middle East and Africa. The Asia Pacific market is expected to register the highest CAGR during 2023-2028. Factors responsiblr for the growth includes, unique industry dynamics accompanied by a highly competitive landscape owing to its complex and diverse regulatory landscape and varying pharma industry infrastructures across each country, impacting innovation in each country.

The primary interviews conducted for this report can be categorized as follows:

By Respondent: Supply Side- 80% and Demand Side - 20%

By Designation: Managers- 45%, CXOs and Director level - 30%, and Executives - 25%

By Region: North America -20%, Asia-Pacific -10%, Europe-55%, Latin america-10%, Middle east and Africa-5%

List of Companies Profiled in the Report:

Merck KGaA (Germany)

Danaher Corporation (US)

Sartorius AG (Germany)

Parker Hannifin Corporation (US)

Repligen Corporation (US)

Alfa Laval Corporate AB (Sweden)

Andritz (Austria)

Meissner Filtration Products, Inc. (US)

Antylia Scientific (US)

Donaldson Company, Inc. (US)

Koch Separation Solutions (US)

Sterlitech Corporation (US)

Synder Filtration, Inc (US)

PendoTECH LLC (US)

Microfilt India Pvt. Ltd. (India)

BIONET (Spain)

Sysbiotech GmbH (Austria)

Hangzhou Cobetter Filtration Equipment (China)

FORMULATRIX, Inc (US)

Mantec Technical Ceramics (UK)

Smartflow Technologies, Inc. (US)

Tami Industries (France)

SPF Technologies (US)

NovaSep (France)

ABEC, Inc. (US)

Research Coverage:

The report analyzes the TFF market and aims at estimating the market size and future growth potential. The report also includes an in-depth competitive analysis of the key players in this market, along with their company profiles, product offerings, and recent developments.

Reasons to Buy the Report

The report will enrich established firms as well as new entrants/smaller firms to gauge the pulse of the market, which, in turn, would help them to garner a more significant share. Firms purchasing the report could use one, or a combination of the below mentioned five strategies for strengthening their market presence.

The report provides insights on the following pointers:

Analysis of key drivers (Technological advancements in TFF systems, Rising R&D spending and growing pharmaceutical & biotechnology industries, and stringent regulatory requirements), restraints (High capital investments to limit the entry of small players, competition from alternative technologies), opportunities (Emerging economoies, increasing demand for biologics), and challenges (Complexities introduced by excipient-protein interaction) influencing the growth of the TFF Market.

Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product & service launches in the TFF Market

Market Development: Comprehensive information about lucrative markets – the report analyses the TFF Market across varied regions

Market Diversification: Exhaustive information about new products & services, untapped geographies, recent developments, and investments in the TFF market

Competitive Assessment: In-depth assessment of market shares, growth

strategies and service offerings of leading players like Merck KGaA (Germany), Danaher Corporation (US), Sartorius AG (Germany), Parker Hannifin Corporation (US), Repligen Corporation (US), Alfa Laval Corporate AB (Sweden), Andritz (Austria), Meissner Filtration Products, Inc. (US), Antylia Scientific (US), Donaldson Company, Inc. (US), Koch Separation Solutions (US), Sterlitech Corporation (US), Synder Filtration, Inc (US), PendoTECH LLC (US), Microfilt India Pvt. Ltd. (India), BIONET (Spain), Sysbiotech GmbH (Austria), Hangzhou Cobetter Filtration Equipment (China), FORMULATRIX, Inc (US), Mantec Technical Ceramics (UK), Smartflow Technologies, Inc. (US), Tami Industries (France), SPF Technologies (US), NovaSep (France), and ABEC, Inc. (US).

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*Details on Business Overview, Products Offered, Recent Developments, and MnM View (Key strengths/Right to Win, Strategic Choices Made, and Weaknesses and Competitive Threats) might not be captured in case of unlisted companies.

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