

Microfluidic Components Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, 2018-2028 Segmented By Product (Valves (Solenoid Valves, Flow Control Valves, Check Valves, Shuttle Valves, Pressure Relief Valves, Proportional Valves, Other Valves), Flow and Pressure Controllers, Flow and Pressure Sensors, Micropumps, Nozzles, Microneedles, Others), By Industry (Oil & Gas, Healthcare, Aerospace & Defense, Consumer Electronics, Automotive, Other Industries), By Region and Competition

<https://marketpublishers.com/r/M0F7484200EDEN.html>

Date: November 2023

Pages: 172

Price: US\$ 4,900.00 (Single User License)

ID: M0F7484200EDEN

Abstracts

Global Microfluidic Components Market has valued at USD 5.40 Billion in 2022 and is anticipated to project steady growth in the forecast period with a CAGR of 9.29% through 2028. The global microfluidic components market has been experiencing remarkable growth in recent years, driven by advancements in healthcare, life sciences, and analytical testing industries. Microfluidics, the science and technology of manipulating small amounts of fluids, has paved the way for innovative solutions in various fields. Microfluidic components refer to the essential building blocks of microfluidic devices, which are designed to handle small volumes of fluids at the microscale level. These components include microfluidic chips, pumps, valves, connectors, sensors, and other accessories. The applications of microfluidic components span across diverse industries, including healthcare, pharmaceuticals, biotechnology, and diagnostics.

The demand for miniaturized and automated systems in laboratories and point-of-care settings is a major driver for the microfluidic components market. Miniaturization allows for cost-effective and efficient handling of small sample volumes, reducing reagent consumption and improving overall workflow. Microfluidic components play a crucial role in various biomedical applications, such as cell analysis, DNA sequencing, and point-of-care diagnostics. The ability to perform complex biological and chemical analyses on a small scale has led to advancements in personalized medicine and rapid disease detection. Increased funding for research and development activities, particularly in the life sciences and healthcare sectors, has fueled the development of new microfluidic technologies. This has resulted in the creation of innovative products and solutions, driving market growth. The need for rapid and on-site diagnostics has surged, leading to an increased demand for microfluidic components in point-of-care testing devices. These devices offer real-time results, enabling timely medical interventions and improving patient outcomes.

Key Market Drivers

Rising Demand for Point-of-Care Diagnostics are Driving the Global Microfluidic Components Market.

In recent years, the field of healthcare has witnessed a transformative shift towards personalized and on-the-spot diagnostics, leading to a significant surge in the demand for point-of-care (POC) diagnostics. This paradigm shift is driving the global microfluidic components market, as microfluidic technology plays a pivotal role in enabling precise and rapid diagnostic processes. The integration of microfluidics in diagnostic devices has not only enhanced the speed and accuracy of testing but has also opened up new possibilities for portable and user-friendly healthcare solutions. Point-of-care diagnostics refer to medical tests conducted near the patient, often at the bedside or in a clinical setting, providing rapid results without the need for centralized laboratory facilities.

POC diagnostics enable healthcare providers to make swift and informed decisions, leading to timely patient care and treatment. Rapid diagnostic results are crucial in emergency situations and can significantly impact patient outcomes. Traditional laboratory-based tests may have longer turnaround times, leading to delays in diagnosis and treatment. POC diagnostics, powered by microfluidic components, offer quick results, allowing for immediate intervention and personalized patient care. POC diagnostics enhance accessibility to healthcare, particularly in resource-limited or remote areas where access to centralized laboratories is challenging. Portable and handheld devices equipped with microfluidic components bring diagnostics closer to the

patient. The ease of use and quick results provided by microfluidic POC devices facilitate more frequent and convenient preventive screenings. This can aid in the early detection of diseases, leading to better management and improved health outcomes.

Growing Adoption in Environmental Monitoring is Driving the Global Microfluidic Components Market

The global microfluidic components market is experiencing a significant surge in demand, propelled by the growing adoption of microfluidic technology in environmental monitoring applications. Microfluidics involves the manipulation of small volumes of fluids on a microscale, enabling precise control and analysis of various chemical and biological processes. This technology has found extensive applications in environmental monitoring, contributing to the burgeoning market for microfluidic components. The 21st century has witnessed an unprecedented increase in environmental challenges, including climate change, pollution, and depletion of natural resources. Governments, industries, and research institutions worldwide are increasingly recognizing the importance of monitoring and managing environmental parameters to mitigate the impact of these challenges. Microfluidic technology has emerged as a powerful tool for achieving accurate and real-time environmental monitoring.

Microfluidic components enable the miniaturization of analytical devices, making them portable and suitable for on-site environmental monitoring. This is particularly advantageous in remote or challenging terrains where traditional monitoring methods may be impractical. Microfluidic devices offer high precision and sensitivity in the analysis of environmental samples. The ability to handle small volumes of samples allows for more efficient detection of contaminants, pollutants, and other critical parameters. Microfluidic platforms support multiplexing, allowing simultaneous analysis of multiple parameters in a single device. This capability is invaluable in comprehensive environmental monitoring, where various factors need to be assessed concurrently. Microfluidic systems consume significantly lower amounts of reagents compared to traditional methods. This not only contributes to cost savings but also aligns with sustainable practices by minimizing chemical waste. Microfluidic devices facilitate rapid analysis, enabling real-time monitoring of environmental conditions. This is crucial for timely intervention and decision-making in response to environmental changes or incidents.

Key Market Challenges

Costs and Scalability

One of the primary challenges facing the microfluidic components market is the associated costs. The intricate fabrication processes and the use of specialized materials contribute significantly to the overall expense of manufacturing these components. Microfabrication techniques, such as photolithography and soft lithography, require precision and expertise, leading to increased production costs. Furthermore, the demand for biocompatible materials in microfluidic devices, especially in applications related to healthcare and diagnostics, adds another layer of complexity. These materials must adhere to stringent quality standards, which can escalate manufacturing costs. As a result, companies operating in the microfluidic components market face the dilemma of balancing quality with cost-effectiveness.

Scalability is another critical issue affecting the global microfluidic components market. While microfluidic technologies excel in small-scale applications, translating these innovations into large-scale production remains a formidable task. The challenges in scaling up production processes include maintaining consistent quality, optimizing manufacturing efficiency, and ensuring cost-effectiveness. The intricacies of microfabrication, which are manageable at a smaller scale, become more complex when attempting to achieve mass production. Additionally, the transition from laboratory prototypes to commercial-scale manufacturing often requires substantial investments in equipment and infrastructure, posing a barrier to entry for some companies.

Key Market Trends

Technological Advancements

In the ever-evolving landscape of technology, one sector that has experienced significant growth is the microfluidic components market. Microfluidics, a field that involves the manipulation of small amounts of fluids, has gained momentum due to its diverse applications in various industries. The continuous influx of technological advancements has been a key driving force behind the expansion of the global microfluidic components market. One of the groundbreaking technological advancements in the microfluidics domain is the development of lab-on-a-chip (LOC) devices. These miniature systems integrate multiple laboratory functions onto a single chip, allowing for precise and efficient analysis of small fluid samples. This innovation has revolutionized diagnostics, making it possible to conduct complex tests with minimal sample volumes. The integration of 3D printing technology has opened new avenues for designing and manufacturing microfluidic devices. This method allows for the creation of intricate and customized structures that were previously challenging to achieve. The

flexibility and cost-effectiveness of 3D printing have contributed to the growth of microfluidic components by simplifying the prototyping and production processes. Advancements in sensor technologies have led to the development of smart microfluidic devices equipped with sensors and actuators. These devices can provide real-time data, enabling precise control over fluid manipulation. This has found applications in fields such as point-of-care diagnostics, environmental monitoring, and drug delivery systems.

The healthcare and life sciences sector has witnessed a profound impact from technological advancements in microfluidics. Miniaturized diagnostic tools, portable healthcare devices, and advancements in drug delivery systems have improved patient care and treatment outcomes. Biotechnological research has been accelerated by the integration of microfluidic components. The ability to conduct high-throughput screenings, analyze single cells, and perform DNA sequencing on a small scale has significantly enhanced the efficiency of biotechnology workflows. The development of portable and user-friendly microfluidic devices has paved the way for point-of-care diagnostics. These devices enable rapid and on-site testing, reducing the need for centralized laboratories and facilitating timely decision-making in healthcare settings.

Segmental Insights

Product Insights

Based on the category of Product, Valves emerged as the dominant player in the global market for Microfluidic Components in 2022. Valves in microfluidic systems enable precise control over the flow of fluids, allowing researchers and professionals to manipulate samples with unparalleled accuracy. This level of control is essential in applications such as analytical chemistry, where minute variations can significantly impact results. The valve segment has seen a surge in demand due to the increasing trend of automation in various industries. Automated microfluidic systems with integrated valves streamline processes, reduce human error, and enhance overall efficiency. This is particularly valuable in high-throughput screening in drug discovery and diagnostic applications. Microfluidic valves find applications across a wide range of industries, including healthcare, life sciences, environmental monitoring, and electronics. As the technology continues to advance, the versatility of microfluidic valves makes them indispensable in developing innovative solutions for various challenges.

Industry Insights

The Healthcare segment is projected to experience rapid growth during the forecast period. The healthcare industry has been quick to recognize and adopt microfluidic components for a range of applications, from diagnostics to drug delivery. The ability of microfluidics to handle small volumes of fluids with high precision makes it particularly suited for medical applications where accuracy is paramount. As a result, the healthcare segment has become the dominant force propelling the growth of the global microfluidic components market.

Regional Insights

North America emerged as the dominant player in the global Microfluidic Components market in 2022, holding the largest market share in terms of value. North America boasts a robust technological infrastructure and a thriving ecosystem of research and development. This environment has given rise to cutting-edge advancements in microfluidic technologies, with a focus on enhancing precision, efficiency, and scalability. The region's commitment to innovation has positioned it at the forefront of the global microfluidic components market. The region's dedication to fostering innovation is reflected in substantial investments in research and development. Governments, private enterprises, and academic institutions collaborate to fund projects that push the boundaries of microfluidic applications. This strategic investment has not only accelerated the pace of technological advancements but has also fueled the growth of the microfluidic components market in North America.

Key Market Players

Parker Hannifin Corporation

IDEX Corporation

Fluigent SA

Staiger GmbH & Co. KG

SMC Corporation

Camozzi Automation Spa Societ? Unipersonale

Aignep s.p.a.

FIM Valvole Srl

Humphrey Products Corporation

Dolomite Microfluidics

Cellix Ltd.

Christian B?rkert GmbH & Co. KG

Report Scope:

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

Microfluidic Components Market, By Product:

Flow and Pressure Controllers

Flow and Pressure Sensors

Micropumps

Nozzles

Microneedles

Others

Microfluidic Components Market, By Industry:

Oil & Gas

Healthcare

Aerospace & Defense

Consumer Electronics, Automotive

Other Industries

Microfluidic Components 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 Microfluidic Components Market.

Available Customizations:

Global Microfluidic Components market report with the given market data, Tech Sci 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. GLOBAL MICROFLUIDIC COMPONENTS MARKET OUTLOOK

- 4.1. Market Size & Forecast
 - 4.1.1. By Value
- 4.2. Market Share & Forecast
 - 4.2.1. By Product (Valves (Solenoid Valves, Flow Control Valves, Check Valves, Shuttle Valves, Pressure Relief Valves, Proportional Valves, Other Valves), Flow and Pressure Controllers, Flow and Pressure Sensors, Micropumps, Nozzles, Microneedles, Others)
 - 4.2.2. By Industry (Oil & Gas, Healthcare, Aerospace & Defense, Consumer Electronics, Automotive, Other Industries)

- 4.2.3. By Region
- 4.2.4. By Company (2022)
- 4.3. Market Map
 - 4.3.1. By Product
 - 4.3.2. By Industry
 - 4.3.3. By Region

5. ASIA PACIFIC MICROFLUIDIC COMPONENTS MARKET OUTLOOK

- 5.1. Market Size & Forecast
 - 5.1.1. By Value
- 5.2. Market Share & Forecast
 - 5.2.1. By Product
 - 5.2.2. By Industry
 - 5.2.3. By Country
- 5.3. Asia Pacific: Country Analysis
 - 5.3.1. China Microfluidic Components Market Outlook
 - 5.3.1.1. Market Size & Forecast
 - 5.3.1.1.1. By Value
 - 5.3.1.2. Market Share & Forecast
 - 5.3.1.2.1. By Product
 - 5.3.1.2.2. By Industry
 - 5.3.2. India Microfluidic Components Market Outlook
 - 5.3.2.1. Market Size & Forecast
 - 5.3.2.1.1. By Value
 - 5.3.2.2. Market Share & Forecast
 - 5.3.2.2.1. By Product
 - 5.3.2.2.2. By Industry
 - 5.3.3. Australia Microfluidic Components Market Outlook
 - 5.3.3.1. Market Size & Forecast
 - 5.3.3.1.1. By Value
 - 5.3.3.2. Market Share & Forecast
 - 5.3.3.2.1. By Product
 - 5.3.3.2.2. By Industry
 - 5.3.4. Japan Microfluidic Components Market Outlook
 - 5.3.4.1. Market Size & Forecast
 - 5.3.4.1.1. By Value
 - 5.3.4.2. Market Share & Forecast
 - 5.3.4.2.1. By Product

- 5.3.4.2.2. By Industry
- 5.3.5. South Korea Microfluidic Components Market Outlook
 - 5.3.5.1. Market Size & Forecast
 - 5.3.5.1.1. By Value
 - 5.3.5.2. Market Share & Forecast
 - 5.3.5.2.1. By Product
 - 5.3.5.2.2. By Industry

6. EUROPE MICROFLUIDIC COMPONENTS MARKET OUTLOOK

- 6.1. Market Size & Forecast
 - 6.1.1. By Value
- 6.2. Market Share & Forecast
 - 6.2.1. By Product
 - 6.2.2. By Industry
 - 6.2.3. By Country
- 6.3. Europe: Country Analysis
 - 6.3.1. France Microfluidic Components 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
 - 6.3.1.2.2. By Industry
 - 6.3.2. Germany Microfluidic Components 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
 - 6.3.2.2.2. By Industry
 - 6.3.3. Spain Microfluidic Components 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
 - 6.3.3.2.2. By Industry
 - 6.3.4. Italy Microfluidic Components Market Outlook
 - 6.3.4.1. Market Size & Forecast
 - 6.3.4.1.1. By Value
 - 6.3.4.2. Market Share & Forecast

- 6.3.4.2.1. By Product
- 6.3.4.2.2. By Industry
- 6.3.5. United Kingdom Microfluidic Components Market Outlook
 - 6.3.5.1. Market Size & Forecast
 - 6.3.5.1.1. By Value
 - 6.3.5.2. Market Share & Forecast
 - 6.3.5.2.1. By Product
 - 6.3.5.2.2. By Industry

7. NORTH AMERICA MICROFLUIDIC COMPONENTS MARKET OUTLOOK

- 7.1. Market Size & Forecast
 - 7.1.1. By Value
- 7.2. Market Share & Forecast
 - 7.2.1. By Product
 - 7.2.2. By Industry
 - 7.2.3. By Country
- 7.3. North America: Country Analysis
 - 7.3.1. United States Microfluidic Components 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
 - 7.3.1.2.2. By Industry
 - 7.3.2. Mexico Microfluidic Components 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
 - 7.3.2.2.2. By Industry
 - 7.3.3. Canada Microfluidic Components 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
 - 7.3.3.2.2. By Industry

8. SOUTH AMERICA MICROFLUIDIC COMPONENTS MARKET OUTLOOK

- 8.1. Market Size & Forecast
 - 8.1.1. By Value
- 8.2. Market Share & Forecast
 - 8.2.1. By Product
 - 8.2.2. By Industry
 - 8.2.3. By Country
- 8.3. South America: Country Analysis
 - 8.3.1. Brazil Microfluidic Components 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
 - 8.3.1.2.2. By Industry
 - 8.3.2. Argentina Microfluidic Components 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
 - 8.3.2.2.2. By Industry
 - 8.3.3. Colombia Microfluidic Components 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
 - 8.3.3.2.2. By Industry

9. MIDDLE EAST AND AFRICA MICROFLUIDIC COMPONENTS MARKET OUTLOOK

- 9.1. Market Size & Forecast
 - 9.1.1. By Value
- 9.2. Market Share & Forecast
 - 9.2.1. By Product
 - 9.2.2. By Industry
 - 9.2.3. By Country
- 9.3. MEA: Country Analysis
 - 9.3.1. South Africa Microfluidic Components 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
 - 9.3.1.2.2. By Industry
- 9.3.2. Saudi Arabia Microfluidic Components 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
 - 9.3.2.2.2. By Industry
- 9.3.3. UAE Microfluidic Components 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
 - 9.3.3.2.2. By Industry
- 9.3.4. Egypt Microfluidic Components Market Outlook
 - 9.3.4.1. Market Size & Forecast
 - 9.3.4.1.1. By Value
 - 9.3.4.2. Market Share & Forecast
 - 9.3.4.2.1. By Product
 - 9.3.4.2.2. By Industry

10. MARKET DYNAMICS

- 10.1. Drivers
- 10.2. Challenges

11. MARKET TRENDS & DEVELOPMENTS

- 11.1. Recent Developments
- 11.2. Product Launches
- 11.3. Mergers & Acquisitions

12. GLOBAL MICROFLUIDIC COMPONENTS MARKET: SWOT ANALYSIS

13. PORTER'S FIVE FORCES ANALYSIS

- 13.1. Competition in the Industry

- 13.2. Potential of New Entrants
- 13.3. Power of Suppliers
- 13.4. Power of Customers
- 13.5. Threat of Substitute Product

14. COMPETITIVE LANDSCAPE

- 14.1. Parker Hannifin Corporation
 - 14.1.1. Company Snapshot
 - 14.1.2. Product & Services
 - 14.1.3. Current Capacity Analysis
 - 14.1.4. Financials (In case of listed)
 - 14.1.5. Recent Developments
 - 14.1.6. SWOT Analysis
- 14.2. IDEX Corporation
- 14.3. Fluigent SA
- 14.4. Staiger GmbH & Co. KG
- 14.5. SMC Corporation
- 14.6. Camozzi Automation Spa Societ? Unipersonale
- 14.7. Aignep s.p.a.
- 14.8. FIM Valvole Srl
- 14.9. Humphrey Products Corporation
- 14.10. Dolomite Microfluidics
- 14.11. Cellix Ltd.
- 14.12. Christian B?rkert GmbH & Co. KG

15. STRATEGIC RECOMMENDATIONS

16. ABOUT US & DISCLAIMER

I would like to order

Product name: Microfluidic Components Market - Global Industry Size, Share, Trends, Opportunity, and Forecast, 2018-2028 Segmented By Product (Valves (Solenoid Valves, Flow Control Valves, Check Valves, Shuttle Valves, Pressure Relief Valves, Proportional Valves, Other Valves), Flow and Pressure Controllers, Flow and Pressure Sensors, Micropumps, Nozzles, Microneedles, Others), By Industry (Oil & Gas, Healthcare, Aerospace & Defense, Consumer Electronics, Automotive, Other Industries), By Region and Competition

Product link: <https://marketpublishers.com/r/M0F7484200EDEN.html>

Price: US\$ 4,900.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/M0F7484200EDEN.html>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:
Last name:
Email:
Company:
Address:
City:
Zip code:
Country:
Tel:
Fax:
Your message:

****All fields are required**

Customer signature _____

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <https://marketpublishers.com/docs/terms.html>

To place an order via fax simply print this form, fill in the information below and fax the completed form to +44 20 7900 3970