

Drug Delivery Pump Electronics Market Forecasts to 2034 – Global Analysis By Pump Type (Syringe Pumps, Infusion Pumps, Implantable Pumps, Insulin Pumps and Elastomeric Pumps), Application, End User and By Geography

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Abstracts

According to Statistics MRC, the Global Drug Delivery Pump Electronics Market is accounted for \$2.1 billion in 2026 and is expected to reach \$4.3 billion by 2034 growing at a CAGR of 9.0% during the forecast period. Drug delivery pump electronics refer to the electronic mechanisms responsible for regulating and supervising the controlled dispensing of medications in infusion pumps and portable drug delivery devices. These systems typically consist of processors, sensing elements, power control units, and communication interfaces that work together to maintain dosing precision and operational safety. Rising healthcare needs, especially for long-term treatment of conditions such as diabetes, cancer, and chronic pain, is increasing the demand for advanced pump electronics. Modern devices also support wireless communication and integration with digital health platforms, enabling real-time monitoring and improved patient management. Ongoing advancements in compact electronic components, energy-efficient batteries, and intelligent safety mechanisms are supporting the development of highly reliable and user-friendly drug delivery pump technologies.

According to the International Diabetes Federation (IDF), the global diabetes prevalence is expected to rise to 643 million by 2030, which directly supports the growth of electronic drug delivery systems like insulin pumps and smart injectors.

Market Dynamics:

Driver:

Rising prevalence of chronic diseases

The growing number of people affected by chronic health conditions including diabetes, cancer, cardiovascular diseases, and neurological disorders is significantly boosting the demand for drug delivery pump electronics. Individuals with long-term illnesses often require precise and continuous medication delivery, which modern infusion pumps can provide efficiently. The electronic components within these devices regulate dosage accuracy, monitor safety parameters, and maintain consistent operation. With aging populations and increasing lifestyle-related health challenges worldwide, healthcare systems are adopting automated drug delivery technologies more frequently.

Restraint:

High development and manufacturing costs

One significant limitation in the drug delivery pump electronics market is the substantial cost involved in designing and producing sophisticated electronic systems. These pumps rely on highly precise sensors, advanced microcontrollers, and dependable monitoring circuits to ensure safe and accurate medication delivery. Implementing these technologies requires extensive research, specialized manufacturing processes, and rigorous testing procedures, which increase overall production costs. Additionally, meeting strict regulatory and safety requirements adds further financial pressure on manufacturers. Smaller companies may find it difficult to invest in such expensive development processes.

Opportunity:

Expansion of wearable drug delivery devices

The growing popularity of wearable drug delivery technologies offers strong growth potential for the drug delivery pump electronics market. Wearable infusion systems enable patients to receive medications continuously without restricting movement or everyday routines. These devices depend on advanced electronic components to control dosage precision, monitor performance, and maintain efficient power consumption. Increasing interest in convenient treatment options, especially for managing diabetes and other chronic conditions, is encouraging wider adoption of wearable solutions. Improvements in compact circuitry, sensor technology, and battery efficiency are further supporting product innovation. As personalized and mobile

healthcare becomes more common, wearable drug delivery pump electronics are likely to expand rapidly.

Threat:

Increasing product recalls and safety incidents

Rising cases of device recalls and safety-related issues pose a major risk to the drug delivery pump electronics market. These pumps depend on sophisticated electronic components to administer medications with high precision. Failures in software, sensors, or electronic control systems may cause incorrect dosage delivery, potentially endangering patient health. When such problems occur, manufacturers may face mandatory product recalls, legal consequences, and reputational damage. Regulatory authorities also conduct strict evaluations following safety concerns. These developments can decrease confidence among healthcare providers and users. As a result, repeated recalls and safety problems may negatively influence the adoption and growth of advanced pump electronics.

Covid-19 Impact:

The COVID-19 pandemic created both challenges and growth opportunities for the drug delivery pump electronics market. Initially, global supply chain interruptions, factory closures, and shortages of semiconductor components affected the manufacturing of infusion pumps and related electronic systems. Despite these challenges, hospitals experienced a surge in demand for critical care devices to treat patients requiring constant medication delivery and fluid therapy. Infusion pumps played an important role in intensive care settings during the health crisis. Moreover, the increased focus on remote patient monitoring and home healthcare services during the pandemic encouraged the adoption of technologically advanced and digitally connected drug delivery pump electronic systems.

The infusion pumps segment is expected to be the largest during the forecast period

The infusion pumps segment is expected to account for the largest market share during the forecast period because of their extensive application in medical facilities and home-based care for controlled drug and fluid administration. These devices depend on sophisticated electronic components to ensure precise medication delivery, operational monitoring, and patient safety. Infusion pumps are widely utilized in critical care environments, surgical treatments, oncology therapy, and long-term disease

management. Their capability to provide continuous or scheduled medication dosing makes them highly valuable for healthcare professionals. As hospitals increasingly adopt automated drug administration technologies to enhance treatment efficiency, infusion pumps continue to maintain a leading position in the market.

The diabetes management segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the diabetes management segment is predicted to witness the highest growth rate, mainly because of the increasing number of individuals affected by diabetes worldwide. Electronic drug delivery pumps are widely used to deliver accurate insulin doses and assist in maintaining stable glucose levels. These systems reduce the need for frequent injections and make long-term disease management more convenient for patients. Growing interest in automated insulin delivery devices, wearable treatment solutions, and digitally connected monitoring technologies is encouraging wider adoption. Ongoing technological advancements and the need for efficient diabetes care solutions are significantly supporting the rapid expansion of this segment.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share because of its well-developed healthcare systems, widespread use of modern medical technologies, and the presence of major medical device companies. Healthcare institutions across the region increasingly rely on electronic drug delivery pumps to ensure precise medication administration and enhance patient care. The rising number of patients suffering from chronic illnesses also contributes to the strong demand for advanced drug delivery technologies. Furthermore, supportive regulatory standards, ongoing technological advancements, and substantial investments in healthcare innovation strengthen the region's leadership and maintain its significant share in the global market.

Region with highest CAGR:

Over the forecast period, the Asia-Pacific region is anticipated to exhibit the highest CAGR as healthcare systems continue to develop and modern medical technologies gain wider acceptance. Increasing population levels, greater awareness about advanced treatments, and the growing burden of chronic illnesses are driving demand for automated drug delivery solutions. Many governments are focusing on strengthening healthcare infrastructure and encouraging the use of innovative medical equipment. The

expansion of hospitals, improved access to healthcare services, and rising interest in home-based treatment options are further supporting market expansion. These developments are expected to significantly accelerate the growth of pump electronics in Asia-Pacific.

Key players in the market

Some of the key players in Drug Delivery Pump Electronics Market include Medtronic plc, Becton, Dickinson and Company, Baxter International Inc., B. Braun Melsungen AG, Tandem Diabetes Care, Inc., Ypsomed AG, Insulet Corporation, Novo Nordisk, Eli Lilly and Company, West Pharmaceutical Services, Gerresheimer, Fresenius Kabi AG, Debiotech SA, Flowonix Medical, Inc., AstraZeneca plc, Smiths Medical, Stevanato Group and Epsilon Electronics

Key Developments:

In February 2026, Medtronic has agreed to acquire CathWorks, an Israeli medtech company focused on the diagnosis and treatment of coronary artery disease, for up to \$585 million. CathWorks is known for its FFRangio technology, which uses advanced artificial intelligence (AI) algorithms and computational science to obtain fractional flow reserve (FFR) measurements of the coronary tree from routine X-ray images.

In September 2025, Becton Dickinson Korea said that it signed a tripartite strategic memorandum of understanding with BD Global and Celltrion Pharm at the latter's research institute in Songdo, Incheon, for contract manufacturing organization (CMO) cooperation on prefilled syringes (PFS). Through this agreement, the three companies plan to collaborate by connecting and guiding business opportunities for pharmaceutical companies requiring PFS CMO services, leveraging BD's global syringe customer network and Celltrion Pharm's production capabilities.

In June 2025, Baxter International Inc. announced on the signing of an amended and restated five-year credit agreement, increasing its borrowing capacity to \$2.2 billion. According to InvestingPro analysis, the company appears undervalued based on its Fair Value metrics. This move amends the existing \$2 billion revolving credit facility, and replaces a €200 million credit facility that was terminated concurrently with the new agreement.

Pump Types Covered:

Syringe Pumps

Infusion Pumps

Implantable Pumps

Insulin Pumps

Elastomeric Pumps

Applications Covered:

Diabetes Management

Oncology

Pain Management

Cardiovascular Disorders

Neurology

Gastroenterology

Infectious Diseases

End Users Covered:

Hospitals & Clinics

Ambulatory Surgical Centers

Home Care Settings

Specialty Centers

Regions Covered:**North America**

United States

Canada

Mexico

Europe

United Kingdom

Germany

France

Italy

Spain

Netherlands

Belgium

Sweden

Switzerland

Poland

Rest of Europe

Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Thailand

Malaysia

Singapore

Vietnam

Rest of Asia Pacific

South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

Rest of the World (RoW)

Middle East

Saudi Arabia

United Arab Emirates

Qatar

Israel

Rest of Middle East

Africa

South Africa

Egypt

Morocco

Rest of Africa

What our report offers:

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

Contents

1 EXECUTIVE SUMMARY

- 1.1 Market Snapshot and Key Highlights
- 1.2 Growth Drivers, Challenges, and Opportunities
- 1.3 Competitive Landscape Overview
- 1.4 Strategic Insights and Recommendations

2 RESEARCH FRAMEWORK

- 2.1 Study Objectives and Scope
- 2.2 Stakeholder Analysis
- 2.3 Research Assumptions and Limitations
- 2.4 Research Methodology
 - 2.4.1 Data Collection (Primary and Secondary)
 - 2.4.2 Data Modeling and Estimation Techniques
 - 2.4.3 Data Validation and Triangulation
 - 2.4.4 Analytical and Forecasting Approach

3 MARKET DYNAMICS AND TREND ANALYSIS

- 3.1 Market Definition and Structure
- 3.2 Key Market Drivers
- 3.3 Market Restraints and Challenges
- 3.4 Growth Opportunities and Investment Hotspots
- 3.5 Industry Threats and Risk Assessment
- 3.6 Technology and Innovation Landscape
- 3.7 Emerging and High-Growth Markets
- 3.8 Regulatory and Policy Environment
- 3.9 Impact of COVID-19 and Recovery Outlook

4 COMPETITIVE AND STRATEGIC ASSESSMENT

- 4.1 Porter's Five Forces Analysis
 - 4.1.1 Supplier Bargaining Power
 - 4.1.2 Buyer Bargaining Power
 - 4.1.3 Threat of Substitutes
 - 4.1.4 Threat of New Entrants

- 4.1.5 Competitive Rivalry
- 4.2 Market Share Analysis of Key Players
- 4.3 Product Benchmarking and Performance Comparison

5 GLOBAL DRUG DELIVERY PUMP ELECTRONICS MARKET, BY PUMP TYPE

- 5.1 Syringe Pumps
- 5.2 Infusion Pumps
- 5.3 Implantable Pumps
- 5.4 Insulin Pumps
- 5.5 Elastomeric Pumps

6 GLOBAL DRUG DELIVERY PUMP ELECTRONICS MARKET, BY APPLICATION

- 6.1 Diabetes Management
- 6.2 Oncology
- 6.3 Pain Management
- 6.4 Cardiovascular Disorders
- 6.5 Neurology
- 6.6 Gastroenterology
- 6.7 Infectious Diseases

7 GLOBAL DRUG DELIVERY PUMP ELECTRONICS MARKET, BY END USER

- 7.1 Hospitals & Clinics
- 7.2 Ambulatory Surgical Centers
- 7.3 Home Care Settings
- 7.4 Specialty Centers

8 GLOBAL DRUG DELIVERY PUMP ELECTRONICS MARKET, BY GEOGRAPHY

- 8.1 North America
 - 8.1.1 United States
 - 8.1.2 Canada
 - 8.1.3 Mexico
- 8.2 Europe
 - 8.2.1 United Kingdom
 - 8.2.2 Germany
 - 8.2.3 France

- 8.2.4 Italy
- 8.2.5 Spain
- 8.2.6 Netherlands
- 8.2.7 Belgium
- 8.2.8 Sweden
- 8.2.9 Switzerland
- 8.2.10 Poland
- 8.2.11 Rest of Europe
- 8.3 Asia Pacific
 - 8.3.1 China
 - 8.3.2 Japan
 - 8.3.3 India
 - 8.3.4 South Korea
 - 8.3.5 Australia
 - 8.3.6 Indonesia
 - 8.3.7 Thailand
 - 8.3.8 Malaysia
 - 8.3.9 Singapore
 - 8.3.10 Vietnam
 - 8.3.11 Rest of Asia Pacific
- 8.4 South America
 - 8.4.1 Brazil
 - 8.4.2 Argentina
 - 8.4.3 Colombia
 - 8.4.4 Chile
 - 8.4.5 Peru
 - 8.4.6 Rest of South America
- 8.5 Rest of the World (RoW)
 - 8.5.1 Middle East
 - 8.5.1.1 Saudi Arabia
 - 8.5.1.2 United Arab Emirates
 - 8.5.1.3 Qatar
 - 8.5.1.4 Israel
 - 8.5.1.5 Rest of Middle East
 - 8.5.2 Africa
 - 8.5.2.1 South Africa
 - 8.5.2.2 Egypt
 - 8.5.2.3 Morocco
 - 8.5.2.4 Rest of Africa

9 STRATEGIC MARKET INTELLIGENCE

- 9.1 Industry Value Network and Supply Chain Assessment
- 9.2 White-Space and Opportunity Mapping
- 9.3 Product Evolution and Market Life Cycle Analysis
- 9.4 Channel, Distributor, and Go-to-Market Assessment

10 INDUSTRY DEVELOPMENTS AND STRATEGIC INITIATIVES

- 10.1 Mergers and Acquisitions
- 10.2 Partnerships, Alliances, and Joint Ventures
- 10.3 New Product Launches and Certifications
- 10.4 Capacity Expansion and Investments
- 10.5 Other Strategic Initiatives

11 COMPANY PROFILES

- 11.1 Medtronic plc
- 11.2 Becton, Dickinson and Company
- 11.3 Baxter International Inc.
- 11.4 B. Braun Melsungen AG
- 11.5 Tandem Diabetes Care, Inc.
- 11.6 Ypsomed AG
- 11.7 Insulet Corporation
- 11.8 Novo Nordisk
- 11.9 Eli Lilly and Company
- 11.10 West Pharmaceutical Services
- 11.11 Gerresheimer
- 11.12 Fresenius Kabi AG
- 11.13 Debiotech SA
- 11.14 Flowonix Medical, Inc.
- 11.15 AstraZeneca plc
- 11.16 Smiths Medical
- 11.17 Stevanato Group
- 11.18 Epsilon Electronics

List Of Tables

LIST OF TABLES

Table 1 Global Drug Delivery Pump Electronics Market Outlook, By Region (2023-2034) (\$MN)

Table 2 Global Drug Delivery Pump Electronics Market Outlook, By Pump Type (2023-2034) (\$MN)

Table 3 Global Drug Delivery Pump Electronics Market Outlook, By Syringe Pumps (2023-2034) (\$MN)

Table 4 Global Drug Delivery Pump Electronics Market Outlook, By Infusion Pumps (2023-2034) (\$MN)

Table 5 Global Drug Delivery Pump Electronics Market Outlook, By Implantable Pumps (2023-2034) (\$MN)

Table 6 Global Drug Delivery Pump Electronics Market Outlook, By Insulin Pumps (2023-2034) (\$MN)

Table 7 Global Drug Delivery Pump Electronics Market Outlook, By Elastomeric Pumps (2023-2034) (\$MN)

Table 8 Global Drug Delivery Pump Electronics Market Outlook, By Application (2023-2034) (\$MN)

Table 9 Global Drug Delivery Pump Electronics Market Outlook, By Diabetes Management (2023-2034) (\$MN)

Table 10 Global Drug Delivery Pump Electronics Market Outlook, By Oncology (2023-2034) (\$MN)

Table 11 Global Drug Delivery Pump Electronics Market Outlook, By Pain Management (2023-2034) (\$MN)

Table 12 Global Drug Delivery Pump Electronics Market Outlook, By Cardiovascular Disorders (2023-2034) (\$MN)

Table 13 Global Drug Delivery Pump Electronics Market Outlook, By Neurology (2023-2034) (\$MN)

Table 14 Global Drug Delivery Pump Electronics Market Outlook, By Gastroenterology (2023-2034) (\$MN)

Table 15 Global Drug Delivery Pump Electronics Market Outlook, By Infectious Diseases (2023-2034) (\$MN)

Table 16 Global Drug Delivery Pump Electronics Market Outlook, By End User (2023-2034) (\$MN)

Table 17 Global Drug Delivery Pump Electronics Market Outlook, By Hospitals & Clinics (2023-2034) (\$MN)

Table 18 Global Drug Delivery Pump Electronics Market Outlook, By Ambulatory

Surgical Centers (2023-2034) (\$MN)

Table 19 Global Drug Delivery Pump Electronics Market Outlook, By Home Care Settings (2023-2034) (\$MN)

Table 20 Global Drug Delivery Pump Electronics Market Outlook, By Specialty Centers (2023-2034) (\$MN)

Note: Tables for North America, Europe, APAC, South America, and Rest of the World (RoW) Regions are also represented in the same manner as above.

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