

Biomedical Warming and Thawing Devices Market to Reach \$376.7 Million by 2031

PORTLAND, OR, UNITED STATES, June 18, 2025 /EINPresswire.com/ -- The global [biomedical warming and thawing devices market](#) was valued at \$159.3 million in 2021 and is projected to reach \$376.7 million by 2031, growing at a CAGR of 9.1% from 2022 to 2031. The demand for these devices is being driven by the rising prevalence of cryopreservation procedures across healthcare sectors, particularly for blood, stem cells, embryos, and other biologics.



What Are Biomedical Warming and Thawing Devices?

Biomedical warming and thawing devices are used to safely defrost cryopreserved biological materials, such as:

Blood products (e.g., plasma, red blood cells, platelets)

Embryos and ova (used in IVF)

Stem cells

Tissues and other cell-based products

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These devices ensure the viability and safety of samples by minimizing damage from cryopreservatives and maintaining optimal thawing conditions.

Market Drivers: What's Fueling the Growth?

1. Rise in Blood Banks and Blood Donation Activities

Increased demand for safe blood transfusions in trauma cases and surgeries.

Growing network of blood banks and infusion centers worldwide.

Higher storage needs for cryopreserved blood components.

2. Surge in Road Traffic Accidents

Globally, road accidents are a leading cause of emergency transfusion needs.

Severely injured patients often require cryopreserved red blood cells and platelets.

3. Increased Adoption of In-Vitro Fertilization (IVF)

Infertility rates are rising due to stress, late pregnancies, PCOS, and lifestyle disorders.

Cryopreservation of embryos and ova is a critical step in IVF.

The growth of fertility clinics is boosting demand for warming and thawing equipment.

Market Challenges

Despite promising growth, some key challenges are hindering market expansion:

Strict regulatory requirements regarding the use of thawed biologics.

Supply chain disruptions during pandemics, affecting the movement of cryopreserved samples.

Concerns regarding large batch thawing inefficiencies and risks of sample degradation.

Segmentation Overview

By Product:

Automatic Devices (dominant segment)

Preferred for consistency, precision, and efficiency.

Manual Devices

Lower cost but higher risk of human error.

By Sample Type:

Blood Products (largest segment)

High demand due to transfusions, surgeries, and emergency care.

Stem Cells (growing fastest)

Increasing use in regenerative medicine and clinical trials.

By End User:

Hospitals & Diagnostic Laboratories

Dominated the market in 2021.

Growing with healthcare infrastructure investments.

Blood Banks & Stem Cell Banks

Rapid growth due to demand for cryopreserved samples.

Regional Insights

North America held the largest market share in 2021 due to:

Strong presence of key manufacturers.

Advanced healthcare infrastructure.

Early adoption of new technologies.

Asia-Pacific is expected to witness the fastest CAGR, fueled by:

Growing blood donation campaigns.

Expanding healthcare investments.

Rising number of IVF clinics and stem cell banks.

Key Players in the Biomedical Warming and Thawing Devices Market

Prominent companies in the global market include:

Barkey GmbH & Co. KG

Boekel Scientific

Cardinal Health

Cytiva

Helmer Scientific

Eppendorf

Thermo Fisher Scientific

GE

Farrar Scientific

Sarstedt AG & Co. KG

Sartorius AG

These companies are focusing on product innovation, automation, and global expansion to strengthen their market position.

Future Outlook

The global biomedical warming and thawing devices market is poised for significant growth over the next decade. Demand is being driven not only by rising medical emergencies and IVF adoption but also by the rapid advancements in cell therapy and regenerative medicine. Innovations in automatic thawing systems, along with favorable healthcare policies and investment, are likely to create ample opportunities for market players.

Key Takeaways:

Market to grow from \$159.3M (2021) to \$376.7M (2031) at 9.1% CAGR.

Blood products and IVF applications are primary growth drivers.

Automation, safety, and speed are crucial in device innovation.

Asia-Pacific represents a high-growth potential region.

Increasing R&D in stem cell and biologic therapies boosts future demand.

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