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Global Blood Collection and Puncture Robot Supply, Demand and Key Producers, 2026-2032

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Abstracts

The global Blood Collection and Puncture Robot market size is expected to reach $ 48.12 million by 2032, rising at a market growth of 37.1% CAGR during the forecast period (2026-2032).

The Blood Collection and Puncture Robot is a medical robot system designed for pre-processing scenarios in hospital blood collection windows, health check centers, and medical laboratories. Its core capabilities include using near-infrared and ultrasound technology to detect veins, reconstructing vein images using 3D technology, and then using AI algorithms to intelligently analyze the images, selecting the most appropriate location and method for needle insertion to automate venous puncture and blood testing. The system typically integrates identity verification, doctor's orders matching, catheter and needle supply, disinfection, pulse pressure, quantitative blood collection, catheter replacement, mixing, hemostasis, and traceability recording, forming an auditable closed-loop blood collection workflow. This improves the success rate of first-time punctures, reduces pre-test errors, and alleviates the shortage of blood collection personnel. In 2025, the global production of Blood Collection and Puncture Robots was approximately 32 units, with a unit price of approximately US$97,800 and a gross profit margin of approximately 45%–65%.

Currently, the blood collection process still faces many challenges. Poor visualization and inaccurate punctures are the main problems encountered. Infants' blood vessels are very thin, and those with thicker fat layers or darker skin tones often have blood vessels that are difficult to visually assess. The failure rate for first-time intravenous infusions in children is around 44%, and repeated punctures increase the psychological stress on nurses. Due to various factors, the efficiency of blood collection testing in many hospitals is not high. During peak blood collection periods, the average waiting

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time for patients is 24 minutes, with over 64.5% of patients waiting more than 15 minutes. Even in commercial medical examination institutions, the average time for a 'trial' blood collection exceeds 10 minutes. From a clinical perspective, many hospitals face the pain point of high blood collection pressure, creating a significant demand for blood collection robots. Furthermore, the long-term shortage of nursing staff has also spurred the demand for 'substitute labor.' Currently, automated solutions exist for processes such as queuing, blood collection tube sorting, blood diagnosis, and report output. Only the blood collection process still relies on manual labor. Future machine replacement will complete the automated closed loop of blood diagnosis. From the perspective of practical applications in healthcare, blood collection robots are still in their early stages of development. Due to factors such as cost and hospital procurement processes, current deployments are primarily limited to large tertiary hospitals. Companies in this sector are currently focused on research and development; future commercialization may require more external CSOs (Contract Sales Organizations) to gradually penetrate hospitals. Globally, the European and American markets have significant potential, as nurses in these countries have lower success rates for manual intravenous punctures, making machine replacement a priority. However, cost reduction is a key factor for commercialization. Currently, the cost of blood collection robots entering the market is high. Significant commercial and social value will only be realized after technological iterations and their integration into primary healthcare systems.

This report studies the global Blood Collection and Puncture Robot production, demand, key manufacturers, and key regions.

This report is a detailed and comprehensive analysis of the world market for Blood Collection and Puncture Robot and provides market size (US$ million) and Year-over-Year (YoY) Growth, considering 2025 as the base year. This report explores demand trends and competition, as well as details the characteristics of Blood Collection and Puncture Robot that contribute to its increasing demand across many markets.

Highlights and key features of the study

Global Blood Collection and Puncture Robot total production and demand, 2021-2032, (Units)

Global Blood Collection and Puncture Robot total production value, 2021-2032, (USD Million)

Global Blood Collection and Puncture Robot production by region & country, production, value, CAGR, 2021-2032, (USD Million) & (Units), (based on production site)

Global Blood Collection and Puncture Robot consumption by region & country, CAGR, 2021-2032 & (Units)

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U.S. VS China: Blood Collection and Puncture Robot domestic production, consumption, key domestic manufacturers and share
Global Blood Collection and Puncture Robot production by manufacturer, production, price, value and market share 2021-2026, (USD Million) & (Units)
Global Blood Collection and Puncture Robot production by Type, production, value, CAGR, 2021-2032, (USD Million) & (Units)
Global Blood Collection and Puncture Robot production by Application, production, value, CAGR, 2021-2032, (USD Million) & (Units)

This report profiles key players in the global Blood Collection and Puncture Robot market based on the following parameters - company overview, production, value, price, gross margin, product portfolio, geographical presence, and key developments. Key companies covered as a part of this study include Veebot System, BHealthCare(HEIVA), Vitestro, Jiangsu Hagong Intelligent Robot Co.,Ltd., Beijing mainashi Surgical Robot Technology Co. Ltd., Chengdu Kairui Medical Technology Co., Ltd. (Aixam), etc.

This report also provides key insights about market drivers, restraints, opportunities, new product launches or approvals.

Stakeholders would have ease in decision-making through various strategy matrices used in analyzing the World Blood Collection and Puncture Robot market

Detailed Segmentation:

Each section contains quantitative market data including market by value (US$ Millions), volume (production, consumption) & (Units) and average price (K US$/Unit) by manufacturer, by Type, and by Application. Data is given for the years 2021-2032 by year with 2025 as the base year, 2026 as the estimate year, and 2027-2032 as the forecast year.

Global Blood Collection and Puncture Robot Market, By Region:

United States

China

Europe

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Japan

South Korea

ASEAN

India

Rest of World

Global Blood Collection and Puncture Robot Market, Segmentation by Type:

Fixed Kiosk Station

Mobile Cart/Desktop Workstation

Global Blood Collection and Puncture Robot Market, Segmentation by Modules:

Blood Collection and Puncture Module

Multi-technology Modules

Global Blood Collection and Puncture Robot Market, Segmentation by Sales:

Direct Sales

Distributor Sales

Global Blood Collection and Puncture Robot Market, Segmentation by Application:

Hospital

Nursing Home

Medical Center

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Other

Companies Profiled:

Veebot System

BHealthCare(HEIVA)

Vitestro

Jiangsu Hagong Intelligent Robot Co.,Ltd.

Beijing mainashi Surgical Robot Technology Co. Ltd.

Chengdu Kairui Medical Technology Co., Ltd. (Aixam)

Key Questions Answered:

1. How big is the global Blood Collection and Puncture Robot market?
2. What is the demand of the global Blood Collection and Puncture Robot market?
3. What is the year over year growth of the global Blood Collection and Puncture Robot market?
4. What is the production and production value of the global Blood Collection and Puncture Robot market?
5. Who are the key producers in the global Blood Collection and Puncture Robot market?
6. What are the growth factors driving the market demand?

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