

# **Stepper Motors Market Forecasts to 2032 – Global Analysis By Type (Permanent Magnet Stepper Motors (PM), Hybrid Stepper Motors, Variable Reluctance Stepper Motors (VR) and Other Types), Axis Type, Power Range, Mounting Configuration, Motion Control, Application, End User and By Geography**

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## **Abstracts**

According to Statistics MRC, the Global Stepper Motors Market is accounted for \$7.2 billion in 2025 and is expected to reach \$11.5 billion by 2032 growing at a CAGR of 6.8% during the forecast period. Stepper motors are electromechanical devices that convert electrical pulses into discrete rotational movements. Unlike conventional motors, they rotate in fixed angular increments, allowing accurate positioning without the need for feedback systems. They are widely used in automation, robotics, CNC machinery, and medical equipment where controlled motion is essential. With excellent torque at low speeds and compatibility with digital control systems, stepper motors provide reliable, repeatable motion.

Market Dynamics:

Driver:

Growth of 3D printing and additive manufacturing

The rapid advancement in 3D printing technologies has significantly elevated the demand for precise motion control systems such as stepper motors. These motors are essential for accurate positioning, layer consistency, and repeatable performance in additive manufacturing environments. As industries such as aerospace, medical

devices, and consumer products increasingly adopt 3D printing for prototyping and production, the need for compact and dependable stepper motors continues to expand.

#### Restraint:

##### Limited high-speed performance

Excessive acceleration may cause torque degradation or step loss, resulting in positioning errors. These constraints can impact their suitability for high-throughput operations in industries where speed is critical. In comparison to servo motors, stepper systems may underperform in applications demanding rapid dynamic response. As a result, high-speed limitations remain a key deterrent in time-sensitive and performance-intensive use cases.

#### Opportunity:

##### Customization and application-specific designs

Manufacturers are investing in design flexibility, offering motors with varied torque ratings, form factors, and integrated electronics to meet unique application demands. From compact medical diagnostics equipment to advanced automation setups, customers seek motors engineered to specific performance and environmental conditions. This customization potential is not only enabling differentiation in a saturated market but also supporting emerging sectors with unique electromechanical requirements.

#### Threat:

##### Aggressive competition from servo motor market

Servo motors pose a considerable threat to stepper motor adoption, particularly in scenarios requiring high speed, feedback control, and dynamic load adjustments. With improving affordability and technological refinements, servo systems are becoming more accessible to mid-sized and smaller enterprises. Their ability to deliver superior efficiency and closed-loop control often makes them a preferred choice in industries prioritizing energy optimization and precision accuracy.

#### Covid-19 Impact:

The COVID-19 pandemic had a dual impact on the stepper motors market, initially disrupting global manufacturing operations and supply chains. Lockdowns led to temporary production halts, particularly in industrial hubs across Asia and Europe. However, demand resurged as stepper motors found increased use in medical automation, including ventilators, lab instruments, and diagnostic equipment. Additionally, growth in consumer electronics and home-based automation during lockdowns supported moderate recovery.

The permanent magnet stepper motors (PM) segment is expected to be the largest during the forecast period

The permanent magnet stepper motors (PM) segment is expected to account for the largest market share during the forecast period due to their cost-effectiveness and simple construction. These motors deliver smooth motion at low speeds and are well-suited for applications in printers, small robotics, and medical equipment. Their ability to operate without feedback mechanisms makes them attractive for low-to-moderate precision tasks. Additionally, the balance of performance and affordability in PM designs positions them as a staple choice across consumer and industrial automation.

The CNC machine tools segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the CNC machine tools segment is predicted to witness the highest growth rate owing to demand for precision motion control and repeatability. Stepper motors offer an ideal solution for tool head positioning, axis control, and incremental movement requirements inherent in CNC setups. Their digital interface compatibility supports seamless integration with modern control software. As small and medium enterprises increasingly adopt CNC solutions to boost manufacturing productivity, the demand for reliable and efficient stepper motors is poised to escalate.

Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share attributed to robust industrialization and consumer electronics manufacturing in countries like China, Japan, South Korea, and India. The presence of a large OEM base and low-cost manufacturing capabilities enables substantial output. Furthermore, regional adoption of factory automation and robotics solutions is driving volume demand. Government incentives supporting industrial upgrades and increased

infrastructure spending are further strengthening the region's market dominance.

Region with highest CAGR:

Over the forecast period, the North America region is anticipated to exhibit the highest CAGR owing to the surge in automation across healthcare, aerospace, and semiconductor sectors is fueling demand for precision motion systems. Advancements in additive manufacturing and robotics are also boosting the deployment of smart stepper motor solutions. Additionally, the region's strong ecosystem of tech-focused start-ups and sustained investment in R&D enhances the potential for innovation-led adoption.

Key players in the market

Some of the key players in Stepper Motors Market include StepperOnline, Applied Motion Products, Changzhou Fulling Motor Co., Ltd., Oriental Motor Co., Ltd., MinebeaMitsumi Inc., Faulhaber Group, Kollmorgen, AMETEK, Inc., Nanotec Electronic GmbH & Co. KG, Phytron GmbH, Nidec Corporation, Sanyo Denki Co., Ltd., Shinano Kenshi Co., Ltd., Changzhou Fulling Motor Co., Ltd. and Sonceboz SA.

Key Developments:

In June 2025, Applied Motion introduced the TSM08X3L-R, its smallest integrated StepSERVO motor, offering high-precision motion in compact form. The product targets robotics, automation, and medical devices needing tight control in small footprints

In June 2025, MinebeaMitsumi initiated a tender offer on May 2 and amended registration documents through June 2025 to acquire Shibaura Electronics shares. The series of amendments ensures compliance with regulatory procedures under Japan's Financial Instruments Act.

In June 2025, AMETEK's MRO B&S division in Wichita announced expanded capabilities in power-generation component repair and overhaul. The enhancement supports growing demand for aerospace thermal-management maintenance.

Types Covered:

Permanent Magnet Stepper Motors (PM)

Hybrid Stepper Motors

Variable Reluctance Stepper Motors (VR)

Other Types

Axis Types Covered:

Single-Axis

Multi-Axis

Power Ranges Covered:

Low Power (100V)

Mounting Configurations Covered:

Flange Mount

Face Mount

Foot Mount

Motion Controls Covered:

Open-Loop Stepper Motors

Closed-Loop Stepper Motors

Applications Covered:

CNC Machine Tools

Packaging Machinery & Textile Machinery

Conveyor Systems & Feeder Drives

Infusion Pumps

Diagnostic Instruments

Surgical Hand Tools

Printers, Scanners, and Plotters

Cameras & Photographic Systems

Headlight Adjustment & Throttle Control

Power Windows, Power Steering Systems

Other Applications

#### End Users Covered:

Industrial Automation

Medical Equipment

Consumer Electronics

Automotive

Scientific & Laboratory Equipment

Aerospace & Defense

Other End Users

#### Regions Covered:

## North America

US

Canada

Mexico

## Europe

Germany

UK

Italy

France

Spain

Rest of Europe

## Asia Pacific

Japan

China

India

Australia

New Zealand

South Korea

Rest of Asia Pacific

## South America

Argentina

Brazil

Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & 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 2024, 2025, 2026, 2028, and 2032
- 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

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Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

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