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Servo Motors and Drives Market Report by Product Type (Servo Motors, Servo Drives), Voltage Range (Low Voltage, Medium and High Voltage), System (Linear System, Rotary System), Communication Protocol (Fieldbus, Industrial Ethernet, Wireless), End Use Industry (Machine Tools, Packaging, Robotics, Semiconductors, Electronics, Rubber and Plastics, and Others), and Region 2024-2032

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Abstracts

The global servo motors and drives market size reached US$ 12.8 Billion in 2023. Looking forward, IMARC Group expects the market to reach US$ 18.6 Billion by 2032, exhibiting a growth rate (CAGR) of 4.1% during 2024-2032. The growing demand for energy efficiency to reduce operational costs and power consumption, rising popularity of automation and robotics, and advancements in the Industrial Internet of Things (IIoT) are some of the major factors propelling the market.

Servo motors are highly precise and efficient rotary actuators that provide control over angular position, velocity, and acceleration. They are widely utilized in various applications, ranging from manufacturing machinery to robotics, due to their ability to provide precise and responsive movement control. On the other hand, servo drives are electronic amplifiers that power and control the servo motors. They receive input signals, typically in the form of voltage or current, and translate them into the precise movements executed by the servo motor. As a result, servo motors and drives are employed in the automotive, packaging, robotics, semiconductors, electronics, and rubber and plastic industries worldwide.

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At present, the rising adoption of servo motors and drives, as they ensure enhanced accuracy and repeatability, is contributing to the growth of the market. In line with this, the increasing employment of servo motors and drives to produce renewable energy is strengthening the growth of the market. Moreover, the growing demand for precision, speed, and reliability in various industries across the globe is positively influencing the market. In addition, the rising adoption of actuators that assist in reducing maintenance costs and downtime is providing lucrative growth opportunities to industry investors. Furthermore, the increasing demand for servo motors and drives, as they offer a high degree of customization and adaptability, is supporting the growth of the market. Besides this, governing agencies of numerous countries are supporting the adoption of renewable energy sources, which is bolstering the growth of the market.

Servo Motors and Drives Market Trends/Drivers:
Rising popularity of automation and robotics

The rising popularity of automation and robotics in various industries is bolstering the growth of the market. In the manufacturing sector, these technologies help in increasing production processes by offering high precision and flexibility. Servo motors and drivers are vital components of robots that provide the accuracy and responsiveness required for tasks, such as pick-and-place operations, welding, and assembly. Furthermore, the increasing demand for automated solutions in logistics and warehousing due to the burgeoning e-commerce industry is propelling the growth of the market. In addition, there is a rise in the demand for servo systems to power conveyor belts, sorters, and automated guided vehicles (AGVs).

Increasing demand for energy efficiency to reduce operational costs

Energy efficiency is a major concern across industries due to environmental and cost considerations. In line with this, these motors and drives are renowned for their high energy efficiency, which makes them a suitable choice for businesses aiming to reduce power consumption and operational costs. These systems are designed to deliver power precisely when needed, minimizing energy wastage during idle or low-load conditions. Apart from this, the rising adoption of energy-efficient servo solutions due to the increasing focus on sustainability and reduced carbon footprint is contributing to the growth of the market. Furthermore, various industries are increasingly aligning with eco-friendly practices and regulations, which is positively influencing the market.

Advancements in the Industrial Internet of Things (IIoT)

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The integration of the Industrial Internet of Things (IIoT) and Industry 4.0 concepts to offer smart manufacturing is bolstering the growth of the market. In addition, these motors and drives play a vital role as they are equipped with advanced sensors and communication capabilities, which allow them to interact within connected manufacturing environments. Besides this, integration of these advanced technologies provides real-time data collection and analysis that enables predictive maintenance, reduces downtime, and improves the overall equipment effectiveness. The ability to monitor and control servo motors remotely enhances operational efficiency and reduces the need for on-site personnel. This integration not only enhances productivity but also positions industries to respond quickly to market fluctuations and changing customer demands.

Servo Motors and Drives Industry Segmentation:
IMARC Group provides an analysis of the key trends in each segment of the global servo motors and drives market report, along with forecasts at the global, regional and country levels from 2024-2032. Our report has categorized the market based on product type, voltage range, system, communication protocol and end use industry.

Breakup by Product Type:

Servo Motors
Servo Drives

Servo motors represent the largest market segment

The report has provided a detailed breakup and analysis of the market based on the product type. This includes servo motors and servo drives. According to the report, servo motors represented the largest segment. Servo motors are widely available as alternating current (AC), direct current (DC), brushless, brushed, and linear servo motors. AC servo motors operate using alternating current and offer enhanced speed and torque control. DC servo motors operate on direct current and provide improved torque characteristics at low speeds, which makes them suitable for robotics, conveyor systems, and applications where fine control is essential. Besides this, brushless servo motors are characterized by their maintenance-free operation and reliability. On the other hand, brushless are known for their simplicity and cost-effectiveness and are suitable for situations where precision requirements are moderate. Moreover, linear servo motors are designed to provide linear motion instead of rotational motion and are widely used in semiconductor manufacturing.

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Breakup by Voltage Range:

Low Voltage
Medium and High Voltage

Low voltage accounts for the majority of the market share

The report has provided a detailed breakup and analysis of the market based on the voltage range. This includes low voltage and medium and high voltage. According to the report, low voltage represented the largest segment. Low voltage servo motors are designed to operate at lower voltage levels, typically below 600 volts, making them suitable for a wide range of applications where power requirements are moderate. One of the key advantages of low voltage servo motors is their safety and ease of integration into existing electrical systems. They are commonly used in industries, such as manufacturing, packaging, and material handling, where precise control, rapid acceleration, and deceleration are essential.

Breakup by System:

Linear System
Rotary System

Rotary system holds the largest market share

The report has provided a detailed breakup and analysis of the market based on the system. This includes linear system and rotary system. According to the report, rotary system represented the largest segment. Rotary systems are designed to convert electrical signals into precise rotary motion, which makes them ideal for a wide range of applications across various industries. In addition, they are highly versatile and widely used in tasks requiring controlled rotation, such as driving conveyor belts, controlling the movement of robotic arms, operating CNC machinery, and more. They are suitable for applications demanding precise positioning and speed control. They provide smooth, continuous rotation, which is crucial for tasks like material handling, cutting, and machining.

Breakup by Communication Protocol:

Fieldbus

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Industrial Ethernet
Wireless

Fieldbus dominates the market segment

The report has provided a detailed breakup and analysis of the market based on the communication protocol. This includes fieldbus, industrial ethernet, and wireless. According to the report, fieldbus represented the largest segment. Fieldbus enables the exchange of data between servo motors, controllers, and other automation devices in real-time. This protocol is known for its efficiency in industrial applications and allows for seamless control and monitoring of servo systems. Fieldbus systems offer several advantages, such as reduced wiring complexity, which leads to cost savings in installation and maintenance. They facilitate the integration of multiple servo motors into a single network and simplify control and synchronization in complex industrial processes. They also enable diagnostic capabilities and enhance the troubleshooting and maintenance of servo systems.

Breakup by End Use Industry:

Machine Tools
Packaging
Robotics
Semiconductors
Electronics
Rubber and Plastics
Others

Machine tools represent the biggest market share

The report has provided a detailed breakup and analysis of the market based on the end use industry. This includes machine tools, packaging, robotics, semiconductors, electronics, rubber and plastics, and others. According to the report, machine tools represented the largest segment. Machine tools comprise a wide range of equipment used in various manufacturing processes, such as milling, drilling, turning, and grinding. Servo motors play a pivotal role in ensuring the precision and efficiency of these machines. In the machine tools industry, these motors are employed to control the movement of cutting tools, workpieces, and other critical components with high accuracy and speed. They enable complex operations, such as contouring, threading, and high-speed machining, with improved productivity and product quality.

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Breakup by Region:

Asia Pacific
Japan
China
South Korea
India
Australia
Indonesia
Others
Europe
Germany
France
United Kingdom
Italy
Spain
Russia
Others
North America
United States
Canada
Latin America
Brazil
Mexico
Others
Middle East and Africa

Asia Pacific exhibits a clear dominance, accounting for the largest servo motors and drives market share

The market research report has also provided a comprehensive analysis of all the major regional markets, which include Asia Pacific (Japan, China, South Korea, India, Australia, Indonesia, and others); Europe (Germany, Italy, Spain, France, the United Kingdom, Russia, and others); North America (the United States and Canada); Latin America (Brazil, Mexico, and others); and the Middle East and Africa. According to the report, Asia Pacific accounted for the largest market share.

Asia Pacific held the biggest market share due to the increasing adoption of advanced

manufacturing technologies. Besides this, the rising focus on industrial automation in various sectors is strengthening the growth of the market in the Asia Pacific region. Moreover, the increasing need for servo technology in packaging and processing equipment is offering a positive market outlook. In line with this, the rising focus on renewable energy sources and electric vehicles (EVs) among individuals is supporting the growth of the market in the region.

Competitive Landscape:
Key players are investing in research and development (R&D) activities to introduce advanced solutions. This includes developing motors with higher power density, improved efficiency, and enhanced precision. Innovations in feedback systems, control algorithms, and connectivity features are common to meet Industry 4.0 requirements. In addition, many companies are offering customized solutions to cater to specific customer requirements. This allows industries to have tailored solutions that precisely match their application needs and enhance efficiency and performance. Apart from this, they are focusing on designing energy-efficient systems to meet environmental regulations and reduce operational costs for end-users. Energy-efficient motors not only save electricity but produce less heat and extend the lifespan of the product.

The report has provided a comprehensive analysis of the competitive landscape in the market. Detailed profiles of all major companies have also been provided. Some of the key players in the market include:

ABB Ltd.
Bosch Rexroth AG
Delta Electronics, Inc.
Emerson Electric Co.
Fanuc Corporation
Mitsubishi Electric Corporation
Nidec Corporation
Rockwell Automation Inc.
Schneider Electric SE
Siemens AG
Yaskawa Electric Corporation
Recent Developments:
In 2021, Siemens introduced new servo motors ‘Simotics S-1FS2’ to its proven Sinamics S210 single-cable servo drive system, thereby expanding its range of applications. In addition, it is specifically used in the pharmaceutical and food industries.
In 2021, Yaskawa Electric Corporation launched AC servo drives “?-X Series”, the

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successor to the reputed “?-7 Series” to enhance the customer experience with the best motion performance and digital data solution.
In 2022, Emerson launched its new AVENTICSTM Series Servo Profile Advanced (SPRA) electric actuators, a line of precise and highly repeatable rod-style cylinders. It offers three screw technologies, including a precision ball screw, a cost-effective lead screw and a roller screw.

Key Questions Answered in This Report

1. What was the size of the global servo motors and drives market in 2023?
2. What is the expected growth rate of the global servo motors and drives market during 2024-2032?
3. What are the key factors driving the global servo motors and drives market?
4. What has been the impact of COVID-19 on the global servo motors and drives market?
5. What is the breakup of the global servo motors and drives market based on the product type?
6. What is the breakup of the global servo motors and drives market based on the voltage range?
7. What is the breakup of the global servo motors and drives market based on the system?
8. What is the breakup of the global servo motors and drives market based on the communication protocol?
9. What is the breakup of the global servo motors and drives market based on the end use industry?
10. What are the key regions in the global servo motors and drives market?
11. Who are the key players/companies in the global servo motors and drives market?

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