

IE4 Permanent Magnet Synchronous Motors Market Report by Product (200 kW), Application (Material Handling, Liquid Pumps, Fans and Ventilation, Cooling Compressors, Air Compressors and Vacuum Pumps, Blowers, Coolers), and Region 2024-2032

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Abstracts

The global IE4 permanent magnet synchronous motors market size reached US\$ 164.9 Million in 2023. Looking forward, IMARC Group expects the market to reach US\$ 317.8 Million by 2032, exhibiting a growth rate (CAGR) of 7.33% during 2024-2032. The surging environmental concerns, growing need for superior machine control, and rising adoption of green technologies represent some of the key factors driving the market.

IE4 permanent magnet synchronous motors are premium efficiency class motors that rely on permanent magnets as rotors to generate field poles. They are three-phase design motors with low eddy current losses and high inherent efficiency. They produce an efficiency of 85.5% for a 1 HP motor with 1800 RPM having a synchronous assembly. They are commonly used in the manufacturing of electrical equipment that consumes fewer resources and creates maximum output. They aid in improving the cost and energy efficiency while reducing the human effort required to complete various tasks. They also offer higher torque and power density, better performance, reliability, less noise, low rotor inertia, efficient heat dissipation, and excellent power factor at all loads. As a result, IE4 permanent magnet synchronous motors are extensively utilized in robotics, machine tools, actuators, industrial fans, pumps, compressors, and other mechanical applications.

IE4 Permanent Magnet Synchronous Motors Market Trends:

Nowadays, there is a rise in the use of IE4 permanent magnet synchronous motors as they assist in lowering energy consumption and minimizing carbon dioxide (CO₂)

emissions. Along with this, the escalating demand for higher efficiency motors and the surging environmental concerns worldwide, represents another factor driving the market. Additionally, IE4 permanent magnet synchronous motors are rapidly gaining traction in robotic processes due to numerous factors, such as speed, acceleration, torque requirements, control, and angular movements. In line with this, the growing need for superior machine control has accelerated the installation of IE4 motors for improved equipment performance and efficiency. Besides this, the increasing product adoption in material handling equipment, compressed air, HVAC, refrigerators, pumps, and ventilation systems has catalyzed the market growth. Furthermore, the shifting inclination toward green technologies like IE4 permanent magnet synchronous motors owing to their superior benefits over standard motors, such as low fan losses and high-quality insulation and lamination, has propelled the market growth. Apart from this, the emerging industrial and commercial applications of IE4 permanent magnet synchronous motors to decrease overall production costs and promote energy saving are driving the market further. Other factors, including the implementation of supportive government policies, growing concerns regarding depleting power generation sources, continual product innovations, and technological advancements, are also creating a favorable market outlook.

Key Market Segmentation:

IMARC Group provides an analysis of the key trends in each segment of the global IE4 permanent magnet synchronous motors market, along with forecasts at the global, regional, and country levels from 2024-2032. Our report has categorized the market based on product and application.

Product Insights:

200 kW

The report has provided a detailed breakup and analysis of the IE4 permanent magnet synchronous motors market based on the product. This includes 200 kW. According to the report, 20–200 kW represented the largest segment.

Application Insights:

Material Handling

Liquid Pumps

Fans and Ventilation

Cooling Compressors

Air Compressors and Vacuum Pumps

Blowers

Coolers

A detailed breakup and analysis of the IE4 permanent magnet synchronous motors market based on the application has also been provided in the report. This includes material handling, liquid pumps, fans and ventilation, cooling compressors, air compressors and vacuum pumps, blowers, and coolers. According to the report, air compressors and vacuum pumps accounted for the largest market share.

Regional Insights:

North America

United States

Canada

Asia-Pacific

China

Japan

India

South Korea

Australia

Indonesia

Others

Europe

Germany

France

United Kingdom

Italy

Spain

Russia

Others

Latin America

Brazil

Mexico

Others

Middle East and Africa

The report has also provided a comprehensive analysis of all the major regional markets, which include North America (the United States and Canada); Asia-Pacific

(China, Japan, India, South Korea, Australia, Indonesia, and others); Europe (Germany, France, the United Kingdom, Italy, Spain, Russia, and others); Latin America (Brazil, Mexico, and others); and the Middle East and Africa. According to the report, Asia-Pacific was the largest market for IE4 permanent magnet synchronous motors. Some of the factors driving the Asia-Pacific IE4 permanent magnet synchronous motors market included the rapid industrial growth, especially in developing countries, recent technological advancements, rising preferences for energy-efficient and high-performance motors, etc.

Competitive Landscape:

The report has also provided a comprehensive analysis of the competitive landscape in the global IE4 permanent magnet synchronous motors market. Detailed profiles of all major companies have also been provided. Some of the companies covered include Altra Industrial Motion Corp. (Regal Rexnord Corporation), Bharat Bijlee Limited, Kienle + Spiess GmbH (Feintool), Lafert S.p.A. (Sumitomo Heavy Industries Ltd.), Merkes GmbH, Nidec Motor Corporation, NORD Drivesystems Pvt. Ltd., O.M.E. Motori Elettrici s.r.l., Oemer Motori Elettrici SpA, Toshiba Industrial Products and Systems Corporation (Toshiba Corporation), WEG Benelux S.A., etc. Kindly note that this only represents a partial list of companies, and the complete list has been provided in the report.

Key Questions Answered in This Report

1. How big is the global IE4 permanent magnet synchronous motors market?
2. What is the expected growth rate of the global IE4 permanent magnet synchronous motors market during 2024-2032?
3. What are the key factors driving the global IE4 permanent magnet synchronous motors market?
4. What has been the impact of COVID-19 on the global IE4 permanent magnet synchronous motors market?
5. What is the breakup of the global IE4 permanent magnet synchronous motors market based on the product?
6. What is the breakup of the global IE4 permanent magnet synchronous motors market based on the application?
7. What are the key regions in the global IE4 permanent magnet synchronous motors market?
8. Who are the key players/companies in the global IE4 permanent magnet synchronous motors market?

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