

North America Induction Motor Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

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Report description:

The North America Induction Motor Market is expected to grow at a CAGR of 6.3% during the forecast period (2023 - 2028). The market growth for induction motors in North America is associated with an increase in induction motor applications in HVAC, automotive, consumer electronics, and industrial applications, partly due to their ability to generate constant torque up to rated speeds. Increasing applications and ongoing technology development in the manufacturing industry are key drivers of the region's induction motor market.

Key Highlights

North America has high demand and increased market share in the induction motor market due to the development of induction motors used in major industrial manufacturing, aerospace, defense, and automotive industries. In addition to the growing preference for electric vehicles in the United States, growth in North America is also inspiring.

The legislative changes to electrify vehicles have probably hit the commercial vehicle industry the hardest. Electric power vehicles widely avoid induction machines due to their low peak efficiency and high volume and mass. In May 2022, Drive System Design (DSD) investigated the feasibility of high efficiency, high power output inducers as an alternative to the permanent magnet topology of future traction systems. Its research revealed that, contrary to popular opinion, commercial vehicles could be suited to induction machines (IM) that don't need to utilize rare earth materials.

Induction motors are robust and can operate in all climatic conditions. In addition, induction motors are cost-effective, reliable, and require little maintenance. This is expected to drive the induction motor market growth during the forecast period. Further, in 2020, the University of Windsor was awarded USD 4.3 million for research on next-generation electric vehicles conducted in partnership with the Canadian automotive industry. This will leverage the induction motors market in the country.

The most important advantage of induction motors is their very simple structure. However, there are a few challenges, such as achieving speed control for induction motors is very difficult. This is because the three-phase induction motor is a constant-speed

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motor, and the speed change of the motor is very small in the entire load range. Induction motors have a high input surge current known as magnetized inrush current. This will reduce the voltage when the engine starts.

The outbreak of COVID-19 had a negative impact on the economy as many industries have been affected by the current situation and various sectors have ceased activity. However, the ongoing COVID-19 pandemic around the world confused the construction sector as many countries were blocked and temporarily suspended all non-essential activities to contain the spread. This has dropped the induction motor market in the region.

North America Induction Motor Market Trends

Industrial Applications is Expected to Drive the Market

Industrial applications use induction motors in a wide range of applications such as constructions, commercial, and more, as induction motors usually do not have brushes or slip rings, so maintenance is less frequent than DC or synchronous motors. Induction motors also work well in dusty environments that require regular cleaning for other motors to work properly. Due to the low complexity of induction motors, they are relatively cheaper than synchronous motors.

Many industrial applications have different speed requirements for different loads. Induction motors are available at different speeds and torque levels, and the speed of induction motors is also very easy to control. On the other hand, the speed of the synchronous motor cannot be changed, and it always rotates at the synchronous speed. This makes induction motors the recommended choice for synchronous motors.

According to the US Department of Energy. Electric motors in US industrial applications account for more than 60 percent of electricity use; even small efficiency improvements can make a big difference in energy savings. Two new induction motor technologies, such as copper rotor motors and motor controllers, are now available commercially and offer breakthrough efficiency and reliability opportunities for the industry.

Organizations are also focused on innovating new motors or updating the existing ones as part of the business expansion. For instance, in March 2022, ABB updated much high dynamic performance (HDP) induction motors. This opens up new opportunities for mechanical engineering OEMs looking for motor and drive solutions with superior dynamics and high power densities. Similarly, in January 2022, Infinitum Electric announced its new product line specific for HVAC fans, pumps, and general purpose applications. The new product line is an expansion of Infinitum Electric's IEs Series motors. With the expansion of Canadian products, the company offers a comprehensive range of power and frame sizes for the North American HVAC market.

Electric Vehicles are Anticipated to Gain Major Demand

Electric Vehicles drive up a small percentage of the entire automotive market today. Still, as automakers expand their reach, performance, and style, and charging is faster and easier, EVs continue to grow in appeal.

The US electric vehicle market grew from thousands since a decade to more than 315,000 a year to 2020. According to a survey conducted by International Council on Clean Transportation EVs in the North American states and cities is continuing to receive the strongest and broadest policy support also by the government in the region.

In May 2022, Stellantis planned to spend USD 2.8 billion to increase the production of electric vehicles at two of its Canadian plants. The funding is a part of the USD 35.5 billion Stellantis dedicated to electric vehicles and new software over the next year in its push to move away from internal combustion engines and be carbon net-zero by 2038.

Further, in June 2022, The Biden Harris administration has announced new steps to achieve President Biden's goal of building the first-ever national network of 500,000 electric vehicle chargers along American highways. In collaboration with the Ministry of Energy, the Ministry of Transport has set new standards for charging electric vehicles (EVs) to be convenient, reliable, and

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affordable for all Americans, even when driving long distances. These initiatives by the government will leverage the electric vehicles market, that in turn leverages the induction motors market in the region.

In April 2022, Ford launched F-150 Lightning is the fastest accelerating F-150 ever and is the only fully electric pickup presently available with a starting price of less than USD 40,000. Ford offers F-150 Lightning owners an optional hands-free Blue Cruise driving experience on over 130,000 miles of pre-certified shared highways in the United States and Canada.

Canada is working on the electrification of road vehicles as part of its national decarbonization strategy. But especially in commercial vehicles, stronger policies drive electrification and attract EV investment in other countries. Chrysler, Ford, General Motors, and Toyota's Ontario manufacturing plants are dominated by traditional internal combustion engine vehicles. All these factors leverage the induction motor market in the North American region.

North America Induction Motor Market Competitor Analysis

The market is minorly fragmented with the presence of key players such as Rockwell Automation Inc., ABB Ltd, Siemens AG, and more. These players have a prominent share in the market and are focusing on expanding their market shares with new innovations with technological advancements.

April 2022 - Rockwell Automation, Inc. announced the release of its Allen-Bradley Armor PowerFlex AC variable frequency drives for industrial motor control industries. The on-machine drives offer faster installation, easy commissioning, and predictive supervision.

October 2020 - Schneider Electric and Semiotic Labs signed a partnership agreement. This agreement expanded Schneider's managed service offering to support the monitoring of rotating equipment, including induction motors, pumps, conveyors, and compressors.

Additional Benefits:

The market estimate (ME) sheet in Excel format
3 months of analyst support

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