

Global Medium Voltage Electric Drives - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

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Report description:

The Global Medium Voltage Electric Drives Market is expected to register a CAGR of 3.9% during the forecast period.

Key Highlights

- Medium voltage drives are either current source inverters or voltage source inverter types, but the VSI type is more common due to its high reliability and low harmonic distortion. Most medium voltage AC drives include a multiphase transformer on the front end that works with a multilevel inverter to reduce harmonics. The medium electric drives can also use the active front end for highly dynamic-loaded applications.
- Medium voltage AC drives are useful for applications that generally require a 500-20,000 hp motor with a large difference in current consumption between low and medium voltage. Motors in this series are widely used in power plants, petrochemical plants, water/wastewater treatment plants, and mines to drive large compressor pumps and fans.
- According to Siemens in November 2021, medium voltage drives are particularly compelling at very high rated power. Adjusting the speed and ensuring a soft start of the system is especially important. Many people initially associate a solution to this problem with purchasing soft starters and special frequency converters. In addition, Siemens has many reliable options in the field of medium voltage drives.
- The installed medium voltage drive should be an adjustable speed drive to improve power quality and system responsiveness and reduce operating costs and energy losses. Nevertheless, using such drives is associated with some requirements and challenges. For instance, when installing a medium voltage drive, there are some converter-related challenges, both on the line and motor sides.
- The outbreak of Covid-19 has stopped the growth and expansion of various industrial facilities in all parts of the world. In addition, non-essential manufacturing was completely phased out, and medium voltage drive drop-ins were installed in industrial plants. Limited travel and logistic opportunities also hindered the growth of the medium-voltage electric drives market, as

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sufficient raw materials were not available for producing electrical machinery and equipment.

Medium Voltage Electric Drives Market Trends

Demand for AC Drives is on the Rise

- To reduce the dependence of raw materials and many other components on other countries, companies in the global medium voltage AC drive market rely on local manufacturing capacity. Manufacturers are adopting emergency response plans to accommodate changing consumer patterns and demand after coronavirus infection rates have declined in some countries.
- Companies introduce mergers and acquisitions and new product innovations to increase the value of their products. They maintain a consistent product supply to ensure business continuity. For instance, in September 2021, Danfoss Drives, a frontrunner in AC drives technology, has expanded its medium-voltage solutions portfolio with the brand new VACON a thousand medium-voltage force.
- Further, medium voltage AC drives save capital and operating costs compared to similar solutions, but consumers must choose the right drive for various end applications. Recognizing this gap, US-based industrial automation and information technology provider Rockwell Automation, Inc. is expanding its portfolio of general-purpose and specialty medium-voltage AC drives.
- Similarly, ABB Limited offers medium voltage drives for chemical, oil, and gas industries for more profitability and performance. As observed in chemical, oil, and gas applications, ABB medium voltage drives were designed to ensure an extended lifetime in harsh environments. ABBs medium voltage drives can perform without an encoder, lowering maintenance costs and ensuring excessive availability.
- Asia will experience the largest increase in investment in medium voltage drives in major regions during the forecast period. Emerging markets with continued demand for new infrastructure and middle-class growth with strong consumer potential provide a solid foundation for long-term growth in the medium-voltage AC drive market.

Asia Pacific to Witness Major Growth in Medium Voltage Drives

- Medium voltage drives used to monitor motor speeds have gained significant traction due to their ability to optimize energy consumption in various regional industries such as power generation, metal mining, oil & gas and more. The popularity of medium voltage drives and energy efficiency extends motor life and reduces motor maintenance by allowing distributed use throughout the life cycle and avoiding continuous use between them.
- Rapid advances in technology have made drives widely accepted in multiple industries. Progress is focused on high reliability and reduction of energy costs. This could reduce energy consumption per square foot by 30-40% when an engine drive system is installed in a commercial building. In addition, advanced, modern drives integrate network and diagnostic capabilities to improve performance and productivity.
- Furthermore, increasing expansion activity in China's energy sector is expected to create considerable demand for voltage drives in the region. China's National Energy Administration stated that there are already 19.23 gigawatts of pumped hydro capacity in China and another 30 gigawatts (GW) under construction and aims to account for 50% of its electricity generation by 2025. This is expected to fuel the demand for VFDs over the forecast period.
- Companies in the region are also focusing on innovating new products as part of the business expansion. Recently, Bergen release medium voltage electric drivers in collaboration with its partner Nancal Electric in India. For more than 35 years, Bergen has delivered a robust medium and a wide range of services in the diversified areas of Electronic Manufacturing, Renewable Energy (Solar), LED solutions, Power Electronics, Healthcare, Utilities, Plant set-up, and Technical consultancy.
- Further, in September 2021, Siemens released Sinamics software for medium voltage drives to protect plants, techniques,

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appliances, and networks against cyber threats. It is necessary to implement and continuously maintain a state-of-the-art industrial security concept. Siemens' products and solutions include one element of such a concept.

- In addition, increasing demand for energy-efficient equipment and supportive government programs is expected to drive the Asia-Pacific AC drive market. Preferred government policies and regulations focused on the development of the manufacturing industry, the growing demand for energy in the region due to the increasing population and per capita disposable income, and the growing concern about energy optimization are some key factors to support the regional market growth.

Medium Voltage Electric Drives Industry Overview

The Global Medium Voltage Electric Drive market is fragmented with the presence of major players who are constantly focusing on innovating new technological products, expanding their business with mergers and partnerships in the market. Major players are Schneider Electric, Toshiba Corporation, ABB Limited, and others. Key developments are -

- December 2021 - Mitsubishi Electric Corporation announced it has received 2021 R&D 100 award from the U.S. publication R&D world for its low-voltage air circuit breaker device that can protect low voltage power distribution systems in the factories and commercial buildings.
- March 2021 - Rockwell Automation improves the performance of PowerFlex 6000T Medium Voltage Drives. Industrial companies can now benefit from multiple enhancements to the Allen-Bradley PowerFlex 6000T medium voltage drives. The drives now include TotalFORCE technology from the company, which delivers precise control of speed and torque, diagnostic data for tracking system health, and automatic adjustments to maintain processes running smoothly.

Additional Benefits:

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

Table of Contents:

1 INTRODUCTION

- 1.1 Study Assumptions and Market Definitions
- 1.2 Scope of the Study

2 RESEARCH METHODOLOGY

3 EXECUTIVE SUMMARY

4 MARKET INSIGHTS

- 4.1 Market Overview
- 4.2 Industry Stakeholder Analysis
- 4.3 Industry Attractiveness - Porter's Five Force Analysis
 - 4.3.1 Bargaining Power of Suppliers
 - 4.3.2 Bargaining Power of Buyers/Consumers
 - 4.3.3 Threat of New Entrants
 - 4.3.4 Threat of Substitute Products
 - 4.3.5 Intensity of Competitive Rivalry

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4.4 Impact of COVID-19 on the market

5 MARKET DYNAMICS

5.1 Market Drivers

5.1.1 Focus on reducing power and energy consumption

5.1.2 Wide range of applications for medium voltage AC drives

5.2 Market Challenges

5.2.1 Due to intensifying competition, prices of medium-voltage electric drives is fluctuating

6 Market Segmentation

6.1 By Type

6.1.1 AC Drives

6.1.2 DC Drives

6.1.3 Servo Drives

6.2 By End-User Industry

6.2.1 Oil & Gas

6.2.2 Chemical & Petrochemical

6.2.3 F&B

6.2.4 Water & Wastewater

6.2.5 Power Generation

6.2.6 Metal & Mining

6.2.7 Pulp & Paper

6.2.8 HVAC

6.2.9 Discrete Industries

6.3 Geography

6.3.1 North America

6.3.2 Europe

6.3.3 Asia-Pacific

6.3.4 Latin America

6.3.5 Middle-East and Africa

7 Competitive Landscape

7.1 Company Profiles

7.1.1 Eaton Corporation

7.1.2 ABB Ltd

7.1.3 Crompton Greaves Ltd

7.1.4 GE Company

7.1.5 Honeywell International Inc.

7.1.6 Rockwell Automation Inc.

7.1.7 Hitachi Group

7.1.8 Mitsubishi Corporation

7.1.9 Toshiba Corporation

7.1.10 Schneider Electric Company

8 Investment Analysis

9 Future Outlook of the Market

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