

Hydrogen Compressor Market to Reach \$3.3 Billion by 2032, Expanding at 4.0% CAGR

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NEW CASTLE, DE, UNITED STATES, July 14, 2025 /EINPresswire.com/ -- Allied Market Research published a report, titled, "[Hydrogen Compressor Market](#) by Technology Type (Mechanical Compressors, Non-Mechanical Compressors), by Lubrication Type (Oil-based, Oil-free), by End User Industry (Oil and Gas, Chemical, Automotive, Others): Global Opportunity Analysis and Industry Forecast, 2023-2032". According to the report, the global Hydrogen compressor market size generated \$2,254.6 million in 2022 and is anticipated to generate \$3,321.1 million by 2032, witnessing a CAGR of 4.0% from 2023 to 2032.

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Prime determinants of growth

The growth in the oil and gas sector drives the hydrogen compressor market. However high investment and maintenance costs are restraining the growth of the market. On the contrary, rapid industrialization in developing countries is expected to offer lucrative opportunities for the growth of the market.

Analysis of the impact of inflation on the market

The hydrogen compressor market has experienced slow-paced growth due to various global events such as the economic downturn, and the COVID-19 pandemic. Formerly, the COVID-19 pandemic forced countries across the world to halt all industrial and trade activities, which severely impacted market growth. This led to reduced output from the key players in the hydrogen compressor market and resulted in lower demand from various end users. However, the COVID-19 pandemic has mostly subsided, and the probability of its severe negative impact on the hydrogen compressor market is relatively low.

Currently, the market is mainly impacted by the global economic downturn which is a big restraining factor for the entire industrial and construction sectors. The current inflation is a result of the Ukraine–Russia conflict, as well as the quantitative easing that was performed in various countries across the globe to tackle the economic downturn during the coronavirus outbreak.

The mechanical compressors segment to maintain its leadership status throughout the forecast period

On the basis of technology type, the mechanical compressors segment held the highest market

share in 2022, accounting for more than three-fourths of the global hydrogen compressor market. There is a rise in demand for hydrogen as a clean energy carrier with the increase in focus on renewable energy and the transition toward a hydrogen-based economy. Mechanical hydrogen compressors are essential for compressing hydrogen to high pressures required for storage, transportation, and various applications within this evolving hydrogen economy. In addition, there is a need for an expanded infrastructure of hydrogen fueling stations, as the adoption of hydrogen fuel cell vehicles (FCVs) and other hydrogen-powered vehicles grows. Mechanical compressors are crucial components in these stations, allowing the compression of hydrogen for efficient refueling of vehicles. Moreover, hydrogen is used in various industrial processes, including chemical manufacturing, electronics production, and refining. Mechanical compressors are needed to provide high-pressure hydrogen for these industrial applications, contributing to increased demand.

The oil-free segment to maintain its leadership status throughout the forecast period

On the basis of lubrication type, the oil-free segment held the highest market share in 2022, accounting for more than two-thirds of the global hydrogen compressor market. Oil-free compressors eliminate the risk of oil contamination, ensuring the purity of compressed hydrogen, which drives the demand for these compressors in industries that require ultra-clean hydrogen. In addition, oil-free compressors mitigate safety concerns associated with oil-based compressors. Hydrogen is highly flammable, and the presence of oil in the compression system can pose a safety risk. Oil-free compressors address this concern, making them more desirable, especially in applications where safety is a top priority. The use of oil-free compressors aligns with these goals with increase in emphasis on sustainability and environmental responsibility. These compressors reduce the potential for oil leaks and minimize the environmental impact associated with oil disposal by eliminating the need for oil lubrication, making them more environment-friendly.

The oil and gas segment to maintain its lead position during the forecast period

On the basis of end user industry, the oil & gas segment accounted for the largest share in 2022, contributing to nearly three-fifths of the global hydrogen compressor market revenue, and is projected to maintain its lead position during the forecast period. Petrochemical industries have witnessed a surge owing to the rise in demand for fuel by automotive users, shippers & transporters, and the energy industry. For instance, according to the Automobile Dealer Association (NADA), sales of new light vehicles totaled 14.93 million units in 2021, which is 3.1% more than the sales generated in 2020. Furthermore, to meet this rise in demand for fuel and energy by automotive and other industries, public and private entities across the world have constructed and developed oil and gas refineries. For instance, Angola has developed a refinery having a capacity refining 60,000 barrels of crude oil a day, in its Cabinda province. It is expected to be completed by 2024 at a cost of around \$900 million. Such instances and key factors are anticipated to create lucrative opportunities for the hydrogen compressor market growth. However, the automotive segment is expected to portray the largest CAGR of 5.0% from 2023 to 2032. The development of hydrogen fuel cell vehicles around the globe fuels market growth. For

instance, aim of Japan to build hydrogen fuel stations for recharging the vehicles is expected to drive the growth of the hydrogen compressor market.

Asia-Pacific to maintain its dominance by 2032

On the basis of region, Asia-Pacific held the highest market share in terms of revenue in 2022, accounting for nearly one-third of the global hydrogen compressor market revenue, and is expected to dominate the market during the forecast period. The Asia-Pacific is one of the fastest-growing regions across the globe, expanding at a rate of 5% per year. Rapid industrialization has led to expansion in the manufacturing sector, which in turn has boosted the economy. The manufacturing sector of this region has also flourished because of the lenient industrial policies of the countries, which aim to lure foreign investment. Along with this, the rise in population in the region is anticipated to create a demand for warehouses, cold storage, and other processes that require compressed air or gas. In addition, factors such as the availability of workforce and low-cost manufacturing have propelled the manufacturing sector in Asia-Pacific. The food processing and manufacturing industries are the major contributors to the GDP of countries such as Japan, South Korea, and Australia. Furthermore, China is one of the largest providers of activated pharmaceutical ingredients, and the Indian pharmaceutical industry has witnessed substantial growth. These factors have driven the demand for hydrogen compressors in Asia-Pacific.

Leading Market Players: –

Ariel Corporation

Atlas Copco

Burckhardt Compression AG

Fluitron

HAUG Sauer Kompressoren AG

Hitachi, Ltd.

Howden Group

IDEX Corporation

Ingersoll Rand, Inc.

Nel ASA

The report provides a detailed analysis of these key players in the global hydrogen compressor market. These players have adopted different strategies to increase their market share and maintain dominant shares in different regions. The report is valuable in highlighting business performance, operating segments, product portfolio, and strategic moves of market players to showcase the competitive scenario.

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business insights and consulting to assist its clients to make strategic business decisions and achieve sustainable growth in their respective market domain.

We are in professional corporate relations with various companies, and this helps us in digging out market data that helps us generate accurate research data tables and confirms utmost accuracy in our market forecasting. Allied Market Research CEO Pawan Kumar is instrumental in inspiring and encouraging everyone associated with the company to maintain high quality of data and help clients in every way possible to achieve success. Each and every data presented in the reports published by us is extracted through primary interviews with top officials from leading companies of domain concerned. Our secondary data procurement methodology includes deep online and offline research and discussion with knowledgeable professionals and analysts in the industry.

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