

Saudi Arabia Heat Exchangers Market Assessment, By Type [Shell and Tubes, Plates and Frames, Air Cooled, Others], By End-use Industry [Chemicals and Petrochemicals, Oil and Gas, Power Industry, HVAC, Food and Beverages, Others], By Region, Opportunities and Forecast, 2017-2031F

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Report description:

Saudi Arabia Heat exchangers market is projected to witness a CAGR of 6.32% during the forecast period 2024-2031, growing from USD 0.38 billion in 2023 to USD 0.63 billion in 2031.

Heat exchangers are devices designed to transfer heat from one fluid to another without direct fluid contact. The equipment is used in extensive applications across industrial, commercial, and residential sectors, along with HVAC and refrigeration, providing efficient fluid or air heating or cooling.

The growth of heat exchangers in Saudi Arabia is driven by several factors, such as industrial expansion, regulatory policies, and technological advancements. Key industries that are helping the market to grow are petrochemicals, desalination, and oil and gas, which will further enhance demand for heat exchangers in the forecast years. Moreover, government initiatives to reduce the emissions of carbon and attain sustainability goals will continue to drive the growth of Saudi Arabia heat exchangers market in the forecast years. The innovative technologies in the market resulted in fostering the demand for the product in the country. Moreover, the Saudi Green Initiative aims to generate 50% of energy from renewable sources by 2030, which will boost the demand for heat exchangers in the country. The policy aims to reduce carbon emissions, improve energy efficiency, and achieve the set goals.

Additionally, the government is promoting investments in the industrial sector, especially in the manufacturing of heat exchangers and equipment components. The investment has been made to enhance local production and decrease reliance on imports, which will further grow the heat exchangers market.

For instance, in January 2022, Saudi Aramco signed ten agreements during the Saudi Korean Investment Forum, which includes a significant collaboration with Doosan Heavy Industries & Construction to establish a casting and forging facility in Saudi Arabia.

This facility is expected to produce 60,000 tons per year of industrial equipment, prominently featuring heat exchangers. The initiative aims to enhance local manufacturing capabilities and improve the supply chain for essential components in various sectors, including oil and gas. The moves highlight Aramco's commitment to increasing local content in industrial manufacturing while supporting the development of low-carbon technologies.

Growth in the Oil and Gas Sector to Fuel Market Demand

In Saudi Arabia, the oil and gas sector contributes to almost 90% of the total government revenue. Globally, the country is ranked as one of the top producers of oil, with a daily production capacity of around 10.5 million barrels. The Saudi government is commencing new policies of investing over USD 200 billion to enhance refining abilities. Heat exchangers are essential devices for operation in the oil and gas sector, and they have major applications such as heating, cooling, and energy recovery in refineries and gas processing plants. The investments in enhancing the adoption of energy-efficient technologies boost the demand for heat exchangers in the market.

The country is introducing new policies for reducing carbon emissions, which will boost the demand for heat exchangers in industrial applications. To support this, the government is promoting the adoption of efficient heat exchangers in the oil and gas sector. Industries are highly opting for heat exchangers to enhance efficiency for thermal management operations. The country is coming up with ambitious infrastructure projects, including the development of different projects, such as Jafurah gas field, which is expected to require extensive use of heat exchangers for processing natural gas and related products.

Environmental Regulations to Act as a Catalyst for Market Growth

The country is coming up with a new program, Saudi Vision 2030, which is focused on attaining environmental sustainability. The initiative includes the implementation of stricter rules and regulations across all the sectors in the country. The Saudi Standards, Metrology and Quality Organization (SASO) has implemented new standards with guidelines concerning the energy efficiency and environmental impact of industrial activities. The regulations introduced by the government will push energy efficiency technology upwards, especially heat exchangers, which minimizes energy losses and increases system efficiency. With the implementation of regulations, each industry will ensure the use of a highly efficient heat exchanger in its operations. The new regulation aligns with the pattern of environmental responsibility, which has led the Saudi Arabian industries to embrace cleaner and more efficient technologies.

The regulations mentioned by the organization increase the adoption of energy-saving technologies, especially heat exchangers. In efforts to comply with the requirements of new regulations, several industries are expected to raise the demand for high-efficiency heat exchangers. It aligns with the global moves towards environmental responsibility that have compelled industries in Saudi Arabia to invest in cleaner and more efficient technologies. Transition to sustainable practices is helpful in facilitating compliance with industry regulations. The transition will be beneficial in the long run, saving operations and environmental protection. Moreover, the increasing priority of Saudi Arabian regulatory authorities in energy efficiency and sustainability will influence the heat exchangers market and, thus, become an essential component to reach environmental targets set by the country in coming years.

For instance, in November 2022, Saudi Aramco signed 59 corporate procurement agreements (CPAs) with 51 local and global manufacturers, valued at USD 11 billion. Air-cooled heat exchangers are among the strategic commodities covered by these CPAs, which are essential for various industrial applications. The agreements include partnerships with notable companies such as Baker Hughes, Cameron Al Rushaid, Halliburton, SLB, and TechnipFMC. The initiative falls under Aramco's in-Kingdom Total Value Add program (iktva), which focuses on fostering long-term commitments with supplier partners to enhance local manufacturing capabilities.

Shell and Tubes Heat Exchangers to Dominate Market Share

Shell and tube heat exchangers have a high adoption rate, becoming the dominant segment in the Saudi Arabia heat exchangers market. The robustness feature enables products to handle high temperatures and pressures, making them ideal for various industries such as petrochemicals, power generation, and oil and gas. Given that a significant portion of Saudi Arabia's revenue comes from the oil and gas sector, shell and tube heat exchangers are extensively utilized in refineries and gas processing plants for heating and cooling applications. Additionally, as the largest producer of desalinated water, Saudi Arabia frequently employs heat exchangers in desalination plants for thermal processes like Multi-Effect Distillation (MED) and Multi-Stage Flash (MSF). The integration of new technologies, such as reverse osmosis, necessitates specialized heat exchangers for energy recovery.

Furthermore, in line with the Saudi Vision 2030 plan, Saudi Arabia is increasing investments in solar energy projects, predominantly concentrated solar power (CSP), where shell and tube heat exchangers are used for efficient thermal energy transfer.

For instance, in November 2022, Alfa Laval reported an increase in orders for shell and tube heat exchangers from Saudi Arabia. The company secured the contract to supply compact heat exchangers for a significant green hydrogen plant in Neom. This development will help the company to increase its revenue and customer base.

Eastern Region to Dominate the Heat Exchangers Market Share

The eastern region is expected to dominate the Saudi Arabia heat exchangers market with the highest share. The region includes a significant oil production hub, which contributes more than 80% of Saudi Arabia's oil production and includes refineries such as Saudi Aramco and Ras Tanura. These plants have a significant demand for heat exchangers as equipment is essential for efficient heating, cooling, energy recovery processes, and processing of crude oil. Furthermore, The Eastern Province is home to various desalination plants, which are crucial for providing potable water where water scarcity is a significant challenge, depending heavily on heat exchangers for efficient thermal energy transfer.

Moreover, the Saudi government is heavily investing in the eastern region for renewable energy projects under Saudi Vision 2030. Some initiatives, such as the Dumat Al Jandal wind farm and the development of concentrated solar power (CSP) projects, will increase demand for advanced heat exchanger technologies, particularly those required for energy storage and conversion systems.

Future Market Scenario (2024 [] 2031F)

□ Saudi Arabia aims to produce 50% of its energy from renewable sources by 2030. Projects like solar and wind farms will stimulate the need for more advanced heat exchangers.

Increased emphasis on energy efficiency, driven by stricter regulations from SASO, will compel industries to implement high-efficiency heat exchangers for decreased energy wastage and environmental harm.

Continuous innovation in heat exchanger technology, including the development of microchannel and plate & frame designs, is anticipated to enhance performance and efficiency, catering to modern industrial needs.

□ Saudi Arabia is the biggest producer of desalinated water globally, and the need for advanced heat exchangers in new desalination technologies such as reverse osmosis and multi-effect distillation will drive market growth.

Key Players Landscape and Outlook

Continuous innovation characterizes the Saudi Arabia heat exchangers market, as companies strive to enhance their offerings through energy efficiency and advanced technologies. The market prognosis remains positive, owing to increased demand from key sectors such as petrochemicals, oil and gas, and renewable energy projects such as concentrated solar power (CSP) and wind farms. Moreover, initiatives under Saudi Vision 2030 aim to diversify the economy, creating additional opportunities for heat exchangers in manufacturing. Collaborations and developing environmentally friendly technologies are anticipated to enhance overall market dynamics.

In November 2023, Alfa Laval Middle East Ltd inaugurated its new plate heat exchanger (PHE) assembly center in Jubail, Kingdom of Saudi Arabia. This development will help the company to increase products and revenue in the coming years.

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*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work.

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