

Aircraft Heat Exchanger - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

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Report description:

The Aircraft Heat Exchanger Market size is estimated at USD 1.81 billion in 2024, and is expected to reach USD 2.85 billion by 2029, growing at a CAGR of 9.53% during the forecast period (2024-2029).

Key Highlights

-The global aircraft heat exchanger market witnessed unprecedented challenges due to the COVID-19 pandemic. The airlines had faced huge losses due to airport shutdowns, reduced air traffic, and supply chain disruptions that had led to a shortage of raw materials and delayed maintenance, repair, and overhaul operations. Research and development (R&D) of aircraft heat exchangers for military applications had been hampered due to a shortage of labor force. However, the market had showcased a strong recovery post-COVID due to increased aircraft deliveries and rising spending on aircraft maintenance, repair, and overhaul (MRO).

-Aircraft heat exchangers are used in aircraft engines, environmental control systems, and avionics that help to control heat and maintain the temperature of these systems. These are used to cool down hydraulic fluid and are located inside the fuel tank. The heat exchangers are used in all types of aircraft, including fixed-wing and rotary, and in many different aircraft systems. -Advanced aircraft heat exchangers consist of thin wall thickness components such as tubes and fins to increase their thermodynamic efficiency. These systems are made up of heat-resistant metals such as aluminum, copper, titanium, and others for high-temperature applications. Increasing air traffic, rising expenditure on the procurement of advanced aircraft heat exchangers, and growing aircraft fleets worldwide drive the growth of the market.

Aircraft Heat Exchanger Market Trends

- The fixed-wing segment is expected to show significant growth during the forecast period. The growth is attributed to the increasing air traffic, rising demand for new aircraft, and growing expenditure on the aviation sector. Commercial aircraft heat exchangers take heat from the engine's oil system to heat cold fuel, which improves fuel efficiency and reduces the possibility of water entrapped in the fuel freezing in components. Thus, increasing commercial aircraft deliveries is projected to drive market growth during the forecast period. According to the International Air Transport Association (IATA), the overall air passenger number will reach 4 billion in 2024. Furthermore, Boeing released its Commercial Market Outlook (CMO) 2022, in which it forecasted that demand for new aircraft will exceed 41,000 units during the 2022-2041 period.

- Additionally, increasing demand for military aircraft and growing expenditure in enhancing air force capabilities is creating demand for advanced aircraft heat exchanger systems. For instance, in January 2023, Aerobraze Engineered Technologies Oklahoma City signed a five-year contract with the United States Air Force (USAF) for the remanufacturing of F-16 fighter aircraft regenerative heat exchangers at the Tinker Air Force Base. Thus, growing fixed-wing aircraft deliveries and increasing spending on MRO operations boost the market growth.

Asia-Pacific Will Showcase Highest Growth During the Forecast Period

- Asia-Pacific is projected to show the highest growth during the forecast period. Growing expenditure on the aviation sector and growing demand for new aircraft, especially from China and India, boost the market growth across the region. According to the International Air Transport Association (IATA), China surpassed the United States and became the largest aviation market in the world in 2022. Furthermore, China is expected to reach a total of 1.5 billion aviation passengers by 2036. Also, the Indian civil aviation ministry announced that India became the third-largest domestic aviation market in 2021.

- Furthermore, growing defense expenditure and procurement of next-generation fighter jets from India, China, and Japan propel the growth of the market. China and India are the second and third largest defense spenders in the world, with a defense budget of USD 293 billion and USD 76.6 billion, respectively. For instance, in February 2022, Bharat Heavy Electricals Limited (BHEL) received a contract from Hindustan Aeronautics Limited (HAL) for the supply of compact heat exchanger sets for 83 LCA Tejas MK1A aircraft. Thus, the growing demand for commercial and military aircraft from Asian countries drives the growth of the market.

Aircraft Heat Exchanger Industry Overview

The aircraft heat exchangers market is moderately consolidated in nature, with few players holding significant shares in the market. Some prominent market players are Safran SA, TAT Technologies Ltd., RTX Corporation, Honeywell International Inc., and Parker Hannifin Corporation.

The key players in the market are focusing on the development of advanced aircraft heat exchangers for different types of aircraft. Growing expenditure on research and development and the introduction of new aircraft heat exchangers will create better opportunities in the coming years. For instance, General Atomics Aeronautical Systems Inc. (GA-ASI) is working in collaboration with Conflux Technology on the design and development of a new Fuel Oil Heat Exchanger (FOHE) for the MQ-9B. GA-ASI is manufacturing enhanced thermal solutions for its MQ-9B SkyGuardian and SeaGuardian remotely-piloted aircraft

Additional Benefits:

- The market estimate (ME) sheet in Excel format

- 3 months of analyst support

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