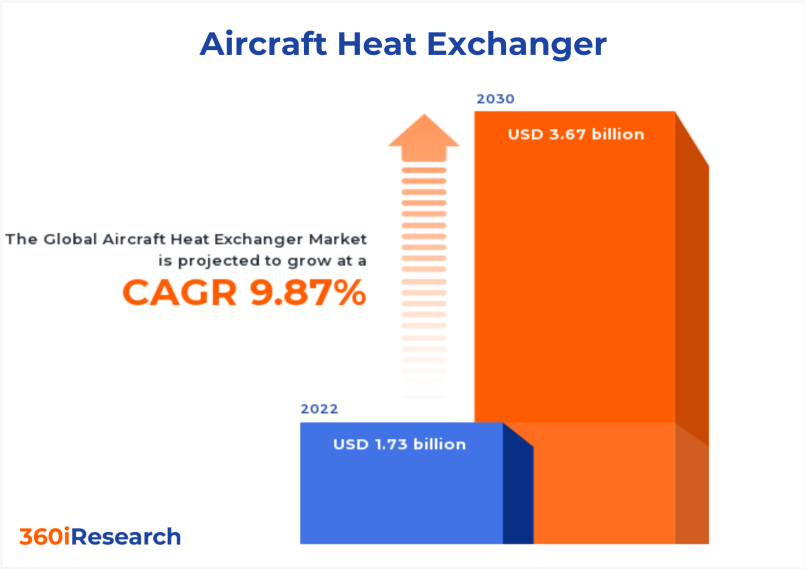
Aircraft Heat Exchanger Market worth $3.67 billion by 2030 - Exclusive Report by 360iResearch

The Global Aircraft Heat Exchanger Market to grow from USD 1.73 billion in 2022 to USD 3.67 billion by 2030, at a CAGR of 9.87%.



Aircraft Heat Exchanger Market - Exclusive Report by 360iResearch

PUNE, MAHARASHTRA, INDIA, November 8, 2023 /EINPresswire.com/ -- The "Aircraft Heat Exchanger Market by Type (Flat Tube Heat Exchangers, Heat Pipe Heat Exchanger, Plate-Fin Heat Exchangers), Aircraft Type (Fixed-Wing, Rotary Wing), Application, Distribution Channel, End-User - Global Forecast 2023-2030" report has been added to 360iResearch.com's offering.

The Global Aircraft Heat Exchanger Market to grow from USD 1.73 billion in 2022 to USD 3.67 billion by 2030, at a CAGR of 9.87%.

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Heat exchangers are used in the aerospace industry for cooling and heating purposes. Aircraft heat exchangers play a fundamental role in reducing fuel temperature and increasing the efficiency of aircraft engines. They experience arduous and extreme working conditions during their operation and require high mechanical integrity and endurance. Heat exchangers are frequently employed to cool rammed air, along with auxiliary power units, gearboxes, hydraulics, and various other parts of an aircraft. Over the years, there has been increased spending on aircraft production as they are increasingly required for civil and commercial activities. In addition, commercial UAVs are gaining popularity with immense government support for their utilization across industries. This increased use of aircraft and drones has accelerated the need for a diverse range of heat exchangers that match the requirements of the aircraft. However, the

technical limitations associated with operations and strict design standards have impeded the heat exchanger production activities. Market players are focused on offering customized heat exchangers that ensure the industries' specifications while catering to the international and national standards of the product to achieve improved commercialization. 3D-printed aircraft heat exchangers are highly adopted as they are designed based on the specific needs of fixed-wing or rotary aircraft.

Aircraft Type: Higher deployments in fixed-wing aircraft to ensure engine efficiency
Heat exchangers are used in all-size aircraft, including fixed-wing and rotary aircraft, and in many different aircraft systems. A fixed-wing aircraft has wings propelled by a jet engine or a propeller and is frequently utilized for longer trips due to its ability to travel without refueling. A fixed-wing aircraft's airframe consists of the aircraft's horizontal wings, fuselage, vertical stabilizer, horizontal stabilizer, and heat exchanger. A rotary-wing aircraft has rotor blades, which generate lift by rotating around a vertical mast. Rotary heat exchangers can handle the largest air volumes, effectively exchanging heat or cooling energy.

Application: Growing adoption of an environment control system for clean in-flight air supply
Electronic pod cooling involves cooling electronic devices such as chips, IC packages, and other airtight devices. In engine systems, aircraft heat exchangers are widely used to denote landscape technology and take heat from the engine's oil system to heat cold fuel. An environment control system (ECS) serves the critical process of supplying passengers and crew members with clean air in circumstances such as flight altitude. The ECS is used in big commercial aircraft to ensure passengers have a comfortable flight experience. Hydraulic systems are located in the aircraft's fuel tanks and use aluminum finned tubes to transfer heat from the hydraulic fluid.

Type: Increased demand for high-efficient and compact printed circuit heat exchangers heat exchangers
Plate-fin heat exchangers (PFHEs) are produced from finned passages, separated by flat plates, and have a unique internal pattern to maximize heat transfer. PFHE is a compact heat exchanger with a larger surface area to volume ratio for the transfer of heat. These heat exchangers are frequently utilized in the aviation industry as they are compact, lightweight, and efficient. Printed circuit heat exchangers (PCHEs) are heat exchangers that are fabricated using a printed circuit board (PCB) manufacturing technique. The PCB process enables the creation of intricate flow paths within the heat exchanger, enhancing the heat transfer area and minimizing the size & weight of the unit, offering highly efficient and compact products. Printed circuit heat exchangers work with two or more media on opposite sides of a diffusion-welded plate. The micro-heat exchangers are heat exchangers in which fluids flow in very confined areas, such as tubes or small cavities whose dimensions are below 1mm. Some PFHEs and PCHEs can be categorized as micro-heat exchangers. Flat tube heat exchangers are flat tubes with extended surface channels and external fins. These tubes provide better heat transfer through a large internal surface area in contact with the fluid. In a flat tube, flow through external fins is optimized to improve heat transfer. Flat tube heat exchangers are important in designing and operating several machines, such as power generators, heating systems, air conditioning systems, oil rigs, refrigerators, and

engineering processing systems.

Distribution Channel: Increased demand for reliable original equipment manufacturers aircraft heat exchanger
The aftermarket segment includes maintenance, repair, upgrading, and replacement of aircraft heat exchanger components and systems. The huge spending on upgraded avionics systems and replacing overused thermal management components and systems increases the use of the aftermarket. Original equipment manufacturers (OEMs) provide vendors with better heat exchangers and access to technical expertise, modern analytical capabilities, and new workflows to improve heat exchanger utilization. OEMs quickly leverage existing sales and marketing infrastructure without building their own.

End-User: Increasing utilization in commercial aviation to maintain safety compliances
Civil and commercial manufacturers use heat exchangers to improve aircraft performance, minimize downtime, and increase safety. In the military segment, high-temperature resistant pre-coolers, aluminum fuel-submerged hydraulic heat exchangers, oil coolers, cold plates, ECS heat exchangers, vapor cycle evaporators, electronic cooling solutions, and environmental control systems are widely used. Market players are introducing in-house design and manufacturing customized heat exchangers for aviation applications, with increasing demand across each aviation segment.

Regional Insights:
The aircraft heat exchanger market in the Americas portrays an advanced market driven by the presence of players with a trusted product portfolio and a wide regional network. The U.S. and Canada have witnessed accelerated growth in military and civil aircraft spending in the past few years, driven by government investments and the rise of international travel, respectively, presenting the need for advanced heat exchangers. The European players in the market are well-established, with multiple types of heat exchangers in their R&D pipeline. France, Germany, the UK, Spain, and Italy are some of the major producers and exporters of aircraft in the region. The Asia-Pacific has grown to be a major aluminum, carbon steel, copper, nickel, and foam distributor to the European and the U.S. market players for the production of heat exchangers. The region observes a huge potential for the aftermarket of heat exchangers, with significant upgradation of the aircraft to meet the increase in demand from domestic and international travel and cargo shipping.

FPNV Positioning Matrix:

The FPNV Positioning Matrix is essential for assessing the Aircraft Heat Exchanger Market. It provides a comprehensive evaluation of vendors by examining key metrics within Business Strategy and Product Satisfaction, allowing users to make informed decisions based on their specific needs. This advanced analysis then organizes these vendors into four distinct quadrants, which represent varying levels of success: Forefront (F), Pathfinder (P), Niche (N), or Vital(V).

Market Share Analysis:

The Market Share Analysis offers an insightful look at the current state of vendors in the Aircraft Heat Exchanger Market. By comparing vendor contributions to overall revenue, customer base, and other key metrics, we can give companies a greater understanding of their performance and what they are up against when competing for market share. The analysis also sheds light on just how competitive any given sector is about accumulation, fragmentation dominance, and amalgamation traits over the base year period studied.

Key Company Profiles:

The report delves into recent significant developments in the Aircraft Heat Exchanger Market, highlighting leading vendors and their innovative profiles. These include 3D Systems, Inc., AERO-Classics, Inc., AKG Group, American Manufacturing & Engineering Co., AMETEK, Inc., Aviatron Inc., Bharat Heavy Electricals Limited, Boyd Corporation, Conflux Technology Pty Ltd., Eaton Corporation PLC, ERG Aerospace Corporation, Essex Industries, Inc., General Electric Company, General System Engineering Sdn Bhd, Honeywell International Inc., Intergalactic, Jamco Corporation, Liebherr-International Deutschland GmbH, Mezzo Technologies Inc., MSM Aerospace Fabricators Ltd., Pacific Oil Cooler Service, Inc., Parfuse Corporation, Parker-Hannifin Corporation, Precision Micro Limited, Raytheon Technologies Corporation, RJM Heat Exchanger Inc., Safran S.A., Skyline Accessories, LLC, Sumitomo Precision Products Co., Ltd., TAT Technologies Ltd., Triumph Group, Inc., TURBOTECH SAS, Wall Colmonoy Group, and Woodward, Inc..

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Market Segmentation & Coverage:

This research report categorizes the Aircraft Heat Exchanger Market in order to forecast the revenues and analyze trends in each of following sub-markets:

Based on Type, market is studied across Flat Tube Heat Exchangers, Heat Pipe Heat Exchanger, Plate-Fin Heat Exchangers, and Printed Circuit Heat Exchangers. The Plate-Fin Heat Exchangers commanded largest market share of 36.13% in 2022, followed by Flat Tube Heat Exchangers.

Based on Aircraft Type, market is studied across Fixed-Wing and Rotary Wing. The Fixed-Wing commanded largest market share of 66.28% in 2022, followed by Rotary Wing.

Based on Application, market is studied across Electronic Pod Cooling, Engine System, Environment Control System, and Hydraulic System. The Engine System commanded largest market share of 32.98% in 2022, followed by Environment Control System.

Based on Distribution Channel, market is studied across Aftermarket and Original Equipment Manufacturer. The Original Equipment Manufacturer commanded largest market share of 61.88% in 2022, followed by Aftermarket.

Based on End-User, market is studied across Civil Aviation, Commercial Aviation, and Military Aviation. The Commercial Aviation commanded largest market share of 46.01% in 2022, followed by Military Aviation.

Based on Region, market is studied across Americas, Asia-Pacific, and Europe, Middle East & Africa. The Americas is further studied across Argentina, Brazil, Canada, Mexico, and United States. The United States is further studied across California, Florida, Illinois, New York, Ohio, Pennsylvania, and Texas. The Asia-Pacific is further studied across Australia, China, India, Indonesia, Japan, Malaysia, Philippines, Singapore, South Korea, Taiwan, Thailand, and Vietnam. The Europe, Middle East & Africa is further studied across Denmark, Egypt, Finland, France, Germany, Israel, Italy, Netherlands, Nigeria, Norway, Poland, Qatar, Russia, Saudi Arabia, South Africa, Spain, Sweden, Switzerland, Turkey, United Arab Emirates, and United Kingdom. The Europe, Middle East & Africa commanded largest market share of 39.23% in 2022, followed by Americas.

Key Topics Covered:

1. Preface
2. Research Methodology
3. Executive Summary
4. Market Overview
5. Market Insights
6. Aircraft Heat Exchanger Market, by Type
7. Aircraft Heat Exchanger Market, by Aircraft Type
8. Aircraft Heat Exchanger Market, by Application
9. Aircraft Heat Exchanger Market, by Distribution Channel
10. Aircraft Heat Exchanger Market, by End-User
11. Americas Aircraft Heat Exchanger Market
12. Asia-Pacific Aircraft Heat Exchanger Market
13. Europe, Middle East & Africa Aircraft Heat Exchanger Market
14. Competitive Landscape
15. Competitive Portfolio
16. Appendix

The report provides insights on the following pointers:
1. Market Penetration: Provides comprehensive information on the market offered by the key players
2. Market Development: Provides in-depth information about lucrative emerging markets and analyzes penetration across mature segments of the markets

3. Market Diversification: Provides detailed information about new product launches, untapped geographies, recent developments, and investments
4. Competitive Assessment & Intelligence: Provides an exhaustive assessment of market shares, strategies, products, certification, regulatory approvals, patent landscape, and manufacturing capabilities of the leading players
5. Product Development & Innovation: Provides intelligent insights on future technologies, R&D activities, and breakthrough product developments

The report answers questions such as:
1. What is the market size and forecast of the Aircraft Heat Exchanger Market?
2. Which are the products/segments/applications/areas to invest in over the forecast period in the Aircraft Heat Exchanger Market?
3. What is the competitive strategic window for opportunities in the Aircraft Heat Exchanger Market?
4. What are the technology trends and regulatory frameworks in the Aircraft Heat Exchanger Market?
5. What is the market share of the leading vendors in the Aircraft Heat Exchanger Market?
6. What modes and strategic moves are considered suitable for entering the Aircraft Heat Exchanger Market?

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