

Aircraft Hydraulic System Market Forecasts to 2032 – Global Analysis By Type (Closed-Center Hydraulic System, Open-Center Hydraulic System, Power Transfer Unit (PTU) Systems, Power Transfer Unit (PTU) Systems and Other Types), Component (Pumps & Actuators, Valves & Reservoirs, Accumulators & Hydraulic Fluid, Hoses, Pipes, & Connectors, Filters & Manifolds and Other Components), Platform, Application and By Geography

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Abstracts

According to Statistics MRC, the Global Aircraft Hydraulic System Market is accounted for \$13.8 billion in 2025 and is expected to reach \$30.9 billion by 2032 growing at a CAGR of 12.2% during the forecast period. Aircraft Hydraulic System is a critical component responsible for transmitting power to various aircraft mechanisms using pressurized hydraulic fluid. It operates essential functions such as landing gear deployment, flight control surfaces, brakes, and thrust reversers. This system ensures high force output with minimal effort, offering reliability, precision, and quick response under extreme flight conditions. Modern aircraft employ either centralized or decentralized hydraulic systems, often with redundancy for safety.

According to the International Air Transport Association (IATA), the passenger traffic is expected to grow by an average of 4.1% annually over the next 20 years.

Market Dynamics:

Driver:

Advancements in hydraulic technology

Continuous innovations in aerospace hydraulic systems such as high-pressure electro-hydraulic actuators and lightweight composite components are driving operational efficiency and reducing aircraft weight. These advancements enhance responsiveness and reliability, particularly in next-generation commercial and military aircraft. Enhanced fluid dynamics and integration with electronic flight control systems further optimize performance. As OEMs prioritize energy-efficient systems, technological breakthroughs in seals, pumps, and system architectures are transforming hydraulic capabilities, making them more compact, durable, and compatible with modern aircraft design requirements.

Restraint:

High maintenance and leakage risks

Aircraft hydraulic systems face challenges related to fluid leakage, contamination, and seal degradation, which increase maintenance complexity and operational costs. System failures can lead to performance compromise and unscheduled downtimes, especially in aging aircraft fleets. Frequent inspections and overhaul cycles strain airline budgets and ground aircraft, impacting fleet availability. The need for skilled labor and specialized diagnostic tools compounds this issue. These technical vulnerabilities make hydraulic systems less attractive compared to emerging all-electric or hybrid alternatives.

Opportunity:

Growth in emerging markets' aviation infrastructure

Rapid expansions of aviation infrastructure in emerging economies are fueling demand for advanced hydraulic systems in new aircraft. Fleet modernization programs, rising domestic air travel, and government-led airport development projects are catalyzing procurement of both commercial and defense aircraft. As low-cost carriers expand, hydraulic system suppliers gain significant opportunities for volume-based contracts. Additionally, regional manufacturing hubs are attracting OEM investments, accelerating local adoption of hydraulic technologies and system integration.

Threat:

Intense oem competition and system integration challenges

The market is witnessing heightened competition among OEMs and Tier-1 suppliers striving to offer integrated, lightweight, and cost-efficient hydraulic solutions. Custom system designs required for specific aircraft platforms increase complexity and cost of integration. Emerging electric and hybrid flight technologies pose substitution threats, potentially limiting future demand for traditional hydraulics. Additionally, stringent performance certification standards and long development cycles hinder rapid innovation adoption. These dynamics pressurize margins and elevate barriers for new entrants in the hydraulic system value chain.

Covid-19 Impact:

The COVID-19 pandemic led to a steep decline in aircraft production and deliveries, causing a temporary setback for hydraulic system demand. Travel restrictions, grounded fleets, and delayed procurement programs hampered OEM operations globally. However, recovery in defense aviation and cargo transport offered some stability. Post-pandemic, the revivals of commercial aviation and accelerated fleet upgrades have reignited demand. Manufacturers have also shifted focus to digitization, supply chain resilience, and localized production to mitigate future disruption risks.

The closed-center hydraulic system segment is expected to be the largest during the forecast period

The closed-center hydraulic system segment is expected to account for the largest market share during the forecast period, owing to its efficient fluid usage, pressure regulation, and enhanced system reliability. Unlike open systems, closed-center systems maintain constant pressure and activate only when needed, improving fuel efficiency and reducing thermal stress. Their compact design and ability to support multiple flight control operations simultaneously make them ideal for both commercial and military aircraft platforms, especially those requiring high precision and redundancy.

The pumps & actuators segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the pumps & actuators segment is predicted to witness the highest growth rate impelled by, rising demand for advanced, high-pressure components that enhance control surface responsiveness. Actuators and pumps form

the backbone of aircraft hydraulic systems, enabling precise and real-time mechanical movements. Innovations such as variable displacement pumps and electro-hydraulic actuators are improving energy efficiency and reducing weight.

Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market share, driven by rapid growth in air traffic, rising aircraft deliveries, and expanding MRO capabilities. Countries like China, India, and Japan are investing heavily in indigenous aircraft programs, defense procurement, and civil aviation infrastructure. Domestic manufacturing initiatives and regional airline expansions are creating steady demand for aircraft hydraulic systems. Additionally, government policies promoting aerospace innovation and local sourcing further strengthen the region's market position.

Region with highest CAGR:

Over the forecast period, the North America region is anticipated to exhibit the highest CAGR attributed to, strong presence of leading aerospace OEMs, ongoing aircraft modernization programs, and increased defense spending. The U.S. military's emphasis on upgrading fleet capabilities and developing advanced fighter aircraft continues to stimulate hydraulic system innovation. Moreover, the push for electrification and smart hydraulics in commercial aviation supports R&D investment. Strategic alliances and aftermarket service agreements across major airlines further amplify market acceleration in the region.

Key players in the market

Some of the key players in Aircraft Hydraulic System Market include Arkwin Industries, Inc., Circor International, Inc., Collins Aerospace, Crane Co, Eaton Corporation Plc, GKN Aerospace, Goodrich Corporation, Kawasaki Heavy Industries, Ltd., Liebherr-International Deutschland GmbH, Magellan Aerospace Corporation, Mitsubishi Heavy Industries, Ltd., Moog Inc., Parker-Hannifin Corporation, Raytheon Technologies Corporation, Safran S.A, Sumitomo Precision Products Co., Ltd., Triumph Group, Inc., and Woodward, Inc.

Key Developments:

In July 2025, Parker-Hannifin Corporation launched the AeroHydraulic 5000 Series, an advanced lightweight hydraulic pump system designed for next-generation commercial

aircraft, reducing fuel consumption by 15% and enhancing system reliability for flight control applications.

In June 2025, Moog Inc expanded its East Aurora electromechanical actuation facility to boost manufacturing capabilities for space and defense systems, supporting advanced flight control and thrust vectoring components.

In June 2025, Collins Aerospace Opened a new engineering center of excellence in the UK (Wolverhampton) and launched an electric thrust reverser actuation (elecTRAS™) production line in Colomiers, France. The system reduces nacelle system weight by 15–20% and enhances fuel efficiency for Airbus A350 and future platforms.

In March 2025, Moog Inc. unveiled the PrecisionFlow 3000, a compact electro-hydrostatic actuator (EHA) for business jets, offering enhanced energy efficiency and reduced weight, with integration capabilities for fly-by-wire systems.

Types Covered:

Closed-Center Hydraulic System

Open-Center Hydraulic System

Power Transfer Unit (PTU) Systems

Power Transfer Unit (PTU) Systems

Other Types

Components Covered:

Pumps & Actuators

Valves & Reservoirs

Accumulators & Hydraulic Fluid

Hoses, Pipes, & Connectors

Filters & Manifolds

Other Components

Platforms Covered:

Fixed-Wing Aircraft

Rotary-Wing Aircraft

Unmanned Aerial Vehicles (UAVs)

Applications Covered:

Flight Control Systems

Landing Gear Systems

Brake Systems

Thrust Reverser Systems

Cargo Door Operations

Wing Flap Operations

Other Applications

Regions Covered:

North America

US

Canada

Mexico

Europe

Germany

UK

Italy

France

Spain

Rest of Europe

Asia Pacific

Japan

China

India

Australia

New Zealand

South Korea

Rest of Asia Pacific

South America

Argentina

Brazil

Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

What our report offers:

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2024, 2025, 2026, 2028, and 2032
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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