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HVAC Chillers Market ? Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Product Type (Screw chillers, Scroll chillers, Centrifugal chillers and Others), By End-User (Industrial sector and Commercial Sector), By Region & Competition, 2021-2031F

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Abstracts

The Global HVAC Chillers Market is projected to expand from a valuation of USD 12.58 Billion in 2025 to USD 16.98 Billion by 2031, reflecting a CAGR of 5.13%. These thermal management systems, which employ vapor-compression or absorption cycles to extract heat from liquid coolants for circulation in buildings and industrial settings, are seeing heightened demand due to two primary factors. The aggressive development of commercial infrastructure and the escalating cooling needs of the data center industry, driven by the necessity to manage intense server thermal loads, are propelling market growth. Additionally, the enforcement of strict energy performance mandates is obligating facility managers to upgrade outdated infrastructure with compliant systems, securing consistent demand regardless of short-term market fluctuations.

A major obstacle to market progression arises from operational and regulatory burdens linked to high energy usage and the shift toward sustainable refrigerants. Manufacturers face the dual task of phasing down high-global-warming-potential hydrofluorocarbons while simultaneously reducing the significant carbon footprint associated with these systems. The International Institute of Refrigeration (IIR) reported in 2024 that the refrigeration and air-conditioning sector, including the chiller market, accounted for roughly 20% of total global electricity consumption, highlighting the critical difficulty of aligning high performance with energy sustainability goals.

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Market Driver

The escalating need for cooling solutions within data centers is fundamentally transforming the Global HVAC Chillers Market. As hyperscale operators and colocation facilities increase server rack density to accommodate artificial intelligence and cloud computing workloads, the resulting thermal output demands sophisticated heat rejection systems to avert equipment failure. Because traditional air cooling is proving inadequate for these high-density loads, there is a shift toward high-capacity liquid chillers and water-side economizers to ensure operational stability and energy efficiency. This requirement has carved out a specialized niche for manufacturers to provide units that offer precise temperature control and reliability under constant strain; illustrating this demand, JLL's 'U.S. Data Center Report ? Midyear 2024' noted that data center absorption in the United States hit a record 2.8 gigawatts in the first half of the year.

Concurrently, the robust growth of the construction and infrastructure sectors offers a substantial foundation for central cooling system demand. The development of commercial offices, healthcare institutions, and mixed-use complexes requires powerful chiller installations to satisfy modern ventilation and comfort standards, especially in urban centers. This momentum is reinforced by new infrastructure projects that require energy-efficient HVAC systems to meet green building codes. Dodge Construction Network reported in January 2025 that total construction starts increased by roughly 6% in 2024, maintaining a steady pipeline for building services equipment. Aligning with this trend, the International Energy Agency identified space cooling as the fastest-growing source of energy demand in buildings in 2024, with usage expected to increase by nearly 4% annually.

Market Challenge

Operational and regulatory strains concerning high energy consumption and the shift to sustainable refrigerants represent a significant hurdle for the Global HVAC Chillers Market. Manufacturers are required to allocate substantial capital toward redesigning product lines to incorporate low-global-warming-potential refrigerants while concurrently adhering to increasingly stringent efficiency codes. This double burden of compliance complicates manufacturing and raises production costs, which are frequently passed on to buyers. Consequently, the elevated upfront cost of compliant units dissuades facility managers from replacing aging systems, resulting in deferred maintenance and a decelerated rate of new equipment adoption within the commercial and industrial sectors.

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This difficult landscape is exacerbated by the swift rise in energy demand within the sector, which prompts continuous regulatory tightening that interferes with long-term production strategies. According to the International Energy Agency, space cooling was pinpointed as the fastest-growing source of energy demand in the buildings sector in 2024, with consumption predicted to grow by nearly 4% annually through 2035. This trend compels regulatory bodies to enforce even more rigorous performance standards to alleviate grid stress, establishing a perpetual cycle of redesign and certification that impedes market flexibility and limits the rapid expansion of the chiller industry.

Market Trends

The adoption of Heat Recovery and Heat Pump Chillers is rapidly increasing as facility managers aim to decarbonize heating systems through electrification. Unlike conventional boiler systems dependent on fossil fuels, modern heat pump chillers utilize waste heat recycling to deliver simultaneous heating and cooling, which significantly improves thermal efficiency. This shift is driven by the operational cost savings linked to lower fuel usage and the capacity to achieve net-zero goals without compromising performance. Highlighting this impact, a June 2025 report by RefIndustry on Johnson Controls noted that their heat pump solutions enabled customers to lower emissions by 60% and reduce heating costs by 53% in 2024 compared to traditional natural gas boilers.

The integration of IoT-Enabled Smart Monitoring and Control is fundamentally transforming chiller operations by moving maintenance strategies from reactive to predictive models. By incorporating advanced sensors and cloud-based analytics, operators can monitor real-time performance data to spot inefficiencies and avert equipment failures before they happen. This digital evolution permits the precise adjustment of system outputs based on immediate environmental needs, ensuring optimized energy consumption across various building portfolios. As reported by Cooling Best Practices in September 2025 regarding the 'Carrier Abound Wins 2025 Sustainability Leadership Award', this AI-driven platform assisted retailers in saving over 667 million kWh of energy globally in the prior 12 months through improved operational intelligence.

Key Market Players

Carrier Global Corporation

Trane Technologies plc

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Johnson Controls International plc

Daikin Industries, Ltd.

Mitsubishi Electric Corporation

LG Electronics Inc.

Danfoss A/S

Gree Electric Appliances Inc.

Hitachi, Ltd.

Blue Star Limited

Report Scope

In this report, the Global HVAC Chillers Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

HVAC Chillers Market, By Product Type

Screw chillers

Scroll chillers

Centrifugal chillers and Others

HVAC Chillers Market, By End-User

Industrial sector and Commercial Sector

HVAC Chillers Market, By Region

North America

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United States

Canada

Mexico

Europe

France

United Kingdom

Italy

Germany

Spain

Asia Pacific

China

India

Japan

Australia

South Korea

South America

Brazil

Argentina

Colombia

Middle East & Africa

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South Africa

Saudi Arabia

UAE

Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the Global HVAC Chillers Market.

Available Customizations:

Global HVAC Chillers Market report with the given market data, TechSci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

Company Information

Detailed analysis and profiling of additional market players (up to five).

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