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Scroll and Absorption Chillers Market Forecasts to 2032 – Global Analysis By Chiller Type (Scroll Chillers and Absorption Chillers), Technology, Cooling Capacity, Energy Source, Application, End User and By Geography

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Abstracts

According to Stratistics MRC, the Global Scroll and Absorption Chillers Market is accounted for $14.44 billion in 2025 and is expected to reach $22.44 billion by 2032 growing at a CAGR of 6.5% during the forecast period. Scroll and absorption chillers are refrigeration technologies designed to provide cooling through distinct mechanisms. Scroll chillers function using scroll-type compressors that compress refrigerant efficiently, resulting in quiet operation, reduced maintenance, and suitability for moderate cooling loads. Absorption chillers, however, generate cooling by utilizing thermal energy instead of mechanical compression, commonly using water–lithium bromide or ammonia-based systems. These chillers are advantageous in facilities with access to surplus heat energy and where lowering electrical demand is a priority.

Market Dynamics:

Driver:

Surge in data center infrastructure

Rising cloud adoption, artificial intelligence workloads, and hyperscale facilities are intensifying thermal management requirements. Scroll and absorption chillers are being widely deployed to maintain optimal operating temperatures and prevent equipment downtime. Data centers prioritize energy efficiency and continuous operation, making advanced chilling solutions critical. Urbanization and digital transformation are further

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accelerating large-scale server deployments. The need for scalable and redundant cooling architectures is driving long-term investments in chiller technologies. As digital economies expand, cooling systems are becoming an essential backbone of data center operations.

Restraint:

Shortage of skilled technicians

A global shortage of trained HVAC and thermal system professionals is constraining market growth. Complex system integration and troubleshooting demand skilled labor, particularly for absorption-based configurations. Many regions lack adequate training programs to support advanced chiller technologies. Workforce limitations increase service costs and prolong downtime during system failures. Smaller facilities often struggle to access qualified technicians, limiting technology adoption. This talent gap is slowing deployment and reducing operational efficiency across end-user industries.

Opportunity:

Smart & IoT-enabled monitoring

Real-time performance tracking allows predictive maintenance and improved energy optimization. Facility managers are increasingly adopting digital dashboards to monitor temperature, load, and efficiency metrics remotely. IoT-enabled chillers reduce unexpected failures and extend equipment lifespan. Advanced analytics help optimize cooling performance based on real-time demand fluctuations. These capabilities are particularly valuable in data centers, hospitals, and industrial facilities. As smart infrastructure adoption accelerates, intelligent chiller solutions are gaining strong market traction.

Threat:

Competition from alternative technologies

Innovations in liquid cooling and modular thermal management are challenging traditional chiller deployments. Some end users prefer hybrid or passive cooling methods to reduce energy consumption. Emerging technologies often promise lower upfront costs and simpler maintenance requirements. Regulatory pressure to reduce carbon emissions is also influencing technology choices. Continuous innovation is

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required for scroll and absorption chillers to remain competitive.

Covid-19 Impact:

The COVID-19 pandemic disrupted manufacturing operations and delayed infrastructure projects worldwide. Supply chain interruptions affected the availability of components critical for chiller production. Many commercial and industrial installations were postponed due to lockdowns and capital expenditure constraints. However, essential facilities such as data centers and healthcare centers maintained steady demand. The pandemic accelerated digitalization, indirectly supporting long-term cooling infrastructure investments. Manufacturers responded by enhancing automation and remote monitoring capabilities. Post-pandemic recovery strategies now emphasize system resilience and operational efficiency.

The absorption chillers segment is expected to be the largest during the forecast period

The absorption chillers segment is expected to account for the largest market share during the forecast period, due to its superior energy utilization. These systems effectively use waste heat or renewable energy sources, reducing reliance on electricity. Industrial facilities and district cooling projects favor absorption chillers for large-scale applications. Their ability to operate efficiently in high-capacity environments strengthens their adoption. Growing emphasis on sustainability and carbon reduction supports segment expansion. Technological improvements have enhanced system reliability and operational flexibility.

The energy service companies (ESCOs) segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the energy service companies (ESCOs) segment is predicted to witness the highest growth rate. ESCOs actively promote energy-efficient cooling solutions through performance-based contracts. Their business models reduce upfront investment barriers for end users. Increasing demand for retrofitting and energy optimization projects is driving ESCO adoption. Scroll and absorption chillers align well with long-term energy savings objectives. Smart monitoring and data analytics enhance ESCO project outcomes.

Region with largest share:

During the forecast period, the Asia Pacific region is expected to hold the largest market

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share, due to rapid industrialization and urban expansion. Countries such as China, India, and Japan are investing heavily in data centers and commercial infrastructure. Rising electricity demand is encouraging adoption of energy-efficient cooling technologies. Government initiatives promoting sustainable buildings support chiller deployment. Expanding manufacturing bases are increasing industrial cooling requirements. The region benefits from strong construction activity and growing digital ecosystems.

Region with highest CAGR:

Over the forecast period, the Middle East & Africa region is anticipated to exhibit the highest CAGR. Extreme climatic conditions are driving continuous demand for advanced cooling solutions. Large-scale infrastructure projects and smart city developments are accelerating chiller installations. Data center expansion and industrial growth further support market momentum. Energy diversification strategies are promoting absorption chillers using waste heat. Governments are investing in sustainable and energy-efficient cooling systems.

Key players in the market

Some of the key players in Scroll and Absorption Chillers Market include Daikin Ind, Voltas Lim, Johnson C, ROBUR S.p, Carrier Glo, Blue Star L, Trane, Yazaki Ene, Mitsubishi, Century C, LG Electro, Thermax L, Hitachi Ap, Broad Gro, and Midea Gro.

Key Developments:

In October 2025, Mitsubishi Corporation announced that it has agreed to subscribe for new shares to be issued by Eagers Automotive Ltd. through a strategic placement, and has entered into a Strategic Partnership Agreement to promote collaboration and explore new business opportunities across the automotive and mobility sectors. MC has reached an agreement to invest in easyauto123, Eagers' independent used-car business operating in Australia and New Zealand, as well as an indirect interest in Carlins, Eagers' used-car auction company. A new holding company will be established, with Eagers owning 80% and MC holding the remaining 20%.

In July 2025, Midea announced its latest European brand initiative: a dynamic sponsorship of Ferencvarosi Torna Club (FTC), Hungary's most prestigious football team. This collaboration represents more than just sport-it's a powerful alignment of purpose, innovation, and shared responsibility.

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Chiller Types Covered:

- Scroll Chillers
- Absorption Chillers

Technologies Covered:

- Refrigerant Categories
- Smart/IoT-enabled Integration

Cooling Capacities Covered:

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