

Japan Chiller Market Size, Share and Growth Analysis Report - Forecast Trends and Outlook (2025-2034)

Market Report | 2025-06-28 | 107 pages | EMR Inc.

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Report description:

The Japan chiller market size reached around USD 387.94 Million in 2024. The market is projected to grow at a CAGR of 3.30% between 2025 and 2034 to reach nearly USD 536.74 Million by 2034. The market growth can be attributed to the rising demand for water cooled chillers, the increasing emphasis on sustainability, rapid industrialisation, and technological advancements and innovations.

Japan Chiller Market Report Summary

Description

Value

Base Year

USD Million

2024

Historical period

USD Million

2018-2024

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Forecast Period

USD Million

2025-2034

Market Size 2024

USD Million

387.94

Market Size 2034

USD Million

536.74

CAGR 2018-2024

Percentage

XX%

CAGR 2025-2034

Percentage

3.30%

CAGR 2025-2034 - Market by Compressor Type

Centrifugal Chillers

3.2%

CAGR 2025-2034 - Market by Compressor Type

Absorption Chillers

2.5%

CAGR 2025-2034 - Market by Type of Cooling

Water Cooled

2.8%

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CAGR 2025-2034 - Market by End Use

Plastics

2.6%

Market Share by Compressor Type 2024

Scroll Chillers

36.7%

Japan Chiller Market Growth

The development of smart hybrid chillers, which optimise the use of electricity and natural gas to reduce electricity costs by up to 15% and drive the energy efficiency of buildings, is expected to aid the market over the forecast period.

The rising demand for sustainable chillers is expected to bolster the market growth in Japan. Major companies are developing R744 (carbon dioxide) as an alternative to f-gas refrigerants in semiconductor chillers in Japan. This is resulting in a significant reduction in carbon emissions while enabling companies to minimise their electricity bills. Since these chiller models are relatively smaller than f-gas refrigerant-based chillers, the organisations' repair and maintenance costs have also been substantially minimised.

Increasing industrial collaboration has led to the development of unique chiller prototypes, which uses water as an eco-friendly, non-flammable, and non-toxic refrigerant. They are significantly smaller in size than conventional water-based chillers with a centrifugal compressor while ensuring comparable performance. These chillers can adapt to different applications, such as the designing of HVAC systems and manufacturing refrigerators while minimising carbon footprint. Hence, increasing innovations by key players is creating lucrative Japan chiller market opportunities.

Key Trends and Developments

The Japan chiller market expansion is being driven by rising demand for chillers in data centres; rapid industrialisation; technological advancements; and growing demand for eco-friendly refrigerants.

February 2025

Mitsubishi Heavy Industries Thermal Systems, Ltd. announced the launch of a new model of its "Ene-Conductor" Heat Source Control System for the integrated control of centrifugal chillers and peripheral equipment, including cooling towers, chilled water pumps, and cooling water pumps. These features make the model suitable for use and installation in large-scale facilities overseas.

December 2024

Mitsubishi Heavy Industries received a Japanese government climate action award for its JHT-Y/JHT-YI series of large-capacity centrifugal chillers using R1234yf. The JHT-Y/JHT-YI series of centrifugal chillers offer capacities ranging from 300RT to 5,400RT with a low-GWP refrigerant.

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May 2024

Carrier Japan Corporation (CJC) announced the launch of Carrier AquaEdge 19DV centrifugal chiller series as a part of its HVAC solutions for large-scale facilities offerings. The new chiller, leveraging cutting-edge heat pump technology, is aimed at serving the diverse needs of Japanese commercial customers, offering enhanced efficiency and comfort.

April 2022

Mitsubishi Heavy Industries Thermal Systems, Ltd announced the launch of its new series of large-capacity centrifugal chillers adopting the CFC-free HFO-1234yf refrigerant. The series, with two models, the constant-speed JHT-Y and the inverter-equipped JHT-YI, feature capacities ranging from 300 to 5,400 refrigeration tons (RT). The new series of chillers can be controlled with supreme precision using the latest microcomputer operation panel.

Rising demand for chillers in data centres

In data centres, chillers are essential to optimise cooling, reduce carbon footprints and energy costs, and maintain uptime. Hence, the expansion of data centres in the country amid rapid digital transformation and the increasing adoption of data-intensive technologies like AI is boosting the Japan chiller market revenue.

Rapid industrialisation

Rapid industrialisation in the country is boosting the demand for chillers, especially in sectors such as automotive, food processing, chemicals, and pharmaceuticals, among others, to ensure precise temperature control in production lines and storage facilities.

Technological advancements

There is a growing integration of advanced technologies, such as automation and smart controls, to enable chillers to adapt their operations in real time based on ambient conditions, load demand, and energy prices. Technologies such as the Internet of things (IoT), enabling remote monitoring and diagnostics of chillers while ensuring optimal chiller operation and minimising downtime, are also expected to aid the market in the coming years.

Surging demand for eco-friendly refrigerants

In Japan, growing environmental concerns are leading to the shift towards eco-friendly refrigerants with lower global warming potential (GWP) and ozone depletion potential (ODP).

Japan Chiller Market Trends

The increasing number of industrial zones and parks and the rising demand for centralised cooling systems are aiding the Japan chiller market development. The growing emphasis on reducing energy consumption in industrial activities is boosting the demand for energy-efficient chillers that lower the amount of energy needed for cooling.

Eco-friendly refrigerants, such as propane, isobutane, and ammonia, are typically more energy-efficient than their traditional counterparts, resulting in lower energy consumption. Such refrigerants also boast improved cooling efficiency, enhancing the durability of chillers. In the forecast period, the introduction of stringent government regulations aimed at promoting sustainability

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is expected to surge the demand for eco-friendly refrigerants.

Japan Chiller Industry Segmentation

The EMR's report titled "Japan Chiller Market Report and Forecast 2025-2034" offers a detailed analysis of the market based on the following segments:

Breakup by Type of Cooling

- Water Cooled
- Air Cooled

Breakup by Compression Type

- Screw Chillers
- Scroll Chillers
- Reciprocating Chillers
- Centrifugal Chillers
- Absorption Chillers

Breakup by End Use

- Food and Beverage
- Chemicals and Petrochemicals
- Medical and Pharmaceutical
- Plastics
- Others

Japan Chiller Market Share

Based on type of cooling, the market is segmented into water cooled and air cooled. Water cooled chillers are projected to grow at a CAGR of 2.8% during the forecast period of 2025-2034 as they boast high efficiency and enhanced durability. They also require infrastructure such as water treatment systems, cooling towers, and plumbing solutions. Meanwhile, air cooled chillers, relying on air for heat dissipation, are simple and compact, do not require access to water treatment facilities, and boast ease of maintenance.

CAGR 2025-2034 - Market by

Type of Cooling

Water Cooled

2.8%

Air Cooled

XX%

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Leading Companies in the Japan Chiller Market

Key Japan chiller market players are actively investing in research activities to lower environmental impact and enhance the energy efficiency of chillers. They are also focusing on developing chillers integrated with technologies such as artificial intelligence (AI) and the Internet of things (IoT) to facilitate predictive and remote maintenance and optimise operations.

Daikin Industries Ltd.

Daikin Industries Ltd., headquartered in Osaka, Japan, is a renowned innovator and provider in the air conditioning, heating, ventilation, and refrigeration industries. Founded in 1924, it leverages advanced technologies to manufacture and sell technologically advanced air conditioning services and products to customers in over 170 countries.

Carrier Global Corp.

Headquartered in Florida, United States, Carrier Global Corp. is a prominent intelligent energy and climate solutions company. Established in 1902, the company has over 75 brands and an employee base of 53,000. In 2023, the company achieved net sales amounting to USD 22.1 billion.

LG Corp.

LG Corp., founded in 1947 and headquartered in Seoul, South Korea, is a global innovator in technology and consumer electronics. In 2024, the company achieved a combined revenue of more than KRW 88 trillion.

Panasonic Holdings Corp.

Founded in 1918 and headquartered in Osaka, Japan, Panasonic Holdings Corp. is involved in the development and sales of heating and ventilation solutions, electronic appliances, and electrical equipment. It has around 90,000 employees and 166 bases, and its sales amounted to JPY 3,494.4 billion in 2023.

Other major players in the Japan chiller market are Johnson Controls International Plc, Trane Technologies Plc, Smardt Chiller Group, Inc., Mitsubishi Electric Corporation, Ebara Corp., and HYDAC International GmbH, among others.

Table of Contents:

- 1 Executive Summary
 - 1.1 Market Size 2024-2025
 - 1.2 Market Growth 2025(F)-2034(F)
 - 1.3 Key Demand Drivers
 - 1.4 Key Players and Competitive Structure
 - 1.5 Industry Best Practices
 - 1.6 Recent Trends and Developments
 - 1.7 Industry Outlook
- 2 Market Overview and Stakeholder Insights
 - 2.1 Market Trends
 - 2.2 Key Verticals

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- 2.3 Key Regions/Countries
- 2.4 Supplier Power
- 2.5 Buyer Power
- 2.6 Key Market Opportunities and Risks
- 2.7 Key Initiatives by Stakeholders
- 3 Economic Summary
 - 3.1 GDP Outlook
 - 3.2 GDP Per Capita Growth
 - 3.3 Inflation Trends
 - 3.4 Democracy Index
 - 3.5 Gross Public Debt Ratios
 - 3.6 Balance of Payment (BoP) Position
 - 3.7 Population Outlook
 - 3.8 Urbanisation Trends
- 4 Country Risk Profiles
 - 4.1 Country Risk
 - 4.2 Business Climate
- 5 Asia Pacific Chiller Market Overview
 - 5.1 Key Industry Highlights
 - 5.2 Asia Pacific Chiller Historical Market (2018-2024)
 - 5.3 Asia Pacific Chiller Market Forecast (2025-2034)
- 6 Japan Chiller Market Overview
 - 6.1 Key Industry Highlights
 - 6.2 Japan Chiller Historical Market (2018-2024)
 - 6.3 Japan Chiller Market Forecast (2025-2034)
- 7 Japan Chiller Market by Type of Cooling
 - 7.1 Water Cooled
 - 7.1.1 Historical Trend (2018-2024)
 - 7.1.2 Forecast Trend (2025-2034)
 - 7.2 Air Cooled
 - 7.2.1 Historical Trend (2018-2024)
 - 7.2.2 Forecast Trend (2025-2034)
- 8 Japan Chiller Market by Compressor Type
 - 8.1 Screw Chillers
 - 8.1.1 Historical Trend (2018-2024)
 - 8.1.2 Forecast Trend (2025-2034)
 - 8.2 Scroll Chillers
 - 8.2.1 Historical Trend (2018-2024)
 - 8.2.2 Forecast Trend (2025-2034)
 - 8.3 Reciprocating Chillers
 - 8.3.1 Historical Trend (2018-2024)
 - 8.3.2 Forecast Trend (2025-2034)
 - 8.4 Centrifugal Chillers
 - 8.4.1 Historical Trend (2018-2024)
 - 8.4.2 Forecast Trend (2025-2034)
 - 8.5 Absorption Chillers
 - 8.5.1 Historical Trend (2018-2024)

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- 8.5.2 Forecast Trend (2025-2034)
- 9 Japan Chiller Market by End Use
 - 9.1 Food and Beverage
 - 9.1.1 Historical Trend (2018-2024)
 - 9.1.2 Forecast Trend (2025-2034)
 - 9.2 Chemicals and Petrochemicals
 - 9.2.1 Historical Trend (2018-2024)
 - 9.2.2 Forecast Trend (2025-2034)
 - 9.3 Medical and Pharmaceutical
 - 9.3.1 Historical Trend (2018-2024)
 - 9.3.2 Forecast Trend (2025-2034)
 - 9.4 Plastics
 - 9.4.1 Historical Trend (2018-2024)
 - 9.4.2 Forecast Trend (2025-2034)
 - 9.5 Others
- 10 Market Dynamics
 - 10.1 SWOT Analysis
 - 10.1.1 Strengths
 - 10.1.2 Weaknesses
 - 10.1.3 Opportunities
 - 10.1.4 Threats
 - 10.2 Porter's Five Forces Analysis
 - 10.2.1 Supplier's Power
 - 10.2.2 Buyer's Power
 - 10.2.3 Threat of New Entrants
 - 10.2.4 Degree of Rivalry
 - 10.2.5 Threat of Substitutes
 - 10.3 Key Indicators of Demand
 - 10.4 Key Indicators of Price
- 11 Value Chain Analysis
- 12 Price Analysis
- 13 Competitive Landscape
 - 13.1 Supplier Selection
 - 13.2 Key Asia Pacific Players
 - 13.3 Key Regional Players
 - 13.4 Key Player Strategies
 - 13.5 Company Profile
 - 13.5.1 Daikin Industries Ltd.
 - 13.5.1.1 Company Overview
 - 13.5.1.2 Product Portfolio
 - 13.5.1.3 Demographic Reach and Achievements
 - 13.5.1.4 Certifications
 - 13.5.2 Carrier Global Corp.
 - 13.5.2.1 Company Overview
 - 13.5.2.2 Product Portfolio
 - 13.5.2.3 Demographic Reach and Achievements
 - 13.5.2.4 Certifications

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- 13.5.3 LG Corp.
 - 13.5.3.1 Company Overview
 - 13.5.3.2 Product Portfolio
 - 13.5.3.3 Demographic Reach and Achievements
 - 13.5.3.4 Certifications
- 13.5.4 Johnson Controls International Plc
 - 13.5.4.1 Company Overview
 - 13.5.4.2 Product Portfolio
 - 13.5.4.3 Demographic Reach and Achievements
 - 13.5.4.4 Certifications
- 13.5.5 Trane Technologies Plc
 - 13.5.5.1 Company Overview
 - 13.5.5.2 Product Portfolio
 - 13.5.5.3 Demographic Reach and Achievements
 - 13.5.5.4 Certifications
- 13.5.6 Smardt Chiller Group, Inc.
 - 13.5.6.1 Company Overview
 - 13.5.6.2 Product Portfolio
 - 13.5.6.3 Demographic Reach and Achievements
 - 13.5.6.4 Certifications
- 13.5.7 Panasonic Holdings Corp.
 - 13.5.7.1 Company Overview
 - 13.5.7.2 Product Portfolio
 - 13.5.7.3 Demographic Reach and Achievements
 - 13.5.7.4 Certifications
- 13.5.8 Mitsubishi Electric Corporation
 - 13.5.8.1 Company Overview
 - 13.5.8.2 Product Portfolio
 - 13.5.8.3 Demographic Reach and Achievements
 - 13.5.8.4 Certifications
- 13.5.9 Ebara Corp.
 - 13.5.9.1 Company Overview
 - 13.5.9.2 Product Portfolio
 - 13.5.9.3 Demographic Reach and Achievements
 - 13.5.9.4 Certifications
- 13.5.10 HYDAC International GmbH
 - 13.5.10.1 Company Overview
 - 13.5.10.2 Product Portfolio
 - 13.5.10.3 Demographic Reach and Achievements
 - 13.5.10.4 Certifications
- 13.5.11 Others
- 14 Key Trends and Developments in the Market

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