

# India Chiller Market By Product Type (Screw, Centrifugal, Scroll, Absorption), By End Use Sector (Commercial, Industrial), By Region, Competition Forecast & Opportunities, 2018-2031F

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## **Abstracts**

The India chiller market was valued USD546.34 million in 2022 and is projected to register a CAGR of 8.29% through 2031 and is anticipated to project robust growth in the forecast period. The India Chiller market is growing at a robust growth rate owing to the increasing demand from industrial sector, growing construction industry, and growing demand from healthcare industry. Furthermore, the growing demand for cooling solutions and various government initiatives for energy efficient chillers is significantly contributing to the India Chiller market growth.

India Chiller Market Scope

A chiller is a cooling system that removes heat by circulating a refrigerant that absorbs heat and then releases it through a series of mechanisms. The main components of chiller include compressor, condenser, expansion valve, and evaporator. They circulate a refrigerant that eliminates heat from a system, process, or space. There are various types of chillers, and each one has a unique method for eliminating heat. There are four types of chillers used in India, including screw, centrifugal, scroll, absorption.

In contrast to a water-cooled chiller, which circulates water using a cooling tower, an air-cooled chiller system uses fans to cool itself.

India Chiller Market Overview

The chiller market in India is witnessing high demand from industrial and commercial



industry. The central air conditioning system includes chillers, which are in high demand across a variety of market segments, including commercial sector (such as hotels, hospitals, shopping centers, airports, and information technology facilities) and industrial sector (pharmaceuticals, automobiles, textile, chemical and FMCG).

In the food and beverage industry, process cooling is widely used for heat-generating procedures including pasteurization and food baking. Chillers are used to control the machinery's temperature and prevent it from overheating. Furthermore, there are numerous applications in the pharmaceutical industry that use various types of chillers for cooling purposes. Chillers are used consistently for maintaining temperature of medical equipment like MRI machines, CT scanners, and PET scanners to operate more effectively. Thus, increasing demand for chillers from various commercial and industrial sectors will fuel the market.

#### India Chiller Market Drivers

In recent years, India has seen a gradual increase in the need for energy-efficient chillers. There is increase in demand of energy efficient chillers due to rising electricity prices, governmental specifications, and increased public awareness of environmentally friendly systems. The Indian government has started several programs to encourage the use of eco-friendly and energy-efficient technologies. For instance, the Ministry of Power of the Indian government started a program in 2018 to encourage the installation of energy-efficient chiller systems across the country. The Chiller Star Labeling Program was established by the Bureau of Energy Efficiency (BEE) to give chillers an energy performance star rating. Energy-efficient chillers must be used in commercial buildings, according to the government's Energy Conservation Building Code (ECBC). Thus, demand for energy efficient chillers will fuel the market.

In commercial and industrial buildings, the use of HVAC systems, particularly chillers, has expanded because of India's expanding construction sector. In comparison to traditional vapor compression-based cooling systems, installing low carbon cooling options such chillers in commercial buildings are preferred.

#### India Chiller Market Trends

The demand for chillers is rising significantly in India due to expansion of industrial sector at a faster rate. Chillers are widely used in various sectors, including chemicals, textiles, food, and beverages. For instance, glycol chillers are used in vineyards and breweries for maintaining the appropriate temperature for fermentation. The need for



cooling equipment is widely influenced by the rising consumption of frozen and processed foods. Therefore, the market would be driven over the forecast period by the rising demand for chillers from the food industry.

The demand for chillers has increased in the medical or pharmaceutical industry, which has supported the market's growth. For instance, in India, the hospital sector accounts for 80% of the entire healthcare market. In the medical and pharmaceutical fields, chillers are used to reduce the temperature of X-ray apparatus, CT scanners, and laser therapy procedures that require process cooling. Therefore, the market for chillers will expand at a faster pace over the forecast period with the expansion of the healthcare industry.

## India Chiller Market Challenges

In India, chillers, an energy-intensive system, account for more than 40% of all energy used in commercial buildings. Government laws are frequently changed, which is unfavorable for the growth of market. For instance, the Energy Conservation Building Code (ECBC) has set minimum energy efficiency requirements for commercial buildings with a connected load of 100kW or a contract demand of 120 KVA and above. Therefore, using advanced HVAC technologies is intended to solve the issue of high energy consumption in the chiller market.

The appropriate maintenance of chillers is necessary to keep this complex equipment in good working condition. The chiller could corrode, clog up, lose efficiency, or experience several other issues without proper maintenance. The servicing and maintenance of chillers is expensive as well as time consuming. Thus, high maintenance cost can be a challenge for India chiller market.

## Market Recent Developments

In 2021, Daikin launched a new generation of inverter-driven air-cooled and water-cooled screw chiller series using the refrigerant R-1234ze(E). The water-cooled chiller range (VZ series) will be available from 340 kW up to 1600 kW cooling capacity, the air-cooled chiller range (TZ series) will be available from 130 kW up to 830 kW cooling capacity. The HFO refrigerant R-1234ze(E) has zero Ozone Depletion Potential (ODP) and Global Warming Potential (GWP) is seven. The R-1234ze(E) refrigerant reduces the effect of screw compressor chillers on global warming. The screw compressor chillers will include single Daikin-designed inverter-driven screw compressors with Variable Volume Ratio



(VVR) technology.

Rockwell Industries, a pioneer manufacturer of commercial cold chain appliances launched Chillermill in 2021, that is powered by hybrid (solar and wind) renewable energy. These chillers are ideal for storing COVID-19 vaccinations, at the right temperature. The new Chillermill can also achieve the required minus 40 degrees Celsius.

In 2021, Blue Star Limited announced the largest air-cooled chiller testing facility in India and a water-cooled chiller testing facility have been certified by the AHRI (Air-Conditioning, Heating and Refrigeration Institute) in compliance with standards 550/590 and 551/591 standards.

In 2020, Rhoss, an Italian manufacturer of chillers launched the water-cooled screw chillers with R513A refrigerant. The new line includes 15 double compressor/double circuit versions and five single-compressor units, with cooling capacities ranging from 200kW to 1450kW. The new features include a comprehensive heat recovery system and an integrated sequencer with master management logic for controlling up to four equal units simultaneously. It is possible to reduce noise emissions through a variety of soundproofing techniques, and attachments provide free-cooling management and condensation control.

In 2019, The Kirloskar Group has introduced a new line of water-cooled chillers that use the country's first magnetic bearing centrifugal compressor without oil. As part of its ongoing efforts to providing more environmentally friendly and energy-efficient products, Kirloskar Chillers recently launched magnetic bearing centrifugal chillers with capacities ranging from 400 to 1200 TR.

## Market Opportunities

The growing demand from the food and beverage industry, which contributes to 3% of India's GDP and is one of the top employers in the nation, has had a major effect on the country's demand for chillers. Therefore, focus on commercial sector will create better market opportunities for chiller companies in India.

With the Hydrochlorofluorocarbons Phase-out Management Plan (HPMP), India



successfully complied with the Montreal Protocol that has increased the scope for upgrading low global warming potential refrigerants. For instance, after gradually phasing out chlorofluorocarbons, India totally phased out 'HCFC141b refrigerant' on 1 January 2020. (CFCs). Thus, to improve their market share, companies in the India chiller market can switch to environmentally friendly refrigerants. Companies can use low global warming potential refrigerants to increase the energy efficiency of chillers in India.

## Market Segmentation

The India chiller market is segmented based on product type, end use sector and region. Based on product type the market is segmented into screw, centrifugal, scroll and absorption. Based on end use sector the market is segmented into commercial and industrial. Based on region, the market is divided into north, south, east, west.

## **Company Profiles**

Daikin Airconditioning India Private Limited, Blue Star Limited, Voltas Limited, Carrier Airconditioning & Refrigeration Limited, Johnson Controls-Hitachi Air Conditioning India Limited, Kirloskar Chillers Pvt. Ltd, LG Electronics India Pvt. Ltd., Mitsubishi Electric India Pvt. Ltd. (Climaveneta), Flamering (India) Private Limited, and Thermax Limited are some of the major players in the India Chiller market.

#### Report Scope:

In this report, India Chiller market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

India Chiller Market, By Product Type:

Screw

Centrifugal

Scroll

Absorption



India Chiller Market, By End Use Sector:	
Commercial	
Industrial	
India Chiller Market, By Region:	
North	
West	
South	
East	
Competitive Landscape	
Company Profiles: Detailed analysis of the major companies present in India Chiller market.	
Available Customizations:	
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:	
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Detailed analysis and profiling of additional market players (up to five).	



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