

# **Closed Loop Chillers Market Opportunity, Growth Drivers, Industry Trend Analysis, and Forecast 2024 – 2032**

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## **Abstracts**

The Global Closed Loop Chillers Market reached a valuation of USD 4.1 billion in 2023 and is projected to grow at a CAGR of 7.6% from 2024 to 2032. Rising demand for efficient cooling systems across industrial sectors, including plastics manufacturing, metalworking, and laser technologies, is a key factor driving this growth. These industries need specific temperature control to reduce performance and minimize interruption, making closed-loop chillers important for operational efficacy.

Although closed-loop chillers deliver significant long-term benefits, regular maintenance and technical expertise are essential to keep them operating at peak performance. Without proper handling, these systems can experience failures or reduced efficiency, creating a challenge for companies that lack skilled resources or adequate maintenance capabilities.

In terms of end-use, the pharmaceutical industry is expected to achieve a 9.4% CAGR through 2032, as closed-loop chillers are critical in maintaining exact temperature control during drug production, storage, and transportation. Pharmaceuticals demand stringent environmental conditions to ensure the safety and efficiency of products such as medicines, injections, and biological tests. Closed-loop chillers, designed to keep contaminants out of the cooling process, are widely used in labs, cleanrooms, and production facilities, where they maintain stable cooling for equipment like reactors and storage chambers.

By configuration, the packaged closed-loop chillers segment is anticipated to exceed USD 3.6 billion by 2032. These self-contained systems incorporate compressors, condensers, and pumps into a compact unit, providing easy installation and operation.

Packaged chillers are ideal for industries such as food processing, plastics, and HVAC, especially where space is limited or quick deployment is necessary. Offering reliable, consistent cooling, packaged chillers are commonly employed in small- to medium-scale applications where customization is not a priority.

The U.S. led the closed-loop chillers market, capturing a 71.4% share in 2023, driven by growth in data centers, high-tech manufacturing, and pharmaceutical production. Emphasis on energy conservation and rising operational costs have encouraged U.S. industries to adopt energy-efficient cooling solutions. Additionally, government initiatives focused on reducing water use and carbon emissions are spurring the adoption of closed-loop chillers across industrial applications, with the pharmaceutical sector particularly driving demand due to its strict temperature control requirements for drug production and research.

## Contents

### Report Content

#### **CHAPTER 1 METHODOLOGY & SCOPE**

- 1.1 Market scope & definitions
- 1.2 Base estimates & calculations
- 1.3 Forecast calculations
- 1.4 Data sources
  - 1.4.1 Primary
  - 1.4.2 Secondary
    - 1.4.2.1 Paid sources
    - 1.4.2.2 Public sources

#### **CHAPTER 2 EXECUTIVE SUMMARY**

- 2.1 Industry synopsis, 2021-2032

#### **CHAPTER 3 INDUSTRY INSIGHTS**

- 3.1 Industry ecosystem analysis
  - 3.1.1 Factor affecting the value chain
  - 3.1.2 Profit margin analysis
  - 3.1.3 Disruptions
  - 3.1.4 Future outlook
  - 3.1.5 Manufacturers
  - 3.1.6 Distributors
- 3.2 Supplier landscape
- 3.3 Profit margin analysis
- 3.4 Key news & initiatives
- 3.5 Regulatory landscape
- 3.6 Impact forces
  - 3.6.1 Growth drivers
    - 3.6.1.1 Rising demand for industrial cooling systems
    - 3.6.1.2 Technological advancements in cooling solutions
    - 3.6.1.3 Expanding pharmaceutical and healthcare industries
    - 3.6.1.4 Growing focus on sustainability and green initiatives
  - 3.6.2 Industry pitfalls & challenges

- 3.6.2.1 Maintenance and technical expertise requirements
- 3.6.2.2 Competition from alternative cooling technologies
- 3.7 Growth potential analysis
- 3.8 Porter's analysis
- 3.9 PESTEL analysis

## **CHAPTER 4 COMPETITIVE LANDSCAPE, 2023**

- 4.1 Introduction
- 4.2 Company market share analysis
- 4.3 Competitive positioning matrix
- 4.4 Strategic outlook matrix

## **CHAPTER 5 MARKET ESTIMATES & FORECAST, BY CAPACITY, 2021-2032 (USD MILLION AND UNITS)**

- 5.1 Key trends
- 5.2 Small (100 tons)

## **CHAPTER 6 MARKET ESTIMATES & FORECAST, BY CONFIGURATION, 2021-2032 (USD MILLION AND UNITS)**

- 6.1 Key trends
- 6.2 Packaged
- 6.3 Split system
- 6.4 Modular

## **CHAPTER 7 MARKET ESTIMATES & FORECAST, BY END USE INDUSTRY VERTICAL, 2021-2032 (USD MILLION AND UNITS)**

- 7.1 Key trends
- 7.2 Food & beverages
- 7.3 Pharmaceuticals
- 7.4 Plastics
- 7.5 Data centers
- 7.6 Chemicals & petrochemicals
- 7.7 Industrial manufacturing
- 7.8 Other industries

## **CHAPTER 8 MARKET ESTIMATES & FORECAST, BY REGION, 2021-2032 (USD MILLION AND UNITS)**

### 8.1 Key trends

### 8.2 North America

#### 8.2.1 U.S.

#### 8.2.2 Canada

### 8.3 Europe

#### 8.3.1 UK

#### 8.3.2 Germany

#### 8.3.3 France

#### 8.3.4 Italy

#### 8.3.5 Spain

#### 8.3.6 Russia

### 8.4 Asia Pacific

#### 8.4.1 China

#### 8.4.2 India

#### 8.4.3 Japan

#### 8.4.4 South Korea

#### 8.4.5 Australia

### 8.5 Latin America

#### 8.5.1 Brazil

#### 8.5.2 Mexico

### 8.6 MEA

#### 8.6.1 South Africa

#### 8.6.2 Saudi Arabia

#### 8.6.3 UAE

## **CHAPTER 9 COMPANY PROFILES**

### 9.1 Airedale International Air Conditioning

### 9.2 Across International

### 9.3 Blue Star Limited

### 9.4 Bosch Thermotechnology

### 9.5 B?CHI Labortechnik AG

### 9.6 Carrier Corporation

### 9.7 Daikin Applied

### 9.8 Danfoss

### 9.9 Dimplex Thermal Solutions

- 9.10 Hitachi Air Conditioning
- 9.11 Honeywell International
- 9.12 Ingersoll Rand
- 9.13 Johnson Controls
- 9.14 LAUDA-Brinkmann
- 9.15 LG Electronics
- 9.16 Lennox International
- 9.17 Lytron Chillers
- 9.18 Multistack
- 9.19 Mitsubishi Electric Corporation
- 9.20 Peter Huber K?ltemaschinenbau AG
- 9.21 Trane Technologies

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