

Truck Refrigeration Unit Market– Global Industry Size, Share, Trends, Opportunity, and Forecast, Segmented By Vehicle Type (Light Commercial Vehicle, Medium and Heavy Commercial Vehicle, Trailer), By Type (Nose-Mounted, Roof-Mounted), By Application (Frozen, Chilled), By End-Use Industry (Food & Beverage, Pharmaceutical, Others), By Region & Competition, 2020-2030F

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Abstracts

Market Overview

The Global Truck Refrigeration Unit Market was valued at USD 6.53 Billion in 2024 and is projected to reach USD 8.45 Billion by 2030, growing at a CAGR of 4.41% during the forecast period. The market is experiencing robust growth due to the increasing demand for temperature-controlled transportation of perishable goods such as dairy, meat, seafood, pharmaceuticals, and fresh produce. As global trade in temperature-sensitive products continues to expand, the need for dependable refrigeration systems in trucks becomes more critical. Heightened focus on food safety standards and cold chain compliance is encouraging logistics companies to invest in advanced refrigeration technologies. Furthermore, the rapid rise of e-commerce grocery delivery and the expansion of urban populations are fueling demand for compact, efficient, and mobile refrigeration units suitable for last-mile delivery.

Technological developments such as electric refrigeration systems, solar-powered units, telematics integration, and multi-zone temperature control are reshaping the market landscape. These innovations improve operational efficiency, reduce emissions, and

offer precise control over cargo temperature. Sustainability concerns are also prompting manufacturers to adopt eco-friendly refrigerants and electric drive systems. Additionally, real-time monitoring through IoT platforms enhances transparency and reduces spoilage risks, while new opportunities are emerging in sectors like pharmaceuticals, floriculture, and specialty chemicals that require stringent cold chain management.

Key Market Drivers

Surge in Demand for Perishable Goods Transportation

The growing consumption of perishable goods—including fruits, vegetables, dairy, meat, and seafood—is driving the demand for refrigerated transportation. According to data from UNCTAD and WHO, global food trade grew 350% between 2000 and 2021, reaching USD 1.7 trillion and representing 8% of total merchandise trade. Consumer trends favoring fresh and organic products, along with the increased need to transport temperature-sensitive pharmaceuticals and biologics, have intensified the requirement for advanced truck refrigeration units. The expansion of online grocery platforms and same-day delivery models is also propelling demand for efficient cold chain logistics. These market dynamics are compelling fleet operators to modernize and expand their refrigerated fleets to ensure product integrity throughout the supply chain.

Key Market Challenges

High Initial Investment and Operational Costs

The cost of acquiring and operating truck refrigeration units is a major barrier for market expansion, particularly for smaller fleet operators. These systems require high upfront investments due to the complexity of integrating cooling technology, insulation, and power modules. Additionally, operational expenses—including fuel consumption, maintenance, and repair—add to the total cost of ownership. Environmentally friendly models such as hybrid and electric refrigeration units involve even higher costs due to battery systems and advanced components. Limited financial incentives and a lack of supportive infrastructure in several regions further hinder adoption. For many small and medium enterprises, justifying the capital expenditure amidst tight margins remains a challenge.

Key Market Trends

Shift Toward Electrification of Refrigeration Units

As the logistics industry increasingly prioritizes sustainability, there is a growing transition from diesel-powered refrigeration systems to electric models. Electric truck refrigeration units offer cleaner, quieter, and more energy-efficient solutions, particularly suited for urban and short-haul routes. These units operate using the truck's battery or a dedicated auxiliary system, reducing fuel dependency and emissions. Technological advancements in battery performance and thermal management are making electric systems more reliable and cost-effective in the long term. Logistics companies aiming to reduce their carbon footprint are investing in electrified fleets, aligning with global environmental goals. Despite ongoing challenges such as charging infrastructure limitations, the momentum toward electric refrigeration is accelerating, driven by regulatory support and corporate sustainability initiatives.

Key Market Players

Carrier Transicold

Thermo King

Mitsubishi Heavy Industries, Ltd.

Daikin Industries, Ltd

Webasto Group

Denso Corporation

Utility Trailer Manufacturing Company, LLC

Kidron

Subros Limited

Zhengzhou Guchen Thermo Co., Ltd.

Report Scope:

In this report, the global Truck Refrigeration Unit Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Truck Refrigeration Unit Market, By Vehicle Type:

Light Commercial Vehicle

Medium and Heavy Commercial Vehicle

Trailer

Truck Refrigeration Unit Market, By Type:

Nose-Mounted

Roof-Mounted

Truck Refrigeration Unit Market, By Application:

Frozen

Chilled

Truck Refrigeration Unit Market, By End-Use Industry:

Food & Beverage

Pharmaceutical

Others

Truck Refrigeration Unit Market, By Region:

North America

United States

Canada

Mexico

Europe & CIS

Germany

France

U.K.

Spain

Italy

Asia-Pacific

China

Japan

India

Australia

South Korea

Middle East & Africa

South Africa

Saudi Arabia

UAE

Turkey

South America

Brazil

Argentina

Competitive Landscape

Company Profiles: Detailed analysis of the major companies presents in the global Truck Refrigeration Unit Market.

Available Customizations:

Global Truck Refrigeration Unit Market report with the given market data, TechSci Research offers customizations according to the 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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