

Transportation Condensing Units Market to Surpass USD 5.34 Billion by 2035 Amid Rising Cold Chain Expansion

Transportation Condensing Units Market grows with rising demand for cold chain logistics and temperature-controlled transport solutions.

NEWARK, DE, UNITED STATES, May 8, 2025 /EINPresswire.com/ -- The global transportation condensing units market is poised for significant expansion, with its size projected to grow from USD 3,128.3 million in 2025 to USD 5,343.6 million by 2035. This represents a robust compound annual growth rate (CAGR) of 5.5% over the forecast period. Market growth is being driven by the rapid rise of e-commerce, which has accelerated the demand for



timely and temperature-sensitive delivery of perishable goods including fresh produce, dairy, frozen food, pharmaceuticals, and biologics. As last-mile logistics and cross-border food trade intensify, efficient cold chain systems have become mission-critical, spurring investment in refrigerated transportation technologies. Additionally, increasingly stringent environmental

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Driven by the expanding cold chain sector, the Transportation Condensing Units Market is seeing robust growth as industries prioritize reliable temperature control." *Nikhil Kaitwade* regulations are prompting the adoption of eco-friendly condensing units that use low-global warming potential (GWP) refrigerants and energy-efficient designs to support sustainable logistics.

The transportation condensing units industry is also benefiting from the global expansion of cold storage infrastructure, particularly in emerging markets in Asia-Pacific and Latin America, where urbanization and changing dietary patterns are boosting the consumption of frozen and chilled goods. Moreover, advancements in compressor technologies, electronic controls, and connectivity solutions are enabling better temperature regulation, monitoring, and system diagnostics, ensuring product integrity during transit. With rising fuel prices and emission constraints, fleet operators are shifting toward lightweight, modular, and energy-efficient refrigeration units that not only improve cargo quality but also reduce operational costs.

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Key Takeaways for the Transportation Condensing Units Market

The transportation condensing units market is becoming increasingly essential for maintaining cold chain integrity across food, pharmaceutical, and retail logistics. One of the core drivers of this demand is the explosive growth of online grocery delivery and pharmaceutical distribution channels that require temperature-controlled transport. The shift toward sustainable cold chain practices is pushing manufacturers to develop units with improved thermal insulation, reduced refrigerant leakage, and compliance with international environmental protocols like the Kigali Amendment. Furthermore, as urban distribution becomes more complex, especially with the rise of dark stores and micro-fulfillment centers, demand for compact and efficient rooftop and trailer-mounted condensing systems is surging. The market is also witnessing growth in demand for multi-temperature solutions that can simultaneously carry different types of cargo at varied temperature ranges, offering logistics providers greater flexibility and operational efficiency.

Emerging Trends in the Global Market

Several emerging trends are shaping the future of the transportation condensing units market. First, there is a notable shift toward electric and hybrid condensing units that align with the zeroemission goals of urban logistics networks. These units, powered by battery or electric drivetrains, are becoming increasingly popular among last-mile delivery fleets, particularly in emission-regulated zones. Second, the integration of Internet of Things (IoT) technology is enabling real-time monitoring and control of cargo temperature, humidity, and equipment performance, enhancing traceability and compliance. Third, demand for modular and scalable refrigeration systems is rising, especially in rental fleets and third-party logistics providers who require flexible configurations for varied route needs. Additionally, advanced noise-reduction features are gaining traction as deliveries increasingly occur in urban and residential areas. Manufacturers are also prioritizing ease of installation and maintenance to reduce fleet downtime and improve serviceability in remote locations.

Significant Developments in the Global Sector: Trends and Opportunities in the Market

The transportation condensing units market is witnessing considerable innovation in both product design and materials. With global policies increasingly focusing on climate change mitigation, manufacturers are transitioning to refrigerants with ultra-low GWP, such as R-452A,

and investing in natural refrigerant technologies like COI-based systems. There's also a growing emphasis on digital connectivity and fleet management solutions, with embedded telematics now a standard feature in many premium units. These systems allow for predictive maintenance, route optimization, and energy usage tracking, which in turn leads to cost savings and compliance with service level agreements. In terms of opportunities, the pharmaceutical cold chain offers high-margin potential due to the strict regulatory requirements and increasing transportation of high-value vaccines and biologics. Likewise, rising exports of seafood, meat, and dairy products from countries like India, Brazil, and Vietnam are bolstering demand for temperature-controlled freight systems that ensure compliance with international food safety norms.

Recent Developments in the Market

Recent years have seen a flurry of activity in product innovation and strategic expansion. Thermo King, for example, has launched a series of fully electric refrigeration units designed specifically for electric trucks and vans, supporting carbon neutrality targets for urban deliveries. Carrier Transicold introduced a high-efficiency rooftop unit featuring variable-speed compressor technology, which adapts power consumption based on load, reducing both emissions and fuel usage. In another move, Daikin has expanded its cold chain division into Southeast Asia by opening a new manufacturing facility focused on transport refrigeration, aiming to serve local logistics companies with faster delivery and service support. Mitsubishi Heavy Industries also rolled out a new generation of condensing units integrated with cloud-based monitoring systems, allowing operators to track and adjust performance remotely in real time. These developments highlight how manufacturers are responding proactively to market shifts and regulatory dynamics.

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Competition Outlook

The competitive landscape of the transportation condensing units market is marked by the presence of several global and regional players striving for product differentiation and geographic expansion. Leading companies are investing heavily in research and development to enhance energy efficiency, reduce environmental impact, and improve user experience. Strategic alliances with vehicle OEMs and logistics service providers are helping to expand their market reach. In emerging markets, regional players are focusing on cost-effective solutions tailored for smaller fleets and short-haul operations, while global brands are leveraging their technical superiority and aftermarket networks to maintain dominance. Market players that combine robust engineering with sustainability and smart capabilities are expected to remain ahead in the evolving competitive environment.

Key players in the transportation condensing units market include Thermo King Corporation, Carrier Transicold, Daikin Industries Ltd., Mitsubishi Heavy Industries Ltd., Guchen Thermo, Zanotti (Daikin Group), Denso Corporation, Kingtec Technologies, Webasto SE, and Dongin Thermo Co., Ltd.

Key Segmentations

The transportation condensing units market can be segmented by type, including roof-mounted, nose-mounted, and split-type units. By vehicle type, it covers light commercial vehicles, heavy-duty trucks, and trailers, with the trailer segment holding a significant share due to the volume of long-distance cold transport. Based on application, it includes food and beverages, pharmaceuticals, chemicals, and other perishables. In terms of power source, the market is segmented into diesel-powered, electric-powered, and hybrid units, with electric-powered systems gaining ground rapidly. Geographically, the market is segmented into North America, Europe, Asia-Pacific, Latin America, and the Middle East & Africa, with Asia-Pacific leading the growth due to increasing cold chain investments, booming exports, and evolving food consumption patterns.

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