India Automotive Thermal System Market Assessment, By Vehicle Type [Passenger Car, Commercial Vehicles], By Propulsion [Internal Combustion Engine, Battery Electric Vehicle], By Application [HVAC, Powertrain Cooling, Battery Thermal Management System, Others], By Region, Opportunities and Forecast, FY2019-FY2033F

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Report description:

India automotive thermal system market is projected to witness a CAGR of 7.77% during the forecast period FY2026-FY2033, growing from USD 2.72 billion in FY2025 to USD 4.96 billion in FY2033F. The Indian automobile thermal system industry is seeing strong growth, prompted by changing regulatory standards and altering consumer choices. Tight emission and fuel efficiency norms are leading auto manufacturers to take up advanced thermal management systems that optimize both cabin comfort and powertrain efficiency. The surging trend towards e-mobility is driving fresh demand for proprietary thermal control systems and state-of-the-art heat pump solutions.

Public policy initiatives encouraging sustainable mobility are also fueling innovation for efficient thermal solutions. Car manufacturers are focusing on minimizing weight in system architectures that provide better performance and lower energy use. Intelligent climate control options with premium vehicles are driving the usage of zonal temperature control and air quality management systems.

North India's well-established automotive production center remains the market leader in thermal system integration, backed by a developed supplier base. With evolving vehicle architectures to support multiple powertrain configurations, thermal system management is increasingly becoming a key enabler for optimal operation across traditional and electric platforms. In addition, the manufacturers are developing integrated solutions that meet powertrain cooling demand as well as cabin climate control demands. Such an understanding of thermal system management pushes innovations in system efficiency and functionality throughout all vehicle classes. The increased focus on connected features is yet again reshaping thermal systems as smart

elements of larger vehicle energy management architectures.
For instance, in June 2022, Behr-Hella Thermocontrol GmbH (BHTC) projects India's growth to outpace its global operations by double in the next five years. The firm aims to leverage the booming local market while positioning India as a key EV sourcing hub. Because of this, the company set up a facility in Pune to cater to the growing demand in the country for thermal management systems.
Growing SUV Segment Bolsters the Demand
The growing popularity of SUVs in India is introducing unprecedented demand for advanced thermal management solutions. These cars need robust cooling systems to cater to bigger engines and provide optimal in-cabin comfort across three rows of seats. Automakers are creating high-capacity HVAC systems with multi-zone climate control to solve the segment's specific thermal challenges. Premium SUVs are inducing high-end features such as ventilated seats and humidity sensing into mainstream adoption. The growth of the segment is driving thermal system upgrades, such as improved radiator designs and smart airflow management. SUVs now account for a significant market share of all passenger vehicle sales, automakers are collaborating with suppliers to develop SUV-specific thermal architectures. These systems optimize performance and efficiency across both conventional and hybrid models, meeting the unique demands of this dominant segment.
For instance, in March 2024, Norma Group secured a major contract to supply lightweight cooling systems for an Indian electric SUV maker. The deal, spanning 2024-2030, aims to equip 700,000 EVs with its efficient, tailor-made fluid systems, boosting performance while reducing weight.
Innovation Bolsters the Market Demand
Next-generation thermal technologies are transforming India's automotive industry. Battery thermal management systems (BTMS) for electric vehicles now feature liquid cooling and phase-change materials to enhance lithium-ion performance. Internal combustion engine vehicles are embracing intelligent thermal valves that adjust coolant flow dynamically, enhancing fuel efficiency. Startups are planning to launch AI-based climate control that learns the driver's preference, while OEMs are testing CO?-based heat pumps for zero-emission heating. Lightweight aluminum heat exchangers and graphene-infused thermal interface materials are cutting system weight. They solve key industry challenges: increasing the EV range, complying with CAFE requirements, and improving passenger comfort. The intersection of material science and IoT is making thermal systems that play a proactive role in vehicle energy management solutions.
For instance, in December 2024, Hyundai Mobis developed a breakthrough Pulsating Heat Pipe (PHP) cooling system for EV batteries, using aluminum alloy and refrigerant to combat overheating during ultra-fast charging. Positioned between cells, the PHP enhances heat dissipation, slashing charging times while boosting reliability, marking a hike in thermal management tech.
Passenger Cars Lead Market Growth
Passenger cars hold the largest market share in India automotive thermal system market, driven by mass-market sedans and hatchbacks. Companies for passenger cars exemplify the trend toward dual-zone automatic climate control even in mid-tier models. The segment benefits from cost-optimized solutions like compact condensers and scroll compressors that balance affordability with performance. Premium passenger cars are pushing boundaries with infrared cabin sensors and nano-filter air purification. With most Indian buyers of cars emphasizing AC performance, manufacturers are making features such as rear vents mainstream across segments. The use of turbo engines in small cars (e.g., Tata Altroz Turbo) further requires sophisticated intercooler systems. This predominance demonstrates the importance of thermal comfort under India's tropical and urban driving conditions.
For instance, in 2023, India operations generated 451.56 million dollars in revenue for Mahle GmbH in 2022 and expanded their operations to supply thermal management solutions.
In India, Mahle GmbH has established 13 factories, employed 4,500 people, and considers the country an important market globally. Mahle has been reorienting itself considering the transformation in the automotive industry. Electrification and thermal management, as well as components for high-efficiency green internal combustion engines, have been at the core of the corporate strategy, Mahle 2030+.
North India Dominates the Market
North India has emerged as a prime location for the creation of sophisticated thermal systems, due to its harsh climate and robust automotive infrastructure. From freezing winters to blistering summers, the region requires solutions that can heat or cool cabins

rapidly while retaining efficiency. Large production centers manufacture thermal systems in low-cost, high-volume production, complementing best-selling mass-market vehicles. Also, increasing electric vehicle programs are drawing new investments in battery thermal management, keeping the region ahead of the curve. This blend of testing facilities and supply chain efficiency makes it a critical hub for thermal technology, both serving domestic and foreign markets.

For instance, in January 2025, JBM Auto Ltd unveiled four new electric vehicles at the Bharat Mobility Global Expo 2025, New Delhi, including the luxury 'Galaxy' bus, intercity 'Xpress', e-ambulance 'e-MediLife', and airport coach 'e-SkyLife'. Featuring modular battery packs and ultra-fast charging with advanced thermal management, these models optimize efficiency for diverse routes and demanding operations.

Impact of the U.S. Tariff on India Automotive Thermal System Market

A 25% U.S. tariff on automotive HVAC components could raise import costs for Indian EV startups relying on advanced heat pumps. Domestic manufacturers may gain a cost advantage in ICE thermal systems. However, Tier-1 suppliers importing ECU-controlled valves face margin pressures. The tariffs could accelerate the localization of critical subsystems. Long-term impacts include tighter OEM-supplier integration for tariff circumvention and increased R&D in indigenous alternatives to Honeywell refrigerants. Tariffs will likely not have as immediate an impact on India's auto component industry, but there are second-order effects that can seep into the industry. Tariffs may disrupt supply chains and raise costs for U.S. based OEMs, who would then likely consider changing their sourcing strategy away from the Indian manufacturers who supply them.

Key Players Landscape and Outlook

The market features specialists competing with domestic leaders through technological differentiation. Competition centers on EV thermal solutions, including battery cooling and heat pump systems. OEM-aligned suppliers dominate integrated thermal architectures, while component specialists focus on aftermarket innovations. Emerging differentiators include smart climate algorithms and lightweight material applications. Regional players leverage cost advantages in conventional systems, while multinationals lead the premium and EV segments. Startups are disrupting with AI-driven predictive thermal management solutions as competition intensifies under CAFE norms.

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*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work.

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