

# Automotive Air Conditioner Orifice Tube Market - Global Industry Size, Share, Trends, Opportunity and Forecast, Segmented By Vehicle Type (Passenger, LCV, M&HCV), By Demand Category (OEM vs Replacement) By Region & Competition, 2021-2031F

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## Abstracts

The Global Automotive AC Orifice Tube Market is set for growth, projected to increase from USD 1.49 Billion in 2025 to USD 1.97 Billion by 2031, demonstrating a 4.76% CAGR. This component, a fixed restriction device managing refrigerant flow in Clutch Cycling Orifice Tube (CCOT) systems, sees its market expansion driven by two key factors: the consistent rise in global vehicle manufacturing, which bolsters Original Equipment Manufacturer (OEM) demand, and a robust aftermarket requiring replacements for maintaining aging vehicle fleets. Its cost-effectiveness compared to variable expansion valves ensures its continued use, particularly in entry-level and mid-range vehicle segments. Global car manufacturing, reaching 75.5 million units in 2024 and 34.53 million units in China in 2025, underscores the substantial industrial output that directly fuels OEM orders for these devices. Concurrently, the aftermarket provides a vital revenue stream, as orifice tubes, being susceptible to debris, are frequently replaced during air conditioning system maintenance in an aging global fleet, reflected by the 5.7% growth in U.S. light-duty aftermarket sales to \$413.7 billion in 2024, and the expansion of vehicle fleets in developing regions such as India, which sold 4.3 million passenger vehicles in fiscal year 2025. However, the market faces a significant challenge due to the automotive industry's accelerating shift towards electrification, where Electric Vehicles increasingly adopt advanced thermal management systems like electronic expansion valves to optimize energy efficiency and battery range. This technological evolution limits the long-term potential for fixed orifice tubes, as their lack of variable control renders them less suitable for the precision required by modern, high-efficiency system designs, effectively displacing them in next-generation platforms. The

rapid growth of new energy vehicle sales, reaching 16.49 million units in 2025 with a 28.2% year-on-year increase, highlights this technological displacement. Despite this, emerging market trends offer new avenues for the orifice tube market, including the growing proliferation of e-commerce and direct-to-consumer sales channels. This allows component manufacturers to engage directly with end-users and independent workshops, enhancing profit margins and part availability for niche components. Furthermore, the expansion of replacement markets in regions with aging vehicle fleets sustains demand for cost-effective maintenance solutions, where fixed orifice tubes are preferred for their durability and lower replacement cost compared to electronic alternatives, particularly in older vehicle parcs where the average car age can reach up to 17 years in some European markets.

### **Market Driver**

The primary drivers include the consistent surge in global vehicle production, directly securing OEM demand for fixed-restriction metering devices, especially in cost-sensitive segments. This is supported by 75.5 million global car manufacturing units in 2024. Additionally, a growing automotive aftermarket driven by aging vehicle fleets requiring regular AC maintenance serves as a vital revenue stream, with orifice tubes being frequent replacement items; U.S. light-duty aftermarket sales grew 5.7% in 2024, alongside expanding fleets in developing regions like India's 4.3 million passenger vehicle sales in fiscal year 2025.

### **Market Challenge**

The main challenge stems from the automotive industry's rapid electrification, leading to Electric Vehicles increasingly adopting advanced thermal management architectures such as electronic expansion valves. These offer dynamic refrigerant flow control, superior to fixed orifice tubes for optimizing battery range and energy efficiency. This technological shift, evidenced by 16.49 million new energy vehicle sales in 2025, limits the long-term addressable market for orifice tubes by displacing them in modern, next-generation platforms.

### **Market Trends**

Key market trends involve the rising adoption of e-commerce and direct-to-consumer sales channels, enabling component manufacturers to bypass traditional networks, improve margins, and accelerate part availability, especially for low-cost items. SEMA reported 41% of manufacturers increasing direct online sales. Concurrently, the

expansion of replacement markets in regions with aging vehicle fleets sustains demand for durable, cost-effective maintenance solutions like fixed orifice tubes, which are preferred in older vehicles where the average age can reach 17 years in some European markets.

### **Key Market Players**

DENSO Corporation

BorgWarner Inc.

Sanden Holdings Corporation

Valeo SA

MAHLE GmbH

Hanon Systems

Calsonic Kansei Corporation

Keihin Corporation

Subros Limited

Universal Air Conditioner, Inc.

### **Report Scope**

In this report, the Global Automotive AC Orifice Tube Market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

Automotive AC Orifice Tube Market, By Vehicle Type

Passenger

LCV

M&HCV

Automotive AC Orifice Tube Market, By Demand Category

OEM

Replacement

Automotive AC Orifice Tube Market, By Region

North America

United States

Canada

Mexico

Europe

France

United Kingdom

Italy

Germany

Spain

Asia Pacific

China

India

Japan

Australia

South Korea

South America

Brazil

Argentina

Colombia

Middle East & Africa

South Africa

Saudi Arabia

UAE

## **Competitive Landscape**

Company Profiles: Detailed analysis of the major companies present in the Global Automotive AC Orifice Tube Market.

## **Available Customizations:**

Global Automotive AC Orifice Tube Market report 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:

## **Company Information**

Detailed analysis and profiling of additional market players (up to five).

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