

# **Air Brake System Market by Type (Disc & Drum), Component (Compressor, Governor, Tank, Air Dryer, Foot Valve, Brake Chamber, & Slack Adjuster), Rolling Stock, Vehicle Type (Rigid Body, Heavy-Duty, Semi-Trailer, & Bus), Region - Global Forecast to 2028**

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## **Abstracts**

The air brake system market is projected to grow from USD 3.1 billion in 2023 to USD 3.4 billion by 2028, at a CAGR of 2.2% from 2023 to 2028. The market has steady growth due to rising stringent automotive active safety regulations, growing production of commercial vehicles, and integration of advanced braking technologies in air brake systems fuel the demand for air brake systems.

“Air Disc brake is estimated to be the fastest growing air brake system type.”

The disc brake segment is estimated to grow fastest during the forecast period. The primary factor driving the demand for air disc brakes is the rising focus on safety and stopping distance reduction mandates. For instance, the National Highway Traffic Safety Administration (NHTSA) implemented stopping distance regulations to decrease the overall fatality rate for large trucks. There are stopping distance regulations for various vehicle configurations (three-axle, two-axle, and multi-axle) along with loaded and unloaded commercial vehicles. The regulation implemented in August 2013 stated that the stopping distance for unloaded three-axle trucks should be 235 feet, and for loaded three-axle trucks should be 310 feet.

Additionally, because of the increase in population, there is a high demand for intracity and intercity transfers at low cost, which is estimated to drive the air brake system market in railways and some high-speed trains. Further, most air brake manufacturers are focusing on developing advanced air disc brakes to increase the overall efficiency

and performance of brake systems. For instance, in October 2019, Meritor, Inc. announced the launch of the lightweight, single-piston EX+™ LS air disc brake. This advanced braking solution was designed for linehaul and trailer applications. The EX+ LS air disc brake was developed with reasonable taper wear control; the new air disc brake was designed and validated to the same taper wear criteria as a twin-piston brake. All these factors would spur the growth of air disc brakes in the future.

“Compressor segment is estimated to showcase the largest share in construction and mining trucks.”

The compressor segment held the largest market, in terms of value, for construction and mining trucks in 2023.. The trucks used in construction and mining activities are high-power output (HP) with heavy load-carrying capability. They should withstand harsh and rigorous working conditions in the construction and mining environment. Compressors are a key component in every air brake system as they provide power to operate the brakes, and ensure that brakes are always ready to use. Compressors make sure that air brake systems are less susceptible to brake fade or loss of braking power due to overheating. Thus, with rising construction and mining activities worldwide, the demand for trucks used in this industry would also increase, driving the growth of the high-capacity compressors for construction and mining trucks in the coming years. Furthermore, advancements in air compressors of air brake systems will also cause the demand for air compressor units and overall air brake systems. For instance, some of the compressor manufacturers are focusing on development of lightweight compressor for commercial vehicles to save cargo space, reduce truck gross vehicle weight, and to reduce the maintenance requirement. To construct the lightweight compressor companies are using aluminium material. The companies like VMAC, and Voith develops the lightweight compressor. The companies focus on developing improved and advanced compressors such as electronically controlled compressors, integrated compressors, and maintenance-free compressors for construction and mining trucks.

“Asia Pacific is estimated to be the largest air brake system market during the forecast period.”

The Asia Pacific region holds the largest global air brake system market share. China and Japan are the largest markets, whereas India is the fastest-growing market. The critical reasons for market growth in Asia Pacific are the increasing production of commercial vehicles and stringent government regulations for vehicle safety. Asia Pacific accounted for ~60% of the global truck production in 2022, owing to the

presence of OEMs such as Zheng Zou Yutong, Xiamen Kinglong Motor, Tata Motors, and Ashok Leyland. Manufacturers in this region are focused on developing specific solutions that address the challenging driving and braking situations drivers face on the roads. As consumers in the region are showing an increased inclination toward safety awareness, the region has witnessed higher growth than the matured markets of Europe and North America. Further, A strong presence of global air brake system manufacturers with strategic partnerships with regional players coupled with increased heavy commercial vehicle production has boosted the air brake system market in the Asia Pacific region.

### Breakdown of Primaries

In-depth interviews were conducted with CXOs, marketing directors, other innovation and technology directors, and executives from various key organizations operating in this market.

By Stakeholder: Supply side-80%, Others - 20%

By Designation: C Level Executives - 20%, Directors/ Vice Presidents-35%, and Others -45%

By Region: North America - 25%, Europe - 20%, Asia Pacific- 40%, and Rest of the World – 10%

The air brake system market comprises major manufacturers such as Knorr- Bremse AG (Germany), Meritor, Inc. (US), Haldex (Sweden), ZF Friedrichshafen AG (Germany), and Wabtec Corporation (US).

### Study Coverage

The study segments the air brake system market based on component (compressor, governor, storage tank, air dryer, foot valve, brake chamber, and slack adjuster), vehicle type (rigid body, heavy-duty trucks, semi-trailer, and bus), brake type (disc and drum), and region (North America, Asia Oceania, Europe, and RoW). The market also segments the air brake system market for rolling stock, by component (compressor, storage tank, driver's brake valve, brake cylinder, and brake pipe) and construction & mining trucks, by component (compressor, governor, storage tank, air dryer, foot valve, brake chamber, and slake adjuster).

## Key Benefits of Buying the Report:

This report provides insights concerning the following points:

**Country-level vehicle type-wise market:** The report offers in-depth market sizing and forecasts to 2028 by vehicle types, such as rigid body, heavy-duty truck, semi-trailer, and bus. The market sizing for the air brake system is covered at the country and regional levels considered in this study.

**Construction & mining trucks, by component:** The report offers in-depth market sizing and forecasts up to 2025 by components, such as compressor, governor, storage tank, air dryer, foot valve, brake chamber, and slake adjuster. The market sizing for components is covered at a regional level that this study considers.

**Rolling Stock, by component:** The report offers in-depth market sizing and forecast up to 2028, by component, such as compressor, storage tank, driver's brake valve, brake cylinder, and brake pipe. The market sizing for rolling stock is covered for regions considered in the study.

The report provides "Market Share" of the leading air brake system market players.

**Market Development:** The report provides comprehensive information about lucrative emerging markets for the air brake system across regions.

**Product Development/Innovation:** The report gives detailed insights into R&D activities, upcoming technologies, and new product launches in the air brake system market.

**Market Diversification:** The report offers detailed information about untapped markets, investments, new products, and recent developments in the air brake system market.

**Analysis of key drivers** (growing production of commercial vehicles, Stringent automotive active safety regulations related to air brake system, Integration of anti-lock braking systems (ABS) and electronic stability control (ESC) in Air brake system, and Increased railways and high-speed trains), **Restraints** (High

cost of air brakes over hydraulic brakes, High cost of air brakes over hydraulic brakes), Opportunities (Regulations related to load carrying capacity and mandates on air brakes installation), Challenges (Freezing of air brakes at low temperature).

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15.4.1.4 Metro

15.4.1.5 Passenger coaches

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15.4.2 AIR BRAKE SYSTEM MARKET FOR CONSTRUCTION AND MINING  
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BY VEHICLE TYPE

15.4.2.1 Articulated dump truck

15.4.2.2 Rigid dump truck

15.5 RELATED REPORTS

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