

Cylinder Deactivation System Market Size, Share & Trends Analysis Report By Component (Valve Solenoid, Engine Control Unit), By Actuation Method, By Fuel Type, By Vehicle Type, By Region, And Segment Forecasts, 2025 - 2030

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Abstracts

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Cylinder Deactivation System Market Trends

The global cylinder deactivation system market size was estimated at USD 4.68 billion in 2024 and is projected to grow at a CAGR of 6.8% from 2025 to 2030. Governments worldwide enforce stricter fuel economy standards and emission norms, prompting automakers to adopt technologies that improve efficiency without compromising performance.

Cylinder deactivation has emerged as a practical solution, allowing internal combustion engines to temporarily disable some cylinders during low-load driving conditions. This reduces fuel consumption and emissions, especially in city driving.

As corporate average fuel economy (CAFE) targets and Euro emission standards tighten, manufacturers increasingly integrate cylinder deactivation systems into mid- to high-displacement gasoline engines to meet compliance benchmarks. In emerging regions such as Asia Pacific and Latin America, the continued dominance of gasoline-powered vehicles contributes to the growing adoption of cylinder deactivation systems. While electric vehicle (EV) penetration remains limited in price-sensitive markets, there is strong demand for conventional vehicles with improved fuel efficiency. OEMs are localizing powertrain technologies, and cylinder deactivation is being considered a cost-

effective way to enhance fuel economy without a full hybrid or EV transition. This trend is expected to support the market, especially in mid-range SUVs and sedans.

Modern engine control units (ECUs) and electronic throttle systems have become increasingly sophisticated, enabling seamless cylinder activation and deactivation without noticeable performance lag. This advancement enhances the driving experience and encourages broader adoption across different engine configurations, including turbocharged engines. Innovations in solenoid actuation and valve control systems are reducing mechanical complexity and costs, making it feasible to deploy cylinder deactivation in smaller displacement engines as well.

Automakers are shifting toward modular engine platforms that can be adapted across multiple vehicle models and segments. Cylinder deactivation fits well within this strategy, offering an efficiency-boosting feature that can be scaled without major architectural changes. As global OEMs look to balance the transition toward electrification with the reality of ICE vehicle demand in many regions, cylinder deactivation is being prioritized as a transitional efficiency technology. This approach aligns with automaker goals to offer fuel-saving features without incurring the higher costs associated with full hybridization.

The increasing maturity of engine control units and valve solenoid mechanisms has enabled a smoother transition between active and deactivated cylinder states. For both passenger vehicles and LCVs, this results in a virtually unnoticeable change in power delivery, ensuring that the driving experience remains unaffected. As consumer awareness grows, and driver complaints related to rough transitions decline, adoption is expected to accelerate in personal and commercial-use vehicles.

Global Cylinder Deactivation System Market Report Segmentation

This report forecasts revenue growth at global, regional, and country levels and provides an analysis of the latest industry trends in each of the sub-segments from 2018 to 2030. For this study, Grand View Research has segmented the global cylinder deactivation system market report based on component, actuation method, fuel type, vehicle type, and region:

Component Outlook (Revenue, USD Million, 2018 - 2030)

Valve Solenoid

Engine Control Unit

Electronic Throttle Control

Actuation Method Outlook (Revenue, USD Million, 2018 - 2030)

Overhead Camshaft Design

Pushrod

Fuel Type Outlook (Revenue, USD Million, 2018 - 2030)

Gasoline

Diesel

Vehicle Type Outlook (Revenue, USD Million, 2018 - 2030)

Passenger Vehicle

Light Commercial Vehicle

Regional Outlook (Revenue, USD Million, 2018 - 2030)

North America

U.S.

Canada

Mexico

Europe

Germany

UK

France

Asia Pacific

China

India

Japan

Australia

South Korea

Latin America

Brazil

Middle East & Africa (MEA)

United Arab Emirates (UAE)

Kingdom of Saudi Arabia (KSA)

South Africa

Companies Mentioned

Eaton

Delphi Technologies

Schaeffler Technologies

Robert Bosch GmbH

Continental

BorgWarner

Magna International

Daimler

Toyota Motor Corporation

Ford Motor Company

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