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**NATIONAL STANDARD OF THE  
PEOPLE'S REPUBLIC OF CHINA**

**GB/T 25367-2024**

Replacing GB/T 25367-2010

**Electronically controlled common rail systems for diesel  
engines - Fuel injector**

柴油机电控共轨系统 喷油器总成

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## Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1. Structure and drafting rules for standardization documents" Drafting. This document replaces GB/T 25367-2010 "Technical Specifications for Injector Assemblies of Electronic Common Rail Injection Systems for Diesel Engines" and Compared with GB/T 25367-2010, in addition to structural adjustments and editorial changes, the main technical changes are as follows:

- a) The scope has been changed (see Chapter 1, Chapter 1 of the.2010 edition);
- b) The appearance requirements of common rail injectors have been changed (see 4.2, 4.17 of the.2010 edition);
- c) The sealing requirements for common rail injectors have been changed (see 4.3, 4.8 of the.2010 edition);
- d) The opening pressure requirements of common rail injectors have been changed (see 4.4, 4.7 of the.2010 edition);
- e) The atomization performance requirements for common rail injectors have been deleted (see 4.9 of the.2010 edition);
- f) The fuel injection quantity requirements and fuel injection quantity deviation requirements of common rail injectors have been changed (see 4.5, 4.10 of the.2010 edition);
- g) Changed the allowable deviation requirements for single injection quantity of common rail injectors under various operating conditions (see Table 1, Table 1 of the.2010 edition);

## 1 Scope

China's national standard for the fuel injector of an electronically controlled common rail diesel system. It specifies the requirements, the test methods, the inspection rules and the

marking, packaging, transport and storage of the injector assembly. The injector is the most precise mass-produced mechanical component there is. It opens and closes against a fuel pressure of two thousand bar or more, several times per engine cycle, at intervals measured in tenths of a millisecond; it meters a pilot injection of perhaps a cubic millimetre of fuel repeatably enough that the engine does not run rough; and it does this hundreds of millions of times over the life of the vehicle, with the nozzle tip protruding into the combustion chamber at combustion temperature. The clearances that make it work are a couple of micrometres, which is why fuel cleanliness is the dominant cause of injector failure in service and why the internal cleanliness of every component in the system is specified. What the standard has to control is both the hydraulic behaviour and its consistency between injectors. An engine's smoothness and emissions depend on all its injectors delivering the same quantity for the same command, so the injector is characterised by its flow at defined pressures and pulse widths, and the tolerance on that characteristic - together with the individual calibration data that a modern injector carries so the control unit can compensate for what remains. Around it sit the electrical characteristics of the actuator, whether solenoid or piezoelectric, the response times, the leakage and return flow, the spray pattern and atomisation, the endurance and the resistance to the thermal and vibration environment. Issued on 31 December 2024 and in force since 1 April 2025, it replaces GB/T 25367-2010.

This document specifies the technical requirements, test methods, inspection rules, marking, packaging, transportation, and other aspects of the electronic common rail system injector assembly for diesel engines. Transport and storage. This document is applicable to the design and manufacture of electronically controlled common rail system injector assemblies for diesel engines.

## 2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 2828.1 Sampling procedures for inspection by attributes Part

## 3 Terms and definitions

The terms and definitions defined in GB/T 10826.5 and GB/T 25365.1 and the following apply to this document.

3.1 Opening pressure openpressure When the common rail injector is working, the minimum rail pressure when the stable single injection volume is 1mm<sup>3</sup>~2mm<sup>3</sup>.

3.2 Backfuel delivery The amount of oil that returns to the low-pressure oil circuit when the common rail injector is working.

## 4 Technical requirements

4.1 General requirements The electronically controlled common rail system injector assembly for diesel engines (hereinafter referred to as "common rail injector") shall be manufactured in accordance with the product drawings and technical specifications approved through the prescribed procedures. The components of the common rail injector shall be tested and inspected in accordance with the test methods approved by the prescribed procedures. The equipment is assembled according to the approved assembly process in accordance with the prescribed procedures. During the test, fuel that complies with the provisions of GB 19147 is used to ensure normal operation.

## 5 Common rail fuel injection system

GB 19147 Diesel for vehicles

GB/T 25365.1 Technical requirements for electronically controlled common rail injection systems for diesel engines Part